Therapeutic yoga program : a program development plan

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Therapeutic Yoga Program: A Program Development Plan

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Note: This document describes a Capstone Dissemination project reflecting an individually planned experience conducted under faculty and site mentorship. The goal of the Capstone experience is to provide the occupational therapy doctoral student with a unique experience whereby he/she can demonstrate leadership and autonomous decision-making in preparation for enhanced future practice as an occupational therapist. As such, the Capstone Dissemination is not formal research.
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Executive Summary

According to the American Burn Association, in the United States alone, it is estimated that approximately 500,000 Americans seek medical care for burns each year, and of that number, nearly 50,000 are admitted to acute care burn hospitals and clinics for prolonged stay, and 23,000 are admitted to specialized burn centers (ABA, 2011). According to Dauber et al (2002), “burns are truly an overwhelming personal catastrophe causing extreme and prolonged pain and too frequently results in profound disfigurement.”

According to the American Stroke Association (2011) strokes are the third leading cause of death in the United States, affecting more than 3 million women and 2.5 million men each year. Strokes are also the leading cause of serious long-term disability in the United States (Popovich et al., 2007). According to (Nilsen, Gillen, & Gordon, 2010), “People who have sustained a stroke are often left with residual motor impairments that limit their ability to engage in meaningful occupations such as self-care, work, and leisure activities.”

The goal of the Therapeutic Yoga Program at MetroHealth Hospital is to improve or maintain occupational performance in people who have sustained injuries from a burn or stroke. The programs objectives include, but are not limited to, decreasing pain, increasing range of motion, improving strength, and enhancing emotional well-being. These objectives directly relate to a person’s ability to participate in activities of daily living which can be problematic due to various types of injuries. A total of 20 people with burn or stroke injuries will be eligible to participate the first year. Sessions will last for 16 consecutive weeks and attendance requires participating in two yoga sessions and one weekly meeting. Pre- and post-assessments along with formative and summative evaluations will be given to each participant to determine if goals and objectives were met and to determine the efficiency of the program.
Program Goal

The goal of the Therapeutic Yoga Program at MetroHealth Hospital is to improve occupational performance in people who have sustained injuries from a burn or stroke. By definition, a stroke is the sudden death of a portion of the brain cells due to a lack of oxygen to the brain due to a rupture or blockage of an artery that supplies blood to the brain (ASA, 2011). By definition, a burn injury is any injury to tissues caused by the contact with heat, flame, chemicals, electricity, or radiation (ABA, 2010). By using yoga for physical, emotional, and psychosocial healing, it is hoped that people with burn or stroke injuries can gain the tools necessary to be as self-sufficient and as independent as possible. The term occupational performance, means doing a task related to participation in a major life area (Dickie, 2009). A burn or stroke survivor may have deficits in his or her occupational performance because of a physical or emotional problem, or both, that has occurred due to the injury. The Therapeutic Yoga Program will help the individual get back to doing his or her occupations of daily living by improving or maintaining physical fitness (e.g. range of motion, strength, and endurance) and by improving the person’s emotional and psychological well-being. An occupation can be defined as, “ordinary and extraordinary things people do in their day-to-day lives that occupy time, modify the environment, ensure survival, maintain well-being, nurture others, contribute to society, and pass on cultural meanings” (Dickie, 2009). These definitions will be necessary to explain to potential participants and stakeholders in order for them to gain an understanding of how occupational therapy fits with the program being proposed.

Sponsoring Agency

The facility that the Therapeutic Yoga Program will be held at is MetroHealth Hospital’s outpatient clinic located in Cleveland, Ohio. The hospital is a level one trauma center for Cleveland and its surrounding area and has one of Cleveland’s only comprehensive burn care
centers. MetroHealth Hospital is the region’s leader in critical care and rehabilitation.

MetroHealth’s comprehensive burn care center is verified by the American Burn Association and employs’ leaders who are experts in the field. The comprehensive burn care center treats over 1,700 outpatient and inpatient burns annually. Most recently, a 24-hour outpatient burn center has opened which has made the treatment of burns additionally efficient. The other conditions commonly treated at MetroHealth are traumatic brain injuries, spinal cord injuries, and orthopedic injuries.

The mission statement at MetroHealth Hospital reads: MetroHealth is an Academic Health Care System committed to Our Communities by Saving Lives, Restoring Health, Promoting Wellness, and providing Outstanding, Life-long Care Accessible to All. MetroHealth’s Values and Guiding Principles include:

- Respecting the dignity of those in our care, serving them with compassion and high quality, regardless of their ability to pay
- Excellence in teaching and research is fundamental to our ability to deliver outstanding care
- We practice evidence-based medicine, and assess our performance based on patient outcomes, safety, and quality
- Employees and their passion are our greatest strength
- We function as a partnership of faculty, staff, and management

Based upon the mission statement of MetroHealth Hospital and its guiding principles and values, the Therapeutic Yoga Program would fit adequately at this facility and help advance
excellence in care by promoting wellness and restoring health and overall improving the quality of life for people with burn and stroke injuries.

**Organizational Structure**

The organizational chart includes the outpatient and inpatient rehabilitation team at MetroHealth Hospital. This organizational chart starts with the rehabilitation director for the facility. The rehabilitation director is responsible for making sure that services are being run properly by taking care of tasks such as financing and marketing. The next level is the secretary whose tasks include billing, obtaining patient information, and scheduling appointments. There are secretaries who just handle physical and occupational therapy clients and than a separate secretary who handles speech therapy clients. The next level includes all of the therapists who work at MetroHealth Rehabilitation Institute of Ohio. The team of therapists includes occupational, physical, and speech therapists. All three disciplines are part of a multidisciplinary team and many times see the same patients. The last level includes the physical and occupational therapy assistants that also play an important part of the rehabilitation team by assisting the physical and occupational therapists and carrying out treatment plans (See Appendix A for MetroHealth’s organizational chart).

The occupational therapist that will run the Therapeutic Yoga Program at MetroHealth will work beside the rehabilitation team that includes the occupational, physical, and speech therapists. The occupational therapist would need to be an effective communicator with other employees and would report to the rehabilitation director if there would be any questions or concerns regarding the yoga program. The occupational therapist would fit nicely at this facility since other occupational therapists are already employed there.
Investigating the Need for the Program

To determine the need of this program at MetroHealth Hospital, a multi-faceted needs assessment was used. From conversations with occupational therapists at MetroHealth it was determined that the best methods to gather information for this program would be by focus groups with burn and stroke survivors, observations of stroke and burn treatments, and semi-structured interviews with professionals who work as part of the burn and stroke teams.

Focus Groups

The first form of conducting the needs assessment was done through focus groups. The focus group participants were burn and stroke survivors and some of the ways the potential participants for the focus group were recruited was from the burn and stroke support groups that are held at MetroHealth Hospital as well as from local support groups in the Cleveland and Akron area.

Focus groups help to determine the appropriateness of the yoga program and gain insight from the population for which the yoga program will be serving. Because there is very little known specifically about the benefits of yoga for a burn or stroke survivor, obtaining qualitative responses is very beneficial in order to break-ground on the topic. Stewart and Shamdasani (1990) state that, “focus groups provide data that are closer to the emic side of the continuum because they allow individuals to respond in their own words, using their own categorizations and perceived associations.” By using focus groups, participants have the opportunity to ask the occupational therapist any questions that they may have and additionally, the occupational therapist can gain better insight and understanding of each participant’s feelings and attitudes by observing verbal and nonverbal behaviors.
A total of three focus groups were conducted as part of the needs assessment. Two focus
groups, one comprised of burn survivors and one comprised of stroke survivors, were completed
at MetroHealth Hospital, and one focus group that was comprised of stroke survivors was
completed at the First United Methodist Church located in Hudson, Ohio. The participants for
the focus groups were recruited from support groups. Each focus group lasted approximately 90
minutes. The first focus group, which was held at MetroHealth Hospital, was comprised of 10
stroke survivors, six women and four men. The second focus group comprised of stroke
survivors was held at the First United Methodist Church and had eight participants, four women
and four men. The third focus group comprised of burn survivors, held at MetroHealth Hospital,
and had twelve participants, nine men and three women. During all three focus groups, the
moderator asked the participants questions pertaining to their thoughts on the use of yoga as a
therapeutic means to help regain or improve any physical or emotional problems associated to
their injuries. However, the original moderators that typically facilitate the support group
meetings were also present (see Appendix B for a copy of the focus group protocol).

At the beginning of each focus group, a survey was given to each participant that asked
questions pertaining to the participant’s age, diagnosis, and deficits associated with their
condition (see Appendix C and D for examples of the burn and stroke surveys). An explanation
of why yoga may help with these impairments was shared at the beginning of each group and
any questions were welcomed from the participants with thorough explanations. The definition
of occupational therapy is was also described. However, a large majority of the participants have
received occupational therapy services or are currently being seen by an occupational therapist.

The first focus group, which was comprised of stroke survivors from MetroHealth
Hospital, all had varying types of impairments caused from their stroke. Two of the ten stroke
survivors used a wheelchair for mobility and the other eight were ambulatory. Their impairments ranged from mild hemiparesis to full hemiparesis in either their left or right upper extremity. Two of the ten participants had mild speech impairments caused from their stroke and one participant had prolonged visual deficits caused from the stroke. The ages from the first focus group ranged from 41 to 73. Five of the ten participants were currently receiving occupational or physical therapy services at MetroHealth’s outpatient center. All ten of the participants stated having some degree of altered independence in activities of daily living as a result of their stroke. Some of these difficulties in activities of daily living were dressing, meal preparation, bathing, and writing. Nine of the ten participants were currently living with either a spouse or family member who could provide them with assistance.

The second focus group held at the First United Methodist Church in Hudson, Ohio contained participants who ages ranged from 55 to 78 years old. A family member escorted one participant to the focus group while the rest of the participants were able to drive him or herself to the focus group. Three of the eight participants were currently receiving occupational and physical therapy services, however all eight participants had received some occupational therapy as part of their rehabilitation after their stroke. All eight participants stated having some degree of altered independence in activities of daily living as a result of their stroke. The most prevalent altered independence that these participants encountered was maintaining household duties such as vacuuming and yard work. All eight participants stated that they had physical and emotional changes due to the stroke. The physical effects of the stroke that these eight participants identified were hemiparesis of an extremity (extremities), changes in vision, changes in speech, and memory alterations. The level of these residual effects varied from participants. Six out of
the eight participants lived with a spouse or family member, one lived alone, and one lived in an assisted living facility.

All 18 participants had never tried yoga before or after their stroke. After the participants in both focus groups were educated on the possible benefits of yoga, all 18 participants showed interest. However, when asked the question, “Would any of you participate in a yoga program?” only ten of the participants in both focus groups stated they would commit to this type of a program, a majority of them being the women in the two groups. One woman said, “My daughter does yoga and seems to really enjoy it.” Another woman commented and said, “I could definitely use the stretching and encouragement because I do not use my right arm as much as I should.” Some of the overall general positive comments of using yoga were that it would be a good way to receive positive encouragement, a good way to stay physically fit, and would be a chance to meet other stroke survivors. Many of the participants commented that outside of therapy sessions, they do not engage in as much physical activity as they should and could use a program for encouragement.

The eight participants in the group who said they would not fully commit to such a program but did like the idea expressed concerns such as time constraints and money. One male participant who said he would not be able to commit to such a program stated, “I think yoga is a good idea but I do not think it is for me at my age.” A few other participants expressed this general feeling of age as a constraint to participate in yoga. Another male participant stated, “Committing to such a program would require real dedication, it is not that I am not dedicated to getting better use of my arm but I do not know if yoga is for me.” Time constraints seemed to be another general theme and concern with this group. Another general concern for using yoga as
The last focus group, which was held at MetroHealth Hospital, was comprised of burn survivors who attend the burn survivor support group. This group had a total of twelve participants, nine men and three women. The ages for this focus group ranged from 30 to 78. The extent of each participant’s burns also varied greatly. One participant, burned back in 1950 in a factory explosion, received 70% total body surface area (TBSA) burns, some partial (2nd degree) and some full thickness (3rd degree). Another participant in the group was burned two years ago and received burns over 20% of his TBSA. Some participants in the group showed no visible scars while others did. The group varied greatly on the ways they received their burns although some of the common ways were by grease fires, chemicals, electrocution, and house fires. Two of the twelve participant’s burns were self-inflicted. All twelve participants received skin grafts and were admitted to inpatient care. Ten of the twelve participants received physical and occupational therapy services during or immediately after their hospital stay and currently two of the twelve participants were receiving outpatient occupational therapy services. The time frame from when each participant was burned also varied greatly from 60 years ago to seven months.

Nine of the 12 participants agreed to have some degree of altered independence since their burn injury. The most common reason for this altered independence was the disuse of their hands from burn damage. Ten of the twelve participants were currently living with a spouse or family member and two were living independently. Some of the most common activities of daily living that seemed to be a continuous problem amongst the burn survivors was cooking and dressing. Seven of the twelve participants never went back to work after their burn accident, four are currently employed, and one is retired. Some of the reasons that the seven participants never
returned to work were early retirement, incapable of completing the physical tasks needed for employment, and psychological distress. A few of the younger participants did express desire to return to work at some point.

Through conversations with participants, it became very clear that the participants expressed more emotional and psychological problems versus physical problems like the stroke support groups did. The physical limitations caused from the burn injuries acted more as a constant reminder of the emotional and spiritual healing they must go through. All twelve participants expressed that the hardest part of overcoming a burn injury is accepting a new identity and finding a new identity was a common theme during the focus group. One participant stated that, “A burn patient is someone who is battling to stay alive because of the physical effects of the burn, but a burn survivor is someone who has healed from the burn both physically and emotionally and has accepted a new identity.” Another participant stated that, “The hardest part of overcoming a burn injury is accepting yourself as the new you. The old you is gone so forget about that life.” One participant also stated that, “It’s a hard thing to do, but if you do not let the scars define you than you are on the right track to becoming a burn survivor.”

A few of the common psychological issues that the participants expressed were depression, anxiety, fear, and withdrawal. One participant commented on the issue of withdrawal by stating that, “I use to love to swim, but now I am afraid to attend my local YMCA because I do not want people to see my skin and stare…if they stare I know it will upset me for days.”

For the burn survivors in the group, being consistent with staying in physical shape was also a concern, especially for the burn survivors who were still going through surgeries and skin grafting. One participant admitted to not adhering to his home exercises by saying, “She always tells me to be constantly moving my hands and that it will get easier, but my pain is so bad and
so I just do not do the exercises as much as I should.” Another participant stated that, “I am usually pretty active because I know it is good for me, but one day I decided to just relax and watched T.V. all day and the next morning when I woke up my arm and shoulder were so tight it was like “wow” I can’t believe how fast I got stiff.” A participant made a comment in regards to having his wife be his coach by saying, “She kicks my butt when I do not do my exercises because she knows that by skipping one day means being set back by four. My hands can work but only if I work them.”

When the participants were asked the question if any of them had ever tried yoga, all of the participants responded no. One participant did state that he tried yoga a couple of times with his wife before his burn injury but did not stay committed. When the participants were asked if any of them would ever be interested in a yoga program to address their emotional and physical needs, nine of the twelve participants showed interest. The three participants who did not show interest did not like the “pace” of yoga and thought it would be boring. One of the three participants who did not show interest stated that, “It’s a little to “voodoo” for me. For some people it may work but it’s not my style.” Another participant who did not show interest stated that, “I know a lot of people like it but I am skeptical of its actual benefits.”

The participants that did show interest in taking part of a yoga program found the idea to be innovative and fun. The major concern with adhering to a program was time constraints. One participant suggested that the yoga instructor give a home program of yoga exercises so participants could practice outside of the yoga sessions. A couple of the other participants liked the idea of a group setting because it would allow for encouragement and interaction with other burn survivors. One participant stated that, “I feel this is a very good thing and could really help encourage those who may be giving up or think they cannot push themselves any farther.”
Another participant agreed and stated that, “It is good to try new things because you never know what may work until you try it.” One participant commented on the use of yoga by saying, “From what I have read about yoga it seems to relax people and I could sure use something to take away my tension and ease my anxiety.”

Summary of Findings

After listening to the members of the three focus groups and spending time to get to know the participants, it was clear that there is a definite need for a yoga program for stroke and burn survivors. It was found that if a yoga program did exist and met the specific needs of burn and stroke survivors, people would be willing and eager to participate. Some of the general positive themes about a yoga program were that it is a fresh and innovative approach to therapy, and it touches on the emotional dimension, it would be a great chance to meet other stroke and burn survivors, and provide encouragement to enhance physical capabilities. Some of the general themes associated with concerns about adhering to a yoga program were that it would be too expensive (commuting to and from yoga sessions), it would take up to much time (time constraints), and it would not appropriately target the needs. Age also seemed to be a general concern and a few of the participants were convinced that yoga is for the younger generations. It was discussed how yoga can be beneficial and how it could provide the same health benefits for all ages, and how yoga poses could all be modified.

Observations

In order to determine the need for the yoga program, observations were made as a form of a needs assessment during stroke and burn treatment sessions at MetroHealth Hospital and Laurel Lake Retirement Community. During observations at MetroHealth Hospital and Laurel Lake Retirement Community, initial evaluations, different treatment methods, and various
assessment tools were observed. Being present at stroke and burn treatment sessions allowed for conversations with patients regarding their concerns with therapy and observations were made of the physical effects of burn and stroke injuries.

From observing stroke treatment sessions, it was found that yoga can be very beneficial by providing prolonged stretch to the affected body parts, by providing isometric contractions, engaging in proprioceptive input through weight-bearing, guided imagery, and by practicing breathing and relaxation techniques. An observation made during stroke treatment sessions was that visual imagery was commonly used by using mirrors and by guided imagery. During yoga session, mirrors will be set-up so that the participants could receive visual input to help guide their movements. For participants who have hemiparesis of the upper extremities, pain was noted as a limiting factor. Most of the pain stemmed from overuse or exaggerated use of the shoulder muscles. Yoga will assist with pain management by providing light stretch and teaching breathing and relaxation techniques.

From observations of burn treatment sessions, it was found that yoga can be beneficial by providing stretch to the affected sites of the burn injury. Formation of contractures is always an inevitable concern for a burn patient. The risk of contractures forming depends on factors such as location of the burn, severity of the burn, use of the extremity, and if skin grafts were used. Burns which had occurred over or near joints often place the patient at an increased risk for forming contractures. Skin grafts have a tendency to form adhesions around the donor site which puts the patient at an increased risk to forming contractures. One patient that was observed was having tightness in his neck after having an anterior skin graft placed. Because of the tightness in the neck, the patient was unable to move his head through full ROM which limited his ability to carry-out activities of daily living such as eating and grooming. Another patient that was
observed during treatment had extensive full and partial thickness burns to his hands that limited his ROM and impacted his activities of daily living. The patient commented on his decreased independence and activity performance by stating, “I am getting so tired of my mother and the nurses doing everything for me but I can’t get my hands to move like they should.”

Summary of Findings

It was evident during observations of burn and stroke treatment sessions that a need for some program would be beneficial for these patients outside of the hospital setting to address their physical and emotional needs. Although complete and accurate evaluations of each patient’s psychological status cannot always be accurately determined since observation is objective, certain psychological conditions (i.e. depression and anxiety) can manifest into physical and observable forms. Many of the patients observed did appear to be struggling emotionally just as much, if not more, as they were struggling with their physical injuries. A program that could touch on both the physical and emotional dimensions of a person would have the potential to serve these two populations and meet their unique needs.

Semi-structured Interviews

The last method for collecting data was done by semi-structured interviews. The semi-structured interviews were with potential stakeholders from MetroHealth Hospital and surrounding facilities in the Cleveland and Akron areas. The semi-structured interviews were held at a location that was convenient for the stakeholders being interviewed so there was not a set room where all of the interviews were held. The time of the semi-structured interviews varied depending on when the stakeholders could meet. The questions were written ahead of time but the format for the interviews were more open and less structured than the focus groups in order for the stakeholders to convey their true thoughts and perceptions about the proposed program.
The potential stakeholders who were interviewed were people that work with burn or stroke patients. By interviewing stakeholders, suggestions about how the yoga program could be modified or set-up differently will be received. Stakeholders also have unique insight into the psyche of burn and stroke survivors because of the close relationship and rapport they build with them over the course of treatments. Some of the advantages to using semi-structured interviews include allowing the participants to have the freedom of expression, and having results that are more open ended (Witkin & Altschuld, 1995).

Semi-structured interviews were done with therapists from MetroHealth Hospital, Laurel Lake Retirement Community, and Edwin Shaw Rehabilitation Hospital. All three rehabilitation institutes are located in the Cleveland and Akron, Ohio area. Interviews were completed with six therapists working with patients who have had strokes (4 occupational and 2 physical), two therapists working with patients who have burn injuries (1 occupational and 1 physical), one social worker, and one physician. The combined median work experience for the therapists working with patients who had strokes was 15.6 years and 18.8 for the therapists who work with patients with burn injuries. The social worker interviewed has been working with the burn population for six years, and the physician interviewed has been working with the burn population for 52 years and was the founder of the burn unit at MetroHealth Hospital. Each interview lasted approximately 60 minutes. At the beginning of each interview, a brief description of the proposed program was given followed with time for any questions. The interviews were structured in terms of the questions asked, but were very open for discussions to explore new avenues (see Appendix E for the questions used during the semi-structured interviews).
Summary of Findings

After interviewing all eight therapists, the consensus was that a yoga program would be beneficial for the stroke and burn population by all eight therapists. General comments and themes that arised from the interviews about the program were that it is innovative, creative, physically challenging, and looks at the person in a holistic way. One therapist commented on the use of yoga by saying, “In today’s society, yoga has really become main-stream and everybody can benefit from it no matter how old or young or how sick or healthy, yoga has something for everybody.” Another therapist commented on the use of yoga by saying, “It really would have great benefits for a person recovering from a stroke because yoga encourages all of the things that we encourage here in therapy like stretching, using bilateral movements, and concentration.” One of the physical therapists who works with the stroke population talked about another way yoga helps by saying, “From what I know and have read about yoga it also greatly helps with balance which is often compromised after having a stroke, so by using yoga you may also be improving the patients balance and gross motor control which most certainly assists with activities of daily living, not to mention confidence and relieving the worry of falling.” Another therapist really summed up the purpose and need of the yoga program by stating, “I believe that the yoga program could help further facilitate the development of normal motor patterns important for performance of functional activities while additionally meeting the psychosocial needs for individuals with neurological deficits; and overall improve participants quality of life and engagement in meaningful activities of daily living, roles, and leisure pursuits.”

The program’s use of yoga for non-physical reasons was also found to be beneficial for people who have had a stroke or burn. One therapist commented on the more spiritual and psychological aspects yoga offers by saying, “Yoga is so much more than physically exerting, it
really gives the body a chance to find inner strength. Yoga truly has a spiritual healing component that I think a lot of burn survivors really need and could benefit from.” During the interviews with the therapists, the need for the program because of psychosocial complications from a burn was expressed. A therapist stated, “A lot of these burn survivors have many psychosocial issues such as self-esteem and poor self-images, so how I see it, these yoga sessions could help provide a safe place for these burn survivors to help improve these issues.”

From conducting an interview with the social worker that works as part of the burn team at MetroHealth Hospital, a common theme was that the yoga program could provide emotional support to the burn survivors. The social worker stated, “From my experience with working with burn survivors, it seems to me that what hinders their recovery process the most is the lack of support that is out there for them when they leave the hospital.” The social worker further stated that, “A yoga program could be a social service combined with a rehabilitation service that could provide the burn survivors with the emotional help they so desperately need.”

The theme of support was also very present during the physician’s interview when discussing the need for program. During the interview, the physician stated that, “Support is really what these people need and although I do not know too much about the fundamentals of yoga I do know that having a yoga program could open the doors to burn survivors and offer them a place to come and heal together, and I don’t mean just physically because that is the easy part of a burn injury.”

**Literature Review: Burns**

**Background**

Occupational therapy has always played a large role in the treatment of burn injuries. Occupational therapists are part of an integral burn team, which consists of physical therapists, speech-language therapists, recreation therapists, psychologists, psychiatrists, social workers,
nurses, practitioners, and clergy. According to the American Burn Association (2011), in the United States alone, it is estimated that approximately 450,000 Americans seek medical care for burns each year and of that number, nearly 45,000 are admitted to acute care burn hospitals and clinics for prolonged stay, and 25,000 are admitted to specialized burn centers (ABA, 2011). Yearly, around 3,500 people die as a result from burn complications (ABA, 2011).

Although there has been shown to be a small decline in the amount of burn injuries over the years, burns are still among the most devastating injuries a person can sustain and its effects are prolonged and many times life altering. According to Dauber et al (2002), “burns are truly an overwhelming personal catastrophe causing extreme and prolonged pain and too frequently results in profound disfigurement.” Stouffer (1995) also explains that the lives of the people who are injured by burns and the family members of those who have been burned are often times disrupted for months and years. Burns not only leave physical scars but for most, leave emotional scars as well. Many times, the emotional and psychological scars last far longer than the physical scars and will cause the burn survivor to have a decreased quality of life by changing the way the burn survivor feels about him or herself. As a consequence the burn survivor can become disengaged from family, friends, and society.

**Role of OT and the Stages of Burn Treatment**

Occupational therapists take on many different roles during the phases of recovering from a burn injury, but it is important to note that the ultimate goal of the occupational therapist is for the burn patient to restore or maintain normal physical functioning so that the person can remain as independent as he or she was pre-burn injury. Although this is the ultimate goal, in the early stages of burn treatment, occupational therapists help with proper positioning and edema control (Malick & Carr, 1982). It is important for the occupational therapist to make sure the burn
patient is in a functional position because contractures will form fast (Malick & Carr, 1982).

According to Malick and Carr (1982) it is also important for the occupational therapist to be fully aware of the type of burn the person has sustained, its depth, and its location with special attention placed on burns near joints. For example, if a patient comes in with full thickness burns on the top of the hand that means the extensor mechanism could be compromised. If this is the case, the occupational therapist should pay special attention to positioning the hand in a way that will minimize the possible effects that could take place. Any joint that is located above or below the burn is a potential problem area as well and occupational therapists should continuously position and supervise that area (Malick & Carr, 1982). It is important to note that joints should not be forced into a functional position, but the occupational therapist should try and position the joint so that it gives support to the involved area (Malick & Carr, 1982). All positioning should be done by active assistive range of motion (Pessina & Orroth, 2008).

It is also imperative that the occupational therapist checks for infections every time he or she sees the patient. Burned patients are very susceptible to infection due to the loss of their main barrier against infections, their skin, being gone which increases the chance for foreign bacteria to be introduced. It may be difficult to tell if an infection has occurred on a burn patient because the skin is typically already red and swollen around the burn site (Pessina & Orroth, 2008). Some of the ways to tell if the burn site has become infected is if the burnt area or surrounding skin has changed in color, if there are changes in the thickness of the burn, if there is greenish discharge or pus from the burn site, or if the patient has developed a fever (Pessina & Orroth, 2008). Because occupational therapists are around the burn patient more frequently than other health care professionals, they have a greater chance to detect such a problem and stop it before it progresses.
After the burn is grafted, the occupational therapist will be able to fabricate splints for the patient and also fit the patient for orthotics. Splints can help with positioning of the patient's extremities, and help with range of motion, as well as help in reducing edema and preventing contractures (Pessina & Orroth, 2008). Splints and orthoses can also be used to prevent skin breakdown and to protect sites that have been grafted (McGourty, Givens, & Fader, 1985). As the graft site heals and new skin is beginning to form, occupational therapists can use pressure gradient devices such as pressure garments to help reduce scarring and edema (Malick & Carr, 1982).

Because second and third degree burns damage nerves, the burn survivor may be left with sensory desensitization issues that the occupational therapist should also address as part of the treatment plan. The occupational therapist should also assess for pain because pain can be a limiting factor and a patient who is in pain will be less likely to participate in the treatment session and have decreased activity performance (McGourty, Givens, & Fader, 1985). Occupational therapists can help with this by providing patient education and teaching the patient coping techniques (McGourty, Givens, & Fader, 1985). Treatment sessions may also include scar and tissue massage to promote skin healing and to help prevent tightness. Providing family education is another role the occupational therapist plays as a member of the burn care team. It is important to educate the family just as much as it is to educate the patient about the physical changes that are occurring and what this means for the care of the patient. The therapist can show the family how to help the patient use equipment like assistive devices to help with bathing and dressing, and how to properly wear and maintain the splint or orthotic. It is also imperative the occupational therapist continually checks and assesses how the patient is performing in his or her activities of daily living (ADL’s). The goal would be to get the patient
back to “normal” functioning pre-burn injury, but in some cases this will not happen and then it is up to the therapist to get the patient ready to be as independent as possible in completing his or her ADL’s while using compensatory strategies.

After the patient is discharged from the acute care setting, it is still up to the occupational therapist to make sure the patient is functioning as independently as possible in his or her environment. Occupational therapists may see the patient on an out-patient basis for as long as needed or just occasionally for routine check-ups. The occupational therapist may also go to the patient’s home to make modifications or help the patient re-integrate into the community if needed. Community re-integration is important for not only physical reasons but also for emotional reasons. Because burns injuries many times have psychological effects on the burn survivor, the occupational therapist can provide emotional support while the person is learning to adapt into society post-burn injury.

**Psychological Adjustment**

It is clear the physical effects burns have on a person but sometimes equally if not more damaging is the psychological scars it leaves on the burn survivor’s life. According to McGourty, Givens, and Fader (1985), “patients are faced with psychological adjustment even if the wound is small enough to effect life-style changes for only a short time.” People who have spent a long period of time in the hospital may also face psychological problems because of being separated from loved ones and friends (McGourty, Givens, & Fader, 1985). According to Malick and Carr (1982) some of the most common psychological responses to being burned are the fear of being burned again, depression, anxiety, guilt, and anger. These psychological responses could be heightened if the burn survivor has disfiguring scars and the grief felt by the burn survivor could be due to an altered self-image, low self-esteem, loss of self-worth, and
feelings of being socially outcasted (Malick & Carr, 1982). Depression many times is the most common of these psychological responses and depression can not only affect the burn survivors themselves, but also the burn survivors close family and friends (Malick & Carr, 1982). An occupational therapist can help combat depressive symptoms by planning specific occupations that the burn survivor would find meaningful and purposeful. Giving the burn survivor as much choice as possible could help him or her regain self-confidence and a sense of purpose in life. It may also be beneficial to include the patient’s family into the therapeutic activities and have the focus of the session be on lifestyle changes, acceptance, and self-esteem (McGourty, Givens, & Fader, 1985). This could be especially important when the patient is young and may be faced with ridicule and harassment from uneducated peers. If the patient is young and will be returning to school, the occupational therapist could go to the patient’s school and educate the peers about the patient’s condition so the transition can be easier.

**Literature Review: Stroke**

**Background**

According to the American Stroke Association (2011) stroke is the third leading cause of death in the United States, which affects more than 3 million women and 2.5 million men each year. Of that number, a majority are living with one or multiple neurologic impairments, either physical, cognitive, or both, caused from the stroke (Heart & Stroke Encyclopedia, 2003). Stroke is the leading cause of serious long-term disability in the United States (Popovich et al., 2007). Research has shown that the risk factors for having a stroke vary and fall into two categories; risk factors, which cannot be humanly controlled, and risk factors which can be controlled. Some of the risk factors of stroke that cannot be controlled include age, gender, ethnicity, and pre-disposed conditions such as diabetes and hypertension (AHA, 2011). Risk factors that put
people at an increased risk for having a stroke include smoking, drugs, eating habits, leading a sedentary lifestyle, uncontrolled diabetes and hypertension, and alcohol abuse (AHA, 2011).

In the United States, seniors aged 65 and older are part of the fastest growing sector of the population, and this group is projected to reach 80 million by 2050 (U.S. Census Bureau, 2010). As a person gets older, his or her chances for having a stroke dramatically increase. Because of the alarming growth rate in the older adult population, the number of people who will have a stroke naturally increases and the demand for rehabilitative services and programs to help treat the physical injuries and emotional issues that arise due to a stroke will be greatly needed.

Although the degree and severity of each stroke is unique to each person, there are three main types of stroke that a person can have and there classifications include; ischemic, hemorrhagic, or transient ischemic attack. An ischemic stroke, also known as a “clot”, is caused when there is a clot or an obstruction within a blood vessel that supplies blood to the brain (AHA, 2011). An ischemic stroke is the most commonly diagnosed type and accounts for 87 percent of all stroke cases (AHA, 2011). A hemorrhagic stroke, or more commonly called a “bleed”, occurs when a weakened blood vessel ruptures in the brain (AHA, 2011). Although less common than an ischemic stroke a hemorrhagic strokes can be just as severe. The last type is known as a transient ischemic attack, or more commonly known as a TIA. A TIA is also often called a “mini stroke” and serves as a warning that a larger and more serious stroke could happen if medical attention is not sought (AHA, 2011). A TIA can cause some physical and cognitive impairment such as an ischemic and hemorrhagic stroke does, but often the impairments are not as severe. If a person does have a stroke, their likelihood of having another stroke increases.
After a person has a stroke, lifestyle changes can be made to decrease or lessen the chances of another stroke. These lifestyle changes can include diet modifications, exercise, regular health screenings, and medication (ASA, 2011).

**Physical Impairments**

People who were considered “healthy” before the stroke tend to have an impaired health status post stroke. Although every stroke is unique, physically, strokes tend to affect people in common ways. Some of these complications are hemiparesis, which can be either full or partial and many times affects the upper and lower limbs, aphasia, dysphasia, and visual impairments (Popovich, 2007). Often times the type of impairment and severity of the impairment will depend on which side of the brain the stroke affected. If the stroke occurred on the right side of the brain, common impairments will be paralysis on the left side of the body, vision problems, impulsive behaviors, and memory loss (ASA, 2011). If the stoke occurred on the left side of the brain, common impairments will be paralysis on the right side of the body, speech and language problems, slowed responses, and memory loss (ASA, 2011). If the stroke occurred in the brain stem, depending on the severity of the stroke, it can affect both sides of the body and can lead to a “locked in state” which is when the person is unable to move or communicate (ASA, 2011).

People who have had either left sided or right-sided strokes will also commonly have changes in his or her muscle tone. Muscle tone is what allows people to be functional and in healthy individuals, muscle tone is neither too tight nor too flaccid to allow for functional movements. When people have a stroke, often their muscle tone will become very tight which will inhibit full active range of motion, or become flaccid which will prevent a person to move through their normal active range of motion. Both types will affect the way the person is able to carry-out his or her activities of daily living. According to one research article, it was stated that,
“People who have sustained a stroke are often left with residual motor impairments that limit their ability to engage in meaningful occupations such as self-care, work, and leisure activities (Nilsen, Gillen, & Gordon, 2010).” Spasticity is often the times the term associated with this change in muscle tone. The term spasticity can be defined as, “a motor disorder characterized by a velocity-dependent increase in tonic stretch reflexes with exaggerated tendon jerks, resulting from hyperexcitability of the stretch reflex, as one component of the upper motor neuron syndrome (Lance et al, 1980, p.413). According to Post (2011), spasticity is one of the most common complications from a stroke and its disabling effect on motor function impacts one’s ability to perform basic activities of daily living such as hand hygiene, dressing, and functional mobility. Stroke is also a condition that is commonly linked to an increased risk for falls.

According to Forester and Young (1995) 73% of elderly people who had a stroke fell within 6 months of being discharged from the hospital setting. Fear of falling is a large determinant, especially for the older adult population, which can leave a person feeling vulnerable and incapable of performing everyday activities of daily living.

**Emotional Impairments**

How well a stroke survivor is recovering is often measured by physical functioning, but sometimes the emotional responses people feel post-stroke can be just as life altering as the physical deficits. Likewise, quality of life is often measured in how one perceives his or her life. Emotions are the driving force behind everything people do, and when one’s emotions become impaired, typically other issues will arise. It has been found that a large percentage of stroke survivors will have some degree of altered cognition (Lynton, Kligler, & Shiflett, 2007). Common emotional reactions to having a stroke are anger, frustration, depression, withdrawal and denial (Lynton, Kligler, & Shiflett, 2007). Stroke survivors may find themselves
withdrawing from the community because of fear or anxiety of not being capable of physically carrying-out tasks which were once so simple. Although some of these symptoms may subside as the brain heals, there are still a large percentage of stroke survivors who will live with impaired control over their emotions for years post-stroke, resulting in decreased life satisfaction (Nelsen, Gillen, & Gordon, 2010).

A study done by Chemerinski et al (2001) examined the effects post-stroke depression has on the stroke survivor’s ability to carry-out activities of daily living. Half of the subjects were given medication and psychological counseling for their depression, whereas half were receiving no treatment. After 3 months, the participants were asked to complete activities of daily living (ADL), which they found difficult to perform as a result from their stroke. Results showed that patients whose mood improved at follow-up had significantly greater recovery in ADL function than patients whose mood did not improve (Chemerinski et al, 2001).

Emotional complications due to a stroke may not only affect the way a stroke survivor carries out his or her activities of daily living, but may also affect the way he or she interacts with family members and friends. Family and friends may begin avoid the stroke survivor if he or she becomes irritable, angry, or depressed. Living with emotional impairments can also impact the person’s ability to return to work and maintain a job.

**Role of OT and Stages of Stroke Recovery**

Occupational therapy interventions start immediately after the stroke survivor is medically stable. Although there are different stages in the recovery process, it important to know that at every stage, the occupational therapists primary goals are for the patient’s is to regain their highest level of functional independence and to prevent secondary complications. Educating the patient and family members is also an important goal for many occupational
therapists working with the stroke population. It is important to also note that treating the
cognitive impairments is just as important as treating the physical limitations caused from a
stroke. It is very important for the occupational therapist to create treatment sessions that touch
on both dimensions if applicable.

The long process of recovery begins during the acute phase or when the patient is still in
the hospital. According to (Schroeder et al, 2007) in the acute phase, occupational therapists will
evaluate the patient’s potential and needs for rehabilitation in order to have a plan for the patient.
The occupational therapist will also educate and train the patient and family members to
maximize the patient’s functional potential and to prevent any secondary complications from
occurring. During this stage, the occupational therapist is not only trying to rehabilitate and
educate the patient and family, but also deciding on what course of action should follow when
the patient get’s discharged. In some cases, the patient may be discharged with no further OT
services. For some, outpatient or home rehabilitative services will be provided after discharge
from the acute setting. These two options are typically for stroke patients who are at a higher
level of functioning. If the OT thinks the patient can handle three hours of therapy a day and has
the potential for drastic improvements, the OT can recommend for the patient to stay at an
inpatient rehabilitation hospital. If the patient does have room to benefit from OT services but
may not be able to actively participate in three hours of therapy a day, a skilled nursing facility
would be recommended.

The next phase in stroke recovery is the rehabilitative phase. As mentioned in the above
paragraph, the rehabilitative phase for the stroke patient can occur in a number of different
facilities which includes outpatient, inpatient, or in a skilled nursing facility. Although every
patients specific rehabilitative needs will vary depending on their deficits, primarily an OT’s
rehabilitative goals will center around preventing further complications, improving functional
skills, maximizing activities of daily living and instrumental activities of daily living (IADL)
performance, providing caregiver education, providing assistive devices, and providing
recommendations on the level of care that will be needed upon discharge (Schroeder et al, 2007).
Interventions that OT’s commonly employ includes stretching and strengthening the upper
extremities, increasing motor control, and optimizing positioning in order to ultimately improve
occupational performance (Post, 2011). It is important for OT’s to always place an emphasis on
independence and to use functional tasks during treatment sessions in order to facilitate normal
movement patterns through neuro re-education of the brain (Post, 2011).

The last phase of stroke recovery is often classified as community re-integration. Like the
previous two phases, this phase of the recovery process will be highly individualized. The
common OT goals during this stage is to improve clients safety at home and in the community,
facilitate community re-integration, provide vocational assessment and training, encourage social
interaction and leisure activity engagement, maintain optimal ADL and IADL functions, and to
prevent complications and maintain the patients health (Schroeder et al, 2007).

Benefits of Yoga

Because of the large knowledge base occupational therapists who work as part of the
burn and stroke teams have about the various complications that can occur; it is very fitting for
one to run a yoga program that is specific for burn and stroke survivors. Occupational therapists
have an understanding of the human body and it’s functioning and is trained in looking at a
person holistically. Because the overall goal an occupational therapist has for a burn and stroke
survivor is to restore and maintain function in order to carry-out everyday life occupations, an
occupational therapist could use yoga as the therapeutic agent to get the burn and stroke
survivor’s to meet that goal. Occupational therapists have played a large role as a member of the burn and stroke teams for many years. According to McGourty, Givens, and Fader (1985), prevention and remediation of dysfunction can occur through using occupations that contain meaning and purpose to the individual.

Currently, there is an abundant amount of research on the acute effects people with burns face, which usually just looks at the physical damage of burns, but very little on the chronic issues that a person with burns may have. Likewise, stroke rehabilitation is highly researched during the acute stages, but little is known on the chronic post-stroke life survivors live. This yoga program will include people who have been living with burn and stroke impairments for many years and who may still need support with emotional and physical healing. Many times, the emotional scars will last far longer than the physical scars and those can have a greater impact on a person’s occupational functioning. Yoga can help address the emotional dimension through remediation, meditation, and breathing techniques. This emotional dimension that yoga helps with can also be thought of as spiritual healing. According to Urbanowski and Vargo (1994) as cited in Willard and Spackman (2009) spirituality can be defined as, “a deep experience of meaning brought about by engaging in occupations that involve the enacting of personal ideologies, reflection, and intention within a supportive contextual environment.” The American Occupational Therapy Association (AOTA) has even included spirituality into its practice framework as a context for occupation and is defined as, “the fundamental orientation of a person’s life, that which inspires and motivates that individual” (AOTA, 2002). According to Feuerstein (1996), “how we perceive things determines how we relate to them, and, in turn, how we relate to things feeds back into our perception of them.” A person with burn or stroke injuries may have the physical means to engage in occupations of daily living, but without the right
attitude and self-confidence, may not be active participants, which is what yoga could assist with.

Physically, yoga has many benefits and its practice is not just about engaging in simple stretches but has a greater amount of meaning for a person who actively engages in it. For instance, yoga places emphasis on alignment and most yoga poses do not just target a single group of muscles but the whole body. Yoga is actually more concerned with creating balance in the body by developing the body’s strength and endurance. The word “yoga” itself actually means “union” and this union encompasses the mind, body, and spirit (physical, mental, and spiritual) aspects that make up a person (Feuerstein, 1996). There are eight main forms of yoga which are in practice. The most common and practiced form of yoga in the United States and most other countries in the western world is Hatha yoga (Bastille & Gill-Body, 2004). Hatha yoga and other types of yoga all encompass eight elements which together are known as the “eight-fold path” of yoga. These eight elements include yamas (moral disciplines), niyamas (self-resistant), pranayama (breath control), asanas (physical poses), pratyahara (sensory inhibition), dharana (concentration), dhyana (meditation), and samadhi (blissful state) (Feuerstein, 1996). A growing number of research evidence is supporting the found belief that certain yoga techniques can improve physical and mental health (Ross & Thomas, 2010).

People who have injuries from a stroke or burn are very susceptible to contractures, even years after the initial injury occurred which will limit their range of motion and yoga could help combat those contractures from forming. If a person has limited range of motion (ROM) and strength, than he or she will not be able to carry-out many of his or her occupations of daily living. For example, if a burn survivor forms contractures in the axillary area, washing his or her hair or pulling a shirt over his or her head would be difficult if not impossible depending on how
severely the ROM was reduced. Because an occupational therapist looks at a person as a “whole” it is suitable for an occupational therapist to use yoga as a therapeutic approach in helping people with burn or stroke injuries regain independence in their occupations.

The American Occupational Therapy Association recognizes the use of yoga as part of the complementary and alternative medicine approach in its practice framework. According to AOTA (2010), “CAM’s may be used within the scope of occupational therapy practice when they are used as preparatory methods or purposeful activities to facilitate the ability of clients to engage in their daily life occupations.” Because the ultimate goal and focus of the yoga program is for burn and stroke survivors to regain independence in occupations, this program is very occupation-based and falls in the realm of occupational therapy practice. An occupational therapist is very capable of learning yoga and teaching it to people with these types of impairments.

**Past Research on Yoga Interventions**

Although there has been an abundant amount of research done on the effectiveness of yoga on certain populations such as chronic back pain and arthritis, there has been little research conducted on what the effectiveness of a yoga program would be for people living with stroke or burn impairments. One research study done by Bastille and Gill-Body (2004) did take the stroke population and examined the effectiveness of a yoga program with post-stroke (9 months or longer) adults living with severe hemiparesis. Results from the study showed improvements in impairments and mobility limitations in all three subjects (Bastille & Gill-Body, 2004). The subject from the study who showed the greatest improvements was the one who adhered most closely to the yoga programs guidelines and practiced yoga daily (Bastille & Gill-Body, 2004).
Lynton and Shiflett (2007) also looked at the effects of yoga in stroke rehabilitation by conducting a small pilot study. The researchers used three participants who were all in various stages of their stroke recovery process and had them participate in a 12-week yoga program. The pre- and post-assessments used in this study were the O’Connor Tweezer Dexterity test and the Boston Aphasia Exam (Lynton & Shiflett, 2007). After completing the 12-week program, all three participants demonstrated improvements in both standardized assessments. The gains made by all three participants after completion of the 12-week program did begin to demonstrate how yoga has a place in stroke rehabilitation. In both of these research studies, the sample sizes were extremely small but did begin to reveal how yoga could be an effective treatment approach for people living with post-stroke impairments.

**Models of Practice**

The occupational therapist leading the Therapeutic Yoga Program at MetroHealth Hospital will use both the Biomechanical model of practice (Baldwin, 1919) and the Canadian model of occupational performance (Law, 1998) as theoretical models to guide him or her when implementing and running the program. Both of these models of practice are appropriate for the populations being served by this program and do not conflict with each other’s theoretical background and should be used together when implementing and running the program.

The Biomechanical model of practice (Baldwin, 1919) will be used because it looks at how to prevent injury, restore function, and how to compensate for loss of function. All of these goals of the model will be addressed in almost all of the participants of the program. The focus of the Biomechanical model is to break the person and the injury down to its parts. For instance, it is important to look at specifically what muscle groups are being affected, the synergistic movements of those muscles, and the positions and movements those muscles make in order to
complete a task or occupation (Latham, 2008). The population that the Biomechanical model of practice mainly serves is those who lack the range of motion, strength, and endurance to carry-out or perform daily life occupations. The populations taking part in this program will likely have varying degrees of range of motion, strength, and endurance problems. Many people with burn injuries will lack range of motion where contractures and scar tissue has formed, and may lack strength and endurance because the time they spent in the hospital has left them weak or because they are not as mobile and as high functioning as they were pre-burn injury. Stroke injuries often impact a person’s ROM, strength, and endurance rendering them with decreased activity performance. Some may not be able to return to their previous place of employment, may not be able to participate in the leisure activities they once enjoyed, and may not be able to carry-out their occupations of daily living independently. The Biomechanical model of practice looks to restore function by working on the physical parts of the person in order to restore occupational function which is why this model fits nicely with what the yoga program hopes to accomplish as one of its objectives.

The second model of practice that will be used is the Canadian model of occupational performance (CMOP) (Law, 1998). This model is very occupation based and the assessment which goes along with the model would be used ideally as part of the program to test participants before the start of the program and at the end of the program to measure occupational functioning and satisfaction. The Canadian model of occupational performance looks at how the person, environment, and occupation match up and discusses how there should be the “right fit” between all three dimensions (Law, 1998). Spirituality is another dimension in this model and it holds fundamental importance to the person who is completing his or her occupations (Law, 1998). If dysfunction in any of the four dimensions occurs, than a person’s occupational
performance will likely be disrupted. Dysfunction can occur to any of the dimensions and can vary greatly. For burn or stroke survivors, the severity of the disruption in the dimensions will depend on factors such as the severity of the burn or stroke, the person’s ability to cope, care received, and family and friend relationships. This model is also very client-centered which will give the participant the ability to decide autonomously his or her perceived level of functioning and what occupations he or she is not able to perform. Because the ultimate goal of the Therapeutic Yoga Program is to restore or maintain occupational performance, this model will be able to help assist participants reaching that goal in a very client-centered way.

Federal Initiatives and National Trends

By implementing the Therapeutic Yoga Program, national health care initiatives as stated in Healthy People 2020 will be addressed and met. Some of these initiatives include: Reducing the proportion of adults who engage in no leisure-time physical activity (PA-1), increase the proportion of adults who perform physical activities that enhance and maintain muscular strength and endurance (PA-2), increase the proportion of adults who perform physical activities that enhance and maintain flexibility (PA-3), and increasing the proportion of adults who have participated in at least one organized health promotion activity in the past year (ECBP-10.9).

Although these initiatives do not directly relate to people with burn or stroke injuries, participants who join the program will be meeting these initiatives. The two overarching goals for Americans according to Healthy People 2010 are to 1). Increase quality and years of healthy life, and 2). Eliminate health disparities (U.S. Department of Health and Human Services, 2000). The Therapeutic Yoga Program addresses goal number one by working on restoring or maintaining physical fitness in people with burn or stroke injuries in order to carry-out occupations of daily living and overall increase quality of life. The yoga program also addresses physical activity. Although the yoga program will help enhance a person’s emotional and
Therapeutic Yoga Program

spiritual dimensions, physical fitness is shown to improve psychological well-being, so by taking part in the yoga program, a person can also feel better about him or herself and be more likely to engage in occupations (U.S. Department of Health and Human Services, 2000).

Objectives

Program Goal

The goal of the Therapeutic Yoga Program at MetroHealth Hospital is to restore or maintain occupational performance in people who have sustained injuries due to a burn or stroke.

Objectives

1. During the first week of the program, participants will identify at least two occupations, as measured by the COPM, which have been impeded due to their injury.
2. During the first week of the program, participants will identify their perceived level of pain, as measured by the Brief Pain Inventory.
3. After completing 14 consecutive yoga sessions, 70% of participants will demonstrate increased ROM as measured by the goniometer.
4. At the conclusion of the 16 week program, 80% of participants will be able to demonstrate for the therapist their ability to perform the two identified occupations at MetroHealth Rehabilitation Institute of Ohio.
5. At the conclusion of the 16 week program, 75% of participants will report having decreased levels of pain, as measured by the Brief Pain Inventory.

The established objectives were developed based upon the overall goal of the Therapeutic Yoga Program which was based off of a review of literature related to burn and stroke therapy and yoga. According to McGourty, Givens, and Fader (1985) occupational therapists should
Therapeutic Yoga Program

Marketing and Recruitment of Participants

Marketing

In order for potential participants and stakeholders to be aware of the Therapeutic Yoga Program, multiple methods for marketing must be used. The marketing tools need to consider cultural factors such as age, education, disability, and socio-economic status. The potential participants will be persons who have any kind of burn or stroke injury and are at least 18-years-old. The potential stakeholders are professionals who work with people with burn and stroke injuries such as occupational and physical therapists, nurses, physicians, dieticians, and psychologists. Other potential stakeholders are family members of burn and stroke survivors because in some circumstances, it is the family members who end up being the caregiver for the

assess for pain in their burn patients because pain has been determined to be a limiting factor and a person who is in pain will likely have decreased activity performance. People with burn injuries are also very susceptible to forming contractures even years after the burn injury has occurred (Malick & Carr, 1982). Likewise, it is important for people living with stroke injuries to continually range their affected extremities in order to facilitate normal movement patterns (Popovich et al, 2007). For these reasons, yoga would be a good therapeutic intervention for these two populations to engage in. Also, according to Malick & Carr (1982), people with burns are very susceptible to having physiological problems associated with their burn injuries such as depression, low self-esteem, and anxiety. According to Vohora and Ogi (2008) stroke survivors often report a range of psychological difficulties that can greatly affect the way they live their lives. Yoga can help facilitate alleviating psychological issues through deep mediation and breathing techniques.
survivors. Marketing materials will be made accessible to both potential participants and potential stakeholders that have been treated or are affiliated with MetroHealth Hospital. Surrounding hospitals in the Cleveland and Akron area such as Cleveland Clinic Hospitals, University Hospitals, and Akron General Hospital will also be marketed towards in order to gather participants.

The first marketing strategy is to create a news release that will be sent to local radio stations such as 95.5 The Fish, Q104 and WTAM that have all been found to be popular radio stations in the Cleveland area. News releases are directed to members of the news media to announce something happening in the community or nationally. The news release form could be read during on-air commercial times in order to reach a large amount of people in Cleveland and its surrounding areas. The news release could also be published in the news stations community calendar. Major cost of using a news release comes from hiring someone to write the news release and that cost can range anywhere from 180 dollars to 18,000 dollars. After calling 95.5 The Fish at (216) 525-1800 it was determined that to announce something in the community calendar is free as well as having it announced over the radio, although typically announcements made during on-air time are reserved for big stories which would affect larger populations. The steps to sending in a news release are very simple for local radio stations. The news release can either be faxed, e-mailed, or mailed to the radio stations. The news release needs to be written in proper format, and include contact information, a brief overview of what it is being announced, and dates and times (see Appendix F for a sample of a news release for the Therapeutic Yoga Program).

Another marketing strategy is to create a brochure that will be displayed at the MetroHealth’s 24-hour Outpatient Comprehensive Burn Care Center and in the outpatient
rehabilitation center. The brochure will be displayed in both waiting rooms so anyone coming in or leaving would be able to visibly see the brochure. The brochure will be given to the burn or stroke patient by a member of the health care team. The brochure highlights what the Therapeutic Yoga Program is trying to achieve and some of the benefits of participating in the program. The brochure should be written in large enough font so it can be clearly read and should be written in easy to understand language. The colors used should be contrasting to each other in order to make it easy for people of all ages and disabilities to read. The cost of printing the brochures would come from the grants received for this program. According to www.fedex.com 500 brochures could be printed off for the price of 23 cents a copy, totaling 115 dollars. A large cost is the time that the occupational therapist in charge of the program will need to devote to creating the brochures and time distributing the brochure to the 24-hour Outpatient Comprehensive Burn Care Center and outpatient facility in MetroHealth Hospital (see Appendix G for an example of the Therapeutic Yoga Program brochure).

The third way to market the Therapeutic Yoga Program to potential participants and to potential stakeholders is through the American Burn Association (ABA) and the American Stroke Association (ASA). Both participants and stakeholders such as burn and stroke therapists are either members of the ABA or ASA or can register to be members. The organizations can be accessed through their websites, which are www.ameriburn.org and www.aha.org. Advertisements made on the ABA and ASA websites are free to members. The advertisement describes the purpose of the Therapeutic Yoga Program and the therapeutic value of yoga. An advertisement could also be solicited through the ABA and ASA’s monthly newsletter that is sent to all members which would be free of cost. This newsletter describes the Therapeutic Yoga Program and provides the reader with contact information. Advertisement for the program could also be
posted under MetroHealth’s 24-hour Outpatient Comprehensive Burn Care Center’s website which is http://www.metrohealth.org/body.cfm?id=1107 under the tab labeled “Programs & Groups”. Advertisements could also be posted under MetroHealth’s main website for stroke survivors to access. These methods are very cost-effective and would help spread the word about the program (see Appendix H for a copy of the flyer for the newsletter).

A fourth marketing strategy is to host educational seminars for members of the burn and stroke care team at MetroHealth Hospital and other hospitals in the Cleveland and Akron area. The occupational therapist would e-mail members of the burn and stroke care teams a flyer announcing the Therapeutic Yoga Program and the date and time of the seminars. Because burn and stroke survivors come into contact with different medical staff over the course of their treatments, one of the most beneficial marketing tools could be by word-of-mouth. By educating health care professionals who are a part of the burn and stroke care team, professionals can inform potential participants about the program and its therapeutic benefits. The educational seminar needs to be brief, approximately 30 minutes, and can be done by department (e.g. occupational therapy department at Akron General Hospital) or by times when health care staff could attend such as an in-service during lunch time. This is an inexpensive way to market the Therapeutic Yoga Program and a great way to spread the word in the community. For burn and stroke survivors who may not have access to the internet, one of the only ways they may hear about the program is by the health care professionals they regularly come into contact with.

Potential Participants

Inclusion Criteria

The potential participants that this program is looking for is persons who are 18 years of age and older that have injuries from a burn or stroke and who currently have physical problems, emotional problems, or both which can be associated with the injury. The potential participant
must have the cognitive capabilities to self-assess and be physically able to engage in a 90-minute group yoga class twice a week. Participants must have the muscle strength of 2+/5 in at least one upper extremity and one lower extremity as measured by a manual muscle test. Manual muscle testing will be completed if necessary by the occupational therapist during the participant’s initial visit.

In addition, the participant must be able to follow three step commands with no more than three verbal or nonverbal cues. The participant must be able to demonstrate an effective way of communication with the occupational therapist and other participants. Participant must also be available to attend to a two hour weekly group meeting. Because yoga can be performed even at a wheelchair level, it was found through conducting the needs assessments that cognition would be a greater limiting factor than physical limitations. However, participants must be able to ambulate with an assisted device with no assistance or must be able to self-propel a wheelchair. It would not be feasible for the occupational therapist in charge to ensure that the participants are able to move around freely due to the number of participants. Lastly, participants must demonstrate appropriate behavior in a group environment. This will be assessed by the occupational therapist during the initial meeting. However, if a participant at any time demonstrates inappropriate behavior, the participant will be discharged from the program.

Exclusion criteria

Exclusion criteria consist of anyone who does not meet the above requirements. People who have uncontrolled seizures, have poorly managed blood pressure, and exhibit inappropriate behavior (i.e. verbal outbursts and use of inappropriate language) will also be excluded from participating. These uncontrolled health conditions should be discussed with each participant
before the start of the first yoga session. Certain yoga poses can elicit a seizure and due to the physical nature of yoga, may increase blood pressure.

The maximum number of participants for the first year is 20. Each yoga session will last for 16 weeks, totaling two sessions for the first year. Each session will allow a maximum of 10 participants in order for the therapist in charge to meet the special needs of each participant.

**Recruitment**

The occupational therapist will be the main recruiter for participants. Participants will be recruited from MetroHealth Hospital and from neighboring hospitals in the Cleveland and Akron area. Some of the other hospitals that potential participants can be recruited from are Cleveland Clinic Hospitals, University Hospitals, and Akron General Hospital. Flyers will be e-mailed to the burn and stroke therapists working at those clinical sites to help with the recruiting process. The flyer will give the burn and stroke therapist’s information about the program, which can then be shared with the patients. At MetroHealth Hospital, potential participants will be recruited by word-of-mouth, brochures in the 24-hour Comprehensive Outpatient Burn Clinic and MetroHealth’s outpatient facility, and recruitment from the burn and stroke support groups that meet at the hospital. The burn support group meetings are held every Thursday from 11a.m. until 1 p.m. and the last Tuesday of every month from 6p.m. until 8p.m. The stroke support groups are held the second Tuesday of every month from 11a.m. until 1p.m. It will be important for the therapist in charge of the program to attend these support group meetings because for some potential participants, these support groups are the only time they might hear about the program and new members are always attending.
Therapeutic Yoga Program

Programming

Introduction to Yoga for Burns Program

The Therapeutic Yoga Program is an innovative program that uses the complementary and alternative medicine approach (CAM) to help treat the physical and emotional needs that people who have had a burn or stroke injury may have. For this program, the use of yoga will be used to help get people who have sustained burn or stroke injuries back to performing occupations that they find meaningful and purposeful and occupations, which allow them to be functionally independent. Yoga is hoping to accomplish this by treating the physical and emotional needs of the participants. The Therapeutic Yoga Program will be run by a licensed occupational therapist that is knowledgeable in the treatment of burn and stroke injuries and who is yoga certified. The occupational therapist will use the Canadian model of occupational performance (Law, 1998) and the Biomechanical model of practice (Baldwin, 1919) as the theoretical theories for running the program.

Theoretical Models for the Therapeutic Yoga Program

The use of the Canadian model of occupational performance (Law, 1998) will be eminent throughout the program. In the beginning, the participants will be asked to complete the Canadian occupational performance measure (COPM) which will allow the participant to autonomously decide which occupations he or she feels there could be room for improvements (Law, 1998). In order to be eligible for the program, at least two occupations need to be distinguished and once two occupations are identified, the occupational therapist and the participant can collaboratively come up with achievable goals that will hopefully be reached by the end of the 16-week program. The Canadian model of occupational performance encourages client-centered care, and this program demonstrates client-centered care by both occupational
therapist and participant working as a team to distinguish possible goals and by working around time conflicts which will be discussed later on. The occupational therapist will also be an active participant during yoga sessions and during the scheduled group meeting time, which is highly encouraged when using this model of practice.

The use of the Biomechanical model of practice (Baldwin, 1919) is shown through using yoga as a CAM approach and by using the goniometer as an assessment to measure the range of motion (ROM) of the participants in areas that were affected. Testing participants ROM is important because if a person has limited ROM than he or she may not be able to functionally carry-out certain occupations. For example, if a person has limited ROM in his or her axillary region, which is the area between the shoulder and chest, than he or she may not be able to complete certain self-care occupations such as washing hair, brushing teeth, or putting on a shirt. By using the Biomechanical model, the occupational therapist can help participants prevent injury, restore lost function, and/or teach them how to compensate for loss of function which will allow them to be able to complete occupations which they find meaningful and purposeful (Baldwin, 1919).

**Assessment and Data Collection**

In total, three assessments will be used to evaluate each participant deficits and problems. The first assessment will be the Canadian occupational performance measure (COPM) (Law, 1998). The COPM will be used before the start of the first yoga session during the first week of the program. This assessment will be used to help the participant decide at least two areas of occupation he or she feels could be improved. The COPM will be used again at the completion of the program to help determine if those goals for reaching those occupations have been met (see Appendix I for a copy of the COPM).
The second assessment is measuring the participant’s range of motion (ROM) with a goniometer once before the start of the first yoga session (during the first week), once after the completion of 14 yoga sessions (halfway point), and once at the end of the 28 yoga sessions during the final 16th week. The goniometer measurements will be taken by the occupational therapist running the program. ROM measurements will be taken over an area that has been affected by the burn or stroke injury.

The third assessment will be the short form of the Brief Pain Inventory (BPI) which will be used to assess each participant’s level of pain at the start of the program and then again during the final 16th week (Daut et al, 1983). Pain has been found to be a limiting factor and a participant who is in pain will less likely participate in occupations and have decreased activity performance (McGourty, Givens, & Fader, 1985). For this reason, it would be very appropriate to measure each participants perceived level of pain at the start of the program and at the end. The short form of the BPI asks participants to answer nine simple questions regarding their level of pain and how that pain interferes with daily functioning (see Appendix J for a copy of the BPI assessment). Because of the therapeutic nature of yoga, it is hoped that participant’s levels of pain will decrease over the course of 16 weeks or that the participants will be able to better cope with the pain being experienced.

**Therapeutic Yoga Program**

The first month of the program will be devoted to hiring the therapist who will run the program and orient him or her to the facility. Next, the therapist will need to become certified in teaching yoga. During the same time, in the first three months, marketing materials will need to be produced and materials for the program will be purchased. To begin the program, participants will contact the occupational therapist by calling or by e-mail if the participant has received a
pamphlet or the flyer with the contact information. If not, and the potential participant has heard about the program through word-of-mouth, than he or she can contact the MetroHealth Rehabilitation Institute of Ohio and request to speak with the occupational therapist in charge of the Therapeutic Yoga Program.

After reaching the occupational therapist in charge of the program, both therapist and potential participant will schedule a meeting during the first week of a new session in order to fill-out intake paperwork and to complete the assessments. In total, there will be two yoga sessions offered during the first year, each session lasting for 16 weeks from beginning until end. If a participant has expressed interest in participating in one of the yoga sessions while a yoga session has already started, the potential participants name and contact information will be taken down by the occupational therapist and a date and time to meet will be arranged for the start of the next yoga session. Once a yoga session has started, no further participants may join.

During the participant and therapist’s first meeting, which will be held sometime during the first week of a new yoga program session, each participant will be asked to fill-out an informed consent form which will need to be signed in order to participate in the program (see Appendix K for a copy of the informed consent form). By signing the informed consent form, the participant is acknowledging the potential injuries he or she could sustain by participating in the program and agreeing to complete the programs requirements. Signing also demonstrates agreement to allow the occupational therapist to administer the assessments. After the participant has signed the informed consent form, the therapist will read a confidentiality statement ensuring that the participant understands the programs rules and risks (see Appendix L for a copy of the confidentiality statement). Following the signing of the informed consent form, the participant will be asked to fill-out a participant information sheet. Examples of what these questions would
be asking are questions pertaining to the participant’s age, contact information, type of burn or stroke injury sustained, length of stay in the hospital, and how long ago the burn injury or stroke occurred. All participants must have their physician sign this sheet in order to participate in the program. This requirement is to ensure the participant is healthy enough to participate in yoga (see Appendix M for a copy of the participant information sheet).

Next, the participant will identify at least two areas of occupation that he or she finds hard or incapable of completing due to the burn or stroke injury sustained. To help aid the participant, the therapist will solicit the COPM (Law, 1998). After the participant has identified at least two areas of occupation that could be improved the therapist and participant will create goals for those occupations which will be measured again by the COPM at the end of the program during the 16th week. Not only will the participant discuss if those occupations have been met by the end of the 16 week program, the participant will also demonstrate for the therapist his or her ability to perform the occupations. To do so, the therapist will create the simulated occupations at MetroHealth’s outpatient therapy department sometime during the 16th week (Monday-Friday).

Following the COPM, the occupational therapist will solicit the short form of the Brief Pain Inventory (BPI) to the participant and measure the participants ROM using the goniometer. The occupational therapist will write ROM goals with the participant and discuss the participant’s level of pain based off the BPI scores.

The Saturday of the first week there will also be an hour meeting from 9-10:00 a.m. at MetroHealth. This meeting will give the participants a chance to meet each other and a chance for the occupational therapist to discuss the rules and regulations of the program and to answer any last minute questions.
All of the participant’s informed consent forms and assessment information will be kept in a locked file cabinet located in the therapist’s office. Only the occupational therapist in charge of running the Therapeutic Yoga Program will have access to the locked file cabinet. All of the forms will be kept in clearly marked manila folders and kept separate from all other documents (see appendix N for a copy of the final assessment form).

After the participant has completed the intake portion of the program which consists of signing the informed consent form, completing the patient information sheet, and completing the assessments, the participants will start the yoga classes the following week (week 2). No more than 10 participants will be enrolled in each yoga session and the yoga sessions will last 14 consecutive weeks. The first week and the 16th week will be used for completing intake and discharge forms and completing assessments. In total, two yoga programs will be run in the first year with a maximum number of participants being 20. Each participant will be required to attend two 90-minute yoga sessions a week. Yoga sessions will be offered as follows:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8:30 p.m.</td>
<td>8-9:30 a.m.</td>
<td>7-9:00 p.m.*</td>
<td>7-8:30 p.m.</td>
<td>8-9:30 a.m.</td>
</tr>
<tr>
<td>Yoga session</td>
<td>Yoga session</td>
<td>Designated group</td>
<td>Yoga session</td>
<td>Yoga session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>meeting time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Each participant will also be required to meet every Wednesday from 7-9:00 p.m. This time will be a designated time for all participants to get together. The therapist will be the facilitator for this designated group meeting time. This designated group time will be used for: support groups, group discussion, and educational seminars. This will also be a time for the participants to converse with each other and discuss certain topics of concern or interest (see
Appendix O, P, and Q for a complete copy of the weekly meetings descriptions and educational pamphlets).

It is mandatory for each participant to attend two 90-minute yoga sessions a week and to attend the designated group meeting time. If there is a case where the participant is unable to attend any of the designated yoga session times, the participant must contact the therapist and set-up an alternative meeting time for that week. If a participant is unable to attend the designated group meeting time, the participant must contact the therapist and set-up an alternative meeting time so that the therapist can keep the participant up to date on the information that will be discussed or was discussed for that week. If a participant misses more than two yoga sessions then he or she will be dismissed from the program and can enroll in the next offered session. It is imperative that all participants stay on track in order to reach their goals and gain any therapeutic benefits.

**Yoga Sessions**

Each yoga session will be 90 minutes long, and every week new yoga positions will be incorporated. Yoga poses will be graded on how easy or hard the pose is and each participant is encouraged to try his or her best but also encouraged to go at his or her own pace and time. Every participant will be different in what they are capable of doing. Some considerations include the participants age and type of injury. The therapist needs to pay attention to every participant in the session and help each with poses when help is needed. Sometimes, this may mean modifying the pose to make it easier or modifying the pose to make it more difficult. Because it is required that every participant must attend two yoga sessions a week for 14 weeks, every couple of weeks new yoga poses will be added. Positions previously learned will also be re-visited during each session. The goal is to keep building upon previously learned yoga
positions. At the end of every week, the therapist will write a short weekly progress note describing how the participant performed for that week. The therapist will need to rely on what was said or heard during yoga sessions and rely on his or her own observations made from the yoga sessions (see Appendix R for a copy of the short weekly progress note form).

**Yoga Poses**

As previously mentioned, each session will incorporate new yoga poses and re-visit previously learned poses. It is important to start each yoga session with simplistic yoga positions in order for the participants to feel comfortable with those poses before moving on. Beginner yoga positions will be used most frequently for the majority of the program. Downward Dog is one of the most common beginner positions and is often done many times during yoga sessions because it is a position, which can transition into other poses (Choudhury, 2000). This pose is a great transitional pose and resting poses which helps strengthen and stretch the entire body (Choudhury, 2000). The Warrior 1 pose is another great beginner pose and this pose strengthens the legs, opens the chest, and opens-up the shoulders (Choudhury, 2000). Although this pose is a beginner pose, it can be modified to make it a more advanced pose. Another great beginner pose, which will be used, is the Extended Side Angle Pose. This pose strengthens and stretches the legs, groins, hamstrings, and opens-up and strengthens the chest and shoulders (Choudhury, 2000). There are also variations of this pose for individuals who are more advanced.

After participants begin to feel comfortable with the beginner yoga poses, intermediate poses will be incorporated. It is important to note that intermediate poses will only be used if the occupational therapist feels the participant is ready to move on. Intermediate yoga poses will build upon beginner poses. The Eagle Pose is an intermediate yoga pose, which will be used, and its benefits include strengthening the legs, improving balance, and stretching the shoulders.
Therapeutic Yoga Program

(Feuerstein, 1996). After getting into this position, the participant should hold the position while holding 5-10 breaths. The Revolved Triangle is another intermediate yoga pose, which works on strengthening the legs, stretching the hips, opening up the chest and shoulders, and works on cleansing the internal organs (Feuerstein, 1996). The King Dancer Pose is another yoga position, which will be used during the yoga sessions. The King Dancer Pose works on strengthening the legs, improving the person’s balance, and stretching the shoulders (Feuerstein, 1996).

For most of the yoga sessions, easy and intermediate poses will be used, but if the participant feels he or she is ready than some advanced yoga poses can be incorporated. An example of an advanced yoga pose would be the Revolved Half Moon Pose. Some of the benefits of this pose is it helps strengthen the ankles, strengthens the thighs, and improves balance (Feuerstein, 1996). The Little Thunderbolt Pose is another advanced pose that could be used during the yoga sessions for participants who feel ready. A benefit of this pose includes increasing spinal flexibility, opening the throat, chest, and quadriceps, and strengthening the abdominals (Feuerstein, 1996) (see Appendix S for pictures and descriptions of the poses which will be used during the 16 week program).

During each yoga session, time will also be spent on meditating. Some meditation will occur while participants are in poses and can be done through deep breathing exercises. The therapist will instruct the participants to breathe in, hold that breathe for five seconds, and then let that breathe out slowly. This should be done at least five times. Other times, the therapist in charge will ask the participants to close their eyes and begin to relax every muscle in their body, which is called “guided mediation” (Choudhury, 2000). This helps with healing the body by letting the mind relax and helps the participants reflect on goals and aspirations that they want to reach in life (Choudhury, 2000). Every yoga session will spend approximately the last five
minutes allowing each participant to express his or her experiences of that session verbally. Since yoga touches on allowing people to facilitate awareness of any physical, mental, or emotional changes that may have occurred during each yoga session, it was found that this method would be a good ending note for each session (Bastille & Gill-Body, 2004). Throughout every yoga session, the mind, body, and spirit will be touched on at some level because that is what yoga practice is all about (see Appendix T for a complete detailed description of how each yoga session will be broken).

**Discharge Procedure**

After participants have completed the 14 weeks or 28 yoga sessions, the participants will schedule a time during the 16th week to meet with the therapist to get re-evaluated. During a designated meeting time, the participant will be re-administered the COPM to help determine if the areas of occupation which were deemed difficult or impossible to perform have been achieved. Furthermore, the therapist will create the occupations at MetroHealth’s outpatient rehabilitation gyms so that the therapist can see each participant performing the occupations. The therapist will also re-take each participant’s ROM measurements and re-solicit the Brief Pain Inventory. The therapist will discuss the results from the assessments and will talk about what the participant thought of the yoga program. The therapist will solicit to the participant a program evaluation sheet that will request the participant to discuss in writing how the program went and if the program should be modified. Furthermore, the therapist will educate the participant on things he or she can do at home to keep improving or maintain function and educate the participant on yoga sessions that are offered in the community if he or she is interested.
If a participant has not yet met the goals which were established in the beginning or the participant feels further improvements can be made, he or she has the option of signing up for another four month yoga session. If the participant decides to sign up for another yoga session, the participant’s information will be kept and the therapist and participant will either build upon the old goals or develop new goals to be attained. If the participant feels he or she has made enough gains or has not made any gains and would like to be discharged from the program, than the therapist will have the participant sign a discharge waiver which will ensure to the participant that all documentation obtained throughout the program will be put away on file and only the therapist in charge of the program will have access to the information (see Appendix U for a copy of the discharge form). Information will be kept for up to two years before being properly discarded. The therapist will have no further contact with the participant if the participant decides to be discharged.

Direct services that will be provided consist of the yoga sessions, education during the yoga sessions and during the group meetings, and the administration of assessments. Indirect services that will be offered will include the provision of resources such as other places the participant can go for yoga.

**Budgeting and Staffing**

The following budget lists all of the essential expenditures for the first year of the Therapeutic Yoga Program. The program will be created, developed, implemented, and evaluated by a licensed occupational therapist. The occupational therapist will be hired part-time and will be required to work at least 20 hours per week for an entire year. The salary for the occupational therapist running the program was determined by going on the website Simply Hired Inc. (2011) and searching for the average salary for an occupational therapist in the
Cleveland area. The average salary for a full-time occupational therapist working in the Cleveland area was approximately 60,000 dollars. Because the therapist who will be hired to run the program will be hired part-time, the average salary would be divided totaling 30,000 dollars. For the first year, the therapist will not be hired until after the first month so the 30,000 dollars was divided by 52 weeks in order to determine the therapists weekly salary and then multiplied by 48 because 48 represents the number of actual weeks that the therapist will be hired to work on developing and implementing the program for the first year. The therapist will be hired part-time (approximately 20 hours) since running the program will require the therapist spends time marketing and recruiting participants, conducting needs assessments, spends time evaluating the participants throughout the 16 weeks, works on goals for each participant, solicits intake and discharge forms, runs six hours of yoga sessions a week, and runs the mandatory two hour group meeting time once a week. The occupational therapist should have a minimum of a bachelor’s degree in occupational therapy (see Appendix V and W for a job description for the occupational therapist and a sample advertisement for the position).

**Budgeting**

The following sections are tables, which break down the projected costs of implementing the Therapeutic Yoga Program.

**Projected Staffing Costs**

<table>
<thead>
<tr>
<th>Employee Position</th>
<th>Hours Per Week</th>
<th>Salary</th>
<th>Benefits</th>
<th>Total Annual Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Therapist</td>
<td>20</td>
<td>$27,692.00</td>
<td>$6,923.00</td>
<td>$34,615.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Projected Staffing Costs</td>
<td></td>
<td></td>
<td></td>
<td>$34,615.00</td>
</tr>
</tbody>
</table>

**Projected Training Costs**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Rationale</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yoga Certification</td>
<td>In order for the therapist in charge of running the Therapeutic Yoga Program to teach participants yoga it is essential that the therapist has knowledge about yoga and can demonstrate competency in running yoga sessions.</td>
<td>$2,500.00</td>
</tr>
</tbody>
</table>

*Estimated certification costs from Bhumi Yoga Certification Classes [http://bhumiyoga.com](http://bhumiyoga.com)*


**Costs for Items to Run Program**

<table>
<thead>
<tr>
<th>Item</th>
<th>Rationale</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaiam Yoga Blocks</td>
<td>Yoga blocks are used during yoga sessions to help with the person’s alignment and to aid in stability. Yoga blocks can also help modify certain yoga positions. A yoga block should be provided for each participant in the program (10) and for the therapist running the program.</td>
<td>11</td>
<td>$120.89</td>
</tr>
<tr>
<td></td>
<td></td>
<td>($10.99 each)</td>
<td></td>
</tr>
<tr>
<td>Yoga Mat</td>
<td>Yoga mats are used during yoga sessions to help aid in the person’s ability to grip to the floor in order to maintain positions. Yoga mats are also used for comfort purposes. It would be essential for each participant to have a yoga mat throughout the 14 weeks of yoga sessions. A yoga mat should also be provided for the therapist running the program.</td>
<td>11</td>
<td>$219.89</td>
</tr>
<tr>
<td></td>
<td></td>
<td>($19.99)</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Quantity</td>
<td>Cost</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>CD Player</td>
<td>A portable CD player will be needed in order to play therapeutic music during each yoga session.</td>
<td>1</td>
<td>$59.99</td>
</tr>
<tr>
<td>Guided Relaxation CD</td>
<td>Therapeutic music is commonly played during yoga sessions to help ease the participants mind, body, and spirit. The music on this CD was compiled for use during yoga sessions and plays music from nature.</td>
<td>1</td>
<td>$22.00</td>
</tr>
<tr>
<td>White Paper</td>
<td>Necessary in order to print brochures, flyers, intake and discharge forms for participants to fill-out, weekly progress notes, program evaluation forms, and presentation material for meetings with participants and stakeholders.</td>
<td>4 Cases</td>
<td>$123.96</td>
</tr>
<tr>
<td>Pencils</td>
<td>Necessary for filling-out pre- and post-assessments, program evaluation forms, and progress notes.</td>
<td>1 (24) pack of pencils</td>
<td>$6.79</td>
</tr>
<tr>
<td>Pens</td>
<td>Necessary for filling-out pre- and post-assessments, program evaluation forms, and progress notes.</td>
<td>2 (24) pack of pens</td>
<td>$4.38</td>
</tr>
<tr>
<td>5 Inch Binder</td>
<td>Necessary for the therapist in charge to keep yoga position papers for reference during yoga sessions. Therapist can also include other materials for the group meetings.</td>
<td>1 5 inch binder ($23.19)</td>
<td>$23.19</td>
</tr>
<tr>
<td>Manila File Folders</td>
<td>Necessary for keeping participants information such as the participant’s information sheet, pre- and post-assessments, and program evaluation forms.</td>
<td>2 Each box contains 24 manila folders ($7.99) each</td>
<td>$15.98</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Parking Fees</td>
<td>Necessary because each participant will have to park in the MetroHealth’s parking garage for around 5 hours a week, which can amount to a lot of money in parking garage fees over the course of 16 weeks. It has been estimated that each participant will be paying approximately $8 each week in parking garage fees.</td>
<td>$8 (10) participants = $80 a week $80 x 16 (weeks) = $1,280 $1,280 x 3 (total sessions in 1 year)</td>
<td>$3,840.00</td>
</tr>
</tbody>
</table>

Total Projected Costs for Running the Program $4,437.07

*Price for Yoga Blocks estimated at [www.dickssportinggoods.com](http://www.dickssportinggoods.com)

*Price for Yoga Mats estimated at [www.target.com](http://www.target.com)

*Price for CD player estimated at [www.sears.com](http://www.sears.com)

*Price for Guided Relaxation CD estimated at [www.yogalifestyle.com](http://www.yogalifestyle.com)

*Price for Office Items estimated at [www.officemax.com](http://www.officemax.com)

**In Kind Support**

MetroHealth Rehabilitation Institute of Ohio will provide the following items for the Therapeutic Yoga Program: A room for the yoga sessions and group meetings, access to the facilities Easy Street (mock community), bathrooms, towels, chairs, tables, telephone, computer, printer, and copier.

**Indirect Costs**

Indirect costs for MetroHealth Rehabilitation Institute of Ohio will include air-conditioning, heat, electricity, and water.
Total Program Costs

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Staffing Costs</td>
<td>$34,615.00</td>
</tr>
<tr>
<td>Projected Training Costs</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>Cost for Items to Run Program</td>
<td>$4,437.07</td>
</tr>
<tr>
<td>In-Kind Support</td>
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</tr>
<tr>
<td><strong>Subtotal of Programming Costs</strong></td>
<td><strong>$41,552.07</strong></td>
</tr>
<tr>
<td>Indirect Costs (25% of Subtotal of Program Costs)</td>
<td>$10,388.02</td>
</tr>
<tr>
<td><strong>Total Programming Costs</strong></td>
<td><strong>$51,940.09</strong></td>
</tr>
</tbody>
</table>

Funding

In order to implement the first year of the Therapeutic Yoga Program, funding through grants will be necessary to cover the estimated cost of $51,940.09. Three sources for grant funding have been determined based on their reasons for providing funding and their annual amount of funds allocated for such programs. Their reasons for providing funding were also deemed appropriate for this program.

The first possible funding source for the Therapeutic Yoga Program at MetroHealth Hospital is a foundation called Integra. The mission statement for this foundation states that it is dedicated to advancing innovative medical and healthcare research and education that will lead to improved outcome and quality of life for patients and the communities that they live in (Integra Foundation, 2010, *Home*). Furthermore, the programs supported by the foundation
should show commitment to those people who need medical care, and should further the goals of the foundation by improving healthcare and by building healthier communities.

After conducting research of the foundations past grant recipients, it was discovered that most recently in 2009; grant money was awarded twice to the American Burn Association (ABA) and to the Burn Foundation to help start programs for burn survivors. Also, in 2008, grant money was given by this foundation to the Burn Institute to start a burn support program and to the American Burn Association. The Integra Foundation also funds programs all over the country, so it is not just limited to the state in which the foundation is located. Because the Integra Foundation has a history of supporting burn related programs and because of the foundations mission, it was deemed an appropriate granter source for this potential program. It is hoped that because the Therapeutic Yoga Program meets the mission and criteria that the Integra Foundation has, it would be able to receive some funding to support the program.

The Cleveland Foundation is the second potential funding source for the Therapeutic Yoga Program. The Cleveland Foundation was established in 1914 and is the world’s first community foundations and currently the world’s third largest community foundation to date. The foundation has assets totaling 1.8 billion dollars and makes annual grants of 80 to 85 million dollars. The mission of the foundation is to improve the lives of Greater Clevelanders now and for generations to come by building community endowment, addressing needs through grant making, and providing leadership on vital issues (The Cleveland Foundation, 2010, Home). In 2009, over 2.5 million dollars was given just to health services alone. Some of the places that received this money were the Cleveland Society for the Blind ($100,000), Vocational Guidance Services ($512,210), and The Cleveland Clinic Children’s Hospital for Rehabilitation ($1,000). In regards to grant making, The Cleveland Foundation gives priority to programs that improve
access to services and programs for vulnerable and underserved population, programs that strengthen nonprofit organizations, programs that test new ideas and different partnerships, and programs that support policy and advocacy (The Cleveland Foundation, 2010, Home).

Overall, the Cleveland Foundation provides grants in the areas of arts and culture, community development, economic development, education, environment, health, and human services. It also only serves the greater Cleveland area which is where the program will be taking place. Also, because the program will be serving the greater Cleveland population and is a health program, The Cleveland Foundation would be a great granter to support the development and running of the proposed program. Again, this foundation would be a great resource to obtain grant money for the Therapeutic Yoga Program because it would be serving the health needs of a vulnerable population in the greater Cleveland area.

A grant given by the Office of Disease Prevention and Health Promotion by the United States Department of Health and Human Services is the third potential funding source for the Therapeutic Yoga Program. After searching the department’s website, a grant titled “National Health Promotion (93.990)” was deemed appropriate to apply for. The objective of the grant is to promote the development, implementation and coordination of programs that promote good health habits and programs that are designed to prevent disease and disability.

The Therapeutic Yoga Program would fit this grants objectives because it is a program that aims to prevent further disability that many burn and stroke survivors are at risk to having. Not only does the proposed program look to treat the physical needs that the burn and stroke survivors may have, it also looks to promote their psychological and emotional well-being. Literature has continually shown that burn and stroke survivors are extremely susceptible to emotional problems such as depression. The range and average financial assistance that this grant
is offering is anywhere from 75,000 to 275,000 dollars, so this grant would have financial capability to help back the costs of the proposed program.

**Self-Sufficiency Plan**

After the first year of the Therapeutic Yoga Program has been funded by grants, it can be assumed that stakeholders from MetroHealth Hospital and other areas will work to maintain the program after those stakeholders have received positive feedback through the programs evaluations. Because the people who would be receiving services by participating in the Therapeutic Yoga Program are people who still have complications from burns or a stroke, it can further be assumed that these services could eventually be billed through Medicare or other insurance providers. The physician, who would be a potential stakeholder, could write orders for occupational therapy services, and those services could be billed through insurance providers. Depending on how many participants are given occupational therapy orders and depending on how much money for those services could be billed, hypothetically that money could help run and sustain the program.

**Program Evaluation**

Formative and summative evaluations of the program will need to be completed in order to determine the success of the program. Determining the success of the program could lead to future funding and also lead to more participants. The Therapeutic Yoga Program will be evaluated throughout all 16 weeks. During each weekly designated group meeting time, the occupational therapist will ask participants about possible concerns they may have about the program or about any general comments they may have. At the end of each week that yoga sessions are held (14 weeks), the therapist will write a short progress note for each participant documenting how each participant performed during the yoga sessions for that week.
During the designated group meeting time on the 8th week, participants will be given a formative evaluation to fill-out (see Appendix X for a copy of this form). During the same week, each participant will meet with the therapist individually in order for the therapist to re-take ROM measurements. After the participants have filled-out the formative evaluations and the therapist has measured each participants ROM, the therapist will contact key stakeholders at MetroHealth to set-up a meeting time to discuss how the program is going. The occupational therapist should request to meet with the stakeholders during a luncheon that would last approximately one hour and discuss participant’s progress and feedback based off of the evaluation form (without disclosing any personal information). At the end of the luncheon meeting, stakeholders from MetroHealth would give the occupational therapist verbal feedback of how they feel about the program’s success and any personal suggestions.

At the conclusion of the 16 week program, participants will be solicited a final summative evaluation during their last meeting with the occupational therapist (see Appendix Y for a copy of the summative evaluation form). Another summative evaluation consists of the post-assessments, which will inform the occupational therapist and key stakeholders about the efficiency level of the program and the progress that the participants made after engaging in the program. The assessments will include the COPM, ROM measurements, and the short form of the Brief Pain Inventory. After the completion of the 16-week program, the therapist can again meet with key stakeholders from MetroHealth to gain insight about how they feel the program was run. During this time, the therapist can present the key stakeholders with the results from the assessments and show how the participants occupational functioning has improved after completing the program. The therapist can also share with stakeholders the summative evaluations received from the participants.
The goal and objectives, which were established for the Therapeutic Yoga Program, will also be evaluated and changed as necessary throughout the first year of the program being run. The objectives will be evaluated using the following methods:

1. During the first week of the program, participants will identify at least two occupations, as measured by the COPM, which have been impeded due to their injury.
   a. During the first week of the program, the therapist will document each of the participant’s two identified occupations in their charts which were measured by the COPM.

2. During the first week of the program, participants will identify their perceived level of pain, as measured by the Brief Pain Inventory.
   a. During the first week of the program, the therapist will document in each of the participant’s charts their perceived level of pain as measured by the Brief Pain Inventory.

3. After completing 14 consecutive yoga sessions, 70% of participants will demonstrate increased ROM as measured by the goniometer.
   a. The therapist will determine if 70% of participants have shown increased ROM by using a goniometer to take the measurements in areas affected by their burn or stroke injury and comparing those measurements to the initial measurements which were taken during the first week.
   b. The therapist will than formally document the results in each participants chart.
4. At the conclusion of the 16-week program, 80% of participants will be able to demonstrate for the therapist their ability to perform the two identified occupations at the MetroHealth Rehabilitation Institute of Ohio.
   a. The therapist will determine if 80% of participants were able to demonstrate their ability to perform the two identified occupations by visually watching the participants complete the identified occupations at the MetroHealth Rehabilitation Institute of Ohio.
   b. The therapist will document each participant’s results in his or her chart.

5. At the conclusion of the 16 week program, 75% of participants will report having decreased levels of pain, as measured by the Brief Pain Inventory.
   a. The therapist will determine if 75% of participants have decreased levels of pain by scoring the Brief Pain Inventory at the conclusion of the 16 week program and comparing those results to the results obtained during the first week.
   b. The therapist will formally document each participant’s results in his or her chart.

Timeline

See Appendix Z for a weekly timeline that summarizes the first year of programming for the Therapeutic Yoga Program.

Letters of Support

Many individuals from multiple facilities will be solicited to write letters of support for the Therapeutic Yoga Program (see Appendix Aa for each person’s name and contact information that will be requested to write a letter of support).
One of the most significant letters of support comes from Kevin Kucera, OTR/L, who is the director of outpatient rehabilitative services at MetroHealth Hospital. Kevin Kucera had practiced occupational therapy for over twenty years before becoming the rehabilitative director. He has worked with many settings including burn and stroke rehabilitation. Because of Kevin Kucera’s position as rehabilitative director, he has an understanding of MetroHealth’s infrastructure and possible needs in terms of programs for the hospital (see Appendix Bb for a copy of Kevin Kucera’s letter of support).

Another letter of support could come from Kathy Wasil, OTR/L. Kathy Wasil has been a part of the burn team at MetroHealth for 26 years and has expert knowledge in the field of burn care and treatment. Kathy Wasil helped establish the burn support group at MetroHealth Hospital is a frequent volunteer at the children’s winter and summer burn camp and at the adult survivor burn camp. Kathy Wasil has attended several American Burn Association yearly meetings and has attended the World Burn Congress while is held annually.

A third potential letter of support could come from Tamara Keck, PT, who is the primary physical therapist at MetroHealth who works on the burn floor. Tamara has worked as a member of the burn team at MetroHealth for many years and has expert knowledge in the field of burn care and treatment. Because of the wealth of knowledge Tamara has about the physical effects burns have on a person, her letter of support could address the physical reasons why yoga would be a great therapeutic intervention for people with burn injuries.

A fourth potential letter of support could come from Dr. Charles J. Yowler, M.D. Dr Charles Yowler is a professor at Case Western Reserve University and is currently the director of MetroHealth’s Comprehensive Burn Care Center. His research interest is on burns and has been published numerous of times in the Journal of Burn Care Research. Because of Dr. Charles
Yowler’s expert knowledge and dedication to the treatment of burns, he would be an excellent person to receive a letter of support from. His letter of support would also be very important for insurance companies to read in order for the yoga session to be billable after the program has stopped receiving grant money.

A fifth potential letter of support could come from Dr. Fratianne, M.D. Dr. Fratianne is an expert in the field of burns and is a well know published author in the field, educator at Case Western Reserve, and is the founder of MetroHealth’s burn unit. Dr. Fratianne currently runs the burn support group which is held weekly at MetroHealth Hospital and is in charge of the yearly adult burn survivor retreat.

A sixth letter of support could come from the president of the American Burn Association Sidney F. Miller, MD, FACS. Dr. Miller is the Director of Medicine at the Center of Burn Care at The Ohio State University. Before holding the current 2010 president position for The American Burn Association, Dr. Sidney Miller was the vice president of The American Burn Association in 2008. He also currently serves on the editorial board for the Journal of Burn Care and Rehabilitation and on the editorial board for The Journal of Burns. Because of Dr. Sidney Miller’s accomplishments in the field of burns and because of his status as president of The American Burn Association, obtaining a letter of support from him would be a huge accomplishment for the development of the Yoga for Burns Program.

A seventh letter of support could come from the president of The American Occupational Therapy Association Florence Clark, PhD, OTR/L, FAOTA. Dr. Clark is currently the associate dean, chair, and professor of the occupational therapy department at the University of Southern California. Dr Clark is a widely published and well known author and researcher in the field of occupational therapy with a special interest in sensory integration with children sensory
processing deficits. Dr. Clark has a long list of awards for her work in the field of occupational therapy, with most recently receiving a lifetime achievement award from the occupational therapy association of California. Obtaining a letter from the AOTA president would be very beneficial and important for starting this program.

An eight letter of support could come from Roberta Pennington, OTR/L. Roberta is one of the primary occupational therapists that works with stroke survivors at MetroHealth’s outpatient clinic. Roberta has over thirteen years of experience working with stroke survivors. Roberta has seen a wide range of deficits caused from a stroke and implements yoga poses in her treatments. Soliciting a letter of support from Roberta would be important for stakeholders to see when trying to implement the program.

A final letter of support could come from the President of the American Heart Association, which operates an affiliated American Stroke Association, is Ralph Sacco, M.D., MS, FAAN, FAHA. Dr. Sacco is a stroke neurologist from the Miller School of Medicine at the University of Miami, Florida. Dr. Sacco previously served as chair of the American Stroke Association Advisory Committee from 2005 to 2008 and was a member of the AHA National Board of Directors until 2008. Dr. Sacco still sits on the AHA’s Scientific Advisory Coordinating Committee. Most of Dr. Sacco’s research has been on stroke and stroke prevention. Because of Dr. Sacco’s extensive knowledge in the field of stroke and his current position as president of the American Heart Association, it would be valuable for the implementation and funding for this program to receive a letter of support from him.
References


Appendix A

Organizational Chart

MetroHealth Rehabilitation Institute of Ohio
Appendix B

Focus Group Format for Therapeutic Yoga Program

*Two focus groups will be conducted to determine the importance of a Therapeutic Yoga Program for burn and stoke populations. The format for the focus groups will follow as below:

- The moderator will recruit for focus group participants by attending stroke and burn support groups that are offered by MetroHealth Hospital.
  - Stroke support group meets the first Thursday at 11:00 a.m. of every month at MetroHealth Outpatient gym for 1 hour.
  - Burn support group meets every Thursday at 11:00 a.m. for 1-2 hour at MetroHealth Outpatient gym.
- The focus group will not exceed 90 minutes and each participant will only attend once.
- The focus group will sit in a circle to open-up discussion
- Each member of the focus group will state his/her name and give as much information as he/she would want so that each member feels comfortable with one another.
- The moderators will introduce themselves and state the purpose of the focus group.
  - State reasons why yoga can be used as a therapeutic tool and a little bit about how the program would be run.
- Focus group Questions:
  - How has your burn or stoke affected your physical abilities?
  - How has your burn or stroke affected you emotionally?
  - How has your burn or stroke affected your capabilities to maintain a job?
  - How has your burn or stoke affected your capabilities to be engaged in leisure activities?
  - How has your burn or stoke affected your family dynamics and your role in the family?
  - How has your burn or stoke affected your abilities to carry-out activities of daily living (bathing, dressing, eating, etc.)?
  - Are any of you currently receiving rehabilitative services?
  - Have any of you ever tried yoga (either pre or post burn or stoke)?
  - Would any of you ever be interested in trying yoga as a therapeutic tool to assist with physical and emotional well-being?
Appendix C

Stroke Survey

Demographic Information

What is your age? _____________

What is your race? (check only one)

_______ African American

________ Native American

_______ Caucasian

________ Other

_______ Hispanic

What is your highest level of education?

_______ Less than High School

_________ Bachelor’s Degree

_______ High School Graduate

_________ Graduate Degree

_______ Some College

_________ Doctoral Degree

Were you employed at the time of your stroke? (circle one)    Yes    No

If yes, what was your occupation?

________________________________________________________.

Are you currently employed? (circle one)    Yes    No

If yes, what is your current occupation?

________________________________________________________.
Medical History Information

Date of stroke _________________

Is this your first stroke? (check one)  Yes    No

If no, how many strokes have you had? _________________

What are your primary PHYSICAL deficits? (check all that apply)

- _____ Left arm hemiparesis
- _____ Left leg hemiparesis
- _____ Difficulty swallowing
- _____ Tightness/stiffness of joints
- _____ Limited movement in arms or legs
- _____ Right arm hemiparesis
- _____ Right leg hemiparesis
- _____ Verbal communication deficits
- _____ Visual impairments

If other physical deficits, please explain
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
What are your primary Emotional deficits? (check all that apply)

_________ Depression  _________Anxiety  _________Difficulty controlling emotions

_________ Fear  _________Sadness  _________ Anger/frustration

_________ Confusion  _________ Other

If other emotional deficits, please explain
______________________________________________________________________________
______________________________________________________________________________

Rehabilitative services received (check all that apply)

______ Occupational Therapy  _________ Physical Therapy  _________Speech Therapy

Are you currently receiving rehabilitative services? (check one)  Yes  No

If yes, please check all that apply

________ Occupational Therapy  _________ Physical Therapy  _________ Speech Therapy
Questions pertaining to the development of the Yoga Program

Do you currently have difficulty performing daily activities after having your stroke?  Yes  No

If yes, please check that most clearly depicts your functional activity problems in the chart below:

<table>
<thead>
<tr>
<th>Functional Activity</th>
<th>Partially can do on my own</th>
<th>Cannot do at all on my own</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grooming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathing/Toileting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooking/Feeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do you currently engage in any exercises to help with any physical problems you may have (e.g. riding a bike, swimming, running?)  No  Yes (If yes, please describe below)

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Have you ever tried yoga?  Yes  No

Would you be interested in taking part in a FREE yoga program that could have value and ultimately help with activities of daily living such as: bathing, dressing, food preparation, and work? (Please check one)  Yes  No
Appendix D

Burn Survivor Survey

**Demographic information**

What is your Age __________

What is your Race? (check only one)

- ______ African American
- ______ Caucasian
- ______ Hispanic
- ______ Native American
- ______ Other

What is your highest level of education?

- ______ Less than High School
- ______ High School Graduate
- ______ Some College
- ______ Bachelor’s Degree
- ______ Graduate Degree
- ______ Doctoral Degree

Were you employed at the time of your injury? Yes  No

If yes, what was your occupation?

__________________________________________________________.

Are you currently employed? Yes  No

If yes, what is your current occupation?

__________________________________________________________.

**Medical History Information**

Date of burn injury? _________________________

Type of Burn (Check all that apply)

- _____ Flame
- _____ Hot Surface
Therapeutic Yoga Program

______ Hot Liquid

______ Electrical

______ Chemical

______ Radiation

Extent of Burn (Check all that apply)

______ Facial burn

______ Ear loss

______ Hand burn

______ Genitalia burn

______ Breast burn Arm/Leg

______ Torso

______ Hair loss

______ Amputation

Percent of Full-Thickness (3rd degree) Burn

Percent of Partial-Thickness (2nd degree) Burn

Length of Hospitalization

Rehabilitative services received (Check all that apply)

______ Occupational therapy

______ Speech/Language therapy

______ Physical therapy

______ Recreation therapy

Do you currently have chronic pain associated with the injury you sustained? Yes   No

If yes, which best describes your type of pain? (Check all that apply)

______ Brief

______ Rhythmic

______ Continuous

______ Momentary

______ Periodic

______ Steady

______ Constant
Questions pertaining to the development of the Yoga program

Do you currently have functional activity problems?  Yes  No

If yes, please check the box that most clearly depicts your functional activity problem in the chart below:

<table>
<thead>
<tr>
<th>Functional Activity</th>
<th>Partially can do on my own</th>
<th>Cannot do at all on my own</th>
</tr>
</thead>
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<tr>
<td>Grooming</td>
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<td>Bathing/Toileting</td>
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<td>Cooking/Feeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do you currently engage in any exercises to help with any physical problems you may have (e.g. riding a bike, swimming, running?)  No  Yes  If yes, please describe below.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Have you ever tried yoga? Yes  No

Would you be interested in taking part in a FREE yoga program that could have value and ultimately help with activities of daily living such as: bathing, dressing, food preparation, and work? (Please check one)  Yes  No
Appendix E

Semi-Structured Interview Questions

1. How long have you been working with the burn/stroke population?

2. What are the main physical barriers of stroke/burn patients that you have seen?

3. What are the main emotional/psychological issues of stroke/burn patients that you have seen?

4. Do you feel the stroke/burn patients receive adequate emotional support while at the hospital?

5. Do you feel there are enough programs for burn/stroke patients after being discharged from the hospital setting?

6. Have you ever tried yoga with any of your stroke/burn patients?

7. What do you think about a yoga program to address the physical and emotional needs burn/stroke survivors may have?

8. What do you think some of the considerations the yoga program would need to make to adequately serve the burn/stroke population?
News Release

April 5, 2011
Contact: Stephanie Mohr 330.221.1680

New Program at MetroHealth Offers to Aid Burn and Stroke Survivors through Yoga Therapy

(CLEVELAND) – A newly developed program at MetroHealth Medical Center seeks to improve the quality of life for burn and stroke survivors by targeting their physical and emotional needs through the performance of yoga. By focusing on creating balance in the body, yoga develops strength and flexibility through the performance of poses or postures that provide specific physical benefits, as well as emotional healing.

The free, four-month program, called the Therapeutic Yoga Program will be offered on Mondays 7-8:30 p.m., Tuesdays from 8-9:30 a.m., Thursdays from 7-8:30 p.m. and Fridays from 8-9:30 a.m. at the MetroHealth Rehabilitation Institute of Ohio. Class size will be limited to 10 participants. Participants must be 18 years or older, mentally alert and capable of performing basic physical exercise.

The program will be run by a licensed occupational therapist at MetroHealth Hospital.

For more information about Yoga for Burns, contact Stephanie Mohr at 330.221.1680 or Stephanie.Mohr@rockets.utoledo.edu.
Therapeutic Yoga Program

Appendix G

Burns and strokes are serious injuries, and in order to recover, a person needs great perseverance. The yoga helps survivors along the road toward physical, emotional, and spiritual healing.

For more information or to enroll, contact Stephanie Mohr at 330.221.1860 or Stephanie.Mohr@med.cornell.edu.

MetroHealth Rehabilitation Institute of Ohio

Therapeutic Yoga Program

Let the soothing power of yoga heal you.

Healing Mind, Body & Spirit
Healing mind, body and spirit through yoga

Benefits of participating in the Therapeutic Yoga Program

- Improved range of motion
- Increased strength
- Reduced contractures
- Greater flexibility
- Enhanced emotional well-being
- Increased independence
- Greater self-esteem
- Minimized pain

About the program

Developed by an occupational therapist, the Therapeutic Yoga Program is run by a licensed occupational therapist at MetroHealth Rehabilitation Institute of Ohio annually. Participants will need to be dedicated to the program's schedule by attending yoga sessions and group meetings weekly for 16 weeks.

Therapeutic Yoga Program mission:

To restore or maintain occupational performance for people who have complications from burns or stroke, so that they can better function when doing tasks related to participation in major life occupations, such as cooking, self-care, working, and leisure activities.

Who can participate

In order to participate in the program, individuals must be:

- 18 years and older
- Mentally alert
- Available to attend yoga classes twice a week for four months and weekly group meetings
- Capable of ambulating independently or with an assistive device
- Able to follow directions and participate appropriately in group settings

Program schedule

Sessions will meet for a 4-month period on:

- Mondays 7—9:30 p.m.
- Tuesdays 8—9:30 a.m.
- Thursdays 7—9:30 p.m.
- Fridays 8—9:30 a.m.

Cost

The program is FREE for participants, although transportation is not provided.

Location:

MetroHealth Rehabilitation Institute
2500 MetroHealth Drive
Cleveland, Ohio 44109
Therapeutic Yoga Program

...Let the soothing power of yoga heal you

For Burn and Stroke Survivors

Participants Must Be:
18 years of age or older
Had a stroke or burn injury
Have physical or emotional problems associated with the injury
Can participate in yoga therapy group sessions twice a week for 16 weeks
Can attend a weekly 2 hour meeting

Yoga offers a holistic approach to the body health and mind, as it views both, mind and body as inseparable. The practice of yoga brings with it many physical and emotional benefits that many are unaware of.

For more information about the program please contact Stephanie Mohr at 330.221.1680
Or Stephanie.mohr@rockets.utoledo.edu

METROHEALTH REHABILITATION INSTITUTE
2500 METROHEALTH DRIVE

METROHEALTH REHABILITATION INSTITUTE
2500 METROHEALTH DRIVE
Appendix I
COPM Assessment

# Canadian Occupational Performance Measure

**Second Edition**

Authors:
Mary Law, Sue Baptiste, Anne Carswell, Mary Ann McCall, Helene Polatajko, Nancy Pollock

The Canadian Occupational Performance Measure (COPM) is an individualized measure designed for use by occupational therapists to detect self-perceived change in occupational performance problems over time.

<table>
<thead>
<tr>
<th>Client Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
</tr>
<tr>
<td>Respondent (if not client):</td>
</tr>
<tr>
<td>Date of Assessment:</td>
</tr>
<tr>
<td>Therapist:</td>
</tr>
<tr>
<td>Facility/Agency:</td>
</tr>
<tr>
<td>Program:</td>
</tr>
</tbody>
</table>

Published by CAOT Publications ACE © M. Law, S. Baptiste, A. Carswell, M.A. McCall, H. Polatajko, N. Pollock, 199
**STEP 1: IDENTIFICATION OF OCCUPATIONAL PERFORMANCE ISSUES**

To identify occupational performance problems, concerns and issues, interview the client, asking about daily activities in self-care, productivity and leisure. Ask clients to identify daily activities which they want to do, need to do or are expected to do by encouraging them to think about a typical day. Then ask the client to identify which of these activities are difficult for them to do now to their satisfaction. Record these activity problems in Steps 1A, 1B, or 1C.

**STEP 1A: Self-Care**

<table>
<thead>
<tr>
<th>Personal Care (e.g., dressing, bathing, feeding, hygiene)</th>
<th>IMPORTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Mobility (e.g., transfers, indoor, outdoor)</td>
<td></td>
</tr>
<tr>
<td>Community Management (e.g., transportation, shopping, finances) (or other)</td>
<td></td>
</tr>
</tbody>
</table>

**STEP 2: RATING IMPORTANCE**

Using the scoring card provided, ask the client to rate, on a scale of 1 to 10, the importance of each activity. Place the ratings in the corresponding boxes in Steps 1A, 1B, or 1C.

**1B: Productivity**

<table>
<thead>
<tr>
<th>Paid/Unpaid Work (e.g., finding/keeping a job, volunteering)</th>
<th>IMPORTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Management (e.g., cleaning, laundry, cooking)</td>
<td></td>
</tr>
<tr>
<td>Play/School (e.g., play skills, homework)</td>
<td></td>
</tr>
</tbody>
</table>
### Therapeutic Yoga Program

**1C: Leisure**

<table>
<thead>
<tr>
<th>Quiet Recreation (e.g., hobbies, crafts, reading)</th>
</tr>
</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>Active Recreation (e.g., sports, outings, travel)</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Socialization (e.g., visiting, phone calls, parties, correspondence)</th>
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</thead>
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</table>

### STEPS 3 & 4: SCORING - INITIAL ASSESSMENT and REASSESSMENT

Confirm with the client the 5 most important problems and record them below. Using the scoring cards, ask the client to rate each problem on performance and satisfaction, then calculate the total scores. Total scores are calculated by adding together the performance or satisfaction scores for all problems and dividing by the number of problems. At reassessment, the client scores each problem again for performance and satisfaction. Calculate the new scores and the change score.

<table>
<thead>
<tr>
<th>Initial Assessment: OCCUPATIONAL PERFORMANCE PROBLEMS:</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
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<table>
<thead>
<tr>
<th>SCORING:</th>
</tr>
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<tbody>
<tr>
<td>Total performance or satisfaction scores</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE 1</th>
<th>SATISFACTION 1</th>
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<table>
<thead>
<tr>
<th>PERFORMANCE 2</th>
<th>SATISFACTION 2</th>
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<table>
<thead>
<tr>
<th>CHANGE IN PERFORMANCE = Performance Score 2 - Performance Score 1</th>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>CHANGE IN SATISFACTION = Satisfaction Score 2 - Satisfaction Score 1</th>
</tr>
</thead>
</table>
Appendix J

Brief Pain Inventory (Short Form)

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?

   1. Yes  
   2. No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.

3. Please rate your pain by circling the one number that best describes your pain at its worst in the last 24 hours.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
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<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</table>

4. Please rate your pain by circling the one number that best describes your pain at its least in the last 24 hours.

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
<td></td>
<td></td>
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</table>

5. Please rate your pain by circling the one number that best describes your pain on the average.

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</thead>
<tbody>
<tr>
<td>No</td>
<td>Pain</td>
<td>Pain as bad as you can imagine</td>
<td></td>
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6. Please rate your pain by circling the one number that tells how much pain you have right now.

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<tbody>
<tr>
<td>No</td>
<td>Pain</td>
<td>Pain as bad as you can imagine</td>
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</table>
7. What treatments or medications are you receiving for your pain?

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received.

<table>
<thead>
<tr>
<th></th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>100%</th>
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<tr>
<td></td>
<td>No Relief</td>
<td>Complete Relief</td>
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9. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

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<tr>
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<th>General Activity</th>
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<th>Enjoyment of life</th>
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Appendix K
The Therapeutic Yoga Program

INFORMED CONSENT FORM

PURPOSE OF THE THERAPEUTIC YOGA PROGRAM
The purpose of the yoga program is to assist individuals with varying levels of physical and emotional injuries caused from having a stroke or burn injury regain independence in their activities of daily living. Yoga hopes to improve the physical and emotional injuries caused from stroke and burn injuries by engaging participants in the various yoga poses which place emphasis on body alignment and stretch, creating a sound mind through deep breathing exercises, and creating inner peace by participating in yoga’s meditation techniques.

DESCRIPTION OF THE PROGRAM, REQUIREMENTS, AND DURATION OF YOUR INVOLVEMENT
If you decide to take part in the yoga program, you will be committing yourself to a 16-week program. You will be required to attend two of the four offered yoga sessions weekly for 14 consecutive weeks. Your attendance will also be required during the mandatory two-hour group time, which will meet once a week. If you are unable to meet these requirements you MUST contact the occupational therapist and set-up an alternative plan. If you are absent from more than two consecutive yoga sessions, you will be dismissed from the program. If you miss more than two consecutive group meetings, you will be dismissed from the program. If this happens, you may re-enroll for the next offered 16-week yoga session. If you find that you are unable to meet the requirements of the program once the program has started you may leave at anytime. Your file containing your assessment information, medical history, and contact information will be kept in a locked file cabinet for up to two years before being properly discarded. Only the occupational therapist in charge of running the program will have access to your file. At the completion of the 16-week program, you will have the option of signing-up for another 16-week session, or leaving the program. Upon leaving, your file containing your assessment information, medical history, and contact information will be kept in a locked file cabinet for up to two years. You will also be asked to sign a discharge waiver acknowledging your departure from the program. Only the occupational therapist in charge will have access to your file. After two years, your file and contents will be properly discarded.

ASSESSMENTS USED FOR THIS PROGRAM
If you decide to take part in the yoga program, you will be administered several assessments throughout your involvement. During the first week, you will meet with the occupational therapist for a one-hour meeting during which three different assessments will be administered. The Brief Pain Inventory (BPI) will be administered to assess your level of perceived pain. The Canadian Occupational Performance Measure (COPM) will be used to assess what areas of activities of daily living you have difficulties in performing. Once you identify the activities of daily living with are still difficult or are incapable performing, the COPM will ask you to assess your perceived level of importance for those chosen activities. The occupational therapist will also use a goniometer to measure your range of motion over joints affected by your injury. Range of motion measurements will be re-taken after the completion of 14 consecutive yoga sessions (halfway point). Through a combination of all three assessments, goals will be
Therapeutic Yoga Program

established collaboratively by you and the occupational therapist. All three assessments will be used again at the completion of the 16-week program to determine improvements.

POSSIBLE BENEFITS OF THE THERAPEUTIC YOGA PROGRAM
Possible benefits include improved physical capabilities to carry-out activities of daily living, an improved psychological well-being, a greater understanding of one’s own body, improved self-esteem, and mental clarity. From attending the weekly meetings, you will be given information on various health topics, which hope to broaden your knowledge and lead to a healthy lifestyle. Weekly meetings are also designated for social interaction. Because of the nature of the yoga program, social interaction with other burn and stroke survivors will also occur and may attribute to benefits.

POSSIBLE RISKS AND DISCOMFORTS YOU MAY EXPERIENCE IF YOU TAKE PART IN THIS PROGRAM
There are minimal risks and discomforts associated by participating in this program, however there are always risks when taking part in any exercise program. Some of the risks include exhaustion, weakness, and soreness due to the muscles being stretched. Some yoga poses may have you use muscles, which are weak. These discomforts are temporary and should not have any long-term negative effects. Yoga poses may be modified based on your physical capabilities. You always have the option to complete as many of the yoga poses as you feel comfortable. You may withdrawal from the yoga program at any time.

COST TO YOU FOR TAKING PART IN THIS PROGRAM
The cost of traveling to and from the yoga sessions and group meetings is your own responsibility. Parking will be compensated and you will be issued a parking pass at the beginning of the program. The cost of all supplies utilized during the program will not be your responsibility. At the end of the 16-week program, you will need to return your parking pass to the occupational therapist.

CONFIDENTIALITY
Your identity as a participant including contact information and medical history will be kept confidential from all others. By signing this document, any information that is obtained will be kept confidential and will only be disclosed with your permission.

IN THE EVENT OF AN INJURY
In the event of an injury resulting from your participation in the program, treatment can be obtained from MetroHealth Hospital and the person you listed as your contact person will be immediately notified. You should understand that the cost of such treatment will be your responsibility and financial compensation is not available.

OFFER TO ANSWER QUESTIONS
Before you sign this form, please ask any questions about any aspects of this program that is unclear to you. You may take as much time as you need to think this over. If you have any questions regarding the program at any time before, during, or after the program, you may contact the occupational therapist.
SIGNATURE SECTION (Please read carefully)

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS PROGRAM. YOUR SIGNATURE INDICATES THAT YOU HAVE READ AND UNDERSTOOD THE INFORMATION PROVIDED ABOVE, HAVE HAD ALL YOUR QUESTIONS, AND HAVE DECIDED TO PARTICIPATE.

Name of Subject (please print)  Signature of Subject or Person Authorized to Consent  Date

Relationship to the Subject
(Healthcare Power of Attorney authority or Legal Guardian)  Time

Name of Person Obtaining Consent (please print)  Signature of Person Obtaining Consent  Date

YOU WILL BE GIVEN A SIGNED COPY OF THIS CONSENT FORM TO KEEP
Confidentiality Statement

To be read by occupational therapist after participant has signed informed consent form

As a participant of the Therapeutic Yoga Program, your confidentiality from all others who are not affiliated with the program will be kept confidential. All of your health documents will be kept in a locked file cabinet that can only be accessed by the occupational therapist in charge of the program. As a participant, you have the right to withdrawal from the program at any time without any penalties. If you decide to withdrawal before the program is over, all of your information will be kept for up to two years. If you stay until the program is over, your information will be kept up to two years before being properly discarded.
Appendix M

Participant Information Sheet

Participant Name

<table>
<thead>
<tr>
<th>Last</th>
<th>First</th>
<th>MI</th>
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Home Address

<table>
<thead>
<tr>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Age __________________  Date of burn/stroke injury __________________

<table>
<thead>
<tr>
<th>Home phone #</th>
<th>Work phone #</th>
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</table>

Date/Start of the Therapeutic Yoga Program _________________________
Name of Emergency Contact Person

______________________________________________________________________________

Last                                                     First                                                                MI
______________________________________________________________________________

________________________________                          _________________________________

Home phone #                                                                     Work Phone #

Relationship to Participant

Wife ___________     Husband ___________   Father ____________ Mother _____________
Daughter ____________ Son______________ Relative _________ Friend ______________
Other, please describe __________________________________________________________

Brief Medical History

Length of hospitalization stay? ______________________________

Do you currently have chronic pain that is associated with your injury? Yes  No

If yes, check which describes most appropriately your level of pain (check all that apply)

Brief _______   Periodic _______ Rhythmic _________ Steady _________ Constant________
Other (please describe) _____________________________
Below is for physician use only: Physicians signature is required to attend yoga sessions

By signing this waiver, I acknowledge that he/she (circle one) is medically cleared to attend weekly yoga sessions offered by an occupational therapist at MetroHealth Hospital’s Outpatient Rehabilitation Institute of Ohio.

____________________________________                         ___________________
Physicians Signature (required)                                                        Date

Work History Information

Where you employed at the time of your injury?  Yes     No

If yes, what was your occupation? ________________________________________________

Are you currently employed?  Yes      No

If yes, what is your current occupation? ___________________________________________

Please briefly describe some of your special interests and skills

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Appendix N

Assessment Information Form

Brief Pain Inventory (BPI) Initial score: __________  Final score: ____________

Canadian Occupational Performance Measure (COPM) results (Please list two identified occupations, which are most problematic)

1) ___________________________________________

2) ___________________________________________

Goniometer Measurements: Please specify all that apply

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<th>Joint</th>
<th>Degrees</th>
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<th>Joint</th>
<th>Degrees</th>
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<th>Joint</th>
<th>Degrees</th>
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Goals (please be as specific as possible)

1) 
________________________________________
________________________________________
________________________________________

2) 
________________________________________
________________________________________
________________________________________

3) 
________________________________________
________________________________________
________________________________________

Did participant meet one or more of his/her goals? (circle one)  Yes  No

Comments about goals (please fill-in)
________________________________________
________________________________________
________________________________________
________________________________________

If goals were not met, please describe reasons:
________________________________________
________________________________________
________________________________________
________________________________________
## Appendix O

<table>
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<th>Week #1</th>
<th>Description</th>
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| Introduction to Program: | Occupational therapist will administer the following assessments  
  - COPM  
  - BPI  
  - Take measurements using the goniometer.  
  Occupational therapist and the participant will collectively identify goals based off of the COPM.  
  Participant will complete the following in-take forms:  
  - Informed consent form  
  - Patient information form (Physician signature required before start of first yoga session)  
  Occupational therapist will read the confidentiality statement to all participants after signing the informed consent form to ensure participants rights. |
| Saturday Meeting: | Occupational therapist will meet with all of the participants for one hour on the Saturday before the start of the first yoga session. Drinks and refreshments should be provided to promote discussion and to create a welcoming atmosphere. Occupational therapist will discuss the following:  
  - Collectively discuss the rules pertaining to attendance of the yoga sessions and designated meeting times.  
  - Discuss what the participants should do if unable to attend yoga session or designated meeting time.  
  - Discuss implications associated with yoga.  
  - Discuss the many possible benefits of yoga  
  - Discuss what to bring and wear for yoga sessions.  
  - Distribute parking passes  
  - The occupational therapist will take time to answer any questions or concerns.  
  After discussing the above topics, the occupational therapist will allow each of the participants to introduce themselves and share as much information about them as they feel comfortable |
## Week #16

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-assessments</td>
<td>During the 16th week, the occupational therapist will designate individual meeting times which will last approximately 1 hour to complete assessments and discharge paperwork. The occupational therapist will re-administer the following:</td>
</tr>
<tr>
<td></td>
<td>- COPM</td>
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<td></td>
<td>- BPI</td>
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<td></td>
<td>- Re-take ROM measurements</td>
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<td></td>
<td>The occupational therapist will set-up a simulation of each participant’s individual occupations which were found to be problematic at MetroHealth’s outpatient rehabilitation center to test for improvements.</td>
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<tr>
<td></td>
<td>- The occupational therapist will discuss results with the participant.</td>
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<td></td>
<td>The occupational therapist will administer to the participants the following forms:</td>
</tr>
<tr>
<td></td>
<td>- Program evaluation form</td>
</tr>
<tr>
<td></td>
<td>- Discharge waiver (if applicable)</td>
</tr>
<tr>
<td>Discharge procedures</td>
<td>If the participant would like to continue with another 16 week yoga session the occupational therapist and participant can collaboratively decide if new goals should be established or if the old goals should be built upon if further improvements could be made. The participant will not be asked to sign the discharge waiver but will be asked to complete the program evaluation form.</td>
</tr>
<tr>
<td></td>
<td>If the participant does decide to leave at the conclusion of the program, the participant will be educated on yoga programs that are offered in the community. The occupational therapist will also create an individualized home yoga exercise program for the participant.</td>
</tr>
</tbody>
</table>
## Designated Group Meetings

<table>
<thead>
<tr>
<th>Weekly themes</th>
<th>Brief Description/Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week #2: Establishing foundations</strong></td>
<td>Participants will be given the chance to share stories and experiences with one another about their injuries in order to establish rapport with other participants and the occupational therapist.</td>
</tr>
<tr>
<td><strong>Week #3: Team building exercises</strong></td>
<td>Participants will be instructed on team building exercises to help facilitate group bonding, critical thinking, and social interaction.</td>
</tr>
<tr>
<td><strong>Week #4: Open discussion:</strong></td>
<td>Participants chose topics to be discussed during group meeting time. More than one topic may be discussed but the group has to unanimously agree and be comfortable with the chosen topic.</td>
</tr>
<tr>
<td><strong>Week #5: Art project</strong></td>
<td>Participants will be asked to bring photos that represent themselves and their friends and family members. Participants will be asked to create a family photo album and share their albums with the other participants. By completing the photo album, it is hoped that participants will gain a better sense of self-identity. It will also be a time for self reflection.</td>
</tr>
<tr>
<td><strong>Week #6: Grief</strong></td>
<td>Occupational therapist will give a general overview on common grief related issues associated with burn and stroke injuries.</td>
</tr>
<tr>
<td><strong>Week #7: Education on strokes /stroke support group</strong></td>
<td>Only stroke survivors will need to participate in this week’s meeting. Occupational therapist will give a general overview of strokes, specifically the different types of strokes, medical complications, predictors, and strategies to lessen having a stroke.</td>
</tr>
<tr>
<td><strong>Week #8: Open discussion</strong></td>
<td>Participants chose topics to be discussed during group meeting time. More than one topic may be discussed but the group has to unanimously agree and be comfortable with the chosen topic.</td>
</tr>
<tr>
<td><strong>Week #9: Nutrition</strong></td>
<td>Nutritionist will be asked to come and speak to the participants about the importance of nutrition.</td>
</tr>
<tr>
<td><strong>Week #10: Burn survivor support group</strong></td>
<td>Only burn survivors will need to participate in this week’s meeting. This time will also be spent on letting the burn survivors bond with one another and discuss personal issues of being a burn survivor that other populations may not understand.</td>
</tr>
<tr>
<td><strong>Week #11: Family Day</strong></td>
<td>Participants will be asked to bring in family members to this group meeting. The idea is to allow family members to bond with one another and discuss topics which have been difficult to deal with after a family member has had a stroke or has been burned.</td>
</tr>
<tr>
<td><strong>Week #12: Open discussion</strong></td>
<td>Participants choose topics to be discussed during group meeting time. More than one topic may be discussed but the group has to unanimously agree and be comfortable with the chosen topic.</td>
</tr>
<tr>
<td><strong>Week #13: Importance of occupations</strong></td>
<td>Occupational therapist will give presentation about the importance of maintaining occupational functioning. It is hoped after the presentation that participants will gain better insight into the importance of staying active and independent.</td>
</tr>
</tbody>
</table>
| **Week #14: Exercises (body & mind)** | Occupational therapist will facilitate group exercises which can be completed at home. Exercises include both physical and cognitive }
exercises to promote health and well-being. Group will collaboratively discuss exercises, which can be completed at home in order to gain other perspectives and ideas.

<table>
<thead>
<tr>
<th>Week #15: Community resources/Goodbye Party</th>
<th>The occupational therapist will present the participants with information on community resources to continue with staying physically fit and active. The occupational therapist will allow time for the participants to say good-bye to one another and communicate any last minute thoughts. This will be time for the participants to express any feelings they may have about the program, whether positive or negative.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Week #2: Establishing Foundations</th>
<th>Description of Meeting: Guideline for the Occupational Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction to meeting:</strong></td>
<td>Occupational therapist will arrange the room so that the participants will be sitting in a circle to allow for better communication and discussion among the participants.</td>
</tr>
<tr>
<td>Occupational therapist will have participants introduce themselves</td>
<td></td>
</tr>
<tr>
<td>Occupational therapist will re-introduce self and give brief history about self in order to establish a therapeutic use of self.</td>
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</tr>
<tr>
<td>Occupational therapist will ask each participant to share information about him or herself. Each participant will be allowed to share as much or as little of information as he or she feels comfortable. This will give all of the participants a chance to learn about one another.</td>
<td></td>
</tr>
<tr>
<td>The meeting will be run much like a support group meeting.</td>
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</tr>
<tr>
<td><strong>Discussion:</strong></td>
<td>If participants get off topic for too long, the occupational therapist should step-in and re-direct the conversation to stay on task.</td>
</tr>
<tr>
<td><strong>Guiding Questions:</strong></td>
<td>Occupational therapist should use the following questions to guide the discussion:</td>
</tr>
<tr>
<td>- Please share your name</td>
<td></td>
</tr>
<tr>
<td>- How long have you been living with your condition?</td>
<td></td>
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<tr>
<td>- Would you like to share the event of your injury? When and how did your injury occur?</td>
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<tr>
<td>- What were your greatest struggles or obstacles to overcome because of your injury?</td>
<td></td>
</tr>
<tr>
<td>- What are your greatest strengths?</td>
<td></td>
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<tr>
<td>- Have you learned anything about yourself because of your injury?</td>
<td></td>
</tr>
</tbody>
</table>
### Week #3: Team Building Exercise

**Description of Meeting: Guideline for the Occupational Therapist**

**Introduction to Meeting:**

Occupational therapist will arrange room so that all of the participants will be in a circle. The occupational therapist will educate participants on the topic of the day’s group meeting and give a general overview of the tasks which will be completed.

**1st Exercise: Day/Colors Exercise:**

This exercise is a very simple and quick way to illustrate how people often have different views of the same thing, which is important when developing empathy and other related concepts.

The occupational therapist should explain the following to the group:

*Emotions and feelings within each of us are triggered in different ways. We think differently and therefore see differently. We often do not imagine that others may see something quite differently to how we see the same thing. All kinds of social reactions we come across are dependent on being able to understand the other persons view.*

Instructions for Exercise:

- Instruct participants to close their eyes and imagine the days of the week.
- Instruct participants to imagine what color is each day.
- Instruct participants to write down what color they imagine each day of the week is. *(paper and pen should be provided to each participant at start of meeting).*
- After everyone is finished, each participant will go around and compare each other’s color and day associations.
- Participants should share their reasons for the colors chosen.

**2nd Exercise: Group Connections**

This exercise is a good way to encourage networking skills, team-bonding, and mutual awareness. The occupational therapist should let the participants

Note* The **days of the week are a simple fixed pattern, yet we see them in different ways. It is easy to imagine the potential for far greater differences in the way we see more complex situations like our injuries, the way other perceive ourselves, and the way we perceive ourselves.**
Activity

Instructions for Exercise:

know that they each have more in common than just their injury and that the injury should not be what defines them. This exercise will hope to demonstrate this fact.

The occupational therapist will instruct participants in the following order:

- Split the group into two teams (2 teams of 5)
- Each group has 15 min to discover an interesting, surprising, and separate connection they share with one another in their team. Note* this is a different connection with each person and not a single connection that every team member shares. “Interesting and Surprising” does not include working for the same company, living in the same town or country, or having the same color hair. Encourage participants to find a connection or something in common that is surprising.
- Make sure that each person of the team ask some questions and gives some answers about themselves and all other team members.
- Have each of the teams go around the room and share what they have learned.
- At the end, the occupational therapist should ask everyone the following questions to facilitate group discussion and for more critical thinking:

  What sorts of questions helped discover the most information?
  
  What normally prevents people from getting to know each other?

---

Weeks #4, 8, & 12: Open Discussion

Introduction:

During these three weeks, the meetings will be run like a support group. The occupational therapist should arrange the chairs of the room into a circle to encourage group discussion and group member interaction.

Participants will be allowed to unanimously decide what the meetings topic should be on (Note: more than one topic may be discussed, however all members of the group must feel comfortable talking about the topic)

Ideas for topics include:

- Family dynamics/role changes
- Work
- Relationships
- Health concerns
**Role of the Occupational Therapist:**
The occupational therapist should act as the moderator for the group. The occupational therapist should contribute to group discussion.

**Week #5: Family Album (art project)**

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Description of Meeting: Guide for the Occupational Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Participants should have been instructed to bring-in family pictures to this session a week prior. Copies of the pictures can be made on the day of the activity if participant does not want to use original copy.</em></td>
<td></td>
</tr>
</tbody>
</table>

Occupational therapist should make sure the room is organized so that each participant has room at a table.

The occupational therapist should bring-in the following items for completion of this activity:

- Markers & Crayons
- Construction paper (different colors)
- Glue sticks (pack of 4-5)
- Double sided tape (for participants who do not want to use glue)
- Glitter
- Ribbon
- Three hold punch

Instructions of Assignment:
The occupational therapist will instruct each participant to design their own unique family album with the supplies given.

The occupational therapist should assist the making of the albums when necessary (*Note* this is also a good time to practice fine motor skills and occupational therapist should encourage independence)

The participants will be given 30-40 minutes to complete their family album.

All of the participants will get into a circle and share their family album with the group.

The occupational therapist should let the participants know this is a good way to help define themselves in term of family and relationships and also assist with developing self-identity. This project may also give each participant a sense of accomplishment and is something they can share with their family members and friends.
**Week #6: Grief**  
**Description of Meeting: Guide for the Occupational Therapist**

**Introduction:** Occupational therapist should arrange room so that participants are in a circle.  
Occupational therapist should print off hand-out of grief but should only give participants the hand-out at the end of the session.  
The occupational therapist should explain the importance of discussing grief.  
The occupational therapist should first go around the room and ask participants if they would like to share any stories of grief or describe how grief has affected their lives.  

**Discussion:** The occupational therapist should refer to the hand-out which was created by the United States Department of Health and Human Services. This handout should be used as the outline for the discussion. *A copy of the handout can be found in (Appendix O).*  
The occupational therapist should make sure that everyone understands what is being discussed and go over the material slowly for those who may have cognitive or language barriers.  
At the end of the discussion, the occupational therapist should go around the room and make a list of examples given from the participants themselves about ways they deal with their grief/stress (healthy ways)

Examples could be the following:

- Running/Walking  
- Making a meal for family  
- Taking pictures  
- Listening to music  

*The idea is to composite a well-rounded list of ideas to cope with grief related stress for participants.*

At the end of the meeting the occupational therapist should provide the participants with the hand-out used for the discussion.
### Week #7: Education on Stroke (only stroke survivors will need to attend this meeting) Burn survivors are welcome to join but attendance is not mandatory.

<table>
<thead>
<tr>
<th>Introduction:</th>
<th>Description of Meeting: Guide for the Occupational Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational therapist should arrange room so that participants are in a circle.</td>
<td></td>
</tr>
<tr>
<td>Occupational therapist should print off handouts that will be used to facilitate the discussion but should not be given to participants until the end of the meeting.</td>
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</tr>
<tr>
<td>The occupational therapist should explain to all of the stroke survivors the importance of stroke education.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Discussion:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The occupational therapist should refer to the handout on stroke education. The National Stroke Association created this handout. <strong>A copy of this hand-out can be found in (Appendix P).</strong></td>
</tr>
</tbody>
</table>

Major topics of discussion should include:

- Physiology of stroke
- Prevalence of stroke
- Risk factors of stroke
- Indicators of having a stroke
- What you should do if you think you are having a stroke
- Ways to reduce your chances of having another stroke

The occupational therapist should present the material slowly in order to make sure all of the participants understand the material.

The occupational therapist should end the discussion with answering any questions from the participants.

The participants will be given a copy of the hand-out to take home with them.
<table>
<thead>
<tr>
<th>Week #9: Nutrition</th>
<th>Description of Meeting: Guideline for the Occupational Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction:</strong></td>
<td>The occupational therapist should have one of MetroHealth’s Nutritionist come and talk about the importance of healthy eating, especially after having a stroke or burn injury.</td>
</tr>
<tr>
<td><strong>Discussion:</strong></td>
<td>The nutritionist should discuss what foods are healthy and should re-visit the updated food pyramid.</td>
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<td></td>
<td>The dietician should give examples of healthy cooking tips</td>
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<td></td>
<td><strong>(Ex. Using corn flakes for breading on chicken instead of bread crumbs)</strong></td>
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<tr>
<td></td>
<td>The occupational therapist should suggest to the dietician to bring in some healthy recipes for the participants to take home with them.</td>
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<td></td>
<td>The last 10 minutes of the meeting, the dietician should answer any questions the participants may have.</td>
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<tr>
<td></td>
<td>Participants will also be encouraged to share any healthy eating advice or meals they have made which are healthy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week #10: Burn support group (only for burn survivors) Stroke survivors are allowed to attend but attendance is not mandatory.</th>
<th>Description of Meeting: Guideline for the Occupational Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>Occupational therapist should arrange the room so that participants will be sitting in a circle to facilitate group discussion and interaction.</td>
</tr>
<tr>
<td><strong>Discussion</strong></td>
<td>This group meeting is for burn survivors to get a chance to be around other burn survivors and share stories. Burn survivors should be given the chance to share their personal stories on any of the topics which were discussed or discuss any topics of interest.</td>
</tr>
<tr>
<td></td>
<td>The occupational therapist should serve as a moderator of the group discussion and the group discussion time should be run like a support group meeting. The occupational therapist will give a copy of the WHO hand-out to all participants at the end of the meeting.</td>
</tr>
<tr>
<td>Week #11: Family Day</td>
<td>Description of Meeting: Guideline for the Occupational Therapist</td>
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<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Introduction:</strong></td>
<td>Occupational therapist will arrange the room so that participants are sitting in a circle to facilitate group discussion and participant interaction. The first 5 minutes will be devoted to introducing the participant’s family members who have attended. The occupational therapist will introduce him/herself and discuss the importance of this meeting. The occupational therapist should make sure to tell the participants and their family members that family support is important in determining burn and stroke survivor’s outcome. The occupational therapist should also mention how family members are often times the caregivers and how it is important for caregivers to have a place to cope with grief related issues.</td>
</tr>
<tr>
<td><strong>Discussion:</strong></td>
<td>This session will be run like a support group. Each family member will be given the chance to tell their unique stories and experiences with having a loved one go through a traumatic injury like a burn or stroke. Topics which should be addressed include:</td>
</tr>
<tr>
<td></td>
<td>- Care-giver grief</td>
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<tr>
<td></td>
<td>- Grieving for a loved one</td>
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<tr>
<td></td>
<td>- Personal struggles</td>
</tr>
<tr>
<td></td>
<td>- Personal triumphs</td>
</tr>
<tr>
<td></td>
<td>- Advice/coping strategies</td>
</tr>
<tr>
<td></td>
<td>The occupational therapist should act as the moderator for the group’s discussion. The last 5 minutes should be devoted to answering any questions.</td>
</tr>
</tbody>
</table>
### Week #13: Importance of Occupations

**Description:** Guideline for the Occupational Therapist

**Introduction:**
Occupational therapist should arrange room so that participants are sitting in a circle to facilitate group interaction and participant discussion.

Occupational therapist should spend the first 5 minutes discussing the importance of this group meeting.

**Discussion:**
Occupational therapist should begin discussion by going around to each participant and asking him or her to share occupations (activities), which are meaningful and purposeful. The participants should describe why that certain occupation is meaningful and if they are still able to participate in the occupation after the injury.

The occupational therapist should discuss the importance of maintaining occupations in life. Major topics should include:

- Healthy lifestyle
- Decreased anxiety
- Social interaction
- Maintaining independence

This discussion should be both educational and inspirational. Many times when people have gone through a traumatic even they will lose the drive to maintain independent and will lose focus of occupations, which were once meaningful and purposeful.

This discussion should also be a time for self-reflection.

### Week #14: Group Exercises (body & mind)

**Description:** Guidelines for the Occupational Therapist

**Introduction**
Occupational therapist will introduce the week’s topic and discuss its importance and relevance.

Occupational therapist will spend 30 minutes going over different exercises that the participants can complete at home or in the community.

**Discussion**
Occupational therapist should explain to each participant the importance of spending 60 minutes a day (4-5 days per week) being
physically active.

Occupational therapist will teach each participant how to take his or her heart rate.

Occupational therapist will apply exercises discussed with participant’s in-group exercise activity.

Occupational therapist should also discuss the importance of cognitive exercises. Examples could include:

- Memory board games
- Scrabble
- Sudoku

Occupational therapist will play a memory game with the participants to demonstrate its importance.

Examples of cognitive games include:

- Remembering the order of cards (use deck of cards)
- Remember the five words which were given. Participants must recite the 5 words after 5 minutes.

Participants should be encouraged to share ideas and thoughts on the different exercises.

<table>
<thead>
<tr>
<th>Week #15: Community Resources/Goodbyes</th>
<th>Description: Guidelines for the Occupational Therapist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>Occupational therapist will bring in food and beverages for the last group meeting.</td>
</tr>
<tr>
<td><strong>Discussion</strong></td>
<td>Occupational therapist will discuss information on community resources for the participants so that they can continue to stay physically and emotionally healthy.</td>
</tr>
<tr>
<td></td>
<td>Occupational therapist will provide participants with informative websites to visit such as:</td>
</tr>
<tr>
<td></td>
<td>- American Stroke Association: <a href="http://www.asa.com">www.asa.com</a></td>
</tr>
<tr>
<td></td>
<td>- American Heart Association: <a href="http://www.aha.com">www.aha.com</a></td>
</tr>
<tr>
<td></td>
<td>- American Burn Association: <a href="http://www.aba.com">www.aba.com</a></td>
</tr>
</tbody>
</table>
Group Party/Final Goodbyes

Occupational therapist will bring out food and beverages for participants. Occupational therapist will need to make sure participants are allowed to have the food and beverages ahead of time according to their individual dietary recommendations.

After everyone has gotten a drink and some food, participants will be asked to sit in a circle and the occupational therapist will ask each of the participants to share their thoughts on the following questions:

- Did you enjoy this experience?
- Do you feel this experience has made a difference in your life?
- Do you have any further comments or suggestions about your experience with this program that you would like to share with the group?
How to Deal With Grief

How does grief differ from depression?
Depression is more than a feeling of grief after losing someone or something you love. Clinical depression is a whole body disorder. It can take over the way you think and feel. Symptoms of depression include:

• A sad, anxious, or "empty" mood that won't go away
• Loss of interest in what you used to enjoy
• Low energy, fatigue, feeling "slowed down"
• Changes in sleep patterns
• Loss of appetite, weight loss, or weight gain
• Trouble concentrating, remembering, or making decisions
• Feeling hopeless or gloomy
• Feeling guilty, worthless, or helpless
• Thoughts of death or suicide or a suicide attempt
• Recurring aches and pains that don't respond to treatment.

What is grief?
Grief is the normal response of sorrow, emotion, and confusion that comes from losing someone or something important to you. It is a natural part of life. Grief is a typical reaction to death, divorce, job loss, a move away from family and friends, or loss of good health due to illness.

How does grief feel?
Just after a death or loss, you may feel empty and numb, as if you are in shock. You may notice physical changes such as trembling, nausea, trouble breathing, muscle weakness, dry mouth, or trouble sleeping and eating.

You may become angry—at a situation, a particular person, or just angry in general. Almost everyone in grief also experiences guilt. Guilt is often expressed as "I could have, I should have, and I wish I would have" statements.

People in grief may have strange dreams or nightmares, be absent-minded, withdraw socially, or lack the desire to return to work. While these feelings and behaviors are normal during grief, they will pass.

How long does grief last?
Grief lasts as long as it takes you to accept and learn to live with your loss. For some people, grief lasts a few months. For others, grieving may take years.

The length of time spent grieving is different for each person. There are many reasons for the differences, including personality, health, coping style, culture, family background, and life experiences. The time spent grieving also depends on your relationship with the person lost and how prepared you were for the loss.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Mental Health Services

www.samhsa.gov
Where can I find help?

The following list of organizations and Web sites provides information and support for coping with grief.

**The Compassionate Friends (national office)**
P.O. Box 3696
Oak Brook, IL 60522-3696
630-990-0010; Toll Free 877-969-0010
http://www.compassionatefriends.org
A national, self-help support organization for those grieving the loss of a child or sibling.

**Fernside**
Bethesda Professional Building
4360 Cooper Road, Suite 101
Cincinnati, OH 45212
513-745-0111 (M - F 9:30 am - 4:30 pm EST)
http://www.fernside.org
Grief information, resources, and support for grieving children and their families.

**RENEW: Center for Personal Recovery**
PO. Box 125
Berea, KY 40403
859-966-7878
http://www.renew.net
A grief counseling center for individuals and families that are experiencing loss, with a specialty in grief recovery counseling for traumatic deaths.

**Online Resources**

**GriefNet**
http://www.griefnet.org/
A Web site that provides information and resources related to death, dying, bereavement, and major emotional and physical losses.

**Growth House, Inc.**
http://www.growthhouse.org
A source of quality information and resources on death and dying issues.

**Transformations**
http://www.transformations.com
A Web site about self-help, support, and recovery issues.

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How will I know when I'm done grieving?

Every person who experiences a death or other loss must complete a four-step grieving process:

1) Accept the loss.
2) Work through and feel the physical and emotional pain of grief.
3) Adjust to living in a world without the person or item lost.
4) Move on with life.

The grieving process is over only when a person completes the four steps.

What if these feelings won't go away?

If you recently experienced a death or other loss, feelings of grief are part of a normal reaction. But if these feelings persist with no lifting mood, ask for help.

Contact:

**Depression and Bipolar Support Alliance (DBSA)**
730 N. Franklin Street, Suite 501
Chicago, IL 60610-7224
800-826-3632
http://www.dbsalliance.org

**National Alliance on Mental Illness (NAMI)**
Colonial Place Three
2107 Wilson Blvd., Suite 300
Arlington, VA 22201-3042
Local: 703-524-7600
Toll-free helpline: 800-950-NAMI (950-6264)
http://www.nami.org

**National Institute of Mental Health (NIMH)**
Public Information and Communications Branch
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Local: 301-443-4513
Toll-free: 866-615-6464
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**National Mental Health Association (NMHA)**
2001 N. Beauregard Street, 12th Floor
Alexandria, VA 22311
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[Logo: SAMHSA]
Appendix Q

Stroke 101

- Stroke is a brain attack, cutting off vital blood flow and oxygen to the brain.
- In the United States, stroke is the third leading cause of death, killing about 137,000 people each year, and a leading cause of serious, long-term adult disability.
- From 1996 to 2006, the stroke death rate fell 33.5 percent and the actual number of stroke deaths fell by 18 percent.
- Approximately 795,000 strokes will occur this year.
- Strokes can happen to anyone at any time, regardless of race, sex or age.
- Approximately 55,000 more women than men have a stroke each year.
- Men’s stroke incidence rates are greater than women’s at younger ages, but not older ages.
- African Americans have almost twice the risk of first-ever stroke compared with whites.
- Types of Stroke:
  - Ischemic stroke occurs when arteries are blocked by blood clots or by the gradual build-up of plaque and other fatty deposits. About 87 percent of all strokes are ischemic.
  - Hemorrhagic stroke occurs when a blood vessel in the brain breaks, leaking blood into the brain. Hemorrhagic strokes account for nineteen percent of all strokes, yet are responsible for more than thirty percent of all stroke deaths.
- Two million brain cells die every minute during a stroke, increasing risk of permanent brain damage, disability or death. Recognizing symptoms and acting fast to get medical attention can save a life and limit disabilities.
- The prevalence of transient ischemic attacks (TIA) increases with age. Up to 40 percent of all people who suffer a TIA will go on to experience a stroke.
- The estimated direct and indirect cost of stroke for 2010 is $73.7 billion.


Few Americans know the symptoms of stroke. Learning them—and acting FAST when they occur—could save your life or the life of a loved one. Remember that Stroke Strikes Fast. You Should too. Call 9-1-1.

Common stroke symptoms include:
- Sudden numbness or weakness of the face, arm or leg especially on one side of the body.
- Sudden confusion, trouble speaking or understanding.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, loss of balance or coordination.
- Sudden severe headache with no known cause.

Use the F.A.S.T. test for recognizing and responding to stroke symptoms:

- F = FACE: Ask the person to smile. Does one side of the face droop?
- A = ARMS: Ask the person to raise both arms. Does one arm drift downward?
- S = SPEECH: Ask the person to repeat a simple sentence. Does the speech sound slurred or strange?
- T = TIME: If you observe any of these signs, it’s time to call 9-1-1 or get to the nearest stroke center or hospital.
Reducing Stroke Risk
Everyone has some stroke risk. Some risk factors are beyond your control, including being over age 55, being a male (stroke is more common in men than women at younger ages, but more women experience strokes at older ages and more women than men die from stroke), being African-American, having diabetes, and having a family history of stroke. If you have one of these risk factors, it is even more important that you learn about the lifestyle and medical changes you can make to prevent a stroke. Learn more by reading the Prevention Guidelines below.

Medical stroke risk factors include:
- Previous stroke, previous episode of TIA or mini stroke, high cholesterol, high blood pressure, heart disease, atrial fibrillation and narrowed artery disease. These medical risk factors can be controlled and managed even if you have already had issues with any of them in the past. Talk with your doctor about what will work best for you.

Lifestyle stroke risk factors include:
- Smoking, being overweight and drinking too much alcohol. You can control these lifestyle risk factors by quitting smoking, exercising regularly, watching what and how much you eat and limiting alcohol consumption.

Public Stroke Prevention Guidelines
1. Know your blood pressure. If it is elevated, work with your doctor to keep it under control. High blood pressure is a leading cause of stroke. Have your blood pressure checked at least once each year—more often if you have a history of high blood pressure.

2. Find out if you have atrial fibrillation (AF). If you have AF, work with your doctor to manage it. Atrial fibrillation can cause blood to collect in the chambers of your heart. This blood can form clots and cause a stroke. Your doctor can detect AF by carefully checking your pulse.

3. If you smoke, stop. Smoking doubles the risk for stroke. If you stop smoking today, your risk for stroke will begin to decrease.

4. If you drink alcohol, do so in moderation. Drinking a glass of wine or beer or one drink each day may lower your risk for stroke (provided that there is no other medical reason you should avoid alcohol). Remember that alcohol is a drug—it can interact with other drugs you are taking, and alcohol is harmful if taken in large doses. If you don't drink, don't start.

5. Know your cholesterol number. If it is high, work with your doctor to control it. Lowering your cholesterol may reduce your stroke risk. High cholesterol can also indirectly increase stroke risk by putting you at greater risk of heart disease—an important stroke risk factor. Often times, high cholesterol can be controlled with diet and exercise; some individuals may require medication.

6. Control your diabetes. If you are diabetic, follow your doctor's recommendations carefully because diabetes puts you at an increased risk for stroke. Your doctor can prescribe a nutrition program, lifestyle changes and medicine that can help control your diabetes.

7. Include exercise in the activities you enjoy in your daily routine. A brisk walk, swim or other exercise activity for as little as 30 minutes a day can improve your health in many ways, and may reduce your risk for stroke.

8. Enjoy a lower sodium (salt), lower fat diet. By cutting down on sodium and fat in your diet, you may be able to lower your blood pressure and, most importantly, lower your risk for stroke.

9. Ask your doctor if you have circulation problems. If so, work with your doctor to control them. Fatty deposits can block arteries that carry blood from your heart to your brain. Sickles cell disease, severe anemia, or other diseases can cause stroke if left untreated.

10. If you have any stroke symptoms, seek immediate medical attention.
Appendix R

Weekly Progress Note

The Therapeutic Yoga Program

Name of participant: ___________________________________________   Date:__________

Did the participant meet the two yoga session requirement? (circle one)    Met         Not Met
If circled un-met, please describe reason below:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Did the participant contact you to re-schedule yoga session? (circle one)   Yes         No
Has the yoga session(s) been made-up or rescheduled? (circle one)  Yes        No
If yes, please provide the date(s) for the re-scheduled yoga sessions
Date(s):_____________________________

Did the participant attend the weekly meeting requirement? (circle one)   Yes     No
If no, please describe reason below:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Has the weekly meeting material been provided to the participant? (circle one) Yes      No
Please briefly describe observations made of participant during yoga sessions and weekly meeting:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Appendix S

*This section is a composite of yoga poses that should act as a guide for the occupational therapist in charge of the yoga program. The poses are categorized by degree of difficulty. It should be noted that the majority of yoga poses which will be used will fall into the beginner and intermediate range. Difficult yoga poses should only be attempted by participants who are physically capable.

<table>
<thead>
<tr>
<th>Beginner Yoga Poses (Asanas)</th>
<th>Picture of Asana</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Downward Facing Dog: Adho Mukha Svanasana</strong> (3-5 breaths)</td>
<td><img src="image1" alt="Downward Facing Dog" /></td>
</tr>
<tr>
<td>This transitional pose helps strengthen the whole body.</td>
<td></td>
</tr>
<tr>
<td>To modify: Have participants bend their knees and come to the balls of their feet. To advance this pose, try holding the pose for 5 minutes.</td>
<td></td>
</tr>
<tr>
<td><strong>Extended Side Angle Pose: Utthita Parsvakonasana</strong> (5-6 breaths)</td>
<td><img src="image2" alt="Extended Side Angle Pose" /></td>
</tr>
<tr>
<td>This pose helps stretch the legs and opens the chest and shoulders.</td>
<td></td>
</tr>
<tr>
<td>To modify: If the hand is not comfortably reaching the floor provide participant with a block under the hand so the chest can still be opened up.</td>
<td></td>
</tr>
<tr>
<td><strong>Garland Pose: Malasana</strong> (5-6 breaths)</td>
<td><img src="image3" alt="Garland Pose" /></td>
</tr>
<tr>
<td>This pose opens up the hips and groin and strengthens the arms.</td>
<td></td>
</tr>
<tr>
<td>To modify: Put a folded towel under the heels for support if the participant’s heels come up when they squat. To advance this pose, instruct participants on bringing their feet closer together.</td>
<td></td>
</tr>
<tr>
<td>Pose</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Pyramid Pose: Parsvottonasana (5-6 breaths)** | This pose works on stretching and strengthening the legs and stretching the arms.  
To modify: Use blocks under the participant’s hands so the participant can keep the legs straight and work on the forward bend. |
| **Mountain Pose: Tadansana (3-5 breaths)**       | This pose improves posture, strengthens the thighs, and can help relieve back pain.  
To modify: Have participants practice this pose against a wall so they can feel the alignment. |
| **Raised Hands Pose: Urdhava Hastasana (5-7 breaths)** | This pose improves posture, strengthens thighs, and opens up the shoulders.  
To modify: if participants balance is off, instruct participant to stand with their back against the wall for stability. |
| **Standing Forward Bend: Uttanasana (5-8 breaths)** | This pose stretches and strengthens the hamstrings.  
To modify: Instruct participants to bend their knees in order to bring their palms flat on the floor. For advanced participants, instruct them to bend their elbows out to the side. |
Standing Straddle Forward Bend: Prasarita Padottanasana (5-6 breaths)

This pose stretches and opens up the hips.

To modify: place blocks under participant’s hands if they do not reach the floor. If participant’s hands easily touch the floor, instruct participant’s to narrow their stance.

Extended Triangle Pose: Utthita Trikonasana (7-10 breaths)

This pose stretches the legs and opens up the chest and shoulders.

To modify: For participants who cannot reach the floor, place a block on the floor to rest their hand on.

Warrior I: Virabhadrasana I (7-10 breaths)

This pose strengthens the legs and opens up the chest and shoulders.

To modify: have participants step the left foot out toward the left side of the mat to allow more room for the hips to square.

Warrior II: Virabhadrasana II (7-10 breaths)

This pose strengthens the legs and arms, opens the chest and shoulders, and tones the abdomen.

To modify: make sure the leading knee stays tracked over the middle toe of the leading foot.
Cobblers Pose: Baddha Konasana (7-10 breaths)

This pose opens up the hips

To modify: Put padding under the sit bones and position a block under each knee for support. To advance this pose, instruct participants to come into a forward bend.

Easy Pose: Sukhasana (7-10 breaths)

This is a good pose for meditation and breathing exercises.

Half Lord of the Fishers Pose: Ardha Matsyendrasana (7-10 breaths)

This pose opens the neck and hips while stretching the spine. This pose helps to cleanse the internal organs.

To modify: For comfort reasons, some participants may want some padding underneath them. If the participant is unable to bend into the ideal position, the participant can keep the leg on the ground extended.

Head to Knee Pose: Janu Sirsana (5-7 breaths)

This pose stretches the hamstring and relaxes the spine.

To modify: Instruct participants to only bend as far as possible and hold the pose for 2-3 breaths at a time.
Seated Forward Bend: Paschimottanasana
(5-7 breaths)

This pose is good for stretching the spine and hamstrings.

To modify: Have participants imagine their belly coming to rest on their thighs rather than their nose coming to their knees. This will help keep their spine long instead of curving.

Seated Wide Legged Straddle: Upavistha Konasana (7-10 breaths)

This pose helps to elongate the spine and trunk.

To modify: Have participants sit against a wall to assist with keeping the spine elongated.

Staff Pose: Dandasana (7-10 breaths)

This pose strengthens the legs and improves body alignment.

To modify: Have participants sit against a wall to assist with keeping the spine and body aligned.

Child’s Pose: Balasana (5-7 breaths)

This pose gently stretches the hips, thighs, and ankles.

To modify: Instruct participants who have trouble with holding to forward bend to rest if necessary and hold the pose for counts of 2 breaths.
Goddess Pose: Supta Baddha Konasana (5-7 breaths)

This pose opens the groins and relaxes the chest.

To modify: If participants are uncomfortable lying on the floor, provide them with a bolster to support the spine and a block under each knee for support.

Happy Baby Pose: Ananda Balasana (5-7 breaths)

This pose releases the lower back and stretches the hamstrings.

Legs up the Wall: Viparita Karani (7-10 breaths)

This pose works on opening the chest and stretching the legs.

Reclined Big Toe Pose: Supta Padangusthasana (5-7 breaths)

This pose stretches the hamstrings and ankles.

To modify: Instruct participants to bend the knee and bring the sole of the foot on the ground to the floor if it is more comfortable.
Supine Spinal Twist: Supta Matsyendrasana (7-10 breaths)

This pose stretches the glutes and stretches and relaxes the spine.

To modify: Instruct participants in the same direction as the leading leg if twisting in the opposite direction is uncomfortable or instruct the participant to twist only to midline.

Bridge Pose: Setu Bandha Sarvangasana (7-10 breaths)

This pose works to strengthen the spine, open the chest, improves spinal flexibility, and stimulate the thyroid.

To modify: For participants having difficulty holding this pose, place a block under the participants sacrum and let the participants weight rest on the block. For advanced participants, instruct them to try and lift their hips higher up.

Supported Bridge Pose (7-10 breaths)

This pose allows the spine to open up while being gently supported.

To modify: For participants who have trouble with the standard bridge pose, place a block under the participants bottom for added support.
Cat-Cow Stretch (7-10 breaths)

This pose increases spinal flexibility and abdominal strength.

To modify: Each participant will vary on his or her level of back stretch. Instruct each participant to bend their back until they feel a slight stretch and to not go outside of what feels comfortable.

Cobra Pose: Bhujangasana (5-7 breaths)

This pose increases the flexibility of the spine.

To modify: For participants who have trouble with this pose, instruct participants to strongly engage their legs by pressing down on them which will help bring their chest higher. For advanced participants, instruct participants to bring their palms off the floor or keep their palms on the floor and start to straighten the arms for a more intense backbend.
<table>
<thead>
<tr>
<th>Pose Description</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knees, Chest, and Chin- Ashtanga Namaskara (7-10 breaths)</strong></td>
<td>This pose increases the flexibility of the spine and strengthens the arms.</td>
</tr>
<tr>
<td></td>
<td>To modify: For participants with weaker arms, instruct the participant to</td>
</tr>
<tr>
<td></td>
<td>only push-up halfway and then go back to the floor.</td>
</tr>
<tr>
<td><strong>Plank Pose (5-6 breaths)</strong></td>
<td>This pose strengthens the arms and spine.</td>
</tr>
<tr>
<td></td>
<td>To modify: Instruct participants to move back and forth between downward dog</td>
</tr>
<tr>
<td></td>
<td>and plank making sure the distance between the participants hands and feet</td>
</tr>
<tr>
<td></td>
<td>do not change.</td>
</tr>
<tr>
<td><strong>Hands and Knees Balance (5-7 breaths)</strong></td>
<td>This pose improves balance and core strength.</td>
</tr>
<tr>
<td></td>
<td>To modify: If participants are having difficulty with this pose, instruct</td>
</tr>
<tr>
<td></td>
<td>participant to bring down the lifted leg for more balance.</td>
</tr>
<tr>
<td><strong>Side Plank Variation: Vasisthasana Variations (7-10 breaths)</strong></td>
<td>This pose improves arm strength and improves balance and core strength.</td>
</tr>
<tr>
<td></td>
<td>To modify: If participants are having difficulty with this pose, instruct</td>
</tr>
<tr>
<td></td>
<td>participant to come down a little on back leg and slightly bend supporting</td>
</tr>
<tr>
<td></td>
<td>arm.</td>
</tr>
</tbody>
</table>
Tree Pose: Vrksasana (7-10 breaths)

This pose strengthens the legs and improves balance.

To modify: If the participant is having difficulty with balance, instruct participant to bring lifted leg lower to the ground. Make sure participants are not resting the raised foot on the supporting legs knee.

<table>
<thead>
<tr>
<th>Intermediate Yoga Poses: Asanas</th>
<th>Picture of Asanas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weeks 8-15</strong></td>
<td></td>
</tr>
<tr>
<td>Awkward Chair Pose: Utkatasana (5-10 breaths)</td>
<td><img src="image1" alt="Utkatasana" /></td>
</tr>
<tr>
<td>This pose helps strengthen the thighs and stretches the arms.</td>
<td></td>
</tr>
<tr>
<td>To modify: For beginners, instruct participants to concentrate on bringing their thighs in closer and parallel to the floor. For advanced participants, instruct to bring the hands into a prayer position and twist to each side. Stay low in the pose and keep the knees pressing together.</td>
<td></td>
</tr>
<tr>
<td>Eagle Pose: Garudasana (5-7 breaths)</td>
<td><img src="image2" alt="Garudasana" /></td>
</tr>
<tr>
<td>This pose strengthens the legs, improves balance, and stretches the shoulders.</td>
<td></td>
</tr>
<tr>
<td>To modify: If participants have trouble with their balance, instruct them to rest their backs on the wall and if the participant is having trouble hooking the raised foot around the standing leg, place a block under the raised foot instead. For advanced participants, instruct for them to come into a forward bend bringing the elbows in front of the knees.</td>
<td></td>
</tr>
</tbody>
</table>
Extended Side Angle Pose: Utthita Parsvakonasana (5-10 breaths)

This pose works to stretch the legs and arms and open up the chest.

To modify: If participants are having trouble with this pose instruct them to shorten their base of support and place a block under the lowered hand so that the participant is comfortable but is still getting the stretch needed.

Half Moon Pose: Ardha Chandrasana (7-10 breaths)

This pose helps strengthen the thighs and ankles, improves balance, and stretches the arms.

To modify: For participants who have trouble with balance, place a block under the lowered hand and instruct participant to complete the pose near a wall so the raised foot can touch the wall for added support.

King Dancer Pose: Natarajasana Pose (7-10 breaths)

This pose strengthens the legs, improves balance, and stretches the shoulders.

To modify: For participants who have trouble with balance, instruct them to fixate their gaze on something that doesn’t move. For advanced participants, instruct them to start coming into a forward bend to elongate their spine.

Lizard Pose: Utthan Pristhasana (7-10 breaths)

This pose opens the hips, stretches the hamstrings, and stretches the thighs.

To modify: Instruct participants who are having difficulty holding this pose to drop the knee of the leg in the back to the ground.
Pyramid Pose: Parsvottonasana (5-7 breaths)

This pose stretches the spine, shoulders, and legs.

To modify: For participants who have difficulty coming into a forward bend, and instruct to only bend to 90 degrees.

Reverse Warrior Pose (5-7 breaths)

This pose helps to strengthen the legs, improve the flexibility of the spine, and open the shoulders.

To modify: If participants have trouble with this pose, instruct them to not bend back and concentrate on reaching for the ceiling to still get a stretch.

Revolved Side Angle Pose: Parivrtta Parsvakonasana (7-10 breaths)

This pose strengthens and stretches the legs, groin, and hamstrings. This pose also opens the chest and shoulders and cleanses the internal organs.

To modify: If the participants balancing hand will not touch the floor, place a block under the participants hand so that the participant can still get the twist.

Revolved Triangle Pose: Parivrtta Trikonasana (7-10 breaths)

This pose strengthens the legs, stretches the groins, hamstrings, and hips and opens the chest and shoulders and cleanses the internal organs.

To modify: If the participants hand will not touch the floor, place a block underneath it so that the participant can still get the stretch and twist.
Warrior III: Virabhadrasana III (7-10 breaths)

This pose strengthens the legs and abdomen and improves balance.

To modify: For participants who have trouble with balance, instruct participants to go near a wall so that when they bring-up the raised leg they can touch the wall with the raised foot for added balance. The participant may also face the wall and touch the wall with their hands for added support and balance.

Cow Face Pose: Gomukhasana (7-10 breaths)

This pose stretches the hips, ankles, shoulders, and chest.

To modify: If participants have pain in their sit bones, place a towel underneath for comfort. For advanced participants, instruct to begin to come into a forward bend while keeping the spine long.

Boat Pose: Navasana (5-7 breaths)

This pose builds abdominal and core strength

To modify: If participants have trouble holding this pose, instruct them to bend the knees while bringing the calves parallel to the floor. For advanced participants, have them release from the pose bringing the legs and torso simultaneously towards the floor and hold for a few seconds before touching the floor.
<table>
<thead>
<tr>
<th>Pose</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee to Ankle Pose-Fire Log Pose:</td>
<td>This pose opens the hips and is a good pose to practice mediation in.</td>
</tr>
<tr>
<td>Agnistambhasana (7-10 breaths)</td>
<td></td>
</tr>
<tr>
<td>To modify: If there is a gap under the top</td>
<td>If there is a gap under the top knee, place a block under the knee. For</td>
</tr>
<tr>
<td>knee, place a block under the knee. For</td>
<td>advanced participants, instruct them to come into a forward bend while keeping</td>
</tr>
<tr>
<td>advanced participants, instruct them to</td>
<td>the spine long.</td>
</tr>
<tr>
<td>come into a forward bend while keeping the</td>
<td></td>
</tr>
<tr>
<td>spine long.</td>
<td></td>
</tr>
<tr>
<td>Lotus Pose: Padmasana (7-10 breaths)</td>
<td>This pose is the ultimate hip opener and is also used for mediation.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>To modify: For participants who have</td>
<td>For participants who have trouble bringing both legs into a folded position,</td>
</tr>
<tr>
<td>trouble bringing both legs into a folded</td>
<td>have participants only fold one leg at a time and holding for 5-7 breaths at</td>
</tr>
<tr>
<td>position, have participants only fold one</td>
<td>a time before changing. For advanced participants, instruct them to plant</td>
</tr>
<tr>
<td>leg at a time and holding for 5-7 breaths</td>
<td>their palms into the floor and try lifting their butts off the ground for a</td>
</tr>
<tr>
<td>at a time before changing. For advanced</td>
<td>few seconds at a time.</td>
</tr>
<tr>
<td>participants, instruct them to plant their</td>
<td></td>
</tr>
<tr>
<td>palms into the floor and try lifting their</td>
<td></td>
</tr>
<tr>
<td>butts off the ground for a few seconds at</td>
<td></td>
</tr>
<tr>
<td>a time.</td>
<td></td>
</tr>
<tr>
<td>Pigeon Pose: Eka Pada Rajakapotasana (7-</td>
<td>This pose stretches the thighs, groins, back, and opens the chest and</td>
</tr>
<tr>
<td>10 breaths)</td>
<td>shoulders.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>To modify: If participants have trouble</td>
<td>If participants have trouble keeping the back leg straight, instruct</td>
</tr>
<tr>
<td>keeping the back leg straight, instruct</td>
<td>participant to slightly bend at the knee. For advanced participants,</td>
</tr>
<tr>
<td>participant to slightly bend at the knee.</td>
<td>instruct them to begin to come into a forward bend with their arm outstretched</td>
</tr>
<tr>
<td></td>
<td>in front.</td>
</tr>
</tbody>
</table>
Camel Pose: Ustrasana (5-7 breaths)

This pose stretches the front of the body including the chest and abdomen and improves spinal flexibility.

To modify: For participants who have trouble reaching the soles of their feet, place blocks on either side of their feet for the participants to place their hands on so that they may still benefit from the backbend stretch. For advanced participants, instruct them to try taking hold of opposite ankles.

Fish Pose: Matsyasana (7-10 breaths)

This pose opens the chest and throat.

To modify: For advanced participants, instruct them to bring their arms towards the ceiling with the palms touching and begin to lift the legs.

Locust Pose: Shalabasana (7-10 breaths)

This pose strengthens the spine and chest and improves spinal flexibility.

To modify: For participants who have difficulty holding this pose, instruct participants to bring their arms alongside the body with their palms pressing down into the floor. For advanced participants, instruct them to simultaneously lift their legs while lifting their torso while keeping both body parts straight.

Upward Facing Dog: Urdhva Mukha Svanasana (7-10 breaths)

This pose strengthens the arms, wrists, and abdomen, and increases spinal flexibility.

To modify: For beginners, instruct participants to bring their thighs to the floor and turn one foot at a time if the participant cannot roll over the toes and to bend the
arms out to the sides and roll the shoulders back to bring the shoulders over the wrists.

<table>
<thead>
<tr>
<th>Difficult Yoga Poses: Asanas</th>
<th>Picture of Asanas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird of Paradise Pose (7-10 breaths)</td>
<td>![Image of Bird of Paradise Pose]</td>
</tr>
<tr>
<td>This pose strengthens the legs, improves balance, and opens the groin and hamstrings.</td>
<td></td>
</tr>
<tr>
<td>To modify: Instruct participants to release the bind whenever they need a break.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revolved Half Moon Pose: Parivrtta Ardha Chandrasana (7-10 breaths)</th>
<th>![Image of Revolved Half Moon Pose]</th>
</tr>
</thead>
<tbody>
<tr>
<td>This pose strengthens the ankles and thighs, and improves balance, and cleanses the organs.</td>
<td></td>
</tr>
<tr>
<td>To modify: For participants who are having difficulty with this pose, place a block under the dropped hand or do the pose near a wall to balance the raised foot on the wall.</td>
<td></td>
</tr>
</tbody>
</table>
Little Thunderbolt Pose: Laghu Vajrasana (5-7 breaths)

This pose increases spinal flexibility, opens the throat, chest, and quadriceps, and strengthens the abdominals.

To modify: This is an intense backbend and should only be practiced by experienced yoga participants. The camel pose is a modified version of this pose.

Compass Pose: Parivrtta Surya Yantrasana (5-7 breaths)

This pose is an intense hamstring stretch and shoulder opener.

To modify: Have participant slightly bend raised leg at the knee.
***Many of the yoga poses can be modified for persons participating in wheelchairs however; the following table represents some recommended yoga poses for persons in a wheelchair, which can be incorporated during the yoga sessions.

<table>
<thead>
<tr>
<th>Yoga Poses for People in Wheelchairs:</th>
<th>Picture of Asanas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Breathing: Place Hands on Ribs. Take a deep breath in - feel rib cage expand. Slowly exhale, gently pull belly in. Inhale count 1-5, Exhale count 1-5. Repeat 5-10 breaths.</td>
<td></td>
</tr>
<tr>
<td>Sunrise Breathing: Start with the arms down by the sides. As you inhale, raise arms out to sides and overhead eventually bringing palms together. Exhale return arms down by sides. Move slowly….Repeat for 5-10 breaths</td>
<td></td>
</tr>
<tr>
<td>Neck Stretch: Bend the neck taking left ear to the left shoulder. Extend right arm toward the floor. As you inhale, feel the breath filling the right side of the neck .As you exhale, stretch the right fingertips toward the floor.</td>
<td></td>
</tr>
</tbody>
</table>
Neck Stretch 2: As you inhale, tilt head back to your degree, eventually allowing the back of the skull to rest on the top of the spine.

Neck Stretch 2 continued: As you exhale, take the chin toward the chest (repeat 5-10 times).

Shoulder Warm-ups: Lift shoulders up toward ears

Shoulder Warm-ups continued: Roll Shoulders backwards in large circles. Repeat 12 times

Roll Shoulders forward in large circles. Repeat 12 times
<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrist circles:</td>
<td>Interlace fingers, hold palms and forearms together, circle the wrists in a</td>
</tr>
<tr>
<td></td>
<td>clockwise motion 12 times then rotate in a counter clockwise motion 12 times.</td>
</tr>
<tr>
<td>Twist:</td>
<td>Sit at front edge of chair. Lengthen spine upward. Turn to right, hold back of</td>
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<tr>
<td></td>
<td>chair with right hand, put left hand on right knee. Inhale, sit tall, Exhale</td>
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<tr>
<td></td>
<td>and twist deeply.</td>
</tr>
<tr>
<td>Side Bend:</td>
<td>Sit at front edge of chair. Lengthen spine upward. Inhale and reach left arm</td>
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<tr>
<td></td>
<td>upward, rest right hand on right leg. Exhale and lean body to the right. Breathe</td>
</tr>
<tr>
<td></td>
<td>deeply 5-10 breaths into the left side of the body.</td>
</tr>
<tr>
<td>Cat Tilts:</td>
<td>Sit at front edge of chair. Lengthen spine upward. Place hands on knees.</td>
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<tr>
<td></td>
<td>Inhale arch back lifting chest up and forward.</td>
</tr>
</tbody>
</table>
Cat Tilts continued: Exhale rounding back and pull belly in. Repeat
## Appendix T

### Outline of Weekly Yoga Sessions

**Weeks 2-15**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
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<tbody>
<tr>
<td>Education (5-10 min)</td>
<td>Participants will be given a brief explanation of the yoga concepts related the week’s yoga poses. This will allow for the participants to have a greater understanding of one’s physical body and thought processes. This time will also be spent allowing the participants to express any concerns he or she may have before beginning the yoga session.</td>
</tr>
<tr>
<td>Body awareness (10-15 min)</td>
<td>The instructor will verbally lead the participants through bringing conscious awareness to various parts of the body to notice one’s thoughts. The goal is to promote awareness of body sensation, position, and awareness of one’s thoughts.</td>
</tr>
<tr>
<td>Pranayama (breathing) (5 min)</td>
<td>Breathing activities will be taught and practiced like diaphragmatic breathing, 3-part complete breath, ujjayi breathing (breathing with the throat partially closed to create a snoring sound), and nadhi shodhana (alternate nostril breathing). The goal is to promote awareness of different sensations that occur when breathing in different ways and create awareness of how the breath can facilitate movement of different body parts and promote concentration.</td>
</tr>
<tr>
<td>Asana (physical poses) (30-40 min)</td>
<td>The participants will be instructed on the various poses of the week. The participants were assisted as necessary while performing a variety of modified yoga poses. Yoga poses were modified based off of the participant’s physical capabilities. The goal is to improve flexibility, muscle tone, endurance, balance, and coordination of body segments.</td>
</tr>
<tr>
<td>Guided imagery/relaxation (10 min)</td>
<td>The participants will be asked to close their eyes while being lead through a guided imagery story which will incorporate visualizations. Participants will be allowed time to rest in silence. The goal is to elicit a relaxation response.</td>
</tr>
<tr>
<td>Activity</td>
<td>Description</td>
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</tr>
<tr>
<td>Seated silent meditation (5 min)</td>
<td>The participants will be asked to return to a seated position on the floor or in a chair and remain in this position in silence and asked to focus on the sound of the breath. The goal is to promote mental clarity and clear one’s mind of extraneous thoughts.</td>
</tr>
<tr>
<td>Expression/sharing (5min)</td>
<td>At the end of each session, participants will be allowed to share their experiences and thoughts of the session. If a participant is unable to verbalize his or her thoughts than this can be done through drawings or writings. The goal is to integrate the experience of the session and facilitate awareness of any physical, mental, or emotional changes that may have occurred.</td>
</tr>
</tbody>
</table>
Termination of Involvement
By signing this form, you are acknowledging your departure from the program. All of your records containing any personal information will be kept in a locked file cabinet for up to two years before being properly discarded. Your identity as a past participant will be confidential from all others.

Discharge Procedures
Before signing this waiver, you must return the parking pass that was issued to you and return all other materials given to you on loan. If you wish for further information on places to attend yoga, please take this time to discuss these concerns with the occupational therapist. No further contact will be made with you after your final visit with the occupational therapist. If you ever have any questions or concerns please feel free to contact the occupational therapist.

Thank you for your participation in the program and best of luck in your continuing recovery! It is hoped you found this program to be therapeutic, enjoyable, and educational.

By signing below you are acknowledging your departure from the program (all signatures required)

_________________________________________         _______________
Participants Name (please print)                                         Date

__________________________________________        _______________
Participants Signature (or person authorized to consent)    Date

___________________________________________       _______________
Name of occupational therapist (please print)                      Date

_________________________________________         _______________
Signature of occupational therapist                              Date
Appendix V

Sample of OT Advertisement

Hiring Occupational Therapist!
For New Program Called the Therapeutic Yoga Program

Therapist Description
- Therapist needs to hold a bachelors degree or higher in Occupational Therapy
- Therapist needs to have at least 2 years of experience working with people who have burn and stroke injuries
- Should display an interest in YOGA and working with people with burn injuries
- Therapist needs to be creative, flexible, and enthusiastic about starting new community based program
- Therapist WILL NEED to become certified in YOGA by an accreditied yoga school if hired

Job Description:
- Occupational therapist needed to create, develop, implement, and evaluate new program at MetroHealth Hospital.
- Program will be a YOGA program for people with burn and stroke injuries.
- Therapist will be hired part-time 20 hours a week.
- Therapist will run program annually
- Will need to be competent in assessing participants and community based program.

To inquire about more information contact:
Stephanie Mohr
MetroHealth Rehabilitation Institute of Ohio
2500 MetroHealth Dr.
Cleveland, OH 44109
216. 778. 1380
Stephanie.mohr@yahoo.com
Appendix W

Job Description for Occupational Therapist

The occupational therapist who will be hired to run the program must have a minimum of a bachelors degree in occupational therapy, be nationally registered and licensed, and must have at least two years of experience working with people with burn and stroke injuries. The therapist will not need to be yoga certified at the time of being hired, but must attend a yoga certification course after being hired and before the start of the program. After being hired, the therapist will be educated on places he or she can become yoga certified and will be reimbursed for yoga certification fees.

The therapist will be hired part-time (approximately 20 hours) because running the program will require that the therapist spends time marketing and recruiting participants, conducting needs assessments, spends time evaluating the participants throughout the 16 weeks, works on goals for each participant, solicits intake and discharge forms to the participants, runs six hours worth of yoga sessions a week, and runs the mandatory two hour group meeting time once a week for participants in each session. The therapist in charge of running the Therapeutic Yoga Program will be expected to be at the MetroHealth facility for an entire year and complete the mandatory tasks of implementing and running the program. It is also important that the occupational therapist be enthusiastic and interested about starting up the community based program for people with burn or stroke injuries and be interested in yoga.
## The Therapeutic Yoga Program

### Participants Mid-term Evaluation and Feedback Form

**The Therapeutic Yoga Program**

1. Is the program meeting your specified needs?

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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2. Do you enjoy participating in the program?

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<th>Strongly Disagree</th>
<th>Not Sure</th>
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3. Are you feeling more self-confident at this point in the program?

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<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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4. Are the yoga sessions fun and enjoyable?

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<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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5. Are the group meetings educational and helpful at this point?

<table>
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<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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</table>
The Yoga Therapist

1. Is the yoga therapist taking time to get to know you?

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<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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2. Is the yoga therapist knowledgeable and helpful to you?

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<th>Strongly Disagree</th>
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<th>Strongly Agree</th>
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3. Is the yoga therapist making the yoga sessions fun and enjoyable?

<table>
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<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
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</table>

4. Is the yoga therapist making the group meetings enjoyable and educational?

<table>
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<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
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5. Is the yoga therapist organized and timely?

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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</table>
MetroHealth Facility

1. Do you find it easy to get to and from MetroHealth on a timely manner?  Yes   No

2. Is this facility easy to access?  Yes   No

General comments about the program

1. What are you enjoying most about the Therapeutic Yoga Program?

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

2. What are you enjoying least about the Therapeutic Yoga Program?

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

3. What changes could be made right now to make the program more enjoyable?

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________
### The Therapeutic Yoga Program

1. **Did the program meet your specified needs?**

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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</table>

2. **Did you enjoy participating in the Program?**

<table>
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<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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3. **As a result from participating in the program, do you feel more self-confident?**

<table>
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<th>Strongly Agree</th>
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<th>Strongly Disagree</th>
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4. **Were the yoga sessions fun and enjoyable?**

<table>
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<th>Strongly Agree</th>
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</table>

5. **Were the group meetings educational and helpful?**

<table>
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<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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</table>
6. Would you recommend this program to someone else with injuries from a burn or stroke?

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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**The Yoga Therapist**

7. Did the yoga therapist take time to get to know you?

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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8. Was the yoga therapist knowledgeable and helpful to you?

<table>
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<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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9. Did the yoga therapist focus on fixing problems that were most important to you?

<table>
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<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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10. Did the yoga therapist make the yoga sessions fun and enjoyable?

<table>
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<tr>
<th>Strongly Agree</th>
<th>Not Sure</th>
<th>Strongly Disagree</th>
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</table>
11. Did the yoga therapist make the group meetings enjoyable and educational?

<table>
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<tr>
<th>Strongly Disagree</th>
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<th>Strongly Agree</th>
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12. Was the yoga therapist organized and timely?

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
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13. Overall, do you feel the yoga therapist was fit for running this program?

<table>
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<tr>
<th>Strongly Disagree</th>
<th>Not Sure</th>
<th>Strongly Agree</th>
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<td>7</td>
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<td>10</td>
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**MetroHealth Facility**

14. Did you feel MetroHealth was an appropriate facility to hold the Therapeutic Yoga Program? (please circle one) Yes or No

15. Was MetroHealth’s facility easy to access? (please circle one) Yes or No

**General Comments for the Future of the Program**

16. What did you enjoy most about the Therapeutic Yoga Program?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
17. What did you enjoy least about the Therapeutic Yoga Program?

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18. How was the therapist effective in running the program?

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19. What could the therapist have done to make the program run more effectively?

______________________________________________________________________________
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## Appendix Z

### Therapeutic Yoga Program Timeline

<table>
<thead>
<tr>
<th>Months</th>
<th>Tasks to Be Completed</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td></td>
<td>Hire therapist and orient therapist to MetroHealth Facility</td>
<td>X</td>
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<td></td>
<td>Therapist conducts needs assessments</td>
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<tr>
<td></td>
<td>Therapist in charge of program becomes Yoga Certified</td>
<td></td>
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<td>X</td>
<td>X</td>
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<td></td>
<td>Develop marketing materials for program</td>
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<td>X</td>
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<td></td>
<td>Make purchases for program (i.e. office items and yoga equipment)</td>
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<tr>
<td></td>
<td>Recruitment of participants for yoga program</td>
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<td></td>
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<td>X</td>
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<tr>
<td></td>
<td>Intervention with participants</td>
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<td>X</td>
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<tr>
<td></td>
<td>Formative and summative evaluations as participants are in the program and before they exit</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td></td>
<td>Analysis of evaluation outcomes</td>
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<tr>
<td></td>
<td>Meeting with stakeholders</td>
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</tbody>
</table>

X = Months Spent on the Task
Appendix Aa

Letters of Support Contact Information

Kevin Kucera, OTR/L
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Director, Comprehensive Burn Care Center
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E-mail- miller.4067@osu.edu
Florence Clark, PhD, OTR/L, FAOTA
USC Division of Occupational Science and Occupational Therapy
1540 Alcazar Street, CHP 133
Los Angeles, CA 90089-9003
333. 422. 2850

Ralph Sacco, M.D., MS, FAAN, FAHA
1601 Northwest 12 Avenue
Miami, Florida 33136
305. 243. 3993

Roberta Pennington, OTR/L
MetroHealth Rehabilitation Institute of Ohio
Rehabilitation Pavilion, PMNR
2500 MetroHealth Dr.
Cleveland, OH 44109
216. 778. 1380
Roberta.P@metrohealth.org
April 16, 2010

Ms. Mohr:

The Division of Occupational Therapy at The MetroHealth Rehabilitation Institute of Ohio supports the development of a program feasibility plan for a Yoga Program for patients with burns and patients who have had a stroke. As a leader in comprehensive burn care and stroke care, we are committed to enhancing wellness and maximizing functional outcomes for the patients that we serve.

Please feel free to contact me if you need any additional assistance at (216) 778-5175.

Sincerely,

[Signature]

Kevin R. Kerr, OTR/L, MPA
Manager, Outpatient Rehabilitation Services
(216) 778-5175
Annotated Bibliography

Stephanie L. Mohr
Capstone Mentored Studies
Department of Rehabilitation Sciences
Occupational Therapy Doctorate Program
The University of Toledo
May 2011
The following section is a compilation of literature pertaining to stages of burn recovery, emotional and psychological aspects of burn injuries, books which depict first-hand experiences of burn survivors and from medical professionals working with the burn population, and intervention methods employed by members of the burn team, with special interest to occupational therapy.


**Abstract**

The impact of partial-thickness facial burns on the behavior of adults was investigated. Burn injuries of the face often have a deleterious effect on the psychological well-being of the patient. Even when no skin grafting is performed, there seems to be significant deterioration of the physical and emotional function of adults after they have incurred partial-thickness burns of the face.

**Significance**

While attending the burn survivor support group, I have realized that burns not only impact a person physically but emotionally. Many times the emotional scars are far more damaging. I have met burn survivors who have “hidden burns” which are burns that can be concealed or covered but have also met burn survivors who are unable to hide their burns. This article is significant because it discusses the social implications associated with burn survivors who have facial burns. It was found that adult burn survivors who have had partial-thickness burns of the face have a difficult time adjusting to society because of having an altered self-image and self-worth. Burn survivors who have burns to the face are unable to hide their burns and often times need to re-define themselves in terms of self-identity. It was found that for adult survivors this is an especially difficult transition since the adult has been living with their old
identity for so long and may had been comfortable with themselves pre-burn injury. It is important for burn survivors to create a new self-identity after the burn injury since their “old self” is gone. It was found that burn survivors who have burns to the face have an increased risk of developing fears of rejection from family members, friends, and society. Most people identify themselves by the way they look on the outside. Although what is on the outside does not make people who they are, it does change the way people perceive themselves and also the way others perceive that person.

One of the burn survivors who attends the support group at MetroHealth talked very openly about how her facial burns impacted the way her students interacted with her. Because she is a pre-school teacher, the children she works with do not understand why she looks different from other adults. She had to learn to develop a new identity in order to be comfortable with the person she has transitioned into. It was not until after she became comfortable with herself that she was comfortable teaching young children again.

It is important for health care workers to be aware of the difficulties adult burn survivors will likely encounter during their journey of recovery. Yoga can help facilitate this process by having the burn survivor engage in deep relaxation and meditation exercises to touch the mind and body. Yoga can also allow the burn survivor’s to become comfortable with their bodies. A person is not considered a true survivor until that person is comfortable with the way they are both inside and out.
Summary & Significance

This book was recommended by Dr. Fratianne who is the founder of the burn unit at MetroHealth Hospital. This book was very inspiring and gives its readers a glimpse into the life of a burn survivor growing up in today’s society. This book is written by the burn survivor himself, Dan Caro. Dan Caro was burned when he was only two years old from a flash fire in his garage. Over 90 percent of his body had been burned and he was quickly flown from a hospital near his New Orleans home to Shriners Hospital in Boston, Massachusetts. Over the next several years, Dan Caro underwent countless reconstructive surgeries and had to be frequently be separated from his friends and family. Dan Caro lost both of his hands and was physically scarred. What was more devastating than the physical scars was the psychological and emotional scars the burns gave him.

Re-discovering himself and finding his place in the world was the overarching theme in this book. He depicts his struggles from as early as a first grader all the way until adulthood. He depicts his struggles during each stage in his life very vividly. One of Dan’s greatest accomplishments was learning how to tie his shoes. He talked about how overcoming this challenge changed the course of his life. It made him believe in himself and he recognized that he could truly do anything that he wanted to do if he wanted something bad enough. Tying his shoes was also the moment when he decided that he would not let his scars define who he was. Even though this realization and transformation occurred over the course of his young adulthood, it was still at that moment when he finally tied his shoes that he decided to get living. When Dan became a teenager he found his love for playing the drums but had to figure out how to play without any hands. He succeeds at this and is now a professional drummer and travels the...
country with different bands. This book is a must read for everybody and will truly make people
grateful for all of the things that can be taken for granted.

I found this book very important for me to read in order to further my understanding of
the struggles burn survivors have to overcome in their day to day lives. In order to properly
structure the Therapeutic Yoga Program to meet the needs of burn survivors, it is important to
learn about struggles burn survivors may have and there is no better way to do this than to read
about it from the burn survivors themselves. After reading this book, it was again found that the
emotional and psychological scars caused from burns last far longer than the physical ones and
can be just as, if not more, detrimental to the burn survivors life.

A yoga groups could help combat these emotional and psychological scars by providing a
safe environments for the burn survivors to come too and be around other burn survivors, by
improving the burn survivor’s self-esteem, and by improving the burn survivors physical
functioning which will in turn improve the burn survivor’s quality of life.

**Abstract**

Objective: To determine the prevalence, characteristics, and effects of chronic persistent pain on burn survivors.

Design: Mail survey.

Setting: Respondents' homes.

Patients: All members of the Phoenix Society for Burn Survivors.

Interventions: None.

Outcome Measures: Twenty-three questions on the prevalence of pain and its characteristics, including the short form of the McGill-Melzack Pain Questionnaire.

Results: Of 1,500 members who received the survey, 358 (24%) responded. Respondents had burns covering an average of 59% of their bodies. Time between the injury and the survey averaged 12 years. On the survey, 52% of respondents reported ongoing burn-related pain, and 46% were able to characterize their pain with one or more of 15 characteristics. Two-thirds (66%) reported that pain interfered with their rehabilitation, and 55% reported that pain interfered with their daily lives. Asked "what makes the pain worse now?" the most frequent reply (15%) was "the weather" (including "hot" or "cold"). Various physical activities (e.g., walking, bicycling) were also mentioned, along with nerve regrowth, contractures, remembering the accident, and depression. "Things that make your pain better now" included "nothing," a variety of over-the-counter analgesics, "rest,""exercise,""yoga,""acupuncture,""family and friends," and "God." In coping with their pain, most respondents found family the most helpful, although nurse(s) received almost as high a rating.

Conclusions: Pain associated with burn trauma continues to be of considerable significance in the lives of burn victims long after the initial injury and hospitalization. Little research has been done on this population.

**Significance**

This article was important for two reasons; 1). Because it looks at the use of yoga as a means to alleviate chronic pain in burn survivors, and 2). Because pain has been found to be a limiting factor in normal engagement in activities of daily living for people who are living with burn complications. Through survey responses, it was found that yoga was a helpful way to alleviate chronic pain in people who have had a burn injury. Pain has been studied extensively in burn patients who are still being hospitalized, but not much attention has been given to the pain...
that burn survivors experience years after the burn injury, which is what makes this article particularly significant. Nearly all of the burn survivors reported that some form of physical exercise helped alleviate their pain.

Since yoga is the therapeutic means to enhance occupational performance in this program, it is important to understand and know how yoga can aid in alleviating chronic pain. Pain is widely experienced by burn survivors and can impact burn survivor’s chances of returning to normal activities of daily living such as work and leisure activities.


**No Abstract**

**Summary & Significance**

This article was of particular interest because it looked intensely at the stages of burn care recovery and issues regarding ethical burn care treatment. This article not only talked about the issues burn survivors will go through, but also an array of co-morbid conditions that can arise because of the burn injury. Major sections of this article include: Weakness and contractures, exercise, hypertrophic scarring, prevention and treatment of the formation of contractures and joint deformity, rehabilitation of face burns, rehabilitation of neck burns, rehabilitation of hand burns, rehabilitation of axillary burns, rehabilitation of lower limb and face burns, surgical management of contractures, and serial casting management of contractures, thermoregulation after burn injuries, heterotrophic ossification, amputations, neuropathy, pruritus, electrical
injuries, pain, posttraumatic stress, depression, body image dissatisfaction, sleep disorders, community integration, and general outcomes. This article was extremely helpful when trying to familiarize myself to all of the medical terms and conditions in burn care. This article was recommended to me by a past student who did her capstone on burns. This article really helped me when writing up my literature review and during clinical hours spent observing burn treatments. I highly recommend this article to anyone who would like to work with the burn population because of the wealth of information is provides readers.


**Abstract**

Burn trauma ranges from the minor burn to the devastating injury, which can impact on all aspects of a person’s life including aesthetic appearance, relationships with others and psychological, social and physical functioning. Measurement of outcome in burns patients is therefore complex and multi-faceted. The increasing numbers of major burn survivors implies that understanding health outcomes in these patients has assumed high priority. This paper sets out a conceptual framework for unifying outcome measurement, which may be useful to all members of the multidisciplinary team who are contemplating outcome assessment in their burn patients. It outlines seven core domains of assessment which are (i) skin; (ii) neuromuscular function; (iii) sensory and pain; (iv) psychological function; (v) physical role function; (vi) community participation; and (vii) perceived quality of life. Within each domain, we present a brief clinical review of the most commonly administered measurement tools that have been, or potentially could be, used to assess aspects of these core domains. Where possible, the psychometric properties and clinical utility of these tools are presented. A concise discussion of key methodological issues which should be addressed in this assessment process is then provided, together with suggestions for future research.

**Significance**

This article is very important because it outlines methods for assessing burn survivor’s recovery. Specifically, this article states that using goniometry has been shown to be a reliable and valid means of objective measurement for joint ROM in a diverse group of patients with
burn injuries (Falder et al, 2009). As a pre-test and follow-up measurement for the program, ROM in burn survivors will be taken, so it is important to read about how valid and reliable this assessment tool is. This article also talks about using manual muscle testing as a way of assessing a burn survivor’s strength which will also be used in this program as a pre-test and follow-up measure. This article also gives great ideas for other methods of assessing burn survivors such as the McGill Pain Questionnaire and the Brief Pain Inventory that I have not thought about using to assess pain for the program (Falder et al, 2009).

I feel that assessing pain in both populations taking part in the program would be beneficial and now understand why these two instruments are valid and reliable because of this article. This article also talks about methods to assess psychological factors such as depression and anxiety. Because this program is looking to enhance overall well-being, thinking about assessments in which could measure the psychological well-being of burn and stroke survivors should also be an essential component.
Summary & Significance

This movie was recommended for me to watch by my site mentor Kathy Wasil, OTR/L in order to give me a greater understanding of the affects of burns; including both the physical and emotional injuries burns have on a burn survivor’s life and also give ideas on different intervention plans employed by occupational therapists. This movie was made and narrated by two occupational therapists and is used as a CEU course. The movie is divided up into two sections. The first section is comprised of five burn survivors who give their testimonials of their unique struggles to overcome their burn injuries. The second part of the video is from the view of the rehabilitation phase and is done by the two occupational therapists that made the movie. The occupational therapists demonstrate how to incorporate occupation based interventions into their treatments. The occupational therapists clearly outline the different phases of recovery, starting with the acute phase all the way through until the burn patient is discharged from outpatient services.

This video was very significant because it depicted and demonstrated the different stages of burn recovery from an occupational therapists view. The occupational therapists who developed the video did a great job of outlining the recovery phases and employed great intervention strategies that were occupational to help with the burn survivors recovery. Listening to the five burn survivors themselves and recognizing their struggles and hardships was also beneficial because it shows how every burn survivor is unique and the only common denominator burn survivors shares with one another is the experience of being physically burned. Treating every burn survivor as an individual is important to do because every burn survivor will have their own unique struggles to overcome.

**Summary & Significance**

This book was written by Dr. Fratianne who is the founder of the burn unit at MetroHealth Hospital. Dr. Fratianne wrote this book several years ago to illustrate his life journey as a son, husband, brother, and surgeon. He walks the reader through his earliest years of being a medical student and living in the poor neighborhoods of Cleveland all the way through his later years as an established professor at Case Western Reserve, a nationally renowned surgeon, and founder of the burn unit.

Dr. Fratianne writes about his experiences with a number of burn survivors who have touched his life in their own unique way over the years and shares insight and wisdom he has learned from the burn survivors and from being part of the burn team. Although the tone of the book has a very strong Catholic undertone and Dr. Fratianne often references God, the book is meant for everybody from every religious background. Dr. Fratianne also discusses the significance of the butterfly in reference to burn survivors. The butterfly depicts how the burn survivor has changed after the burn injury. Dr Fratianne says that a burn patient can only be considered a burn survivor after he or she has coped and accepted his or her new identity and is comfortable with who they have become.

**Abstract**

Pressure ulcers represent a complex clinical problem, with a reported incidence of 2.7% to 29.5% in hospitalized patients and an etiology that is multifactorial. The prevention of pressure sores in the burn patient population is clearly an area of practice in need of guidelines for care. A multidisciplinary group of advanced burn care professionals have compiled, critiqued, and summarized herein the current evidence of practice in nursing, nutrition, and rehabilitation as it pertains to the prevention of pressure sores after burn injuries. A broad overview of risk factors and assessment scales is described, and current intervention practices and recommendations for care are provided based, whenever possible, on research findings. In addition, research questions are generated in an attempt to move the specialty of burns toward the formal investigation of pressure sores with the ultimate goal being the development of evidence-based practice guidelines.

**Significance**

Because an occupational therapist starts to see and implement intervention approaches as soon as the burn patient is admitted to an acute care hospital, it is important to be aware that further complications other than the burn injury itself can be presented with detrimental outcomes. This article is significant because it gives statistics and outlines guidelines for members of the burn team to adhere to in order to decrease the chance of a burn survivor developing a pressure ulcer. Problems from pressure ulcers most commonly develop because of the burn survivor lying in bed for extended periods of time with little movement. According to the article, some of the ways an occupational therapist can help eliminate the risk of pressure ulcers from occurring is by getting the burn survivor moving. Occupational therapists can help with positioning and also help with education to other staff members about proper bed positioning and implement a specific “turning” program for the burn survivor. It is important to
make sure that everyone who works with that specific burn survivor knows the protocol for the program. Even after the burn survivor is discharged from the hospital, his or her skin is still compromised and will never physiologically be the same because of the burn injury. Because of this fact, it would still be important for occupational therapists to check for any skin breakdown and provide education to the burn survivor about his or her increased risks of developing pressure ulcers.


**Abstract**

There is no formal abstract for this book.

**Summary & Significance**

This book is perhaps one of the most important handbooks for burn therapists and was recommended by my site mentor Kathy Wasil, OTR/L. This book goes through the steps of delivering competent and ethical burn care and treatment. This book not only talks about the stages in burn care recovery and delivery but also talks about the emotional aspects related to burn survivors. According to Malick and Carr (1982) some of the common emotional responses of burn survivors are fears of deformity, anger, and depression. Because this book illustrates both the physical and emotional trauma that burn survivors go through it will be an excellent resource for completing my program development plan.

The use of yoga as an approach to burn care and recovery is a unique approach and because this book gives details describing the burn recovery phases, it can be determined based
upon these phases the appropriateness of yoga. Because yoga has a spiritual and emotional component, it is important to understand the common emotional responses burn survivors may have in order to figure out how yoga could help with these issues. Overall, this book has been around for many years because it is a great tool for any burn therapist to have as a part of their tool box.


**Abstract**

This paper describes the role of occupational therapy in the delivery of burn care and reaffirms the profession’s commitment to provide quality care to patients with burn injuries. This roles and functions paper reflects the recommended practice in this area but is not binding. Occupational therapy personnel need to be informed about organization codes and policies; federal, state, and local law; and professional license and regulations. Any of these codes or regulations may negate or revise the content of this paper.

**Significance**

The significance of this paper, which was recommended by my site mentor, is to state, not only to occupational therapy professionals, but other medical professionals as well, the importance of occupational therapy in the delivery of burn care and the roles that occupational therapists play. Although this article is aged, its practice of burn rehabilitation is still the same and does a great job going through the burn recovery phases while ensuring its occupational relevance and adhering to the fundamental practice of occupational therapy. In the article, the authors state that, “the occupational therapist functions as an integral member of the burn care
team and assists patients in achieving an optimal level of independence and a satisfying life style after a burn injury” (McGourty, Givens, & Fader, 1985).

From observations of burn treatments at MetroHealth Hospital, I can easily see the important role occupational therapists play in the delivery of rehabilitative services. My site mentor always makes sure to make every intervention session relevant to occupational therapy. For example, during one treatment session Kathy Wasil wanted the patient to work on neck mobility so she had him place his grooming supplies from the bathroom sink to the overhead cabinet to help facilitate neck flexion and extension. The patient had received an anterior neck skin graft the week prior and was experiencing tightness and discomfort. I also got to see how the role of the occupational therapist is relevant during weekly burn care team meetings. Kathy Wasil’s input and advice as to the medical management of the burn patient is taken very seriously. Many times the physicians will ask Kathy her input and insight into how the burn patient is recovering and ask her if she has noted any changes (both positive and negative) with the burn patient’s recovery.

**Abstract**

The aim of this study was to explore burn-injured individuals' perception of factors seen as facilitators or barriers in the process of returning to work after a severe burn injury. Semi-structured interviews were prospectively conducted with 39 former burn injury patients, admitted to the Uppsala Burn Center between March 2000 and March 2007. The participants were employed or studying at the time of injury and were interviewed on average 4.6 years after the burn. The interview data were analyzed with qualitative content analysis. Factors acknowledged by the participants as facilitators and barriers to return to work (RTW) were identified and sorted into five categories: the Individual, Social Life, Health Care and Rehabilitation, the Workplace, and Social Welfare Agencies. Facilitators were perceived to a great extent as individual characteristics, such as own ability to take action, setting up goals in rehabilitation, having willpower, being persistent, and learning to live with impairments. The possibility of getting modified work tasks or a change of workplace, when having physical or psychological impairments, was also seen as facilitating factors. Some barriers experienced as delaying RTW were difficulties when ceasing pain medication, limited knowledge of wound care at primary health care facilities, lack of individualized rehabilitation plans, and lack of psychological support during rehabilitation. Former burn injury patients emphasized psychological resources and capabilities as facilitators in the RTW process. The need in rehabilitation for a coordinator and for assessment of work capacity, and not solely a focus on impairments, is discussed.

**Significance**

This article was significant because it discusses the social implications associated with burn survivor’s lives including the abilities for burn survivors to return to their places of work. According to this article, the main reason that burn survivors have trouble returning to work are actually due to emotional and psychological complications rather than physical reasons. The main physical reasons why burn survivors have trouble returning to work are because of secondary complications which arise such as infections. Emotionally and psychologically burn survivors have a tougher time adjusting to their new identities and often have trouble coping with their new self-images, especially if their scars cannot be concealed. It was discussed how many of the burn survivors are not adequately equipped with the support they may need after being
discharged from the hospital or rehabilitation setting. I learned that the burn support group I attend at MetroHealth is very unique and not many hospitals offer a support group solely for burn survivors. This article places emphasis on the need for a program for burn survivors in order to facilitate their return to occupations of daily living.


Abstract

Written from personal experience, this book is intended for sufferers of facial and other disfigurements, and their families. The author's premise is not that the disfigured should learn just to cope, but that they should play an active and perfectly normal part in society. It includes chapters on the impact of injuries and accidents on those involved, facial injury and its personal and social consequences, plastic surgery - its risks, benefits and limitations - the routine of hospital life, and the future.

Significance

This book was very significant because it is about the author who has experienced how burns can affect a person’s life from first-hand experience. Although the book talks about some applicable intervention methods used to heal the physical burn, this book dives deeper into the meaning of how a burn truly affects the burn survivor from an emotional and spiritual aspect (spiritual not in reference to religion but to the spirit of a person). Partridge does a great job touching on all of the stages a burn survivor will go through (exceeding being discharged from
the hospital) most importantly learning to live with your “disfigurements”. While reading this book it really gave me a greater perspective into what a burn survivor may be going through and really shows that surviving a burn is truly a life journey. While attending burn support groups, many of the members are still going through this life journey as depicted in this book which made what I was reading applicable to everyday interactions with burn survivors.


**Abstract**

Rehabilitation is an essential and integral part of burn treatment. It is not something which takes place following healing of skin grafts or discharge from hospital; instead it is a process that starts from day one of admission and continues for months and sometimes years after the initial event. Burns rehabilitation is not something which is completed by one or two individuals but should be a team approach, incorporating the patient and when appropriate, their family. The term ‘Burns Rehabilitation’ incorporates the physical, psychological and social aspects of care and it is common for burn patients to experience difficulties in one or all of these areas following a burn injury. Burns can leave a patient with severely debilitating and deforming contractures, which can lead to significant disability when left untreated. The aims of burn rehabilitation are to minimize the adverse effects caused by the injury in terms of maintaining range of movement, minimizing contracture development and impact of scarring, maximizing functional ability, maximizing psychological wellbeing, maximizing social integration.

**Significance**

This article was very informative and was written by an occupational therapist which made it more relevant and beneficial to read. The article talked about the stages of rehabilitation and truly illustrates the long journey burn survivors will need to go through, one which lasts far longer after being discharged from the hospital. The stages of rehabilitation that this article depicts are the:

- **Early stages of rehabilitation (Critical Care)**
Depending on the size and severity of the injury, the patient's age and other premorbid factors, this stage can last from a few days to several months (p. 102). This stage is emphasized by dressing changes, debridement, and pain relief modalities. What is key to remember is that this stage of the burn patient's recovery is most often times the most important to start rehabilitation since the body is healing. It is important to prevent contractures before they even occur. According to the book, “Patients may want to delay their rehabilitation until they feel better; however, every day without burn therapy intervention will make the eventual rehabilitation process more difficult and more painful and may result in a poorer outcome (Procter, 2010).”

- **Psychological Impact**
  - “Patients and family members may be experiencing significant feelings of guilt, anger, and despair; they may also be having nightmares and flashbacks of the event (Procter, 2010).” Ways and OT can help is by: 1). Providing encouragement and support, 2). Taking time to listen to the patient’s concerns, 3). Providing adequate information and answers to their questions, 4). Taking time to listen to the patient’s concerns (p. 103).

- **Anti-Contracture Positioning**
  - Positioning must start from day one and may continue for months after and this applies to all patients whether they have been skin grafted or not (p. 103). Positioning is important to allow for tissue length by limiting or inhibiting loss of ROM secondary to the development of scar tissue (p. 103). It is important for the OT to implement positioning regimens and provide encouragement to the burn
survivor to adhere to the positions because if not, the patient will take the position of contracture and can quickly lose ROM in multiple joints. It is critical to not overlook burn patients who have relatively minor burns as they may also develop serious and debilitating contractures which could easily be avoided by proper positioning and splinting (p. 104).

**Images of proper positioning techniques:**

- **Splinting**
  - Splinting helps maintain anti-contracture positioning particularly for those patients experiencing a great deal of pain, difficulty with compliance or with burns in an area where positioning alone is insufficient (p.104).
  - Many times, it is often the occupational therapist who provides the burn patients with proper splints to help combat the formation of contractures and facilitate proper positioning.

- **Stretching and Early Mobilization**

- **Encourage Activities of Daily Living**
Burn patients often feel a sense of loss of role and ability to participate in normal activities of life (Procter, 2010).

Later Stages of Rehabilitation

- Scar Management
- Psychological Impact
- Positioning
- Splinting
- Stretching and Exercise
- Pressure Therapy
- Massage and Moisturizing
- Silicone
- Activities of daily living
- Social Rehabilitation

**Summary & Significance**

There is a chapter in this book that outlines the burn rehabilitation phases from an occupational therapy standpoint. The chapter outlines in detail the skin anatomy and skin function, mechanism of injury and burn depth, percent of total body surface area involved in a burn injury, phases of wound healing, initial medical management, associated problems and complications, burn rehabilitation, occupational therapy interventions, and lastly burn-related complications. This is a good book for occupational therapists who work as part of the burn team because it is specifically written by occupational therapists from an occupational therapists point of view.

It is important for occupational therapist who work as part of the burn team to understand intervention methods and also understand the physical and biological damages that are caused from a burn injury. According to the book, “Successful care and rehabilitation of burn survivors require a multidisciplinary team approach that begins immediately after the patient’s admission to the hospital and continues through and beyond hospitalization (Reeves, 2006).” This book also touches on pain management and psychosocial factors which are related to the burn injuries and can be limiting factors when a burn survivor goes back to completing his or her activities of daily living. These are two important areas to recognize when implementing a yoga program because how a person feels both physically and emotionally will help predict how effective he or she is at performing normal activities of daily living. According to the book, “After a burn injury, there is a potential for psychological reactions, including depression, withdrawal reactions caused by
disfigurement, behavioral regression and anxiety over the ability to resume work, family, community, and leisure roles (Reeves, 2006).” Also according to the book, “…pain has adverse physiological and emotional effects; pain management is an important factor for better outcomes (Reeves, 2006).”

When looking at the phases of burn recovery, this book does a great job of outlining the different areas that occupational therapists work through with the burn survivors. These phases include: the acute phase that includes medical management and during this phase, the OT’s role is primarily preventive approaches such as reducing edema, preventing loss of joint and skin mobility, and promoting occupational performance with self-care skills, and providing patient and caregiver education (Reeves, 2006). Splinting can also be during the acute phase but can also be used during other phases. Splinting is used to maintain correct positioning and to protect tissues which have been compromised due to the burn injury (Reeves, 2006). The rehabilitation phase starts when the wound closure begins and extends past hospital discharge. During this phase the occupational therapist begins to gain a sense of what further issues need to be addressed and continued active and passive ROM intensifies as well as an emphasis on independence of ADL’s (Reeves, 2006). Interventions and goals can be determined during this phase and continues education to both patient and family caregiver is very important. These phases need to be understood by the occupational therapist in charge of the yoga program in order to determine the appropriate yoga positions and provide effective treatment.

No Abstract

**Summary & Significance**

This textbook was highly recommended to read by burn therapists as a resource to learn more about burn care. I read pages 207-220 in order to gain a better understanding on the different types of assessments that can be used to test improvements in ROM, muscle strength, endurance, and mobility during burn patient’s recovery. Other areas of focus in this chapter included functional activities and treatment planning which included patient goals, daily treatment planning, scheduling, frequency, duration, and guidelines regarding burn rehabilitation treatment.

For my program, I will be using assessments which fall under the fundamental guidelines of the biomechanical model of practice. To test participants before the start of the program, I will be using a goniometer to measure each participants ROM in areas affected by his or her burn injury. According to the book, goniometric measure of joint range of motion is a standard indicator of a patient with a burn injuries progress of regression (p. 207). I will also be using goniometer to test participants during their halfway mark through the program and at the end of the program.
Abstract

Clinical practice guidelines are a tool to assist with clinical decision making. They provide information about the care for a condition and make recommendations based on research evidence, which can be adapted locally. A focus group within the Allied Health Interest Group of the Australian and New Zealand Burn Association has compiled the "Occupational Therapy and Physiotherapy for the Patient with Burns--Principles and Management Guidelines." These guidelines are designed as a practical guide to the relevant clinical knowledge and therapy intervention techniques required for effective patient management. Content areas include respiratory management, edema management, splinting and positioning, physical function (mobility, function, exercise), scar management, and psychosocial and mutual elements. The document has undergone extensive review by members of the Australian and New Zealand Burn Association to ensure clarity, internal consistency, and acceptability. The guidelines have been endorsed by the Australian and New Zealand Burn Association.

Significance

This article significance comes from its educational value about the course of treatment and guiding principles for occupational and physical therapists to follow when working with a burn patient. The field of burn rehabilitation is very specialized and it is important for all members of the burn team to have expert knowledge in the field in order to properly treat the burn patient. This article gave me detailed information about the stages of burn recovery and some tips for working with the burn survivor. Content areas from this article included:

- Respiratory management
  - This includes making sure that the airways are not damaged
- Edema management
Edema control is very important throughout all stages of burn recovery. Many times burn patients will be faced with edema for years following their initial burn injury. It is important for occupational and physical therapists to assess for edema (primarily in the extremities) during treatment sessions. Therapists should use retrograde massage techniques to counteract edema. This includes applying light pressure to the area that is affected and slowly moving the lymph towards the heart. A therapist does not need to apply forceful pressure since the lymph system is only a few millimeters beneath the skin. It is important for therapists to check to make sure the patient does not have any blood clots in the area. If there is a blood clot, a retrograde massage could push that clot to the heart and lungs.

- Splinting and positioning
  - Splinting should be used at all stages of the burn recovery process is applicable. The most common splint for hand burns is the intrinsic plus splint. This types of splint positions the hand so that all of the ligaments, muscles, and tendons are at their greatest point of stretch. This position puts the wrist at 15-20 degrees of extension, the MCP’s at 90 degrees flexion, and the IP’s at full extension. This is done to combat any contractures from forming. If tendons and ligaments are shortened, what is known as “claw hand” can form and then the persons hand is no longer functional.
  - Other splints commonly used are resting hand splints, axillary splint (region between the shoulder and chest, thumb opposition splints (to create web space between the thumb and index finger), and neck splints. The overall goal of using
splints is to assist with proper positioning in order to maintain functional use of the areas affected from the burn.

- **Physical function**
  - The goal during all phases of burn recovery is centered on optimizing functional performance. As soon as the patient is cleared for range of motion, the therapists should begin to mobilize the various joints. Burn cause contractures near or over joints which have been affected very quickly and once a contracture has formed, it is very difficult to regain motion. As painful for the patient as it is, it is critical to get their body moving in order to combat the formation of contractures.

- **Scar management**
  - It is also the role of therapists to help with scar management. This often includes stretching the scar by applying firm pressure over the scar to help it even out and become less visible. Scars can also form contractures, so it is important to spend time during each treatment session massaging the new scar tissue. Often times therapists will use coco butter or other various creams to assist with scar management.

- **Psychosocial factors**
  - Just as important as it is to treat the physical complications, it is equally if not more important to deal with the psychosocial issues that arise.
  - Some ways for therapists to do this is by:
    - Spending time talking about emotions the patient may be feeling that day
    - Recommending support groups
- Attending community outing with the burn survivor
- Educating the burn survivor on coping mechanisms


**Significance & Summary**

This website was significant because it provided me with current and up to date information about what is happening in the burn community. This website provided me with current burn statistics from across the United States, about burn prevention, and directed me to other resources which I found helpful when developing my program and broadening my education in burn care and delivery. This website was also significant because it directed me to continuing education courses which are happening in or around my community. This website also discusses political actions that are being done to aid in the reduction of burn injuries. This would be a good resource to educate burn survivors about because of the vast knowledge it would provide the burn survivor and because it would help connect burn survivors from all over the country. The mission statement of the American Burn Association reads: The American Burn Association is dedicated to improving the lives of everyone affected by burn injury through patient care, education, research and advocacy.
The following section is a review of literature on the use of yoga for therapeutic benefits; specifically for improving emotional, physical, cognitive, and spiritual well-being.


**Abstract**

Meditative techniques are sought frequently by patients coping with medical and psychological problems. Because of their increasingly widespread appeal and use, and the potential for use as medical therapies, a concise and thorough review of the current state of scientific knowledge of these practices as medical interventions was conducted. PURPOSE: To systematically review the evidence supporting efficacy and safety of meditative practices in treating illnesses, and examine areas warranting further study. Studies on normal healthy populations are not included. METHODS: Searches were performed using PubMed, PsycInfo, and the Cochrane Database. Keywords were Meditation, Meditative Prayer, *Yoga*, and Relaxation Response. Qualifying studies were reviewed and independently rated based on quality by two reviewers. Mid-to-high-quality studies (those scoring above 0.65 or 65% on a validated research quality scale) were included. RESULTS: From a total of 82 identified studies, 20 randomized controlled trials met our criteria. The studies included 958 subjects total (397 experimentally treated, 561 controls). No serious adverse events were reported in any of the included or excluded clinical trials. Serious adverse events are reported in the medical literature, though rare. The strongest evidence for efficacy was found for epilepsy, symptoms of the premenstrual syndrome and menopausal symptoms. Benefit was also demonstrated for mood and anxiety disorders, autoimmune illness, and emotional disturbance in neoplastic disease. CONCLUSIONS: The results support the safety and potential efficacy of meditative practices for treating certain illnesses, particularly in nonpsychotic mood and anxiety disorders. Clear and reproducible evidence supporting efficacy from large, methodologically sound studies is lacking.

**Significance**

Although this article was not greatly significant for the development of this program, it was informative to learn how meditation techniques which are commonly used in yoga practice can help treat certain mood disorders. It is important to understand how meditation techniques can help treat mood and anxiety disorders since a generous percentage of burn and stroke survivors will have some type of psychological disorder. Some of the prevalent psychological
disorders found in stroke and burn survivors include anxiety and depression. The strongest
evidence found with using meditation was the treatment of anxiety disorders. This article also
showed that meditation techniques which are commonly used in yoga practice are safe and have
very little, if any, adverse effects for various populations.


Abstract
Objectives: To explore perceived benefits, barriers, and cues to action of yoga practice among
adults. Methods: Focus groups were conducted with persons who had never practiced yoga, practitioners of one year or less, and practitioners for more than one year. The Health Belief
Model was the theoretical foundation of inquiry. Results: All participants acknowledged a
variety of benefits of yoga. Barriers outweighed benefits among persons who had never practiced
despite knowledge of benefits. Positive experiences with yoga and yoga instructors facilitated
practice. Conclusions: Newly identified benefits and barriers indicate the need for quantitative
research and behavioral trials.

Significance
This article was significant because it discussed the possible benefits and barriers to
practicing yoga. According to the article, some of the potential barriers which were identified by
persons who had never practiced yoga were cost, lack of places to attend yoga classes,
feasibility, physical capabilities, and skepticism of yoga’s practice. The information that I
learned from this article was applied when running focus groups to determine the need for the
therapeutic yoga program. Because I knew that people who have never tried yoga may have
biases and pre-conceived notions about it, I knew it would be important to describe to the
participants the benefits of yoga in greater detail. It would also be important to talk about how
the program would be “free” since financial issues seemed to be one of the largest determinants of people wanting to join a yoga class.


**Abstract**

There is no abstract provided for this article.

**Summary & Significance**

This article was just recently published in OT Practice magazine and talks about the use of Complementary and Alternative Medicine in Occupational Therapy Practice. A question was posed by a working occupational therapist about how to incorporate alternative medicine techniques into occupational therapy practice. It was found that the use of CAM’s such as yoga can be used as a part of an occupational therapy treatment approach as a preparatory method in achieving occupational independence. This article illustrates how to use CAM approaches while still being an ethical and competent occupational therapy practitioner. According to Aurele (2010) it is most important that the occupational therapist is competent in administering CAM approaches and this can be done by reviewing the Occupational Therapy Code of Ethics which can be found on the American Occupational Therapy website. This can also be done through studying the CAM approaches, engaging in hands-on training, and obtaining certification.

As part of my program, I will be using yoga as a therapeutic approach in dealing with the physical and emotional problems people with burn or stroke injuries may have. Since an
occupational therapist would be running the program, it is important to understand how the use of a CAM’s approach fits in with occupational therapy’s theoretical background.


**Abstract**

Background and Purpose. This was a preliminary investigation of the effects of a yoga-based exercise program on people with chronic (greater than 9 months) poststroke hemiparesis. Many people who have had a stroke report an impaired health status because of a reduced level of activity. Proponents of yoga contend that it offers a gender alternative exercise program that can be easily adapted for people who have had a stroke. Subjects and Methods. Four subjects with chronic poststroke hemiparesis participated in this single-case study. The primary outcome measures were the Berg Balance Scale (BBS) and the Timed Movement Battery (TMB). A secondary outcome measure was the Stroke Impact Scale (SIS). The baseline testing phase varied for each subject and ranged from 4 to 7 weeks. The 8-week intervention phase consisted of 1.5-hour yoga sessions, 2 times per week, in the subject's home. The primary outcome data were collected each week, and the secondary outcome data were collected before the baseline testing phase and before and after the intervention phase. Results. Subjects 1, 2, and 4 had improved TMB scores, and subjects 3 and 4 had improved BBS scores. Discussion and Conclusion. The results suggest that yoga may be beneficial to people who have had a stroke. Further investigation is warranted to further examine the effects of yoga in this population. [Bastille JV, Gill-Body KM. A yoga-based exercise program for people with chronic poststroke hemiparesis.

**Significance**

This article represents the first research study that examined the effects yoga has on chronic post-stroke patients living with residual effects from the stroke. The researchers from the study took people who have been living with a stroke for more than 9 months and put them on a regulated yoga program (designed much like the program which I have developed) to study the effects yoga could have on people who have been living with post-stroke impairments (most commonly hemiplegia). Many times it is believed that the physical gains a person who has had a stroke will gain will plateau after 6 months from his or her stroke, and for my program, I will be accepting stroke participants who have been living with a stroke for many years. Although the
sample size was very small, the research from this study does draw some positive correlations. All of the participants did show improvements in physical gains after completing the 12 week program, although the participant who demonstrated the most gains was the one who adhered most closely to the program’s protocol. Although the researchers did state that the sample size was extremely small, this research opens the doors for further research to be conducted in order to investigate the use of yoga as a therapeutic tool for people who are living with post-stroke injuries.

This research article is important for three reasons in regards to the development of my program. 1) It uses one of the populations which my yoga program will be targeting (chronic post-stroke), 2) It uses yoga as a therapeutic technique, and 3) The program’s design used in this study is almost the same as the program which I am proposing to use. For all of these reasons, this article is very important in helping to determine the effectiveness the proposed yoga program may have for chronic post-stroke participants.


Abstract

Innovative therapists are combining yoga with talk therapy--and getting good results.

Summary & Significance

This article explores the issue of emotional healing by participating in the ancient practice of yoga. The article begins by talking about a young girl who was struggling with anxiety and depression. After years of attending therapy, her therapist recommended she try a new kind of program called “Yoga and Talk.” The program was developed by a licensed social
worker and licensed yoga instructor and encompasses the use of both hatha yoga poses and talk therapy. After engaging in different yoga poses, the group comes together in a circle and talk about various issues in the people’s lives. According to Anita Stoll (2009), “Both yoga and psychotherapy aim to foster a sense of self-awareness. While traditional psychotherapy often involves talking about a problem to achieve a change in the emotional state, therapists who incorporate yoga often look to change the physical state first so that the client has more resources from which to draw.” During these groups, the sessions begin with 30 to 40 minutes of asanas followed by relaxation and meditation techniques. The last 30 to 40 minutes is dedicated to talking about issues and for self-reflection. According to Stoll, practicing yoga just before therapy calms the nervous system and focuses the mind which enables to better tolerate painful feelings without getting too upset. Sat Bir Khalsa, who is a yoga researcher and assistant professor of medicine for Harvard Medical School, believes that yoga is a great complement to talk therapy because it helps people to better cope with stress. According to Khalsa, “One of the things common to many mental and physical disorders is that they have a strong stress component.” It has also been found that those who become more mindful of their physical and emotional states can more easily recognize when something is out of sync.

The information and knowledge that I learned from this article is significant because it shows that yoga can be combined with different types of therapies to achieve positive results. Because of the populations who will be served from the program will typically have many emotional issues coupled with their physical limitations, it would be important for this program to touch on both. The therapist in charge of the therapeutic yoga program could use talk therapy as an intervention method while completing yoga poses to improve the participant’s well-being. Like mentioned in the article, talking with the participants could create rapport between the
participants and therapist and allow for a deeper connection. Talking with the participants could also lead to self-reflection and give the yoga session a greater amount of meaning and purpose.


**Abstract**

The purpose of this paper is to review the current literature to examine the effects of various forms of physical activity upon mental health. A literature review was conducted to examine specific findings of the relationship between exercise (aerobic and anaerobic) and psychological well being. It was found that aerobic exercise performed at a moderate intensity produces significantly greater positive psychological outcomes than does either high intensity aerobic exercise or anaerobic exercise. Additionally, no specific differences were discovered between various methods of aerobic exercise as long as it is conducted for over 20 minutes continuously. Low impact aerobic exercise, such as yoga or meditation was also found to have positive effects on mental health. Various mechanisms underlying the mood boosting effects of exercise are also briefly examined.

**Summary & Significance**

This paper reviewed current literature that examined if there were any positive correlations between physical activity and improved mental health status. In order to obtain these results, a thorough literature review was conducted. Based upon the finding from literature, it was found that engagement of physical activity can improve a person’s mental health status. Low impact exercises such as yoga, tai-chi, and pilates have also been found to have positive effects on a person’s mental health status. Some of the reasons exercise has been shown to have a positive effect on mood is because of the release of certain hormones such as dopamine and endorphins which are secreted during physical activity and play a vital role in modulating behavior. Another reason is because of breathing techniques employed during physical activity. This is especially true for exercises like yoga that is centered on deep breathing techniques.
Another reason is the use of meditation. Meditation allows a person to have an inward focus and gives a person a chance for self-reflection which can cause a calming sensation.

This article was significant because it provides evidence to show that yoga can have a positive effect on certain mental disorders. Not very stroke or burn survivor will have a mental disorder but almost everybody has some stress in their lives which can lead to anxiety. For people who have impaired physical functioning, the stress being experienced may be heightened. By participating in the yoga program, a person can gain not only physical benefits but emotional benefits as well. It is important to understand what the literature says about yoga and emotional well-being in order to determine if a program would meet the intended needs.


**Abstract**

Twenty-six healthy adults age 20-58 (Mean 31.8) participated in six weeks of either astanga *yoga* or hatha *yoga* class. Significant improvements at follow-up were noted for all participants in diastolic blood pressure, upper body and trunk dynamic muscular strength and endurance, flexibility, perceived stress, and health perception. The improvements differed for each group when compared to baseline assessments. The astanga *yoga* group had decreased diastolic blood pressure and perceived stress, and increased upper body and trunk dynamic muscular strength and endurance, flexibility, and health perception. Improvements for the hatha *yoga* group were significant only for trunk dynamic muscular strength and endurance, and flexibility. The findings suggest that the fitness benefits of *yoga* practice differ by style.

**Significance**

This article is significant in order to understand the various types of yoga in order to determine the appropriate yoga poses for this program. According to this article, astanga yoga would be more beneficial for the populations this program would be serving than hatha yoga.
The reasons for this are that astanga yoga seemed to work the participant’s whole body whereas participants who engaged in hatha yoga only experienced improvements in trunk dynamic muscular strength. Participants who participated in astanga yoga showed significant gains in controlling their stress, upper body strength, trunk strength, and overall flexibility.

Because of the information gained from this article, it can be assumed that astanga yoga may pose better benefits for the stroke and burn populations. Although the study suggested that different forms of yoga may show different outcomes, astanga yoga seemed to be the preferred yoga style over hatha yoga.


**Summary & Significance**

This book is a wonderful resource of yoga definitions with thorough explanations of the meanings and theoretical reasoning behind the meanings. All the most useful yoga postures are described in detail with drawings. Also covered in this book are the lives and accomplishments of people who have been included with yoga from its earliest beginnings. Above all, this book states that, “this book shows how a philosophy that has evolved over many centuries is perhaps more useful to us today than ever before (Day, 1971).” I would highly recommend this book for anyone who wants to familiarize themselves with basic yoga language and would like to have an understanding of how yoga was started. Important take-away messages from this book include:

- Yoga is a worthwhile philosophy to pursue
- Yoga has many ramifications
- Yoga has many benefits if followed sincerely
- Yoga can be taught to anyone


**Abstract**

Yoga is widely practiced as a means to promote physical, psychological and spiritual wellbeing. While a number of studies have documented the efficacy of yoga for functioning in healthy individuals and those experiencing illness or pain, biopsychosocial effects have not been detailed. We propose an analogue between the physical, psychological and spiritual effects of practice as espoused in yoga traditions, and the biopsychosocial model of health. To this end, we present a review and conceptual model of the potential biopsychosocial benefits of yoga, which may provide clues regarding the possible mechanisms of action of yoga upon well-being. Physical systems activated through yoga practice include musculoskeletal, cardiopulmonary, autonomic nervous system and endocrine functioning. Psychological benefits include enhanced coping, self-efficacy and positive mood. Spiritual mechanisms that can be understood within a Western medical model include acceptance and mindful awareness. We present empirical evidence that supports the involvement of these domains. However, additional well-conducted research is required to further establish the efficacy of yoga for health states, and to understand how posture, breath and meditative activity affect the body, mind and spirit.

**Summary & Significance**

The intention of this article was to understand the relationship between yoga used for healthful purposes and the biopsychosocial model of healthcare which explains mind and body relationships in pain, stress, and illness (Evans et al, 2009). The overarching research question that was being investigated is whether yoga and the ultimate use of CAM therapies have a place within conventional healthcare settings. Aspects of yoga which should be examined are functional benefits which include biological, psychosocial, and spiritual benefits of well-being. After completing a thorough literature search on the use of yoga as treatment for various conditions, it was found that yoga and traditional western medical approaches are very similar.
The ultimate goal of yoga is to achieve mental, spiritual, and physical well-being by establishing balance within the internal and external environment (Taimni, 1961). This goal when applied to the promotion of health is similar to the goal of western medicine which is to establish homeostasis in a person’s body. It was also found that yoga shares many of the same physical and psychological benefits of exercise as well as additional benefits that normal exercises do not meet. Some added advantages of engaging in yoga include improved mood, psychological healing, a reduction in stress and anxiety, and a greater understanding of one’s own body. It has been found that yoga quiets the mind through vascular and muscular relaxation (Monro, 1995). From a more in-depth analysis of yoga through a medical stand point, it has been found that yoga poses are associated with activation of antagonistic neuromuscular systems as well as tendon-organ feedback resulting in increased range of motion and relaxation (Riley, 2004).

Yoga has also been found to greatly improve pulmonary and cardiovascular functioning. The review of literature found that yoga has cardiopulmonary benefits for healthy individuals and possibly for people with musculoskeletal and cardiopulmonary conditions (Raub, 2002). Research on yoga has also found positive correlations between practicing yoga and reduced stress responses which include blood pressure, heart rate, and respiration. Psychological effects of yoga include increased self-efficacy, better coping mechanisms, and an overall better mood. Furthermore, yoga also appears to impact the endocrine system by massaging internal organs through various asana poses.

Although no medication is being administered to participants of yoga practice, its effects on people are seemingly similar to various medications given by physicians. This article is very significant because it shows the many benefits of yoga and how those benefits are similar to what western medical approaches hope to reach. Although there are still many differences between
simply practicing yoga and taking a prescription drug, the outcomes are not so different. Yoga is so much more than just physical poses and truly touches on a person’s mind, body, and spirit. The benefits of yoga seem to be endless which is why a yoga program specific for burn and stroke survivors is greatly needed. This article is also significant because it is being written from a medical standpoint. Although yoga is becoming increasingly popular in the United States, some people remain skeptical about its true benefits. By having a research article illustrate the benefits of yoga through a medical model will hopefully begin to turn change the opinions of peoples skepticism. I would highly recommend this article to anyone who would like to have a greater understanding of the healing powers of yoga through a medical stand-point.


Abstract

There is no formal abstract for this book.

Summary & Significance

This book depicts the importance of yoga and its spiritual, physical, and emotional benefits. I read this book to learn more about the history of yoga and its theoretical and practical importance. This book gives detailed information about various yoga positions and practical application of each yoga position depicted. This book can be used as a reference when using yoga as a therapeutic agent when working with burn and stroke survivors. The books chapters include:

- Introducing yoga
- The principal branches of yoga
The Therapeutic Yoga Program

- The teacher, the disciple, and the path
- Happiness and the moral foundations of yoga
- Purification and postures for relaxation, meditation, and health
- Yogic diet
- The breath: Secret bridge to vitality and bliss
- Pathways of concentration and meditation
- Sacred sounds to power: Mantras
- The serpent poser: Kundalini-shakti
- Tantra-yoga: The transmutation of sexual energy
- Self-transcendence, ecstasy, and freedom
- Yoga in the modern world


Abstract

Purpose of Paper The American Occupational Therapy Association, Inc. (AOTA) asserts that complementary and alternative medicine (CAM) may be used by occupational therapists and occupational therapy assistants as part of a comprehensive approach to enhance engagement in occupation (Giese, Parker, Lech-Boura, Burkhardt, & Cook, 2003). Because the use of CAMs is expanding in various health care practices, the purpose of this paper is to define the appropriate use of complementary and alternative medicine within the scope of occupational therapy practice.

Significance

This paper is very important because it shows how occupational therapy has adapted to using CAM interventions in therapeutic treatment and specifically, addresses the use of yoga as a common CAM approach in delivering occupational therapy services. This position paper states that, “CAMs may be used within the scope of occupational therapy practice when they are used as preparatory methods or purposeful activities to facilitate the ability of clients to engage in their daily life occupations” (Giese, 2005). CAM approaches can also be used as a way of encouraging a client’s engagement in meaningful occupations. Because the Therapeutic Yoga Program looks to use yoga as a way of addressing burn and stroke survivor’s physical and
emotional needs in order to increase their occupational performance, this position paper acknowledges this approach as part of occupational therapy practice.

Krucoff., C, et.al. (2010). Teaching yoga to seniors: Essential considerations to enhance safety and reduce risk in a uniquely vulnerable age group. The Journal of Alternative and Complementary Medicine, 16(8), 899-905.

**Abstract**

Background: Seniors age 65 and older represent the fastest-growing sector of the population and, like many Americans, are increasingly drawn to yoga. This presents both an extraordinary opportunity and a serious challenge for yoga instructors who must be both a resource and guardians of safety for this uniquely vulnerable group. A typical class of seniors is likely to represent the most diverse mix of abilities of any age group. While some may be exceedingly healthy, most fit the profile of the average older adult in America, 80% of whom have at least one chronic health condition and 50% of whom have at least two. Objectives: This article discusses the Therapeutic Yoga for Seniors program, offered since 2007 at Duke Integrative Medicine to fill a critical need to help yoga instructors work safely and effectively with the increasing number of older adults coming to yoga classes, and explores three areas that pose the greatest risk of compromise to older adult students: sedentary lifestyle, cardiovascular disease, and osteoporosis. To provide a skillful framework for teaching yoga to seniors, we have developed specific Principles of Practice that integrate the knowledge gained from Western medicine with yogic teachings.

**Significance**

An average older adult in America, aged 65 and over, typically has at least one chronic health condition (CDC, 2007) but like many Americans, older adults are becoming increasingly drawn to yoga. Older adults are different from the rest of the population because of the increasing health concerns some face which is a challenge for yoga instructors to ensure the safety of all participants. It is known that majority of stroke survivors are older adults and typically have co-morbid conditions such as diabetes, hypertension, and heart disease. Because
of this, it would be important to understand how teaching yoga to seniors, especially seniors with medical conditions, would be different and what some of the changes may need to be. This article goes through a number of common older adult conditions and the special consideration yoga teachers would need to make. Some of these considerations that a yoga teacher would need to make when using yoga as a therapeutic technique is knowing what the older adult is capable of completing from an anatomical view (many older adults are not as flexible as younger adults, so positions would need to be modified to ensure no harm is done to other tissues being involved). Making sure to know what co-morbid medical conditions the older adult has is also important (i.e. if the older adult has diabetes, making sure to have the person’s medication with them in case of a medical emergency).

Certain positions that can also help alleviate arthritis which is the number one chronic condition many older adults have is also very important. When trying to target muscles that could help facilitate normal movement patterns the yoga instructor would also need to make sure that weak or brittle joints that have been affected from arthritis are not being strained. Yoga is a physical exercise even though it encompasses so much more and because of this fact it is important to know how the older adult population using yoga will differ from those who are younger.

**Abstract**

**Purpose:** This article presents a systematic review of the literature pertaining to the use of yoga in stroke rehabilitation. In addition, we present the results of a small pilot study designed to explore the hypothesis that a Kundalini yoga practice of 12 weeks would lead to an improvement in aphasia as well as in fine motor coordination in stroke patients.

**Method:** The 3 participants attended yoga classes twice a week for 12 weeks, before and after which they were tested on the O'Connor Tweezer Dexterity test, a timed test where the participant places pins in a Peg-Board with tweezers, and the Boston Aphasia Exam for speech.

**Results:** All 3 participants showed improvement on both measures.

**Conclusion:** The small sample size makes it impossible to draw definite conclusions, but the positive trends in this study suggest that further research should be done to examine the effects of Kundalini yoga on specific illnesses or medical conditions.

**Significance**

This research study looked to examine the positive benefits yoga can have on persons living with the effects from a stroke. Although this research was only able to use a very small sample size, its conclusions did summarize positive results in regards to improvements in fine motor skills and aphasia. The study also looked at a systematic review of research articles that have studied the effects of yoga on stroke rehabilitation and discovered positive correlations in terms of physical and emotional gains. Although this pilot study only examined three participants, all three participants did demonstrate improvements in his or her fine motor skills when tested on the O'Connor Tweezer Dexterity test. The Boston Aphasia Exam was also used on all three participants, and all three participants’ demonstrated improvements in areas of speech.

Occupational therapists are unique because they look at a person in a very holistic way (as a whole) and this article shows that yoga could also help improve other areas of disability that a stroke survivor may have including speech deficits. Regaining fine motor skills is typically
the hardest for stroke survivors to master because of the delicate and small structures that have been impacted and because neuro-reeducation in these structures often times takes greater practice. Without the use of fine motor skills, completing many activities of daily living become a greater challenge (i.e. buttoning shirts, tying shoes, applying make-up, and using utensils). For many chronic post-stroke survivors, regaining his or her fine motor skills may be the most frustrating ordeal to overcome. This research article demonstrates how yoga may be used to help overcome this challenge and may be a positive reflection of how the proposed yoga program could help stroke participants regain this skill and help achieve a greater independence in his or her activities of daily living.


Abstract

Yoga is a complete system of occupational regulation, based on complex theories that address occupational risk factors while relating occupation directly to health and wellbeing. Although aspects of yoga have been used in Western occupational therapy settings, some of its underlying theories may have been overlooked. If validated by research, these theories may enrich occupational therapy philosophy. Yogic techniques of potential clinical use include pulse diagnosis, meditation and breath control. These are not described in detail in this opinion piece, but should be the subject of thorough literature reviews and, perhaps, further research.

Significance

This article is significant because it begins to bring to light how occupational therapy and yoga are related. Although yoga and occupational therapy are separate entities, what they have in common is what they hope to accomplish. Occupational therapy looks to restore a person’s physical functioning in order to be as independent as possible when engaging in occupations of
daily living. What sets occupational therapy apart from other similar disciplines such as physical therapy is occupational therapists holistic approach. Both yoga and occupational therapy uses this holistic approach which encompasses a person’s mind, body, and spirit.

According to this article, occupational therapists do not focus just on the primary condition but try and develop a sense of how the physical condition impacts the way a person thinks and feels. Yoga looks at a person in the same way. It is thought that by becoming more connected with one’s own body, physical and emotional healing can begin. Furthermore, occupational therapists are very good at conducting occupational analyses which includes breaking down a task to make it manageable for the person. For example, if a person wants to put on a shirt but does not have the ROM in the shoulder to complete the task, the occupational therapist must first work on restoring motion and strength in the shoulders but must also make sure other structures in the body are functioning as well. Likewise, yoga does not simply look at one muscle but places emphasis on all structures of the body working together as one unit. Both yoga and occupational therapy work on maximizing a person’s functional level by touching on all aspects that make up the person and not isolating just one part.

This article shows evidence to support the idea that an occupational therapist would be the ideal person to run a yoga program. Many times the other aspects of yoga are overlooked and it initially appears that yoga is just about stretching and strengthening. Because both yoga and occupational therapy are very holistic in nature, it would be very fitting for one to run a yoga program.


**Abstract**

Clinical depression is a common illness, with prevalence of current depressive symptoms in the general population of nearly 10% and lifetime diagnosis almost 16%. Yoga offers an attractive option for complementary therapy of depression. The purpose of this study was to examine research regarding the benefits of yoga for depression, to learn to what extent yoga is beneficial as a complementary therapy for this condition. The method used in this study was a systematic qualitative review of interventions obtained from MEDLINE, CINAHL, and ERIC databases. A total of 18 studies met the criteria. Some of the designs utilized by the interventions were pretest posttest, quasi-experimental and randomized controlled trials. It was found that majority of the interventions (17) were able to significantly reduce depressive symptoms in the patients under study. However, several methodological limitations were identified in the conduct of the intervention trials, which future interventions must consider.

**Significance**

This article is significant because it talks about how yoga can be used collaboratively with other interventions as a treatment approach for clinical depression. Depression is a serious psychological disorder that can affect the way a person lives his or her life. When a person becomes physically injured from a burn or stroke, the likelihood of becoming depressed increases. Because of this reason, it is important to understand if yoga could help alleviate some of these depressive symptoms. After the researchers conducted a thorough review of literature it was found that people who engaged in yoga had reduced depressive symptoms. Some limitations which should be considered are the severity of the depression, age of the participant, and whether or not the person is receiving psychotherapy or is taking medications. It was found that yoga helped alleviate depressive symptoms more commonly in the younger adult population versus the older adult population, and people who engaged in yoga, coupled with psychotherapy,
showed greater improvements in terms of alleviation from depressive symptoms than did those who just did yoga.


**Abstract**

Yoga therapy in its present form is a new discipline, created by the marriage of traditional yoga with modern medicine. It is a specialization of yoga, which tailors yoga practices to the individual needs of people with health problems. It employs simple postural, breathing, relaxation and meditation practices, taking into account medical diagnoses and holistic factors. It emphasizes mind-body integration, extended awareness and the cultivation of a sense of harmony with the rest of life. It is applicable to many chronic conditions and can be used in conjunction with other complementary therapies. Prior experience of yoga is not required.

**Significance**

This article is very significant because it discusses how yoga therapy can meet the needs of people who have various health problems. There has been a significant amount of research on the benefits of yoga on healthy participants, but the effects of yoga on people who have various conditions are not as commonly focused on. This article also discusses how various yoga techniques can meet the needs of people with different health conditions. Some of the various techniques can include using different breathing techniques, various asanas, and meditation. These techniques look to improve a person’s body awareness, self-reflection, and concentration. These learned tools can help aid a person to become self-reliant and overall improve a person’s self-esteem and self-worth. In many instances, people who have a health condition tend to only focus on the negative aspects of the disease and overlook other capabilities they still inherently have. Yoga helps people with various conditions realize their capabilities and equip them with the confidence to grow and become as independent as possible.
Many of these techniques will be employed in the yoga program to help burn and stroke survivors become self-sufficient by improving their physical, emotional, and spiritual dimensions. It is important to understand how and why yoga is a good therapeutic intervention for people with various conditions in order to promote the use of yoga.


Abstract

Context • There are potential benefits of mind-body techniques on cognitive function because the techniques involve an active attentional or mindfulness component, but this has not been fully explored. Objective • To determine the effect of yoga on cognitive function, fatigue, mood, and quality of life in seniors. Design • Randomized, controlled trial comparing yoga, exercise, and wait-list control groups. Participants • One hundred thirty-five generally healthy men and women aged 65-85 years. Intervention • Participants were randomized to 6 months of Hatha yoga class, walking exercise class, or wait-list control. Subjects assigned to classes also were asked to practice at home. Main Outcome Measures • Outcome assessments performed at baseline and after the 6-month period included a battery of cognitive measures focused on attention and alertness, the primary outcome measures being performance on the Stroop Test and a quantitative electroencephalogram (EEG) measure of alertness; SF-36 health-related quality of life; Profile of Mood States; Multi-Dimensional Fatigue Inventory; and physical measures related to the interventions. Results • One hundred thirty-five subjects were recruited and randomized. Seventeen subjects did not finish the 6-month intervention. There were no effects from either of the active interventions on any of the cognitive and alertness outcome measures. The yoga intervention produced improvements in physical measures (e.g., timed 1-legged standing, forward flexibility) as well as a number of quality-of-life measures related to sense of well-being and energy and fatigue compared to controls. Conclusions • There were no relative improvements of cognitive function among healthy seniors in the yoga or exercise group compared to the wait-list control group. Those in the yoga group showed significant improvement in quality-of-life and physical measures compared to exercise and wait-list control groups.
Significance

Even though this research study the effects of yoga on community dwelling older adults, it was significant because in facilitating my understanding of the certain benefits of participating in a yoga program. Many of the stroke survivors who may be potential participants of the yoga program will likely be older adults. Although this study did not find any statistical evidence to support the theory that yoga may improve an older adults cognition, it did show that older adults overall quality of life dramatically improved when compared to a control group of older adults who simply participated in an aerobics class. Participants who participated in the yoga program also demonstrated improvements in their physical capabilities compared with the participants who were in the aerobics exercise program. Another significant point made in this article is how to use Iyengar yoga instead of traditional Hatha yoga for a more “vulnerable” older adult participant. Iyengar is thought to be a gentler form of yoga and may be more beneficial for people who have certain conditions which can limit their physical capabilities. Iyengar yoga poses can be easily modified and uses equipment (e.g. chairs and tables) to help facilitate yoga poses. This is good to know since the yoga program will have participants who have varying medical conditions and may need extra assistance in order to achieve the desired yoga postures.

**Abstract**

Objectives: Exercise is considered an acceptable method for improving and maintaining physical and emotional health. A growing body of evidence supports the belief that yoga benefits physical and mental health via down regulation of the hypothalamic–pituitary–adrenal (HPA) axis and the sympathetic nervous system (SNS). The purpose of this article is to provide a scholarly review of the literature regarding research studies comparing the effects of yoga and exercise on a variety of health outcomes and health conditions. Methods: Using PubMed and the key word “yoga,” a comprehensive search of the research literature from core scientific and nursing journals yielded 81 studies that met inclusion criteria. These studies subsequently were classified as uncontrolled (n=30), wait list controlled (n=16), or comparison (n=35). The most common comparison intervention (n=10) involved exercise. These studies were included in this review. Results: In the studies reviewed, yoga interventions appeared to be equal or superior to exercise in nearly every outcome measured except those involving physical fitness. Conclusions: The studies comparing the effects of yoga and exercise seem to indicate that, in both healthy and diseased populations, yoga may be as effective as or better than exercise at improving a variety of health-related outcome measures. Future clinical trials are needed to examine the distinctions between exercise and yoga, particularly how the two modalities may differ in their effects on the SNS=HPA axis. Additional studies using rigorous methodologies are needed to examine the health benefits of the various types of yoga.

**Significance**

This research study which was a systematic review of research articles that have been published that looked at the effects yoga had on normal and diseased populations was an excellent resource because it concluded that yoga has definite and very positive benefits for those who actively engage in its practice, even for those who have varying conditions. Since the populations in my program are considered “diseased” because of their burn or stroke injury, this systematic review only helps secure the belief that yoga can provide both physical and emotional benefits, both of which these two populations severely need and are many times overlooked. This article which was a systematic review of many other articles goes through the benefits yoga has on different types of conditions such as arthritis, stroke, depression, and cancer. From
research that I have found before, it is clear that the population that this yoga program would include will likely have other co-morbid conditions other than their main burn or stroke injury which is why this article is significant and applicable to the development of this yoga program.


**Abstract**

**Objective:** To determine whether fear of falling (FoF) and balance improved after a 12-week yoga intervention among older adults.

**Design:** A 12-week yoga intervention single-armed pilot study.

**Setting:** A retirement community in a medium-sized university town in the Midwest.

**Participants:** A convenience sample of adults (N=14) over the age of 65 years who all endorsed an FoF.

**Intervention:** Each participant took part in a biweekly 12-week yoga intervention. The yoga sessions included both physical postures and breathing exercises. Postures were completed in sitting and standing positions.

**Main Outcome Measures:** We measured FoF with the Illinois FoF Measure and balance with the Berg Balance Scale. Upper- and lower-body flexibility were measured with the back scratch test and chair sit and reach test, respectively.

**Results:** FoF decreased by 6%, static balance increased by 4% (P=.045), and lower-body flexibility increased by 34%.

**Conclusions:** The results indicate that yoga may be a promising intervention to manage FoF and improve balance, thereby reducing fall risk for older adults. Rehabilitation therapists may wish to explore yoga as a modality for balance and falls programming; however, future research is needed to confirm the use of yoga in such programming.
Significance

For a majority of stroke survivors, the fear of falling is a real and present fear which can make living life very difficult. A large percentage of stroke survivors fall during the first six months of returning home from the hospital. For younger stroke survivors, a fall may only cause minor injuries, but for an older adult stroke survivor, a fall can cause major injuries and even threaten the adult’s independence. Through the use of yoga, older adults will be strengthening their whole body, improving endurance, and taught breathing and self-imagery techniques which allows a person to become more inner-connected with him or herself. Chances of falling increases for older adults because older adults are typically less active, have a loss in bone density, and have an overall weaker musculoskeletal frame. Natural declines in health coupled with a condition puts an older adult at an increased risk of falling, but by actively engaging in yoga, these fears and risks can be lessened.

This article is significant because it looks at how a yoga based program can actually improve an older adult’s fear of falling. Although the sample population was community dwelling older adults who have a fear of falling and did not specifically mention stroke as a reason for this fear, it is still important to understand the how yoga can combat this fear. If older adults who have had a stroke are afraid of falling in their homes or in their community, than that will greatly impact the way they are able to carry-out their activities of daily living. The occupational therapist in charge of running the Therapeutic Yoga Program could assess for fear of falling in all of the stroke participants who want to be part of the program.

**Abstract**

Objectives: Yoga and exercise have beneficial effects on mood and anxiety. γ-Aminobutyric acid (GABA)-ergic activity is reduced in mood and anxiety disorders. The practice of yoga postures is associated with increased brain GABA levels. This study addresses the question of whether changes in mood, anxiety, and GABA levels are specific to yoga or related to physical activity.

Methods: Healthy subjects with no significant medical/psychiatric disorders were randomized to yoga or a metabolically matched walking intervention for 60 minutes 3 times a week for 12 weeks. Mood and anxiety scales were taken at weeks 0, 4, 8, 12, and before each magnetic resonance spectroscopy scan. Scan 1 was at baseline. Scan 2, obtained after the 12-week intervention, was followed by a 60-minute yoga or walking intervention, which was immediately followed by Scan 3. Results: The yoga subjects (n = 19) reported greater improvement in mood and greater decreases in anxiety than the walking group (n = 15). There were positive correlations between improved mood and decreased anxiety and thalamic GABA levels. The yoga group had positive correlations between changes in mood scales and changes in GABA levels. Conclusions: The 12-week yoga intervention was associated with greater improvements in mood and anxiety than a metabolically matched walking exercise. This is the first study to demonstrate that increased thalamic GABA levels are associated with improved mood and decreased anxiety. It is also the first time that a behavioral intervention (i.e., yoga postures) has been associated with a positive correlation between acute increases in thalamic GABA levels and improvements in mood and anxiety scales. Given that pharmacologic agents that increase the activity of the GABA system are prescribed to improve mood and decrease anxiety, the reported correlations are in the expected direction. The possible role of GABA in mediating the beneficial effects of yoga on mood and anxiety warrants further study.

**Significance**

This article was significant because it showed positive correlations between yoga and improved mood. This article also gave a descriptive overview of the various enzymes that are associated with improved mood. Although this research study used healthy participants, it still demonstrates the effectiveness of yoga on psychological well-being. For a large majority of burn and stroke survivors, mood disorders are common. Because it has been found that yoga does
actually stimulate specific enzymes which can affect mood, yoga would be an ideal therapeutic intervention to use on populations which are commonly affected by mood disorders.


Abstract

BACKGROUND: The purpose of this article is to review the evidence for the efficacy of hatha yoga for depression and possible mechanisms by which yoga may have an impact on depression, and to outline directions for future research. METHODS: Literature review and synthesis. RESULTS AND CONCLUSIONS: A literature search for clinical trials examining yoga for depression uncovered eight trials: 5 including individuals with clinical depression, and 3 for individuals with elevated depression symptoms. Although results from these trials are encouraging, they should be viewed as very preliminary because the trials, as a group, suffered from substantial methodological limitations. We would argue, however, that there are several reasons to consider constructing careful research on yoga for depression. First, current strategies for treating depression are not sufficient for many individuals, and patients have several concerns about existing treatments. Yoga may be an attractive alternative to or a good way to augment current depression treatment strategies. Second, aspects of yoga-including mindfulness promotion and exercise-are thought to be "active ingredients" of other successful treatments for depression. Third, there are plausible biological, psychological, and behavioral mechanisms by which yoga may have an impact on depression. We provide suggestions for the next steps in the study of yoga as a treatment for depression.

Significance

This article is significant because it demonstrates how and why yoga may be a good intervention for people suffering from depression. Because depression is a common psychological disorder in many people who have had a stroke or burn injury, it is important to understand how yoga can help combat depressive symptoms. If a person is suffering from depressive symptoms, than he or she will be less likely to have the desire to engage in
meaningful and purposeful occupations which will ultimately impact a person’s course of
recovery. Although no formal assessments will be done to determine if engagement in the
therapeutic yoga program has altered the effects of depression in participants, it is still important
to examine all of the effects yoga could possibly have on participants. When evaluating a person,
it is always important to take into consideration all of the reasons why a person may be
experiencing difficulties in regaining functional independence. In some instances, a person may
have the physical capabilities for improvements but lack the drive and motivation to get better.
Depression is often times associated with making a person not feel motivated or eager to recover.
Yoga can help with this by showing a person that he or she has the capabilities to get better by
instilling self-worth through deep meditation and breathing techniques. Meditation and breathing
techniques help a person to become connected to them self on a deeper level by allowing the
person to become connected on a deeper level. Engagement in physical poses helps a person to
understand his or her body by creating alignment.

neurology. *Journal of Neurology, 70*(24), 2321-2328.

**Abstract**

Objective: Half of the adults in the United States use complementary and alternative medicine
with mind-body therapy being the most commonly used form. Neurology patients often turn to
their physicians for insight into the effectiveness of the therapies and resources to integrate them
into their care. The objective of this article is to give a clinical overview of mind-body
interventions and their applications in neurology.

Methods: Medline and PsychInfo were searched on mind-body therapies and neurologic disease
search terms for clinical trials and reviews and published evidence was graded.

Results: Meditation, relaxation, and breathing techniques, yoga, tai chi, and qigong, hypnosis,
and biofeedback are described. Mind-body therapy application to general pain, back and neck
pain, carpal tunnel syndrome, headaches, fibromyalgia, multiple sclerosis, epilepsy, muscular
dysfunction, stroke, aging, Parkinson disease, stroke, and attention deficit-hyperactivity disorder
are reviewed.
Conclusions: There are several conditions where the evidence for mind-body therapies is quite strong such as migraine headache. Mind-body therapies for other neurology applications have limited evidence due mostly to small clinical trials and inadequate control groups.

**Significance**

Although this article is not overly significant, it does begin to draw on the mounting evidence of how yoga can be a good intervention for varying conditions, more importantly for people who have had a stroke. There is very little evidence on the effectiveness of yoga for the treatment of stroke impairments, but the research which has been done does show positive correlations. In this article particularly, after the researchers completed a thorough literature search, did find that yoga can be beneficial for the treatment of stroke impairments by encouraging “body imagery” and teaching the body to work as a “whole”. This article does state that further investigations and research need to be conducted before drawing any concrete conclusions.


**Abstract**

Yoga teachers and students often report that yoga has an uplifting effect on their moods, but scientific research on yoga and depression is limited. OBJECTIVE: To examine the effects of a short-term Iyengar yoga course on mood in mildly depressed young adults. DESIGN: Young adults pre-screened for mild levels of depression were randomly assigned to a yoga course or wait-list control group. SETTING: College campus recreation center. PARTICIPANTS: Twenty-eight volunteers ages 18 to 29. At intake, all participants were experiencing mild levels of depression, but had received no current psychiatric diagnoses or treatments. None had significant yoga experience. INTERVENTION: Subjects in the yoga group attended two 1-hour Iyengar yoga classes each week for 5 consecutive weeks. The classes emphasized yoga postures thought to alleviate depression, particularly back bends, standing poses, and inversions. MAIN OUTCOME MEASURES: Beck Depression Inventory, State-Trait Anxiety Inventory, Profile of Mood States, morning cortisol levels. RESULTS: Subjects who participated in the yoga course
demonstrated significant decreases in self-reported symptoms of depression and trait anxiety. These effects emerged by the middle of the yoga course and were maintained by the end. Changes also were observed in acute mood, with subjects reporting decreased levels of negative mood and fatigue following yoga classes. Finally, there was a trend for higher morning cortisol levels in the yoga group by the end of the yoga course, compared to controls. These findings provide suggestive evidence of the utility of yoga asanas in improving mood and support the need for future studies with larger samples and more complex study designs to more fully evaluate the effects of yoga on mood disturbances.

Significance

In this article, researchers actually designed a yoga program to investigate the correlation between yoga and improved depressive symptoms. Unlike other research which have examined the effects of yoga on depressive symptoms by conducting meta-analysis, this research is significant because it actually designed a yoga program to investigate the correlations. The researchers found that participants who were diagnosed with mild depression had significant improvements in their depressive feelings after participating in a yoga program. These findings are significant for the future study of yoga and depression and begin to suggest evidence that yoga may help with alleviating depressive feelings. The researchers suggested using asanas which promote body awareness and suggest incorporating breath control during meditation periods.
The following section represents literature that pertains to the application of the COPM in various clinical setting with different populations (specifically stroke) in order to recognize the instruments reliability and validity measures.


Abstract

The application of a client-centred approach and the Canadian Occupational Performance Measure (COPM) were investigated in a neurorehabilitation unit in Taiwan. Four Taiwanese occupational therapists were trained in the use of client-centred practice and the COPM before using them with 12 clients attending neurorehabilitation. The COPM and the Reintegration to Normal Living Index (RNL) were administered before treatment and after one month of neurorehabilitation to investigate the sensitivity of the COPM in measuring change. Pre and post interviews were also conducted with the participating occupational therapists to ascertain their perceptions of the clinical utility of the COPM, and to determine their views about the client-centred approach. Matched t-tests showed significant increases in clients' self-ratings of performance and satisfaction on the COPM and in RNL scores between pre and post tests. The qualitative findings highlighted issues regarding the administration, scoring and identification of problems in the COPM and client-centred practice, such as clients' willingness to manage their own health care and empowerment to participate in intervention, as well as therapists' knowledge of and confidence with this new approach. Although this study was limited by small sample size and the use of only one hospital neurorehabilitation unit, it has shown the utility of the COPM as an outcome measure in this setting. Further research is warranted to investigate cultural influences on client-centred practice.

Significance

The COPM will be used in conjunction with other assessments to facilitate each participants identification of occupations which the participant is unable to complete independently or occupations which the participant is able to partially complete independently. After identification of certain occupations is determined, the occupational therapist and participant would set goals which should be attained by the end of the yoga program.
Before using assessments, it is important to determine the reliability and validity of the assessment, especially on the intended population. For this reason, this research article was important to read in order to gain a better understanding of how sensitive the COPM is when being administered to the neuro population (stroke). This study found that the COPM had high ratings of satisfaction among the neuro population and was sensitive enough to accurately determine the participants perceived levels of satisfaction with occupations depicted. The occupational therapists that used the COPM also rated high satisfaction scores and found they were able to better plan treatment sessions.

While at MetroHealth Hospital, I was given the opportunity to administer the COPM to four stroke patients. I found the COPM to be a very straightforward instrument to use with the stroke population, especially for some of the stroke patients who have some underlying cognitive issues coupled with their physical limitations. All four of the participants were able to identify occupations which they found difficult to complete and were all able to rate their satisfaction and score the occupations identified with their perceived level of importance. It was found that the COPM was able to accurately identify activities of daily living which the patient found difficult or incapable of performing.

Abstract

**Objective**: To research test–retest reliability and discriminate validity of the Canadian Occupational Performance Measure (COPM), a client-centered outcome measure, in stroke patients.

**Design**: The COPM was administered twice with a mean interval of eight days (SD 2.5, range 5–16). On both occasions the patient identified a maximum of five problems in daily activities. The problems of both interviews were compared. The problems identified during the first COPM were rated by the patient on a performance and satisfaction rating scale on both occasions. The individually identified items with use of the client-centered COPM were compared with the standardized measures (Barthel Index, Frenchay Activities Index, Stroke Adapted Sickness Impact Profile-30, Euroqol5D and Rankin Scale).

**Setting**: Patients were interviewed at their place of residence.

**Subjects**: Twenty-six stroke patients participated, 11 men and 15 women, aged from 26 to 83 years (mean 68, SD 15). Twenty-four patients were six months; two patients were two months post stroke.

**Results**: Of the 115 problems identified during the first COPM, 64 (56%) were also identified the second time. Correlation coefficients for the scores were 0.89 ($p < 0.001$) for performance and 0.88 ($p < 0.001$) for satisfaction. Of the individual problems identified with the COPM, 25% or less were present in the standardized measures. Correlations between the scores on the COPM and the standardized measures were low and non-significant, while all standardized measures correlated significantly with each other.

**Conclusions**: Test–retest reliability of the COPM was moderate for the item pool but was good for the performance and satisfaction scores. Discriminate validity was confirmed. Many patient-unique problems identified with the COPM were not evaluated by standardized measures.

**Significance**

Although this test did not provide any significant results, it did begin to examine the reliability and validity of the COPM when used on the stroke population. It is important to understand if the COPM is a sound instrument to use with people who have had a stroke in order to determine if it would be a good assessment to use for the program. In this research, the researchers used the COPM several times on the same stroke patients to test the assessments validity in recognizing the participants identified problems in various areas of activities of daily
living. Over half of the stroke patients identified the same problem as before and 88 percent were able to correctly rate their level of satisfaction for that identified ADL correctly the second time it was administered.


**Abstract**

Objective: To study the convergent and divergent validity of the Canadian Occupational Performance Measure (COPM).

Design: Cross-sectional study.

Setting: The occupational therapy departments of two university hospitals in Amsterdam.

Subjects: One hundred and five consecutive outpatients.

Outcome measures: The COPM is a measure of a client’s self-perception of occupational performance in the areas of self-care, productivity and leisure. Outcome measures of the COPM are: the client’s most important problems in occupational performance and a total score for performance and a total score for satisfaction for these problems. Problems reported in the COPM were compared with the Sickness Impact Profile (SIP68), the Disability and Impact Profile (DIP) and an open-ended question.

Results: Complete data were obtained for 99 clients. The identification of occupational performance problems with the COPM surpassed the items reported in the SIP68, the DIP and the open-ended question, which confirms the surplus value of the COPM. Divergent validity was further demonstrated by the low correlation coefficients between the total SIP68 scores and the COPM. Seventy-four per cent of the occupational performance problems reported in the COPM had a corresponding item in the DIP and 49% had a corresponding item in the SIP68.

Convergent validity was supported by the fact that 63% of the corresponding problems in the DIP were reported to be a disruption of quality of life and 74% of the corresponding problems in the SIP68 were identified as a disability.

Conclusion: The results of this study provide supportive evidence for the convergent and divergent validity of the COPM. The data support the assumption that the COPM provides information that cannot be obtained with current standardized instruments to measure health.
Significance

This research showed that the COPM was a reliable and valid instrument when identifying occupational performance problems in the areas of self-care, productivity, and leisure. The COPM was administered to 105 patients at various outpatient clinics throughout Amsterdam. The 105 patients had various medical diagnoses and were given the COPM assessment one time each. It was found that patients were able to identify occupational performance problems better with the COPM than other commonly used occupational therapy assessments like the SIP 68 and items in the DIP. Overall, it was found that the COPM was able to identify occupational performance issues that could not be identified by other commonly used instruments.


Abstract

The Canadian Association of Occupational Therapists, in collaboration with Health and Welfare Canada have developed and published a conceptual model for occupational therapy, the Occupational Performance model. This paper describes the development of an outcome measure, The Canadian Occupational Performance Measure (COPM), which is designed to be used with these guidelines for client-centred clinical practice. The COPM is an outcome measure designed for use by occupational therapists to assess client outcomes in the areas of self-care, productivity and leisure. Using a semi-structured interview, the COPM is a five step process which measures individual, client-identified problem areas in daily function. Two scores, for performance and satisfaction with performance are obtained. This paper describes the rationale and development of the COPM as well as information about its use for therapists.
Significance

This article is significant because it talks about the development of the Canadian occupational performance model for occupational therapists to follow when treating patients with various conditions. This is the original citation and study with the Canadian occupational performance model which also discusses the guidelines and design of the Canadian occupational performance measure which should be used in combination with the model. The authors discuss how occupational therapists should use a client-centered approach with patients when using this model to facilitate the development of goals and appropriate treatment approaches. They suggest that a client-centered approach will help establish better rapport between patient and clinician and allow the patient to feel a greater sense of autonomy in regards to their course of treatment. Because of this, it is suggested that patients will make greater gains in terms of physical improvements, as well as have an improved sense of self-worth.

In the proposed program, the Canadian occupational performance model will be used as a theoretical basis for running the program and the use of the COPM will be the main assessment used to help facilitate participants with identifying areas of occupation which can be improved in their lives. In order to gain a better understanding of the model it was important to reference back to the original research article.

**Abstract**

The Canadian Occupational Performance Measure (COPM) is a measure of a client's self-perception of occupational performance in the areas of self-care, productivity and leisure. The COPM is administered using a semi-structured interview in which the client identifies significant issues in daily activities which are causing difficulty. Extensive pilot testing of the COPM has been completed with 268 clients in communities across Canada and in New Zealand, Greece and Britain. Results indicate the COPM has a median administration time of 30 minutes, is able to identify a wide range of occupational performance issues and appears to be responsive to changes in perception of occupational performance over time. A number of clinical and measurement issues centering around the interview, test construction, scoring, timing of the assessment, respondents, and the assessment process are discussed.

**Significance**

This article is significant because it is the first research article that discusses the implications with the use of the COPM and the reliability and validity of the instrument. This article gives information about how to properly administer the exam, how to score the contents of the exam, how to properly phrase questions, and how to accurately time the assessment. These are all important aspects of the COPM to learn about in order to correctly administer the COPM to potential participants of the program in order to make sure it is valid and accurate. The COPM is a standardized assessment tool, so it is important to follow the outlined procedures correctly.

**Abstract**

The purpose of this study was to determine whether 155 ethnically diverse clients with traumatic brain injury (TBI) and stroke (cerebrovascular accident; CVA) who received occupational therapy services perceived that they reached self-identified goals related to tasks of daily life as measured by the Canadian Occupational Performance Measure (COPM). This study found that a statistically and clinically significant change in self-perceived performance and satisfaction with tasks of daily life occurred at the end of a client-centered occupational therapy program (p < .001). There were no significant differences in performance and satisfaction between the TBI and CVA groups. However, the group with right CVA reported a higher level of satisfaction with performance in daily activities than the group with left CVA (p = .03). The COPM process can effectively assist clients with neurological impairments in identifying meaningful occupational performance goals. The occupational therapist also can use the COPM to design occupation-based and client-centered intervention programs and measure occupational therapy outcomes.

**Significance**

This article illustrates the effectiveness of the COPM in determining outcomes for stroke survivors. Because I will be using the COPM to assess potential participants of the program before the start of the program and as a follow-up measure, it is important to know how valid and reliable the measure is. Stroke survivors are one of the populations which will be used as part of the Therapeutic Yoga Program, so learning more about this population is vital in knowing how to deliver effective services and how sensitive the COPM is at detecting changes. It was found in this article that the COPM was found to be an effective way to detect changes in the TBI patients and helped the occupational therapists implement occupation based intervention plans.

As part of the yoga program, the occupational therapist in charge would ideally use the COPM as a tool to determine what areas of occupation the stroke and burn survivors still feel can
be improved and their perceived level of importance for these identified occupations. By using yoga as a method for encouraging physical and emotional well-being, it is hoped that the level of ability and satisfaction will increase by the end of the 16 week program. It is important to read articles from past research to gain an understanding of how the COPM works and its level of reliability and validity which is why this was a good article to read.
The following section represents literature that pertains to the application of the Brief Pain Inventory (BPI) with various populations in order to understand the BPI’s reliability and validity.


Abstract

Object: Outcomes in clinical trials on trigeminal pain therapies require instruments with demonstrated reliability and validity. The authors evaluated the Brief Pain Inventory (BPI) in its existing form plus an additional 7 facial-specific items in patients referred to a single neurosurgeon for a diagnosis of facial pain. The complete 18-item instrument is referred to as the BPI-Facial.

Methods: This study was a cross-sectional analysis of patients who completed the BPI-Facial. The diagnosis of classic versus atypical trigeminal neuralgia (TN) was made before analyzing the questionnaire results. A hypothesis-driven factor analysis was used to determine the principal components of the questionnaire. Item reliability and questionnaire validity were tested for these specific constructs.

Results: Data from 156 patients were analyzed, including 114 patients (73%) with classic and 42 (27%) with atypical TN. Using orthomax rotation factor analysis, 3 factors with an eigenvalue > 1.0 were identified — pain intensity, interference with general activities, and facial-specific pain interference — accounting for 97.6% of the observed item variance. Retention of the 3 factors was confirmed via a Cattell scree plot. Internal reliability was demonstrated by calculating Cronbach's alpha: 0.86 for pain intensity, 0.89 for interference with general activities, 0.95 for facial-specific pain interference, and 0.94 for the entire instrument. Initial validity of the BPI-Facial instrument was supported by the detection of statistically significant differences between patients with classic versus atypical pain. Patients with atypical TN rated their facial pain as more intense (atypical 6.24 vs classic 5.03, p = 0.013) and as having greater interference in general activities (atypical 6.94 vs classic 5.43, p = 0.0033). Both groups expressed high levels of facial-specific pain interference (atypical 6.34 vs classic 5.95, p = 0.527).

Conclusions: The BPI-Facial is a rigorous measure of facial pain in patients with TN and appears to have sound psychometric properties and is responsive to differences between classic and atypical TN. Future studies must assess the instrument's test-retest reliability, validity in additional populations, and responsiveness with respect to changes in patient outcomes following neurosurgical interventions and medical therapies.
Significance

Pain has been found to be an extremely limiting factor in completing activities of daily living for people who have had either a stroke or burn injury. People who have had a stroke or burn injury typically develop chronic pain that is associated with their injuries and may become disengaged from their normal activities of daily living. Because of this, it is important to assess for pain during my program. The way pain will be assessed is by using the brief pain inventory. Before using the BPI it is important to understand its validity and reliability. Although this article did not specifically look at the population that this program would be targeting, it does demonstrate that the BPI is a reliable and valid tool to use when detecting pain. The BPI will be used three times during the 16 week yoga program, once at the beginning, once at the half-way mark, and once at the end.


Abstract

OBJECTIVE: To assess the effectiveness of subacromial corticosteroid injections for poststroke shoulder pain. DESIGN: Exploratory, prospective case series. SETTING: Ambulatory setting, university-affiliated hospital. PARTICIPANTS: Stroke survivors (N=10) with pain in the hemiparetic shoulder. INTERVENTION: Consecutive stroke survivors with evidence of supraspinatus impingement, supraspinatus tendonitis, or subacromial bursitis received subacromial corticosteroid injections. MAIN OUTCOME MEASURES: The primary outcome measure was the Brief Pain Inventory (BPI) question 12 (BPI 12), which assesses "worst pain" in the previous 7 days. Secondary measures included BPI question 15, which assesses present pain and BPI question 23 (BPI 23), which assesses pain interference with 7 daily activities. Outcomes were assessed at baseline, weekly for the first 4 weeks and then at 8 and 12 weeks postinjection. RESULTS: Repeated measure analysis of variance revealed significant within group time effect for BPI 12 (F=7.7, P<.001). Based on absolute means, the largest therapeutic
benefit was seen by the second week postinjection with partial loss of effect thereafter. There were significant within group time effects for the general activity (F=3.2, P=.009), sleep (F=3.9, P=.003), and enjoyment of life (F=2.3, P=.044) domains of BPI 23. CONCLUSIONS: Subacromial corticosteroid injection is associated with significant reduction in poststroke shoulder pain in patients with evidence of supraspinatus impingement, supraspinatus tendonitis, or subacromial bursitis. However, there is a gradual loss of effect with time. Controlled trials are needed to show a cause and effect relationship.

Significance

Although this article examined the use of corticosteroid injections in treatment of post-stroke shoulder pain, it was still significant because the researchers used the Brief Pain Inventory tool to assess participants perceived level of pain as a pre- and post-test measure. Although this was not one of the researcher’s main outcomes from the study, the researchers did mention that the BPI was a valid and reliable assessment in accurately depicting post-stroke shoulder pain in the participants who were used in the study. This article also discussed which questions from the BPI were found to be most beneficial when determining stroke patients shoulder pain. Knowing this information is important when developing ideas of how to use the BPI as an assessment tool in the proposed program.
The following section represents literature on the rehabilitation of stroke survivors; specifically targeting the emotional and physical complications of stroke and rehabilitative methods commonly used by occupational therapists.


**Abstract**

Clinical and experimental results are reviewed concerning muscle weakness in patients with hemiparesis after a stroke. The discussion includes the important role that alterations in the physiology of motor units, notably changes in firing rates and muscle fiber atrophy, play in the manifestation of muscle weakness. This role is compared with the lesser role that spasticity (defined as hyperactive stretch reflexes) of the antagonist muscle group appears to play in determining the weakness of agonist muscles. The contribution of other factors that result in mechanical restraint of the agonist by the antagonist (e.g., passive mechanical properties and inappropriate co-contraction) is discussed relative to muscle weakness in patients with hemiparesis.

**Significance**

This article was significant because it helped me gain an understanding of the psychological changes that occur when a stroke survivor experiences muscle weakness. Hemiparesis to the upper and lower extremities is one of the most common physical problems associated with having a stroke. When working with the stroke population, it is not only important to understand what rehabilitative technique to incorporate into treatment, but to also have a basic understanding of what has psychologically changed inside the person to have caused the deficits. Some of the changes that occur when a person experiences muscle weakness are changes at the muscular level which impairs a person’s ability to properly move the arm or leg can be summarized by three things; motoneuron changes, nerve changes, and muscle changes.
- Motoneuron Changes: Loss of motor units, changes in recruitment order of motor units, and changes in firing rates of motor units.
- Nerve Changes: Changes in peripheral nerve conduction.
- Muscle Changes: Changes in morphological and contractile properties of motor units and changes in mechanical properties of muscles.

When talking about motor control, a motor unit represents the smallest functional unit and a motor unit is comprised the alpha-motoneuron, its axon, and the muscle fibers it innervates. What allows for muscle force or tension is when the active number of active motor units is increased or the firing rates of active motor units are increased, or both (Burke, 1981). It is important to have a basic understanding of the physiology behind what causes muscle weakness in order to have a better understanding of how to combat the issue. This article did a great job of outlining the process of muscle contractures followed with what physiologically is occurring to the muscles after a stroke.


**Abstract**

Case study methodology was used to explore the effect of emotional changes following a stroke on engagement in occupation. Two people who had had a stroke, and their partners, were interviewed. The participants' medical case notes from acute, rehabilitation and outpatient treatment were also reviewed. As a result of the stroke, one participant experienced depression and the other lability. The case studies illustrate the impact that emotional changes can have on the performance of occupations. They also illustrate the reverse that perceived competence in the performance of occupations can affect emotions, either negatively or positively. The results point to a need for occupational therapists to take an occupational perspective, if wellbeing is to be maximized, as they consider and address the effects of emotional changes with people who have had a stroke.
Significance

This study was very important and significant to gain more knowledge into how the emotional dimension in people can affect the way they perform in their everyday lives. Many times stroke survivors report emotional changes which can impede their recovery phase. Anxiety and depression directly impacts the way a person feels which ultimately impacts a person’s occupational functioning. This article interviewed two stroke survivors and their significant others in order to gain an understanding of some of the difficulties the stroke survivors experience in their everyday lives as a consequence of their emotional changes. Both participants reported feeling inadequate and incapable of performing a majority of occupations which use to bring them meaning and happiness. One of the participants reported feeling unmotivated and inadequate at gardening anymore even though she still has the physical capabilities to do so.


Abstract

Evidence-based practice creates practice that integrates research-driven evidence with clinical expertise and patients' preferences in clinical decision-making. Aim: The aim of this study was to investigate and evaluate the quality and applicability of scientific research in occupational therapy intervention related to the use of everyday life occupations and client-centered practice within stroke rehabilitation. Design: Systematic searches of research studies published in English during 2000--2007 in peer-reviewed journals were undertaken. Thirty-nine articles and one Cochrane review were appraised and the quality evaluated using an evidence taxonomy and an evidence hierarchy. Results: Evidence arose providing support for a client-centered approach, entailing outcome related to better ability to recall goals, the patients feeling more involved and able to manage more everyday life occupations after rehabilitation. There is also considerable evidence for the use of everyday life occupations in occupational therapy. Occupational therapy was evaluated as an important aspect of stroke rehabilitation improving outcomes in everyday life occupations including activities of daily living (ADL) and participation. Discussion: As
research of relevance for the profession to a large extent includes qualitative research it gives rise to reflection on including more tools than the evidence hierarchy while evaluating evidence within occupational therapy.

**Significance**

This article is significant because it presents evidence to support the use of occupations and a client-centered approach to therapy when treating the stroke population. This article was important when developing my literature review for my program development plan because it provided evidence to support the profession of occupational therapy in stroke rehabilitation and talked about how the profession is very valuable in terms of a stroke patient’s recovery.

What was most significant about this article was how the authors talked about the benefits of using a client-centered model to facilitate goal development, rapport, and treatment planning. In the proposed program, one of the models of practice which will be used is the Canadian occupational performance model to facilitate client-centered practice. This article discussed how client-centered care in the delivery of occupational therapy services is the ideal method to be used.

**Abstract**

**Objective** To determine whether occupational therapy focused specifically on personal activities of daily living improves recovery for patients after stroke.

**Design** Systematic review and meta-analysis.

**Data sources** The Cochrane stroke group trials register, the Cochrane central register of controlled trials, Medline, Embase, CINAHL, PsycLIT, AMED, Wilson Social Sciences Abstracts, Science Citation Index, Social Science Citation, Arts and Humanities Citation Index, Dissertations Abstracts register, Occupational Therapy Research Index, scanning reference lists, personal communication with authors, and hand searching.

**Review methods** Trials were included if they evaluated the effect of occupational therapy focused on practice of personal activities of daily living or where performance in such activities was the target of the occupational therapy intervention in a stroke population. Original data were sought from trial lists. Two reviewers independently reviewed each trial for methodological quality. Disagreements were resolved by consensus.

**Results** Nine randomized controlled trials including 1258 participants met the inclusion criteria. Occupational therapy delivered to patients after stroke and targeted towards personal activities of daily living increased performance scores (standardized mean difference 0.18, 95% confidence interval 0.04 to 0.32, P=0.01) and reduced the risk of poor outcome (death, deterioration or dependency in personal activities of daily living) (odds ratio 0.67, 95% confidence interval 0.51 to 0.87, P=0.003). For every 100 people who received occupational therapy focused on personal activities of daily living, 11 (95% confidence interval 7 to 30) would be spared a poor outcome.

**Conclusions** Occupational therapy focused on improving personal activities of daily living after stroke can improve performance and reduce the risk of deterioration in these abilities. Focused occupational therapy should be available to everyone who has had a stroke.

**Significance**

This article provided significant information when developing the literature review for the program development plan. This research used a meta-analysis procedure to investigate whether occupational therapy does an adequate job at focusing on stroke patient’s activities of daily living, and if there is statistical evidence to support the theory that this type of intervention will assist the stroke patients recovery. After the authors completed a thorough meta-analysis of past research articles which have investigated this topic, it was found that occupational therapy
can improve occupational performance and reduce the risk for regression for a stroke survivor. Some of the most common activities of daily living that stroke survivors have difficulty with performing include dressing, grooming, and feeding. These ADL’s are vital to master in order for the stroke survivor to remain independent. This article also did a nice job of outlining the rehabilitative phases of stroke recovery through an occupational therapy perspective.


**Abstract**

Poststroke shoulder *pain*: its relationship to motor impairment, activity limitation, and quality of life. OBJECTIVE: To assess the relationship between poststroke shoulder *pain*, upper-limb motor impairment, activity limitation, and *pain*-related quality of life (QOL). DESIGN: Cross-sectional, secondary analysis of baseline data from a multisite clinical trial. SETTING: Outpatient rehabilitation clinics of 7 academic medical centers. PARTICIPANTS: Volunteer sample of 61 chronic *stroke* survivors with poststroke shoulder *pain* and glenohumeral subluxation. INTERVENTIONS: Not applicable. MAIN OUTCOME MEASURES: We measured poststroke shoulder *pain* with the Brief Pain Inventory question 12 (BPI 12), a self-reported 11-point numeric rating scale (NRS) that assesses "worst *pain*" in the last 7 days. Motor impairment was measured with the Fuegl-Meyer Assessment (FMA). Activity limitation was measured with the Arm Motor Ability Test (AMAT) and the FIM instrument. *Pain*-related QOL was measured with BPI question 23, a self-reported 11-point NRS that assesses *pain* interference with general activity, mood, walking ability, normal work, interpersonal relationships, sleep, and enjoyment of life. RESULTS: Stepwise regression analyses indicated that poststroke shoulder *pain* is associated with the BPI 23, but not with the FMA, FIM, or AMAT scores. CONCLUSIONS: Poststroke shoulder *pain* is associated with reduced QOL, but not with motor impairment or activity limitation.
Significance

This article presented conflicting results, but was still significant for the development of the program by providing evidence to support the use of the brief pain inventory as an accurate tool to determine a stroke survivor’s pain level. It is very common for stroke survivors to experience pain in joints that have been compromised due to the stroke injury. One of the most common places is in the hemiparetic shoulder due to subluxation, disuse, and structural weakening. Pain has been found to limit the amount of occupational engagement and can result in poor performance and slowed recovery. This article used the brief pain inventory to assess post-stroke shoulder pain and to determine if post-stroke shoulder pain is a limiting factor in activity limitation. It was found from the subjects used that pain does not limit a person’s activity level however, patients with post-stroke shoulder pain did report having a decreased quality of life.

People who had post-stroke shoulder pain reported that the pain interfered with their sleep, leisure activities, and work. People reported that pain was always on their mind and that they have trouble with engagements in meaningful and purposeful occupations. In the proposed program, pain will be assessed for in every participant and this will be done by using the BPI. Yoga has been found to assist with pain management by stimulating and strengthening disused muscles, through meditation, and by using deep breathing techniques.
Abstract

This study was aimed at understanding the current physical and occupational therapy practices in stroke rehabilitation in the Midwest. The insights gained from this pilot study will be used in a future study aimed at understanding stroke rehabilitation practices across the nation. Researchers and clinicians in the field of stroke rehabilitation were interviewed, and past studies in the literature were analyzed. Through these activities, we developed a 37-item questionnaire that was sent to occupational and physical therapists practicing in Kansas and Missouri who focus on the care of people who have had a stroke ($n = 320$). A total of 107 respondents returned a completed questionnaire, which gives a response rate of about 36%. The majority of respondents had more than 12 years of experience treating patients with stroke. Consensus of 70% or more was found for 80% of the items. The preferred approaches for the rehabilitation of people who have had a stroke are the Bobath and Brunnstrom’s methods, which are being used by 93% and 85% of the physical and occupational therapists, respectively. Even though some variability existed in certain parts of the survey, in general clinicians agreed on different treatment approaches in issues dealing with muscle tone, weakness, and limited range of motion in stroke rehabilitation. Some newer treatment approaches that have been proven to be effective are practiced only by a minority of clinicians. The uncertainty among clinicians in some sections of the survey reveals that more evidence on clinical approaches is needed to ensure efficacious treatments.

Significance

This article was a good resource for the development of my literature review on stroke rehabilitation. This article was also significant because it provided evidence that supports the use of proprioception through weight-bearing when treating people who have had a stroke as evidence by using the Bobath model of practice. Although the Bobath model will not directly be used in the proposed program, yoga itself shares many of the same theoretical foundations as the Bobath model because it suggests that weight-bearing and body alignment can improve a person’s physical functioning. It was found that the Bobath and Brunnstrom’s models of practice were the most commonly used methods for the treatment of stroke in both occupational and
physical therapists in two Midwest states. It was also found that therapists would like new approaches for stroke rehabilitation, which supports evidence for new programs, like the yoga program, to be started.


**Abstract**

**Objectives:** We sought to determine whether mental practice is an effective intervention to improve upper-limb recovery after stroke.  
**Method:** We conducted a systematic review of the literature, searching electronic databases for the years 1985 to February 2009. We selected studies according to specified criteria, rated each study for level of evidence, and summarized study elements.  
**Results:** Studies differed with respect to design, patient characteristics, intervention protocols, and outcome measures. All studies used imagery of tasks involving movement of the impaired limb. The length of the interventions and number of practice hours varied. Results suggest that mental practice combined with physical practice improves upper-limb recovery.  
**Conclusion:** When added to physical practice, mental practice is an effective intervention. However, generalizations are difficult to make. Further research is warranted to determine who will benefit from training, the dosing needed, the most effective protocols, whether improvements are retained, and whether mental practice affects perceived occupational performance.

**Significance**

This research article was important evidence to the theory and application of mental practice when combined with physical practice for patients who have hemiplegia secondary to experiencing a stroke. Because the use of yoga is not only challenges the persons physical dimension but also their emotional and spiritual dimensions, people using yoga as a therapeutic tool should not only experience the movements of yoga positions but should also concentrate on
becoming mentally engaged with the movements, which is what yoga encourages as part of its practice. The reason that I chose yoga over other common CAM’s is because yoga incorporates so much of the emotional dimension and spiritual dimension that creates a person as much as it does the physical dimension. This article is important because it begins to show how mental and visual imagery helps with the recovery of a limb after having a stroke. This imagery is thought to help because it helps facilitate the neuro-redevelopment after a stroke has occurred, making that connection from arm to brain stronger.

While observing burn and stroke treatments at MetroHealth, I see many of the therapists encourage mental practice in their patients. During dressing changes and debridement, the therapists often times ask the patients to visually imagine themselves in a calm and relaxing environment in order to ease the pain. During stroke treatments, the therapists often times ask the patients to visually imagine themselves completing the motion (e.g. imagine your arm bending to pick up the comb). Visual imagery is used consistently in therapeutic treatments so it is important to understand if there is any evidence to supports its use. During yoga sessions, mirrors could be placed in the room so that the participants can actually visualize themselves completing the movements.

Abstract

Stroke is the third-leading cause of death in the world, affecting 3 million women and 2.5 million men annually. The success of rehabilitation efforts for stroke patients is often measured in terms of physical functioning. However, the literature suggests that the effects of stroke and subsequent adaptation include psychological and social dimensions as well. The purpose of this study was to investigate how patients in the United States perceived their stroke experiences by examining their coping strategies and hopes for recovery. In addition, factors that inspired hope during recovery were identified. Sixty participants with a diagnosis of embolic or ischemic stroke were interviewed during their initial hospitalization. Tape-recorded interviews were coded and categories of data identified. Findings suggested that stroke patients experience a range of physical symptoms and emotions surrounding their stroke experience, and that stroke often interfered with daily functioning. Coping strategies included maintaining a positive attitude and assertive independence, as much as possible, during the acute stroke experience. Many patients expressed general hopes for recovery while some admitted fear of getting worse. Hopefulness was often inspired by interaction with family and spiritual beliefs and practices. The findings will hopefully enhance nurses' understanding of patients' perceptions of the stroke experience and increase their ability to provide interventions that will aid in promoting effective coping strategies.

Significance

This article was very significant and beneficial when developing the program, and specifically, when writing-up the literature review on strokes. This article gave information on stroke statistics and discussed the important role that occupational therapist play in the stroke recovery process. This article had greater significance because it not only discussed the physical changes stroke survivors go through, but also the common emotional and psychological changes. This study began to investigate some of the coping strategies of stroke survivors that help aid their recovery. This information was also important to understand in hopes that this information could be passed along to stroke survivors in the yoga program.
The findings from this study grouped the participant’s responses into the following categories:

- **Emotions**
  
  - Researchers asked participants to discuss difficulties they have experienced since the stroke. Responses included:
    
    - Fear/anxiety
    - A sense of “doom”
    - Disbelief
    - Anger
    - Shock
    - Dependency
    - Stigma
    - Confinement
    - Depression

  - Patients also discussed having a fear of falling, having another stroke, losing more function, and not wanting to be dependent on others.

- **Physical symptoms**

  - These were characterized by altered sensations or body functions the person described since having the stroke. According to what the participants said, it was found that participants identified symptoms ranging from slight sensory changes to significant motor and sensory loss.
The degree to which patients were bothered by their symptoms varied greatly from each participant and did not relate to the severity of the symptoms experienced which were measured by ADL scores.

Major impairments experienced included:

- Changes in mentation (slurred or slowed speech, difficulty telling time, and difficulty concentrating)
- Sensation (included numbness of limbs, tingling, paresthesias, visual problems, and pain).
- Motor function (included decreased coordination, decreased balance, facial droop, trouble swallowing, spasms, unilateral weakness, and difficulty walking).
- Altered activity/rest (included fatigue, shortness of breath, and changes in sleep patterns).

Physical and psychological functioning

- These were defined as any changes the patients noted in activities of daily living that were related to personal care, activities of daily living, and changes noted in relationships with others.
- The three major themes from these topics included ADL’s, home and outside activities, and changes in family relationships.
- The most common ADL problems included transferring in/out of the bathtub, difficulty picking up utensils, adjusting to dietary changes, and taking longer to dress themselves.
The most common difficulties participating in home and outside activities included an inability to work, drive, go to church, pursue hobbies, and carry-out household chores.

The most common difficulties with continuing personal relationships included trouble interacting with grandchildren, communicating with spouse, and loss of family roles.

Six themes were identified for coping mechanisms. These included:

- Being independent
- Awareness of recovery
- Having a positive attitude
- Reminiscing
- Avoidance
- Implementing health behaviors
  - These included following a diet, exercises, medication regimens, slowing down, changing drinking/smoking behaviors, and incorporating strategies learned from health care providers in rehabilitation.

**Summary & Significance**

This article was of special interest because it talked about spasticity which is a common condition and disorder that occurs after having a stroke. This article was significant when writing-up my literature review on stroke because it provided detailed information about the physiology of spasticity, spasticity’s impact on occupational performance, assessments and measures which can properly diagnose spasticity, and interventions that are commonly used in occupational therapy practice. This article is also significant because it is the most up to date article on spasticity treatment and discusses the current methods used by occupational therapists. Spasticity and treatment approaches are very important to understand not only because it is one of the most common conditions that occur because of a stroke, but because it effects a person’s ability to perform activities of daily living which can greatly interfere with a person’s quality of life. Yoga can assist with spasticity by using various yoga poses that will allow for prolonged stretch which can improve motor control.

According to this article, spasticity can be defined as. “a motor disorder characterized by a velocity-dependent increase in tonic stretch reflexes with exaggerated tendon jerks resulting from hyperexcitability of the stretch reflex, as one component of the upper motor neuron syndrome.” Post (2010) reports that spasticity is one of the most common complications of a stroke and its effects can impair one’s ability to perform basic activities of daily living. According to this article, the most common assessment measures used by occupational therapists which show the greatest amount of reliability and validity include:
- Goniometrics (range of motion)
- Ashworth Scale/Modified Ashworth Scale (MAS) which assesses for tone (Bohannon & Smith, 1987)
- Penn Spasm Frequency Scale which looks at spasms (Penn et al., 1989)
- Tardieu Scale (passive ROM at different velocities) (Tardieu, Shentoub, & Delarue, 1954)
- Fuegl-Meyer Scale which looks at strength and motor control (Fuegl-Meyer et al., 1975)

Common interventions used in occupational therapy include:

- Stretching
- Strengthening
- Increasing motor control
- Optimizing positioning
- Improving occupational performance
- Manual stretching
  - Stretching is a process of elongation in which tension is applied to soft tissue structures (Post, 2010).
  - Prolonged stretching can have a direct effect on muscle spindles and reduce reflex hyper-excitability.
- Mechanical stretching
  - Occupational therapists often times use fabricated splints and serial casts to aid in positioning.
Positioning is important because it decreases the chances for joint deformity, combats the formation of contractures, prevents soft tissue shortening, preserves ROM, and decrease pain.

- Physical Agents
  - Temperature
    - Cooling the muscles can inhibit monosynaptic stretch reflexes and lowers receptor sensitivity (Post, 2010).
    - Heat can be used for increasing elasticity which assists with stretching activities.
    - Both agents’ effects are short-lived.
  - Electrical Stimulation
    - This method improves strength and activation of antagonist muscles and can also be used to fatigue the hyperactive muscles.

- Upper Extremity Technologies that are commonly used include:
  - Bioness H200- This is a neuroprosthetic device which uses mild electrical stimulation to improve hand function and movement.
  - Saeboflex- This is a custom, dynamic, resting-hand orthotic which is a spring loaded extension system for fingers. This device allows for repetitive task training and helps the person gain control of the agonist muscles which allows the person to activate and relax the finger flexors (Post, 2010).
  - Myomo- This is a lightweight brace that is powered by a robot component which is activated by muscle activation that allows the person to gain control of the
biceps through activating elbow flexion and relaxing the bicep to allow the brace to assist with extension (Post, 2010).


**Abstract**

Objectives: To gain a better understanding of the influence of the health condition on emotions and control cognitions by using the International Classification of Functioning, Disability and Health (ICF) framework. The relations between health condition, impairment, activity limitations, and emotions or control cognitions were investigated in people with 1 of 2 different disabling conditions, chronic idiopathic axonal polyneuropathy (CIAP) or stroke. Method: Two existing databases were used: cross-sectional data from 56 participants with CIAP; longitudinal data of 100 participants with stroke. Participants were assessed on measures of the health condition, impairment, activity limitations, emotions, and control cognitions. Results: In participants with CIAP, impairment explained variance in concurrent control cognitions (9%-25%), activity limitation in concurrent depression (8%), and control cognitions (26%-36%). In stepwise regression activity, limitation was more powerful in explaining variance in emotions and control cognitions than impairment. In people with stroke, only activity limitations explained variance in emotions (4%-9%) and control cognitions (4%-7%). Conclusions: These results suggest that targeting activity limitations in rehabilitation efforts is likely to relate to control cognitions, which in themselves have been shown to benefit recovery of physical consequences in chronic illness.

**Significance**

This article is significant because it demonstrates a correlation between cognition and physical performance/activity performance in stroke survivors. One of the objectives of the yoga program is to enhance the participant’s emotional well-being, therefore enhancing their chances to make greater physical gains. This article discusses the importance of maintaining or improving
a stroke survivor’s emotional and psychological health in order to recover from the physical consequences of a stroke. Literature has consistently shown that people who feel a sense of self-worth and have a healthy attitude tend to make better gains in terms of physical improvements. This article discusses that the hard part for many stroke survivors is getting them to realize their potential because often many stroke survivors are left not feeling self-sufficient and have overall general feelings of a loss in terms of self-worth because of their decline in physical capabilities.

The researchers strongly urge health care providers to try targeting the emotional needs of stroke survivors before targeting their physical needs. Although it is also suggested that gains in physical capabilities can improve a stroke survivors emotions, stroke survivors will always need the right outlook on life in order to continue to make improvements and gains in order to regain independence. Yoga could be the appropriate therapeutic tool to aid stroke survivors in regaining the self-confidence they need to keep pursuing what they deem as their optimal level of functioning.


**Significance & Summary**

This website is a great resource to obtain information on a variety of different things concerning stroke. The American Stroke Association is a resource for the public and is an affiliation of the American Heart Association. This websites headers include:

- **Warning signs**
  - Warning signs of having a stroke include:
- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body.
- Sudden confusion, trouble speaking, or understanding.
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking dizziness, loss of balance or coordination.
- Sudden severe headache with no known cause.

- About stroke
  - Ischemic stroke: a clot obstructing blood flow to the brain
  - Hemorrhagic stroke: blood vessel rupturing preventing blood flow to the brain.
  - Transient ischemic attack (TIA): Often called a “mini stroke” and is caused when there is a temporary clot. The effects are often times not as serious as the first two mentioned and can serve as a warning sign that a larger stroke may occur.

- Risk factors
  - Age- the chances for stroke nearly doubles for each decade of life after age 55
  - Heredity- stroke risk is greater if a parent, grandparent, sister or brother has had a stroke
  - Sex (gender)-stroke is more common in men than women however, more than half of stroke deaths happen in women.
  - Prior stroke, TIA, or heart attack- the risk of having a stroke is heightened if the person has already had a stroke and TIA’s are strong indicators of having a full blown stroke.

- Stroke risks which can be controlled include:
- High blood pressure
  - Smoking
  - Diabetes mellitus
  - Artery diseases
  - Peripheral artery disease
  - Atrial fibrillation
  - Heart disease
  - Sickle cell disease
  - High cholesterol
  - Poor diet
  - Physical inactivity and obesity

- Life after stroke
  - This website provides people who have had a stroke and caregivers/family members of stroke victims the resources for support groups and other information.

- Stroke connection magazine
  - People can join a membership from the website that will provide them with a monthly subscription for a magazine about stroke.
  - The website also contains blogs which is a place people can share their stories about living life after a stroke.

- How to give to the association
  - This is a place where people can donate to help researchers discover new methods for the treatment of stroke.
This website was very educational and provided me with the right resources to learn and understand stroke and specifically, was a good resource that I used when writing-up my literature review.


Abstract

BACKGROUND: Stroke survivors report a range of psychological difficulties. AIM: To facilitate psychological adjustment and to support understanding of the emotions associated with recovery. METHOD: A group intervention was developed for patients on a stroke rehabilitation ward. RESULTS AND DISCUSSION: The group was piloted, and feedback indicated the sharing of experiences was the aspect perceived as the most helpful. CONCLUSION: Patients' emotional needs should be identified in a timely manner on a stroke ward. Attention should be given to psychological intervention to protect against factors that may impede rehabilitation.

Significance

This article represents significant information regarding the range of emotional and psychological difficulties that are commonly experienced by stroke survivors. The purpose of this research article was to determine appropriate intervention methods to help combat the emotional issues stroke survivors may experience. By combating these emotional changes in the beginning, it is believed that stroke survivors will have a better course of recovery and make greater physical gains. According to the article, some of the common psychological problems that many stroke survivors have include:

- Anger
- Frustration
- Increased anxiety levels
- Depression
• Withdrawal from society

• Guilt

From data obtained after conducting a group intervention at a rehabilitation unit, researchers found that early intervention to help combat these issues could significantly improve stroke survivor’s chances at recovery from the physical conditions experienced. One of these early intervention strategies that were suggested included using support groups to allow stroke survivors to open-up about their feelings and hear other stroke survivor’s similar stories.

Encouraging and allowing stroke survivors to have a greater amount of autonomy while in the rehabilitation unit was another strategy. Many times stroke survivors feel as though their ability to make their own decisions is taken away, and these emotional feelings can be heightened when stroke survivors are staying in highly regimented inpatient hospitals. At inpatient hospitals patient’s schedules are set for them, the times when they can bathe are dependent on the staff, and meals are always given at the same time. Giving patients the chance to make some of their own decisions has been found to improve mood and self-esteem.

Another strategy is holding educational seminars with the stroke survivor and family members. Stroke survivors from this study reported feeling ill-equipped to handle the stress family can bring. Some of this stress comes from changes in roles and feelings of being completely dependent on others for support and for everyday activities of daily living. This can be especially difficult for a parent who may need help from a child to complete such tasks as showering and toileting. Health care providers should take time to educate family members on ways they can aid the stroke survivor in becoming as independent as possible. By doing this, it can hopefully lessen anxious feelings that the stroke survivor may have.

**Abstract**

The purpose of this study was to explore and gain an understanding of how habits are experienced when performing daily occupations after a stroke. In-depth interviews were conducted with 7 participants and a constant comparative method was used for data analysis. Four men and three women with stroke between the ages of 42 and 82 years participated in the study. The interviews were conducted 1.5 to 7 months after the participants had been discharged from hospital to their home. The findings show that the participants experienced frustration when performing daily occupations because changes in their performance meant that former habits could not automatically be reestablished; daily occupations had to be re-organized and planned with greater deliberation than had been required prior to the stroke. In reestablishing their daily occupations, the participants experienced an ongoing conflict about whether or not to develop new habits. Although adaptation and change would be beneficial in the short-term, both also represented giving up possible improvements, and participants seemed to consider that their eventual recovery and independence would be compromised if they allowed themselves to alter their habits. This dilemma led to a sensation of waiting: waiting to get better, waiting for another solution and waiting for the treatment to make an impact. As a result, few new habits were established in daily occupations. The findings suggest that occupational therapists need to be aware of the dilemma clients may perceive regarding decisions about whether or not to adapt and develop new habits during poststroke recovery.

**Significance**

The significance of the article was that it discussed how stroke survivors have a difficult time returning home and getting back into their normal routines after leaving the hospital setting. This is significant because it demonstrates a need for a program to assist stroke survivors with the difficult transition of adjusting to a new way of life. It was found that many of the stroke survivors became frustrated because they were not longer able to complete tasks which use to be simple to them. Even for stroke survivors who were able to get the task accomplished, it may take them longer or they may have had to do it in a way which they did not feel was comfortable
or normal for them. One of the hardest transitions for stroke survivors to make is realizing that their ways of life have changed forever and they must accept a new identity in order to make it in the world.

According to the article, a common theme which emerged after interviewing stroke survivors was a theme labeled “waiting.” Nearly all of the participants were waiting because they faced a dilemma about whether or not to accept their new identity or wait for more improvements. Subthemes form this main theme of waiting were as follows:

- The first subtheme was “the need to plan and organize”
  - This represented how participants needed to plan and organize what were pre-stroke unconscious habits and behaviors.

- The second subtheme was “lack of reestablishment of former habits”
  - This emerged from the participant’s perceptions that new habits now occupied most of the day and former habits had not been reestablished.

- The third subtheme was “new habits: a symbol of dependence”
  - This represented an ongoing conflict about development of or failure to develop new habits because of fear of change and of becoming dependent.

All of the data obtained from this research demonstrates the need for a program to target the real needs that stroke survivors may have. Even if a stroke survivor is able to care for him or herself, it is still important for the stroke survivor to accept a new identity and a new way of life. Yoga could help with this difficult transition and allow a stroke survivor to become re-connected with their new selves in order to re-establish their desired quality of life.

**Abstract**

Stroke is one of the most life-altering syndromes affecting the world population. Rehabilitation for people experiencing stroke is focused almost exclusively on self-care activities and being able to return home and has little to no focus on work rehabilitation or community reintegration. The Cognitive Rehabilitation Research Group (CRRG) at the Washington University School of Medicine in St. Louis was formed with the vision of improving everyday life for people after stroke by translating knowledge from neuroscience into treatment programs for productive living. Descriptive analysis of the intake assessment from the CRRG Clinical Core (*N* = 7,740) revealed three important findings: The age at stroke is decreasing, most strokes are neurologically mild to moderate in nature, and discharge placement decisions are being made largely on the basis of measures of impairment. The changes in the stroke population require occupational therapy to expand rehabilitation beyond the acute management of stroke to address full participation in work, family, and community life.

**Significance**

This article is significant because it discusses the implications for occupational therapy interventions when addressing stroke rehabilitation. Moreover, this article is significant because it talks about how occupational therapists need to develop better interventions to accurately help people return to work and to integrate back into the community. According to the authors, current occupational therapy only assesses a stroke survivors levels of improvement by assessing their abilities to complete certain activities of daily living which commonly fall into the categories of dressing, grooming, bathing, toileting, and eating. However, a stroke survivors ability to complete these tasks does not necessarily capture true life satisfaction. According to Wolf, Baum, and Connor (2009), “society expects occupational therapy to help people live meaningful lives-lives that go beyond the scope of self-care activities to include activities that allow people to manage themselves and other.”
According to the results of the research, critical changes need to be made in rehabilitation practice because of the changes taking place in the stroke population. It was found that more young people are having strokes which accounts for this need for change in rehabilitative services. Overall, it was found that the focus of rehabilitation needs to expand beyond the acute management of stroke and address full participation in work, family, and community life. I feel these findings are significant and encourage the development of a yoga program that can meet the needs that stroke survivors have. Because more young people are having strokes, yoga would be an appropriate therapeutic approach because it has been found that the majority of yoga participants are young adults. Yoga is also a more commonly accepted practice in the younger populations so they may be more inclined to participate in a yoga program if one was tailored to meet their unique needs.
The following literature was found as a helpful resource for developing a community-based program and to help develop my needs assessment criteria.


Summary & Significance

This book is a “how to guide” for developing an occupation centered community program. This book was very easy to read and understand and outlined all of the steps that need to take place when trying to implement a community based program. What I found most helpful when developing my program was part II of the book which outlined in chapters all of the steps in developing a program. The chapters in this section are as follows:

- Chapter 6: Getting started
  - Locating a site to begin the program
  - Attracting volunteers
  - Attracting clients/members
  - Thinking about tentative goals which should be met in the program

- Chapter 7: Profiling the community, targeting the population, and assessing the need for service.
  - This section outlined nicely the needs assessment portion of developing a program.
  - Pg. 113 was very helpful for me when developing the semi-structured interview questions for my needs assessment one, which is determining if a need actually
exists and if the site would be an appropriate place to construct the program.

Some of the following core questions which were helpful included:

- What groups of individuals do you commonly serve at this site?
- What kinds of programming do you offer?
- Are there any unmet programming needs for the populations being served?
- What are some of the characteristics of the individuals that are being served here?

- This chapter was also very insightful when developing my surveys which would be used and when formulating the format for my focus groups.

- Chapter 8: Reaching the evidence, finding experts, and developing program goals
  - In this chapter, the section which I found helpful was on pg.133 which discussed how to properly write goals for occupation-centered community programs.
  - When creating objectives for the program, I learned that objectives for community programs must be the following (can be found on pg.137)
    - Must be performance, behavior, or action oriented
    - Must be expressed in clear language
    - Must state the level, condition, or standard of performance that is expected
    - Must be results-oriented
    - Must have stated outcomes that are directly observable
    - Must be oriented to time
    - Must be measurable

- Chapter 9: Staffing and Personnel
This chapter was helpful when thinking about the needs that the patients may
have and when figuring out what my direct and indirect services being offered
will be (pg.163).

- Chapter 10: Space, furnishings, equipment, and supplies
  - This chapter was very helpful when determining all of the things that my budget
    will need to cover and assisted me in developing my budget in terms of
    marketing, staffing, and equipment.

- Chapter 11: Costs and projected funding needs
  - This chapter was a continuation of the previous chapter and again assisted me
    with developing my budget for the program by teaching me about how to include
    benefits into the employee’s salary, in-kind support, and indirect costs.

- Chapter 12: Funding you program
  - This chapter was beneficial when trying to find grant funders for the program by
    supplying me with resources on places to search for grants through public and
    private funding sources, private payers, and foundations.

- Chapter 13: Marketing and promotion
  - This chapter was important when learning how to develop marketable promotion
    tools for my program.

- Chapter 14: Program evaluation
  - This last chapter that I used in the book really helped aid my understanding of
    how to properly evaluate my program in terms of methods of evaluation. Some of
    the main points I learned from this article are how to accurately measure
participant’s satisfaction in the program and how to use pre- and post-test measurements.

Overall, I strongly urge future program development planners to use this book as a reference guide because of the wealth of valuable knowledge this book provides. This was definitely a significant and worthwhile resource to be used when developing a community based program.


Summary & Significance

This book nicely outlines the theory and practice of using focus groups as a means to collect data. For me, this book was significant because it helped me develop the format for my focus groups which is a method I used for collecting the needs for my program development plan. This book was also a valuable resource when talking about why using focus groups is a good method for data collection. Some of the advantages to using focus groups include:

- Cost efficient
- Focus groups allow the researcher to interact directly with the participants
- The open responses format allows the opportunity to obtain large and rich amounts of data
- Focus groups allow respondents to react and to build upon the responses of other group members
- Focus groups are very flexible
The results from focus groups are very easy to understand

Likewise, this book also discussed the limitations of using focus groups. Some of these limitations include:

- The open-ended nature of responses
- Moderators bias results
- The interaction of respondents with one another and with the researcher
- Having a dominant or opinionated member of the group
- Difficulties with having a large number of people come to one location at one time

This book was also significant because it helped educate me on how to be a good focus group moderator and how to properly analyze the data received from the focus groups.

On pg. 73 it discussed the different types of focus group moderator styles. The style which I found most beneficial was the Supportive Leadership style which by definition means showing concern for the well-being and personal needs of subordinates; be friendly and approachable; be considerate; create a friendly climate; and treat members as equals. Overall, I feel this book was very significant to my understanding of focus groups and allowed me to be a more prepared focus group moderator when I conducted my needs assessment with burn and stroke survivors. I strongly suggest this book to others who decide to use focus groups as a method to collect data.