

# SPONDYLOLISTHESIS OF THE LOW BACK

## ◆ What is it?

Spondylolisthesis is the slippage of the one or more vertebrae (bones of the spine) due to the fact that the main part of the vertebra (the vertebral body) is separated from the back parts of the vertebra. There are many causes of slippage of the vertebra, including stress fracture (spondylolysis), as seen in athletes, and degenerative and congenital (you are born with it) causes. It tends to occur in adolescent athletes. The stress fracture occurs because the mechanisms of repetitive extension (backward bending such as in gymnastics) or repetitive twisting/rotation (baseball and golf) stress the bones and bone repair fails to keep up with the damage caused by the repetitive force. This entity may or may not cause symptoms (found only on x-ray examination).

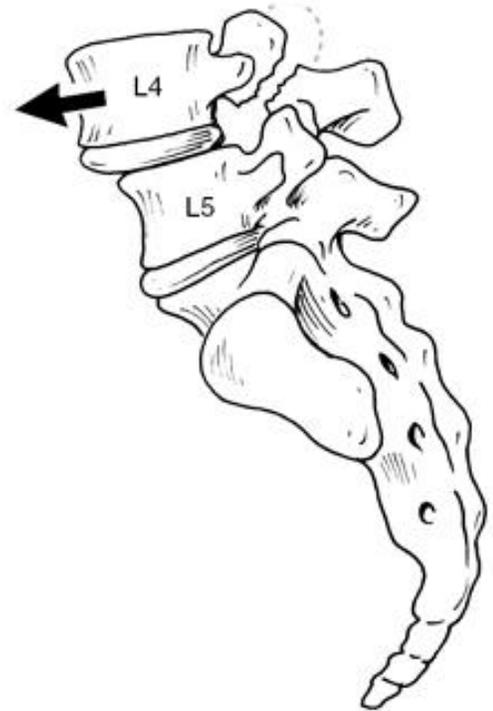


Figure 1

## ◆ Signs and Symptoms of this Condition

- Chronic dull ache in the low back, worse with hyperextension (backward bending).
- Tightness of the hamstring muscles.
- Occasionally, stiffness of the lower back.
- Muscle spasms of the muscles in the back.
- Pain, numbness, or weakness affecting one or both lower extremities only if the slippage causes pressure on the nerves from the spinal cord to the legs.

## ◆ Causes

This condition is most commonly caused by congenital or degenerative factors or is related to athletic activities that cause a stress fracture (spondylolysis) of the vertebrae. It is rare that it occurs due to an acute fracture from a sudden blow.

## ◆ What Can I do to prevent Cervical Sprain/Strain?

- Use proper technique in sporting activities.
- Wear proper protective equipment and ensure fit.
- Appropriately warm up and stretch before exercise, sport, or vigorous physical activity.
- Maintain appropriate conditioning:
  - Back and hamstring flexibility
  - Back muscle strength and endurance
  - Cardiovascular fitness

## ◆ Prognosis

- The spondylolisthesis itself normally does not heal, but exercises and appropriate back care (proper lifting, posture, etc.) can help minimize or resolve symptoms. Occasionally, in cases of severe slippage, surgery to stabilize the segments may be required.

## ◆ Treatment

- Rest, Ice, and medications (anti-inflammatory medication such as aspirin, ibuprofen, etc and/or muscle relaxants prescribed by your physician if indicated) to relieve pain during acute onset of painful low back.
- After 48-72 hours you may change to using heat (hot shower on the low back, hot pack, etc.).
- Avoid prolonged bed rest (no more than 1-2 days at the most in severe acute injuries). Prolonged bed rest can lead to deconditioning and weakening of important muscle groups that support and stabilize your back.
- Gentle back FLEXION exercises (**See Below**).
- Progress into back and abdominal strengthening exercises (**See Below**) as symptoms resolve. These should be performed long-term to help protect your back and reduce the chance of recurrent injuries.
- AVOID exercises such as sit-ups, leg lifts/flutter kicks, and running during your recovery.
- Perform low impact aerobic training to maintain cardiovascular fitness, promote healing, and reduce pain (bike, swim, elliptical trainer, ski machine, etc.). These should be performed with minimal to no pain.
- Individuals with spondylolisthesis should exercise caution and avoid contact sports and heavy physical labor if possible (heavy lifting, carrying heavy back packs, using jack hammers, digging work, etc.).
- NOTE: If you are experiencing pain down your arm(s) you should see your physician.



Double Knee to Chest Stretch



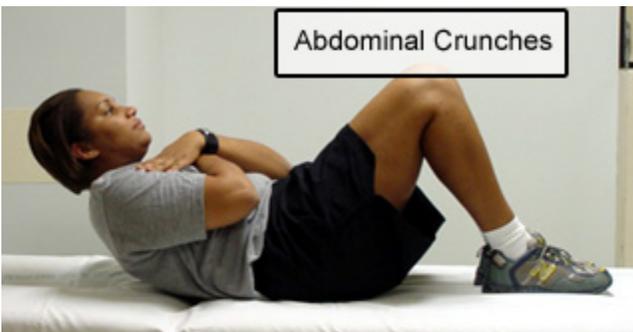
1. With arms crossed across your chest, raise your trunk upward until the shoulder blade leaves the surface.
2. Perform 30-50 reps once per day.

Posterior Pelvic Tilt



1. Lay on your back with knees bent
2. Use your abdominal muscles to rotate your pelvis backwards flattening your back onto the table / floor.
3. Hold 5 seconds; Repeat 10 reps.
4. Perform 2-3 times per day.

Abdominal Crunches



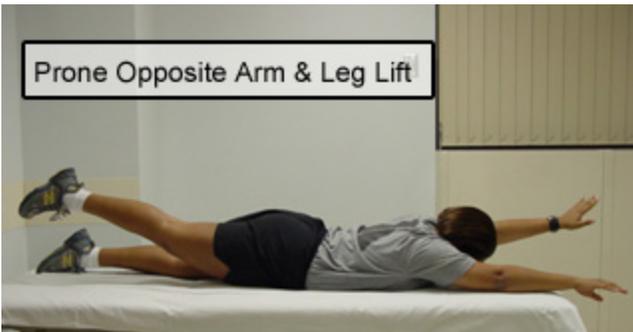
1. With arms crossed across your chest, raise your trunk upward until the shoulder blade leaves the surface.
2. Perform 30-50 reps once per day.

Side Lateral Support



1. Lay on side resting on your elbow.
2. Use abdominal muscles to lift hips/pelvis off the table.
3. Hold 5 seconds and repeat 5-10 reps.
4. Perform once per day.

Prone Opposite Arm & Leg Lift



1. Laying prone, lift the opposite arm and leg.
2. Hold 5 seconds.
3. Repeat 10 times, 2-3 reps.
4. Perform once per day.