FP Essentials
Call for Authors – October 2024

Musculoskeletal Treatments

We are seeking an author or author group to write an edition of *FP Essentials* on the topic of musculoskeletal treatments. This edition will cover four topics:

1. Overview of fracture care
2. Injection therapy
3. Physical modalities
4. Psychological and integrative therapies

The main text of the manuscript should be approximately 10,000 words in length, divided into four sections of approximately 2,500 words each, plus an abstract of approximately 200 words for each section. In addition, there should be key practice recommendations, a maximum of 15 tables/figures total, additional resources, and up to 200 references to provide support for all recommendations and factual statements in the manuscript. References must be numbered sequentially by section, with section headers dividing the list and each new section starting over at "1."

This edition should focus on what is new in each topic and should answer the key questions listed for each section. Each section should begin with an illustrative case, similar to the examples provided, with modifications to emphasize key points; each case should have a conclusion that demonstrates resolution of the clinical situation. The references provided here include information that should be considered in preparation of this edition of *FP Essentials*. However, these should be used only as a starting point in identifying the most current guidelines and references to include in the edition.

Needs Assessment: Musculoskeletal conditions are ubiquitous in primary care, affecting many patients and significantly influencing their quality of life. Family physicians are often the first point of contact for patients experiencing musculoskeletal pain or injuries, such as fractures, arthritis, overuse syndromes, and chronic pain conditions. Yet, new family physicians, active members of AAFP, and family medicine residents consistently express a desire for more education and training in sports medicine topics, particularly regarding the diagnosis and management of joint pain and musculoskeletal disorders.

This edition of *FP Essentials* will provide family physicians with a comprehensive update on musculoskeletal treatments. The manuscript will cover the overview of care of common fractures, various injection therapies, physical modalities, and psychological and integrative therapies. By incorporating the latest research and best evidence, this monograph aims to enhance the ability of family physicians to manage musculoskeletal conditions comprehensively.

Section 1: Overview of Fracture Care

Example case: *JM is a 32-year-old patient who sustained a distal radius fracture after a bicycle crash. She presents to the clinic with a splint applied at an urgent care center. She is inquiring about the next steps in management, potential complications, and when she can return to competitive cycling.*

Key questions to consider:

- What are the most common types of fractures (i.e., "top 10 fractures") seen in primary care? Please focus on general fracture care and avoid detailed discussion of specific fractures. Consider a table to summarize key concepts.
- What are the initial steps in evaluating a patient with a suspected fracture (consider a figure or algorithm)?
- What are the criteria for imaging based upon presentation of a patient with musculoskeletal injury or suspected fracture? When is it appropriate to forego imaging?
- What imaging modalities are most appropriate for diagnosing different types of fractures? Specifically address which fractures can be diagnosed by xray and point-of-care ultrasound and which often require CT imaging for reliable diagnosis.
- How do you differentiate between types of fractures (e.g., open vs. closed, complete vs. incomplete, displaced vs. nondisplaced, comminuted vs. noncomminuted)?
- What are the standard non-surgical treatments for common fractures?
- When is surgical intervention indicated for fractures? What is the timing for surgical intervention for these fractures?
- What are the potential complications associated with different types of fractures?
- How do you manage pain, swelling, and associated symptoms in patients with fractures?
- What factors influence the healing time and prognosis of fractures?
- How do you counsel patients on activity restrictions and rehabilitation following a fracture?
- What are the considerations for special populations (e.g., geriatric, athletes) in fracture management? The discussion can be limited to adults unless space allows inclusion of children.
- How do you integrate multidisciplinary care in the management of complex fractures?
- Are there health disparities in the management and outcomes of fractures? How can they be addressed?

Initial references to consider:

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- Karantana A, Handoll HH, Sabouni A. Percutaneous pinning for treating distal radial fractures in adults. *Cochrane Database Syst Rev*. 2020;2(2):CD006080.
- Handoll HH, Elliott J. Rehabilitation for distal radial fractures in adults. *Cochrane Database Syst Rev*. 2015;2015(9):CD003324.
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- Lewis SR, Macey R, Lewis J, et al. Surgical interventions for treating extracapsular hip fractures in older adults: a network meta-analysis. *Cochrane Database Syst Rev*. 2022;2(2):CD013405.
- Fairhall NJ, Dyer SM, Mak JC, et al. Interventions for improving mobility after hip fracture surgery in adults. *Cochrane Database Syst Rev*. 2022;9(9):CD001704.
- Childress MA, Olivas J, Crutchfield A. Common finger fractures and dislocations. *Am Fam Physician*. 2022;105(6):631-639.
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- Simon LM, Nguyen V, Ezinwa NM. Acute shoulder injuries in adults. *Am Fam Physician*. 2023;107(5):503-512.
- Handoll HH, Elliott J, Thillemann TM, et al. Interventions for treating proximal humeral fractures in adults. *Cochrane Database Syst Rev*. 2022;6(6):CD000434.
- Claireaux HA, Searle HK, Parsons NR, Griffin XL. Interventions for treating fractures of the distal femur in adults. *Cochrane Database Syst Rev*. 2022;10(10):CD010606.

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- Noel SE, Santos MP, Wright NC. Racial and ethnic disparities in bone health and outcomes in the United States. *J Bone Miner Res*. 2021;36(10):1881-1905.

Section 2: Injection Therapy

Example case: *AB is a 55-year-old patient with a history of osteoarthritis of the right knee, presenting with increased pain and reduced mobility over the past six months. She has tried physical therapy and oral anti-inflammatory medications with limited relief and is inquiring about the potential benefits of steroid injections.*

Key questions to consider:

- What are the primary indications and contraindications for the use of injection therapies in musculoskeletal treatments?
- How effective are various injection therapies for different musculoskeletal conditions in the short- and long-term? How effective are injection therapies compared with other non-surgical treatments (e.g., physical therapy, oral medications)?
- How safe are injection procedures, and how can adverse events be minimized?
- For which musculoskeletal conditions are injection therapies used (e.g., osteoarthritis, tendinitis, bursitis, fasciitis, trigger points, myofascial pain, nerve impingements)?
- What are the different types of injection therapies used for musculoskeletal conditions (e.g., corticosteroids, viscosupplementation, dextrose, saline, platelet-rich plasma [PRP], autologous conditioned serum [ACS], stem cell therapy, prolotherapy, local anesthetics, ozone therapy, high-volume injections)?
- How do these therapies differ in their mechanisms of action? To what degree do these injections offer placebo effect (e.g. trigger points, myofascial pain, etc.). Consider using tables or figures to summarize key concepts.
- Are there any patient-specific factors that predict better or worse outcomes with injection therapy?
- What is the role of injection therapy in delaying or preventing the need for surgical interventions?
- What are the cost considerations of injection therapies, and how do they impact healthcare delivery? Are they typically covered by insurance? What coding/billing information (consider a table) should physicians be aware of?
- Are there health disparities in access and treatment outcomes for injection therapies? How can they be addressed?
- Which injection therapies can family physicians perform? What training is available for physicians who might want to begin offering injection therapies to their patients? When should patients be referred to subspecialists (e.g., sports medicine, orthopedics, physical medicine & rehab, pain/anesthesia)?
- What are the latest advances and emerging trends in injection therapy?

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- Faison WE, Harrell PG, Semel D. Disparities across diverse populations in the health and treatment of patients with osteoarthritis. *Healthcare (Basel)*. 2021;9(11):1421.

Section 3: Physical Modalities

Example case: *GH is a 50-year-old patient with chronic shoulder pain due to rotator cuff tendinopathy. He has tried oral medications and home exercises with minimal relief. He heard about osteopathic manipulative therapy from a friend and asks you if that would help his shoulder pain and limited mobility.*

Key questions to consider:

- What are the primary physical modalities used in the treatment of musculoskeletal conditions (e.g., exercise-based therapy, manual therapy [PT/OT/massage therapy], other physical interventions like heat and cold, and other physical modalities like ultrasound)?
- What are the indications and contraindications to exercise-based therapies, such as physical therapy, therapeutic exercises, home exercise programs, and aquatic therapy? How do exercise-based therapies work?
- What are the indications and contraindications to manual therapies, such as osteopathic manipulative therapy (OMT), massage therapy, chiropractic care, and rolfing? How effective are these interventions? How do they work?
- What are the indications and contraindications to other physical interventions, such as heat, cold, traction, and cryotherapy? How do they work?
- What are the indications and contraindications to other physical modalities, such as transcutaneous electrical nerve stimulation (TENS), ultrasound, laser, dry needling, and electrical muscle stimulation? What evidence supports their use? How do they work?
- How effective are the different physical modalities for various musculoskeletal conditions? How do they compare with other non-surgical treatments (e.g., injection therapy, psychological interventions)? What are the limitations of these therapies (e.g., which patients are most/least likely to achieve benefit)?
- How safe are physical modalities, what adverse events can occur, and how can adverse events be minimized?
- Are there patient-specific factors that predict better or worse outcomes with physical modalities?
- Which physical modalities can family physicians perform? Which ones can we teach patients? When is referral to PT/OT appropriate (considering the high demand for their services and their limited access)?
- What are the best practices for performing and integrating physical modalities into a comprehensive musculoskeletal treatment plan?
- What are the cost considerations of physical modalities, and how do they impact healthcare delivery? Are they typically covered by insurance?
- Are there health disparities in access and treatment outcomes for physical modalities? How can they be addressed?
- What are the latest advances and emerging trends in physical modalities for musculoskeletal conditions?

Initial references to consider:

- Skelly AC, Chou R, Dettori JR, et al. Noninvasive nonpharmacological treatment for chronic pain: a systematic review update [internet]. In: *AHRQ Comparative Effectiveness Reviews*. Rockville (MD): Agency for Healthcare Research and Quality (US); 2020. Report No.: 20-EHC009.
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- Weng Q, Goh SL, Wu J, et al. Comparative efficacy of exercise therapy and oral non-steroidal anti-inflammatory drugs and paracetamol for knee or hip osteoarthritis: a network meta-analysis of randomised controlled trials. *Br J Sports Med*. 2023;57(15):990-996.
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- Hayden JA, Ellis J, Ogilvie R, et al. Exercise therapy for chronic low back pain. *Cochrane Database Syst Rev*. 2021;9(9):CD009790.
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- Dal Farra F, Risio RG, Vismara L, Bergna A. Effectiveness of osteopathic interventions in chronic non-specific low back pain: A systematic review and meta-analysis. *Complement Ther Med* 2021;56:102616.
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Section 4: Psychological and Integrative Therapies

Example case: *JJ is a 45-year-old patient with chronic low back pain, experiencing significant stress and anxiety related to the pain, which in turn exacerbate his symptoms. Having had cognitive behavioral therapy (CBT) for depression as a young adult, he comes to you inquiring if CBT will help with his current problem.*

Key questions to consider:

Psychological Therapies

- How do psychological factors influence musculoskeletal pain and dysfunction? How do musculoskeletal disorders affect mental well-being?
- What psychological therapies (e.g., cognitive behavioral therapy, cognitive functional therapy, mindfulness based stress reduction, biofeedback) and somatic education techniques (e.g., Alexander Technique, Feldenkrais Method, Eutony, Trager Approach) are used in the treatment of musculoskeletal disorders? Consider a table to summarize key concepts.
- What are the best practices for evaluating and managing psychological comorbidities in patients with musculoskeletal disorders?
- How effective are psychological therapies and somatic education techniques in reducing pain, enhancing function, and improving quality of life in patients with chronic musculoskeletal dysfunction?
- How and when should psychological therapies be integrated into a multidisciplinary treatment plan for musculoskeletal conditions?

Integrative Therapies

- Which mind-body practices (e.g., yoga, tai chi, pilates) are effective in the management of musculoskeletal disorders? Consider a table to summarize key concepts.
- What other integrative therapies (e.g., acupuncture, cupping) are effective in the management of musculoskeletal disorders? Consider a table to summarize key concepts.
- How effective and safe are mind-body practices and integrative therapies? How often do patients use them? How satisfied are patients with these therapies?
- How should physicians counsel patients who are interested in exploring mind-body practices and integrative therapies? How can physicians evaluate the quality of local resources for mind-body practices and integrative therapies?
- Which of these mind-body practices and integrative therapies are covered by health insurers? Are there alternative options for paying for these therapies (e.g., flexible spending accounts, health savings accounts, health reimbursement arrangements)?
- Which herbal remedies (e.g., turmeric, ginger, arnica, capsaicin), supplements (e.g., glucosamine, chondroitin, vitamin D, calcium, magnesium, omegar-3 fatty acids), and indigenous remedies (e.g., traditional Chinese, Ayurvedic, Native American, traditional African, and traditional Amazonian medicine) are effective for managing musculoskeletal conditions? Consider a table to summarize key concepts.
- What drug interactions with herbal remedies do physicians need to be aware of? How effective and safe are herbal remedies, especially in the setting of polypharmacy?
- How can patient preferences and cultural beliefs be incorporated into the selection of integrative therapies?

- How can physicians effectively communicate the potential benefits, harms, and limitations of integrative therapies to patients?
- What are the cost implications of integrative therapies for the management of musculoskeletal conditions?

Initial references to consider:

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- Straube S, Derry S, Straube C, Moore RA. Vitamin D for the treatment of chronic painful conditions in adults. *Cochrane Database Syst Rev*. 2015;2015(5):CD007771.