

Quadriceps Strengthening for Life

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The quadriceps are a group of muscles located on the front of the thigh that are vital to many of our movements and activities we do every day. When there is weakness of the quadriceps it greatly impairs a person's independence. Consider your daily routine. You wake up, hop out of bed, take a shower, grab breakfast then you are out the door to work, doctors' appointments, meeting friends for lunch or anything else the day may hold.

Quadriceps are likely involved in rolling to your side so you can sit at the edge of the bed. From there quadriceps provide the push to move from sitting to standing. If you are lacking strength in your quadriceps this task could be difficult. Whether it is from bed, a kitchen chair, office chair, the car, or even the toilet this simple movement is not so easy for a person with quadriceps weakness.

Once in standing position, the quadriceps are muscles involved in keeping your knees straight to maintain standing in the shower, at the bathroom sink to get ready in the morning, or to prepare a meal for breakfast. Later in the day you may wait in line at the grocery store or bank. To be able to stand safely and comfortably without your knees buckling it requires good quadriceps strength.

Quadriceps are not only important for being able to stand from a chair and maintain that standing, they are crucial for walking independently. Quadriceps keep your knees from buckling while taking a step. It takes even greater strength to be able to go up and down stairs safely. While you are going up the stairs your quadriceps are working to lift you up, but are also working to slowly and safely lower you down the stairs.

Quadriceps weakness can lead to decreased balance and making a person at risk for falls. In order to prevent falls it might be necessary to use a cane, walker, or in cases of severe weakness and impaired balance, a wheelchair might be necessary to decrease risk for injury.

Many of us take for granted these movements and activities that require quadriceps strength to perform safely. Now that we have established why it is important to have strong quadriceps the next question is what can be done? How can I strengthen my quadriceps? Quadriceps can be strengthened in a number of ways. Walking, resistance training, or yoga are a few of the more common ways of strengthening.

Prior to beginning an exercise regimen it is important to consult your doctor. Safety is paramount when beginning an exercise routine. One of the simplest exercises with the greatest impact is completing repeated sit to stands from a chair or doing squats. Lean forward with nose over toes, keeping head up. Press

down into the floor through the heels. Extend hips and knees into full standing. Start with use of arms if necessary and progress to sit to stand without use of the arms.

If the repeated sit to stands are too challenging to start, a good exercise to prepare for more difficult exercises is seated knee kicks or long arc quads (LAQ). From a seated position in a chair, kick the foot up extending the knee in a slow and controlled motion. Then slowly lower foot back to the floor. Moving slowly removes momentum which will help create greater strength and muscular control.

One of the more challenging exercises to prepare for sit to stands can be completed while lying in bed, the straight leg raise. Start by lying in bed with one knee flexed and the other leg out straight. Try to keep the leg straight while lifting to the level of the opposite leg that is bent.

By making small changes to your day and adding a few exercises to maintain or increase your strength it can have a profound impact on your mobility and independence.