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Patella Dislocation

Home Based Rehabilitation Programme

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Home Rehabilitation Programme for Patella Dislocation

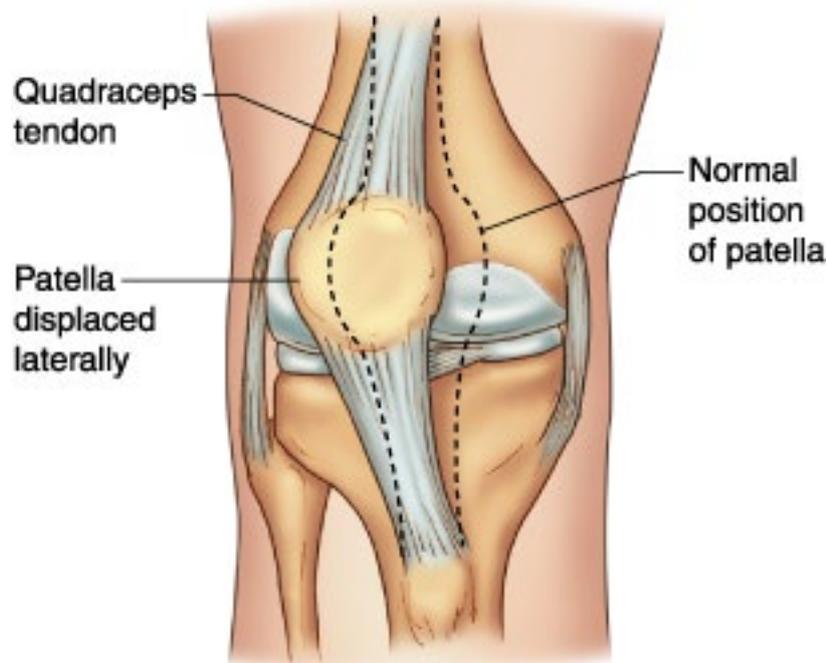
Following are the key principles to apply when gradually rehabilitating your Patella Dislocation Injury.

- Control pain and swelling.
- Gradually restore full range of motion.
- Improve muscle strength and joint stability.
- Improve your balance and co-ordination.
- And improve your general cardiovascular fitness.

Introduction

This information leaflet follows up your recent telephone conversation with the Physiotherapy team explaining the ongoing management of your injury. The purpose of this leaflet is to provide you with the necessary information regarding your condition. It also advises you on a series of exercises that you may wish to undertake while you go through the various stages of recovery. If you have any worries or concerns please feel to contact 01592 647199.

What is Patella Dislocation?



A dislocated kneecap is a common injury. The kneecap (patella) sits at the front of the knee and runs over a groove in the joint when you bend and straighten your knee. When the kneecap dislocates, it comes out of this groove. This most commonly happens towards the outside of the knee (as shown in the picture). This can injure the muscles and ligaments on the inside of the knee.

Often the kneecap will pop back into place by itself. Sometimes if it hasn't popped back by itself it is necessary to put it back into place at the hospital. This is known as a reduction. It may be necessary to have an x-ray at this point to make sure the kneecap is in the correct position. Other tests may be required to decide if any other structures such as ligaments have been injured or if you have dislocated your kneecap in the past.

What are the symptoms of Patella Dislocation?

These vary from person to person. The kneecap often looks to be out of position or at an unusual angle. Often the kneecap will pop back into place

quickly afterwards. You may have felt a popping feeling or been unable to straighten your leg after your injury. You may have been unable to walk after your injury. Often the knee is painful and swollen.

What are the causes?

This can happen due to a direct blow. It can also be due to a sudden change of direction whilst the foot is planted on the floor. It can also be due to variety of other factors such as muscle imbalance, a small or high riding patella, a shallow groove for it to track in and/or hereditary general joint laxity (hypermobility).

How is it treated?

If this is first time knee cap has been dislocated, often you will be placed in a brace for a short period of time while your knee settles down. There will be guidance for how long this needs to be worn; it may be for 1 to 2 weeks. You may be referred to physiotherapy to help you regain the range of motion and strength around your knee. It usually takes between 6 to 12 weeks to return to your previous activities after a dislocation of your kneecap. Often no surgery is needed following this injury. If other structures have been injured or if the kneecap continues to dislocate it may be necessary to consider surgery, but this is not common.

How can I help manage my condition?

- Relative Rest: In the first couple of weeks after injury, reduce the amount you move around to allow the pain and swelling to settle.
- Elevate the injured leg when resting to help reduce swelling.
- Using painkillers to provide short term relief. Discuss these with your General Practitioner (GP), pharmacist or healthcare professional.
- Cold packs: A cold pack (ice pack or frozen peas wrapped in a damp towel) can provide short term pain relief. Apply this to the sore area for up to 15 minutes, every few hours. The ice must never be in direct contact with the skin. Apply an ice pack for 5 to 10 minutes two to three times a day. Make sure you place a damp towel between the ice and your skin to prevent an ice burn. Further information can be found on the NHS Inform website.
- Early weight bearing (putting weight through your injured leg whilst wearing the splint) helps increase the speed of healing.
- Early movement of the ankle and foot is important for circulation. These exercises will help with the healing process.
- Avoiding or decreasing the activities, which cause your pain.
- Strengthening the muscles which help in assisting the alignment of the patella and improve stability of the lower limb.
- Try to keep active and stay at work even if you have to modify your duties.

How can physiotherapy help?

Your Physiotherapist will provide a targeted rehabilitation program that can assist you as you go through the different stages of recovery. Physiotherapy exercises will help to reduce strain through the knee by stretching tight structures, strengthening weak structures, improving your movement control and improving your load tolerance. Depending on individual circumstances, each person will have a level of activity or load they can tolerate, however after an injury, you may experience a reduction in this ability to tolerate load, which result in over sensitivity in your knee. Physiotherapy exercises will strengthen the muscles assist in regaining your load tolerance which in turn will assist in reducing pain.

Sometimes you may experience an increase in your pain, with or without warning. If you experience flare-ups, you need to reduce your day to day activities and frequency/intensity of physiotherapy exercises to lessen the overall load placed on the knee. Most people recover quickly from flare-ups by pacing, activity modification and by taking appropriate painkillers. It is also vital you provide adequate time for the muscles to recover and do not push through the pain and avoid sudden increase in the intensity of the exercises.

It is very important that you have an active role in the management of your condition and work with your physiotherapist to help improve your condition.

Exercise Prescription:

The intensity, duration and frequency of exercises very much depend on your training goals. The number of repetitions an individual can tolerate might vary according to their general fitness, pain tolerance and fatigue. As a general rule, it is best to start exercises by doing it little and often to build up tissue tolerance. Once you get comfortable, you may want to consider increasing the frequency and resistance of exercises by 10 to 15% each week. It is really important you do not push through pain during exercises. We would advise you not to exceed 5/10 of pain during exercises.

It is important to monitor to your pain response after doing the exercises, some people experience may flare-up. Increases in pain could be due to a sudden increase in the dosage of exercises or by an exercise which may not have been appropriate for the stage of your recovery. Please get in touch with physiotherapy team if you are not able to tolerate any of the exercises given on this leaflet. We will be able to advise a different technique or a different exercise altogether which will achieve the same goal. It is entirely normal for the muscles to feel weak and heavy in the early stages. Such weakness is because muscles fatigue quickly due to pain associated with injury, this is called pain inhibition. Depending on the severity of the injury you may be advised to wear a knee brace or will be issued a walking aid (pair of crutches).

Please contact physiotherapy team or your GP practice if you any experience any of the following symptoms:

1. Inability or acute knee pain whilst weight bearing after 2 to 3 weeks.
2. You are unable to fully straighten the knee and giving way of your knee after 3 weeks.
3. Throbbing pain when walking and weight bearing, calf swelling, skin changes of the calf or entire leg (welling, redness and warmth)
4. Severe/Acute worsening of knee pain and increased temperature.
5. Unremitting night pain and severe sleep disturbance.

Level 1: Early Stage Exercises/Treatment:

Aims:

- Minimise pain and swelling
- Regain full range of movement of the knee
- Increase knee flexion
- Activate quadriceps
- Early hip/gluteal strengthening
- Restoration of normal gait pattern

Level 1 Exercises

Exercise	Diagrams courtesy of from ©PhysioTools	How to do exercise sets and repetitions
1. Heel Slides		<p>Lying on your back.</p> <p>Bend and straighten your leg.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
2. Isometric Quadriceps		<p>Lying on your back. Place a football or a rolled up cushion under the injured knee.</p> <p>Push your injured knee down, pull your foot and toe up, hold it for 5 to 10 seconds and slowly relax.</p> <p>To make it harder, do the same exercise with a small weight around your ankle.</p> <p>Repeat 5 repetitions / 3 times per day.</p>

<p>3. Straight Leg Raise</p>		<p>Lying on your back with one leg straight and the other leg bent.</p> <p>Exercise your straight leg by pulling the toes up, straightening the knee and lifting the leg 20 cm off the bed. Hold approx 5 seconds and slowly relax.</p> <p>To make it harder, turn your foot inwards or outwards as you lift the leg, alternatively add an ankle weight to increase the weight of your leg.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
<p>4. Knee Extension</p>		<p>Sit on a chair.</p> <p>Pull your toes up, tighten your thigh muscle and straighten your knee. Hold approximately 5 to 10 seconds and slowly relax your leg.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
<p>5. Calf and Hamstring Stretch</p>		<p>Sit with one leg straight out in front of you. Put a scarf or a towel around your foot.</p> <p>Gently pull the towel and feel the stretch in your calf.</p> <p>Hold approximately 15 seconds.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
<p>6. Hip Abduction</p>		<p>Lie on your side. Keep the leg on the bed bent and the upper leg straight.</p> <p>Lift the upper leg straight up with ankle flexed and the heel leading the movement.</p> <p>To make it harder, put an ankle weight or lift the leg with foot turned outwards.</p> <p>Repeat 5 repetitions / 3 times per day</p>

Level 2: Mid Stage Exercises/Treatment:

Criteria for Progression to Level 2:

- Minimal or no swelling.
- Full range of movement of knee.
- Able to straight leg raise for 10 to 15 seconds (please note you should be able to keep your knee fully straight).
- Pain levels managed to enable progression.
- Symmetrical walking pattern (with or without a walking aid).

Aims:

- Improve core strength
- Improve general lower limb strength
- Improve neuromuscular control (improve balance)
- Regain full range of knee extension/hyperextension movements

Guidance for return to normal activities of daily living

- You are allowed to exercise on a static bike or a cross trainer for short periods with minimal resistance once you regain full range of movement of knee without pain.
- Most people will be able to return to sedentary/desk based activities usually within 4 to 6 weeks, earlier if working from home.
- Heavy duty work e.g. construction not usually until 6 to 8 weeks.
- Driving can be commenced at 4 to 6 weeks under consultation with your insurance company.

Level 2 Exercises

Exercise	Diagrams courtesy of from ©PhysioTools	How to do exercise sets and repetitions
1. Wall Slides		<p>Stand leaning with your back against a wall and your feet about 20 cm from the wall.</p> <p>Slowly slide down the wall as far as possible with no pain.</p> <p>If no pain progress until your hips and knees are at right angles. Return to starting position. When you achieve a 90 degree bend, you can add in squeezing a foot ball or rolled up pillow between your knees whilst doing this exercise.</p>

		Repeat 5 repetitions / 3 times per day.
2. Front and Side Step-Ups		<p>Stand in front of a 20 to 40 cm step.</p> <p>Step up 5 to 10 times with one leg leading and then repeat with the other leg leading. To make it harder, raise your arms above shoulder height by holding a pair of dumbbells.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
3. Pelvic Bridging		<p>Lying on your back with knees bent and feet on the floor. Lift your pelvis and lower back off the floor. Hold the bridge position for 5 to 10 seconds. Lower down slowly returning to starting position.</p> <p>Repeat 5 repetitions / 3 times per day.</p> <p>To make it harder, when in the bridged position, take one leg off the floor without letting your pelvis move.</p>
4. Heel raises in Standing		<p>Stand holding onto a support. Push up on your toes.</p> <p>Repeat 5 repetitions / 3 times per day.</p> <p>If you are able to tolerate this without pain, do heel raises by standing on one leg by keeping your injured knee straight.</p>

<p>5. Wobble Board Exercises</p>		<p>Stand on a wobble board. Practise balancing for 30 seconds at a time. Do not let the sides of the board touch the floor.</p> <p>To make it more challenging, have a partner throw a ball at you.</p>
<p>6. Single Leg Balance</p>		<p>Stand on your injured leg for one minute, without putting your foot down for 30 seconds. (Note: Start this exercise by standing near to a corner of a wall so that there is support if you lose balance).</p> <p>If you are able to do this for 1 minute. Try to do the exercises with your eyes shut. To make it harder, try this by standing on an uneven surface (such as a pillow or a soft cushion).</p>

Level 3 End Stage Exercises/Treatment:

Criteria for Progression to Level 3:

- No pain or swelling
- Able to walk independently
- Full range knee extension/hyperextension
- No signs of apprehension
- Good patella tracking
- No clicking or clunking of knee

Aims:

- Regain dynamic stability
- Improve balance
- Return to running short distances

Level 3 Exercises

Exercise	Diagrams courtesy of from ©PhysioTools	How to do exercise sets and repetitions
<p>1. Forward Lunges</p>		<p>Forward Lunges. Stand tall with feet hip-width apart. Take one long step forward and squat down so that your rear knee touches the floor and hip is fully straightened.</p> <p>Shin of the front leg and trunk is upright. Stand back up pushing through your heel, bringing your front foot back to the starting position.</p> <p>Note: Keep hips, knees and toes aligned in both legs.</p> <p>Do this with minimal discomfort; you should feel your thigh muscle working.</p> <p>Repeat 5 repetitions / 3 times per day.</p> <p>To make it harder, raise your arms above shoulder height by holding a pair of dumbbells.</p>
<p>2. Chair Squat</p>		<p>Chair Squat. Stand tall in front of a chair. Squat down as if you were sitting down (push pelvis back). Briefly touch the chair with your bottom and stand back up. Note: Keep hips, knees and toes aligned.</p> <p>Repeat 5 repetitions / 3 times per day.</p>

<p>3. Star Excursion Balance Training</p>		<p>Stand straight.</p> <p>Lift your uninjured leg and point the foot to the side. Do not let your knees turn in or out during the exercise.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
<p>4. Lunge Twist</p>		<p>Stand holding a ball in your hands.</p> <p>Take a step forward and bend your knees. At the same time turn your upper body towards the leg in front. Do not let your knees turn in or out during the exercise. Stay in this position for a moment and then return to the starting position.</p> <p>Repeat 5 repetitions / 3 times per day.</p>
<p>5. Side Step Lunge</p>		<p>Stand on a step board. Bend one leg and move the other leg to the side. Put your weight on your heel. Do not let your knee move further than your toes. Return to the starting position.</p> <p>Repeat 5 repetitions / 3 times per day.</p>

Prognosis

Please note progressions between each level are not time bound. The exercises are determined by how well you are managing your symptoms and whether you have successfully achieved the milestones at each level. You should contact the musculoskeletal physiotherapy service (01592 647199) for further advice, if you are having any problems during rehabilitation.

Further advice

NHS Inform – How to Apply ICE – Advice www.nhsinform.scot/illnesses-and-conditions/muscle-bone-and-joints/guidelines/price-guidelines

NHS Inform - www.nhsinform.scot

Chartered Society of Physiotherapy - www.csp.org.uk/conditions/managing-your-bone-joint-or-muscle-pain