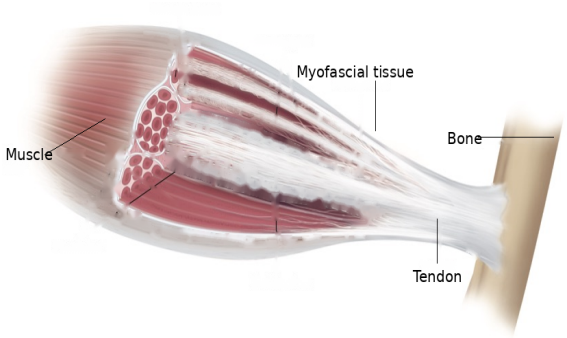
TWIN CITIES ORTHOPEDICS

Muscular Back Pain

Dr. Jonathan Reid

BACKGROUND



Muscular back pain typically arises from strain, overuse, or sustained tension in the paraspinal muscles which run up and down the spine on either side of your back. Common causes include poor posture, sudden awkward movements, heavy or improper lifting technique, prolonged sitting, or repetitive physical activity that overloads muscle fibers beyond their normal capacity. At a cellular level, this strain can cause microscopic tearing of muscle fibers, local ischemia from sustained contraction, and the buildup of metabolic byproducts like lactic acid, which trigger the release of inflammatory mediators and sensitize local nerve endings. This type of pain tends to produce a dull, aching, or tight sensation that is often diffuse rather than well-localized. Its onset is often abrupt and, given its severity, can be debilitating. Frequency, the symptoms of muscular back pain are accompanied by palpable muscle tightness, trigger points, or spasm on physical exam, without the sharp, radiating quality seen with nerve involvement. It typically worsens with continued use or specific movements that stress the affected muscle group or complete inactivity and improves with heat, gentle stretching and movement of the muscles or massage. Acute muscular back pain generally has a favorable prognosis, often resolving within days to a few weeks with conservative care, however there are forms of muscular back pain that can take much longer and are managed rather than treated.

Muscular back pain can be further subcategorized as either an injury to the muscle unit or the myofascial tissue, the soft tissue that surrounds and binds the muscle unit, which is a major determination in prognosis and treatment.

Muscle unit injury patterns

- **Acute muscle strain (overexertion/lifting injury)**
  Sudden overstretching or tearing of muscle fibers from lifting, twisting, or sudden movement.
  → *Paraspinal muscles*
- **Muscle imbalance / weak core stabilizers**
  Weak deep stabilizing muscles force superficial muscles to compensate, leading to fatigue and spasm.
  → *Multifidus* — this deep spinal stabilizer is notably prone to atrophy as a result of acute or chronic back pain
- **Muscle spasm secondary to underlying spinal pathology**
  Muscles reflexively tighten to "splint" or protect an irritated disc, joint, or nerve.
  → *Paraspinal muscles* (erector spinae group) — spasm here is a very common secondary reaction to disc or facet pain

Myofascial injury patterns

- **Postural overload (prolonged sitting/standing, poor ergonomics)**
  Chronic low-grade tension from sustained poor posture, often with weak opposing muscles.
  → *Quadratus lumborum* — frequently overworked in people who sit for long periods or have uneven pelvic alignment
- **Repetitive strain / chronic overuse**
  Cumulative microtrauma from repeated bending, twisting, or reaching motions.
  → *Latissimus dorsi* — commonly overused in throwing, swimming, or repetitive overhead work.

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MANAGEMENT

Conservative management of muscular low back pain typically begins with activity modification, short-term relief through anti-inflammatory medications or other analgesics, and a structured physical therapy program focused on core stabilization, flexibility, and posture correction to reduce mechanical stress on the affected segment.

Oral OTC Medications

- **Ibuprofen** (Advil) — For adults and children over 12, 200–400 mg every 4–6 hours (not exceeding 1200 mg per day)
- **Acetaminophen** (Tylenol) — For adults and children over 12, 325-650 mg every 4-6 hrs, (not exceeding 4000 mg per day)
- **Lidocaine patches** (Lidoderm 4%) — Recommended to wear for 12 hours, with 12 hours in between applications

Oral Prescription Medications

- **Oral Prednisone Taper** — Tapered 12 day course: First four days at 60 mg, next four days at 40 mg, and last four days at 20 mg
- **Cyclobenzaprine** (Flexeril) — Take one tablet as prescribed at night as this medication can cause sedation
- **Meloxicam** (Mobic) — Take one tablet as prescribed with food, do not take this with any other NSAID (e.g., Ibuprofen)
- **Tramadol** — For adults, patients are started on 50 mg every 4-6 hours as needed (not exceeding 300 mg/day)
- **Gabapentin** — For adults, patients are started on 300 mg once at night, titrated if tolerated/necessary to 300 mg twice daily

Transcutaneous Electrical Nerve Stimulation (TENS) — An order will be placed through our partnership withZynex for the NexWave TENS unit and you will be contacted by a representative by telephone to get set up. This product is often not covered by insurance, however Zynex offers complimentary setup and customer support, as well as a 1-month free trial

Heat/Cold therapy — Neither is universally "better" — they serve different purposes and are often most effective when used strategically depending on the situation.

- **Ice**: Acute flares, or pain within 24-72 hours, situations of active inflammation, or with post-activity soreness
- **Heat:** Chronic, ongoing stiffness or muscle tightness, before activity, or for alleviation of deep, aching pain

Home Exercise program

- **Knee-to-chest stretch:** Lying on your back, gently pull one knee (or both) toward your chest, holding for 20-30 seconds
- **Cat-Cow stretch:** Start on hands and knees with wrists under shoulders. Arch your back, drop your belly, and look up (cow), then round your back, tuck your chin, and tuck your pelvis (cat), moving slowly between positions
- **Bird dog:** On hands and knees, extend one arm forward and the opposite leg straight back, keeping the spine neutral, then switch sides. This builds core and spinal stabilizer strength without placing excessive load on the discs
- **Glute Bridges:** Lying on your back with knees bent, feet flat, lift the hips toward the ceiling by squeezing the glutes, then lower slowly.
- **Modified Dead Bug:** Lie on your back with arms up and knees bent 90 degrees, keeping your low back gently pressed into the floor. Slowly lower one arm and the opposite leg toward the floor, then return and switch sides while breathing steadily.

Physical therapy: Appointments are scheduled by patients calling the location specific scheduling phone number, which can be found on the provided physical therapy card or by going online.

MedX therapy program: You will be called for scheduling. This program uses spine-rehab equipment that isolates and measures the strength of the muscles, then patients are guided through a supervised, progressively loaded strengthening protocol

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TRIGGER POINT INJECTIONS

Trigger point injections deliver a small amount of local anesthetic (sometimes combined with corticosteroid or saline) directly into a taut, hyperirritable band of muscle to interrupt the pain-spasm cycle and release the localized contraction knot. Trigger point injections can be performed with or without ultrasound guidance and be used diagnostically to assess whether a patient would respond to Botox injections.

ADVANCED IMAGING (MRI)

Patients that continue to experience low back pain with or without radicular symptoms despite conservative management will often require advanced imaging in the form of MRI of their lumbar (low back) spine. Advanced imaging excludes underlying spinal pathology of back pain while also allowing for preprocedural planning for interventional modalities (epidural steroid injections, surgery, etc) as indicated.

- Please reach out to Rhodora **(952-456-7209)** to have an MRI ordered if the prescribed conservative management fails to improve your symptoms adequately. MRI's are typically performed at our TCO Edina, Eden Prairie, or Waconia sites and you will be contacted by our MRI schedulers by telephone once insurance approval has been obtained.

When you are contacted by our MRI scheduling team, you will also be scheduled to see Dr. Reid in office to go over the MRI.

Notes

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