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ROOM NO # 2 GROUND FLOOR

THE SPINE CLIIC, Dr L H HIRANANDANI HOSPITAL

POWAI, MUMBAI

A series of exercise routines you can do to help reduce any lower back pain (occasionally referred to as low back pain), including tension, stiffness and soreness.

- These exercises to help to stretch, strengthen and mobilise the lower back.
- When starting out, go gently to get used to the movements and work out how far you can go into each position without feeling pain.
- Aim to do this routine at least once a day if the pain allows. You can complement this routine with walking, cycling and water-based activities.

Initial Exercise Program

- Acute backache
- Limited mobility
- Mild to Moderate back pain

Ankle Pumps



- Lie on your back.
- Move ankles up and down. Repeat 10 times.
- Repeat 10 times.

Heel Slides



- Lie on your back.
- Slowly bend and straighten knee.
- Repeat 10 times.

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Abdominal Contraction



- Lie on your back with knees bent and hands resting below ribs.
- Tighten abdominal muscles to squeeze ribs down toward back.
- Be sure not to hold breath.
- Hold 5 seconds.
- Relax.
- Repeat 10 times.

Wall Squats



- Stand with back leaning against wall.
- Walk feet 12 inches in front of body.
- Keep abdominal muscles tight while slowly bending both knees 45 degrees.
- Hold 5 seconds.
- Slowly return to upright position.
- Repeat 10 times.

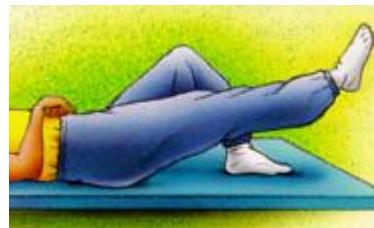
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Heel Raises



- Stand with weight even on both feet.
- Slowly raise heels up and down.
- Repeat 10 times.

Straight Leg Raises



- Lie on your back with one leg straight and one knee bent.
- Tighten abdominal muscles to stabilize low back.
- Slowly lift leg straight up about 6 to 12 inches and hold 1 to 5 seconds.
- Raise leg upto 45 degree
- Lower leg slowly.
- Repeat 10 times.

Deep Abdominal Strengthening

Strengthens the deep supporting muscles around the spine

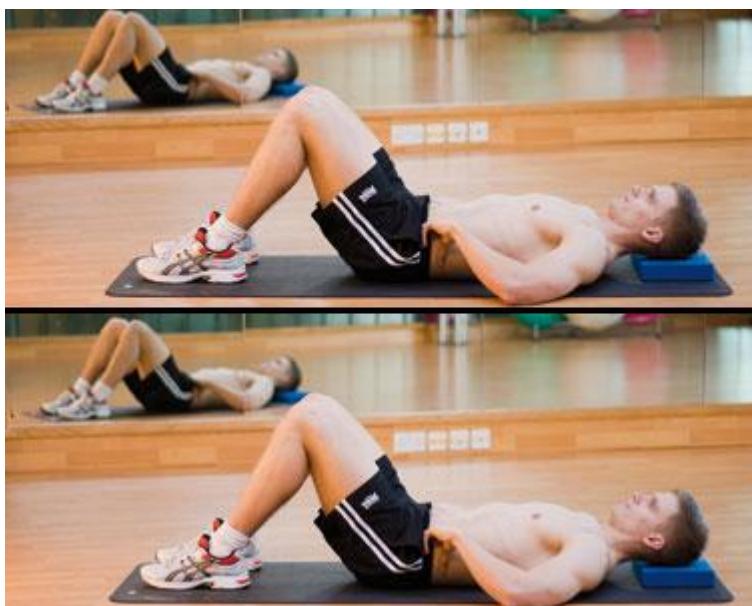
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Start position: Lie on your back. Place a small, flat cushion or book under your head. Bend your knees and keep your feet straight and hip-width apart. Keep your upper body relaxed and your chin gently tucked in.

Action: As you breathe out, draw up the muscles of your pelvis and lower abdominals, as though you were doing up an imaginary zip along your stomach. Hold this gentle contraction while breathing from your abdomen for 5 to 10 breaths, and relax.

Repeat 5 times.

Tips:

- This is a slow, gentle tightening of the lower abdominal region. Don't pull these muscles in using more than 25% of your maximum strength.
- Make sure you don't tense up through the neck, shoulders or legs.

Pelvic Tilt

Stretches and strengthens the lower back

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Start position: Lie on your back. Place a small, flat cushion or book under your head. Bend your knees and keep your feet straight and hip-width apart. Keep your upper body relaxed and your chin gently tucked in.

Action: Gently flatten your low back into the floor and contract your stomach muscles. Now tilt your pelvis towards your heels until you feel a gentle arch in your lower back, feeling your back muscles contracting and return to the starting position.

Repeat 10 to 15 times, tilting your pelvis back and forth in a slow rocking motion.

Tips:

- Keep your deep abdominals working throughout.
- Don't press down through the neck, shoulders or feet.

Modification

Place one hand on your stomach and the other under your lower back to feel the correct muscles working.

Intermediate Exercise Program

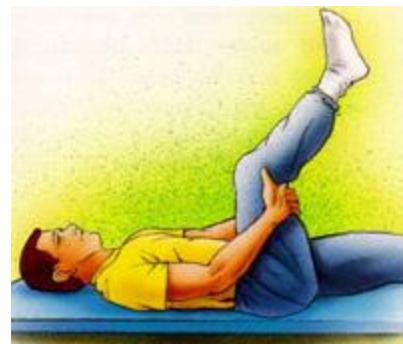
- When your back pain is settled
- After 2 weeks of milder form of exercises
- The pain is not increasing with the exercises

Single Knee to Chest Stretch



- Lie on your back with both knees bent.
- Hold thigh behind knee and bring one knee up to chest.
- Hold 20 seconds.
- Relax.
- Repeat 5 times on each side.

Hamstring Stretch



- Lie on your back with legs bent.
- Hold one thigh behind knee.
- Slowly straighten knee until a stretch is felt in back of thigh.
- Hold 20 seconds.
- Relax.
- Repeat 5 times on each side.

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Cat Stretch



Start position: Kneel on all fours, with your knees under hips and hands under shoulders. Don't over-arch your lower back. Keep your neck long, your shoulders back and don't lock your elbows.

Action: Slowly take your bottom backwards, maintaining the natural curve in the spine. Hold the stretch for one deep breath and return to the starting position.

Repeat 8 to 10 times.

Tips:

- Avoid sitting back on your heels if you have a knee problem.
- Ensure correct positioning with the help of a mirror.
- Only stretch as far as feels comfortable.

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Knee Rolls

Stretches and mobilises the spine



Start position: Lie on your back. Place a small flat cushion or book under your head. Keep your knees bent and together. Keep your upper body relaxed and your chin gently tucked in.

Action: Roll your knees to one side, followed by your pelvis, keeping both shoulders on the floor.

Hold the stretch for one deep breath and return to the starting position.

Repeat 8 to 10 times, alternating sides.

Tips:

- Only move as far as feels comfortable.
- Place a pillow between your knees for comfort.

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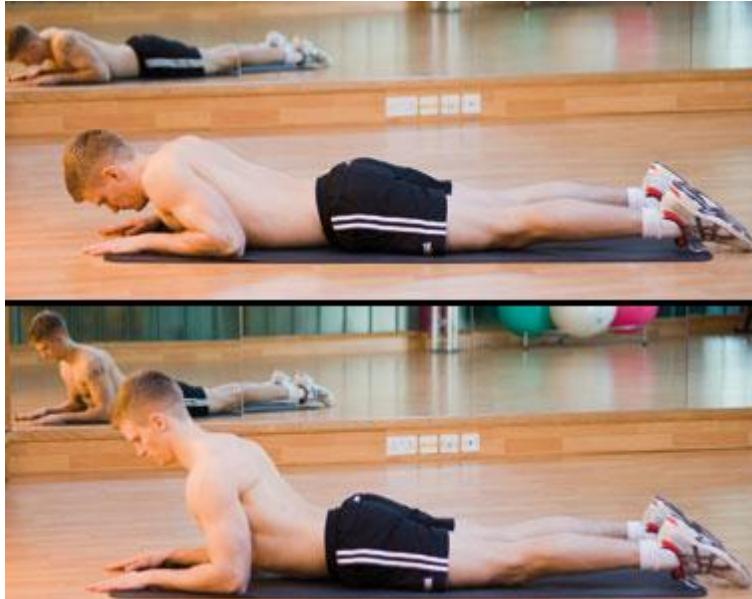
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Back Extension Exercise

Stretches and mobilises the spine backwards



Start position: Lie on your stomach, and prop yourself on your elbows, lengthening your spine. Keep your shoulders back and neck long.

Action: Keeping your neck long, arch your back up by pushing down on your hands. You should feel a gentle stretch in the stomach muscles as you arch backwards. Breathe and hold for 5 to 10 seconds. Return to the starting position.

Repeat 8 to 10 times.

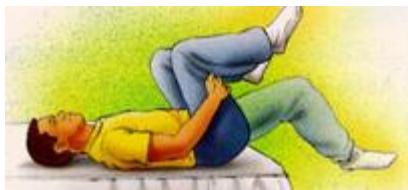
Tips:

- Don't bend your neck backwards.
- Keep your hips grounded.

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Advanced Exercise Program

Hip Flexor Stretch



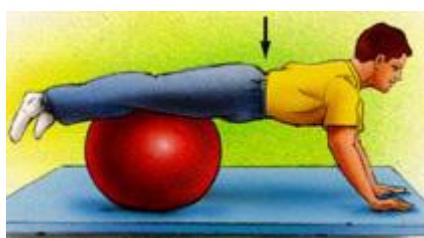
- Lie on your back near edge of bed, holding knees to chest.
- Slowly lower one leg down, keeping knee bent, until a stretch is felt across top of the hip/thigh.
- Hold 20 seconds.
- Relax.
- Repeat 5 times on each side.

Piriformis Stretch



- Lie on back with both knees bent.
- Cross one leg on top of the other.
- Pull opposite knee to chest until a stretch is felt in the buttock/hip area.
- Hold 20 seconds.
- Relax.
- Repeat 5 times each side.

Lumbar Stabilization Exercise With Swiss Ball



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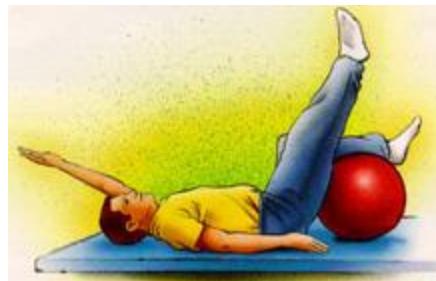
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- Lie on stomach over ball.
- " Walk " hands out in front of ball until ball is under legs. Reverse to starting position.
- " Walk " hands out in front of ball until ball is under legs and slowly raise alternating arms over head.
- " Walk " hands out in front of ball and slowly perform push-ups.

Abdominal muscles must remain contracted during each exercise (see Abdominal Contraction).

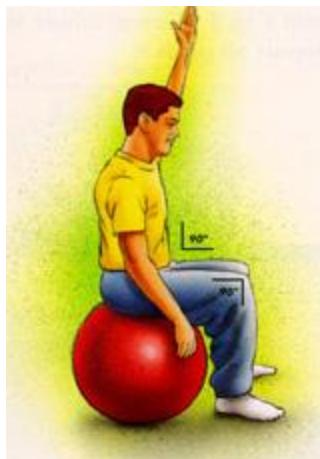
Perform each exercise for 60 seconds. The farther the ball is from your body, the harder the exercise.

Lying on Floor



- Lie on your back with knees bent and calves resting on ball.
- Slowly raise arm over head and lower arm, alternating right and left sides.
- Slowly straighten one knee and relax, alternating right and left sides.
- Slowly straighten one knee and raise opposite arm over head. Alternate opposite arms and legs.
- Slowly "walk" ball forward and backward with legs.

Sitting on Ball



- Sit on ball with hips and knees bent 90° and feet resting on floor.
- Slowly raise arm over head and lower arm, alternating right and left sides.

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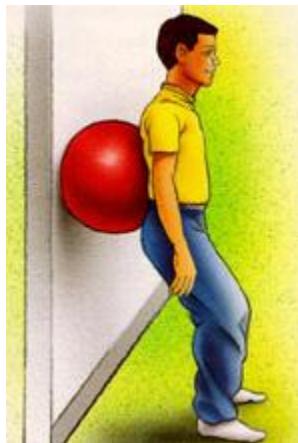
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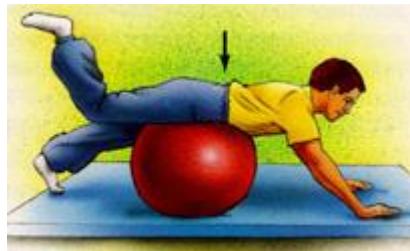
- Slowly raise and lower heel, alternating right and left sides.
- Slowly raise one heel and raise opposite arm over head. Alternate opposite arm and heel.
- Marching: Slowly raise one foot 2 inches from floor, alternating right and left sides.

Standing



- Stand with ball between your low back and wall.
- Slowly bend knees 45 ° to 90 ° . Hold 5 seconds. Straighten knees.
- Slowly bend knees 45 ° to 90 ° while raising both arms over head.

Lying on Ball



- Lie on your stomach over ball
- Slowly raise alternate arms over head.
- Slowly raise alternate legs 2 to 4 inches from floor.
- Combine 1 and 2, alternating opposite arms and legs.
- Bend one knee. Slowly lift this leg up, alternating right and left legs.

NOTE: Be careful not to arch your

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Stretching and Aerobic Conditioning

In addition to strengthening exercises, such as those above, stretching and aerobic conditioning are also an important part of lumbar stabilization physical therapy:

- **Flexibility** is key to successful lumbar stabilization training, because flexibility allows the muscles to assume the neutral position easily.
- **Cardiovascular (aerobic) conditioning** is an important part of the total body muscle strength and endurance and should be combined with the lumbar spine stabilization program. Maintaining a neutral spine during aerobic exercise is for the more advanced patient and protects the healing back while working out.
- **Swimming:** An advantage to exercising in a pool is that the buoyancy of the water takes stress off the joints. At the same time, swimming and other aquatic exercises can strengthen back and core muscles. If you are cleared to swim, and are a beginner, pay close attention to your technique. Work with a coach or trainer if necessary. It may also be a good idea to start with the breaststroke,



- **Planks:** The plank exercise is often done as shown in the first picture. This malalignment predisposes you to injury and low back pain. Attempt to do the plank with a good form like in the second picture.

Resting on your forearm, lie prone. Your elbow should be directly under your shoulder. Lift your hips off the floor. Keep your neck in line with your spine and a straight line from your head to your feet. When you are starting plank exercise you should hold it for 1-2 seconds and gradually you should increase the holding time up to 45-60 seconds. Repeat for 3 times.

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