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The Importance of the Squat

The 'squat' is one of the most popular strengthening exercises performed by both elite athletes and the average joe at the gym. When they squat, athletes and people recovering from injuries flex their hips, knees, and ankles simultaneously, thus activating all the key muscles in the legs, including the hamstrings, glutes, quads, and calf muscles, as well as low-back muscles which stabilize the upper body.

Because squatting can both strengthen and enhance the coordination of all these muscle groups, it is a compound, functional exercise which offers lots of benefits for such a simple movement. Indeed, research has linked squat training with improvements in sprint velocity, vertical jumping height, and horizontal jumping distance, attributes which are important over a wide range of athletic endeavours.

But is it safe? Squat critics have contended that squatting is linked with an increased risk of knee and low-back injury and pain. They argue that other leg-strengthening exercises such as leg extensions, leg presses, and hamstring curls carried out on weight machines are safer and are as effective as squatting at improving leg-muscle strength. Not true.

Improper form during the squat is the main culprit in increased risk of injury to the knees and spine, not the exercise itself. In addition, isolation exercises on machines do not mimic real world activity—i.e., these exercises do not improve performance and function as well the squat. Furthermore, squatting may actually put less strain on internal knee ligaments than leg extension exercises. Spinal injuries can be avoided by working with little or no added weight and maintaining an upright posture of the upper body. Submaximal endurance of middle core muscles and good hip mobility greatly reduce the risk of injury to the spine during the squat.

Performing a squat:

1. Initially, squat only to the point at which the tops of your thighs are parallel with the floor. Over time, as your strength and coordination improve and you remain injury-free, you can increase the depth of your squats.
2. Don't squat when you are fatigued, and try to avoid training to failure when you are squatting. If you are exhausted, you may lose control of the squat.
4. Always descend and ascend in a controlled and coordinated manner; don't jerk or rock back and forth. Avoid twisting movements in the bottom position.
5. Back pain and knee pain are indicators that you are progressing too fast with your squat training. If either type of pain occurs, you should rest until the pain resolves.