The Role of Occupational Therapy in Comprehensive Integrative Pain Management

Jointly Commissioned by

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Introduction

Pain is the top reason given for seeking health care.[1] People with acute and chronic pain face significant challenges accessing and understanding which facets of person-centered, multimodal, comprehensive integrative pain management (CIPM) would provide improvement in functional capacity, pain interference, quality of life, and pain management coping skills. Most clinical guidelines recommend non-pharmacological and integrative therapies as first-line interventions for pain, and the Health & Human Services Inter-Agency Pain Management Best Practices Task Force Report presents a convincing roadmap for advancing best practices in multidisciplinary, whole-person care.[2] This approach includes traditional and advancing medication and interventional procedures, complementary and integrative services, restorative therapies, and behavioral health approaches. The purpose of this collaborative effort between AACIPM and AOTA is to build awareness across stakeholders by providing additional context about occupational therapy as an important part of a quality interdisciplinary and integrative team.

What is Occupational Therapy?

Occupational therapy practitioners, including occupational therapy assistants, define *occupation* as a *meaningful activity,* and occupations can range from activities of daily living (ADLs) to community-based activities to the unique pastimes that enrich a person's life. Occupational therapy practitioners strive to improve their patients' functional performance, independence, and quality of life in order to increase participation in their daily activities.[3]

From beginning of life through end-of-life care, and every stage in between, occupational therapy practitioners work with people throughout the lifespan in hospitals, outpatient clinics, primary care, schools, and community-based settings. Occupational therapy practitioners work along the continuum of care, supporting people through prevention and self-management of acute and chronic conditions.[4]

Occupational therapy practitioners are trained to conduct a thorough evaluation to assess performance deficits and strengths, and develop a specific, individualized treatment plan geared toward returning patients to their most important occupations. Their person-centered interventions are based in facilitating self-analysis, collaboration, problem-solving, and action planning within the context of their patients' daily lives and overall health management.

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What role does occupational therapy play in a comprehensive pain management program?

The role of an occupational therapy practitioner within a comprehensive integrative pain management program uniquely focuses on function. This includes ADLs, instrumental activities of daily living (IADLs) (e.g., meal-prep, shopping, childcare), and other daily life activities. Using evidence-based, skilled interventions, occupational therapy practitioners take a holistic and comprehensive approach to thoroughly evaluate structural, physiological, psychological, environmental, and personal factors that influence the experience of pain. This information is then used to apply self-management strategies, functional activities, hands-on techniques, and specific exercises to improve function and participation.

While occupational therapy practitioners independently help patients implement health-promoting behavior change, they also overlap and reinforce treatment goals from other interdisciplinary team members. For example, a patient with pain may learn relaxation techniques in pain psychology and physical exercises from their physical therapist, but they may have difficulty integrating these interventions into their habits and routines in a consistent and effective way. Occupational therapy practitioners can address this challenge with the patient by analyzing activity patterns, problem-solving barriers, and facilitating sustainable carryover. Additionally, occupational therapy practitioners train caregivers and contribute valuable assessments regarding patient safety, environmental safety, and readiness for discharge. This combination of skillsets prioritizes patient safety and independence and can even reduce risk for readmission.[5]

Unfortunately, occupational therapy practitioners are commonly overlooked in the research and development of comprehensive pain management teams compared with fellow non-pharmacological providers (e.g., physical therapists, psychologists).[6] By including occupational therapy practitioners, pain management teams can better reflect guidelines from the Centers for Disease Control and Prevention that recommend non-pharmacological interventions that are common in occupational therapy, such as patient education, self-regulation, developing self-management skills, and realistic goal-setting.[7]

How do occupational therapy practitioners treat pain?

Occupational therapy practitioners collaborate with patients to identify and incorporate self-management strategies into their daily routines to reduce pain, increase participation in meaningful occupations, and improve quality of life. Informed by the *Occupational Therapy Practice Framework, Domain & Process, 4th edition,* Table 1 summarizes the occupational areas that are impacted by chronic pain and the evidence-based occupational therapy interventions used to address pain-related functional impairment.[3]

Table 1: Occupational Therapy Interventions for Pain Management

Occupational Area Impacted by Chronic Pain	OT Intervention
Activities of Daily Living (ADLs) / Self-care Examples: Grooming, dressing, toileting, feeding, functional mobility, sexual activity	• Adaptive equipment selection and training • Positioning equipment and strategies • Functional mobility training (e.g., static positioning, dynamic movement, transfers, lifting and bending techniques) • Neuromuscular re-education • Nerve mobilization • Functional range of motion and strengthening exercises • Activity pacing and energy conservation strategies • Ergonomic and body mechanic training[8, 9, 10] • Fall safety and prevention[11] • Home evaluations

Occupational Area Impacted by Chronic Pain	OT Intervention
Instrumental Activities of Daily Living (IADLs) Examples: caretaking, driving, financial management, home management, meal preparation, safety and emergency maintenance, shopping	• Activity pacing and energy conservation strategies, including activity analysis and activity modifications[12, 13, 14, 15, 16] • Adaptive equipment selection and training • Transportation training, including comprehensive driver evaluations and driver rehabilitation • Community reintegration • Compensatory cognitive strategies[11]
Health Management Examples: symptom and condition management, communication with health care system, medication management, physical activity, nutrition management, personal care device management	• Patient education and disease self-management training, including trigger identification, symptom tracking, and pain flare-up planning[17, 18] • Pain coping strategies: physical modalities, complementary and alternative pain coping strategies, sensory strategies, self-regulation, mobilization • Pain communication and assertive communication training[19, 20, 21] • Medication management[22] • Self-regulation training and stress management coping strategies, including mindfulness, relaxation techniques, and cognitive behavioral techniques[23, 24] • Eating routine strategies (e.g., frequency/quality education to avoid dietary pain triggers and improve energy management)[25, 26] • Physical activity routines (e.g., grading physical activity, establishing sustainable routines)[27] • Time management strategies, including routine establishment to promote nervous system regulation
Rest & Sleep	• Sleep hygiene and positioning strategies[28, 29] • Cognitive behavioral therapy for insomnia (CBT-I) • Energy conservation and fatigue management
Education & Work	• Academic and work accommodations[30] • Ergonomic and body mechanics training[31, 5] • Advocacy and self-advocacy training[32, 33, 34] • Assertive communication training • Community re-integration, including gradual re-entry plans • Activity pacing and energy management strategies • Environmental modifications • Sensory strategies to monitor environmental triggers or exacerbating factors[35] • Community and online resources exploration • Compensatory cognitive strategies

Occupational Area Impacted by Chronic Pain	OT Intervention
Play, Leisure, & Social Participation	• Strategies to prevent social isolation • Assertive communication strategies • Advocacy and self-advocacy training • Personal values and interests exploration • Community resources • Community reintegration

The list of skilled occupational therapy interventions included in Table 1 demonstrates the diverse practices that are used during treatment sessions to achieve the overall goal of improving function and participation. By working with patients to develop individualized strategies related to lifestyle, resource utilization, and self-advocacy, occupational therapy practitioners help to prevent future injury and pain. Further, satisfying participation in occupations can improve mood, provide a healthy diversion, and increase the release of endorphins, which are the body's natural pain relievers. By helping patients develop and sustain health-promoting daily activities, occupational therapy practitioners empower them by improving self-efficacy, self-management, and overall quality of life.

When is a referral to an occupational therapy practitioner appropriate?

The following patient factors may indicate a need for occupational therapy services:

- Impaired function or ability to participate in occupations due to pain-related barriers (e.g., musculoskeletal impairments, strength deficits, decreased endurance, psychosocial barriers, contextual barriers)
- Presence of health-deterring lifestyle factors that contribute to pain (e.g., stress, sleep disturbance, overexertion, poor eating/exercise routines)
- Lack of awareness regarding factors that exacerbate or alleviate symptoms, resulting in challenges with self-management
- A stage of change in a patient's life that reflects their readiness to try new strategies and approaches
- Interest in non-pharmacological approaches to pain management.

Is occupational therapy care for pain management covered by insurance?

Occupational therapy for pain management is a covered service by most insurance companies, including commercial (employee-sponsored and marketplace plans), Workers' Compensation, Medicare, and Medicaid plans. However, there is wide variability in the terms of coverage, such as the number of visits and allowed interventions. Occupational therapy clinics often assist individuals with pain in determining insurance eligibility and coverage and, if necessary, gaining authorization for service. Patients are typically responsible for a deductible, coinsurance, or copayment. Occupational therapy treatment is usually billed using the Current Procedural Terminology (CPT) codes depending on the payer source. Depending on state guidelines and payer policy, occupational therapy can also be delivered successfully through telehealth platforms. Telehealth expands access for individuals with pain who may have a provider shortage in their area and for individuals who may experience barriers to transportation or increased pain with travel.

What type of training do occupational therapy practitioners receive?

Currently, occupational therapy assistants and occupational therapists are considered generalist practitioners upon completing their educational programs, which are a minimum of associate's degrees and master's level programs, respectively. Pain management training and education is incorporated into the entry-level academic occupational therapy programs; therefore, all occupational therapy practitioners are qualified to provide pain management services. While all occupational therapy practitioners are qualified to treat pain, those who have completed advanced-level training in pain management specifically is somewhat limited. Occupational therapy practitioners

recognize this is a challenge and have recommended strategies to increase training in pain management, including the use of internships specializing in pain management, post-professional training courses, interprofessional education, and curriculum changes.[36]

Nancy Baker, ScD, MPH, OTR/L, FAOTA an Associate Professor of Occupational Therapy at Tufts University, suggests the use of post-professional training programs specializing in pain management treatment.[35] For example, the University of Southern California offers a clinical residency that focuses on pain management in their post-professional doctoral training, and it includes direct patient care, engaging in interdisciplinary team care for pain management, and participating in continuing education courses and conferences. Baylor University offers Pain Science as one of three elective tracks in their post-professional occupational therapy doctoral curriculum. Additionally, institutions that have both post-professional occupational therapy doctoral programs and medical centers with multidisciplinary pain teams, like Boston University, provide the opportunity for students to build a residency that integrates additional pain management training.

There are also additional continuing education and advanced practice certificates that occupational therapy practitioners can enroll in for further pain management training, such as the Lifestyle Redesign® for Pain Management 6-hour continuing education course, Master's in Pain Management online program for post-professionals at the University of Southern California, or the McGill Online Graduate Certificate in Chronic Pain Management.

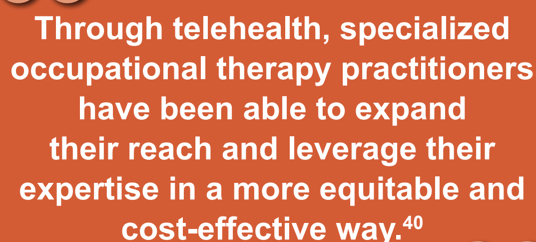
Can patients access occupational therapy in all communities?

Occupational therapy practitioners provide services in a variety of settings including hospitals, outpatient clinics, school systems, and homes. Depending on the state where occupational therapy services are received, referrals may be made by physicians, nurse practitioners, physician assistants, licensed social workers, and psychologists, among others. Patients can also contact their insurance company to request information about occupational therapy practitioners who are covered under their health care plan.

In some communities and systems, patients, providers, and payers have limited access to OT services due to limited awareness by patients and non–occupational therapy health providers about an occupational therapy practitioner's role in treating pain. Even when training and reimbursement for non-pharmacological pain management interventions are available, occupational therapy practitioners may not be present in a uniform, equitable way to meet a community's needs. In a review of barriers to accessing interdisciplinary pain care, research found that there were few or no providers available in some ZIP codes despite insurance coverage of non-pharmacological services. This scarcity led to patients relying on more high-risk options, such as opioid use.[37 41]

What's more, the ZIP codes with the highest need for non-pharmacological providers typically coincide with communities heavily impacted by racial and socioeconomic disparities.[37] In a 2020 survey by the U.S. Pain Foundation of 1,581 people with pain, a key finding is that "most pain patients are not getting access to multidisciplinary and integrative pain care, the care widely viewed as best practice. More than three-quarters of patients seen at pain clinics/centers said the center only offers pain doctors, not multidisciplinary specialists, like psychologists, nutritionists, physical therapists, etc."[38]

Increasing access to telehealth services can help to alleviate these barriers that are due to social determinants. Typically, occupational therapy practitioners are not Centers for Medicare & Medicaid Services (CMS) covered telehealth providers; however, through a COVID-19 emergency waiver (still in effect as of March 2022), occupational therapy practitioners have been temporarily approved as qualified telehealth providers.[39] Through telehealth, specialized occupational therapy practitioners have been able to expand their reach and leverage their expertise in a more equitable and cost-effective way.[40] Individuals living with chronic pain have reported additional benefits to telehealth, as it often addresses barriers related to transportation, geography, insurance, time, energy expenditure, and stress related to navigating appointments with multiple health care providers.[37,41] Multiple studies examining the effectiveness of interventions delivered via telehealth indicate high patient satisfaction and the desire to continue using telehealth beyond the duration of the COVID-19 pandemic.[42,43,44] At a national, state, and local level, occupational therapy practitioners are advocating for permanent telehealth coverage to sustain these identified improvements in access and pain management outcomes.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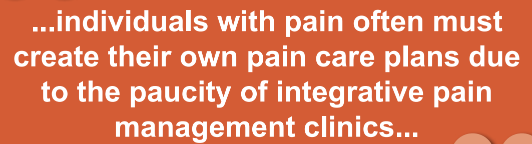
What must be done to better integrate occupational therapy services into a comprehensive pain management model?

The lack of practical understanding of how to provide, guide, and integrate the interprofessional part of comprehensive integrative pain management has been one of the most commonly mentioned barriers by all the stakeholders involved in AACIPM. In other words, health care providers are not currently trained to understand exactly when, how, and why they should refer to other professionals, even if they know the evidence recommends other interventions and treatments for pain management. Further, individuals with pain often must create their own pain care plans due to the paucity of comprehensive integrative pain management clinics and the fragmentation of existing care models when it comes to the complexities of pain. This requires people with chronic pain to have a much deeper understanding of all the providers' strengths.



For example, Maggie, who lives with Ehlers Danlos Syndrome (EDS) and is a Board-Certified Patient Advocate, knows exactly when and why she needs to visit the providers on her team (e.g., physician, occupational therapist, physical therapist, acupuncturist, massage therapist). Unfortunately, this scenario is not the norm. On the importance of the patient needing to understand which treatments and referrals to ask for, Maggie states:

> *"There are numerous hoops to jump through when it comes to getting the care that I need, when I need it, and from the right provider. For example, an EDS-related shoulder subluxation with soft tissue damage can present similarly to a broken bone or torn rotator cuff. When this happens to me, I would start with my regular primary care doctor, who sends a referral to the PT and OT teams, and then I'm on my way to restoration of function. If my regular doctor is not available, I have to accept a referral to orthopedics and go through additional exams and scans to confirm that it is, in fact, a normal EDS-related subluxation. This extends my pain and healing time. Unfortunately, it takes time and experience with repeated injuries to figure out the best pathways for care for each person, including learning what will be covered by their individual insurance plan."*

In order to integrate occupational therapy services as part of a comprehensive pain management program, there must be better understanding and awareness of these services by 1) payers, 2) health care providers, and 3) individuals.

1) With approximately half of insured people covered by employer-sponsored health plans, it is imperative that employers who are purchasers of health care understand the role of OT and other therapies when it comes to selecting benefit designs for acute and chronic pain. Additionally, payer-provider partnerships are extremely important when developing a comprehensive integrative program, such as the partnership between Blue Cross Blue Shield of Vermont and the University of Vermont Medical Center for the Comprehensive Pain Program pilot. This pilot includes a wider range of health care providers, including occupational therapy practitioners, than often found in one clinic and they are integrated, interprofessional, and integrative in their approach.

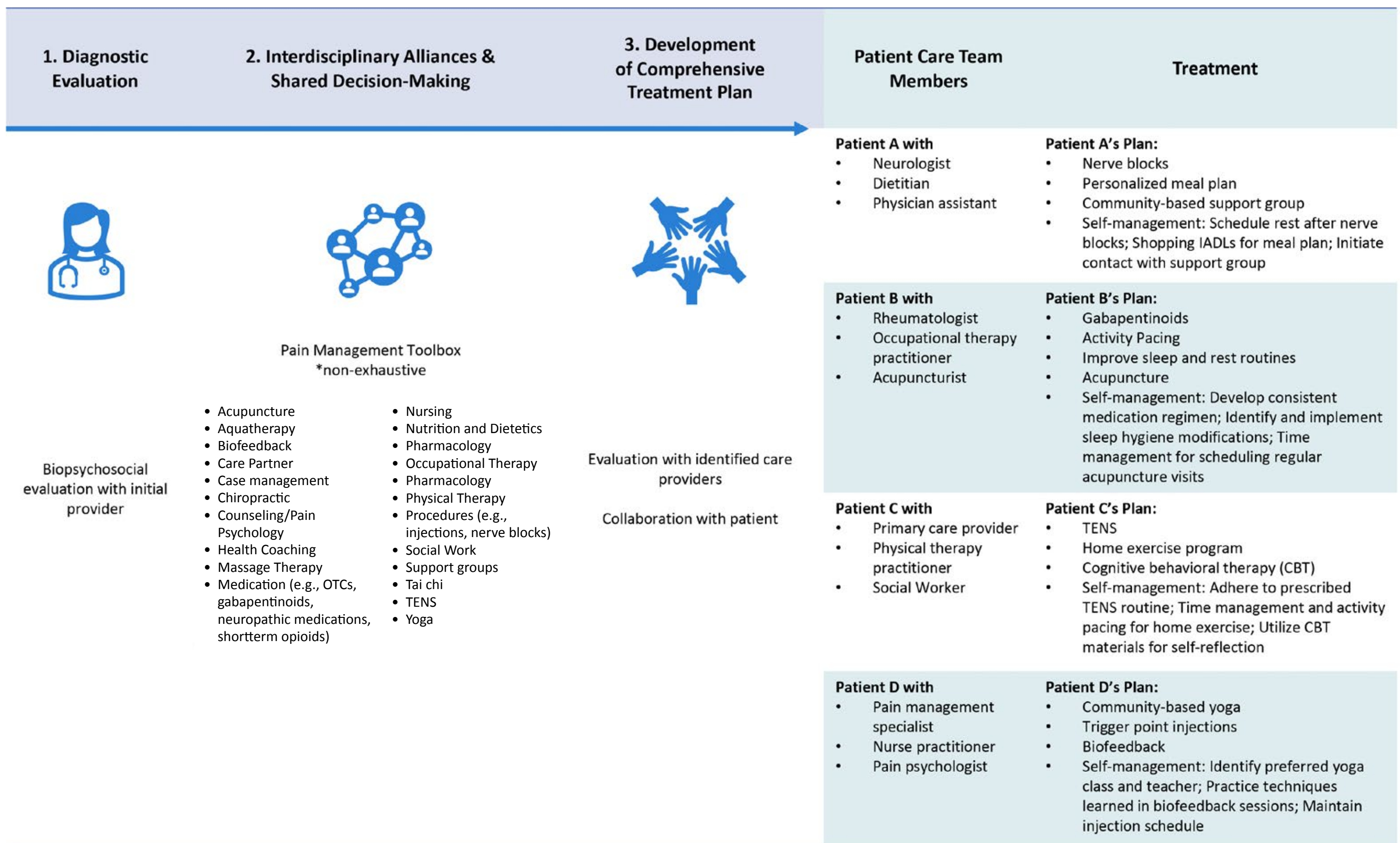
2) Physicians and other healthcare providers may benefit from additional training in how occupational therapy practitioners can treat pain conditions so that they are better able to identify patients who would benefit from this service and to make the recommended referral to an occupational therapy provider. This training could be incorporated into medical school curriculum or provided to practicing physicians in clinical settings in the form of an in-service, presentation, or clinical observations of occupational therapy evaluation and treatment sessions. Pain management treatments are more likely to be integrated when practitioners have a clear overview of timeline, workflow, and team members. Image 1 describes this continuum of care that a patient may experience with a comprehensive pain management team, from initial evaluation with a pain management specialist through development of a holistic treatment plan.

3) Individuals with pain also need to be aware of occupational therapy as a treatment option so they can self-advocate and request a referral for this non-pharmacological treatment option. A few strategies to improve patient awareness are occupational therapy practitioners in primary care settings where they can educate patients about their role, and having occupational therapy practitioners present about their services at community patient conferences.

Can you provide an example of what an integrative team approach that includes occupational therapy looks like?

Image 1 highlights examples of comprehensive treatment plans that can result from interdisciplinary collaboration, where all disciplines are considered and integrated appropriately. Self-management is included within each patient's treatment plan to highlight the importance of patient engagement and to show how each team member can play a role in facilitating self-management. While some patients enter care teams with strong self-management skills, others may need additional training and intervention to develop this invaluable skillset. As noted in Table 1, occupational therapy practitioners can play a significant role in training patients to increase their confidence in their health management and IADLs, including symptom and condition management, communication with their health care system staff, medication management, and building health-promoting daily routines.[3] Each individual will have different self-management needs, which is why an individualized, evidence-based, multimodal approach is considered the best practice in pain care.

Image 1: Diagnostic Process and Treatment Examples From an Interdisciplinary Approach to Pain Management



Adapted from: U.S. Department of Health and Human Services (2019, May). Pain Management Best Practices Inter-Agency Task Force Report: Updates, Gaps, Inconsistencies, and Recommendations. https://www.hhs.gov/sites/default/files/pmtf-final-report-2019-05-23.pdf[46]

A Person With Complex Regional Pain Syndrome: A Case Study

Mark is a 53-year-old male high school teacher with a diagnosis of complex regional pain syndrome (CRPS) Type 1 bilaterally in his hands caused by a repetitive strain injury at work. His pain management doctor prescribed neuralgia medications (Gabapentin, Ketamine, and Mirtazapine) and educated him about additional interventional and non-pharmacological treatment options for CRPS including sympathetic nerve blocks, spinal cord or dorsal root ganglion nerve stimulators, occupational therapy, physical therapy, and pain psychology. After reviewing his treatment options and insurance coverage for these recommended treatments, Mark participated in occupational therapy, physical therapy, and pain psychology as part of an interdisciplinary team approach.

Mark took a temporary leave of absence from work when he was diagnosed with CRPS due to his inability to perform his essential job functions. He utilized this time to participate in the interdisciplinary pain management program. At the initial occupational therapy evaluation, Mark reported symptoms of aching and shooting pain, sensitivity to touch, and occasional edema. Mark identified fine motor movements, driving, and stress as pain triggers, and he identified the use of deep pressure as a pain alleviating factor. Mark's primary functional complaint was pain flares that interfered with work-related productivity, most frequently caused by the compounding effect of stress combined with repetitive or sustained fine motor use (e.g., handling papers, handwriting, and typing). He also was unable to participate in avocation and leisure activities, including playing the piano and transcribing a book he wrote into another language. Additionally, his pain negatively impacted his mood and caused interpersonal challenges with his partner, as he would avoid participating in social and community activities with her.

In collaboration with Mark, the following occupational therapy goals were identified: improve tolerance for fine motor activities in order to return to work, establish new health-promoting stress management strategies and routines, gradually resume participation in preferred avocation activities without triggering a CRPS pain flare up, and explore new activities he can tolerate and engage in with his partner.

Mark had a PPO insurance plan that included occupational therapy, physical therapy, and pain psychology coverage, based on medical necessity with a $30 copayment for each discipline. He was seen for a total of 12 occupational therapy sessions before he met his occupational therapy goals and was discharged. Occupational therapy visits started at a frequency of once every 2 weeks, then gradually decreased in frequency as Mark became more independent with his pain self-management. Mark's treatment and functional outcomes are summarized below:

- Patient education regarding pain physiology, trigger identification, and symptom management and tracking.
- Activity pacing and energy conservation strategies to avoid over activity during fine motor tasks, to reduce frequency and intensity of symptom flare ups. This included a graded activity plan to gradually increase tolerance for written grading tasks from 5 minutes to 30 minutes with rest breaks. This approach was also used to gradually increase participation in piano playing from 0x/week to 3x/week.
- Advocacy and self-advocacy strategies to identify workplace accommodations that eventually allowed Mark to return to work. With the use of new ergonomic and adaptive equipment, including talk-to-text software and a foot mouse to reduce fine motor demands, and the incorporation of a teaching assistant to offload fine motor tasks, Mark was able to return to full time work.
- Self-regulation and stress management training, including mindfulness and adaptive thinking strategies, to decrease stress while driving and teaching and to improve management of pain.
- Reintegrating into outdoor exercise routines with his partner by going on weekend hikes, to alleviate stress and to reduce fear avoidance behaviors and risk for social isolation.

Mark's recovery process and outcomes achieved were the direct benefit of an interdisciplinary pain management team, as each discipline positively reinforced the treatment plan and patient goals communicated by the other providers. Images 2 and 3 demonstrate the different treatment modalities used in occupational therapy, physical therapy, and pain psychology and how the integrative team approach is used to support each discipline's goals to enhance and progress treatment outcomes.

Image 2. Synergistic Interdisciplinary Team Between Physical Therapy and Occupational Therapy to Treat Mark

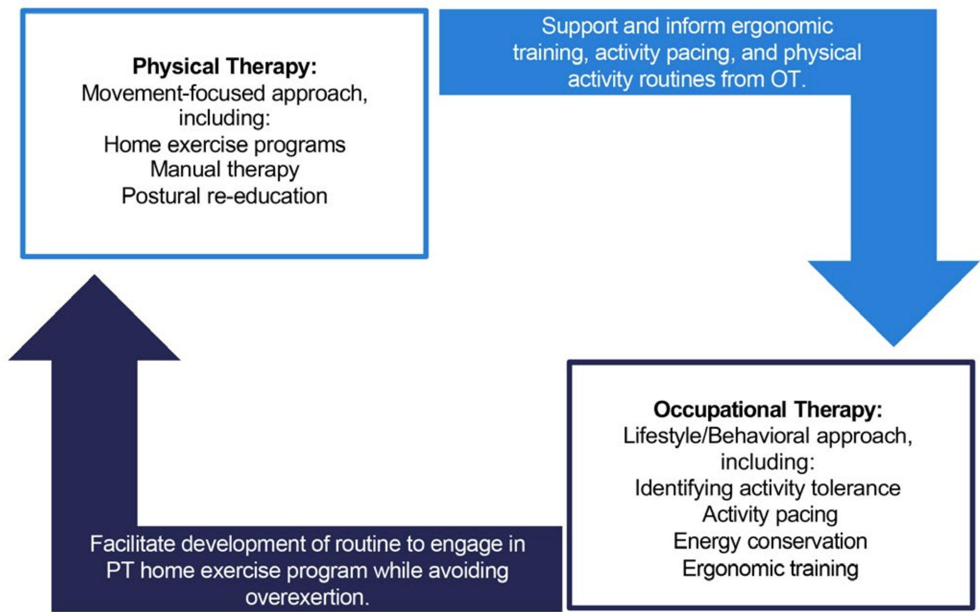


Image 3. Synergistic Interdisciplinary Team Approach Between Pain Psychology and Occupational Therapy to Treat Mark

Case Study—At a Glance	
Client Factors	• 53 y/o male • Diagnosis: Complex regional pain syndrome Type I affecting bilateral hands
Occupational Therapy Insurance Coverage and Plan of Care	• PPO insurance plan • $30 copay for all disciplines • 12 OT sessions
Occupational Therapy Treatment Plan	• Team members: pain management doctor, physical therapist, occupational therapist, pain psychologist • Gabapentin, Ketamine, and Mirtazapine (per prescribing provider) • Home exercise program • Manual therapy • Relaxation training with biofeedback • Activity pacing and energy conservation • Habit and routine development • Disease education and trigger identification • Reintegration into meaningful activities
Integrative Pain Management Providers Included in Treatment	• Pain management physician • Physical therapy • Pain psychology
Functional Outcomes	• Improved understanding of pain mechanism and pain triggers • Reduced risk for overexertion and subsequent pain flares with improved use of activity pacing • Improved participation in work after advocating for accomodations • Reintegration of outdoor activities that serve as stress coping, avocation, rest, and social participation

Conclusion

Pain is complex and requires a person-centered, multimodal, interdisciplinary approach to care. A best practice involves a team of providers working synergistically and with patient shared decision making so that individuals are able to achieve what matters to them. Occupational therapy practitioners have an important role on an individual's pain management team. With their training, occupational therapy practitioners provide unique, individualized interventions focused on nonpharmacological self-management and increasing a patient's functional and meaningful participation in their life.[47] While occupational therapy practitioners offer their distinctive lens on a comprehensive team, they are also effective and engaged collaborators, which improves the patient's quality of care through the compounding benefits of a synergistic treatment plan. Moving forward, action steps must be taken to increase patient, payer, and provider awareness of occupational therapy's role, and to address inequities in the health care system in order to optimize the care that occupational therapy practitioners can provide. Occupational therapy's presence on a comprehensive pain management team is a vital factor in providing exceptional, holistic patient care.

"While occupational therapy practitioners offer their distinctive lens on a comprehensive team, they are also effective and engaged collaborators..."

The Alliance to Advance Comprehensive Integrative Pain Management (AACIPM) is the first-of-its-kind multi-stakeholder collaborative, comprised of people living with pain, public and private insurers, government agencies, patient and caregiver advocates, researchers, purchasers of healthcare, policy experts, and the spectrum of healthcare providers involved in the delivery of comprehensive integrative pain management.

The American Occupational Therapy Association is the national professional association representing the interests of more than 220,000 occupational therapists, occupational therapy assistants, and students of occupational therapy. The science-driven, evidence-based practice of occupational therapy enables people of all ages to live life to its fullest by promoting health and minimizing the functional effects of chronic diseases, illness, injury, and disability. AOTA believes that understanding a person's whole health, including function, environment, and context are crucial.

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