



STRATFORD ORTHOPAEDICS & REHABILITATION
PEDIATRIC ORTHOPAEDIC INSTITUTE

Healthy Back Information

The human posture and the usual physical activities in our modern world have resulted in a state of relative deconditioning. The abdominal muscles have fallen special prey to these circumstances with major abdominal weakness, a common problem for most humans. Since abdominal muscles are poorly conditioned during usual daily activity, as well as with most sport exercise, a program specifically dedicated to abdominal conditioning is critical to good health fitness.

Back problems are as a rule, the result of years of poor posture, improper body mechanics, stressful lifestyle and inadequate attention to a balanced exercise program. Often, one simple movement can be "the straw that breaks the camel's back".

Posture

Good posture is probably the single most important protector of the back. It minimizes the stress on the muscles, ligaments, discs and vertebrae and it makes a statement about how you look and feel about yourself. In general, good posture means maintaining the neutral curves of the spine in a balanced position.

The basics of good posture:

- In standing, maintain shoulders stacked in a straight line over hips, and ears in a straight line over shoulders.
- In sitting, keep shoulders over hips and ears over shoulders.
- Imagine a helium balloon tied to your chest.
- Imagine you are a puppet with a string at the top of your head lifting your head off your neck.

General Body Mechanics

- Avoid any one position for prolonged periods
- Your back is especially vulnerable first thing in the morning. Avoid forward bending while getting dressed - eg. put on your socks and shoes while lying on your back. While at the bathroom sink put one leg up &/or use one hand on the counter to support the weight of your upper body.
- If standing for long periods of time, use a footstool or some phone books to put one leg up on. Alternate legs frequently.
- When lifting: get a wide base of support with your feet and bring the object as close into your body as possible. It is generally best to have one leg in front of the other. Bend at your hips and knees and rely on the strength of your legs. NEVER LIFT AND TWIST AT THE SAME TIME. Pivot with your feet rather than twisting your back.
- When reaching for an object, position yourself as close to the object as possible. Use a footstool or ladder for overhead objects to get you as close to the level of the object as possible.
- Avoid wearing high heels (2 inch maximum) or very hard soled shoes.
- When mowing the lawn, mopping, or vacuuming walk forward and backward. Avoid pushing and pulling. Work as if the object were attached to your body.

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Healthy Back Information

Sleeping

- Try to keep all the curves of your back in as neutral a position as possible - eg., the neck should not be bent back, forward or sideways.
- Avoid sleeping on your stomach.
- The best position is on your side with knees comfortably bent toward chest, with the top leg in front of the almost straight lower leg. You may find that a pillow between your knees is very comfortable.
- If you sleep on your back, place a pillow under your knees. For most people, a firm mattress is important - place a piece of plywood under your mattress. You may want to place a towel roll under your back, and wrap it to your body.

Sitting

- To get into a chair, place one leg forward. Reach down to the arms of the chair with your hands. Lower yourself into the chair, putting your weight on your hands and front leg. Fold at the hips. Reverse to stand.
- Absolutely avoid sitting in one position for prolonged periods. Get up and walk around for 1-3 minutes every hour (e.g. at work, in travelling).
- As you sit, occasionally sit up and do shoulder circles; squeeze shoulder blades together; practice pelvic tilts, review your principles of good posture (pelvic neutral, helium balloon, puppet)
- Use a rolled up towel or a "lumbar roll" in the small of your back to support the arch of your low back, if you find it helpful.
- Keep buttocks against chair back.
- Your feet should comfortably rest on the floor. If not, place a footstool or phone book under your feet.
- Sit as close as possible to your work area (desk, typewriter, computer) so that you do not lean forward. Try to angle your work surface so that you do not have to slump over reading or writing material (i.e. drafting table).
- Try to rest your elbows on the desk or arms of the chair.
- Use a folded towel under your ischia ("sitting bones") to maintain your pelvic neutral position.

Driving

- Use towel roll to support your low back.
- Your feet should comfortably touch the pedals without having to reach for them.
- Hold the steering wheel toward the bottom to minimize forward reaching.
- Get out and stretch every 45 minutes - 1 hour
- Keep your ears over your shoulders
- To get into the car, sit down facing sideways out the door (use hands to support your weight as you sit). Bring your legs around into the car as you rotate your upper body to face forward (move your body as a unit). To get out, rotate your body again as a unit then stand with the help of your hands.

Once your backache is gone, commit yourself to a regular exercise program. Walking and swimming are ideal for most people with back problems. Consult your physician or physical therapist as to what is best for you. It is essential that you use the principles of good posture and body mechanics in every aspect of your life. If not, you can expect a recurrence of your problem. With consistent adherence to good posture, proper body mechanics, a regular exercise program and a balanced lifestyle, you are doing everything you can to prevent future problems.



Healthy Back Exercises

1. PELVIC CLOCK

Pelvic position & control is a key factor in caring for a low back problem. Each person's natural position varies. It is essential that you find your natural position before going on to any others. The more you practice this exercise, the more natural the position will become, and the greater your control of your pelvic position. As you get used to it (over weeks of practice) you will control your pelvic position and improve your low back posture without having to think about it.

Lie on your back with your knees bent and feet flat, hands under the "small of your back". Picture clock with 12:00 to the ceiling, 6:00 toward the floor, 3:00 to your feet and 9:00 toward your head. First roll your pelvis counter-clockwise and flatten your back against the floor. Then roll your pelvis clockwise and arch your low back off the floor. Continue to slowly roll your pelvis back and forth from flat to arch. The buttock muscles should be relaxed throughout. After 3 rocks, find a position between the two extremes that feels most comfortable and stable for you. This is your neutral pelvic position.



2. PELVIC TILT

Lie on your back with knees bent, feet flat and arms in front with hands on your stomach. Use your abdominal muscles to push your lower back flat to the floor. Keep your upper body relaxed.



Hold for 5 seconds.
Repeat 25 times.



Healthy Back Exercises

3. SINGLE KNEE TO CHEST

Keeping lower back in neutral, pull your right knee toward your chest and hold it there with your hands. Hold for 5 seconds. Use your abdominals to keep your pelvis stable (neutral) as you lower the leg down.

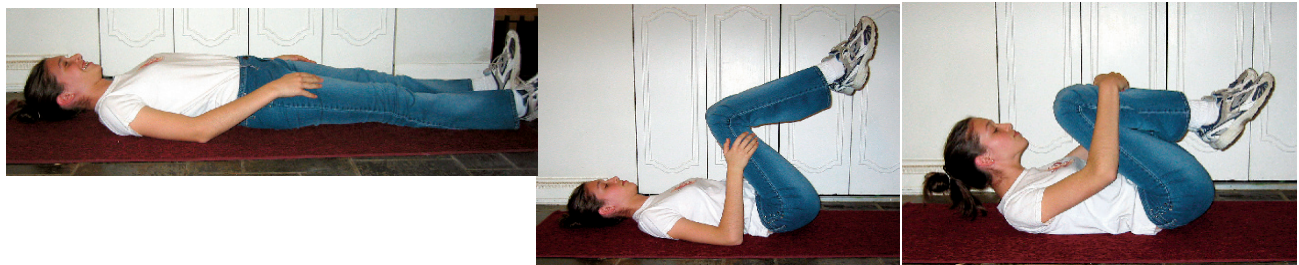
Progression

- Tuck in your chin, raise your head and shoulders off the floor and bring your forehead as close to your knee as you can.
- Progress to your forehead touching your knee. Repeat with left leg.
- Repeat original exercise bringing each knee toward opposite shoulder.



4. DOUBLE KNEE TO CHEST

Lie on your back with knees bent. Do a pelvic tilt and **KEEP YOUR PELVIS STABILIZED** (flat against the ground) **THROUGHOUT THE EXERCISE**. Grasp both knees and pull them gently to your chest as close as is comfortable. Hold for 5 seconds, trying to relax the back. Slowly lower legs, keeping abdominals tight. **NOTE:** It is essential that you maintain your pelvic neutral throughout, especially as you raise and lower your legs. If unable to do that, raise and/or lower your legs one at a time.





Healthy Back Exercises

5. ELBOW PRESS-UP

Lie flat on stomach, forearms along floor, hands under shoulders. Without arching your neck back, slowly lift your shoulders off the floor (use your arms to push-up not your back muscles), so that the back is arched but hips still touch the floor. Hold this position while resting on your elbows for 5 seconds. Slowly lower.



6. ABDOMINAL CRUNCH

Lie on back, knees bent, arms crossed on chest. Start with pelvic tilt: tighten your abdominal muscles, lift your buttocks slightly off the floor and flatten your low back against the floor. Tuck in your chin and slowly lift your head and shoulders off the floor. Hold this position for 5 seconds.



7. HAMSTRING STRETCH

Lie on your back with your knees bent and feet flat. Straighten the exercise knee, bringing the leg toward your trunk. Use hands to gently give an extra stretch. Bend your toes toward face to stretch calf. Repeat with the opposite leg. Hold for 10 seconds. Note: Keep your knee as straight as you can.



