

ABOUT THE AUTHOR



Michael Boivin, Rph, CDE, CBE

Michael Boivin is a clinical pharmacist consultant, continuing education developer and president of CommPharm Consulting Inc. In 2009, he left full-time pharmacy practice to pursue a career in continuing education and consulting. He has developed in excess of 500 accredited continuing education activities for pharmacists, family physicians, specialists and allied healthcare professionals. In 2024, he was recognized for his work with a lifetime achievement award from the Ontario Pharmacists' Association.

Affiliations: *CommPharm Consulting, Barrie, Ontario*

Chronic Pain in Primary Care: A Practical Guide to What Works (and What Does Not)

Michael Boivin, Rph, CDE, CBE

Introduction

Chronic non-cancer pain is a leading driver of disability worldwide.¹ It is defined as pain persisting beyond normal tissue healing time (>3 months).¹ Chronic pain is among the most prevalent conditions encountered in primary care.² An estimated 7.6 million people, approximately 1 in 5, live with chronic pain.³ Pain affects many aspects of a person's life, including their ability to work, attend school, and participate in family and community life.²

Although multiple treatment options are available for the management of chronic pain, it is one of the most complex and difficult conditions to treat.³ Even with optimal treatment, complete alleviation of pain is not a realistic treatment goal.⁴ For most patients, the goals focus on minimizing suffering and maximizing functionality.⁴ Management is further complicated by the heterogeneity of chronic pain, as its sources can vary and therefore require different treatment options.

Management Strategy Varies Based on Cause of Chronic Pain

Over the past several years, several guidelines for the management of chronic pain have been updated. This article will provide clinicians with a concise update on the management of the most common chronic pain disorders encountered in clinical practice:

1. Osteoarthritis
2. Chronic low back pain
3. Neuropathic pain
4. Fibromyalgia

For each condition, both the non-pharmacological and pharmacological treatment options are reviewed. Patient and provider resources are also provided for each condition.

Osteoarthritis

Osteoarthritis (OA) is a highly prevalent condition. It is estimated that 13.6% of Canadians aged ≥ 20 years are living with OA.⁵ While the affected joints can vary, knee OA accounts for the largest site-specific burden, followed by hand and hip OA.⁶ **Table 1** provides treatment options along with patient and provider resources.

Chronic Low Back Pain

Most people will experience low back pain (LBP) at some point in their lifetime.¹² In 2020, approximately 1 in 13 people globally were affected by LBP, representing a 60% increase in cases since 1990.¹² For most patients with acute LBP, the prognosis is excellent with complete resolution of symptoms within 4 to 6 weeks.¹³ Unfortunately, those with persistent LBP have a very poor prognosis, and recovery is often unlikely.¹³ No curative treatments exist for chronic LBP.¹³ The goal is to reduce pain, disability, and the long-term consequences of chronic pain.¹³ **Table 2** provides treatment options and includes relevant patient and provider resources.

Neuropathic Pain

Neuropathic pain is estimated to affect between 2% to 3% of the population.¹⁶ Neuropathic pain encompasses a large number of conditions including postherpetic neuralgia, diabetic neuropathy, spinal cord injury, multiple sclerosis, post-stroke pain, tumour compression, and drug/condition induced neuropathy.¹⁷ The prevalence of diabetic neuropathy and postherpetic neuralgia are expected to increase with population aging and rising rates of obesity.¹⁶ **Table 3** outlines treatment options along with patient and provider resources.

Fibromyalgia

Fibromyalgia (FM) is estimated to affect 1% to 5% of the population.²⁰ It is the third most common musculoskeletal condition after LBP and OA.²¹ FM is characterized by chronic, generalized pain and is accompanied by a range of somatic and psychological symptoms, such as fatigue, sleep disturbances, and anxiety.²⁰ Unlike other pain conditions, FM can affect the whole body, from head to toe.²¹ The pain is commonly described as being similar to neuropathic pain, with 20–30% of patients reporting paresthesia in their limbs, hands, or trunk.²¹ **Table 4** summarizes available treatment options along with patient and provider resources.

What Does this Mean for Your Patients with Chronic Pain?

Managing chronic pain in primary care requires a fundamental shift away from pursuing complete pain relief toward prioritizing functional improvement and reduced suffering. As outlined throughout this article, even with optimal treatment, most patients will continue to experience ongoing symptoms. For the majority of chronic pain conditions, the management approach is multimodal, combining non-pharmacological strategies (e.g., exercise, cognitive behavioural therapy) with targeted pharmacological therapies.

Patients should be counselled to assess a treatment's success based on their ability to return to work, school, and community life, rather than solely on reductions in pain intensity. For primary care clinicians, this means helping patients understand that progress is often gradual and highly individualized. Even when pain does not fully resolve, meaningful improvements in mobility, sleep, mood, and daily functioning are achievable and represent clinically important outcomes.

Osteoarthritis (OA)	
Non-Pharmacological	
Exercise	• Exercise is foundational to OA management^{7,8} • No single exercise type is universally superior; the key is encouraging patients to be as active as possible • Exercise programs should be tailored to the individual patient
Assistive Devices	• Appropriate footwear, walking aids, and assistive devices can reduce pain and improve function and mobility confidence⁷
Acupuncture / Hot-Cold Therapy	• Evidence supporting these adjunctive therapies is limited, and guideline recommendations remain inconsistent
Nutraceuticals	
Chondroitin	• NOT recommended by current guidelines for OA management⁸
Glucosamine	• NOT recommended by current guidelines for OA management⁸
Fish Oil / Omega-3	• NOT recommended by current guidelines for OA management⁸
Pharmacological	
Topical non-steroidal anti-inflammatory drugs (NSAIDs)	• First-line therapy for OA of the hand and knee⁶ • Similar efficacy to oral NSAIDs with an excellent safety profile⁶ • Effective in reducing overall pain in OA, with no strong evidence that any one NSAID is superior to another⁹
Oral NSAIDs	• Should be used at the lowest dose for the shortest duration due to gastrointestinal, cardiovascular, and renal risks⁶ • Diclofenac and COX-2 selective agents carry the highest cardiovascular risk, whereas naproxen has a lower cardiovascular risk¹⁰
Acetaminophen	• Evidence for meaningful benefit is limited, with small effect sizes reported¹¹ • Best reserved for patients in whom NSAIDs are contraindicated or not tolerated¹¹
Intraarticular Corticosteroids	• Supported for short-term pain relief, particularly in knee OA^{8,11} • Guideline recommendations for hip OA are less consistent^{8,11} • A maximum of four injections per knee joint per year is recommended¹⁰
Duloxetine	• Consider in patients with chronic pain amplification, central sensitization, or comorbid mood symptoms^{6,10} • Benefits appear modest^{6,10}
Opioids	• Generally NOT recommended by guidelines due to limited sustained benefit and significant associated risks⁶ • For most patients, the risks greatly outweigh the benefits
Resources	
Clinician Resources	• <u>CEP: Osteoarthritis Tool</u> • <u>PEER Simplified Decision Aid: OA Treatment Options in Primary Care</u>
Patient Resources	• <u>Arthritis Society of Canada: Exercises for OA of the Hip & Knee</u> • <u>Andrea Furlan MD: Twenty Exercises for OA of Hip and Knees (Video)</u>

Table 1. Osteoarthritis (OA); courtesy of Michael Boivin, Rph, CDE, CBE.

Chronic Low Back Pain (LBP)	
Non-Pharmacological	
Exercise	Moderate-quality evidence suggests small improvements in pain relief and function¹⁴
Acupuncture	Evidence for improvement in pain relief is limited, with no demonstrated improvement in function¹⁴
Massage	Provides short-term pain relief and improvement in function¹⁴
Spinal Manipulative Therapy	- Provides short-term improvements in pain and function¹² - Should be used as an adjunct to other therapies rather than as monotherapy¹²
Pharmacological	
Oral Non-steroidal Anti-inflammatory Drugs (NSAIDs)	- Associated with small improvements in pain and function¹⁴ - No differences in efficacy have been demonstrated between individual NSAIDs¹⁴
Antidepressants (Serotonin–norepinephrine Reuptake Inhibitors [SNRIs] / Tricyclic Antidepressants [TCAs])	Both duloxetine (an SNRI) and tricyclic antidepressants are associated with clinically meaningful pain reduction (>30%) vs placebo^{3,15}
Acetaminophen	No significant evidence of benefit in chronic LBP¹³
Capsaicin	No significant evidence of benefit in chronic LBP¹³
Muscle Relaxants	No significant evidence of benefit in chronic LBP¹³
Opioids	- Strong opioids associated with small short-term improvements in pain and function¹⁴ - For most patients, the risks, including dependence and tolerance, generally far outweigh the benefits³
Resources	
Clinician Resources	<u>CORE Back Tool</u> <u>C-TOP Tool: Comparing Treatment Options for Low Back Pain</u>
Patient Resources	<u>RAC-LBP: Exercise Videos for Low Back Pain</u>

Table 2. Chronic Low Back Pain (LBP); courtesy of Michael Boivin, Rph, CDE, CBE.

Neuropathic Pain	
Non-Pharmacological	
Exercise	Evidence for the reduction of neuropathic pain is inconsistent¹⁸
TENS	- Limited evidence demonstrating pain reduction¹⁹ - Tolerability is excellent¹⁹
Cognitive Behavioural Therapy (CBT) / Psychotherapy	Evidence for pain intensity reduction in neuropathic pain is limited¹⁹
Acupuncture	Overall efficacy for neuropathic pain remains limited^{18,19}
Pharmacological	
Gabapentinoids (First-Line)	- Demonstrates efficacy in peripheral neuropathy¹⁶ Pregabalin: Provides analgesic benefit in chronic central neuropathic pain after spinal cord injury and offers secondary benefits (improved sleep, reduced anxiety) in central post-stroke pain¹⁶
Serotonin–norepinephrine Reuptake Inhibitors (SNRIs) (First-Line)	- Demonstrates efficacy in post-herpetic neuralgia¹⁶ - Both duloxetine and venlafaxine are recommended; duloxetine is preferred based on a stronger level of evidence¹⁹
Tricyclic Antidepressants (TCAs) (First-Line)	- Commonly recommended first-line therapy although evidence is less robust than that for gabapentinoids/SNRIs^{16,17,19} - The PEER guideline does not recommend use for chronic neuropathic pain³ - Associated with important adverse effects and safety considerations, especially in older adults^{17,19}
Opioids (Second-Line)	Tramadol: A weak opioid receptor agonist with weak SNRI activity; associated with benefit in diabetic neuropathy and mixed neuropathic pain syndromes¹⁶ - Other opioids are more effective than placebo, but for most patients, the risks outweigh the benefits¹⁶
Cannabinoids (Third-Line)	- Trial evidence demonstrating significant improvements in neuropathic pain is limited¹⁹ - The risk profile tends to be lower than that of opioids for most patients¹⁶ - Patients should avoid smoking cannabis and discontinue if there is no clear benefit¹⁶
Resources	
Clinician Resources	<u>C-TOP Tool: Comparing Treatment Options for Neuropathic Pain</u> <u>Pharmacologic Management of Chronic Neuropathic Pain (CFP)</u>

Table 3. Neuropathic Pain; courtesy of Michael Boivin, Rph, CDE, CBE.

Fibromyalgia (FM)	
Non-Pharmacological	
Patient Education	• Education is the first step in FM management²⁰ • Reassure patients that FM is a legitimate pathological condition and that their symptoms and suffering are real²¹ • FM is not a progressive disease and not caused by peripheral tissue damage²¹ • Encourage good sleep hygiene, relaxation techniques, and stress reduction strategies
Exercise	• These approaches are essential and strongly recommended by guidelines^{20,22} • Moderate-quality evidence supports aerobic, resistance, and stretching exercises, which provide small improvements in quality-of-life, pain, and function²³ • Aquatic therapy has been shown to reduce pain and fatigue²⁰
Cognitive Behavioural Therapy (CBT)	• Considered the most effective psychological therapy for FM²⁰ • Demonstrates superiority over other psychological treatments for short-term reductions in pain intensity²⁰ • Also improves sleep quality and duration²⁰
Acupuncture	• Evidence remains limited; however, some trials report a higher proportion of patients achieving a 30% pain reduction²² • Could be considered for patients not responding to or unwilling to pursue other options
Pharmacological	
Tricyclic antidepressants (TCAs) (Amitriptyline)	• Increases the proportion of patients achieving a $\geq 30\%$ pain reduction²² • Associated with a modest effect on sleep, small reductions in fatigue²² • Benefits appear independent of mood effects, with effective doses (25 mg/day) lower than those used for depression^{20,22} • Safety concerns limit use in older adults
Gabapentinoids	• Pregabalin: Increases the proportion of patients achieving a $\geq 30\%$ pain reduction vs placebo, with small benefits for fatigue and sleep²² • Gabapentin: Insufficient evidence to determine efficacy in FM²³
Serotonin–norepinephrine reuptake inhibitors (SNRIs)	• Duloxetine and milnacipran are both more effective than placebo for reducing FM pain²¹ • Associated with small improvements in sleep and disability, with no effect on fatigue²²
Muscle Relaxants	• Cyclobenzaprine: Structurally related to TCAs; improves pain and quality-of-life (especially sleep) but not fatigue²¹ • Adverse effects are significant, with a meta-analysis reporting high rates of treatment-emergent effects (85%) and only 71% study completion²²
Analgesics (acetaminophen [APAP], non-steroidal anti-inflammatory drugs (NSAIDs), Opioids)	• Limited role for opioids, NSAIDs, or acetaminophen in FM²¹ • These agents do not target central sensitization and have not been shown to reduce pain in FM²³
Resources	
Clinician Resources	• <u>Primary Care Pathway: Fibromyalgia</u> • <u>CEP: Fibromyalgia Tool</u> • <u>AAFP: Fibromyalgia – Diagnosis and Management</u>
Patient Resources	• <u>Arthritis Society of Canada: What is Fibromyalgia?</u> • <u>Dr. Andrea Furlan: What is Fibromyalgia? (Video)</u>

Table 4. Fibromyalgia (FM); courtesy of Michael Boivin, Rph, CDE, CBE.

Correspondence

Michael Boivin, Rph, CDE, CBE

Email: mike@commpharm.com

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