

## 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** protocol.

## TRIAGE ASSESSMENT QUESTIONS

### Call EMS 911 Now

Passed out (i.e., lost consciousness, collapsed 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*

**Severe** abdominal pain (e.g., excruciating)

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 with PCP Approval)**

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

*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, or history of IV Drug Use)

*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. Activity:**
    - Keep doing your day-to-day activities if it is not too painful. Staying active is better than resting.
    - Avoid anything that makes your pain worse. Avoid heavy lifting, twisting, and too much exercise until your back heals.
    - You do not need to stay in bed.
  - 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 each day is 3,250 mg (10 pills a day).
    - **Acetaminophen - Extra Strength Tylenol:** Take 1,000 mg (two 500 mg pills) every 8 hours as needed. Each Extra Strength Tylenol pill has 500 mg of acetaminophen. The most you should take each day is 3,000 mg (6 pills a day).
    - **Ibuprofen (e.g., Motrin, Advil):** Take 400 mg (two 200 mg pills) by mouth every 6 hours. The most you should take each day is 1,200 mg (six 200 mg pills), unless your doctor has told you to take more.
    - **Naproxen (e.g., 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 each day is 660 mg (three 220 mg pills a day), unless your doctor has told you to take more.
  - 6. Pain Medicines - Extra Notes and Warnings:**
    - Use the lowest amount of medicine that makes your pain better.
    - 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 dosage instructions for Tylenol in Canada and the United States. In Canada, the maximum recommended dose per day is 4,000 mg or twelve Regular-Strength (325 mg) pills. In the United States, the maximum dose per day is ten Regular-Strength (325 mg) pills.
    - Bayer, the company that makes Aleve, has different dosage instructions for Aleve in Canada and the United States. In Canada, the maximum recommended dose per day is 440 mg (2 pills or caplets). In the United States, the maximum dose per day is 660 mg (3 pills or caplets).
    - **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.

• *Before taking any medicine, read all the instructions on the package.*

7. **Call Back If:**

- Fever occurs
- Numbness or weakness occurs, or bowel/bladder problems
- Pain begins to shoot into the leg
- Pain persists over 2 weeks
- Pain becomes worse
- 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:* 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. **Activity:**

- Continue ordinary activities as much as your pain permits. Continued activity is more healing for the back than rest.
- Avoid any activities that cause severe pain.
- Use caution and commonsense when performing heavy lifting. Similarly, be careful during strenuous exercise.
- Note: Complete bed rest is unnecessary.

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- *Before taking any medicine, read all the instructions on the package.*

#### 8. **Liniments:**

- If the patient presses for additional medication, a deep-heating cream has fewer side effects than muscle relaxants (e.g., drowsiness).

#### 9. **Call Back If:**

- Fever occurs
- Numbness or weakness occurs, or bowel/bladder problems
- Pain begins to shoot into the leg
- Pain persists over 2 weeks
- Pain becomes worse
- You become worse

### **Preventing Back Strain**

#### 1. **Prevention:**

- The only way to prevent future backaches is to keep your back muscles in excellent 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 weight on the spine and thus increases the risk of back pain. If you are overweight, work with your doctor 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.
3. **Strengthening Exercises:**
- During the first couple days after an injury, strengthening exercises should be avoided. The following exercises can help strengthen the back. Perform the following exercises 3 to 10 times each day, for 5 to 10 seconds each time.
  - **Bent knee sit-ups:** Lay on back, curl forward lifting shoulders about 6 inches (15 cm) off the floor.
  - **Leg lifts:** Lay on back, lift foot 6 inches (15 cm) off floor (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
  - You become worse

## FIRST AID

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

## BACKGROUND INFORMATION

### Key Points

- Lower back pain is a cause of countless visits to physicians' 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 individuals.
- 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 4-6 weeks in 90% of individuals experiencing acute low back pain.

### Four Categories of Back Pain

- *Potentially serious:* Examples include abdominal aortic aneurysm, neoplasm, osteomyelitis, epidural abscess, vertebral fracture, and neurologic emergencies (e.g., cauda equina syndrome).
- *Sciatica* (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.
- *Non-specific back pain:* No neurologic symptoms. Examples include lumbar strain/sprain, degenerative osteoarthritis, lumbar disc disease, and fibromyalgia.
- *Referred back pain:* There are gastrointestinal causes like pancreatitis, biliary colic, and posterior gastric ulcer; genitourinary causes like renal colic, pyelonephritis, endometriosis, and ovarian cyst.

## Lumbar Strain

- Acute lower back pain in the 18 to 50 year old age group 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.
- Individuals 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.

## Degenerative Osteoarthritis

- Degenerative osteoarthritis is a common cause of back pain in the older adult population.
- In uncomplicated osteoarthritis, individuals will complain of chronic midline back discomfort. Frequently, there is morning stiffness that improves as the day progresses.

## Bed Rest and Overtreatment

- Complete bed rest is inconvenient and unnecessary in the majority of patients, including those who need to be examined by the physician. Complete bed rest should never be recommended over the telephone.
- Research has demonstrated that continuing ordinary activities within the limits permitted by pain results in a speedier recovery than rest [Malmivaara reference].

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