

Figure 1

PEER Simplified Chronic Pain Guideline: Summary

Treatment Interventions for Discussion with Patients

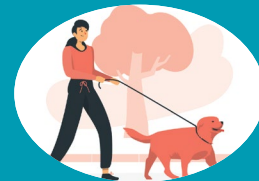
Physical Activity

The foundation of a treatment plan for chronic low back pain and osteoarthritis is physical activity.

About 2 in every 3 people who increase their activity will have improved pain independent of weight loss.

✓ Patients can choose the activity they enjoy: one type of exercise is not better than another!

✓ A wearable activity tracker and an exercise prescription can help to increase physical activity.



Psychological Therapy

About 30-60% of patients with chronic pain will get pain improvement with cognitive behavioral therapy (CBT) or mindfulness-based stress reduction compared to 10-30% with control (e.g. wait list or no intervention).

Treatment Options

Percentage of patients who will have pain meaningfully reduced ($\geq 30\%$):

| | OSTEOARTHRITIS | CHRONIC LOW BACK PAIN | NEUROPATHIC PAIN |
|--|---|---|---|
| Foundation of treatment | Physical activity is the foundation of a treatment plan for osteoarthritis and chronic low back pain. | | |
| Add-on option | Psychological therapy is an option for patients with any of these conditions. | | |
| | Placebo or control: 40% | Placebo or control: 40% | Placebo or control: 29% |
| Additional treatments with clear evidence of benefit | Intra-articular corticosteroids: 70% SNRIs: 61% Oral NSAIDs: 58% Topical NSAIDs: 51% | Oral NSAIDs: 58% Spinal manipulation: 55% TCAs: 53% SNRIs: 50% | Gabapentinoids: 44% SNRIs: 42% Rubefacients (e.g. capsaicin): 40% |
| Treatments with unclear benefit | Glucosamine Chondroitin Viscosupplementation | Acupuncture Rubefacients (e.g. capsaicin) | TCAs Cannabinoids Topical nitrates |
| Treatments with evidence of no benefit | Acetaminophen | Corticosteroids (epidural) | Acupuncture Topical ketamine, amitriptyline, doxepin or combinations |
| Treatments with harms that exceed benefit | Opioids Cannabinoids | Opioids Cannabinoids | Opioids Topiramate Oxcarbazepine |

For more information, see <https://pain-calculator.com>.

No responder analyses identified for: osteoarthritis (rubefacients, platelet-rich plasma injections, TCAs), low back pain (acetaminophen, muscle relaxants, SSRIs, anticonvulsants, topical NSAIDs), neuropathic pain (exercise and lidocaine).

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Key Adverse Effects

| TREATMENTS | PERCENTAGE STOPPING DUE TO ADVERSE EFFECTS | KEY ADVERSE EFFECTS TO DISCUSS WITH PATIENT | COST ¹ (3-MONTH) |
|---|--|---|--|
| Placebo | ~5% (2-9%) | -- | -- |
| Acetaminophen | Not statistically worse than placebo or control | Liver damage in overdose | \$25-50 |
| Acupuncture | | Not reported | \$150-300+ |
| Chondroitin or glucosamine | | None reported as greater than placebo | <\$50 |
| Corticosteroids (intra-articular or other injections) | | Infection (one in ~50,000) ² ; post-dural puncture headache with spinal injection | \$25-50 |
| Physical activity | | Mild muscle soreness | \$0-500+ |
| NSAIDs (topical) | 6% | Application site reactions | \$50-75 |
| Rubefacients (e.g., capsaicin) | 6% | Local burning, skin redness | \$50-75 |
| Cannabinoids | 10% | Dizziness, nausea, drowsiness, confusion | \$150-300+ |
| Gabapentinoids | 12% | Dizziness, peripheral edema, weight gain | <\$50-150 |
| SNRIs | 12% | Dizziness, sedation, stomach upset, weight loss | <\$50-300 |
| TCA's | 16% | Dry mouth, dizziness, drowsiness | \$25-150 |
| Opioids | 27% | Sedation, dizziness, constipation, pruritis, vomiting, nausea, dependency, overdose | \$75-300 |
| NSAIDs (oral) | Not reported | Stomach upset, gastrointestinal bleeds, increased blood pressure, worsening kidney problems, new or worsening heart failure; increased risk of myocardial infarction with some NSAIDs | \$50-100 |
| Psychological Therapy | | Not reported | Variable |
| Spinal manipulation | | Case reports have associated neck manipulation with stroke. ³ | \$150-300+ |
| Topical agents (nitrates, amitriptyline, ketamine, doxepin) | | Local reactions; Nitrates: headache, palpitations possible | Nitrates: <\$25; Others: \$175-300+ |
| Viscosupplementation | | Injection site reactions | \$150-300+ |

References: 1) Prescription drug costs taken from <https://pricingdoc.acfp.ca> and <https://www.mckesson.ca>. 2) Jones T, Kelsberg G, Safranek S. Am Fam Physician. 2014; 90: 115-6. 3) Nielsen SM, Tarp S, Christensen R, Bliddal H, Klokke L, Henriksen M. Syst Rev 2017; 6(1): 64. Illustrations by Storyset: <https://storyset.com/>

Practice Points



- Physical Activity Prescriptions available from RxFiles (<https://bit.ly/ExerciseRxFiles>)
- Adding a second drug is reasonable when the initial agent provides a partial benefit
- Goals of treatment should be patient-identified, realistic and focused on functional outcomes
- Start/titrate/taper/stop one medication at a time to allow for accurate monitoring of response or adverse effects

NSAIDs = non-steroid anti-inflammatory drugs; SNRIs = serotonin norepinephrine reuptake inhibitors; TCAs = tricyclic antidepressants