

## **OSTEOARTHRITIS**

Osteoarthritis (OA) is a disease of the joint cartilage associated with the secondary changes in the underlying bone which may cause pain and compromise the function of the affected joint. OA is the result of aging and general wear and tear. Exercise is important in order to maintain a full range of movement at the knee, improve strength and preserve joint function. Be careful not to over-exercise as this may cause increased pain. Controlled rehabilitation exercises have been proven to increase leg muscle strength and decrease disability without increasing pain in patients with OA of the knee.

### **Your Rehabilitation Programme.**

This exercise programme has specific exercises to help maintain your range of joint movement, and strengthen the muscles around your knee. The following leaflet includes some exercises to help in your rehabilitation.

### **General Guidelines**

During acute attacks, rest will help by decreasing inflammation but you're likely also to experience increased stiffness and reduced muscle power. When attempting the following exercises there should be no pain but it is relevant to work the muscles as hard as feasible. If the exercises cause pain and swelling then you should allow a period of time, perhaps two days, for the irritation to settle.

## **Early Rehabilitation Exercises**

1. **Quadriceps stretch** – Lie on the floor (or bed if the floor is difficult) with your knee straight, slowly bend the affected knee as far as possible (moving your ankle as close to your bottom as possible). When you feel a stretch in the thigh muscle hold the position for 10 seconds then return to a straightened position and hold again for 10 seconds. Repeat 10 times.
2. **Quadriceps tense** – Remain lying on your back with your legs straight and place a rolled up towel under the knees. Tighten the front thigh muscle (quadriceps) by pushing the knee into the towel. Hold for 10 seconds and then release for 20 seconds. Repeat this process 10 times.
3. **Hamstring stretch** – (tight hamstrings are a common finding in OA) – Stand upright and place the foot of your affected leg on a stool or chair. Try not to push down on your knee with your hands but slowly lean forward until you feel a stretch at the back of the thigh. Hold the stretch for 20 seconds. Repeat 5 times.
4. **Inside thigh muscles and gluteal muscles tense** – Sit on a chair, place a towel or ball between the thighs, tighten buttocks and squeeze thigh muscles together. Hold for 10 seconds. Repeat 5 times.

## **Later Rehabilitation Exercises**

1. **Straight leg raise** – Lie on your back, lean on forearms with the knee of the affected leg straight and foot pulled up (bend the knee of the unaffected leg for balance). Lift the straight leg about 4-6 inches off the ground and hold for 10 seconds. Repeat 10 times.
2. **Quadriceps strengthening** – Sit on a chair with your arms folded, slowly stand up without using your arms. When upright, return slowly to the sitting position again without using your arms. Repeat 10 times.
3. **Quadriceps strengthening – step down** – Place the affected leg on a shallow step about 3 inches high. Step down with the good leg (slowly), taking 3-4 seconds to complete the step. Repeat 7 times. You can hold on to a banister for support.
4. **Quadriceps strengthening – mini squats** – Using a chair, squat down bending both knees but keeping the back straight. The squat should be to approximately 45 degrees. Repeat 10 times.

### **Additional Exercises:**

Swimming and cycling may be appropriate for certain individuals as mobility, strength and aerobic capacity can be increased without too much stress to the joint.