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Evidence-Based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy

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EVIDENCE-BASED PRACTICE GUIDELINES FOR COMPLEMENTARY AND ALTERNATIVE MEDICINE IN OCCUPATIONAL THERAPY

by

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This Scholarly Project Paper, submitted by Kristin Murch and Angela Olson in partial fulfillment of the requirements for the Degree of Master's of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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Title Evidence-based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy

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ABSTRACT

Complementary and alternative medicine (CAM) within the scope of occupational therapy has the potential to add to the holistic treatment of clients with a wide range of disability or dysfunction. It has been suggested that a variety of complementary and alternative methods may be appropriate to use as an adjunctive treatment by occupational therapists with proper training and consideration of various client needs (Giese, 2005). A comprehensive literature review was conducted regarding the use of CAM with populations commonly seen by occupational therapists. Myofascial release, guided imagery, meditation, and yoga were determined to be most prevalent in the literature concerning these populations. This product provides guidelines for occupational therapists who wish to use CAM as an adjunctive method for supporting occupational performance goals. Through this project’s research it was determined that the use of CAM is a growing trend in healthcare. This product aims to provide occupational therapists with a necessary resource to provide services to coincide with this trend.
CHAPTER 1
INTRODUCTION

Complementary and alternative medicine (CAM) is a broad term for a wide variety of techniques which lie outside the realm of traditional medicine. Based on an extensive literature review, guided imagery, myofascial release, meditation, and yoga were found to be the most prevalent CAM therapies currently used in populations commonly seen by occupational therapists. CAM therapies are becoming increasingly popular in conventional medicine though confusion about what CAM is and how it can be incorporated persists. Through this scholarly project, CAM and how it is understood by the profession of occupational therapy (OT) was examined. We will demonstrate that CAM can be used in occupational therapy as an adjunctive method to support occupational performance. Evidence-based practice guidelines on four prevalent CAM therapies were developed for use by occupational therapists.

The Canadian Model of Occupational Performance (Law, Polatajko, Baptiste, & Townsend, 2002) was chosen to guide the development of this scholarly project's evidence-based practice guidelines for occupational therapists because of its emphasis on client-centeredness. In the Canadian Model of Occupational Performance the relationship between the person, environment, and occupation are interconnected. In the relationship between the person, environment, and occupation which is always changing, this model emphasizes that spirituality is at the core of the person's identity. Spirituality is the main factor which gives meaning to participation and satisfaction in occupations (Law,
Polatjka, Baptiste, & Townsend, 2002). Occupational therapists need to understand the client’s perception of their abilities in order for the client to be an active participant in therapy. CAM therapies depend on a partnership between the client and therapist. Through this partnership, the occupational therapist is a guide to facilitate the client’s potential for self-healing.

Occupational therapy takes interest in providing the clients we serve with a “holistic” approach to care. In our quest to learn more about “holism,” we were interested in exploring methods of client care that have their roots outside the realm of traditional medicine. CAM techniques provide a different perspective in understanding wellness, illness and disability. Incorporating CAM into occupational therapy practice opens up a large array of treatment options available to our clients.

Key Terms

- **Complementary Medicine**- used in addition to conventional medicine; often referred to as integrative or blended medicine (NCCAM, 2007).
- **Alternative Medicine**- used as a substitute for traditional medicine (NCCAM, 2007).
- **Myofascial Release**- a body based form of CAM that involves manipulation of the fascia within the body (Manheim, 1994).
- **Guided Imagery**- sometimes referred to as visualization, is a mind-body form of CAM in which clients use their imagination to improve or sustain their health (Eller, 1999).
• **Meditation**- concentrating attention on breathing, a word or an object to eliminate distraction in the mind and to achieve greater physical and mental awareness (NCCAM, 2006).

• **Yoga**- Literally means “to yoke or unite;” a system of physical postures and breathing techniques to achieve greater awareness, relaxation and optimal body functioning (Austin & Laeng, 2003).

The relationship between occupational therapy and CAM and the process used the development of the guidelines are further described in the following chapters. Chapter II contains an extensive review of the literature pertaining to CAM and its use with populations commonly seen by occupational therapists. Methodology used when developing the evidenced based practice guidelines for CAM in occupational therapy is described in Chapter III. The product, *Evidenced-based Practice Guidelines for CAM in Occupational Therapy* can be found in Chapter IV. A summary including recommendations, limitations, and implications future research in this area is provided in Chapter V.
CHAPTER II
REVIEW OF LITERATURE

Complementary and alternative medicine (CAM) is a broad term for a variety of medical and health practices which have not been traditionally used in Western medicine. Although CAM therapies are used by a variety of healthcare practitioners, certain techniques are more relevant to occupational therapy. A literature review was performed regarding the use of CAM with populations commonly seen by occupational therapists. For the purposes of this review, myofascial release, guided imagery, meditation, and yoga will be further discussed. These types of CAM were found to be most prevalent in the literature concerning populations often served by occupational therapists.

CAM Trends and Occupational Therapy

Research shows that complementary and alternative medicine has become increasingly popular in the United States. Kessler, Davis, Foster, Van Rompay, Walters, Wilkey et al. (2001) conducted a study to determine the trends in the use of complementary and alternative techniques over the last 50 years. A nationally representative household sample was administered via phone survey regarding the respondents’ current use, lifetime use, and age at first use of 20 different CAM therapies. Two thousand and fifty-five respondents were placed into three groups based on their age at the time of the survey: pre-baby boomers, born before 1945; baby boomers, born between 1945-1964; and post-baby boomers, born between 1965-1979. Respondents
were given information about the survey without letting it be known that the emphasis was on the use of CAM techniques. The survey consisted of general health questions followed by questions about their lifetime and recent use of CAM techniques. Among these were chiropractic care, acupuncture, imagery, yoga, and relaxation. Of those who reported using any of these therapies, age of first use was asked of respondent as well as the circumstances in which they were used. Over two thirds of all respondents have reportedly used CAM therapy at some point in their life. Results showed that the younger subjects had used some type of CAM earlier on in life than their older cohorts (Kessler et al., 2001). Any notion that the use of CAM therapies is a passing fad should be debunked. Of all of the subjects who reported using CAM therapies, over half continued to use them years later. The authors stated that since the 1950's there has been a steady rise of the use of CAM therapies in the United States. Finally, 16 of the 20 types of CAM included in the survey were indicated to have increased in use at some point within the last 50 years (Kessler et al., 2001). The increased and persistent use of CAM across all age and sociodemographic groups demonstrate that there will be a continued demand to incorporate the use of CAM into all aspects of healthcare.

While CAM covers a broad base of therapies, certain CAM therapies have been more commonly utilized by occupational therapists. According to a 1998 survey by the American Occupational Therapy Association (AOTA), the following CAM techniques were being utilized by occupational therapists:

- guided imagery, manual therapies such as massage, myofascial release and craniosacral therapy; traditional Chinese movement or energy therapies;
- aromatherapy; therapeutic touch; Reiki; neurolinguistic programming; meditation;
yoga; music and dance therapy; and traditional medicines, such as Tibetan or native American medicine, and indigenous spiritualities. (Brachtesende, 2005, p. 10)

When used appropriately, by educated practitioners, CAM therapies are safe and a noninvasive way to prepare clients to participate in occupations. CAM therapies are similar to occupational therapy: both take into account the whole person, meaning the mind, body, and spirit (Brachtesende, 2005).

Many CAM techniques are already an integral part of occupational therapy. Giese (2005) outlined in a position paper written for *The American Journal of Occupational Therapy*, the appropriateness of CAM within the scope of occupational therapy. Consumer-demand, cost-effectiveness, and established clinical efficacy are leading more insurance companies and health maintenance organizations to pay for several CAM services, most of which are currently paid for privately (Giese, 2005).

The author emphasized that CAM therapies can be used as a part of occupational therapy services, but it is necessary to use them as preparatory methods or purposeful activities. The use of CAM therapies will consequently increase clients' occupational performance. It is also necessary to obtain proper training, certification, and competency to use CAM techniques in occupational therapy. Federal, state, and local regulations may require certain training or have a code of ethics that a therapist would need to abide by in order to use CAM in their practice. The occupational therapist would need to be aware of these regulations and observe the laws and regulations related to CAM. As with any treatment, clients should be made aware of the risks and benefits associated with CAM.
prior to using. An evidence-based and client-centered method of intervention should be honored even when using CAM (Giese, 2005).

Many CAM techniques are rooted in different cultural beliefs; clients may have a cultural background which would provide them with previous knowledge or an interest in using CAM as part of their treatment. An occupational therapist may determine, as part of the evaluation and intervention, that CAM techniques are consistent with a client’s cultural practices and would serve as an effective preparatory method or purposeful activity (Giese, 2005).

CAM therapies are often used to contribute to an overall healthy lifestyle and prevent disease and disability (Kessler et al., 2001). Scott (1999) documented the progress of a group of occupational therapy students while working toward personal wellness goals while learning and practicing group leadership skills. Students created a personal wellness goal using a Wellness Awareness Learning Contract and gauged their progress towards this goal using a Goal Attainment Scale (GAS). Students used a Self-Assessment Scorecard, which examined wellness in mind, body, and spirit, to isolate an area of wellness on which to concentrate. Students identified a variety of areas in which they would like to improve many of which focused on physical, mental, and spiritual well-being. They were able to incorporate different aspects of wellness in the community health-promotion groups they were leading while working toward their personal goals. They developed groups around issues such as smoking cessation; stress reduction through yoga, meditation, and tai chi chuan; aerobics; and nutrition. Progress toward both personal and group goals was tracked through a weekly log of personal reflection. Students indicated that through this process they had gained a deeper understanding of
the dynamic of working for personal change and growth with clients in a community setting (Giese, 2005). As occupational therapists it is beneficial to have an understanding of the connection between the mind, body, and spirit and how the interaction between these components influences health. CAM can be beneficial for well populations as well as those with debilitating disease or disability. In order to use these techniques effectively, an awareness of clients’ ability to restore their health should be honored. Four types of CAM therapies will be further discussed in the following sections of this chapter.

Myofascial Release

Myofascial release is a manual therapeutic technique which is designed to provide an interactive stretch to the fascia. The manual technique of myofascial release is similar to the technique of soft tissue mobilization; however, the difference between myofascial release and soft tissue mobilization from a philosophical standpoint is that myofascial release allows and encourages patients to actively participate in the removal of “restrictions” from their body with equal help of the therapist (Manheim, 1994). With myofascial release, the therapist is uniquely aware of the feedback received from the client’s muscles throughout the stretch which allows them to adjust the force, direction, and duration of the stretch. As the therapist further develops the skill of working with the tone and tension of the patient, the therapist becomes more able to identify faint restrictions inside each myofascial unit. Localized stretching is performed in a gentle manner, following the identification of these restricted areas (Manheim, 1994). It is by this method that “restrictions to efficient movement are located which cannot be identified or eliminated using any other stretching technique” (Manheim, 1994, p. 3).
Myofascial release is better understood as a “philosophy of care” (Manheim, 1994, p. xv) emphasizing the connection between mind and body rather than simply a stretching or massage technique. This technique is congruent with a client-centered model of care because clients are perceived as having the capacity to heal themselves through manual contact and facilitation by the therapist (Manheim, 1994). The powerful technique of myofascial release allows the therapist to treat clients with soft tissue dysfunction that have not responded to other more traditional methods.

Research in myofascial release is limited. For this literature review, no studies were found which compared myofascial release interventions with a control group receiving no intervention. Several case studies indicated that myofascial release may have a positive effect on patients with varying diagnoses. Case study excerpts from Ramsey (1997) described two individuals who both benefited from myofascial release as part of their treatment regime. One of these individuals was a 32-year-old man with chronic postoperative low back pain and the other, a 53-year-old woman with Temporomandibular Joint Syndrome. Both these individuals received other treatments in conjunction with myofascial release making it difficult to determine whether or not, or to what extent, these individuals benefited from myofascial release treatment alone (Ramsey, 1997).

A case study by Berg (1997) tells the story of a woman seeking out medical treatment for her fibromyalgia, following a car accident she was injured in. She sought out traditional medical treatments in hopes of finding symptom relief including 63 surgeries “and more than 250,000 ‘trigger point’ injections” (Berg, 1997, p. 19) in hopes that she would be pain-free. The results of these traditional treatments were not long term
however, and that's when the woman decided to pay out of her own pocket for myofascial release treatment. Following myofascial release treatment, Berg reported the woman to be “free of the constant pain of fibromyalgia, suffering only an occasional relapse that passes after a few days at most” (Berg, 1997, p. 19). In this case study, the woman was not receiving any other form of therapy in conjunction with myofascial release treatment other than her medications which remained consistent throughout all of the intervention techniques. This suggests that myofascial release contributed to her decreased pain and symptom management for her fibromyalgia.

Myofascial release was also shown to be an effective treatment method for individuals with hemiparesis. The case studies presented by Byrne (1998) illustrated that myofascial release contributed to normalization of muscle tone for patients with hemiparesis. Neurodevelopmental treatment (NDT) was utilized in conjunction with myofascial release for the clients presented in these case studies. The findings demonstrated that myofascial release along with NDT allowed for optimal muscular alignment, prevention of pain and more normalized movement patterns when engaging in functional activities (Byrne & Ridgeway, 1998). It is difficult to determine to what extent myofascial release aided in the normalization of muscle tone versus NDT. Nonetheless, these results suggested that myofascial release is an important treatment for individuals with hemiparesis.

These case studies indicated that myofascial release may be an effective form of treatment for many populations served by occupational therapists. Myofascial release may be an especially helpful therapeutic tool to use with those clients who continue to suffer from pain and where other more traditional therapies have failed. Due to the lack
of randomized controlled trials determining the efficacy of myofascial release, however, further research is warranted. A further area of research would also be to determine the effect myofascial release has on facilitation of occupational performance.

Guided Imagery

Guided imagery is described as the process of using verbal suggestions to generate a pattern of thought that center a person’s concentration on imagined sensations that may be auditory, visual, olfactory or tactile in nature (Baird & Sands, 2004). The process of centering one’s concentration on these sensations being imagined is stated by Baird and Sands (2004) to result in precise responses both psychological and physiological. Guided imagery according to Eller (1999) may consist of “pleasant” or “specific imagery”. “Pleasant imagery involves the recollection or mental construction of an experience that is relaxing. Pleasant imagery may involve suggestions for imagining a pleasant or peaceful scene. These scenes may consist of a standardized pleasing image, such as a mountain or a beach scene, or an image the subject finds to be pleasant. “Specific imagery” tends to be outcome’ and/or process-oriented, describing the means by which the aspired outcome will be achieved. An example of this may be picturing oneself as being able to move freely without pain (Eller, 1999). While much of the research on guided imagery was found within the realm of nursing and psychology research; one study was found in the occupational therapy publication of OT Practice, discussing use of guided imagery with women who have a diagnosis of osteoarthritis. This study will be discussed later on in this chapter (Erhardt, 1997).

A literature review was conducted by Eller (1999) focusing specifically on guided imagery intervention studies identifies in the nursing, medical and psychological
literature between 1966 and 1998. This review showed guided imagery to be effective according to preliminary evidence in the management of stress, anxiety and depression, and for the reduction of blood pressure, pain and the side effects of chemotherapy. Forty-six studies were reviewed. Forty out of forty-six studies stated that guided imagery resulted in enhancement in the physiological and psychological outcomes examined. These studies incorporated guided imagery with or without relaxation. Eleven of the 40 studies that resulted in improvements of outcomes utilized participant-selected pleasant imagery, five utilized therapist-selected or standardized pleasant imagery and the rest utilized imagery for specific change in physiological or psychological outcomes. In certain studies, there were no observed differences in physiological or psychological symptoms. In these studies, specific imagery or both specific imagery and participant-selected imagery were used. Among all the studies reviewed, 65% performed the interventions in the individual sessions; 20% utilized group training (Eller, 1999). Eller concluded that “additional research is needed to evaluate the use of group versus individual delivery of guided imagery” (Eller, 1999, p. 75).

While no research was found on the evaluation of group versus individual delivery of guided imagery, in the 1999 review of literature, more recent studies have demonstrated the effectiveness of guided imagery usage. In addition, guided imagery has been shown to be useful with other populations seen by occupational therapists. Esplein, Garfunkel, Olmstead, Gallop and Kennedy (1998) found guided imagery to be a helpful therapeutic tool for individuals suffering from bulimia nervosa. Esplein et al. found that “guided imagery had substantial effects on the reduction of binging and purging episodes... and also demonstrated improvement on measures of attitudes concerning
eating, dieting and body weight in comparison to the control group" (1998, p. 1347). Individuals in the guided imagery group also made progress in their ability to provide self-comfort. The authors concluded that guided imagery is valuable, at least in the short-term, to use with individuals suffering from bulimia nervosa. It was suggested that guided imagery may be an additional tool for occupational therapy practitioners to use when working with individuals with eating disorders. More research needs to be conducted with this population to see if guided imagery has a positive effect in increasing occupational performance in this population.

Another population frequently seen by occupational therapists was found to benefit from guided imagery. This population consisted of women with osteoarthritis. In a study by Baird and sands (2006), a convenience sample of 28 women, over 65 years of age, with a diagnosis of osteoarthritis and with joint pain, participated in an experimental randomized pilot study to determine the effectiveness of guided imagery with relaxation (GIR), in relation to improving their health related quality of life (HRQOL). All women completed the Arthritis Impact Measurement Scales 2 (AIMS 2; Meenan, 1990) at baseline and at the completion of the 12-week study. An overall HRQOL score was derived from the AIMS 2 providing information about the participants’ mobility, pain level, tension and mood, upper extremity function, ability to complete self-care and household tasks and support from family and friends. Women in both the intervention and the control group were instructed to keep a daily journal regarding their symptomology of OA and every two weeks they received a phone call to encourage their continual participation. Women in the control group received no intervention. The women in the intervention group were instructed to participate in twice-daily use of GIR
and to record their use of GIR in their daily journal. The GIR intervention consisted of listening to a 12-minute audiotape twice daily. Women were told to use the GIR in their homes, early in the day and again in the afternoon, before a potentially painful activity. Women assigned to the intervention group significantly improved their HRQOL scores from baseline to 12 weeks, whereas women in the control group had no change. This study provided evidence that guided imagery can be useful in assisting women with osteoarthritis to improve their health related quality of life. More specifically this study reveals guided imagery may be a useful tool in enabling persons, with osteoarthritis, to be able to perform their daily occupational tasks with less pain and increased mobility.

A study from occupational therapy by Louis (2004) explored the effects of guided imagery relaxation in people with chronic obstructive pulmonary disease (COPD) using a randomized controlled design. Thirteen of 26 participants were allocated to the treatment group in which six practice sessions on guided imagery were conducted. The control group was instructed to rest quietly during the six sessions. Changes in all 26 participants' physiological changes were recorded in the seventh session. These included changes such as: heart rate; oxygen saturation; surface electromyography of the upper thoracic region; skin conductance; and temperature of peripheral skin. The study demonstrated guided imagery to be effective in increasing partial percentage of oxygen saturation in patients with COPD. While this study indicated guided imagery to be an effective treatment technique to use with client's who have COPD, this study did not take measures showing what effect increased oxygen saturation had on occupational performance. This would be a worthwhile area of study.
Guided imagery is shown not only to be beneficial to those with illness, but is also an effective therapeutic tool for promotion of wellness. Watanabe, Fukada and Shirakawa (2005) support the effectiveness and benefits of guided imagery (GI) as a tool to promote wellness and reduce stress, especially for those individuals who incorporate guided imagery regularly into their lifestyle. Results of this study indicated that subjects who had a longer history of practicing a GI program at home, showed higher baseline scores of their positive mood on the Multiple Mood Scale (MMS) and also in their general health. These subjects also had lower baseline scores of their negative mood on the (MMS) and lower general stress than subjects who had a shorter or no history of GI on their own. This study demonstrated that guided imagery may be a beneficial tool for occupational therapists to use with clients whose occupational roles are threatened by heightened states of stress. Guided imagery may be an effective as part of a wellness program for persons who are willing to incorporate guided imagery into their lifestyle.

The preceding studies demonstrate that guided imagery is an effective and useful tool for use as part of a treatment plan for varied patient populations frequently seen by occupational therapists. Guided imagery is shown to not only be a useful rehabilitative tool, but also useful for prevention of illness and promotion of health in the well population. While guided imagery is shown to be effective with a variety of populations, further research is needed to determine the effects on occupational performance with these varied populations.

Meditation

Williams, Kolar, Reger, and Pearson (2001) conducted a randomized controlled trial exploring the effects of meditation and a wellness-based mindfulness approach to
stress reduction on a population of healthy adults. The intervention group met weekly for 8 weeks and was instructed on mindfulness meditation and how it can be used in daily situations. The control group was provided with instructional materials for stress management and was encouraged to seek out community resources. The intervention group reported a decrease in perceived stress, psychological distress, and medical symptoms. Many people who are seen as healthy but have a high-stress life run the risk of developing stress-related illness. It was suggested that by targeting healthy individuals who perceive themselves as having a high level of stress, using meditation may help reduce the chances of these individuals acquiring illness or injury that may be stress related. Using various meditative techniques may prove to be a cost-effective way of preventing these people from acquiring future illness (Williams et al., 2001).

Literature has shown that meditative techniques may have a positive impact on stress management in subjects who are free from disability and illness. It is also important to explore how meditation might help those dealing with severe illness and disability. Grossman, Niemann, Schmidt, and Walach (2004) performed a meta-analysis of the literature regarding mindfulness-based stress reduction (MBSR). MBSR is a program in a structured group format aimed at instructing individuals to use mindfulness-based meditation to increase awareness of their own mental processes. The anticipated result is that people will be able to better cope with the negative effects of stress and improve symptoms associated with various disorders. The findings of the studies suggested that MBSR can be a useful intervention for symptoms associated with varying physical, psychosomatic, and psychiatric disabilities. Studies included in the meta-analysis included populations with diagnoses such as fibromyalgia, several cancer
diagnoses, coronary artery diseases, depression, chronic pain, obesity, anxiety, binge eating disorder, and other psychiatric diagnoses. It was noted in the meta-analysis that conventional medicine is not always willing or able to address all areas of coping associated with disability and uncertainty of chronic illness for varying reasons such as time constraints and lack of training (Grossman et al., 2004).

A systematic review was conducted by Arias, Steinberg, Banga, and Trestman (2006) which explored the literature regarding meditative techniques and medical illnesses. In order to meet inclusion criteria, studies were randomized clinical control trials with a wait-list, active, placebo, or sham control group. It was required that studies had quantitative outcomes. All of the studies needed to have subjects with a particular diagnosis and intervention provided as treatment for this diagnosis. Twenty randomized controlled trials met this inclusion criteria and were included in the review. It was revealed that meditative techniques were most beneficial to populations with epilepsy, symptoms of premenstrual syndrome and menopause, non-psychotic mood disorders, anxiety disorders, and emotional disturbances due to physical illnesses. Results of this review indicated that serious adverse events associated with the use of meditative techniques are rare. Further research is needed to address the usefulness of meditation among those with many different disorders as its popularity is growing in Western cultures (Arias et al., 2006).

The stress and mood disturbances experienced by those with chronic illness and disabilities may be reduced by using meditative techniques. Speca, Carlson, Goodey, and Angen (2000) conducted a randomized controlled trial to determine whether or not participation in a short-term meditation-based stress reduction program would improve
mood and reduce stress experienced by cancer outpatients who were undergoing treatment or receiving follow-up care. Eighty-six women and 23 men met inclusion criteria. All had a diagnosis of cancer though the types and stages of cancer were varied. Those with breast cancer—38 participants—made up the largest sub-group. The Profile of Mood States (POMS) and the Symptoms of Stress Inventory (SOSI) were used to measure the primary outcomes of the study. The primary outcomes were identified as mood and symptoms of stress. Participants were interviewed and completed a baseline psychometric assessment prior to being randomized into either the treatment or wait-list control group. Intervention was provided for 7-weeks; 90-minute sessions were conducted weekly (Speca, 2000). Participants in the intervention group were provided with the following description of group objectives:

1) to provide an opportunity to examine and develop and understanding of one's personal responses to stress and a means to modify them, 2) to allow group members to take an active role in their healing process, 3) to teach options for self-care that promote feelings of competence and mastery, 4) to enhance feelings of well-being and wholeness through the practice of mindful meditation, and 5) to provide a safe and supportive group environment in which self-disclosure about the experience of cancer can take place in the service of learning new skills (Speca et al., 2000, p. 615)

The intervention group reported a reduction on the POMS Total Mood Disturbances, specifically in the areas of Anxiety, Depression, Anger and Confusion. In addition, feelings of Vigor as measured by the POMS increased in the intervention group. Decreased symptoms of stress were reported in the intervention group which suggests
that the brief meditation stress reduction program had a positive effect on participants. The participants had several types and stages of cancer diagnoses which strengthens the results of the study. The diversity of this population indicates that a program like this one could possibly benefit those dealing with even a wider variety of chronic illness and disability (Speca et al., 2000).

Yoga

A recent study explored the effect of yoga on cognitive function, fatigue, mood, and quality of life in a population of healthy seniors (Oken et al., 2006). Subjects were healthy seniors between the ages of 65 and 85 years. Through a physical examination and routine electrocardiogram potential participants were screened to rule out any major health problems such as diabetes, uncontrolled cardiovascular impairments, substance abuse, notable visual impairments, and any signs of liver or kidney failure. Participants were excluded if they were actively participating in yoga or aerobic activities or if they had taken a yoga or tai-chi class in the 6 months prior to the study. The duration of the study was 6 months. Participants were randomly assigned into one of the two intervention groups—a yoga class or an exercise class—or they were placed into the wait-list control group. Participants were assessed by blind assessors at a 3- and 6-month visit. Outcome assessments were taken at baseline at the 6-months. Focusing, shifting, dividing and sustaining attention, as well as delayed and working memory, were included in the cognitive assessments. Mood, fatigue, and quality of life were assessed using the Profile of Mood States (POMS), Multidimensional Fatigue Inventory (MFI), Center for Epidemiologic Studies Depression Scale (CESD-10), State-Trait Anxiety Inventory (STAI), and the Short-form health survey (SF-36). A forward-bend flexibility, chair sit
and reach, one-legged balance with open eyes, and a timed sit-to-stand were used to assess physical measures (Oken et al., 2006).

The yoga class met once weekly for a 90-minute session. Participants were instructed on at home practice and encouraged to practice daily. Like the yoga group, the exercise group met once a week and were encouraged to engage in aerobic activity at least 5 additional times per week. No intervention was provided for the wait-list control group but they were provided with the same interaction with assessors to determine changes in health and experienced the same assessments as the intervention groups. There was no effect on cognitive function in any of the assignment groups. The yoga intervention group rated themselves significantly higher than the exercise or wait-list control group on the following measures: SF-36 quality of life measure of vitality/energy and fatigue, role-physical, bodily pain, social functioning, and the physical composite scale. Improvements in physical measures including one-legged standing balance and seated forward bending were noted in the yoga intervention group (Oken et al., 2006). These improvements in the physical measures are particularly important in an elderly population. The increase in both seated and standing balance may have an impact on the likelihood of falls (Oken et al., 2006).

A similar study was conducted by Oken, Kishiyama, Zajdel, Bourdette, Carlsen Haas, et al. (2004) exploring the effect of yoga and aerobic exercise on cognitive function, fatigue, mood, and quality of life in individuals with multiple sclerosis (MS). The study was a 6-month randomized controlled trial in which participants were assigned to one of 3 groups—yoga, aerobic exercise, and a wait-list control group. The baseline score of the Expanded Disability Status Scale along with age and sex were variables used to stratify
subjects across the groups. Participants were excluded if they had any other major medical diagnoses other than MS, if they regularly performed yoga or aerobic exercise, or had done these in the prior 6 months (Oken et al., 2004). As with the Oken et al. (2006) study discussed previously, the yoga intervention group attended weekly 90-minute classes and daily home practice was encouraged. Participants were provided with literature and illustrations to facilitate their home practice. Poses were modified using the support of either a chair or wall, or while lying supine on the floor. Like the yoga intervention group, the exercise group met once a week for 90-minutes and was instructed on a home exercise program. Adherence to the home exercise program was monitored by a daily log that was filled out by participants in both intervention groups. Blind assessors completed outcome measures at baseline and 6-months. A 3-month visit was completed though none of the assessments done at this time were included in the final data. Different aspects of attention such as focusing, shifting, dividing, and sustaining attention were included in the cognitive measures. Alertness, mood, fatigue, and quality of life were measured on several scales. Physical measures included a 25-foot timed walk, 9-Hole Peg Test, chair sit and reach, and one-legged standing balance with eyes closed.

Both the yoga and exercise intervention groups noted similar improvements on the SF-36 quality of life measure in the area of Vitality (also called Energy and Fatigue). The intervention groups demonstrated improvements in levels of fatigue as measured by the MFI for general fatigue. The level of compliance to the yoga program was comparable to that of the exercise program. There was no difference in any of the assignment groups in the areas of cognition and alertness (Oken et al., 2004). The results
indicate that an intervention which involves either yoga or aerobic exercise may improve
the symptoms of fatigue in individuals with MS. Fatigue is a prevalent and often
disabling symptom of MS and is often associated with depression. Since this study did
not show improvement in depression levels, the decreased level of fatigue may be due to
physical changes as a result of the yoga or aerobic exercise program. Further research is
warranted to determine the mechanism in which both yoga and exercise contributed to a
decrease in fatigue (Oken et al., 2004). By better understanding this mechanism different
modifications could be made to adapt more effectively specifically to a population with
MS.

Bastille and Gill-Body (2003) conducted a single-subject design study with four
subjects to determine the effects of a yoga-based exercise program for people with
chronic post-stroke hemiparesis. Participants were all at least 9 months post-stroke.
Subjects scored between 15/34 and 27/34 on the Fugl-Meyer Sensorimotor Assessment
which indicated a moderate impairment in lower extremity function. All had finished
rehabilitation programs and were able to ambulate independently using an assistive
device or orthosis as needed. An interview was done with each subject to determine
medical and social history as well as whether they participated in any physical activity.
The Folstein Mini-Mental Examination was done in conjunction with the Fugl-Meyer
Sensorimotor Assessment to ascertain the participants’ level of persisting physical and
cognitive limitations. Primary outcome variables were identified as balance and timed
mobility. Quality of life was a secondary outcome variable. The Berg Balance Scale
(BBS) was used to measure balance; timed mobility was measured by the Timed
Movement Battery (TMB); and the Stroke Impact Scale (SIS) was used to measure perceived quality of life.

Participants were instructed individually by a physical therapist who is also a certified integrative yoga therapy teacher. The yoga-based exercise program was taught for 1.5 hours, twice per week. Participants were also provided with home exercise materials and encouraged to practice for 20 minutes daily. Three of the 4 subjects had improvements on the TMB and half of the participants had improved BBS scores. All subjects demonstrated improved scores on the SIS in at least one of the domains including physical, memory, communication, emotional, social participation, and percent recovery. Adherence to the program was a limitation of this study thus it is difficult to determine whether commitment to the program had an effect on results (Bastille & Gill-Body, 2003). Balance deficits are a leading cause of falls among the post-stroke population. These results indicated that yoga may lead to improvements in balance among those who have had a stroke and have continued deficits. Quality of life may also improve with the implementation of a yoga-based exercise program which will lead to increased participation and more satisfaction in one’s daily occupations.

This literature review chapter shows that the use of CAM is become widespread across all areas of healthcare. Occupational therapy is not exempt from this trend. Increased consumer-demand of CAM services is undoubtedly on the rise. This rise could lead to more clients inquiring about CAM therapies and the benefits and risks of these therapies. Occupational therapists will need to grow with this trend and be able to provide clients with resources to meet client needs. In upcoming chapters, practice guidelines will be presented as a means to educate occupational therapists about the efficacy, evidence,
benefits, and risks of using CAM techniques. Using CAM therapies within the scope of occupational therapy and resources for therapists will be outlined further.
CHAPTER III

METHODOLOGY

Ethical practice cannot be provided to clients without knowing the evidence supporting occupational therapy treatment. Therefore, evidence supporting the efficacy of complementary and alternative medicine (CAM) within occupational therapy or other rehabilitation services was reviewed. Databases including PubMed, CINAHL, OT Search, and OT Seeker were used to find research on the topic of CAM. The most prevalent types of CAM with use in populations served by occupational therapists were found to be guided imagery, myofascial release, meditation, and yoga. The website for the National Center for Complementary and Alternative Medicine (http://nccam.nih.gov/) was helpful to locate information regarding the National Institutes of Health and their position on CAM as well research being conducted on a national level. In addition, the American Occupational Therapy Association’s (AOTA) position paper on CAM (Geise, 2005) provided an initial occupational therapy professional viewpoint on CAM to begin the scholarly project development.

Evidence-based practice guidelines for CAM in occupational therapy were designed to be a resource for occupational therapists who wish to learn more about CAM and their relevance to occupational therapy. Throughout the literature review process it became evident that myofascial release, guided imagery, meditation, and yoga were most prevalent in the research among populations commonly seen by occupational therapists. This guided further questions in regards to using CAM therapies in occupational therapy.
practice. Key questions of concern to occupational therapists exploring the evidence and use of CAM were developed and answered within the evidence-based practice guidelines. Literature concerning these four prevalent types of CAM was reviewed in more depth. Findings were then used to create a resource for occupational therapists wishing to provide their clients with the option of incorporating CAM into treatment. The Evidence-based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy are presented in Chapter IV.
CHAPTER IV

PRODUCT

This product contains practice guidelines for occupational therapists who wish to learn more about and possibly incorporate complementary and alternative medicine (CAM) into their practice. The information in the *Evidence-based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy* was based on a literature review indicating that CAM is a growing trend in healthcare. Practice guidelines were developed to inform occupational therapists on different types of CAM commonly used for populations seen by occupational therapists. Resources regarding CAM and its relevance to occupational therapy were compiled and presented throughout the product.

The practice guidelines include the definitions and key terms in CAM, the American Occupational Therapy Association's (AOTA) position on the use of CAM, and an in-depth look at four types of CAM including myofascial release, guided imagery, meditation, and yoga. These guidelines were developed and written for occupational therapists. It is the authors' intent for occupational therapists to use this product as a resource and a starting point to become educated on CAM and use it properly within the domain of occupational therapy. The practice guidelines are designed to promote awareness of CAM therapies and how they can be used to facilitate occupational performance.
Evidence-based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy

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- Angela Olson, MOTS
- Advisor: Jan Stube, PhD, OTR/L

May 2007
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Complementary and alternative medicine (CAM)

CAM is a broad term for a variety of medical and health practices which have not been traditionally used in Western medicine. Complementary medicine refers to therapies used in addition to traditional therapies. Alternative medicine is used in place of traditional medicine (NCCAM, What is CAM?, 2007). Within the domain of occupational therapy, complementary therapies are emerging into practice as an adjunctive method.

The National Center for Complementary and Alternative Medicine (NCCAM) is a division of the National Institutes of Health (NIH). NCCAM identifies the different types of CAM as follows:

- **Whole Medical Systems**
  Whole medical systems are systems which are independent from conventional or traditional medicine. They have their own set of theoretical principles, often tailoring treatment based on an individual’s symptoms. Examples include traditional Chinese medicine, Ayurvedic medicine, homeopathy, and naturopathy. Many are historically rooted in Eastern cultures, though many cultures have developed their own systems including Native American, African, Middle Eastern, Tibetan, and Central and South American (NCCAM, Whole medical systems: An overview 2004). These systems are different from one another, though there is a common emphasis on the mind, body, and spirit relationship. The shared philosophy is that the body has the capacity to heal itself.

- **Mind-Body Medicine**
  Mind-body techniques comprise a majority of CAM use in the United States. Mind-body medicine explores how different emotional, mental, social, spiritual, and behavior components of a person can influence health. These techniques are most commonly used to promote health. They can be used during illness as a means to promote growth and to cope with factors that accompany disease or disability. Examples of mind-body medicine include yoga, meditation, imagery, cognitive-behavioral therapies, and group support (NCCAM, Mind-body medicine: An overview, 2005).

- **Biologically Based Practices**
  Biologically based practiced involves the use of food, herbs, vitamins, amino acids, and probiotics to remedy illness and promote wellness (NCCAM, Biologically-based practices: An overview 2007).

- **Manipulative and Body-Based Practices**
  Manipulative and body-based practices have strong emphasis on the body systems and physical structure of the body. All the systems of the body, particularly the skeletal, muscular, cardiovascular, and lymphatic systems are viewed as being interdependent. These practices involve hands-on therapy approach in which the practitioner facilitates the healing process by stimulating the body to heal itself. Examples include myofascial release, massage, chiropractics, and osteopathic manipulation (NCCAM, Manipulative
and body-based practices: An overview, 2004).

- **Energy Medicine**
  Energy medicine involves energy fields which surround the body. These energy fields are altered by various hand placements in and through these energy fields. Examples include Reiki and Therapeutic Touch (NCCAM, *Energy medicine: An overview*, 2007).

**CAM Position Paper: AOTA**

Giese (2005) outlined in a position paper written for *The American Journal of Occupational Therapy*, the appropriateness of CAM within the scope of occupational therapy. Consumer-demand, cost-effectiveness, and established clinical efficacy are leading more insurance companies and health maintenance organizations to pay for several CAM services, most of which are currently paid for privately (Giese, 2005).

CAM covers a broad base of therapies, certain CAM therapies have been more commonly utilized by occupational therapists. According to a 1998 survey by the American Occupational Therapy Association (AOTA), the following CAM techniques were being utilized by occupational therapists (Brachtesende, 2005; Geise, 2005):

- Guided imagery
- Meditation
- Yoga
- Myofascial release
- Sensory integration
- Cognitive-behavior therapy
- Behavioral relaxation
- Craniosacral therapy

Giese (2005) discussed the importance of using CAM as preparatory methods or purposeful activities within occupational therapy practice. The use of CAM therapies has the potential to increase clients' occupational performance. It is also necessary to obtain proper training, certification, and competency to use CAM techniques in occupational therapy. Federal, state, and local regulations may require certain training to use CAM. Occupational therapists should also practice according to the Occupational Therapy Code of Ethics which illustrates acceptable professional behavior (AOTA, 2000). The occupational therapist would need to this code and observe the laws and regulations related to CAM. As with any treatment, clients should be made aware of the risks and benefits associated with CAM prior to using. An evidence-based and client-centered method of intervention should be honored even when using CAM (Giese, 2005).
Myofascial Release

- Myofascial release is considered a body-based therapy by the NCCAM
What is myofascial release?

Myofascial release is a body-based form of CAM that is used to assess and treat restrictions in the fascia throughout the body through application of mild pressure, traction and positioning (Erhardt, 1997). Body-based practices according to the National Center for Complementary and Alternative Medicine view the body as having the capacity to heal itself and recognize the systems of the body to be interdependent (NCCAM, Manipulative and body-based practices: An overview, 2007). Myofascial release is better understood as a “philosophy of care” (Manheim, 1994, p. xv) emphasizing the connection between mind and body rather than simply a stretching or massage technique. Myofascial release is intended to accompany approaches of traditional therapy, which do not typically attend to the fascial structure of the body (Carlson, 2003). Fascia is an intricate web of tissue that is designed to provide support throughout the body and affects all the workings of the nervous, visceral and musculoskeletal systems. When the fascia and soft tissues of the body hold excess tension, misalignment of the body can result (Manheim, 2004). Misalignment and contractions resulting from fascial tension have the potential to alter the physiology of the body’s organs and tissues significantly (Davis, 2004). Chronic pain and bodily deformity can result in response to fascia-based problems (Berg, 1997). Myofascial release is unique in that it is “a whole-body approach” that aims to determine the cause of the restrictions in the fascia in addition to treating the presenting symptomology (Davis, 2004, p 60). The goal of myofascial release is to eliminate restrictions in the fascia allowing for efficient musculoskeletal alignment and eradication of pain (Manheim, 2004).

<table>
<thead>
<tr>
<th>Myofascial release key points (Manheim, 2004):</th>
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<tr>
<td>• Therapist develops a connection with the client by means of touch in order to detect faint restrictions in the fascia.</td>
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<tr>
<td>• Stretching guided by the client's response. The order of stretches performed as well as how the stretch is performed is dependent on feedback from client.</td>
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<tr>
<td>• There is equal participation of client and therapist throughout process. Client actively participates in his/her own healing process.</td>
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<tr>
<td>• Therapist must be able to relax in order to allow for relaxation of patient.</td>
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<tr>
<td>• Myofascial release utilizes both light and heavy touch depending upon patient needs.</td>
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What is the evidence to support myofascial release?

A randomized clinical trial conducted by Hsieh, Adams, Tobis, Hong, Danielson, Platt et al. (2000) demonstrated that myofascial therapy resulted in decreased pain and increased activity for persons with diagnosis of low back pain following three weeks of treatment. Several case studies indicated that myofascial release may have a
positive effect on clients with varying diagnoses.

Case studies from Ramsey (1997) demonstrated effectiveness of a treatment program involving myofascial release along with other techniques for a man with low back pain as well as a woman with Temporomandibular Joint Syndrome. Since both these individuals received other treatments in conjunction with myofascial release, it difficult to determine whether or not, or to what extent, these individuals benefited from myofascial release treatment in itself. Berg (1997) however illustrates how myofascial release provided a woman, with fibromyalgia, relief from constant pain when other traditional treatments had previously failed to provide relief from her long term pain. In this case study, the woman did not receive any other adjunctive form of therapy along with myofascial release.

Byrne and Ridgeway (1998) illustrated that myofascial release along with Neurodevelopmental Treatment (NDT) contributed to normalization of muscle tone for patients with hemiparesis. The findings included: optimal muscular alignment, prevention of pain, and more normalized movement patterns when engaging in functional activities (Byrne & Ridgeway, 1998). Reviews from patients on http://www.myofascialrelease.com indicate that myofascial release brought them benefits traditional therapies did not. One client stated “I am now leading a more normal, functional lifestyle” (Myofascial Release, 2001). These case studies and anecdotal evidence indicate that myofascial release may be an effective form of treatment for many populations served by occupational therapists. Myofascial release may be an especially helpful therapeutic tool to use with those clients who continue to suffer from pain and where other more traditional therapies have failed. Due to a small amount of randomized controlled trials and a lack of longitudinal studies determining the efficacy of myofascial release, however, further research is warranted.

**How can myofascial release fit into OT?**

The powerful technique of myofascial release is a preparatory method that allows therapists to treat clients with soft tissue dysfunction that have not responded to other more traditional methods (Manheim, 1994). Myofascial release should be used as an adjunctive treatment or only as a part of occupational therapy treatment. Its purpose is to supplement and enhance traditional occupational therapy techniques in evaluation and treatment of patients with a variety of diagnoses. Myofascial release may prove beneficial in helping clients return to their occupational performance roles, however, further research is the effects myofascial release warranted in this area. Nonetheless, it is important for therapists to be able to provide clients with information on the benefits and risks associated with myofascial release and to inform them of this beneficial therapeutic tool.

**With which client populations is myofascial release used?**

Myofascial release techniques are useful with a wide range of clients of all ages seen by occupational therapists. Some clients that may benefit from myofascial release include individuals with pain or movement restrictions, musculoskeletal injuries, headaches,
chronic pain including fibromyalgia, adhesions resulting from scarring and post surgery, neurodevelopmental issues and back pain (Berg, 1997; Byrne & Ridgeway, 1998; Ramsey, 1997). Ramsey (1997) reports that myofascial release may be contraindicated in cases of malignancy, osteoporosis, osteomyelitis, acute rheumatoid arthritis, open wounds, cellulitis, sutures, febrile state, systemic or localized infection, acute circulatory condition, anticoagulation therapy, aneurysm, hypersensitivity of skin, obstructive edema, advanced diabetes, hematoma or a systemic/localized infection.

What are the benefits and risks associated with myofascial release?

Benefits of myofascial release include:
- reduction or elimination of pain
- restoration of motion
- improved muscular alignment
- more normalized movement patterns when engaging in functional activities
- release of muscle tension

Risks associated with myofascial release include possible trigger of somato-emotional release or re-experiencing of event in which injury occurred. This should be discussed with clients prior to treatment session. There are no other reported risks associated with myofascial release in this project’s cited resources, however it is important that myofascial release be performed by a professional knowledgeable in myofascial release in order for the client to receive the most competent, professional, ethical, and effective treatment possible. Occupational therapists, as when providing all treatment, should abide by the Occupational Therapy Code of Ethics (American Occupational Therapy Association, 2005).

What are the necessary certifications needed to utilize myofascial release in occupational therapy practice?

There is no current necessary certification needed by occupational therapists wishing to utilize myofascial release techniques in their practice. NBCOT does not require certification for utilization of CAM therapies such as myofascial release, however, all occupational therapists must abide by the regulations of the state in which they are practicing. According to the North Dakota State Board of Occupational Therapy Practice (NDSBOTP, 2006), occupational therapists and occupational therapy assistants are responsible for proving competency in the use of specific procedures, activities, modalities, and techniques. Therefore, it is necessary for occupational therapists to be able to prove their training or competency in utilization of myofascial release in the state of North Dakota.

Where can occupational therapists receive training in myofascial release?

Boehme Workshops provide educational training in NDT and Myofascial Release to help practitioners build clinical skills incorporating these techniques. These training sessions are focused on application with individuals who have sensory and neuromotor challenges. Boehme Workshops are also approved by the AOTA as an approved provider in continuing education. Access to dates and locations of workshops or
to schedule a workshop at your facility can be accessed at:
http://boehmeworkshops.com/courseschedule.asp. Additional training seminars on myofascial release that are approved by AOTA can be obtained at

Other hands-on seminars involving training in myofascial treatment can be found at
http://www.rehabedge.com. These seminars are geared towards physicians, OTs, COTAs, PTs and PTAs interested in incorporating myofascial treatment into their practice with certain patients. All courses provided through Rehab Edge are eligible for continuing education credits. It was not noted on the website whether or not courses listed at http://www.rehabedge.com are approved by AOTA for continuing education.

Is myofascial release reimbursed by insurance?

Myofascial release can be reimbursed by insurance if a patient's condition meets medically necessary requirements and a physician's prescription for treatment is received. Under CPT codes 2006 for Physical Medicine and Rehabilitation, myofascial release is coded 97140. Reimbursement for myofascial release through Medicare within ND is reimbursed at a rate of $24.67 (American Medical Association, 2007).
Guided Imagery

- Guided imagery is considered a mind-body therapy by the NCCAM
What is guided imagery?

Guided imagery is the practice of integrating the power of one's mind to help the body to relax, heal and maintain health. It can additionally be described as the process of using verbal suggestions to generate a pattern of thought that centers a person's concentration on imagined sensations that may be auditory, visual, olfactory or tactile in nature (Baird & Sands, 2004). Guided Imagery Inc. (2006) states that the power of the mind is so strong at times, that it cannot differentiate between a thought versus the actual event. Guided imagery may consist of “pleasant” or “specific imagery” (Eller, 1999). “Pleasant imagery” involves the recollection or mental construction of an experience that is relaxing. Pleasant imagery may involve suggestions for imagining a pleasant or peaceful scene. These scenes may consist of a standardized pleasing image, such as a mountain or a beach scene, or an image the client finds to be pleasant. “Specific imagery” tends to be outcome and/or process-oriented, describing the means by which the aspired outcome will be achieved. An example of this may be picturing oneself as being able to move freely without pain (Eller, 1999).

What is the evidence supporting guided imagery?

A literature review focused specifically on guided imagery intervention studies was located within the nursing, medical and psychological literature. The literature showed guided imagery to be effective according to preliminary evidence in the management of stress, anxiety and depression, and for the reduction of blood pressure, pain and the side effects of chemotherapy. Forty out of forty-six studies stated that guided imagery resulted in enhancement in the physiological and psychological outcomes examined (Eller, 1999). These studies incorporated guided imagery with or without relaxation.

More recent studies have demonstrated the effectiveness of guided imagery use. Esplein, Garfunkel, Olmstead, Gallop and Kennedy (1998) found guided imagery to be a helpful therapeutic tool for individuals suffering from bulimia nervosa. Esplein et al. stated that “guided imagery had substantial effects on the reduction of binging and purging episodes... and also demonstrated improvement on measures of attitudes concerning eating, dieting and body weight in comparison to the control group” (1998, p. 1347). This study suggested that guided imagery may be an effective additional tool for occupational therapy practitioners to use when working with individuals with eating disorders.

Another population frequently seen by occupational therapists, namely women with osteoarthritis, was found to benefit from guided imagery. A randomized pilot study by Baird and Sands (2006) determined guided imagery with relaxation (GIR) improved the health related quality of life for these women. Guided imagery was most effective for those individuals who incorporated guided imagery into their daily life. This study also revealed guided imagery may be a useful tool in enabling persons, with osteoarthritis, to be able to perform their daily occupational tasks with less pain and increased mobility.
A study from occupational therapy by Louis (2004) explored the effects of guided imagery relaxation in people with chronic obstructive pulmonary disease (COPD) using a randomized controlled design. The study demonstrated guided imagery to be effective in increasing partial percentage of oxygen saturation in patients with COPD; however, this study did not take measures showing what effect increased oxygen saturation had on occupational performance.

Guided imagery is shown not only to be beneficial to those with illness, but is also an effective therapeutic tool for promotion of wellness. Watanabe, Fukada and Shirakawa (2005) support the effectiveness and benefits of guided imagery (GI) as a tool to promote wellness and reduce stress, especially for those individuals who incorporate guided imagery regularly into their lifestyle. Results of this type of study indicated that subjects who had a longer history of practicing a GI program at home, showed higher baseline scores of their positive mood on the Multiple Mood Scale (MMS) and also in their general health. These subjects also had lower baseline scores of their negative mood on the MMS and lower general stress than subjects who had a shorter or no history of GI on their own. This study demonstrated that guided imagery may be a beneficial tool for occupational therapists to use with clients whose occupational roles are threatened by heightened states of stress.

With which client populations is guided imagery used?

Many individuals who are referred to occupational therapists may benefit from use of guided imagery. Guided imagery has been used with client populations including those with: pain, stress, arthritis, COPD, learning disabilities, those who engage in self-harming behaviors, eating disorders, those coping with lifestyle changes such as a loss or smoking cessation, cardiac conditions, breast procedures, cancer treatments, colorectal procedures, orthopedic procedures, Parkinson's, Multiple Sclerosis, disorders of the spine, transplants, depression, self-harming behaviors, learning disabilities and pain management. Guided imagery may also be used as a tool to promote wellness in healthy populations. Pediatric and adult populations can benefit from guided imagery (Guided Imagery Inc., 2006).

How does guided imagery fit with OT?

Guided imagery may be useful from three different occupational therapy approach perspectives: health promotion, maintenance and disability prevention. It is meant to be part of occupational therapy treatment or to be utilized throughout treatment as a preparatory technique prior to engaging in occupation or a purposeful activity to visualize occupational performance. Guided imagery works best when incorporated into daily life and occupational performance. Guided imagery can be an important piece of the therapeutic process that helps individuals “get back to the job of living”.

What are the benefits and or risks involved with guided imagery?

There are no harmful or potential risks involved with guided imagery, according to the references for this scholarly project; guided imagery has only a wide array of benefits. Guided imagery
has proved useful in dealing with stress, anxiety, pain and side effects of treatments. Research has also revealed that stimulation of the brain by means of guided imagery may have positive effects on immune system functioning (Guided Imagery Inc., 2006).

Is any certification or licensure needed for occupational therapists to incorporate guided imagery in practice?

No precise certification is required for occupational therapists to use guided imagery. However, it is expected that occupational therapists use ethical practice and prove competency in the use of specific procedures, activities, modalities, and techniques that are utilized by the therapist in the state of North Dakota (NDSBOTP, 2006).

Where can occupational therapists receive training in guided imagery?

The Academy for Guided Imagery offers a Professional Certification Training Program which includes 150 hours of in-depth training in Interactive Guided Imagery™ suitable for any health care professional in a counseling or health services field. The program offers a broad-based curriculum that addresses most major issues confronted in clinical practice. Becoming certified through the Academy for Guided Imagery provides many benefits to occupational therapists wishing to use guided imagery in their practice including: a certificate that documents commitment to professional excellence and mastery of Interactive Guided Imagery™ skills, access to resources pertaining to guided imagery and ongoing access to clinical supervision from Academy faculty when and if needed or desired (Academy for Guided Imagery Incorporated, 2006).
Meditation

- Meditation is considered a mind-body therapy by the NCCAM
What is meditation?

Meditation is an ancient practice which originated as part of Eastern religious customs. Several religions, including Judaism and Christianity, have adopted these meditative practices as part of the rituals (Parker, 2003). Meditation has since moved beyond religious foundation into a practice which allows individuals to achieve a greater sense of peace and mental clarity. The aim of meditation is to focus the attention and decrease or eliminate distractions which persist in a person’s thoughts. There are many types of meditation used today for achieving optimal health and wellness, though most have 4 prevailing fundamentals (NCCAM, Meditation for Health Purposes, 2006).

Meditation can be used alone or as part of a system such as yoga or qi gong.

Meditation musts:

- Quiet, calm location. Eliminate distractions if possible.
- Comfortable position. Some meditation can be done while seated, lying down, walking, eating, or in various other postures.
- Narrowing the focus of one's attention. This may be done through focusing on one's breath, a specific image, or a mantra.
- Openness. This means to let distractions flow naturally. Rather than trying to overpower and control distractions, they are acknowledged. The individual then kindly brings focus back.

(NCCAM, Meditation for Health Purposes, 2006)

What is the evidence to support meditation?

Williams, Kolar, Reger, and Pearson (2001) conducted a randomized controlled trial researching the effects of meditation and a wellness-based mindfulness approach to stress reduction on a population of healthy adults. The intervention group met weekly for 8 weeks and was instructed on mindfulness meditation and how it could be used in daily situations. The control group was provided with instructional materials for stress management and was encouraged to seek out community resources. It was suggested that by targeting healthy individuals who perceive themselves as having a high level of stress, using meditation may help reduce the chances of these individuals acquiring illness or injury that may be stress related. Using various meditative techniques may prove to be a cost-effective way of preventing these people from acquiring future illness (Kolar et al., 2001).

It is also important to explore how meditation might help those dealing with severe illness and disability. Grossman, Niemann, Schmidt, and Walsh (2004) performed a meta-analysis of the literature regarding mindfulness-based stress reduction (MBSR). The findings of the studies suggested that MBSR can be a useful intervention for symptoms associated with varying
physical, psychosomatic, and psychiatric disabilities. Studies included in the meta-analysis included populations with diagnoses such as fibromyalgia, several cancer diagnoses, coronary artery diseases, depression, chronic pain, obesity, anxiety, binge eating disorder, and other psychiatric diagnoses. It was noted in the meta-analysis that conventional medicine is not always willing or able to address all areas of coping associated with disability and uncertainty of chronic illness for varying reasons such as time constraints and lack of training (Grossman et al., 2004).

A systematic review was conducted by Arias, Steinberg, Banga, and Trestman (2006) which explored the literature regarding meditative techniques and medical illnesses. It was revealed that meditative techniques were most beneficial to populations with epilepsy, symptoms of premenstrual syndrome and menopause, non-psychotic mood disorders, anxiety disorders, and emotional disturbances due to physical illnesses. Results of this review indicated that serious adverse events associated with the use of meditative techniques are rare. Further research is needed to address the usefulness of meditation among those with many different disorders as its popularity is growing in Western cultures (Arias et al., 2006).

The stress and mood disturbances experienced by those with chronic illness and disabilities may be reduced by using meditative techniques. Speca, Carlson, Goodey, and Angen (2000) conducted a randomized controlled trial to determine whether or not participation in a short-term meditation-based stress reduction program would improve mood and reduce stress experienced by cancer outpatients who were undergoing treatment or receiving follow-up care.

The intervention group reported a reduction on the Profile of Mood States (POMS) Total Mood Disturbances, specifically in the areas of anxiety, depression, anger and confusion. In addition, feelings of vigor as measured by the POMS increased in the intervention group. Decreased symptoms of stress were reported in the intervention group which suggests that the brief meditation stress reduction program had a positive effect on participants (Speca et al., 2000).

How does meditation fit into occupational therapy?

There are many types of meditation. Choosing the right type of meditation to implement when working with clients allows a therapist to use a client-centered approach. Narrowing the focus of the mind during meditation is often done by concentrating on something such as breath, exercises, images, thought, and mantras (Parker, 2003). This could be adapted for each person. For example, a person with chronic obstructive pulmonary disease may not be able to breathe in deeply and exhale fully, thus it may not be beneficial to focus on deep breathing exercises. Instead an image meaningful to that person could be used to create a greater level of mental clarity.

Meditation can be used to encourage a connection between mind and body. For example, muscle tension relaxation is a form of meditation in which groups of muscles are systematically tensed and then relaxed. Through this form of meditation, clients may gain a better understanding of what relaxation and body-awareness feels like (Parker, 2003). This may in-turn make them better able to use their body to engage in occupations.
With what populations is meditation appropriate?

Meditation has been shown in literature to be effective way to promote health in well adults (Williams et al., 2001). As occupational therapy expands into the preventative arena of medicine, it may be effective to implement meditation as means of health promotion. Meditation has also been shown to assist in coping for individuals with chronic illness and disability such as cancer, fibromyalgia, cardiovascular disease, depression, anxiety, chronic pain, obesity (Grossman et al., 2004). Occupational therapists have a strong background in the psychosocial aspects of illness and disability. Meditation could also be used with other populations commonly seen by occupational therapists, such as individuals with spinal cord injuries or cerebrovascular accidents, who may need coping strategies to deal with their circumstances.

What are the risks associated with meditation?

Meditation is generally safe for most populations and adverse reactions to meditation are rarely found in literature. Meditation should be used with caution in individuals with psychosis or with post-traumatic stress disorder. There is a slight possibility that individuals with these disorders may experience exacerbations of their mental illness due to meditation (Arias et al., 2006). It should be noted that these cases were extremely rare and only reported in a small number of case reports in the literature. Meditation was also shown to be an effective form of relaxation in individuals with these conditions. The occupational therapist must use their best clinical judgment when determining the proper implementation of meditation.

What are the necessary certifications or training for meditation?

Currently there are no necessary certifications to implement meditation into occupational therapy practice. Various continuing education courses are available for healthcare practitioners to learn about meditation as well as other types of CAM. Some examples of continuing education providers can be accessed on the American Occupational Therapy Association website (www.aota.org). The link to continuing education resources has a number of courses available which are aimed at all areas of CAM, including meditation. There are courses which can be accessed live or through independent or interactive online study.

Is meditation reimbursed by insurance?

Meditation may be reimbursed when used as an adjunctive method to conventional occupational therapy approaches. Further research is warranted to learn more about meditation as an approach to health and wellness. More research on meditation across more populations will help it to be grounded in healthcare as an evidence-based approach. Once this research is established, third party-payers will be more likely to reimburse meditation as part of a healthcare approach (Bottomley, 2003).
Yoga

- Yoga is considered a mind-body therapy by the NCCAM
What is yoga?

Yoga is literally translated from the Sanskrit word for “yoke” or “union.” It is a system of knowledge and practice that originated in ancient India some 5,000 years ago (Austin & Laeng, 2003). “The Yoga Sutras” were developed approximately 2,500 years ago by a man named Patanjali who is considered to be the founding father of yoga as it is known and understood today. He documented the philosophical basis for yoga and described eight aspects of yoga which he referred to as “limbs” (Taylor, 2004).

The 8 Limbs of Yoga

- **Yama** and **Niyama** are moral and ethical principles which identify areas of one’s life that should be restrained as well as cultivated. Examples include: truthfulness, non-harming, and self-reflection.

- **Asana** refers to the physical movements and postures assumed during yoga. **Pranayama** is breath control in relation to physical movements of the body. These two limbs of yoga comprise a type of yoga known as Hatha yoga. This type will be more thoroughly described in the following section.

The following limbs are steps in yoga practice which are aimed at achieving the deepest state of relaxation possible:

- **Pratyahara** is the process of diminishing the response of the senses to external stimuli.

- **Dharana** is the process of calming the mind.

- **Dhyana** means to concentrate deeply and focus the mind.

- **Samadhi** is the last step in which profound concentration is achieved. This happens in response to the previous seven limbs and is a state of mind which cannot be simply practiced.

(Austin & Laeng, 2003)

What is the most common type of yoga?

**Hatha Yoga** has emerged in the United States as the most common type of yoga. The word Hatha is derived from two Sanskrit words: ha meaning sun and tha meaning moon. The first documented exposure to yoga in the United States was in 1893. Since then it has deviated from its foundation as a philosophical way of life to more of a physical practice. Hatha yoga is a combination of the *asana* (physical postures) and *pranayama* (breathing) limbs (Austin & Laeng, 2003).
What is the evidence to support yoga?

A recent study explored the effect of yoga on cognitive function, fatigue, mood, and quality of life in a population of healthy seniors (Oken, Zajdel, Kishiyama, Flegal, Dehen, Haas et al., 2006). Subjects were placed in one of three groups: a yoga group, exercise group, or a wait-list control group. Both intervention groups met for 90 minutes weekly and were encouraged to participate in a home-practice of their assigned intervention. The wait-list control group was not provided with intervention. The yoga intervention group rated themselves significantly higher than the exercise or wait-list control group on the following measures: SF-36 quality of life measure of vitality/energy and fatigue, role-physical, bodily pain, social functioning, and the physical composite scale. Improvements in physical measures including one-legged standing balance and seated forward bending were noted in the yoga intervention group (Oken et al., 2006). These improvements in the physical measures are particularly important in an elderly population. The increase in both seated and standing balance may have an impact on the likelihood of falls (Oken et al., 2006).

A similar study was conducted by Oken, Kishiyama, Zajdel, Bourdette, Carlsen Haas, et al. (2004) exploring the effect of yoga and aerobic exercise on cognitive function, fatigue, mood, and quality of life in individuals with multiple sclerosis (MS). Both the yoga and exercise intervention groups noted similar improvements on the SF-36 quality of life measure in the area of Vitality (also called Energy and Fatigue). The results indicate that an intervention which involves either yoga or aerobic exercise may improve the symptoms of fatigue in individuals with MS which is a prevalent and often disabling symptom of MS and is often associated with depression.

Bastille and Gill-Body (2003) conducted a single-subject design study with four subjects to determine the effects of a yoga-based exercise program for people with chronic post-stroke hemiparesis. These results indicated that yoga may lead to improvements in balance among those who have had a stroke and have continued deficits. Quality of life may also improve with the implementation of a yoga-based exercise program which will lead to increased participation and more satisfaction in one's daily occupations.

How does yoga fit with occupational therapy?

The benefits of yoga can be seen in virtually every system in the physical body, as well as in emotional and mental health (Austin & Laeng, 2003).

Physical Benefits

A sequence of asanas, or physical postures, improves balance, coordination, flexibility, strength, and circulation (Austin & Laeng, 2003). Muscles are contracted and stretched concurrently which creates a balance within the body. Many problems of the musculoskeletal system are due to a difference in strength between opposing muscles surrounding a particular joint or joints.

- Weight-bearing—good for individuals with osteoporosis or abnormal muscle tone
- Spinal twists and forward bends—have a calming or inhibitory effect on nervous system
- Back bends—induce a stimulating effect on nervous system
• Inverted poses—may aid in treatment of insomnia
• Various poses—normalize muscle tone
• Uses in cardiac rehabilitation programs:
  o Inverted poses cleanse the lymphatic system while increasing venous function
  o Forward bends can lower blood pressure by relaxing the sympathetic nervous system
  o Back bends open up chest, opening up vessels, and increasing circulation around the heart
  o Twisting poses massage organs allowing them to work optimally (Austin & Laeng, 2003).

Mental/Emotional Benefits
Movements and assuming various postures are coordinated with breathing. This focus on breath facilitates a calmness and serenity while establishing a connection between the mind and body. Western medicine has begun to recognize the significance of the mind-body connection and its role in healing (Austin & Laeng, 2003). Fostering this relationship in clients can lead to greater self-esteem and confidence, ultimately allowing for fuller, more satisfying engagement in one’s chosen occupations.

Achieving a greater awareness of one’s body through asanas and pranayamas can be generalized into different areas of occupation. For example, an occupational therapist may encourage a client who has had a right sided cerebrovascular accident to use breathing techniques while completing dressing tasks. The client can be encouraged to exhale as they lean forward or reach; the therapist may encourage the client to deliberately focus on the sensations in

What are the risks associated with yoga?

The risks associated with yoga are minimal and none were noted in the literature used in the development these guidelines. Despite this occupational therapists still need to be aware of the possibility of risk. As with any intervention, needs of the individual need to be considered and necessary modifications need to be made to ensure safety. For example, a chair may be necessary to modify poses for those who are unable to get on the floor; be especially careful when someone is getting up off of the ground so they do not become lightheaded or unsteady; and encourage the individual to be aware of the processes in their own body so they do not exceed their limits (Austin & Laeng, 2003).

Can yoga be adapted to fit the individual?

Props can be used to modify poses to fit the individual. Chairs, blocks, bolsters, straps, towels, and blankets may be used to assist the client in assuming postures. An example of modifying poses can be illustrated through variations of the sun salutation. Sun salutation is a series of poses that is a part of almost any yoga practice. The series offers many benefits including stretching both forward and backward, increasing circulation, and can be either stimulating or inhibitory to all systems of the body. Sun salutations can be modified to be done while sitting in a chair, standing while using a chair for support, or simply standing (Devi, 2000).
With which client populations can yoga be implemented?

Research has shown yoga-based exercise to be effective for healthy populations, particularly healthy seniors (Oken et al, 2006). It has also been shown effective for clients who are post-stroke (Bastille & Gill-Body, 2003 and those diagnosed with multiple sclerosis (Oken et al., 2004).

What are the necessary certifications to use yoga in therapy?

As with the implementation of any type of intervention, an occupational therapist needs to use their best judgment to determine their competency. As with any intervention, there is potential for harm if not done correctly. There are no criteria to define whether a therapist is qualified to use yoga techniques in therapy (Taylor, 2004). It is suggested that an occupational therapist who wishes to use yoga as a therapeutic tool should have experience and knowledge of yoga as well as the risks and benefits associated with it.

Where can occupational therapists receive training?

The Yoga Alliance Registry (www.yogaalliance.org) is an association which is currently the only organization which outlines criteria to be a registered yoga teacher. This defines different levels of certification depending on experience and continuing education courses (Austin & Laeng, 2003). This registry allows a unique opportunity for occupational therapists to network professionally with yoga teachers. These two disciplines have the opportunity to treat many of the same populations. Establishing a relationship between the yoga community and occupational therapists set the stage for numerous cooperative learning experiences such as workshops and conference (Taylor, 2004). The sharing of space and facilities will enhance opportunity for each discipline to make referrals to one another. This relationship has potential to be an invaluable resource for both parties.

Is yoga reimbursed by insurance?

Yoga should not be used by an occupational therapist as the sole method of treatment but may be reimbursable when used as an adjunctive method. More third party payers are beginning to understand the benefits of using CAM in order save money on healthcare. Insurance companies are more likely to reimburse various methods of CAM, such as yoga, when it is used in conjunction with traditional therapies. A consistent method of reimbursement for yoga depends on increasing research so healthcare professionals can incorporate evidence-based practices (Bottomley, 2003)
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CHAPTER V 
SUMMARY

For this scholarly project, *Evidence-based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy* were developed for occupational therapists who wish to incorporate complementary and alternative medicine (CAM) techniques into their practice. CAM is a broad term for a wide variety of techniques which lie outside the realm of traditional medicine. Guided imagery, myofascial release, meditation, and yoga were found to be the most prevalent CAM therapies currently used for populations commonly seen by occupational therapists as determined by an extensive literature review. Further review of the literature on these four CAM therapies led to the development of the product, *Evidence-based Practice Guidelines for Complementary and Alternative Medicine in Occupational Therapy*. Key questions of concern to occupational therapists exploring the evidence and use of CAM were developed and answered within the evidence-based practice guidelines.

While there is a growing body of research in CAM, there is still more research to be conducted. More studies with higher levels of evidence are needed to further support the efficacy of various types of CAM. In addition, there needs to be evidence to determine CAM's effectiveness as an approach to support occupational performance. A limitation of the product developed is that only four types of CAM therapies are addressed in regards to use in occupational therapy practice. There are other forms of
CAM that could be used within the scope of occupational therapy, though we were limited by time and resources for the purposes of this scholarly project.

It is our hope that this product will be useful for occupational therapists wishing to incorporate CAM therapies in their practice. Through the development of this product we hope that CAM therapies will become more widely known and will become a common adjunctive method to facilitate occupational performance. We will continue to promote the use of CAM through further development of this product. As evidence is established, we will continue to add to the product to support evidence-based implementation of these practice guidelines.
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