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# **Interventions Addressing Social and Leisure Participation for Adults with Musculoskeletal Chronic Pain**

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## Interventions Addressing Social and Leisure Participation for Adults with Musculoskeletal Chronic Pain

### FOCUS QUESTION:

**P** - Adults 18-90 years of age

**I** - Exploration of most effective OT programs and interventions

**C** - Musculoskeletal chronic pain

**O** - Improved participation in social and leisure activities

What are the most effective occupational therapy interventions to improve social and leisure participation in adults aged 18 to 90 who experience chronic musculoskeletal pain?

### Case Scenario

Approximately 34.5% of the American population between the ages of 18 to 90 years of age are affected by chronic pain, making it one of the most significant public health problems in the United States (Yong et al., 2021). Untreated pain negatively affects multiple aspects of health, including sleep, cognitive processes and brain function, mood or mental health, cardiovascular health, sexual function, and overall quality of life (Yong et al., 2021). *Chronic pain* is defined as pain that has persisted for at least three months and extends past normal tissue healing time (Treede et al., 2019; Yong et al., 2021). *Musculoskeletal pain* affects bones, joints, ligaments, muscles, and tendons (Cleveland Clinic, 2021).

When treating chronic pain, occupational therapy takes a holistic viewpoint to improve clients' quality of life. *Occupational therapy (OT)* can be defined as “the therapeutic use of everyday life occupations with persons, groups, or populations for the purpose of enhancing or enabling participation” (American Occupational Therapy Association [AOTA], 2020a, p. 1). OT has proven to reduce overall healthcare costs and patient readmission, as well as improved client outcomes, as seen in the triple aim of healthcare that utilizes cost-effective care, evidence-based research, and client-centered treatment (Levasseur et al., 2019; Simon & Collins, 2017). Social and leisure activities have been identified as the most valued areas of occupation that are significantly impacted for clients with chronic pain due to the inability to engage fully in these meaningful activities (Fisher-Grote et al., 2021; Savaakis & Kolokouras, 2019; Zidarov et al., 2020). *Social participation* is defined as “activities that involve social interaction with others, including family, friends, peers, and community members, and that support social interdependence” (AOTA, 2020a, p. 39). *Leisure participation* is defined as “a nonobligatory activity that is intrinsically motivated and engaged in during discretionary time, that is, time not committed to obligatory occupations such as work, self-care, or sleep” (AOTA, 2020a, p.39). *Quality of life* is defined as “dynamic appraisal of the client’s life satisfaction (perceptions of progress toward goals), hope (a real or perceived belief that one can move toward a goal through selected pathways), self-concept (composite of beliefs and feelings about oneself), health and functioning (e.g., health status, self-care capabilities), and socioeconomic factors (e.g., vocation, education, income” (Radomski, 1995 as cited in AOTA, 2020a, p.82). Social and leisure participation plays a large role in a client’s quality of life, meaning that chronic musculoskeletal pain can significantly decrease their participation in meaningful activities.

The model of human occupation (MOHO) has been used as the foundational theory when researching OT's role in treating chronic musculoskeletal pain. The MOHO model can guide OTs through identifying meaningful occupations, creating new habits and routines, and increasing performance capacity to enable engagement, specifically social and leisure participation (O'Brien, 2017). *Performance capacity* refers to “both the underlying objective mental and physical abilities and to the lived experience that shapes performance” (O'Brien, 2017, p. 100). The reduced performance capacity that is inhibiting participation in occupations can lead to emotional distress and functional disability (Treede et al., 2019), as well as diminished *volition*, which is “the process by which persons are motivated toward and choose what they do; it involves both the desire to do something and the intensity of pursuing” (Clifford O'Brien, 2017, p. 99). In addition, it can lead to loss of overall *habituation*, which is a process whereby doing is organized into patterns and routines as well as roles clients identify with (Clifford O'Brien, 2017).

The target population in this critically appraised topic, adults who suffer from chronic musculoskeletal pain, have identified their overall quality of life has decreased due to poor pain management and lack of social/leisure participation (Savaakis & Kolokouras, 2019). Culture is directly tied to quality of life; therefore therapists need to be aware of the values and beliefs each individual carries through their volition and habituation to ensure professional relationships and cultural considerations (AOTA, 2020a; Clifford O'Brien, 2017). Cultural considerations are an important aspect of treating individuals because of their own unique beliefs and definitions regarding social and leisure participation as well as their desired approach to address chronic musculoskeletal pain.

The purpose of this critically appraised topic is to address the limited information regarding OT interventions that can address and improve participation in social and leisure activities for adult individuals with chronic musculoskeletal pain. Two interventions, pacing and Lifestyle Redesign® have been proven effective to address chronic musculoskeletal pain and occupational performance in meaningful activities, specifically social and leisure participation. Activity pacing is one of the most widely endorsed interventions used by OTs to assist clients to manage chronic musculoskeletal pain conditions (Andrews et al., 2018). The Lifestyle Redesign® program will also be analyzed as an occupational therapy intervention that is directed toward the lifestyle of each client and their individual needs. Through this approach, the therapist and client work together to design a program that is directed towards overall habituation that is personally meaningful to the client's life (Simon & Collins, 2017).

### **Search Summary**

The topic given was focused on finding interventions related to occupational therapy's role in improving participation in social and leisure activities for individuals suffering from chronic pain. Applicable literature was found in multiple databases provided by the University of North Dakota including, CINAHL, PubMed, and SPORTDiscus. The broader search terms used in the search phrases include chronic pain, occupational therap\*, musculoskeletal, quality of life, social, leisure, limitations in activities, interventions, and adults. Inclusion criteria included adults aged 18-90, published between 2017 to 2022, with available full text, and in the English language. Using these terms and filters, we found that there was limited evidence specific to

occupational therapy interventions addressing social and leisure participation for individuals with chronic musculoskeletal pain. We found a total of 30 articles regarding intervention for chronic musculoskeletal pain, and from these articles we further developed our focus question. These articles led us to determine the best interventions when addressing chronic musculoskeletal pain. Once this determination was made, six articles met the inclusion criteria pertaining to the focus question that was then further refined.

### Summary of Articles

Of the articles that were found in the search for interventions, three were most relevant to pacing being used as a chronic musculoskeletal pain intervention for engagement in social and leisure participation. In the first article, a Level IV, researchers utilized an online survey to examine the opinions of multidisciplinary healthcare professionals on activity pacing (Antcliff et al., 2019). There were a total of 97 healthcare professionals who participated, with a majority working as physiotherapists and in outpatient departments (Antcliff et al., 2019). The methodology for the second article was a Level I randomized controlled trial feasibility study, with 20 participants that experienced chronic pain (Guy et al., 2020). The pacing intervention was provided by OTs and data was collected during week one and week five out of a five-week study (Guy et al., 2020). The results were then analyzed through the lens of the Canadian Model of Occupational Performance, which has similar characteristics to MOHO. In the third article, a mixed-methods study was used; the quantitative aspect was a Level IV and the qualitative aspect was N/A (Andrews et al., 2018). The participants first filled out two questionnaires and then completed five days of home data collection about their levels of activity participation (Andrews et al., 2018). There were a total of 68 participants with varying levels of productivity to leisure/social participation ratios (Andrews et al., 2018). The articles by Andrews et al. (2018) and Antcliff et al. (2019) were not analyzed through a specific theoretical lens, but the results identify characteristics of volition, habituation, and performance capacity, therefore it could be transferable to MOHO. All three studies had a population ranging between the ages of 18 and 90 years old, who have experienced chronic pain persisting longer than three months (Andrews et al., 2018; Antcliff et al., 2019; Guy et al., 2020).

Three articles were found in the article search to support OT utilization of Lifestyle Redesign® in the treatment of chronic musculoskeletal pain when addressing social and leisure participation. The first article was a retrospective study, Level III, that consisted of 45 participants, with a mean age of 42.6 years (Simon & Collins, 2017). Researchers developed a focus on healthy self-care routines and habits to prevent and manage chronic pain conditions (Simon & Collins, 2017). The second article used a mixed methods methodology, the quantitative aspect was a Level III, and the qualitative aspect was a Level N/A, which used the Lifestyle Redesign® program to focus on health, social participation, leisure, and mobility of older adults (Lavasseur et al., 2019). The researchers analyzed the results using the Disability Creation Process Model and took into consideration the differences within cultures and noted that programs will look different for those with different routines and values (Lavasseur et al., 2019). The final article used was a randomized control trial, Level I, with a control group and an intervention group of older adults aged 60-95 years (Juang et al., 2016). The focus of this Lifestyle Redesign® program was to promote healthy habits and routines to mediate active frequency and perceptions of activity significance to eliminate symptoms of depression due to

un-involvement in social and leisure participation (Juang et al., 2016). The articles by Simon and Collins (2017) and Juang et al. (2016) were not analyzed through a specific theoretical lens, but the results identified characteristics of volition, habituation, and performance capacity, making the results compatible with the theoretical framework of MOHO.

### **Synthesis of Findings**

*Pacing* is defined as strategies used to make daily activities smaller, more manageable, and balanced across a span of time (Andrews et al., 2018; Antcliff et al., 2019; Guy et al., 2020). The strategies typically used in pacing involve breaking down tasks into smaller activities, spreading activities out over longer periods of time, or switching between activities with the goal of having a balance between productive tasks and leisure tasks (Andrews et al., 2018; Antcliff et al., 2019). Andrews et al. (2018) found that pacing can be used as a pain management intervention, because rests are planned and not taken due to high amounts of pain, while Guy et al. (2020) found that pacing does not influence pain severity, therefore it is not a pain management strategy. Pacing has also been shown to lead to improvements in performance satisfaction and volition, better moods, a larger sense of control, and increased self-efficacy (Antcliff et al., 2019; Guy et al., 2020). Individuals who consider themselves to be pacers, were found to have a better balance between productive tasks and social/leisure activities (Andrews et al., 2018; Antcliff et al., 2019). It was also identified that pacing does not have a negative impact on chronic musculoskeletal pain or increase the severity (Andrews et al., 2018; Antcliff et al., 2019; Guy et al., 2020).

*Lifestyle Redesign®* is defined as a guide to help patients go through the process of creating habits and routines that are meaningful to the client and promote healthy living within the client's life (Simon & Collins, 2017). Lifestyle Redesign® programs are designed by both the client and the therapist to determine overall habituation within one's life that is personally meaningful to the client. Lifestyle Redesign® programs are implemented to help clients stabilize routines to manage pain and help them live a comfortable life, with the ability to participate in desired occupations. Pain planning and pain communication are of focus when improving social and leisure participation for clients with chronic musculoskeletal pain (Juang et al., 2016; Levasseur et al., 2019; Simon & Collins, 2017). Current research done on Lifestyle Redesign found it effective in helping people living with chronic pain with quality of life, social/leisure participation, overall function and mobility, self-efficacy, and improving pain levels (Juang et al., 2016; Levasseur et al., 2019; Simon & Collins, 2017).

### **Implications for Occupational Therapy**

Individuals with chronic musculoskeletal pain have been identified as having a lower quality of life satisfaction (Savaakis & Kolokouras, 2019). *Chronic pain* is defined as pain that has persisted for at least three months and extends past normal tissue healing time (Treede et al., 2019; Yong et al., 2021). *Musculoskeletal pain* affects bones, joints, ligaments, muscles, and tendons (Cleveland Clinic, 2021). *Quality of life* (QOL) is defined by the World Health Organization as an individual's self-perception of their position in life, in the context of culture and value systems, in relation to personal goals, expectations, standards, and concerns (Savvakis & Kolokouras, 2019). Social and leisure participation is shown to have a significant impact on a person's QOL (Savvakis & Kolokouras, 2019). *Social participation* is defined as "activities that

involve social interaction with others, including family, friends, peers, and community members, and that support social interdependence” (AOTA, 2020a, p. 39). *Leisure participation* is defined as “a nonobligatory activity that is intrinsically motivated and engaged in during discretionary time, that is, time not committed to obligatory occupations such as work, self-care, or sleep” (AOTA, 2020a, p.39). Chronic musculoskeletal pain can cause people to disengage in social and leisure activities due to the significance of the pain and the lack of longevity to complete desired tasks (Andrews et al., 2018).

Each profession has its own unique approach to treating musculoskeletal chronic pain and an interdisciplinary team consisting of physical therapists, general practitioners, pain specialists, and occupational therapy has been shown to be the most effective (Andrews et al., 2018). Occupational Therapy (OT) has the unique skill set to address participation in meaningful activities that impact social and leisure participation. When OT is examining participation in social and leisure activities the theoretical lens of MOHO was identified to be most effective. *Volition* is “the process by which persons are motivated toward and choose what they do; it involves both the desire to do something and the intensity of pursuing” (Clifford O’Brien, 2017, p. 99). *Habituation* is a process whereby doing is organized into patterns and routines as well as roles clients identify with (Clifford O’Brien, 2017). *Performance capacity* refers to “both the underlying objective mental and physical abilities and to the lived experience that shapes performance” (O’Brien, 2017, p. 100). Two OT interventions have been identified in addressing aspects of an individual’s volition, habituation, and performance capacity, which are *Pacing* and *Lifestyle Redesign*®. These interventions focus on developing a plan that works well for each client and allows them the capability of completing social and leisure tasks. The significance of social and leisure participation greatly affects the QOL of all individuals, as it provides meaning and enjoyment to one’s life.

*Pacing* is a multidimensional intervention that can be used in a wide variety of practice settings and is cognizant of each client and their specific cultural views related to chronic musculoskeletal pain. But there is no standardized framework for activity pacing that addresses chronic pain solely (Antcliff et al., 2019). *Pacing* is characterized by breaking down tasks into smaller activities, spreading activities out over longer periods, or switching between activities with the goal of having a balance between productive tasks and leisure tasks (Andrews et al., 2018; Antcliff et al., 2019). Even though there is no framework, it is beneficial for therapists to select the facets of pacing that are useful for their client and treatment setting; these facets can be supportive because the results depend on the interpretation of the therapist and client (Antcliff et al., 2019). This approach can also positively affect culture because it is easily adapted to fit the client’s volition. In practice, *pacing* is an intervention that OT can adapt to a client’s lifestyle to improve their participation in social and leisure activities (Andrews et al., 2018; Antcliff et al., 2019; Guy et al., 2020).

*Lifestyle Redesign*® principles can be applied in any treatment setting, but compared to *pacing*, the intervention has outlined manuals and literature to administer this type of intervention confidently (Simon & Collins, 2017). *Lifestyle Redesign*® is unique for OT because it is an outlined intervention that can be personalized to a client’s culture and what they identify as meaningful occupations (Levasseur et al., 2019; Simon & Collins, 2017). More research is warranted in *Lifestyle Redesign*® and has highlighted the need for more OTs to

incorporate lifestyle techniques into existing practices (Juang et al., 2016; Levasseur et al., 2019; Simon & Collins, 2017). By incorporating this approach into practice, therapists can help improve the validity of this intervention while improving the QOL of their clients (Juang et al., 2016; Levasseur et al., 2019; Simon & Collins, 2017).

These intervention approaches are within the scope of practice for OTs and can be beneficial for both the client, the therapist, as well as contributing to the bigger picture of the interprofessional team and each individual role when treating chronic musculoskeletal pain. This importance is evidenced by Juang et al. (2018), who states:

Such effort to integrate services can bring parsimony and increase effectiveness for different types of interventions targeting the same outcome. This raises an important question of how services across disciplines strive to achieve comparable goals and complement each other while maintaining their unique contributions. (p. 359)

It is up to the OT practitioner to uphold the OT standards of practice and apply these interventions in an ethical manner (AOTA, 2020b). The holistic viewpoint of OT gives us a distinct place on the interprofessional team due to the focus on volition and habituation when treating individuals with chronic musculoskeletal pain who have a decreased ability to engage in social and leisure participation.

### **Strengths and Limitations**

A significant threat to validity is caused by the lack of standardization of interventions which could affect consistent intervention implementation and in turn affect overall outcome measures. The small sample sizes included in some of the studies could limit generalizability and external validity. In addition, the method of recruitment, as well as the limited healthcare profession input, could affect internal validity. Finally, there was an inconsistent delivery of interventions because of time, cost, and patient constraints, which again could affect generalizability. Nevertheless, strengths within the studies regarding reliability and validity were reinforced by utilizing blinding of researchers to reduce bias, overall triangulation of data which fostered good internal validity, and strong interrater reliability throughout the studies.

### **Conclusion**

An interdisciplinary team of health care workers is required to treat those suffering from chronic musculoskeletal pain, with each member having a role to improve the QOL of their clients. Occupational therapy's role in the treatment of individuals with chronic musculoskeletal pain is through promoting meaningful and healthy activities from a holistic approach. Lifestyle Redesign® and activity pacing have been proven to be the two most effective multidimensional interventions when treating chronic pain in individuals aged 18-90 years (Andrews et al., 2018; Antcliff et al., 2019; Guy et al., 2020; Levasseur et al., 2019; Juang et al., 2017; Simon & Collins, 2017). These two interventions significantly increase participation in social and leisure activity; by applying these interventions for chronic pain, they can positively impact mental health, volition, overall mobility, self-efficacy, and functional abilities, which in turn can improve quality of life (Antcliff et al., 2019; Guy et al., 2020; Juang et al., 2017; Levasseur et al., 2019; Simon & Collins, 2017). These approaches can also lower overall healthcare costs and



hospital readmissions, and show the need for the routine incorporation of occupational therapy into chronic musculoskeletal pain management care (Levasseur et al., 2019; Simon & Collins, 2017).

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