### **Mini-Medical School**



# Rehabilitation Exercise for Low Back Pain 下背痛之復 健運動(英文)

Regular exercise will improve your overall fitness and decrease the likelihood of back problems and injury. Different types of exercise offer different benefits. Please consult your physician before starting an exercise program.

## For spine fitness, the following exercises are highly recommended:

#### Strengthening Exercises

- 1. **Core strengthening** (to construct muscles providing supports for your body) v.s. **resistance or weight training.** Many popular forms of exercise focus on core strengthening, or building muscles that provide support for your body. Pilates, yoga, and martial arts all provide well-rounded core strengthening programs. Simple exercises can be done at home as well. Some specific core strengthening exercises are described below. If any of the following suggested exercises increases your back pain after five repetitions or causes acute pain, you should stop doing it.
- 2. **Transverse Core Strengthening.** This strengthens muscles that cross from your ribs across your waist and helps support you in an upright position. Stand with feet apart of your shoulder width and toes inward. Hold a ball directly in front of you. Keep your abdominal muscles tight and feet flat on the floor; rotate from side to side. Repeat 10 times. Consult your physician to see if you are able to progress to heavier balls which are beneficial for you.
- 3. Sagittal Core Strengthening. You can stretch and strengthen the low back muscles that help you stand and lift. Stand with feet apart of your shoulder width, about 18" in front of a wall with your back attached to it. Tighten your abdominal muscles, and then reach through your legs to touch the wall, keeping your hips and knees bent. Use your hips to push your body back to a standing position,

then extend your arms and reach over your head and leaning slightly backward. Repeat the motion 10 times.

- 4. Abdominal Crunch. Draw abdominal wall inward, exhale as you lift chest area. This can be done with quick short movements, or slow full movements. Repeat 10-15 times until you are exhausted.
- 5. Abdominal Exercise. Lay on your back with both knees bent. Draw abdominal wall in and stays with one leg extended; if your abdominal wall lifts up or your back arches, your leg is too close to the floor. Return to the original posture and switch legs. Repeat these motions 10-15 times; maintain your pace until you are exhausted.
- 6. **Resistance Training.** Resistance training is exercise done against something providing resistance. It can be done with weights (handheld or training machines) and isometric techniques. Common household items like small canned goods can be used to replace hand weights. Ask your doctor or physical therapist to prescribe an exercise program that matches your abilities.
- 7. Neck Press. This is an isometric exercise to strengthen your neck. Press your palm against your forehead, and then use your neck muscles to push against your palm. Hold for ten seconds and repeat six times. Then press your palm against your temple and use your neck muscles to push against your palm, holding for ten seconds and repeating six times on each side. Then cup both hands behind your head and use your neck muscles to press back into your hands. Hold for ten seconds, and repeat six times.
- 8. Side Bridge. On your side with knees bent at 90 degrees, prop up on your elbow, elongate neck away from shoulder, and draw your abdominal wall in. Continue to breathe. Lift hips away from the table keeping your head, shoulders, and hips in a straight line. Hold for 10 seconds working towards 30 seconds. Repeat 1-5 times until you are exhausted.
- 9. Prone Bridge/Plank. Prop up onto elbows and knees. Keep shoulders, hips, and knees in a straight line. Hold 10 seconds, working towards 30 seconds. Repeat 5 times.

#### **Exercises Constructing Flexibility**

- 1. Stretching Neck. Nod your head slowly forward, bringing your chin toward your chest. Repeat the move five times. Turn your head from side to side very slowly until you can align your chin with your shoulder. Repeat the move another five times. Tilt your head slowly from side to side, bringing your ear over your shoulder.
- 2. Rolling Shoulders. Roll your shoulders forward, then backward in a circle. Do this for 10-15 seconds. Then begin with little circles and progress to large circles. Do this several times during the day to

relieve tension. Rolling your shoulder is good if you spend a lot of time at a computer.

- 3. **Stretching Frontal Core.** Stand with feet apart of your hip width and tighten your abdominal muscles. Shift your hips to the right while reaching overhead with your right arm. Repeat the motion 10 times before shifting your hips to the left while reaching overhead with your left arm. Repeat the motion 10 times and alternating sides. These motions help to stretch your sides.
- 4. **Bending Backward.** With a stand-up posture, place your hands on top of your buttocks, just right below your waist; have your feet apart of your shoulder width and toes turned slightly outward. Bend your head, then shoulders, and back backward gradually; keep your hips gliding forward to balance the posture. Slowly return to the standing posture; repeat the motion 10 times to relieve your long sitting at a desk built-up tension.
- 5. **Pressing Up.** Lie on your stomach and place your hands on the ground pressing against the ground; push up with your elbows straighten if possible, and then have your back arched gently with your hips and legs remaining on the ground. Don' t use your back muscles; have your arms support you, so you feel the stretch of your chest and stomach. Hold for a second and then slowly lower yourself. Repeat the motion 10 times.
- 6. **Stretching Inner Thigh.** Have your body facing forward. Lean your head toward the leg to feel a stretch in the inner thigh area.
- 7. **Stretching Hamstring.** Stretching the hamstring can be done sitting or standing. Keep your leg straight as you lean forward with your chest.
- 8. Standing Thread the Needle. Stand with one leg and one hand pressing against the wall, abdominals tight, back straight. Place most of your weight on the arm pressing against the wall. Reach under your arm pit area (directing at 3:00 o' clock) and reach out and up (directing at 10:00 o' clock). Have your weight-bearing shoulder blade down. Hold for 5 seconds and repeat 10-15 times; then switch sides.
- 9. Stretching Chest. Standing in a doorway, place your hands on the door frame at shoulder height. Also keep your elbows at shoulder height; step through the door to feel stretch in the chest area. Moving the hands higher or lower will allow you to stretch more areas of the chest. Do this for 10-15 seconds. Repeat 2-3 times daily.
- Wall Wash. Stand facing wall with cloth in hand. Squat down to 4:00
  o' clock and back up to 10:00 o' clock direction based on your
  range of motion ability. Repeat 10-15 times, hold each stop 1-2
  seconds.

Aerobic Exercise

Aerobic exercise raises your heart rate with continuous, rhythmic movement and, done regularly, will increase your stamina and strengthen your heart and lungs. It should be done 3-5 times per week for at least 20 minutes. Walking is a good start, and cycling and jogging and swimming are good options, too. Swimming is also an excellent choice as part of an exercise program; water provides resistance, and it also has cardiovascular benefits and is less damaging to joints compared to aerobic exercises.

It is not complicate to start a work-out program! It is advised that you consult your doctor before your start; simple routines like walking around the block or taking a longer walk around local shopping malls are easier to retain while difficult routines procure high dropout rate. Remember the goal is to increase your current physical strength.

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