

High-Risk Exercises

Certain exercises are too risky and should not be performed at all. Exercises must be performed in certain ways and if performed incorrectly can cause injury. Almost any exercise can be potentially dangerous if performed with poor alignment and improper technique.

Research has shown that many exercises are contraindicated and may do more harm than good. All of the exercises listed below cause degenerative effects over time. Depending on the student's physical condition, some students may be injured immediately. The most vulnerable areas, are the neck, the knees, and the back. Here is a list of specific exercises that can be dangerous and should be avoided.

Activities to Avoid

There are some general principles which can help to determine the safety and effectiveness of an exercise. Avoid the following general practices to ensure safe exercises.

Do NOT:

Perform Fast Exercises - Abrupt contractions cause tightening of muscles and do not strengthen the muscle correctly or help the muscle gain the ability to act in a slow sustained manner.

Bounce - All movements should be performed slowly. If you use quick, jerking motions to stretch, you can tear muscles, tendons, or ligaments.

Swing - Swinging motions use momentum not muscle, similar to a bounce. This can tear muscle fiber.

Lock or Hyperextend - Locking the knees or elbows, will over stress these joints.

Arch the Low Back or Neck - Hyperextension of the back or neck can damage the spine.

Overbend a Joint - The range of safe motion for the knee and elbow is limited.

Injures the Neck

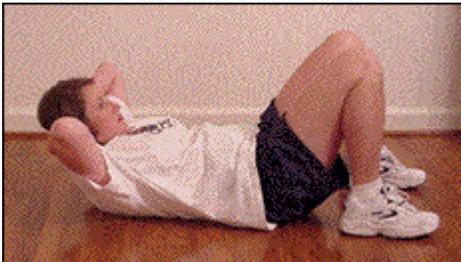
Full Neck Circles -

Rolling the head back arches the neck, and causes hyperextension and compression of the cervical spine which can result in nerve damage.



Curl-Ups -

Done with hands behind the neck pulls on and strains neck muscles.



Plough -

Lying on the back, lifting the legs up over the head and then lowering them behind the head causes undue weight on the spine and cervical vertebrae. The inverted bicycling and shoulder stand are also dangerous.



Damages the Knees

Deep Lunges -

In a "running position" where the knee goes past the ankle, Knee ligaments and cartilage are very vulnerable.



Deep Knee Bends -

A deep knee bend, where hips are dropped below knee level, will place strain on the ligaments and cartilage in the knee. This can cause chronic degenerative problems in the knee. (This move may be camouflaged in your class as a duck walk, frog stance, or a Grand Plie').



Hurdler's Stretch -

Sitting with one leg straight forward and the other tucked behind the buttocks will also strain the knee joint.



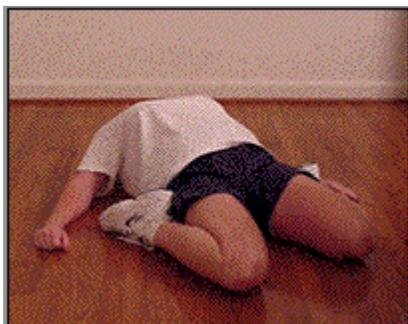
Kneeling -

While sitting on the ankles - puts pressure on the knee joints. This may be in the form of a kneeling to standing jump challenge. Students often sit in this position.



Quadricep Stretch -

Lying on the back with both feet on each side of the buttocks causes great strain on the knees.



Injures the Back

Double Leg Raises -

Lying on the stomach, lifting both legs off the floor will place strain on the lower back muscles.

Simultaneous Arm and Leg Lifts -

Lying on the stomach lifting all four limbs or holding ankles with hands will hyperextend the lower back and place stress on the spine.



Cobra -

Lying flat on the floor and lifting the upper torso off the floor. This hyperextends the lumbar spine placing stress on the discs.



Donkey Kicks -

Kneeling on all fours and using a swinging motion with one leg causes back hyperextension and compresses discs in the lower back.



Straight Leg Sit-Ups -

Lying down and bringing the upper body toward the knees with legs straight strains lower back muscles and hyperextends the iliopsoas. This exercise emphasizes the use of hip flexors, not abdominals.



Double Leg Lifts or Lowers -

While lying on the back both legs are lifted a few inches off the ground. This arches the back and causes strain in lower back ligaments and muscles.



"L" Position -

Lying on the side with legs outstretched in a 90 degree angle from the torso. This strains the spine and the gluteus medius.



Back Bends or Bridges -

Hands and feet are placed on the floor and the stomach is pushed toward the ceiling in an arched position. This hyperextends the vertebrae causing damage over a period of time to the spine.



Hamstring Stretches -

Standing and bending forward with no hand support causes extreme unsupported lumbar flexion.



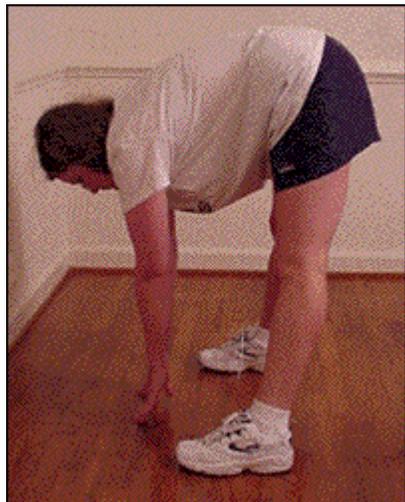
Waist Circles -

Making large circles with the upper body will strain the lumbar vertebrae in the lower back.



Cherry Pickers -

Standing in a straddle and bending forward at the waist, unsupported. Hands touch the floor in front of feet, between feet, and behind feet in a bouncing motion.



Standing Toe-Touches -

Standing up and using forward flexion of the spine, done with knees in a locked position while using a bouncing action will place a great deal of stress on the lower back.



Windmills -

Forward flexion of the spine, with bending or twisting, elbows or hands reach to knees or toes. This can rupture a disk and cause lower back problems.

**Side Stretch -**

With both arms stretched overhead and leaning to the side. This unsupported lateral flexion can injure the spine.



Spinal Rotation Moves -

Moves in which one arm reaches across the body's midline or involving upper body twisting. These moves should only be performed once the lower back has been sufficiently warmed up and stretched.



To Avoid Injury During Exercise Remember:

Warm-up - A light aerobic warm-up of about 3 minutes should be performed before any activity. Use an aerobic exercise which uses large muscle movement such as running in place, or jumping jacks. This will raise the heart rate gradually, and increase blood flow and oxygen to the muscles. Stretching should not be performed before the light aerobic warm-up. Stretching cold muscles can cause injury.

Stretch - Always remember to stretch the muscles used during the activity. Muscles used during an activity contract and shorten in length. Stretching will lengthen tight muscles and reduce muscle soreness.

Technique - Bend the knees, and keep the head and back in alignment during exercises.

Water - Don't forget it is important to drink water before, during, and after exercise.

Cool-down - It is important to cool-down, after strenuous activity, to lower the heart rate gradually. Stopping exercise abruptly after a vigorous workout may trap a large quantity of blood in the muscles. As a result, an insufficient amount of blood circulates back to the head and brain. This may cause dizziness or faintness. Never allow students to sit or lie down, or to lower the head below chest level just after vigorous exercise. Students should always walk, or maintain any series of movements that allows the muscles and cardiovascular system to reduce their elevated levels of activity gradually.