Back Pain

DEFINITION

- Complains of upper, mid, or lower back pain that occurs mainly in the midline.
- Not due to a traumatic injury.
- Minor muscle strain and overuse are covered in this protocol. Sciatic pain is also covered.

PAIN SEVERITY is defined as:

- **Mild (1-3):** Doesn't interfere with normal activities.
- **Moderate (4-7):** Interferes with normal activities or awakens from sleep.
- **Severe (8-10):** Excruciating pain, unable to do any normal activities.

Notes:

- Pain in the back from significant blunt or penetrating trauma should be triaged using the **Back Injury** protocol.
- Pain in the lower back in pregnant women, consider labor. See **Pregnancy - Back Pain**, **Pregnancy - Labor**, and **Pregnancy - Labor, Preterm** protocols.

INITIAL ASSESSMENT QUESTIONS

1. ONSET: "When did the pain begin?" (e.g., minutes, hours, days)
2. LOCATION: "Where does it hurt?" (e.g., upper, mid or lower back)
3. SEVERITY: "How bad is the pain?" (e.g., Scale 1-10; mild, moderate, or severe)
   - MILD (1-3): Doesn't interfere with normal activities.
   - MODERATE (4-7): Interferes with normal activities or awakens from sleep.
   - SEVERE (8-10): Excruciating pain, unable to do any normal activities.
4. PATTERN: "Is the pain constant?" (e.g., yes, no; constant, intermittent)
5. RADIATION: "Does the pain shoot into your legs or somewhere else?"
6. CAUSE: "What do you think is causing the back pain?"
7. BACK OVERUSE: "Any recent lifting of heavy objects, strenuous work or exercise?"
8. MEDICINES: "What have you taken so far for the pain?" (e.g., nothing, acetaminophen, NSAIDS)
9. NEUROLOGIC SYMPTOMS: "Do you have any weakness, numbness, or problems with bowel/bladder control?"
10. OTHER SYMPTOMS: "Do you have any other symptoms?" (e.g., fever, abdomen pain, burning with urination, blood in urine)
11. PREGNANCY: "Is there any chance you are pregnant?" "When was your last menstrual period?"

TRIAGE ASSESSMENT QUESTIONS

Call EMS 911 Now

Passed out (e.g., fainted, lost consciousness, blacked out and was not responding)

R/O: ruptured abdominal aortic aneurysm. FIRST AID: Lie down with the feet elevated.

Shock suspected (e.g., cold/pale/clammy skin, too weak to stand, low BP, rapid pulse)

R/O: ruptured abdominal aortic aneurysm. FIRST AID: Lie down with the feet elevated.

Sounds like a life-threatening emergency to the triager

See More Appropriate Protocol

Major injury to the back (e.g., MVA, fall > 10 feet or 3 meters, penetrating injury, etc.)

Go to Protocol: Back Injury (Adult)

Pain in the upper back over the ribs (rib cage) that radiates (travels) into the chest

Go to Protocol: Chest Pain (Adult)

Pain in the upper back over the ribs (rib cage) and worsened by coughing (or clearly increases with breathing)

Go to Protocol: Chest Pain (Adult)

Back pain during pregnancy

Go to Protocol: Pregnancy - Back Pain (Adult)

Go to ED Now

Severe back pain of sudden onset and age > 60 years

R/O: compression fracture, abdominal aortic aneurysm, kidney stone

Severe abdominal pain (e.g., excruciating)

R/O: abdominal aneurysm, gallbladder disease, kidney stone, pancreatitis

Abdominal pain and age > 60 years

R/O: compression fracture, aortic aneurysm

Unable to urinate (or only a few drops) and bladder feels very full

R/O: urinary retention, cauda equina syndrome, conus medullaris syndrome

Loss of bladder or bowel control (urine or bowel incontinence; wetting self, leaking stool) of new-onset

R/O: urinary retention with overflow incontinence, cauda equina syndrome, conus medullaris syndrome

Numbness (loss of sensation) in groin or rectal area

R/O: cauda equina syndrome, conus medullaris syndrome

Go to ED/UCC Now (or to Office Now per Practice Policy)

Pain radiates into groin, scrotum

R/O: kidney stones

Blood in urine (red, pink, or tea-colored)

Vomiting and pain over lower ribs of back (i.e., flank - kidney area)

Weakness of a leg or foot (e.g., unable to bear weight, dragging foot)

R/O: nerve root impingement or cord compression

Patient sounds very sick or weak to the triager

Reason: Severe acute illness or serious complication suspected.

Go to Office Now

Fever > 100.4° F (38.0° C) and flank pain (e.g., in side of back, below ribs and above hip)

R/O: pyelonephritis

Pain or burning with passing urine (urination)

R/O: pyelonephritis

See in Office Today

Severe back pain (e.g., excruciating, unable to do any normal activities) and not improved after pain medicine and **Care Advice**

Numbness in an arm or hand (i.e., loss of sensation) and upper back pain

R/O: cervical nerve root compression, herniated disk; with pain radiating into upper back

Numbness in a leg or foot (i.e., loss of sensation)

R/O: severe back strain, cord compression

High-risk adult (e.g., history of cancer, history of HIV, injection drug use, recent epidural injection/spinal procedure)

R/O: metastasis, epidural abscess

Soft tissue infection (e.g., abscess, cellulitis) or other serious infection (e.g., bacteremia) in last 2 weeks

Reason: Recent soft tissue or blood infection has higher risk of a spinal infection.

Painful rash with multiple small blisters grouped together (i.e., dermatomal distribution or "band" or "stripe")

R/O: herpes zoster (shingles)

Pain radiates into the thigh or further down the leg, and in both legs

Reason: Bilateral sciatica carries higher risk.

See in Office Today or Tomorrow

Age > 50 and no history of prior similar back pain

Reason: Higher risk of serious medical cause.

See in Office Within 3 Days

Moderate back pain (e.g., interferes with normal activities) and present > 3 days

R/O: sciatica

Pain radiates into the thigh or further down the leg

R/O: sciatica

Patient wants to be seen

See in Office Within 2 Weeks

Back pain lasts > 2 weeks

Back pain is a chronic symptom (recurrent or ongoing AND lasting > 4 weeks)

Home Care

Caused by a twisting, bending, or lifting injury

R/O: muscle strain, overuse

Caused by overuse from recent vigorous activity (e.g., exercise, gardening, lifting and carrying, sports)

R/O: muscle strain, overuse

Back pain

R/O: muscle strain, overuse

Preventing back strain, questions about

Home Care Advice

Back Pain

1. **Reassurance and Education - Back Pain:**
   • Back pain can result from excessive twisting, heavy lifting, or from un-noticed minor back injuries.
   • Usually the pain gets better in 1 to 2 weeks.
   • You can treat most back pain at home.
   • *Here is some care advice that should help.*

2. **Cold or Heat:**
   • *Cold Pack:* For pain or swelling, use a cold pack or ice wrapped in a wet cloth. Put it on the sore area for 20 minutes. Repeat 4 times on the first day, then as needed.
   • *Heat Pack:* If pain lasts over 2 days, apply heat to the sore area. Use a heat pack, heating pad, or warm wet washcloth. Do this for 10 minutes, then as needed. For widespread stiffness, take a hot bath or hot shower instead. Move the sore area under the warm water.

3. **Sleep:**
   • Sleep on your side with a pillow between your knees. If you sleep on your back, put a pillow under your knees.
   • Avoid sleeping on your stomach.
   • Your mattress should be firm. Avoid waterbeds.

4. **Continue Activity:**
   • Continue ordinary activities as much as your pain allows.
   • Movement is usually more healing for the back than rest.
   • Avoid any activities that make the pain worse.
   • Avoid heavy lifting and strenuous exercise until completely well.
   • *Note:* Complete bed rest is not needed.

5. **Pain Medicines:**
   • For pain relief, you can take either acetaminophen, ibuprofen, or naproxen.
   • They are over-the-counter (OTC) pain drugs. You can buy them at the drugstore.
   • **Acetaminophen - Regular Strength Tylenol:** Take 650 mg (two 325 mg pills) by mouth every 4 to 6 hours as needed. Each Regular Strength Tylenol pill has 325 mg of acetaminophen. The most you should take is 10 pills a day (3,250 mg total). *Note:* In Canada, the maximum is 12 pills a day (3,900 mg total).
   • **Acetaminophen - Extra Strength Tylenol:** Take 1,000 mg (two 500 mg pills) every 6 to 8 hours as needed. Each Extra Strength Tylenol pill has 500 mg of acetaminophen. The most you should take is 6 pills a day (3,000 mg total). *Note:* In Canada, the maximum is 8 pills a day (4,000 mg total).
   • **Ibuprofen (such as Motrin, Advil):** Take 400 mg (two 200 mg pills) by mouth every 6 hours. The most you should take is 6 pills a day (1,200 mg total).
   • **Naproxen (such as Aleve):** Take 220 mg (one 220 mg pill) by mouth every 8 to 12 hours as needed. You may take 440 mg (two 220 mg pills) for your first dose. The most you should take

is 3 pills a day (660 mg total). *Note:* In Canada, the maximum is 2 pills a day (one every 12 hours; 440 mg total).

- Use the lowest amount of medicine that makes your pain better.

6. **Pain Medicines - Extra Notes and Warnings:**
   - Follow these dosing instructions unless your doctor (or NP/PA) has told you to take a different dose.
   - Acetaminophen is thought to be safer than ibuprofen or naproxen in people over 65 years old. Acetaminophen is in many OTC and prescription medicines. It might be in more than one medicine that you are taking. You need to be careful and not take an overdose. An acetaminophen overdose can hurt the liver.
   - McNeil, the company that makes Tylenol, has different maximum dosage instructions for Tylenol in Canada than in the United States. Bayer, the company that makes Aleve, has different dosage maximum instructions for Aleve in Canada and the United States.
   - Some people with muscle and joint pain benefit from using OTC topical pain medicines (such as the topical NSAID diclofenac). Do NOT also take NSAIDs by mouth while using a topical NSAID.
   - **Caution:** Do not take acetaminophen if you have liver disease.
   - **Caution:** Do not take ibuprofen or naproxen if you have stomach problems, kidney disease, are pregnant, or have been told by your doctor to avoid this type of anti-inflammatory drug. Do not take ibuprofen or naproxen for more than 7 days without consulting your doctor. If you take blood thinners, ibuprofen and naproxen can increase the risk of bleeding.
   - *Before taking any medicine, read all the instructions on the package.*

7. **Call Back If:**
   - Severe pain not better after taking pain medicines
   - Moderate pain (interferes with normal activities) lasts over 3 days
   - Pain begins to shoot into the leg
   - Pain lasts over 2 weeks
   - Fever occurs
   - Numbness or weakness occurs
   - Loss of control of your bladder or bowel
   - You become worse

Back Pain From Lifting or Twisting

1. **Reassurance and Education - Back Pain from Lifting or Twisting:**
   - Twisting or heavy lifting can cause back pain. It can also occur after un-noticed minor back injuries
   - With treatment, the pain most often goes away in 1 to 2 weeks.
   - You can treat most back pain at home.
   - *Here is some care advice that should help.*

2. **Use a Cold Pack for Pain:**
   - Put a cold pack or an ice bag (wrapped in a moist towel) on the area for 20 minutes.
   - Repeat in 1 hour, then every 4 hours while awake.
   - Continue this for the first 48 hours (2 days).
   - This will help decrease pain.
   - *Caution:* Avoid frostbite.

3. **Use Heat After 48 Hours for Pain:**
   - If pain lasts over 48 hours (2 days), put heat on the sore area.
   - Use a heat pack, heating pad, or warm wet washcloth.
   - Do this for 10 minutes three times a day.
   - This will help increase blood flow and improve healing.
   - *Caution:* Avoid burn. Do not sleep on a heating pad.

4. **Sleep:**
   - Sleep on your side with a pillow between your knees.
   - If you sleep on your back, place a pillow under your knees.
   - Avoid sleeping on the abdomen. The mattress should be firm or reinforced with a board.
   - Avoid waterbeds.

5. **Continue Activity:**
   - Continue ordinary activities as much as your pain allows.
   - Movement is usually more healing for the back than rest.
   - Avoid any activities that make the pain worse.
   - Avoid heavy lifting and strenuous exercise until completely well.
   - *Note:* Complete bed rest is not needed.

6. **Pain Medicines:**
   - For pain relief, you can take either acetaminophen, ibuprofen, or naproxen.
   - They are over-the-counter (OTC) pain drugs. You can buy them at the drugstore.
   - **Acetaminophen - Regular Strength Tylenol:** Take 650 mg (two 325 mg pills) by mouth every 4 to 6 hours as needed. Each Regular Strength Tylenol pill has 325 mg of acetaminophen. The most you should take is 10 pills a day (3,250 mg total). *Note:* In Canada, the maximum is 12 pills a day (3,900 mg total).
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   - **Ibuprofen (such as Motrin, Advil):** Take 400 mg (two 200 mg pills) by mouth every 6 hours. The most you should take is 6 pills a day (1,200 mg total).
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   - Use the lowest amount of medicine that makes your pain better.

7. **Pain Medicines - Extra Notes and Warnings:**
   - Follow these dosing instructions unless your doctor (or NP/PA) has told you to take a different dose.
   - Acetaminophen is thought to be safer than ibuprofen or naproxen in people over 65 years old. Acetaminophen is in many OTC and prescription medicines. It might be in more than one medicine that you are taking. You need to be careful and not take an overdose. An acetaminophen overdose can hurt the liver.
   - McNeil, the company that makes Tylenol, has different maximum dosage instructions for Tylenol in Canada than in the United States. Bayer, the company that makes Aleve, has different dosage maximum instructions for Aleve in Canada and the United States.
   - Some people with muscle and joint pain benefit from using OTC topical pain medicines (such as the topical NSAID diclofenac). Do NOT also take NSAIDs by mouth while using a topical NSAID.
   - **Caution:** Do not take acetaminophen if you have liver disease.
   - **Caution:** Do not take ibuprofen or naproxen if you have stomach problems, kidney disease, are pregnant, or have been told by your doctor to avoid this type of anti-inflammatory drug. Do not take ibuprofen or naproxen for more than 7 days without consulting your doctor. If you take blood thinners, ibuprofen and naproxen can increase the risk of bleeding.
   - *Before taking any medicine, read all the instructions on the package.*

8. **Over-The-Counter Liniments:**
   - A deep-heating over-the-counter cream has fewer side effects than muscle relaxants (such as drowsiness).

9. **Call Back If:**

- Fever occurs
- Numbness or weakness occurs
- Loss of control of your bladder or bowel
- Severe pain not better after taking pain medicines
- Pain begins to shoot into the leg
- Pain lasts over 2 weeks
- Pain becomes worse
- You become worse

Preventing Back Strain

1. **Prevention of Back Pain:**
   - The only way to prevent future back pain is to keep the back muscles in good physical condition.
   - A sedentary lifestyle (lack of exercise) is a risk factor for developing back pain. Walking, stationary biking, and swimming provide good aerobic conditioning as well as exercise for your back.
   - Being overweight puts more stress on the spine and thus increases the risk of back pain. If you are overweight, work with your doctor (or NP/PA) to develop a weight-loss program.
2. **Good Body Mechanics:**
   - *Lifting*: Stand close to the object to be lifted. Keep your back straight and lift by bending your legs. Ask for lifting help if needed.
   - *Sleeping*: Sleep on a firm mattress.
   - *Sitting*: Avoid sitting for long periods of time without a break. Avoid slouching. Place a pillow or towel behind your lower back for support.
   - *Posture*: Maintain good posture.
   - *Carrying*: If you have to carry something heavy, carry it close to the body.
3. **Strengthening Exercises:**
   - During the first couple days after an injury, strengthening exercises should be avoided.
   - Perform the following exercises 3 to 5 times, 5 to 10 seconds each time.
   - *Bent knee sit-ups:* Lay on back, curl forward lifting shoulders about 6 inches (15 cm) off the ground.
   - *Leg lifts:* lay on back, lift foot 6 inches (15 cm) off ground (one leg at a time).
   - *Pelvic tilt:* lay on back with knees bent, push lower back against floor.
   - *Chest lift:* lie face down on ground, place arms by your sides, lift shoulders off the floor.
4. **Call Back If:**
   - You have more questions

FIRST AID

FIRST AID Advice for Shock: Lie down with the feet elevated.

BACKGROUND INFORMATION

Key Points

- Low back pain is a cause of countless visits to doctors' offices and emergency departments. It is the second most common cause of lost workdays, after cold and flu symptoms. Over 80% of people at some point in their lives have lower back pain.
- Nearly 1 in 3 adults have back pain during any three month period. Back pain occurs more often in older people.

• However, there is some good news. In most cases, the back pain is not serious and it has a self-limited course. Pain subsides within 4 to 6 weeks in 90% of people experiencing acute low back pain.

Causes

There are many causes of back pain.

Often back pain is from **lumbar strain** due to a minor or un-noticed lifting or twisting injury. In older adults **degenerative arthritis** can cause pain. Other causes of non-specific back pain with no neurologic symptoms are fibromyalgia and lumbar disc disease.

People with **sciatica** have lower back pain with neurologic symptoms. There is radiation of the back pain (or buttock pain) into a lower extremity suggesting lumbosacral nerve root compression. There may be associated leg weakness, numbness, or paresthesias.

Pain in the back can be **referred pain** from other parts of the body. An example of this is the flank pain that occurs with a kidney stone attack (renal colic). Gastrointestinal causes such as pancreatitis, biliary colic, and posterior gastric ulcer can cause referred pain. Genitourinary causes such as pyelonephritis, endometriosis, and ovarian cyst can cause referred pain.

There are also less common but **serious causes** of back pain

• Abdominal aortic aneurysm
• Cancer
• Cauda equina syndrome (a neurologic emergency)
• Epidural abscess
• Osteomyelitis (infection in the bone)
• Spinal stenosis
• Vertebral fracture

What Is Lumbar Strain?

Acute lower back pain is usually a symptom of strain of some of the 200 muscles in the back that allow us to stand upright.

• Often the triggering event is carrying something too heavy, lifting from an awkward position, bending too far backward or sideways, or overuse.
• People with strained back muscles often note that the pain is increased by bending or twisting movements, relieved by assuming certain positions, and that the back muscles are tender.

What Is Degenerative Osteoarthritis?

Degenerative ("wear and tear") osteoarthritis is a common cause of back pain in the older adult population.

• In uncomplicated osteoarthritis, people will complain of chronic midline back discomfort.
• Frequently, there is morning stiffness that improves as the day progresses.

Is Bed Rest Needed for Back Pain?

No. Complete bed rest is not needed for most people with back pain.

• This includes people who need to be examined by a doctor (or NP/PA).
• Complete bed rest should never be recommended over the telephone.
• Research has shown that continuing normal activities within the limits permitted by pain results in a speedier recovery than rest.

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