CRITICALLY APPRAISED TOPIC

FOCUSED CLINICAL QUESTION

In a (P)25-year-old male military member diagnosed with acute low back pain (less than 6 months in duration), does (I) physical therapy or (C) opioid use lead to greater improvement on the (O) Oswestry Disability Index (ODI)

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CLINICAL SCENARIO

Scenario: A 25-year-old male infantryman in the US Army seeks out treatment for his acute low back pain from rucking this past weekend. He is able to continue to participate in his drills and training for his upcoming deployment to Afghanistan, however, his pain level increases to 6/10 when he wears his pack and 8/10 when he runs with his pack on. Pain is in the location of the junctions of L4/L5, L5/S1, and also the SI joint. The pain does not radiate, is never a 0/10, and there is no numbness or tingling. His initial Oswestry Disability Index (ODI) score is 42%, just crossing the threshold of severe disability.[1] He has been instructed by his Commanding Officer to "get that fixed, and quickly!" leading him to receive a prescription for Oxycodone from a physician on base. He has been taking the medication for 4 days with moderate pain relief, but he has concerns about the continual pain and the addictive properties of opiate medication. He decides to investigate the effect of physical therapy on his low back pain to determine which method of intervention will lead to a faster, more positive outcome. Based on this patient's necessity for care to improve his low back pain as well as improve his function the PICO question comparing intervention with opioid medication or physical therapy and their effect on ODI scores.

Rationale: The opioid epidemic is continuing to plague the United States, resulting in over 500,000 overdose-induced deaths from 2000-2015. Prescription opioids for pain relief are a major contributor to these untimely deaths and the number of prescriptions increased substantially throughout this period.[2] Within the military, the pressure to return to duty and ignore the pain can exacerbate the injury and progress to a chronic condition. This, in combination with the effects of polytrauma, changes in command through retirement or promotions, and also the challenges with multiple providers prescribing for various conditions without communication.[3]

SUMMARY OF SEARCH

[Best evidence appraised and key findings]

- Eight studies were found to meet the majority of the inclusion/exclusion criteria of this search. Included within these were 1 randomized controlled trial, 4 prospective cohort/longitudinal studies, 1 retrospective analysis of 3 randomized controlled trials, 1 quasi-experimental case control design, and 1 outcomes assessment of a clinical prediction rule. Two of these studies were selected for detailed review.
- Physical therapy intervention significantly decreases disability according to the ODI, as tested in individuals with low back pain.
- Opioid usage demonstrates a negative effect on symptom management, disability, somatization of symptoms, psychosocial wellness, and overall quality of life.
- Future research should specifically compare physical therapy interventions to opioid usage in individuals with low back pain. Specific attention to the duration and dosage of opioids as well as a controlled, standardized physical therapy intervention will allow for the most accurate comparison between the two interventions.

CLINICAL BOTTOM LINE

Although there was a lack of evidence that specifically compared physical therapy intervention to opioid use in the treatment of 25-year-old military servicemen with low back pain, the two studies analysed could be compared to demonstrate the greater effect of physical therapy on the symptoms and functional difficulties associated with low back pain in comparison to the negative effects of an opioid regimen pre-surgical intervention effecting results post-surgery.

This critically appraised topic has been individually prepared as part of a course requirement and has been peer-reviewed by one other independent course instructor

SEARCH STRATEGY

Terms used to guide the search strategy			
Patient/Client Group	**I**ntervention (or Assessment)	**C**omparison	**O**utcome(s)
Military Armed Forces Servicem* Service Member Twenty-Five year old Acute low back pain	Physical therapy Physiotherapy Rehabilitation Exercis*	Opioid Opiate Narcotic	Oswestry Disability Index Oswestry Low Back Disability Questionnaire

Final search strategy (history):

Recent queries in pubmed			
Search	Query	Items found	Time
#18	Search (#11 AND #12 AND #13 AND #14)	2	12:18:39
#17	Search (#12 AND #13 AND #14)	34	12:18:01
#16	Search (#10 AND #11 AND #13)	2	12:17:37
#15	Search (#10 AND #11 AND #12)	13	12:17:21
#14	Search Oswestry	5391	12:16:46
#13	Search (Opioid OR Opiate OR Narcotic)	179058	12:16:31
#12	Search (Physical Therapy OR Physiotherapy OR Rehabilitation OR Exercis*)	646715	12:16:19
#11	Search Acute Low Back Pain	3147	12:15:59
#10	Search (Military OR Armed Forces OR Servicem* OR Service Member)	162762	12:15:48

In the table below, show how many results you got from your search from each database you searched.

Databases and Sites Searched	**Number of results**	**Limits applied, revised number of results (if applicable)**
PubMed	**51**	**34 – apply filter "male"**
CINAHL	**51**	**2 – specific to military population with physical therapy** **3 – with Adult Male with intervention and comparison**
EMBASE	**18**	**10 – apply filter "adult"**

INCLUSION and EXCLUSION CRITERIA

Inclusion Criteria
• Must be current or former active duty military males twenty-five years of age. • Diagnosed with acute low back pain, less than 6 months in duration • Participating in physical therapy and/or pharmacological intervention with opiate use • Oswestry Disability Index or Oswestry Low Back Disabilty Questionnaire must be used at initial evaluation and after the completion of the intervention

Exclusion Criteria
Conference presentations, abstracts, editorials. Studies not written in English.

RESULTS OF SEARCH

Summary of articles retrieved that met inclusion and exclusion criteria

Author (Year)	Risk of bias (quality score)*	Level of Evidence**	Relevance	Study design
Vela et al (2011)[4]	**QUADAS – 11/14**	**3b – only one subject, limited evidence**	**Low**	**Outcomes assessment of clinical prediction rule post-derivation**
Hiebert et al (2012)[5]	**QUIPS –** **Participation = low** **Attrition = low** **PF Measurement = low** **Outcome = low** **Confounding = moderate** **Analysis and Reporting = low**	**1b**	**Moderate**	**Prospective Clinical Cohort Study, non-randomized**
Kelle et al (2016)[6]	**PEDro = 9/11**	**1b**	**Moderate**	**Randomized Controlled Clinical Trial**
Ross (2002)[7]	**RoBAN –** **Participants = high** **Confounding = low** **Intervention = high** **Blinding = unclear** **Incomplete data = unclear** **Selective reporting = low**	**4 – no control group**	**High**	**Prospective, longitudinal intervention study**
George et al (2006)[8]	**QUIPS –** **Participation = low** **Attrition = low** **PF Measurement = low**	**2b**	**Moderate**	**Retrospective analysis of 3 randomized control trials**

	Outcome = low **Confounding = moderate** **Analysis and Reporting = low**			
Eilat-Tsanani et al (2010)[9]	**QUIPS –** **Participation = low** **Attrition = low** **PF Measurement = low** **Outcome = low** **Confounding = moderate** **Analysis and Reporting = low**	**2b**	**High**	**Prospective, longitudinal study**
Ross et al (2014)[10]	**RoBAN –** **Participants = high** **Confounding = low** **Intervention = low** **Blinding = low** **Incomplete data = low** **Selective reporting = low**	**2b**	**Low**	**Quasi-experimental, cross-sectional case control design**
Lee et al (2014)[11]	**QUIPS –** **Participation = low** **Attrition = low** **PF Measurement = low** **Outcome = low** **Confounding =low** **Analysis and Reporting = low**	**2b**	**High**	**Prospective cohort study**

BEST EVIDENCE

The following 2 studies were identified as the 'best' evidence and selected for critical appraisal. Rationale for selecting these studies were:

- **Lee (2014) –** This prospective cohort study (level 2b evidence) had low bias and high applicability to my PICO question. The study sought out to determine the effect of preoperative opioid use and adverse outcomes in patients undergoing spine surgery. The study utilizes the Oswestry Disability Index (ODI) as one of the outcome measures, which is involved in my PICO question. The majority of the patient population was female and there was no mention of military population; However, I believe that the study could be applied to this population.
- **Ross (2002) –** This prospective, longitudinal intervention study (graded at level 4 due to the lack of control group or randomization) incorporates the effect of physical therapy on Oswestry Disability Index (ODI) scores in military personnel with acute low back pain. Although the level of evidence is lower, indicating an increased risk of bias, I feel that this will apply to my PICO question and provide further information on the benefits of physical therapy in this specific population and beyond.

SUMMARY OF BEST EVIDENCE

(1) Description and appraisal of Preoperative Opioid Use as a Predictor of Adverse Postoperative Self-Reported Outcomes in Patients Undergoing Spine Surgery by Lee et al, 2014

Aim/Objective of the Study/Systematic Review:

The purpose of this prospective cohort study was to examine if preoperative opioid use results in worse self-reported outcomes in patients undergoing spine surgery.

Study Design

- This study is a prospective cohort study at Vanderbilt University Medical Center's Department of Orthopaedics & Rehabilitation.
- 583 patients undergoing spine surgery at Vanderbilt from 2010-2012 were included. There was no random allocation as all preoperative spine patients were included.
- Preoperative opioid use data was gathered at the preoperative visit via patient-reported questionnaire. The outcome measures (SF-12, EQ-5D, ODI) were obtained at the preoperative visit and then postoperative at the initial visit, three-month and twelve-month visits.

Setting

This study was completed at Vanderbilt University Medical Center's Department of Orthopaedics & Rehabilitation in Nashville, TN.

Participants

583 patients undergoing spine surgery at Vanderbilt were involved in this study. There were 10 drop outs due to insufficient information on opioid usage preoperatively or did not participate in a postoperative evaluation. Of this sample, there were 350 lumbar, 64 thoracolumbar, and 169 cervical subjects. There were 317 females and 266 males with an average age of 57. There was a small number of non-white participants (12%). The majority of participants were overweight or obese (43% and 39% respectively). 381 participants were undergoing a primary surgery compared to 202 receiving revisions to initial interventions.

Intervention Investigated

This study was a prospective cohort study involving all patients undergoing elective spine surgery at Vanderbilt University Medical Center in Nashville, TN. This study was not an intervention study and had no control group, involving all patients in the cohort. Surgeries were performed by one of six surgeons with data being collected before surgery, immediately after the procedure, and then three and twelve months later. The outcome measures listed and described below were provided the information necessary to draw conclusions in attempt to answer the study's question regarding preoperative opioid use and its influence on self-reported outcomes post-spine surgery.

Outcome Measures

Opioid Questionnaire: Information on dosage, type of opioid, method of administration, and frequency of use in a 24-hour period was recorded at initial encounter preoperatively. This allowed for a calculation of 24-hour morphine equivalent on the basis of conversion ratios.

SF-12: Derived from the SF-36, it is a 12-question survey addressing eight domains including physical functioning, role-physical, bodily pain, general health perceptions, vitality, role-emotional, and mental health. The scores range from 0-100, with the mean score set to 50. Scores greater than 50 indicate greater physical or mental health and scores less than 50 note worse physical or mental health.[12] This measure was taken both preoperatively and at all subsequent postoperative visits.

EQ-5D: This is a six-item measure that assesses the five dimensions of mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Each is described by levels of problem including none, mild to moderate, and severe. No difficulty is coded as 1, mild to moderate is coded as 2, and severe is coded as 3. Results are reported as such is a patient has no difficulty: 11111. Extreme difficulty with all items is coded as: 33333. The sixth part of the measure is the Visual Analog Scale. This utilizes a 20cm marked vertical scale in which a patient notes his/her level of health (0 being the worst and 100 being the best).[13] Similar to the SF-12, this was taken at all visits.

Oswestry Disability Index (ODI): This is a 10-item questionnaire containing assessment of pain intensity, personal care, lifting, walking, sitting, standing, sleeping, sex, social, and travel. Each of these subheadings has six statements that correlate to scores of 0-5, with 0 associated with least disability and 5 with greatest. To score, addition of all responses, divided by the number of questions answered, multiplied by 100 to find a percentage which falls between 0-100. Scores greater than 40 indicate severe disability.[1,14] The ODI was administered at all visits to observe changes in functional level.

Modified Somatic Perception Questionnaire (MSPQ): 13-item questionnaire with a four-point-self-report scale, used predominantly in patients with chronic low back pain; however, it has been used in patients with Meneire's disease and tinnitus, stroke, chronic pain, cardiovascular disease, and those undergoing surgery. This scale is in Likert format, examining patient perceptions on body perception and physiologic function. To numerically score, "not at all" = 0, "A little, slightly" = 1, "A great deal, quite a bit" = 2, "Extremely, could not have been worse" = 3. Scoring is from 0-39, with 39 representing the greatest impact of the patient's condition on perceptions of health.[15] This measure was taken at initial encounter preoperatively in attempt to determine somatization's effects on the aforementioned outcome measures indicating positive or negative outcome prediction.

Zung Depression Scale: A 20 item self-assessment in Likert format with a score range of 25-100. The ranges of scores are as follows: Normal = 25-49, Mildly depressed = 50-59, Moderately depressed = 60-69, and Severely depressed = >70.[16] This was taken at the initial encounter preoperatively to determine the relationship between depression and intervention outcomes.

Main Findings

Preoperative Daily Morphine Equivalent: Median score of 8.75mg was calculated amongst the group. The Interquartile range of this was 0-37.5mg.

Preoperative opioid use predicted significant decreases ($p<0.05$) in SF-12 scores (3 and 12 months), increases in ODI scores (3 and 12 months), and decreased EQ-5D scores (3 and 12 months). With each 10mg increase in opioid use, these scores were increasingly effected (SF-12 = .3 points, ODI = .6 points at 3 months, .5 points at 12 months, EQ-5D .1 points).

SF-12, MSPQ, Zung Depression Scale, Diabetes, smoking, and ODI scores preoperatively were all found to be significant predictors ($p<0.05$) of measure scores postoperatively.

Original Authors' Conclusions

The study found that with an increased use of opioids preoperatively there were greater chances of poorer outcomes post-surgery for those undergoing elective spine procedures. This was observed via patient-reported outcomes compared both pre-operatively and postoperatively, with the greater differences witnessed with greater opioid use. The addition of the MSPQ demonstrated increased somatization of symptoms in some patients preoperatively and subsequently lesser scores on patient-reported outcomes indicating poorer outcomes.

Critical Appraisal
Validity
Contributing to the validity of this study was the large sample size (583 subjects), the design of the study (prospective), use of multivariable analyses, and the use of preoperative opioid use as a continuous variable. These patients varied in age, gender, race, BMI, comorbidities, functional level, etc. increasing the external validity and the applicability to the general population. Internal validity was high due to the ease in administration and lack of variability between administrators of the outcome measures within the study. Limitations within the study included the potential confounder of including all elective spine surgeries; however, the lead investigator introduced a categorical covariate to group these subjects. The lack of information on the duration of opioid as well as usage at the 3 and 12-month revisits could also be a significant limitations. The author recognized this as a flaw in the study design, indicating that opioid use postoperatively could be a major influence on self-reported outcome measure scores, perhaps even more than pre-operative use.
Interpretation of Results
The changes in assessment scores postoperatively correlating to pre-operative opioid supported the authors' original hypothesis, as well as my own. Other studies have shown that pre-operative analgesic use is related to greater postoperative pain, but did not specify the type of analgesic used.[17] The significance between pre-operative opioid use and poorer outcomes was evident by the p values ranging from 0.001-0.03. The external validity of the study as well as the large sample size and ease of administration caused confidence in the results and their applicability for future interventions and further investigations. The one limitation that is concerning is that of the postoperative opioid use. If these patients were using opioids, especially greater amounts, these self-reported measures could be significantly impacted. Overall, the validity of the study is such that could be a framework for further investigation to determine the best course of action for opioid prescription in those with low back pain undergoing elective spine surgery. Although the limitation is concerning, I would feel confident in presenting the information to a patient to describe the potential ill-effects of pre-operative opioid use, perhaps leading to lengthier usage and negative outcomes.
Applicability of Study Results
Although the study did not involve 25-year old military servicemen, the results should be applicable to this population due to the variance in subjective characteristics of the 583 subjects involved. The study also did not examine physical therapy or opioid use as an intervention, focusing solely on the outcome of preoperative opioid use on quality of life, function, and other self-reported measures. This information could be applied to the PICO question in that opioid preoperatively demonstrated poorer outcomes. Since this was not an intervention study, it could be used as a foundational guideline for further studies, or to more appropriately intervene in patients with low back pain to promote positive outcomes.

(2) Description and appraisal of Physical Therapy and Changes in Disability for Patients with Low Back Pain by Ross, 2002.

Aim/Objective of the Study/Systematic Review:
To determine the efficacy of physical therapy intervention in patients seeking treatment for low back pain at a military physical therapy clinic from initial evaluation to discharge, and also to examine the differences across symptom duration and location.
Study Design
This study was a prospective, longitudinal intervention study. Subjects were allocated to group according to their symptom characteristics, including duration and location. Duration was broken down into groups of less than 1 month (acute), 1-6 months (subacute), and greater than 6 months (chronic). Location was grouped according to the involvement or lack thereof of lower extremity symptoms. Then from these initial characteristics, six groups of subjects were created with each duration being represented in combination with lower extremity symptoms or without. There was no blinding in this study as all patients received physical therapy intervention and group allocation was done according to each patient's symptoms, a fact known by all involved. The ODI was measured both at initial encounter and at discharge from physical therapy treatment. This outcome measure was used to measure the amount of change in disability in each patient group due to physical therapy intervention. There was no standardization of treatment methods or duration of physical therapy episode of care, meaning that each subject's rehabilitation regimen was different, therefore, there was no standardization of length of time between outcome measure administration.
Setting
This study was completed at a military Physical Therapy Clinic at an unspecified location in the United States.
Participants
304 patients with low back pain seeking physical therapy intervention were included in the study. These patients were referred by their healthcare provider to the specific military physical therapy clinic and completed their physical therapy regimen. These subjects were not receiving worker's compensation benefits. There were 180 male participants to 124 females. The average age of all subjects was 38 years old, with approximately 50% of these individuals identified as active duty personnel. The majority of subjects exhibited chronic symptoms, either with lower extremity involvement (81) or without (95). These groups had the lengthiest rehabilitation episodes with 39.6 days and 36 days on average, respectively.
Intervention Investigated
This study did not utilize a control group as all participants received physical therapy intervention. The interventions were not standardized; however, there were commonalities across individual subject interventions such as use of modalities to decrease pain, range of motion, strengthening exercises, spinal manipulation/mobilization, and education on proper body mechanics and return to previous activity. This treatment was provided by five physical therapists that were employed at the military clinic. These therapists had an average of 12.8 years of experience. Subjects were seen on average 6.17 times throughout the study. Since the treatments were not standardized, there was no requirement on the number of hours or visits necessary between initial visit and discharge date.
Outcome Measures
Oswestry Disability Index (ODI): This is a 10-item questionnaire containing assessment of pain intensity, personal care, lifting, walking, sitting, standing, sleeping, sex, social, and travel. Each of these subheadings has six statements that correlate to scores of 0-5, with 0 associated with least disability and 5 with greatest. To score, addition of all responses, divided by the number of questions answered, multiplied by 100 to find a percentage which falls between 0-100. Scores greater than 40 indicate severe disability.[1] This was administered by the physical therapist working with the subject at initial evaluation and upon discharge.

Main Findings[4]

Group	Initial Oswestry	Discharge Oswestry	Effect Size
Acute LBP – LE symptoms	38.0 +/- 17.2	24.4 +/- 21.0	0.79
Subacute LBP – LE symptoms	29.8 +/- 13.4	21.2 +/- 16.3	0.64
Chronic LBP – LE symptoms	33.6 +/- 17.8	26.2 +/- 18.9	0.41
Acute LBP	31.2 +/- 14.4	12.6 +/- 13.1	1.29
Subacute LBP	22.5 +/- 12.8	13.1 +/- 12.1	0.73
Chronic LBP	27.5 +/- 16.5	17.5 +/- 14.4	0.61

As you can see from this table derived from a table within the article, each group demonstrated a strong relationship as noted by the effect sizes each being in the "high" range, except for those in the Chronic LBP with LE symptoms group only demonstrating a moderate effect size.

All of the groups demonstrated significant decreases in their ODI scores from initial evaluation to discharge ($p<0.05$). The individuals without lower extremity symptoms displayed greater advances in functional level throughout their rehabilitation episode, indicated by the larger effect sizes overall. Also, those whose symptoms were more acute, specifically less than one month, displayed the largest amounts in change. Chronic conditions such as low back pain can evolve into greater problems for patients involving numerous body systems and locations, which is one speculation as to why those with chronic low back pain had lesser improvements in ODI score.[4]

Original Authors' Conclusions

The author concludes that physical therapy intervention is an effective treatment strategy for those with low back pain, as indicated by the significant decreases in ODI scores in the six patient groups of this study. This was one of the first studies to group subjects according to location and duration of symptoms, separating this research from previous work. In addition, this study showed the impact of physical therapy on acute low back pain and the strength of this relationship, which could promote those with low back pain to seek treatment earlier to avoid the challenges of potential chronicity of symptoms.

Potential influences in seeking care in this population are the lack of financial obligation to seek treatment in this population and also the referring providers understanding of the need for return to duty, causing earlier referrals, and lastly the physical demands of the subjects' jobs necessitate a shorter, more efficient recovery. Greatest takeaway being that physical therapists and other healthcare providers should use the location and duration of low back pain symptoms in determining an intervention outlook for those with low back pain.

Critical Appraisal

Validity

The wide range of subjective characteristics of the individuals involved in this study, as well as the differences in symptom location and duration, and the lack of standardization of physical therapy intervention all increased this study's external validity. This would be easy to administer across widespread population demographics as it focuses solely on the impact of physical therapy intervention on ODI scores in patients with low back pain. The only statement alluding to internal validity was that of "the effects of spontaneous recovery for patients in this study could not be evaluated."[4] Without the presence of a control group, or more information on other treatments that these individuals could have been receiving, it is difficult to determine the level of internal validity in this study.

Strengths of the study included the large sample size, lack of drop outs, and the reliability and validity of the outcome measure. Weaknesses include the lack of control group, method of subgrouping perhaps lacking sensitivity to symptoms or presentations that would argue the initial grouping of the subject, and the variability in

interventions due to lack of standardization.

Overall, the study showed significance and causal relationship between physical therapy intervention and a decrease in disability as indicated on the ODI. Further studies with the addition of a control group, standardization of treatment, and better investigation into the symptoms/causes of the LBP would provide even stronger information.

Interpretation of Results

These results indicate the efficacy of physical therapy intervention decreasing disability levels in patients with low back pain, especially those in the acute phase. The larger effect sizes indicate a greater relationship between the intervention and the results, with the largest occurring in those with acute low back pain without lower extremity symptoms.

The number of subjects, range in characteristics, and variability in intervention give me confidence that this study could be easily applied clinically. All of the subgroups significantly improved, showing that physical therapy intervention was an effective method of treatment.

The one limitation that concerns me is that there is no mention of other treatments that subjects may have been seeking throughout their rehabilitation episode. This could be a confounding factor if individuals were on a medication regimen, receiving other therapy services, or participating in other treatment activities. However, I still find this to be a great influence in the promotion of physical therapy for those with low back pain.

Applicability of Study Results

This study involved individuals associated with the military, either active duty, veterans, or dependents. Although it did not specifically target 25-year-old males, I feel that the results show to be applicable to a wide age range which would include these individuals. This study can be used to demonstrate the positive effects of physical therapy on disability outcomes by using the ODI at initial evaluation and then at discharge from services. Then the results can be compared to other interventions, such as opioid use, and their impact on disability in patients with low back pain.

Physical therapy as an intervention is both feasible and practical, especially in the military setting. These individuals have excellent healthcare coverage and are able to utilize military clinics at no expense. For the patient I have described in my PICO question, this would be an excellent intervention to decrease the symptoms of LBP and subsequently decrease disability to return to duty.

SYNTHESIS AND CLINICAL IMPLICATIONS

The evidence reviewed and appraised indicates the significant impact of physical therapy intervention on disability in those with low back pain. This information can be applied to the specific patient population of 25-year-old military servicemen, as the studies encompassed large ranges of ages in participants. These studies had high external validity, easily applicable to the general population. The number of subjects involved in each study also increased the power of the studies and also improve the generalizability of the findings.

The study by Ross et al highlighted the positive outcomes associated with physical therapy intervention in military-affiliated men and women with acute low back pain.[7] The physical therapy interventions were not standardized, increasing the study's external validity. Limitations of this study included the lack of control group or randomization, however, the findings showed physical therapy to be an effective and conservative treatment method for acute low back pain.[7]

Physical therapy intervention was proven to be a beneficial treatment for patients with acute low back pain.[7,8,10] In contrast, the study by Lee et al showed that the use of opioids pre-operatively negatively effected both functional and quality of life outcomes.[11] This information is crucial for health care providers as they are providing recommendations or referrals for these individuals. It is imperative that more research is completed and published to educate both providers and patients on the most appropriate treatment method for acute low back pain.

There were little or no studies that specifically compared physical therapy intervention to opioid use in the treatment of acute low back pain. The Opioid crisis is a non-discriminatory threat, affecting the lives of hundreds of thousands of people across the United States.[2] Among these are servicemembers, either active duty or retired, dealing with the mental and physical challenges of their duties. It is important that we as health care providers do our due diligence in finding the most effective and least dangerous treatment method to help to manage this epidemic.[2,3]

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