

Retrospective Analysis of Patients Presenting to Our Pain Clinic within One Year

Bir Yıl İçerinde Ağrı Kliniğimize Başvuran Hastaların Retrospektif İncelemesi

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ABSTRACT

Objective: This study aims to retrospectively examine the demographic characteristics, main causes of pain, diagnoses and applied treatment methods of patients who applied to a pain clinic. It is expected that these data will contribute to the evaluation of current clinical practices and the development of more effective pain management strategies.

Methods: The study was conducted with a retrospective design among patients who presented to our clinic between January 2023 and December 2023. During this period, the medical records of the patients who applied to the pain clinic were examined. The patients' (age, gender), reasons for application (pain localization) and treatment approaches (drug therapies, interventional procedures) were recorded.

Results: When demographic characteristics were examined, 56.8% of the 1210 patients included in the study were female, 43.2% were male, and the mean age was determined as 47.42 ± 20.56 . When the complaints of the patients were examined, the reasons for application were back pain, leg pain and widespread body pain in order of frequency. In terms of treatment methods, the most frequently performed procedure was the plan block, followed by epidural analgesia.

Conclusion: In our study, it was observed that the majority of patients applying to the pain clinic applied due to chronic pain and needed multidisciplinary treatment approaches. These data are important for the development of new strategies for pain management in clinical practices and for increasing patient satisfaction. It is recommended that more studies be conducted, especially on the effectiveness of interventional methods and the role of psychological support.

Keywords: Pain, Treatment, Acute pain, Chronic pain, Multidisciplinary pain treatment

ÖZ

Amaç: Bu çalışma, bir ağrı kliniğine başvuran hastaların demografik özelliklerini, başlıca ağrı nedenlerini, tanıları ve uygulanan tedavi yöntemlerini retrospektif olarak incelemeyi amaçlamaktadır. Bu verilerin, mevcut klinik uygulamaların değerlendirilmesi ve daha etkili ağrı yönetim stratejilerinin geliştirilmesine katkıda bulunması beklenmektedir.

Yöntemler: Çalışma, Ocak 2023 - Aralık 2023 tarihleri arasında kliniğimize başvuran hastalar arasında retrospektif bir tasarımla gerçekleştirilmiştir. Bu süre zarfında ağrı kliniğine başvuran hastaların tıbbi kayıtları incelenmiştir. Hastaların (yaş, cinsiyet), başvuru nedenleri (ağrı lokalizasyonu) ve tedavi yaklaşımları (ilaç tedavileri, girişimsel prosedürler) kaydedilmiştir.

Bulgular: Demografik özelliklere bakıldığında çalışmaya dahil edilen toplam 1210 hastanın %56,8'i kadın, %43,2'i erkek olup, yaş ortalaması $47,42 \pm 20,56$ olarak belirlenmiştir. Hastaların başvuru şikayetlerine bakıldığında başvuru nedenleri arasında sıklık sırasına göre bel ağrısı, bacak ağrısı ve yaygın vücut ağrısı yer almıştır. Tedavi yöntemleri açısından en sık yapılan işlem plan bloğu olmuştur, ikinci sırada epidural analjezi gelmektedir.

Sonuç: Çalışmamızda, ağrı kliniğine başvuran hastaların büyük çoğunluğunun kronik ağrı nedeniyle başvurduğu ve multidisipliner tedavi yaklaşımlarına ihtiyaç duyduğu gözlemlenmiştir. Bu veriler, klinik uygulamalarda ağrı yönetimine yönelik yeni stratejilerin geliştirilmesi ve hasta memnuniyetinin artırılması için önemlidir. Özellikle girişimsel yöntemlerin etkinliği ve psikolojik desteğin rolü üzerinde daha fazla çalışma yapılması önerilmektedir.

Anahtar kelimeler: Ağrı, Tedavi, Akut ağrı, Kronik ağrı, Multidisipliner ağrı tedavisi

Received/ Geliş Tarihi 17.11.2024
Revision request/Revizyon Talebi 26.11.2024
Last Revision Request/Son Revizyon Talebi 19.12.2024
Accepted/Kabul Tarihi 21.12.2024
Publication Date/Yayın Tarihi 28.12.2024

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Cite this article: Karapinar Y, Yilmaz MA, Al S, Yayik AM, Aydin ME, Ahiskalioglu A, Ahiskalioglu EO. Retrospective Analysis of Patients Presenting to Our Pain Clinic within One Year. *Atatürk Univ Fac Med J Surg Med Sci.* 2024;3 (3): 81-86



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INTRODUCTION

Managing chronic pain is a major challenge in healthcare, greatly impacting patients' quality of life and placing considerable pressure on healthcare systems globally. ¹ Specialized pain management clinics, such as algology departments, play a crucial role in the comprehensive evaluation and treatment of patients with various pain syndromes. ² Despite advancements in pharmacological and interventional approaches, understanding patient demographics, clinical characteristics, and treatment outcomes through retrospective analysis is essential for optimizing care strategies and guiding future research. ³

Although various studies have explored chronic pain management, there is limited data on the specific patient population and treatment trends within specialized pain clinics in our region. This study aims to present a detailed analysis of data collected from the algology clinic at Atatürk University Hospital, focusing on patient characteristics, types of pain complaints, associated comorbidities, and the spectrum of treatment modalities employed over the past year. By examining these variables, we seek to identify patterns and correlations that may inform evidence-based improvements in clinical practice and patient management within the field of pain medicine.

The retrospective design of this research involves the systematic review of clinical records from January 2023 to December 2023, encompassing data on patient gender, primary pain complaints, history of prior interventions, comorbidities, and specific procedures conducted. This comprehensive data analysis offers valuable insights into the treatment trends and clinical outcomes associated with chronic pain management, contributing to the broader body of knowledge in algology and interventional pain practices.

METHODS

This study was conducted following the approval of the ethics committee of Atatürk University, Faculty of Medicine, obtained in 30.03.2023, with meeting number 2 and issue number 118. Following approval from the institutional ethics committee, the medical records of patients who presented to the Algology Polyclinic of our hospital between January 1, 2024, and October 31, 2024, were retrospectively reviewed. Demographic characteristics, presenting complaints, and treatment modalities were extracted from the hospital's electronic data system. Patients with incomplete data (e.g., missing demographic details,

presenting complaints, or treatment records) were excluded from the analysis.

Statistical analysis

Statistical analyses were performed using the SPSS software package 22.0 (IBM SPSS Corp. Armonk, NY, USA). Continuous variables were reported as mean \pm standard deviation, while categorical variables were expressed as frequencies and percentages.

Table 1: Demographic Characteristics of Patients

Age	45,36 \pm 20,56
Gender (M/F)	43,2 / 56,8
Previous treatment (No / Yes)	90,1 / 9,9
Comorbidities (No / Yes)	63,3 / 36,7

RESULTS

A total of 1,210 patients who presented to the Pain Clinic between January 1, 2024, and October 31, 2024, were identified through the hospital information management system. After excluding 171 patients due to missing or inaccurate data, 1,039 patients were included in the study. The mean age of the patients was 47.42 ± 20.56 years. Of the patients, 43.2% were male, and 56.8% were female. A history of recurrent visits to the algology polyclinic was observed in 90.1% of the patients, while 36.7% had additional comorbidities (Table 1).

Regarding presenting complaints, the most common was low back pain ($n = 484$), followed by leg pain ($n = 317$), and generalized body pain ($n = 103$) (Figure 1).

In terms of treatment modalities, the most frequently applied intervention was plane blocks ($n = 490$), followed by epidural analgesia ($n = 381$). A subset of patients did not undergo interventional procedures but were prescribed medications or advised on non-pharmacological treatments. Among those receiving plane blocks, 92% underwent erector spinae plane block (Figure 2).

DISCUSSION

Acute Pain Management

Pain is one of the most common reasons for patients to apply to the hospital. ⁴ In a survey study with a sample size of 50 million published by Yong et al. in 2022, the most common pain localizations in adults were lower extremity pain (44.1%), low back pain (40.9%), upper extremity pain (31.7%), headache (13.6%), abdominal-pelvic pain (8.2%)

and tooth-jaw pain (6.5%).⁵ When we look at the applications to our clinic, it is seen that the most common are low back pain and lower extremity pain. The age of the patients applying to our clinic is 47.42 ± 20.56 and the majority of the patients are female.

The objectives of acute pain management are to alleviate pain, enhance function, promote recovery, and ensure patient satisfaction. Additional postoperative goals are to achieve early mobilization and reduce the length of hospital stay. The most common reason for acute pain applications to our clinic is postoperative pain. Acute pain management is very important because all patients with unrelieved acute pain are candidates for chronic pain.

Multimodal analgesia techniques are used in our clinic. The simplest definition of multimodal analgesia is the use of two or more methods that use different mechanisms for pain management.⁶ In addition to non-pharmacological treatments, patients are treated with paracetamol, NSAIDs, single-dose analgesic plane blocks or block catheters if there is no contraindication. In our clinic, we avoid unnecessary excessive opioid use in acute pain treatment, especially in the perioperative period. In our clinic, acute perioperative pain management is mostly applied by anesthesiologists in the operating room in the preoperative or early postoperative period.

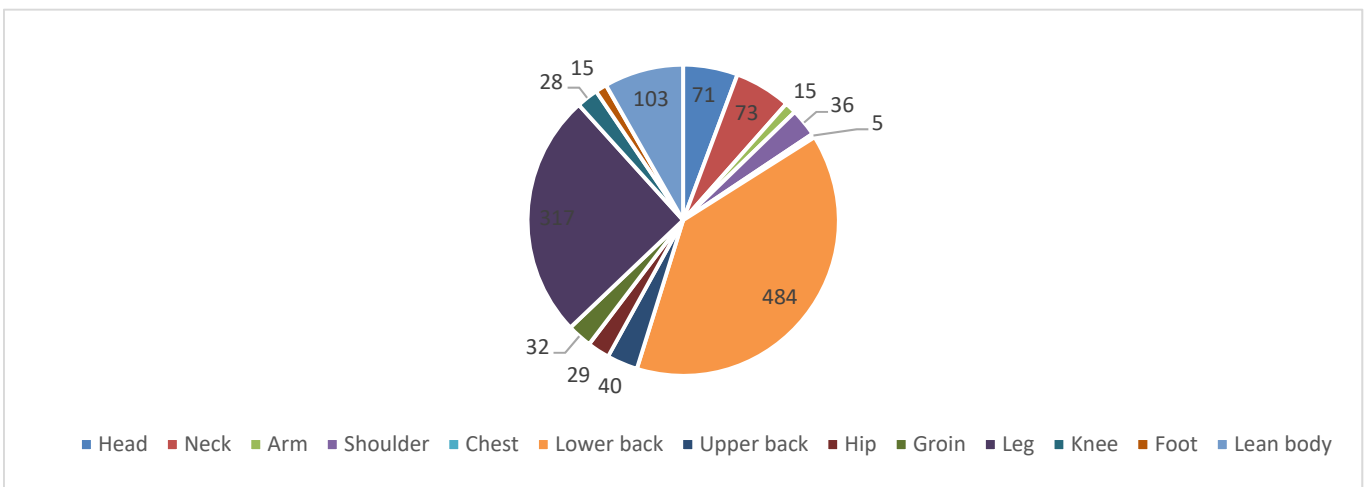


Figure 1: Number of Complaints Reported by Patients Presenting to the Pain Clinic

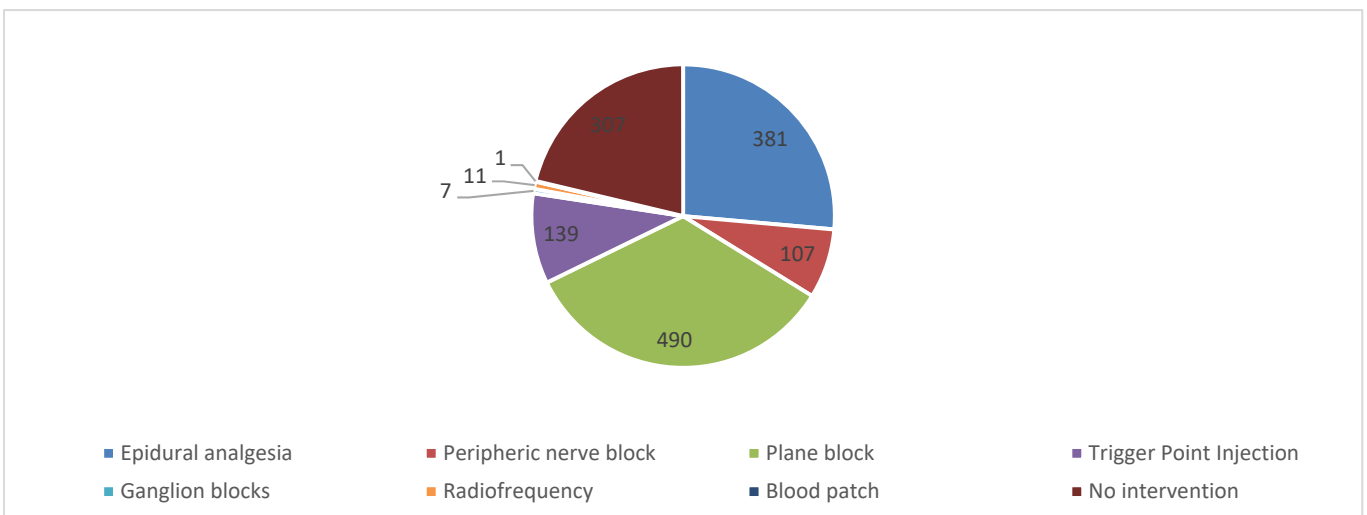


Figure 2: Number of Treatment Modalities Administered

Chronic Pain Management

Patients suffering from chronic pain are more frequently

admitted to our algology clinic. Chronic pain is defined as pain that lasts longer than three months.⁷ Chronic pain

management, in particular, requires a multimodal approach.⁸ Successful management of chronic pain requires addressing all physical and psychological conditions that cause pain. Before each pharmacological or interventional application, patients should be reminded of nonpharmacological multimodal analgesia methods at each examination. Standard pain-reducing methods are recommended for our chronic pain patients. These are behavioral changes, staying away from pain-intensifying environments and behaviors, psychological flexibility, stress reduction due to awareness, physical activity, exercise, sleep hygiene and dietary habits changes, and continuous repetition of these suggestions will prevent unnecessary analgesia consumption in our patients or reduce the amount of analgesic consumed.

Outcomes and Evidence

The initial approach to treating chronic pain should involve accurately diagnosing the underlying cause and identifying the specific type of chronic pain syndrome. The diagnosis of neuropathic pain is particularly important on the basis of chronic pain and should be distinguished from nociceptive pain.⁹ Because a nociceptive focus should be recognized, and this focus should be targeted when treating pain. This target will reduce the need for analgesic procedures and medications in the treatment of the underlying cause.¹⁰ Cognitive behavioral therapy, combined treatment with antipsychotics or gabapentinoids should be considered for the treatment of neuropathic pain.¹¹ In a review published by Turk et al. in 2020, they found that correctly determining the patient's expectations and making the patient feel safe in reducing non-cancer chronic pain reduced the severity of chronic pain by 30%.¹² In a review published in 2018, Fiedels also showed that positive communication with the patient improves treatment results.¹³ In addition to non-pharmacological treatments, pharmacological treatments are prescribed to patients according to the type of pain (nociceptive-neuropathic) or interventional procedures are planned depending on the location. The majority of patients presented with low back pain, and plane block procedures became the primary interventional approach, replacing other previously utilized pain management techniques. Plane blocks and epidural analgesia are most commonly applied as interventional procedures for low back pain, which is the most common reason for applying to our clinic (Figure 1-2). Interventional procedures are considered for patients describing nociceptive pain and non-steroidal anti-inflammatory drugs are primarily prescribed pharmacologically, but opioid drugs are prescribed if the patient's symptoms are severe and persistent. In patients who describe neuropathic pain, after

the suitability of interventional procedures is evaluated, antidepressants or antiepileptic drugs are primarily prescribed for pharmacological treatment, but the severity and duration of the patient's symptoms are questioned and opioids are prescribed when necessary. Another important factor that affects our drug selection is the additional comorbidities of the patients. The patient's cardiovascular status, renal or hepatic function levels also affect drug selection. In addition, when prescribing treatment to patients, the drugs they use should be questioned and evaluated in terms of drug interactions. It has been shown that 36.7% of the patients applying to our clinic have additional comorbidities (Table 1).

When we look at the treatment modalities we apply in our clinic, it is seen that trigger point injection is the third most common (Figure-2). One of the basic approaches to musculoskeletal pain, which is encountered very frequently, is trigger point injection with lidocaine to the painful area and then NSAID (nonsteroidal anti-inflammatory drug) prescription. In addition, topical NSAIDs are used quite frequently in our clinic for joint pain such as wrist and ankle. Opioid use in patients with nociceptive pain should only be used in low doses and for a short time when the benefits outweigh the potential risks. Opioids are not among my primary choices in the treatment of nociceptive pain in our clinic because the meta-analysis published by Siddel et al. in 2020 found that the effects of opioids on musculoskeletal pain were similar to non-opioid alternatives.¹⁴ Our approach to neuropathic pain in our clinic is evaluated according to the suitability of interventional procedures and interventional procedures are planned for patients who are deemed appropriate. In addition, RF (radio frequency) is applied to patients who do not respond to medical treatment and whose comfort of life is significantly impaired. In routine practice, after the patient is evaluated with a multidisciplinary approach (neurology clinic, psychiatry clinic), antidepressants or gabapentinoids are considered as the first step in pharmacological treatment. Tramadol, a synthetic opioid, is used in the second step and strong opioids are prescribed in the last step. In the study titled "From mechanism to treatment in neuropathic pain" published by Finnerup et al. in 2021, pharmacological treatment is recommended as applied in our clinic.¹⁵ In our clinic, interventional procedures are used in patients who cannot provide adequate analgesia with first-step approaches and non-pharmacological measures due to routine pain treatment modalities. In patients where any intervention is planned, the use of anticoagulants or antiplatelet drugs should be questioned first and the appropriateness of platelet counts and coagulation parameters are checked with the examinations performed. These controls should definitely be applied especially in

central procedures. The most common procedure we apply in our clinic is epidural glucocorticoid application. We apply epidural glucocorticoid in the treatment of low back pain resistant to conservative treatment. We reach the epidural area with a translaminar, transforaminal or caudal approach and apply glucocorticoids together with local anesthetics. It is said to patients that the maximum effect will occur within 72 hours.¹⁶ We also apply fascial plane blocks such as ESP (erector spinae plane block) block or TLIP block (thoracolumbar interfascial plane block) to our patients to relieve acute pain.

This study has several limitations that need to be recognized. Firstly, the retrospective design depends on previously collected data, which may contain inaccuracies or missing details, potentially impacting the reliability of the results. A total of 171 patients were excluded due to incomplete or inaccurate records, which might limit the representativeness of the analyzed population. Additionally, as a single-center study, the results may not be generalizable to other institutions or regions. Psychosocial factors, which play a significant role in pain perception and treatment outcomes, were not thoroughly evaluated. Furthermore, the study only covers a one-year period, limiting the ability to assess long-term treatment outcomes and patient satisfaction. Lastly, certain variables, such as genetic, lifestyle factors, and detailed comorbidity profiles, which could influence treatment response, were not included in the analysis. These limitations highlight the need for future prospective, multicenter studies with a broader scope to validate and expand upon the current findings. The management of over 1000 patients seen in our clinic has been added to the literature. We would like to share our pain management with readers in light of current information

Ethics Committee Approval: This study was conducted following the approval of the ethics committee of Atatürk University, Faculty of Medicine, obtained in 30.03.2023, with meeting number 2 and issue number 118.

Informed Consent: Approval was granted by the hospital to access and utilize patient data for the purposes of this retrospective study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – YEK-MAY-SA-AMY-MEA-AA; Design- YEK-MAY-SA-AMY-MEA-AA; Supervision- YEK-MAY-SA-AMY-MEA-AA; Resources- YEK-MAY-SA-AMY-MEA-AA; Data Collection and/or Processing- YEK-MAY-SA-AMY-MEA-AA; Analysis and/or Interpretation- YEK-MAY-SA-AMY-MEA-AA;; Literature Search- YEK-MAY-SA-AMY-MEA-AA; Writing Manuscript- YEK-MAY-SA-AMY-MEA-AA; Critical Review- YEK-MAY-SA-AMY-MEA-AA.

Conflict of Interest: The authors declare that they have no conflicts of interest.

Financial Disclosure: The authors declare that this study has received no financial support.

Etik Komite Onayı: Bu çalışma, 30.03.2023 tarihinde Atatürk Üniversitesi Tıp Fakültesi etik kurul biriminden 2 toplantı numarası ve

118 karar numarası ile alınan etik kurul onayı sonrasında gerçekleştirilmiştir.

Hasta Onamı: Bu retrospektif çalışma kapsamında hasta verilerine erişim ve kullanım için hastaneden onay alınmıştır.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir- YEK-MAY-SA-AMY-MEA-AA; Tasarım- YEK-MAY-SA-AMY-MEA-AA; Denetleme- YEK-MAY-SA-AMY-MEA-AA; Kaynaklar- YEK-MAY-SA-AMY-MEA-AA; Veri Toplanması ve/veya İşlemesi - YEK-MAY-SA-AMY-MEA-AA; Analiz ve/ veya Yorum- YEK-MAY-SA-AMY-MEA-AA; Literatür- YEK-MAY-SA-AMY-MEA-AA; Yazıyı Yazan- YEK-MAY-SA-AMY-MEA-AA Eleştirel İnceleme- YEK-MAY-SA-AMY-MEA-AA

Çıkar Çatışması: Yazarlar, çıkar çatışması olmadığını beyan etmiştir.

Finansal Destek: Yazarlar, bu çalışma için finansal destek almadığını beyan etmiştir.

REFERENCES

- Gatchel RJ, McGeary DD, McGeary CA, Lippe B. Interdisciplinary chronic pain management: past, present, and future. *Am Psychol.* 2014;69(2):119-30. doi:10.1037/a0035514
- Danilov A, Danilov A, Barulin A, Kurushina O, Latysheva N. Interdisciplinary approach to chronic pain management. *Postgrad Med.* 2020;132(sup3):5-9. doi:10.1080/00325481.2020.1757305
- Bernardo S, Lukyanova V. Chronic Pain Management Guidelines: Time for Review. *Aana j.* 2022;90(3):169-170.
- Cohen SP, Vase L, Hooten WM. Chronic pain: an update on burden, best practices, and new advances. *Lancet.* 2021;397(10289):2082-2097. doi:10.1016/s0140-6736(21)00393-7
- Yong RJ, Mullins PM, Bhattacharyya N. Prevalence of chronic pain among adults in the United States. *Pain.* 2022;163(2):e328-e332. doi:10.1097/j.pain.0000000000002291
- Practice guidelines for acute pain management in the perioperative setting: an updated report by the American Society of Anesthesiologists Task Force on Acute Pain Management. *Anesthesiology.* 2012;116(2):248-73. doi:10.1097/ALN.0b013e31823c1030
- Treede RD, Rief W, Barke A, et al. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). *Pain.* 2019;160(1):19-27. doi:10.1097/j.pain.0000000000001384
- The L. Rethinking chronic pain. *Lancet.* 2021;397(10289):2023. doi:10.1016/s0140-6736(21)01194-6
- Scholz J, Finnerup NB, Attal N, et al. The IASP classification of chronic pain for ICD-11: chronic neuropathic pain. *Pain.* 2019;160(1):53-59. doi:10.1097/j.pain.0000000000001365
- Souza Monteiro de Araujo D, Nassini R, Geppetti P, De Logu F. TRPA1 as a therapeutic target for nociceptive pain.

Expert Opin Ther Targets. 2020;24(10):997-1008. doi:10.1080/14728222.2020.1815191

11. Rosenberger DC, Blechschmidt V, Timmerman H, Wolff A, Treede RD. Challenges of neuropathic pain: focus on diabetic neuropathy. *J Neural Transm (Vienna).* 2020;127(4):589-624. doi:10.1007/s00702-020-02145-7

12. Turk DC, Wilson HD, Cahana A. Treatment of chronic non-cancer pain. *Lancet.* 2011;377(9784):2226-35. doi:10.1016/s0140-6736(11)60402-9

13. Fields HL. How expectations influence pain. *Pain.* 2018;159 Suppl 1:S3-s10. doi:10.1097/j.pain.0000000000001272

14. Siddall B, Ram A, Jones MD, Booth J, Perriman D, Summers SJ. Short-term impact of combining pain neuroscience education with exercise for chronic musculoskeletal pain: a systematic review and meta-analysis. *Pain.* 2022;163(1):e20-e30. doi:10.1097/j.pain.0000000000002308

15. Finnerup NB, Kuner R, Jensen TS. Neuropathic Pain: From Mechanisms to Treatment. *Physiol Rev.* 2021;101(1):259-301. doi:10.1152/physrev.00045.2019

16. Driscoll MA, Kerns RD. Integrated, Team-Based Chronic Pain Management: Bridges from Theory and Research to High Quality Patient Care. *Adv Exp Med Biol.* 2016;904:131-47. doi:10.1007/978-94-017-7537-3_10