

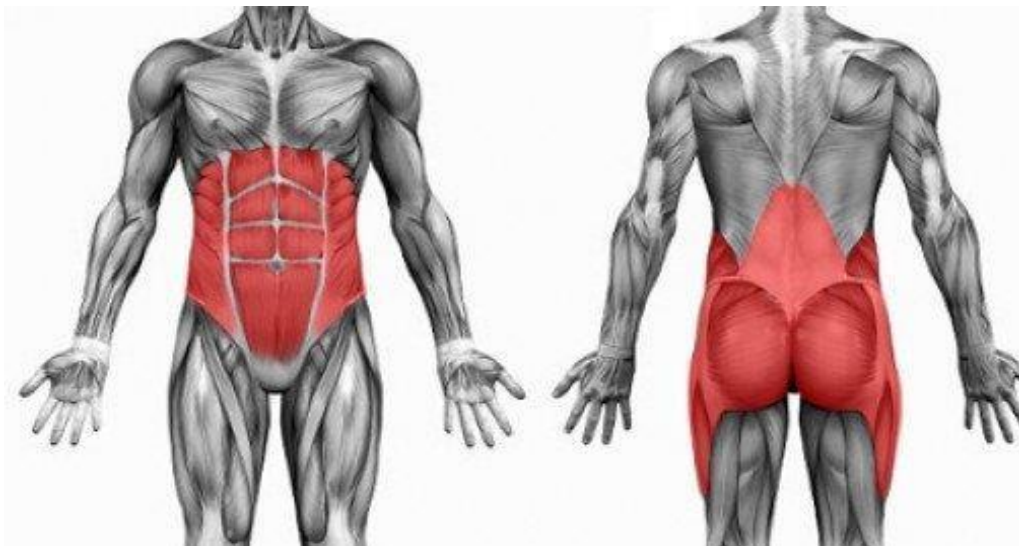


## Exercises for Low Back Pain

One of the most common causes of sudden low back pain is **back strain** (“pulled muscle”). When you lift heavy objects, twist the wrong way, or make sudden movements, tiny, microscopic tears can develop in your muscles and ligaments, causing the pain and stiffness that can affect your daily functioning.

Why are some people more prone to back strain than others? It is because your spine is supported largely by your **core muscles**—*the muscles that make up your back, abdomen, pelvis, and buttocks*. Whenever any of these supporting muscles become weakened or stiff, not only are they more prone to injury, but the increased burden on the spine itself can lead to instability and future problems.

### Core Muscles



### The Many Benefits of Back Exercises

Similar to how reinforced steel can bear more weight than an aluminum pole, a strong, well-conditioned back can withstand considerably more stress than one that has not been strengthened through exercise. When regularly performed, these simple maneuvers decrease stiffness and reinforce the supporting muscles, protecting your spine and making you less susceptible to daily stresses and future injury.

#### **Some Practical Tips When Planning an Exercise Regimen:**

- Always check with your health care provider before starting any exercise regimen for the first time, *especially if you are currently experiencing back pain or recently had a back injury*.
- **Start slow and be patient;** depending on your physical condition, it may take several weeks before you ‘feel’ a difference. Nevertheless, be assured that each day is making a difference in your health.
- Try to incorporate the exercises into your daily routine, gradually working up to 4 times a week.
- Consider working with a physical therapist or a trained specialist to develop the proper form and to focus on exercises that are targeted to your specific needs.

## Back Stretches

### STANDING HAMSTRING STRETCH

The hamstrings run through the back of your thighs. Tightness in this muscle limits motion in the pelvis which then increases stress across the lower back, affecting your posture and leading to pain. This maneuver gradually lengthens the hamstrings to reduce the stress on the lower back.

**Starting position:** Place the heel of one leg on a stool about 15 inches (38 cm) high. Keep your knee straight.

**Action:** Lean forward, **bending at the hips** until you feel a mild stretch in the back of your thigh. **Do not roll your shoulders or bend at the waist.** Hold this position for 15 to 30 seconds. Repeat.



### BACK EXTENSION

**Starting position:** First lie face down on the floor for 5 minutes. If this hurts too much, place a pillow under your stomach for a minute before removing it. When you can lie on your stomach for 5 minutes without a pillow, continue onto the Action step.

**Action:** **Prop yourself up on your elbows** and hold this position for 1 minute before returning to your original position. Keeping your neck straight, **arch your back by pushing down on your hands**, straightening your arms. You should feel a gentle stretch in your abdominal muscles as you arch backwards. **Hold this position for 1 second initially** before lowering yourself. Repeat this 10 times, **gradually working up to maintaining the arched position for 10 seconds.** Repeat.



### GLUTEAL STRETCH

**Starting position:** Lie on your back with both knees bent, with the ankle of one leg resting over the knee of your other leg.

**Action:** **Grasp the thigh of the bottom leg and pull it in toward your chest.** You should feel a stretch in your top leg deep into your buttocks, hips, as well as lower back area; you may also feel it along the side or back of your thigh. Hold this position for 20 seconds. Switch to the other leg.





## Back Strengthening Exercises

### CAT CURL

**Starting position:** Get down on your hands and knees. Your palms should be under your shoulders, your knees directly under your hips, and your back and neck in a neutral, straight position.

**Action:** As you **inhale**, let your stomach sag, **allowing your back to curve slowly downward**, one vertebra at a time. Hold for 5 seconds before returning to neutral position. Then, as you **exhale**, pull your stomach inwards as you **round your back** (like a frightened cat). You should feel your abdominal muscles tighten. Hold this position for 5 seconds before returning to the neutral position. Repeat.



### PELVIC TILT

**Starting position:** Lie on your back, knees bent with feet flat on the floor. Keep your feet straight and hip-width apart. Your upper body should be relaxed and your chin gently tucked in. You can place a small, flat cushion under your head if it is more comfortable.

**Action:** As you **exhale**, tighten your abdominal muscles as you gradually **flatten your lower back into the floor**. Hold this position for 5 seconds, then relax. Now **inhale** as you tilt your pelvis the other direction by **arching your lower back**, feeling your back muscles tighten. Hold for 5 seconds before relaxing. Repeat.



### PARTIAL CURL

**Starting position:** Lie on your back with your knees bent and your feet flat on the floor.

**Action:** With your arms stretched forward, slowly **exhale**, and **curl your body forward** as if doing a sit-up, focusing on tightening your abdominal muscles. Stop once your shoulders clear the floor. Hold for 3 seconds. Relax and return to starting position. Repeat.



## QUADRUPED ARM-LEG RAISE “THE BIRD DOG”

The Quadruped Arm-Leg Raise (also called the “Bird Dog”) is an excellent exercise to help stabilize the spinal. Although at first the movements may seem challenging, with practice they become quite manageable. When performed properly, this exercise is effective at reinforcing proper spinal alignment while strengthening your core muscles, which protects it from injury.

**Starting position:** Get down on your hands and knees in a similar position as in the previous exercise. Keep your head in a neutral position.

**Action:** Start by tightening your abdomen to stiffen the spine. Being mindful to keep your abdomen tightened, **raise one arm and the opposite leg** away from you until they are parallel to the floor. Hold this position for 5 seconds. Lower your arm and leg slowly and switch sides. Repeat.



## SIDE PLANK

Because the plank position requires minimal movement while allowing you to contract all layers of your abdominal muscles, this maneuver is one of the most effective ways to strengthen your core muscles, which helps reduce lowback pain and the risk of future injuries.

**Starting position:** Turn onto your right side with your legs extended, your feet and hips resting on the ground, and with your feet stacked on top of each other. Prop up your torso by placing your bottom elbow on the ground directly under your shoulder, aligning your head with your spine.

**Action:** As you **exhale**, tighten your abdomen as you **lift your hips and knees off the floor**, balancing on your forearm and the outside of your foot. Hold for 10 seconds before relaxing. Switch sides and repeat. Over time, try working up to maintaining this position for one minute.

**Note:** You can decrease the difficulty of this maneuver by starting with your knees and hips flexed to 45° angles.

