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Physical therapists should play a greater role in managing patients with opioid use and opioid misuse

John Magel, PT, PhD, DSc[a], **David Kietrys, PT, PhD, FCPP**[b], **Eric S. Kruger, PT, PhD**[c], **Julie M. Fritz, PT, PhD**[a], **Adam J. Gordon, MD, MPH**[d,e]

[a]Department of Physical Therapy and Athletic Training, University of Utah, Salt Lake City, UT, USA

[b]Department of Rehabilitation and Movement Sciences, Rutgers School of Health Professions, Newark, NJ, USA

[c]School of Medicine, Department of Orthopaedics and Rehabiliation, Division of Physical Therapy, University of New Mexico Health Sciences Center, Albuquerque, NM, USA

[d]Program for Addiction Research, Clinical Care, Knowledge and Advocacy (PARCKA), Division of Epidemiology, Department of Internal Medicine, University of Utah School of Medicine, Salt Lake City, UT, USA

[e]Informatics, Decision-Enhancement, and Analytic Sciences (IDEAS) Center, VA Salt Lake City Health Care System, Salt Lake City, UT, USA

Abstract

The U.S. opioid crisis necessitates that health care providers of all types work collaboratively to manage patients taking prescription opioid medications and manage those who may be misusing prescription opioids. Musculoskeletal conditions are the most common diagnoses associated with an opioid prescription. Physical therapists commonly manage patients with musculoskeletal conditions and chronic pain. Some patients who attend physical therapy for pain management take prescription opioid medications for pain and some of these patients may be misusing prescription opioids. Physical therapists who manage patients with musculoskeletal conditions are well-positioned to help address the opioid crisis. Historically, physical therapists have not been adequately engaged in efforts to manage persons with co-occurring musculoskeletal pain and opioid misuse or OUD. The American Physical Therapy Association (APTA) has emphasized physical therapy over the use of prescription opioids for the management of painful conditions. The APTA, however, does not highlight the important role that physical therapists could play in monitoring opioid use among patients receiving treatment for pain, nor the role that physical therapists should play in screening for opioid misuse. Such screening could facilitate referral of patients suspected misuse to an appropriate provider for formal assessment and treatment.

CONTACT John Magel, PT, PhD, DSc, Jake.magel@hsc.utah.edu, Department of Physical Therapy and Athletic Training, University of Utah, 520 Wakara Way, Salt Lake City, UT 84108, USA.

Author contributions

J.M., D.K., E.K., J.F., and A.G. conceived and wrote the manuscript.

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This commentary presents simulated musculoskeletal patient presentations depicting 2 common opioid use states; chronic opioid use and opioid misuse. The cases highlight and interactions that physical therapists could have with these patients and actions that the physical therapist could take when working inter-disciplinarily. Recommendations are provided that aim to increase physical therapists' knowledge and skills related to managing patients taking prescription opioid medications for pain.

Keywords

Physical therapy; physical therapist; opioid misuse; opioid use disorder; chronic opioid use

Musculoskeletal pain is a leading cause of disability world-wide.[1] In the United States, musculoskeletal pain impacts over 100 million people[2] and is the most costly health condition with annual spending exceeding $260 billion in health care costs and lost productivity.[3] The societal burden and economic impact of musculoskeletal pain has escalated in the past few decades.[4]

Musculoskeletal conditions are the most common diagnoses associated with prescription of opioids.[5,6] Early prescribing of opioids for musculoskeletal pain increases the risk for chronic use, opioid misuse, and opioid use disorder (OUD, also known as opioid addiction).[7-9] Practice guidelines for management of musculoskeletal pain are clear in recommending non-pharmacologic care.[10,11] However, management of musculoskeletal pain with opioids remains a mainstay of treatment.[5] As many as 30% of persons with musculoskeletal pain use prescription opioids and about 20% exhibit chronic use of opioids.[5,12] The results of a nationwide survey indicate that persons with musculoskeletal pain are prescribed opioids at more than twice the rate of non-pharmacologic management approaches such as physical therapy.[13]

Opioid misuse—defined as the use of opioid medication in higher doses or differently than prescribed—is often motivated by a desire to reduce pain.[14] The inability to alleviate physical pain is the most common reason cited for opioid misuse.[14] It is not surprising that musculoskeletal pain and opioid misuse occur together frequently; over 75% of persons with opioid misuse behaviors report musculoskeletal pain.[15,16] Patients with co-occurring pain and opioid misuse are at increased risk for opioid-related morbidity, overdose, and death,[10] as well as suboptimal pain outcomes with persistently high pain intensity and disability.[17]

OUD is characterized by a maladaptive pattern of opioid use that causes harm to the patient.[18,19] Chronic musculoskeletal pain is a common co-morbidity among patients with OUD.[20,21] Patients with co-occurring musculoskeletal pain and OUD may benefit from supportive, collaborative, non-pharmacologic treatments for both OUD and pain management. In addition, patients with OUD may be treated with medication treatment for OUD (MOUD)—formulations of methadone, buprenorphine, and naltrexone—intended to reduce or stop the use of opioids and reduce morbidity and mortality associated with OUD.[22-24] Clinicians in every health care environment should inform patients about treatment options and encourage the continuation of treatment for OUD, including MOUD, to help maintain patients in addiction care.

Physical therapists and physical therapy environments

Physical therapists provide recommended nonpharmacologic interventions for patients with musculoskeletal pain.[10,25,26] The majority of patients in outpatient physical therapy clinics have musculoskeletal pain, and up to one in three may use prescription opioids.[27,28] Physical therapy for patients with musculoskeletal pain has been associated with a reduction in risk for initiating use of opioid medication,[29-31] but the role of physical therapy as part of a multi-modal strategy to manage co-occurring pain and opioid misuse or OUD has not been investigated.

The American Physical Therapy Association (APTA) has focused efforts on promoting physical therapy as an alternative for opioid use. The APTA, however, does not highlight the important role that physical therapists could play in monitoring opioid use among patients receiving treatment for pain, nor the role that physical therapists should play in screening for opioid misuse or OUD. Such screening could facilitate referral of patients suspected misuse or OUD to an appropriate provider for formal assessment and treatment.[32] Physical therapy opinion leaders advocate that physical therapists play a role in addressing the opioid epidemic.[33,34] These leaders recommend that physical therapists motivate patients to use physical therapy as a substitute for initiation of opioids,[33] and to work in an interdisciplinary manner in the treatment of patients with co-occurring chronic pain and OUD.[34]

Because of the large number of patients with musculoskeletal pain managed in physical therapy clinics, this setting may be an under-utilized environment within which to screen patients for opioid misuse or OUD. Physical therapists could screen, identify and, if needed, refer for further management those patients who are prescribed opioids but may be misusing them as well as those who might be at risk for OUD. Historically, physical therapists have not adequately engaged in efforts to manage persons with co-occurring musculoskeletal pain and opioid misuse or OUD. Recently, Davenport et. al. recommended that physical therapists expand their knowledge related to OUD and establish relationships with addiction medicine providers to whom patients suspected of OUD could be referred.[34] Physical therapists may not be routinely trained to screen and refer patients to addiction treatment when opioid misuse or OUD is suspected. In a nationwide survey of physical therapists, nearly 30% reported that they had no training in the management of persons with co-occurring pain and opioid misuse.[35] Lack of engagement within physical therapy settings to manage patients with co-occurring musculoskeletal pain and opioid use, misuse, and OUD is a missed opportunity to provide effective interdisciplinary management that targets both conditions.

We believe that physical therapists can better serve their patients and their patients' health care teams by routinely monitoring those with musculoskeletal conditions for appropriate prescription opioid use and by identifying potential opioid misuse and OUD. In addition, it is incumbent on physical therapists to be adequately prepared to work with these patients. Davenport et. al., previously discussed the role that physical therapists could play in addressing OUD and they highlighted physical therapy interventions and advocacy to prevent OUD.[34] We believe that physical therapists should also extend their competencies to address opioid use and opioid misuse. Below we outline some potential opioid-related

competencies and actions that physical therapists can take when managing patients with chronic opioid use or opioid misuse (Table 1). Some of these competencies and actions have overlap with physical therapy interventions and advocacy proposed to prevent OUD.[34] We also present two simulated musculoskeletal patient cases that depict chronic opioid use and opioid misuse, and discuss interactions that physical therapists could have with these patients.

Physical therapist's perspective

There are several key areas of concern for this patient. First, Jerry has been taking opioids for chronic pain for 20 years. Prolonged exposure to opioids increased the risk that he will misuse opioids or develop OUD.[36] Second, Jerry has increased his dose from every 8 hours to every 6 hours. While increasing Jerry's dose may be appropriate based on his acute post-surgical pain, increasing the dose places him at risk for opioid misuse, overdose, or OUD.[10,37,38] These areas for concern suggest that the physical therapist monitor the patient's opioid use over time. Potential signs of opioid misuse include taking opioids in greater amounts than prescribed, using different providers or pharmacies to obtain prescription opioid.[9,36] Potential signs of OUD include but are not limited to craving or a strong desire to use opioids, important social, occupational, or recreational activities are given up or reduced because of opioid use and recurrent opioid use in situations in which it is physically hazardous.[18] The readers are encouraged to familiarize themselves with some of the signs and symptoms of opioid misuse and OUD.[9,18,36] Given that Jerry's surgery was to alleviate the pain associated with knee osteoarthritis, Jerry should be able to reduce his opioid use as his post-surgical pain subsides. The physical therapist should monitor the patient's post-operative opioid use to assess whether the dose is decreasing over time. For example, the physical therapist should inquire about the number of opioid pills that the patient is taking over time. If the number is staying the same or increasing or if he is taking a stronger opioid, then the physical therapist should discuss with the patient the potential risks for opioid misuse and OUD. Lastly, the physical therapist should be aware that taking chronic prescription opioids may delay the functional recovery of patients with musculoskeletal conditions.[10]

Physical therapy evaluation

Upon initial evaluation, Jerry reports having 6/10 average daily pain that he is managing with acetaminophen/oxycodone every six hours. At each weekly follow-up session, the physical therapist should note whether the number of opioid pills that patient takes daily is increasing, decreasing, remaining the same, or if there is a change in the medication used. After 4 weeks of physical therapy, the patient reports that his pain is a daily average of 2/10 and that his function is improving but he continues to take acetaminophen/oxycodone every six hours for pain.

Physical therapists perspective

The patient's daily prescription opioid use is not decreasing despite the patient's clinically meaningful decreased in pain and improved function. At this point, the physical therapist should engage the patient in a conversation on the expectation that his recient increase in opioid dose should decrease over time to no more than or even less than the amount used

prior to surgery as he recovers, and educate the patient that prolonged opioid use could delay his recovery. Furthermore, the physical therapist should share their concern with the patient's referring physician.

Physical therapist's perspective

From the physical therapist's perspective there are several areas of concern that will require further inquiry. The physical therapist should ask if the patient was previously opioid naïve or if she has been prescribed opioids in the past. The opioid prescription is on the high end of appropriateness both in terms of dose per day and length of the prescription.[39] The physical therapist should be concerned that the patient is self-dosing beyond what was prescribed. The physical therapist should track the patient's pain intensity overtime as a clinical outcome, and ask if she is experiencing other cognitive or psychological effects from the pain medication such as relief of distress or euphoria.

Physical therapy evaluation

The physical therapy evaluation revealed impairments consistent with the orthopedic trauma (shoulder and elbow swelling, restricted upper extremity range-of-motion and strength, and pain at rest rated at a 3 out of 10 using a Numerical Rating Scale) which is aggravated to 8 out of 10 by ambulatory or household activities. Prior to this episode, the patient had not been taking opioids. Regarding current opioid use, she reports using opioids inconsistently throughout the day – taking more when the pain levels are higher. The patient states that opioids provide adequate pain relief and that she also "feel like million bucks" and "over the moon" in the 1–2 hours after taking opioids.

Physical therapist's perspective

The patient's pattern of use is deviating from that of the prescription, fitting the definition of opioid misuse. At the patient's current rate of opioid use, she will run out before 14-days. Finally, the patient revealed a euphoric state when using opioids which may be an early sign of a biological predisposition for opioid addiction.[40] Given the patient was previously opioid naïve, the physical therapist might begin with an open-ended question pertaining to what the patient knows about opioid medications, misuse, and potential for addiction. If the patient has limited knowledge, the physical therapist may first begin with a general discussion of the purpose of opioid use and potential risks. The physical therapist should also contact the orthopedic surgeon's office to inform them that the patient is taking opioids in excess of the prescription. This action should prompt the prescriber to discuss the matter with the patient and revise the plan for pharmaceutical management if needed. The patient should be educated on potential harms caused by opioid diversion. The physical therapist should continue to monitor opioid use throughout the remainder of the treatment course to ensure the patient's pain management needs are met while also remaining vigilant of ongoing or other signs of opioid misuse.

Conclusions

The scenarios described in this editorial serve to illuminate the potential role of a physical therapist when working with patients who have been prescribed chronic opioids or with

patients who might be misusing opioids. Physical therapists should have some understanding of the risk factors screening, and indications for referral for formal assessment and treatment when opioid misuse is suspected. This understanding should also include when and when not to encourage patients to reduce their opioid use. Physical therapists frequently manage patients' rehabilitation needs over multiple visits,[28,41,42] which supports the formation of a trusting and therapeutic relationship.[43] This relationship can be valuable when discussing appropriate opioid use with their patients or with patients who may demonstrate signs of opioid misuse.

In the APTA's Standards of Practice for Physical Therapy, the functions of the physical therapist examination include identifying both physical therapy needs and other health needs of the patient or client.[18] Physical therapy best practice includes a review of the patient's medications, which includes the use of opioid medications.[44] Physical therapists are well-positioned to monitor patients throughout an episode of care to ensure that as a patients' function and symptoms improve, there is a concomitant decrease in opioid use if this is an intended outcome. Physical therapists should be skilled communicators when dialoguing with their patients and other members of the interdisciplinary team about opioid misuse. They must also know when to communicate concerns to appropriate providers and when to refer patients for formal assessment and/or treatment of opioid misuse.

There has never been greater need or urgency for expanded education and translation of knowledge related to opioid use, opioid misuse and OUD in physical therapy and other health professions. Recently, there have been advocacy that health professions should do more to address substance use and evolve their discipline specific competencies regarding substance use, misuse, and addiction.[45-50] We believe that the physical therapy profession should also do the same. We recommend that all physical therapists receive opioid-related training. Entry level physical therapy education should include training related to appropriate opioid use, opioid misuse, and OUD, so that as practicing PTs they serve as effective members of multidisciplinary teams. We recommend the development and wide-spread dissemination of opioid-related education materials for all currently practicing physical therapists. Among the topics these materials could include are: (1) risk factors for and potential harms of opioid misuse, (2) screening tools used to identify patients with opioid misuse, (3) communication strategies physical therapists could use when discussing appropriate opioid use or opioid misuse with patients, (4) how to work on interdisciplinary teams to manage patients taking opioids for pain or misusing opioids, (5) when not to encourage patients to reduce their opioid dose, (6) recommended strategies for referring patients for treatment of opioid misuse and, (7) how to interact with patients on MOUD. Finally, future research should explore interdisciplinary rehabilitation for patients with musculoskeletal pain and co-occurring opioid misuse or OUD.

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Case 1: Chronic opioid use

Jerry is a 43 year-old male who recently underwent a total knee arthroplasty because of chronic knee pain associated with knee osteoarthritis. He has a history of knee pain that has limited his function since playing college football. He has been on opioids for chronic knee pain for over 20 years. Prior to the surgery, he was taking 1 tablet of 5 mg/325 mg acetaminophen/oxycodone every eight hours. Since the surgery a week ago, he now is taking acetaminophen/oxycodone every six hours. He is receiving outpatient physical therapy with the goal of controlling knee pain and swelling and improving function.

Case 2: Opioid misuse

Maria is a 54-year-old female who is receiving home health physical therapy five days after being discharged from the hospital following a horse-riding accident that required open reduction and internal fixation of a right distal radius fracture and repair of her right rotator cuff. She is ambulatory in her home and is prescribed home care physical therapy to begin post-operative rehab of his upper extremity due to her inability to drive. Upon discharge from the hospital, Maria was prescribed two 5 mg tablets of oxycodone every 4–6 hours for 14 days (168 total tablets; 1260 MME; 90 MME/day). Her next follow-up with the orthopedic surgeon is in nine days (14 days since the time of discharge). Today, she relates to the physical therapist that she is taking three or four 5 mg tablets of oxycodone every 4 hours for pain and that she will soon “run out” of the medication. She shares that she has obtained some tablets of hydrocodone from a friend.

Table 1.

Potential Physical Therapist Opioid Use and Misuse Competencies and Associated Physical Therapist Actions.

Opioid use State	Competencies	Potential actions by the physical therapist
Chronic opioid use	• Obtain current and past opioid use profile on all patients • Recognize when monitored chronic opioid use may be an appropriate treatment option. • Be alert and recognize appropriate/inappropriate opioid use • Skilled communication to open conversation about current opioid use and prevention of opioid misuse and OUD.	• Refrain from judgment of patients who may need chronic opioids and facilitate proper monitoring through open communication. • Communicate the risks of escalating to opioid misuse. • Monitor patient for signs of opioid misuse.
Opioid misuse	• Obtain current and past opioid use profile on all patients • Be alert and recognize the signs of opioid misuse. • Skilled non-judgmental communication about the potential physical and psychological impacts of opioid misuse.	• Ask patients about opioid misuse behaviors • Communicate the risks of opioid misuse. • Contact referring or primary care provider about suspected opioid misuse. If the patient has no primary provider, refer to a primary care provider or an addiction medicine specialist.