

# MID-BACK STRAIN



## ■ ■ ■ Description

A mid-back strain is an injury to the muscles and tendons of the middle back that attach to the ribs and chest wall, as well as the spine. These muscles stabilize the spine and allow its motion. The mid-back provides a large portion of the back's overall motion, primarily rotation (twisting motion).

## ■ ■ ■ Common Signs and Symptoms

- Pain in the back that may affect only one side and is worse with movement
- Muscle spasms and often swelling in the back
- Loss of strength of the back muscles
- Crepitation (a crackling sound) when the muscles are touched

## ■ ■ ■ Causes

- Prolonged overuse of the muscle tendon units in the lower back, usually from incorrect back mechanics
- A single violent injury or force applied to the back

## ■ ■ ■ Risk Increases With

- Any sport in which movement causes bending or twisting force on the spine; contact sports; such as football, weightlifting, golf, tennis, racquetball, gymnastics, diving
- Major exertion in an off-balance position, such as a shot-putter throwing from an imperfect stance
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or play
- Previous back injury or surgery (especially fusion)

## ■ ■ ■ Preventive Measures

- Use proper sports technique.
- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Back flexibility
  - Strength and endurance
  - Cardiovascular fitness

## ■ ■ ■ Expected Outcome

This condition is usually curable, with appropriate conservative treatment, within 6 weeks.

## ■ ■ ■ Possible Complications

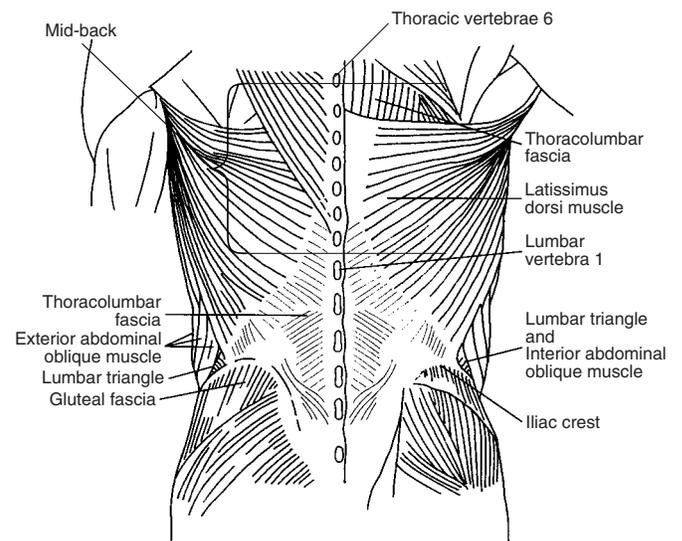
- Frequent recurrence of symptoms, resulting in a chronic problem; appropriately addressing the problem the first time decreases frequency of recurrence
- Chronic inflammation, scarring, and partial muscle-tendon tear
- Delayed healing or resolution of symptoms, particularly if activity is resumed too soon
- Prolonged disability

## ■ ■ ■ General Treatment Considerations

The injury to the back results in pain and inflammation. The pain and inflammation result in muscle spasms of the back muscles, which in turn result in more pain. Thus the initial treatment consists of rest, medications, and ice to relieve pain, inflammation, and muscle spasms. As pain and spasms subside, exercises to improve strength and flexibility and use of proper back mechanics and sports technique are started. Referral to a physical therapist or athletic trainer may be recommended for these exercises, education regarding back mechanics, and possibly other treatments, such as transcutaneous electronic nerve stimulation (TENS) and ultrasound. Biofeedback and psychotherapy may also be prescribed. Prolonged bed rest is felt to do more harm than good. Massage may help break the spasms as well. Occasionally an injection of cortisone, with or without local anesthetics, may be administered to help relieve the pain and spasms.

## ■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Topical ointments may be of benefit.



**Figure 1**

From Herskowitz A, Selesnick H: Back Injuries in Basketball Players. Clin Sport Med 12:298, 1993.

- Pain relievers and muscle relaxants may be prescribed as necessary by your physician. Use only as directed and only as much as you need. Do not work any heavy machinery or drive a car while on these medications.
- Oral corticosteroids or injections of corticosteroids, with or without local anesthetics, into the spot of the most muscle spasm or pain occasionally may be administered.

### ■ ■ ■ Heat and Cold

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.

- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

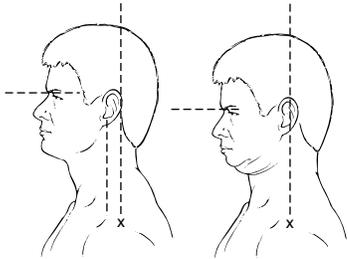
### ■ ■ ■ Notify Our Office If

- Symptoms get worse or do not improve in 2 to 4 weeks despite treatment
- You develop numbness, weakness, or loss of bowel or bladder function
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

➤ **RANGE OF MOTION AND STRETCHING EXERCISES** • Mid-Back Strain

These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.



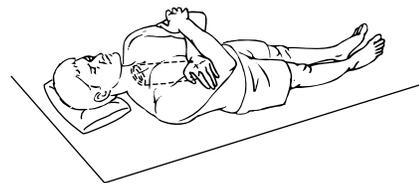
**CERVICAL SPINE** • Axial Extension

1. Sit in a chair or stand in your normal posture.
2. Gently tuck your chin and glide your head backward. Keep your eyes level as shown. You should not end up looking up or looking down.
3. You will feel a stretch in the back of your neck and at the top of your shoulders.
4. Hold this position for \_\_\_\_\_ seconds.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



**THORACIC EXTENSION** • Upper

1. Sit erect/in a good posture in a chair with a firm, high back as shown. If the chair does not have a good lumbar support, place a small rolled-up towel in the small of your back as shown in the diagram.
2. Clasp your hands together behind your neck. Bring your elbows together under your chin, gently cradling and supporting your head and neck. This will prevent your neck from bending backward.
3. **Bend backward through the upper back** over the top of the chair. When you do this your shoulders and elbows should move upward and backward. You should feel a stretch at the base of your neck and the top of your shoulder blades.
4. Hold this position for 10 seconds. Return to the starting position.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



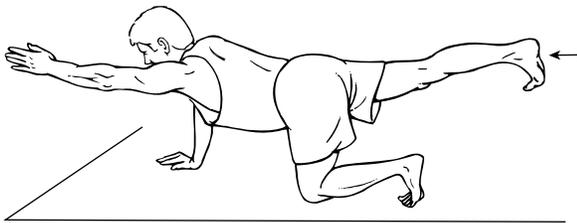
**THORACIC EXTENSION** • Mid

1. Roll up a small to medium sized towel lengthwise until it makes a firm roll 3 to 5 inches in diameter.
2. Lie on your back with the towel aligned as shown in the diagram. Allow your shoulders to drape over the edges of the towel.
3. For a greater stretch you may straighten out your arms and place them on the floor at shoulder height.
4. Hold this position for \_\_\_\_\_ seconds.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

### > STRENGTHENING EXERCISES • Mid-Back Strain

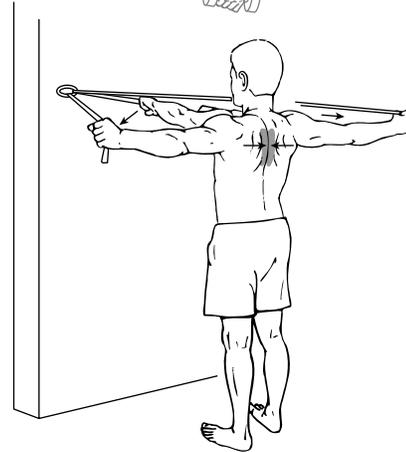
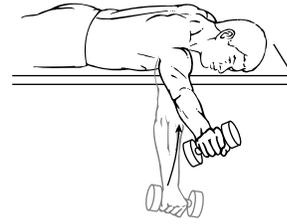
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise, gradually increasing the number of repetitions and weight used under their guidance.



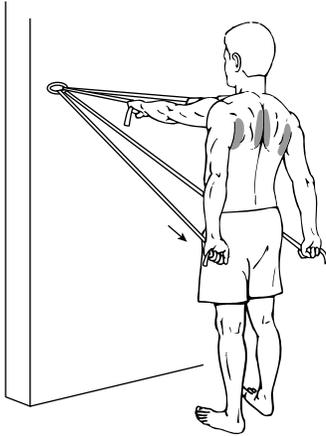
#### QUADRIPED • Opposite UE/LE Lift

1. Position yourself on your hands and knees.
2. Keep your back flat and parallel to the floor. **Do not allow it to arch or move during this exercise.**
3. Lift your *left* arm up to shoulder height. Hold this position and lift your *right* leg to the same height.
4. Balance and hold this position for 15 to 30 seconds.
5. Return to starting position and repeat with the opposite arm and leg.
6. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day. Do not hold your breath. Count out loud.



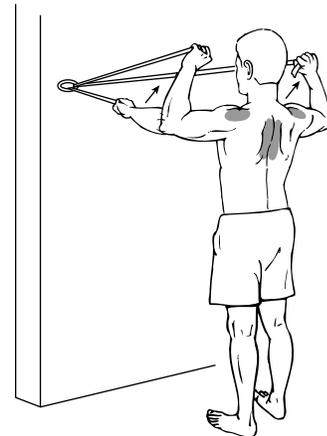
#### SHOULDER • Horizontal Abduction

1. **If using a weight**—Lie on your stomach with your \_\_\_\_\_ arm over the edge of the bed as shown, holding a \_\_\_\_\_ pound weight in your hand.
2. Raise the arm up slowly so that it is level with the edge of the bed. Keep your elbow straight.
3. Hold this position for \_\_\_\_\_ seconds and then *slowly* return to the starting position.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.
1. **If using rubber band/tubing**—Anchor the rubber band/tubing to a solid object.
2. Hold one end of the band/tubing in each hand as shown with your arms straight out in front of you.
3. Spread your arms apart, pulling straight backward, keeping them parallel to the floor.
4. Hold this position for \_\_\_\_\_ seconds and then *slowly* return to the starting position.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



**STRENGTH • Shoulder Extension**

1. Anchor/secure rubber band/tubing around a stable object such as a stair post or around the knob of a closed door.
2. Stand holding the rubber band/tubing in front of you with your arms extended as shown.
3. Squeeze/pinch your shoulder blades together and pull your arms down and backward as shown. **Do not pull arms past the midline of your body.**
4. Hold this position for \_\_\_\_\_ seconds and then *slowly* return to the starting position.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



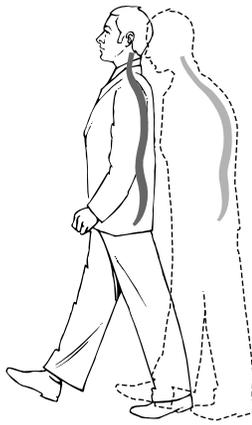
**STRENGTH • Shoulder, External Rotation/Rowing**

1. Anchor/secure rubber band/tubing around a stable object such as a stair post or around the knob of a closed door.
2. Stand holding the rubber band/tubing in front of you with your arms extended as shown.
3. Squeeze/pinch your shoulder blades together and pull your arms back as shown, bending your elbows. Your fists should end at shoulder height and close to your body.
4. Hold this position for \_\_\_\_\_ seconds and then *slowly* return to the starting position.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

### > POSTURE EXERCISES • Mid-Back Strain

Maintaining the most appropriate posture and using correct body mechanics can have a significant effect on back pain. The following are basic suggestions regarding proper posture and body mechanics. These should be specifically discussed with your physician, physical therapist, or athletic trainer. Please remember:

- Good posture minimizes the stress and strain on any portion of your spine.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer.
- Incorporate these exercises and posture principles into all of your daily and recreational activities.



### SLOUCHING

Avoid slouching when you walk or stand. Stand up straight. Walk erect and tall.



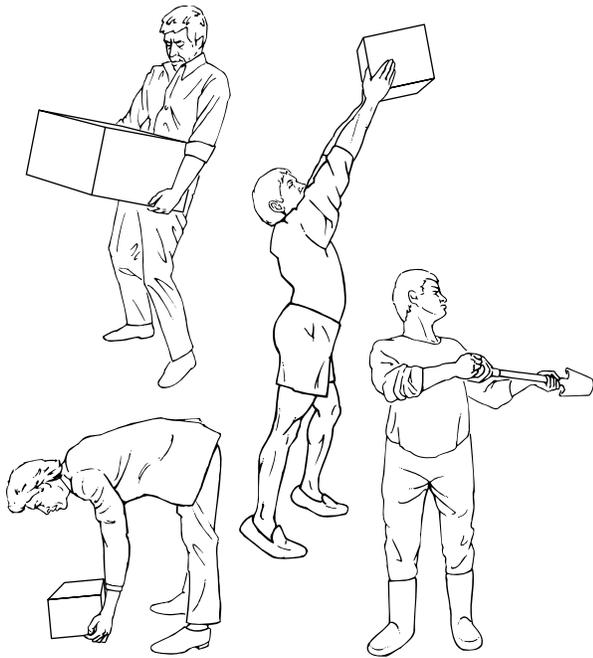
### WORK STATION

1. When sitting at a desk or work station make sure you attempt to do the following:
2. Have an adjustable-height chair. It is critical that your feet touch the floor. If this is not possible because of chair and/or desk height, obtain a foot rest.
3. Make sure that your chair can fit under the desk and you can pull as close to your work surface as you need to.
4. Avoid slouching. Use a lumbar roll/cushion/pillow behind your low back.
5. Make sure that your work surface is the appropriate height.

### CORRECT LIFTING TECHNIQUES

#### DO:

- Lift with your legs, keeping your back straight.
- Use a footstool for objects that need to be placed or retrieved from high locations.
- Use two people for heavy or awkward objects.



**INCORRECT LIFTING TECHNIQUES**

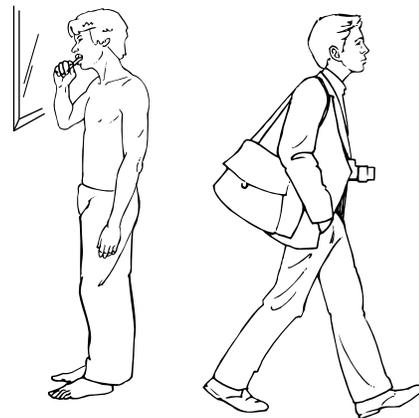
**DO NOT:**

- Lift with your legs straight and your back flexed/bent.
- Lift objects that are too heavy over your head.
- Ever lift and twist at the same time.
- Lift an object that is too heavy or awkwardly shaped without help.



**INCORRECT STANDING POSTURES**

Do not slouch or maintain flexed standing postures for prolonged periods of time.



**CORRECT STANDING POSTURES**

Stand upright and erect whenever possible.

Notes:

(Up to 4400 characters only)

Notes and suggestions