

Low-Compression Resistance Exercises for Back and Neck Pain Sufferers

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Low-compression resistance exercises can be effective for patients with back and neck pain, particularly those with spinal injuries or [degenerative](#) conditions. These exercises are not designed to exercise every muscle of the body at different angles or make patients more athletic (although that may happen). They are designed to generally increase overall strength, tone and well-being. If done properly, these exercises can help in preventing reinjury. A short list of specific principles follows:

- Create no harm; exercise in positions of minimal stress and according to mechanically safe postures.
- Avoid standing weight training as much as possible.
- Avoid standing extension and flexion exercises.
- If sciatic pain or numbness is present, avoid hamstring stretching.
- Avoid standing or sitting neck extension positions.
- Avoid exercises that involve raising the arms higher than shoulder level (there are exceptions, such as pulldowns).
- Avoid picking up free weights when standing or sitting.
- Avoid hard-floor-impact exercises.

Free-Weight Exercises

These exercises work the major upper-body musculature. They do not work every muscle at every angle, but they will bring circulation and increased tone to all major upper-body muscles groups. It starts with basic motions, pushes and pulls; then proceeds to isolated motions, curls and lateral raises on your back and sides.

1. *Supine dumbbell floor presses, knees up.* Three sets of 15 repetitions. Exercises the triceps, pectorals, [anterior deltoids](#), lateral delts to a lesser degree. Alternate exercise: seated or supine machine presses.
2. *Dumbbell rows, one side at a time, on your knees, resting on a table or bench.* Three sets of 15 repetitions per side. Exercises the posterior deltoids and shoulder muscles, the rhomboids, latissimus dorsi, biceps, subscapularis. Alternative position is standing and supporting body, fixed position, with one hand on a bench or countertop. Alternate exercise: cord abduction or machine rows with chest supported.
3. *Supine biceps curls while on your back, with arms at 45 degrees to 90 degrees angulation, palms up.* Head is supported by pillow. Curl dumbbells to about 90 degrees at the elbows, then bring dumbbells back to the floor position. Repeat. Three sets of 15 repetitions. Exercises the biceps, forearms flexors and wrists. Alternate exercise: biceps machine curls.
4. *Supine dumbbell pullovers while on your back.* Holding the dumbbell with both hands above the

chin, elbows slightly bent, lower the dumbbell to the floor above your head. Then bring dumbbell back to starting position. Repeat for three sets of 15 repetitions. Head should be supported by a pillow.

This is not a primary chest exercise, as generally believed. Primarily, it exercises the posterior deltoids and shoulders; latissimus dorsi muscles; rhomboids; and subscapularis. Alternate exercises: 1) gym pulldowns with body positioned so the cable is at a 20-30 degree angle. Keep the head facing forward; 2) cord pulldowns off the upper door edge, keeping the face forward.

5. *Lateral deltoid and upper trapezius exercise.* Do this exercise one side at a time. While on your left side, head supported, light dumbbell in your right hand (palm down), laterally raise (abduct) your right arm toward the ceiling as far as you can comfortably go. Stop and then lower the dumbbell back to the hip region. Repeat 15-20 times. This completes one set for the right side. Now switch sides, lying on your right side and abducting your left arm 15-20 times. Complete 2-3 sets of 15-20 repetitions on each side.

This exercise allows you to use weight resistance in a non-vertical position, sparing lumbar compression. Its main purpose is to exercise and strengthen the lateral deltoid muscles, which tend to v with age and disease.

Resistance Abdominal Exercises

1. *Supine sit-ups.* With lower legs up over a chair or table, thighs at a 90 degree angle to the floor, arms crossed at chest, chin flexed toward the chest, sit up until you feel resistance and cannot flex further without strain. Return to floor. Perform three sets of 15 to 25 reps or more.

This exercises the abdominal muscles, with emphasis on the upper abdominals. It flattens the low back (lumbar spine) to the floor, decreasing compressive stress. It also decreases lumbar tension and increases the size of the cord and nerve canals. Thus, it can be helpful in patients with disc disease, spinal stenosis, and facet compression and degenerative conditions.

Note: If this exercise, or any other, increases symptoms, it may have to be eliminated or altered. To alter this exercise, just perform less of a sit-up. Common sense should be used. Do not force any exercise if discomfort is experienced.

Alternative exercises: supine sit-ups with knees bent and feet flat; pelvic tilts with thighs at right angle to the floor; pelvic tilts with knees bent and feet flat. The pelvic tilt is an exercise designed to flatten the lumbar spine. In so doing, disc pressure is reduced, spinal canals containing spinal nerves and the spinal cord are enlarged, and the spinal nerves and cord are decompressed. The exercise consists of flattening the low back to the floor, de-rotating the pelvis and contracting the abdominal muscles.

2. *Supine unilateral knee / thigh raises.* While in the supine position, head supported by a pillow, knees up and feet down, raise the left knee upward as far as possible; then return the left foot to the ground. Repeat with the right knee / leg. Do three sets of 15-25 repetitions. This exercise primarily works the hip flexors and lower abdominals. For patients with low back problems, raising both knees simultaneously may increase low back pressure.

Low Back and Neck Exercises

1. *Supine pelvis raises.* A relatively safe low back (lumbar) exercise, lie on your back, head on

pillow, knees up, feet flat on the ground. At this point, raise your pelvis and low back upward toward the ceiling. Raise upward to the point of tension or resistance, stop and then return the pelvis to the floor. Raise the pelvis slowly to a comfortable tension, not rapidly or to any point of discomfort.

This exercise will contract the erector back muscles and the front of the thighs (quadriceps). It also exercises the buttock muscles. The exercise takes you from a flexed position to a neutral position, avoiding overextension of the lumbar spine.

2. *Neck flexion / extension (no external resistance)*. Lying in the supine position with the head supported by a pillow, flex the head forward in an arc-like fashion until a gentle strain is felt. At this point, stop; then lower the head to the pillow. Perform three sets of 15 repetitions. (*Note: In all supine exercising, place a pillow of comfortable thickness under your head to avoid overextension of the neck.*)

While lying prone on your stomach on a bed or bench, with your head hanging down at the edge of the bed or bench, extend your head / neck backward until parallel with your back. Then relax, allowing your head to hang forward. Repeat 15-20 times, 1-3 sets.

Leg / Glute Exercises

For patients with low back problems, vertical compression stress needs to be avoided. This eliminates traditional squats and lunges. However, squats with the back against the wall, without weights, holding various positions is acceptable. Other acceptable exercises include leg presses (seated) and stair climbing.

Gluteal exercises include supine pelvic raises and prone ball hip extensions (*see caution regarding ball exercises below*).

Other Exercises / Considerations

Ball exercises: In general, use caution with ball exercises if suffering from back and/or neck pain. The exceptions are when extension (backward bending) is painful; then you can lie over the ball in the flexed position, facing downward, stomach over the ball. However, discontinue the ball exercises if discomfort is experienced. If the patient is experiencing low back or neck pain, they should not perform any ball exercises with weights.

Rotation exercises: Regarding [cross-crawl](#), treadmill exercises with rotating body and arm motions, caution is the word in relation to low back- and neck-related disorders. Rotation of the lumbar spine with cross-crawl and rotation exercises can be irritating to lumbar disorders with/without pathology, such as disc, facet and arthritis disorders. Back-and-forth arm motions with twisting can irritate the neck and exacerbate existing neck disorders.

Swimming / water exercises: Unfortunately, regular swimming strokes can irritate neck and low back conditions. Regular strokes involve extension motions primarily, which are compression motions. However, therapeutic water exercises can be of benefit and must be evaluated on an individual basis, based on the results of certain exercises. With low back and neck pain, it is best not to use willpower to push through pain. It is best to use finesse and adapt exercises to suit the patient's condition.

Supine decompression / thoracic conditioning: Lie on your back on the floor, with your thighs at right

angle to the floor and your lower legs at right angle to your thighs, resting on a chair / table / bench. Place a pillow under your head to support good posture of your neck. Stay in this position for up to 30 minutes at a time. (Any amount of time is useful. The longer the time, the longer the period of lumbar decompression and the longer the period of thoracic extension, which can increase flexibility in the thoracic spine.)

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