Evidence-Based Approach to Treating Lateral Epicondylitis Using the Occupational Adaptation Model

Stephanie Bachman

The occupational therapy Centennial Vision reinforces the importance of informing consumers about the benefit of occupational therapy and continuing to advocate for the unique client-centered role of occupational therapy. Occupational therapy practitioners working in hand therapy have traditionally found it difficult to combine the biomechanical foundations of hand therapy with the fundamental client-centered tenets of occupational therapy. Embracing our historical roots will become more important as health care evolves and third-party payers continue to scrutinize the need for the profession of occupational therapy. This article outlines a client-centered approach for hand therapists for the treatment of lateral epicondylitis using the Occupational Adaptation Model.


Stephanie Bachman, OTD, OTR/L, CHT, is Program Director and Clinical Assistant Professor of Occupational Therapy, Walsh University, North Canton, OH; sbachman@walsh.edu

Interventions described in the ASHT scope of practice (ASHT, 2011) include functional activity; however, the primary focus is on client factors and performance skills (AOTA, 2014). The AOTA (2010) standards of practice, in contrast, emphasize that interventions should concentrate on the use of occupations and activities. Additionally, the Occupational Therapy Practice Framework: Domain and Process (3rd ed.; AOTA, 2014) classifies many of the interventions in the ASHT document as preparatory, further challenging occupational therapy practitioners in hand therapy to provide treatment that balances occupational therapy’s core values with quality hand therapy services.

As health care costs continue to rise and role delineations between professions continue to be less clear, health care reformers and other professionals may begin to question the need for occupational therapy (Hinojosa, 2012). To ensure the continued need for occupational therapy practitioners working in hand therapy, an extra effort should be made to incorporate more traditional occupational therapy interventions into plans of care, alongside the necessary, biomechanical components of treatment. By doing so, practitioners...
can demonstrate the unique perspective of occupational therapy in the treatment of orthopedic conditions and enhance client care in this setting (Doucet & Gutman, 2013). In addition, studies have shown that occupation-based treatment is effective and often triggers increased interest in and compliance with therapy, further improving client outcomes and highlighting the benefits of occupational therapy intervention (Case-Smith, 2003; Colaiainni & Provident, 2010; Guzelkucuk, Duman, Taskaynatan, & Dincer, 2007; Hétu & Mercier, 2012).

The purpose of this article is to revisit the foundation of occupational therapy and offer suggestions for the treatment of a common condition seen in outpatient hand therapy, lateral epicondylitis (LE), by using the Occupational Adaptation (OA) Model (Schkade & Schultz, 1992) in conjunction with more traditional biomechanical interventions. Occupational therapy practitioners working as hand therapists may already routinely incorporate therapy practitioners working as hand therapy, lateral epicondylitis (LE), by using the Occupational Adaptation (OA) Model (Schkade & Schultz, 1992) in conjunction with more traditional biomechanical interventions. Occupational therapy practitioners working as hand therapists may already routinely incorporate

**Occupational Adaptation Model**

Schkade and Schultz (1992) first described OA as a process all people use to help them respond adaptively to occupational challenges throughout their lives. In addition, by concentrating on a person’s internal adaptation process, practitioners prepare clients to recognize and adapt to future occupational challenges (Schultz & Schkade, 1992). OA assists people in developing competence and withstanding disruptions in their occupational functioning; therefore, in OA, any dysfunction in the process must be repaired (Schkade & McClung, 2001). Interventions are directed by occupational role requirements that the client identifies as meaningful, and by focusing on adaptation, these interventions are more efficient and generalizable to other contexts than a plan of care that concentrates on broad skill development (Schkade & McClung, 2001).

A basic assumption of the OA Model is that people want to behave masterfully and that the environment requires this mastery of people (Schkade & McClung, 2001). The interaction between desire for mastery and demand for mastery creates a person’s press for mastery (Schkade & McClung, 2001), which occurs when an individual attempts to fulfill his need for mastery while also meeting the environment’s demands. Practitioners using the OA Model should always assume that a client’s desire for mastery is present and explore the client’s interests, needs, and desires until this desire is identified (Schkade & McClung, 2001). In addition, in OA, the client is considered to consist of sensorimotor, cognitive, and psychosocial systems, and the influence of these three systems must be considered when planning interventions (Schkade & McClung, 2001). Recognition of each client’s source of motivation combined with optimal interaction among the three systems will set the stage for effective therapy goals and interventions to be established.

**Evaluation**

The Framework states that evaluation must begin with an occupational profile and analysis of occupational performance. In addition, assessing biomechanical components of functioning, such as pain, range of motion, and strength, is also necessary in evaluating a client with LE in hand therapy (Jack & Estes, 2010), but incorporating the OA Model takes the evaluation one step further. Although other occupation-based theories exist, the OA Model is unique because it helps guide the occupational therapy practitioner in empowering the client to be his or her own change agent, thus integrating the psychosocial aspects of occupational therapy with biomechanical tenets (Schkade & McClung, 2001). Together, the therapist and client attempt to identify the client’s occupational role expectations (Schkade & McClung, 2001) and the source of dysfunction in the OA process (Schultz & Schkade, 1992). This step is followed by exploring self-generated expectations and those that the environment demands to determine the client’s desire for mastery (Schkade & McClung, 2001).

Referral to therapy occurs because a client has encountered an occupational challenge (Schkade & McClung, 2001). The environment in which the challenge occurs and the role expectations of the client within that setting define the challenge (Schkade & Schultz, 1992). Upon processing the occupational challenge and perceiving its role expectations, the client must create an adaptive response and integrate it into the situation (Schkade & McClung, 2001; Schkade & Schultz, 1992). Anticipating the need to create an adaptive response is the area of the OA process in which occupational therapy has its greatest influence (Schkade & McClung, 2001).

**Intervention**

The typical way a person responds to certain situations evolves from problem solving during past life experiences (Schkade & McClung, 2001). Within the OA Model, these learned patterns are termed existing adaptive response modes (Schkade & McClung, 2001; Schkade & Schultz, 1992). When these learned approaches are unsuccessful at producing a solution to a given problem, the person must either modify or create new adaptive response modes (Schkade & McClung, 2001). Moreover, an illness or injury usually presents a person with an unfamiliar situation, making this process difficult. However, occupational therapy practitioners can assist clients with an illness or injury in creating a modified or new adaptive response mode (Schkade & McClung, 2001). In a person with LE, managing chronic pain is often the novel circumstance that requires intervention, which aims to enable the client to learn to recognize and modify responses to pain-provoking conditions.

**Lateral Epicondylitis**

LE, frequently referred to as tennis elbow, is a common condition treated in outpatient therapy. Typical indications of LE include tenderness at the extensor muscle mass near
the lateral epicondyle and impaired grip strength (Trudel et al., 2004; Waugh, 2005). According to Geoffroy, Yaffe, and Rohan (1994) in their literature review, approximately one-third of LE cases hinder an area of occupation, thus indicating a need to address not only inflammation (Bohr, 2011), pain, and strength (MacDermid, Wojkowski, Kargas, Marley, & Stevenson, 2010; Raman, MacDermid, & Grewal, 2012; Trudel et al., 2004) but also functional limitations imposed by the condition. In their online survey (N = 105, 21% response rate), Colaianni and Provident (2010) concluded that addressing issues specific to clients’ life roles will give the plan of care relevance and meaning to their life, which may improve physical symptoms and motivation, cooperation, and satisfaction with the therapy program.

A literature review revealed traditional therapy methods of treating LE, including education, manual therapy, modalities, splinting, and exercise (Bohr, 2011; MacDermid et al., 2010; Raman et al., 2012; Trudel et al., 2004). The reviewed articles reported that possible benefits of biomechanical methods for treating LE were reducing pain and increasing upper-extremity strength; however, they also acknowledged the need for further, higher level evidence for these methods (Bohr, 2011; MacDermid et al., 2010; Raman et al., 2012; Trudel et al., 2004). Although MacDermid et al. (2010) discussed practitioners’ use of extensive client education (posture, ergonomic adaptations, pain management, rest, activity modification, and risk factors), none of the reviewed articles reported on the practice of these techniques in the clinic or the use of functional activities as an intervention. In addition, no conclusive evidence was shown that the treatment methods investigated improve clients’ long-term functional abilities.

The traditionally used methods described earlier typically fall under the biomechanical frame of reference, which is generally more problem (Jack & Estes, 2010) than client centered. As previously stated, incorporating these types of activities into a treatment plan in hand therapy is often imperative for tissue healing. Using the OA Model, these goals are labeled occupational readiness goals (Schkade & McClung, 2001) and are coupled with occupational activities such as practicing new lifting techniques and learning alternate ways of completing daily tasks to minimize symptoms.

Benefits of Function-Based Treatment

Guzelkucuk et al. (2007) completed a randomized trial comparing the use of therapeutic exercises combined with therapeutic activities mimicking activities of daily living (ADLs; n = 20) with the use of therapeutic exercises alone (n = 16) when treating hand conditions. They discovered that clients who received a combination of therapeutic exercises with ADL activities demonstrated statistically significant (p < .05) levels of improvement in all measured parameters (grip and pinch strength, total active motion of the hand, range of opposition, range of abduction, distance between finger pulp and distal palmar crease, and scores on both the Jepsen Hand Function Test [Jepsen, Taylor, Trieschmann, Trotter, & Howard, 1969] and the Disabilities of the Arm, Shoulder, and Hand questionnaire [Beaton et al., 2001]) compared with the group receiving only therapeutic exercise. Although an obvious limitation of this study is that actual ADLs were not used, it is preliminary evidence that demonstrates improved outcomes when biomechanical techniques are combined with a functional-type activity compared with biomechanical techniques alone. This finding supports the proposal of using OA alongside biomechanical principles in hand therapy.

Documentation of the benefits of traditional interventions with LE is deficient (Raman et al., 2012; Trudel et al., 2004), as is documented evidence that therapy is the factor that improves clients functioning and diminishes complaints of pain. Using a more function-based treatment approach would provide clients with a more customized and comprehensive intervention plan that may improve not only pain and strength but also functional independence to enable clients to continue an active, productive life (Guzelkucuk et al., 2007). In addition, this approach will help distinguish occupational therapy practitioners working in outpatient orthopedic rehabilitation from physical therapists in the same setting, thus identifying and justifying the need to keep both disciplines in this setting.

Case Example

Lori is a 46-yr-old woman who was referred to hand therapy with elbow pain (occupational challenge) secondary to a diagnosis of LE. Her stated goals were to return to full-duty work (environmental demand) and be able to cook meals (environmental demand) for herself without pain. After three therapy visits, it was apparent that Lori did not see the value in massage and stretching. She stated that she did not know whether she would continue attending occupational therapy, saying, “I guess I’ll learn to live with the pain” (existing adaptive response mode). Assuming that Lori’s desire for mastery was present, the therapist decided to explore Lori’s other occupational roles and discovered that Lori was passionate about knitting (source of motivation) and aspired to open a small business someday (occupational role expectation) so she could work from home. Lori also participated in a knitting group (occupational role expectation), which provided a social outlet for her, but she had not attended the group since her elbow problems began (existing adaptive response mode).

Lori brought her knitting supplies and plans for future products (self-generated occupational role expectation) to her next therapy session. She explained the physical requirements of knitting, including pinching, dexterity, wrist mobility, strength, and muscle endurance (sources of dysfunction in OA process and environmental demands). Lori enjoyed pointing out some of the more challenging techniques on the completed pieces and reported looking forward to being able to complete difficult pieces again (self-generated occupational role expectation). During the massage and stretching portions of her next two sessions, Lori and her therapist spent time talking about knitting, upcoming projects, and plans for Lori’s business.
Lori discussed the social facets of her hobby, including camaraderie and support from fellow knitters. She also reported a sense of worth and accomplishment from seeing something emerge from nothing because of the work she did with her hands. During these discussions, she confided in the therapist that she missed her friends but felt she could not return to the group until she could contribute to the knitting projects (self-generated expectation). Lori admitted enjoying therapy since beginning to explore the return to her favorite activity and joked that she “could tolerate” the deep tissue massage and stretches if it meant getting back to knitting quicker.

Lori’s therapist collaborated with her on formulating an intervention plan that would prepare her for return to the occupational role demands of knitting. Occupational readiness goals of iontophoresis for pain, massage and stretching to decrease muscle tightness, and exercises to increase upper-extremity strength and muscle endurance were included in the plan. Occupational activities involved discussion and practicing modified knitting techniques on a simple, small project; graded tasks to increase wrist and forearm strength while protecting inflamed tissue; and progressively resistive pinching tasks. Through education, Lori realized that her LE might be an ongoing issue for her but could be manageable if she changed her technique of knitting and worked on smaller projects (new adaptive response modes). These adaptations gave inflamed tissue time to heal and, coupled with stretching and light strengthening (new adaptive response mode), enabled her to participate in her knitting group and continue with her plans to open her own business.

Lori began to knit at home in small increments of time, progressively increasing as tolerated (adaptive response). At the therapist’s suggestion, she made some brownies to take to the knitting group (adaptive response). She reported that this contribution to the group helped her feel that she was still an active member even though she was not able to knit as quickly or as long as she used to (adaptive response). Surprising to her, the group was happy to have her back, regardless of the quality or amount of knitting she was completing (environmental demand). Because she was unable to use her existing adaptive response modes to knit, the therapist helped her problem solve to develop new and modified adaptive response modes—using less wrist range of motion and taking rest breaks that included stretching exercises—to be able to rejoin her social network. In addition, Lori’s new adaptive response modes help her identify possible future LE flare-ups and recognize the need to stretch and examine her knitting technique to diminish pain. In addition, Lori realized that, depending on her physical symptoms, her self-generated role expectations might need to change to continue to meet her environmental demands.

By focusing on the occupational role that was most important to the client, the therapist was able to help Lori meet tissue-healing goals as well as her occupational goals. In addition, the psychosocial components of living with a chronic pain condition were addressed, further demonstrating the holistic benefits of using OA in occupational therapy intervention with the client. The physician, client, and therapist were all satisfied with the outcome of treatment, and the client was able to return to work without difficulty 4 wk after therapy began.

Future Directions

This article illustrates one interpretation of the OA Model (Schkade & Schultz, 1992) and provides an example of how to incorporate it into hand therapy. Comparing the outcomes of clients with LE treated with traditional biomechanical methods with the outcomes of those treated with the OA approach is necessary for future research. Examining the difference in client satisfaction and perceptions of occupational therapy between the two approaches may also help justify the move from a purely biomechanical approach to one in which the client is an equal partner with the therapist in planning treatment. Being able to prove the efficacy of using occupation-based interventions in occupational hand therapy will help ensure that the profession continues to have an important role as health care evolves.

Conclusion

For outpatient occupational therapy practitioners, there is an inherent challenge to bridge the mechanical skill expectations of insurers, physicians, and clients with the holistic, client-centered care that is the heart of occupational therapy. Therefore, in line with the AOTA (2007) Centennial Vision, practitioners must educate these parties about the importance of using occupation, the unique contribution that occupational therapy brings to rehabilitation, and the differences between occupational therapy and other professions. In doing so, practitioners will ensure the continued need for the profession in the future. ▲

Acknowledgments

I thank Tambra Marik and Melissa Sweetman for their support and guidance in developing this article.

References


