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THE SINGLE LEG SQUAT

Without doubt this is the most simple and effective home strengthening exercise for knees. This exercise is functional, loads the knee without undue stress, and is able to be progressed quite easily. As with all strengthening exercises progression is important. That means increasing the load or resistance.

Usually a good starting regime is 3 x 15 (with 1 minute rest) once or twice per day. This builds strength endurance but is a good place to start. General rules are

- If pain during is more than 5/10 then modify or stop the exercise, get in contact with your therapist to discuss options
- If pain is worse after (meaning the next morning) then it's too much, and modify or review with your therapist
- Once you can achieve 3 x 15 with good control and minimal discomfort then increase the load (see progressions below)
 - Do not go any deeper than you feel comfortable with
 - Move to a 1 second hold at the bottom and a 2 second up and down rhythm
 - Knee cap should be aligned with the second toe and hips/pelvis straight
 - Suggested progressions in load
 - a. Start with flat surface and use both legs
 - b. Progress to single leg
 - c. Progress to decline board (15-20 degree incline suggested)
 - d. Add weight by holding a weight or using a pack with weights in it
 - e. Increase the weight
 - f. Take 4 seconds to go down and hold for 4 more seconds at the bottom of the squat
 - g. Under supervision start to use quicker movements (power).



KNEE EXTENSION

Unlike the squat this is not as functional but does localize the load to the quadriceps. Most the same principles as described in the squat apply. Except progressions in weight can come from using an ankle weight or band over the ankle.

Home exercises are easy and effective to a point. For athletes or those who require rehabilitation to a higher or more challenging level then progression from the home exercise regime to the gym based rehabilitation model may be required. This again needs initial supervision by a therapist but once you understand the basics it can become non-supervised.

Summary

Most of us have at some time knee pain; this depends on the loads we generate during our day as well as the structure or damage to the knee. In almost all cases simple exercises can make very definite improvements in reducing knee pain and improving knee function. The response rate varies from uncomplicated to highly complex knees problems requiring specific exercises or surgery. The good news is you really do not have to put up with it.

SIMPLE KNEE TESTS

Two really simple tests are:

3 hops

From a single leg stance, hop as far as you can three times, with minimal contact time on the ground. The distance is the measure, and left should equal right. If not you have an impairment that should be addressed.

Thigh girth

Measure from the top of your patella up with tape measure to 15cm. Then from this mark measure your thigh girth with the tape measure. The difference is the amount of wasting in the muscle of the injured leg.

