

Are Chronic Pain Fellowships Disguised as Acute Pain Fellowships Which Manage Chronic Pain? How to Recognize and Repair

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Introduction

Chronic pain represents a global health crisis, affecting over 100 million Americans and imposing an annual financial burden of approximately \$650 billion on the US healthcare system, and surpassing the costs associated with cancer, cardiovascular diseases, and diabetes.¹ Despite the high prevalence of chronic pain and its substantial economic and social ramifications, current management strategies remain fragmented and are frequently ineffective. In 1994 pain medicine fellowships were one year long and may have included epidural injections and facet joint injections and ablations. Over the last thirty years the depth and scope of what a pain medicine physician needs to know has expanded exponentially. Spinal cord stimulation, peripheral nerve stimulation, diagnostic and therapeutic ultrasound, spinal column procedures, and percutaneous surgeries have become mainstays of the interventional pain physician. However, in spite of the scope of the knowledge and skill requirements, training time has not proportionally expanded. Medical education has failed to keep pace with the increasing complexity of chronic pain management. The significant deficiencies in training future physicians and basic understanding of the mechanism and comorbidities associated with chronic pain are inadequate to address this issue may worsen this crisis.²

Chronic pain presents unique challenges due to its multifaceted etiology, encompassing psychological, social, anatomical, and physiological factors. Exacerbating these challenges is a high rate of pain morphological fluctuance. Some investigators report that 40–80% of patients with chronic pain are misdiagnosed, often resulting in inadequate or inappropriate treatments.³ Although many fellowship programs in Pain Medicine focus predominantly on procedural skills and acute pain management, there is insufficient time and attention devoted to appreciating the psychological, autonomic and central changes that manifest in patients with chronic pain throughout their chronic pain experience.^{4,5} One-year fellowships that observe and treat patients with multi-year symptoms inherently marginalize the importance of long-term care and continuity required to address chronic pain effectively.

We submit that the current educational paradigm for Pain Medicine education focuses on procedural aptitude but needs to be optimized for a deeper understanding of the mechanisms and maintenance of chronic pain which will lead to better patient selection and to understand the durability of the treatments offered. The current fellowship model is designed for fellows to treat patients at different phases of their chronic pain experience in a fractionated fashion. This paradigm makes it difficult for fellows to learn about the importance of rhythmic pain cycles in patients, which can predict an exacerbation, or resolution, of a pain crisis.⁶ Some reports that suggest that Pain Medicine fellows

underappreciate the importance of psychometrics in chronic pain patients.^{4,5} This may be due to the fragmented patient care model of a one-year pain fellowships that limits the visibility of psychosocial well-being. This analysis examines the inadequacies of current Pain Medicine fellowship education in preparing physicians to manage chronic pain comprehensively. Extending fellowship training and restructuring educational frameworks to prioritize longitudinal patient care, a deeper understanding of the differences noted in acute and chronic pain, evidence-based decision-making, and interdisciplinary approaches can significantly enhance patient and practitioner outcomes.

Chronic Pain Management: A Continuum of Care

Effective chronic pain management necessitates a comprehensive approach encompassing understanding the patient's trajectory over extended periods, often months or years. In contrast to acute pain, which typically presents with a distinct onset and resolution, chronic pain is characterized by persistence. It is influenced by maladaptive behaviors, psychological stressors, and fluctuating social determinants of health. These factors can exacerbate symptoms and create a complex array of challenges for both patients and healthcare providers.

Notwithstanding this complexity, current Pain Medicine fellowships are structured to follow patients for a maximum of one year, providing limited opportunities for fellows to observe the long-term progression of chronic pain conditions involving psychological lability and its influence on the pain experience. This fragmented care model often limits fellows' abilities to understand the full spectrum of chronic pain management, including the durability or lack thereof of interventions and the evolution of pain conditions over time. For example, while fellows may become proficient in performing interventional procedures such as nerve blocks or spinal cord stimulation, they often lack the opportunity to observe patients' long-term outcomes or adjust care plans based on treatment efficacy and durability.

Moreover, Pain Medicine fellows frequently do not develop long-term relationships with patients, which limits their ability to appreciate the subtle nuances of each individual's pain experience. Given the structure of many fellowships, fellows infrequently see the same patient twice in clinic, reducing their ability to track symptom progression, treatment responses, and the longitudinal impact of psychosocial factors. Some programs address this issue by implementing fellow-centric clinics, where patients are booked under fellows for ongoing follow-up. However, this model comes with trade-offs, as it necessitates a provider transition each academic year, disrupting continuity of care. This frequent turnover can lead to frustration for patients who must repeatedly establish new therapeutic relationships while also limiting fellows' ability to observe the extended trajectory of chronic pain conditions. Furthermore, the multidisciplinary nature of chronic pain management—requiring collaboration with specialties including neurology, behavioral health, physical therapy, and rehabilitation medicine—is insufficiently emphasized within the current fellowship structure.⁴ However, the Accreditation Council of Graduate Medical Education (ACGME) selected each of these specialties to ensure that we teach trainees how to manage the complexity of chronic pain states.⁷ Effective chronic pain care demands a comprehensive understanding of how these specialties interact to address the physical, emotional, and psychosocial dimensions of pain. However, fellows often have only limited opportunities to engage with these interdisciplinary relationships, which hinders their ability to provide comprehensive care.⁴ Evidence suggests that the lack of comprehensive multidisciplinary involvement is caused by trainees' inability to grasp, or that they are not taught the importance of, these care points because of the supremacy of interventional pain management focus in fellowship training.

Limitations of Current Fellowship Education

The one-year structure of most Pain Medicine fellowships inherently restricts the scope of training, particularly for chronic pain management. Fellows are typically exposed to a high volume of procedural interventions as they are often prioritized in clinical practice and billing structures. Although procedural competence is undoubtedly important, it represents only a fraction of the skills necessary to manage chronic pain effectively.⁸

This brief training period precludes fellows from developing a comprehensive understanding of treatment durability and long-term patient outcomes. For example, fellows may perform radiofrequency ablation for a patient with lumbar facet joint pain. Still, they are unlikely to see the patient six months later to evaluate whether the intervention provided sustained relief. Similarly, chronic pain patients often require months or even years of follow-up, during which treatment plans must be adjusted multiple times to address changes in the patients' condition or response to therapy. The limited

duration of fellowship programs translates to fellows rarely witnessing these critical stages, leaving significant gaps in their clinical training.

Another significant limitation is the superficial exposure of fellows to advance pain management techniques. While they may learn to perform certain procedures during their training, the brief duration of their education often prevents them from gaining a deep understanding of when and how to effectively apply these interventions and the potential complications or long-term efficacy of these treatments.

The lack of a longitudinal care model within current programs also exacerbates these issues. Implementing a structure in which fellows manage a cohort of chronic pain patients throughout their training would allow them to observe the evolution of pain conditions and treatment outcomes longitudinally. This approach would also enable them to identify patterns in patient behavior and treatment response, contributing to a more nuanced understanding of chronic pain care.

Building a Better Future for Pain Medicine

Advancing Pain Medicine requires a fundamental shift in how fellowship education is designed, with a stronger emphasis on longer-term chronic pain management. A paradigm shift in the design and funding of training programs is essential to address the growing complexity of chronic pain treatment. Central to this transformation is the proposal to extend the duration of Pain Medicine fellowships. This adjustment would enable trainees to follow patients over extended periods, fostering a deeper understanding of the long-term dynamics of chronic pain and its management. Developing dedicated 4-year residencies in Pain Medicine as a distinct discipline would help our trainees achieve this longitudinal expertise even better than requiring fellowships of increased duration.

An interdisciplinary approach to training is equally critical. By integrating rotations in specialties such as behavioral health, physical medicine, rehabilitation, neurology, radiology, spine surgery and rheumatology, fellowship programs can broaden trainees' perspectives and enhance their ability to deliver comprehensive care. This interdisciplinary exposure is crucial for equipping future pain specialists with the diverse tools needed to address the multifaceted nature of chronic pain. Fellowship programs and fellows alike recognize the importance of interventional pain management. The education of the procedures used in this space is essential for fortifying of our field.^{4,5} However, fellowship education should emphasize on non-pharmacologic therapies, as they are the gateway for insurance approval of many interventional procedures and salvage therapy for interventions that may not have met the expectations of the clinician or patient. Given that the evidence-based durability of most of our procedures has an end date of 1–2 years, managing patient symptoms beyond that point may rely on our field's ability to sensibly integrate physical therapy, cognitive-behavioral therapy, and mindfulness-based interventions to make chronic pain care genuinely comprehensive.⁹ We posit that fellows should be trained to follow as many patients as possible from the first visit until pain has stabilized. For many patients, this requires several months to years. Following a patient during that timeframe will build an awareness of the different strategies fellows can incorporate into their treatment plans, recognizing their role as an aspect of a multimodal pain management strategy.

In addition, enhancing the curriculum on invasive pain management techniques is essential. Fellowship programs should provide structured opportunities for simulation-based training, case-based learning, and extended exposure to complex cases. These efforts would help fellows better understand the indications, risks, and long-term outcomes associated with these interventions, enabling them to apply these techniques more effectively in their future practice.

By rethinking and expanding Pain Medicine fellowship education, we can better prepare the next generation of specialists to meet the demands of a rapidly evolving field, ultimately improving outcomes for patients with chronic pain.

Conclusion

Chronic pain demands a comprehensive, long-term patient-centered approach to care. The current structure of Pain Medicine fellowship education, emphasizing on short-term procedural training, suboptimally meets the needs of patients with chronic pain. By extending fellowship duration or developing dedicated Pain Medicine residencies, integrating interdisciplinary training, and emphasizing continuity of care, we can better prepare future pain specialists to navigate the intricacies of chronic pain management, paradoxically improving patient selection for interventional procedures. This shift would improve patient outcomes and strengthen the Pain Medicine community by fostering a culture of

collaboration, innovation, and evidence-based practice. As the burden of chronic pain continues to grow, the time to rethink how we train Pain Medicine fellows is now.

Disclosure

Dr. Wahezi receives research funding from Boston Scientific, Abbott, and Vertos. He also reports patents 11,964,153 12,138,454 and 12,138,455. Dr Peter Staats reports grants from Nalu, grants from Biotronik, Saluda, ElectroCore; personal fees from Ais; royalties from Averitad, outside the submitted work. Dr Christopher Gilligan reports personal fees and stock options from Mainstay Medical; personal fees from Persica, Saluda, Biotronik, and Iliad Lifesciences, during the conduct of the study. Dr Michael E Schatman is a senior medical advisor for Apurano Pharma, outside the submitted work. Dr Scott Pritzlaff reports personal fees from SPR Therapeutics; educational grants from Nevro, Biotronik, Medtronic, and Abbott; royalties from Wolters Kluwer, outside the submitted work. The authors report no other conflicts of interest in this work.

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