

# Physical Therapy Treatment of a Patient With Chronic Low Back Pain and a Previous History of A Substance Abuse Disorder: A Case Report

Marcus X. Alomar BS, DPT Student

Brian T. Swanson, PT, DSc, OCS, FAAOMPT

Department of Physical Therapy - University of New England Portland, ME



## Unique

There is ample research on various approaches to treating low back pain, however there is limited research investigating the efficacy of treatment for patients with low back pain and a previous history of opioid dependency.

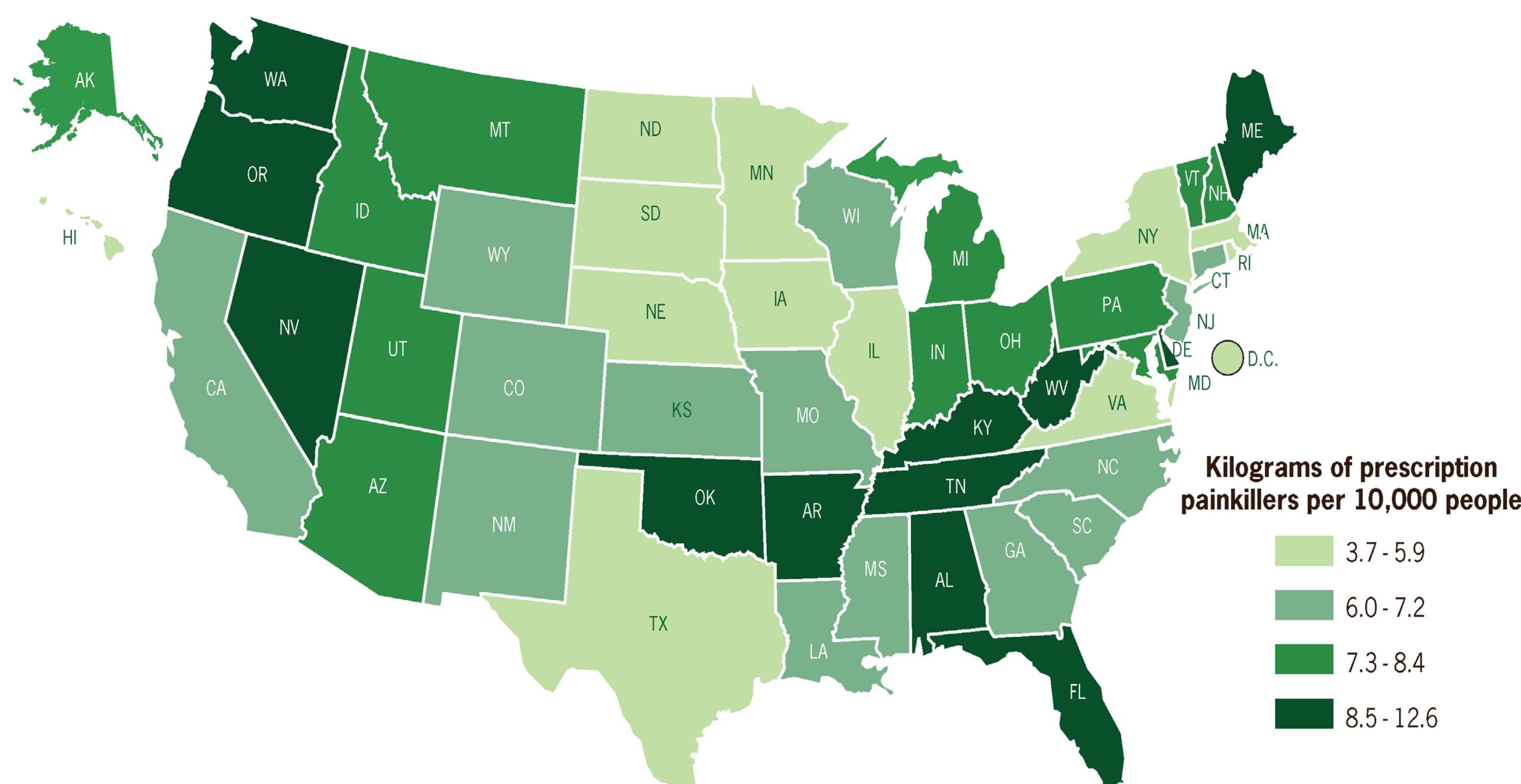
## Purpose

The purpose of this case report was to describe the physical therapy treatment, including pain management strategies, for a patient with low back pain, a previous history of opioid dependency (oxycodone), and apparent opiate induced hyperalgesia.

## Foundation

- The National Survey on Drug Use and Health (NSDUH) reported that an estimated 27 million people in the United States have reported use of an illicit drug within the past month.<sup>1</sup>

### 12 States Have More Painkiller Prescriptions Than People



SOURCE: Automation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA), 2010

Figure 1. Opioid Prescriptions in US according to DEA

- Low back pain continues to be a major cause of disability in the United States, with an estimated 70 percent of adults experiencing low back pain at some point during their lifetime.
- Active exercise programs that includes pain education and cognitive behavioral therapy demonstrated significant superior outcome at reducing pain intensity, anxiety/depression, disability, and fear-avoidance compared to therapeutic exercise and manual therapy alone for patients with non-specific chronic low back pain.<sup>5,6</sup> With both illicit and prescription drug use rising in the US, it is likely clinicians will encounter patients with substance abuse disorders, as well as opiate induced hyperalgesia.
- The use of psychologically informed practice may be beneficial in this patient population.

## Case Description

- 55-year old female accountant
- Chief Complaint:** Chronic LBP over the last 3 months
- Medical Diagnosis:** Chronic LBP
- Overall pain levels appeared disproportionate to objective findings, 8/10 at worst.
- Referring MD later revealed past medical history of substance abuse disorder

## Interventions

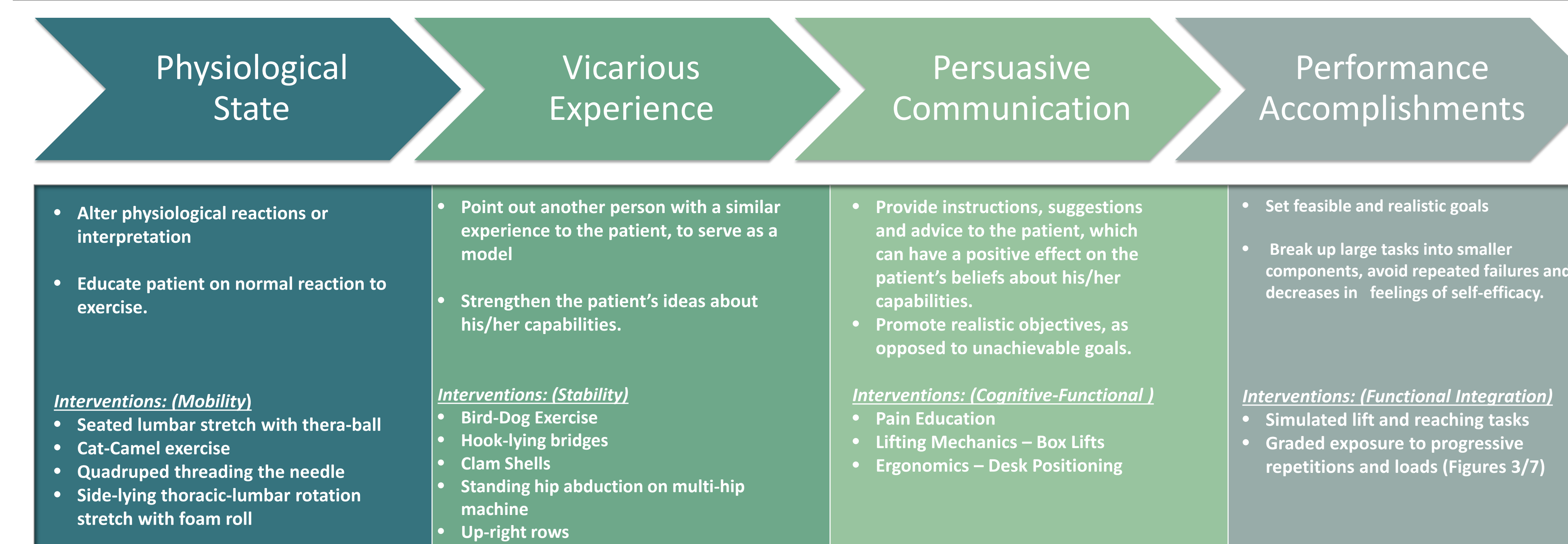


Figure 2. Interventions focused on promoting self-efficacy through the use of graded exposure with focus on physiological state, vicarious experience, persuasive communication, and performance accomplishments in effort to decrease fear-avoidance beliefs and disability. Sim.= Simulation.

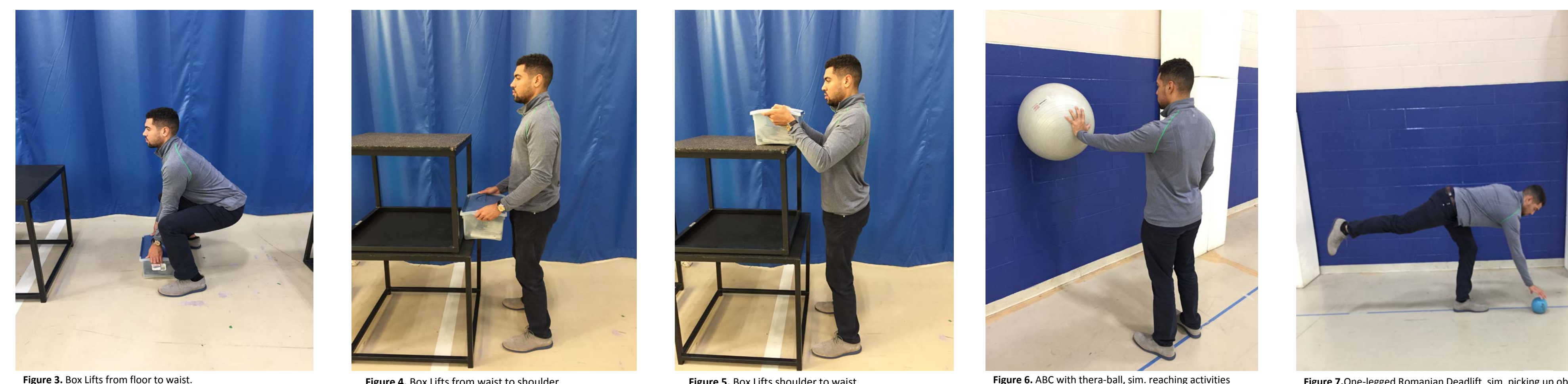


Figure 3. Box Lifts from floor to waist. Figure 4. Box Lifts from waist to shoulder. Figure 5. Box Lifts from shoulder to waist. Figure 6. ABC with thera-ball, sim. reaching activities. Figure 7. One-legged Romanian Deadlift, sim. picking up objects.

## Outcomes

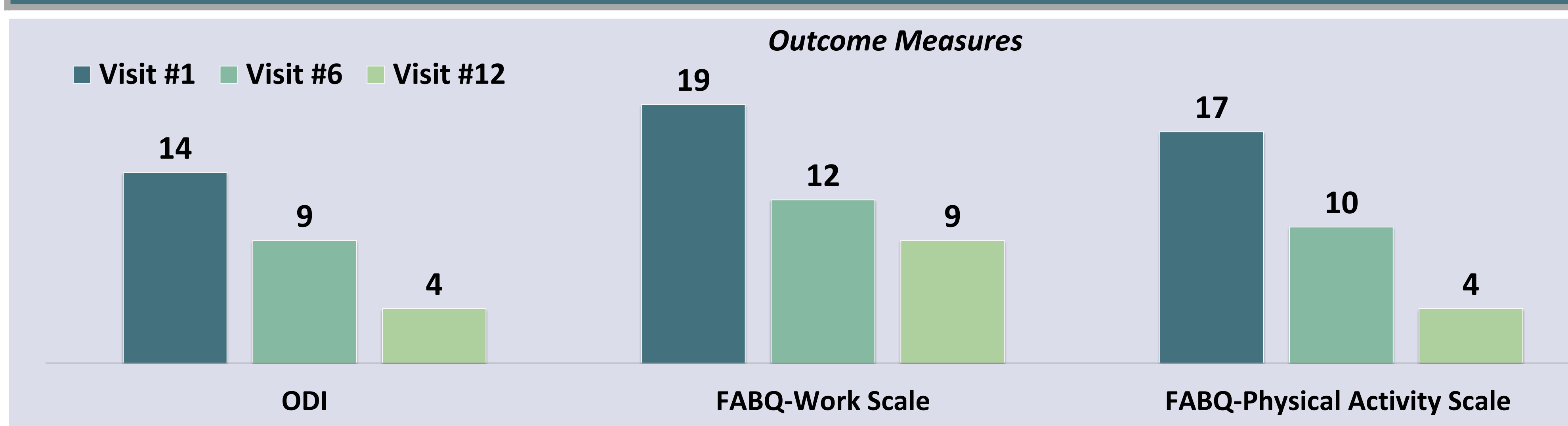


Figure 8. Outcome measure changes from initial evaluation to discharge. ODI= Oswestry Disability Index; FABQ= Fear-Avoidance Beliefs Questionnaire

Special Tests	Initial Exam	Discharge
<b>Pain Rating (VAS)</b>	Best: 4/10 Worst: 8/10	Best: 1/10 Worst: 2/10
<b>Joint Mobility</b>	L1-3: 2/6	L1-3: 3/6
<b>Thomas Test</b>	(+) Bilaterally	(-) Bilaterally
<b>Hip ABD. GMT</b>	3+ Bilaterally	5 Bilaterally

Figure 9. Special tests changed from in initial exam to discharge.

## Discussion

- Fear-avoidance, in the presence of elevated levels of pain perception, could be a potential barrier to recovery for patients with chronic low back pain and a previous history of opioid dependency.
- An assessment of fear avoidance for patients with chronic pain can help clinicians define better treatment strategies.
- The use of education regarding opiate induced alterations to the patient's physiologic state, as well as exercise to modulate pain, may be useful strategies.
- The use of performance accomplishments, vicarious experience, persuasive communication performed concurrently with graded exposure activities, can help enhance self-efficacy and lower fear-avoidance beliefs.
- Including cognitive factors such as fear avoidance behaviors, anxiety, depression, stress and maladaptive coping into physical therapy treatment has shown to be an effective treatment approach in treating this patient.

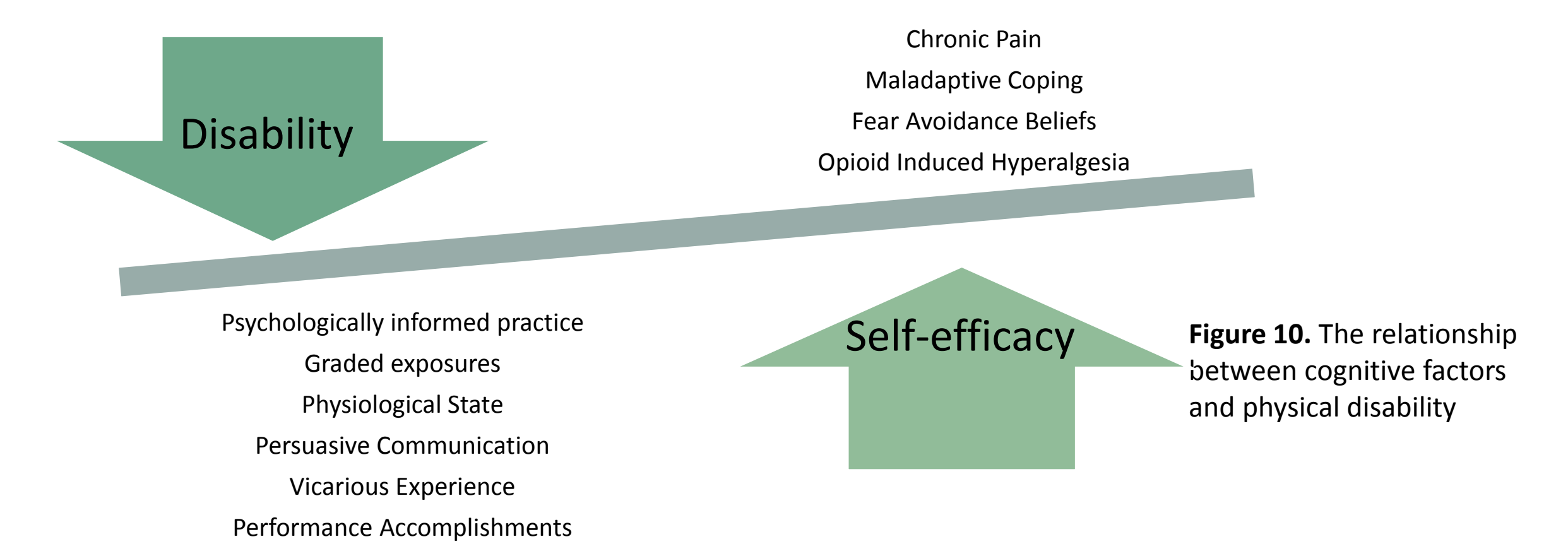


Figure 10. The relationship between cognitive factors and physical disability

## Conclusion

The use of a comprehensive physical therapy program including cognitive functional therapy and pain education led to a reduction in pain and disability for a patient with a history of a substance abuse disorder. It would be beneficial to continue to investigate the application of this physical therapy approach in additional cases of opioid induced hyperalgesia.

## Acknowledgments

The author acknowledges Jonathan Joyce, DPT for their supervision and guidance during practice.

Contact:

[malomar@une.edu](mailto:malomar@une.edu) UNE Dept of Physical Therapy, 716 Stevens Ave. Portland, ME 04103

## References

- Sarra L Hedden, Joel Kennet, Rachel Lipari, et al. Behavioral health trends in the United States: Results from the 2014 national survey on drug use and health, at 1-877 (2015). <http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>.
- Vibe Fersum K, O'Sullivan P, Skouen JS, Smith A, Kvåle A, et al. Efficacy of classification-based cognitive functional therapy in patients with non-specific chronic low back pain: A randomized controlled trial. *Eur J Pain*. 2012.
- Vieira EB de M, Pimenta CA de M. Graded exposure for fear of pain and movement avoidance belief in chronic low back pain patients. *Revista Dor*. 2016
- Voon P, Hayashi K, Milloy M-J, et al. Pain among high-risk patients on methadone maintenance treatment. *J Pain*. 2015