



Clinical Practice Procedures: Trauma/Dislocation reduction – patella

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Date	February, 2021
Purpose	To ensure a consistent procedural approach for dislocation reduction – patella
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
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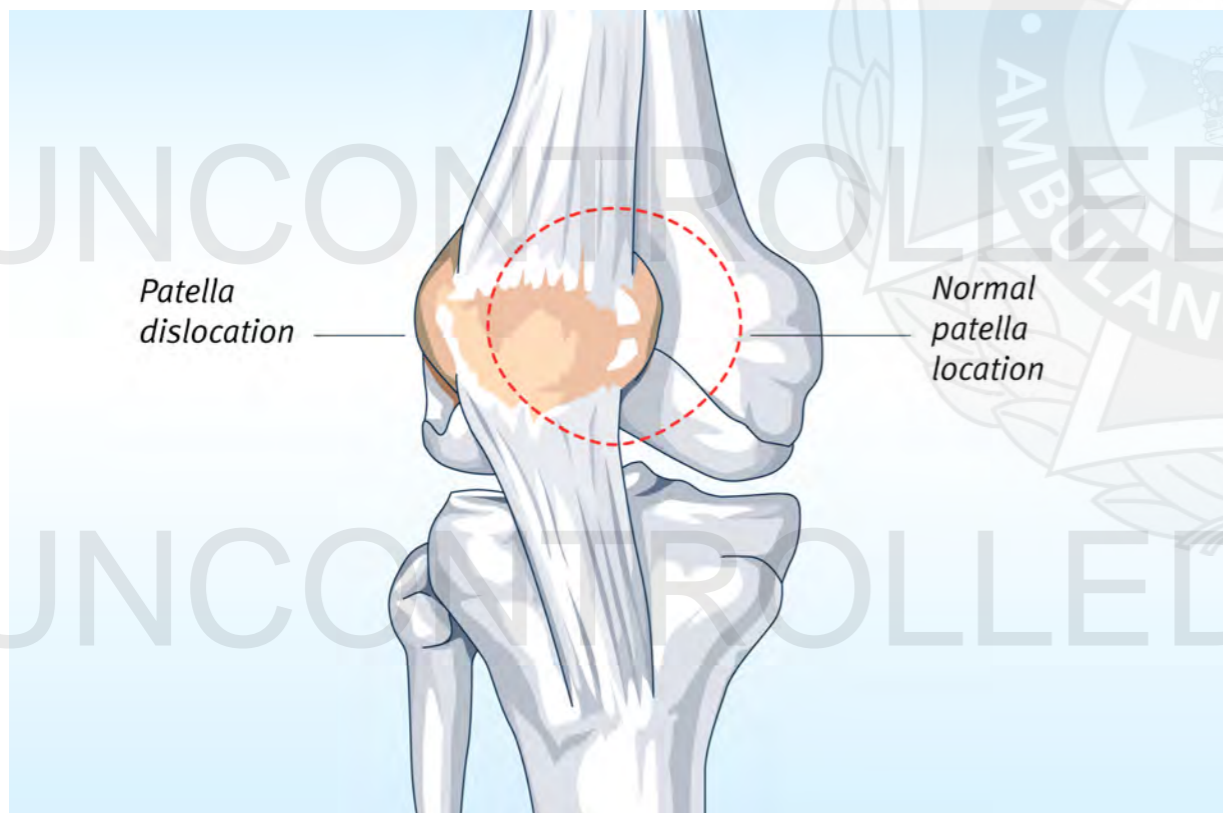
Dislocation reduction – patella

February, 2021

Acute patella dislocation is a common orthopaedic emergency. Overwhelmingly, the most common form is lateral patella dislocation. However, more rarely other presentations may occur, including medial, superior, horizontal and intercondylar dislocations. Patients will often present with a history of recurrent dislocations.

Predisposing factors include adolescence and athletic sports. Anatomical factors include high riding patella (patella alta), lateral femoral condyle hypoplasia, and vastus medialis oblique (VMO) muscle atrophy.^[1]

The typical mechanism of injury is atraumatic and involves quadriceps contraction with concurrent external rotation of the tibia on the femur, as seen when changing direction suddenly while running. However, approximately 10% of acute lateral patella dislocations are due to direct trauma to the medial aspect of the patella.^[2,3,4]



Acute patella dislocation is usually clinically obvious, with lateral patella prominence, medial patella tenderness and the knee held in flexion.

Patients may present with spontaneously reduced patella dislocation. In this instance there will likely be a knee joint effusion and a positive 'apprehension test'. This involves the patient guarding the knee when mild lateral pressure is applied to the medial border of the patella, as they feel the sensation of lateral dislocation about to re-occur.

Indications

- Clinical lateral patella dislocation

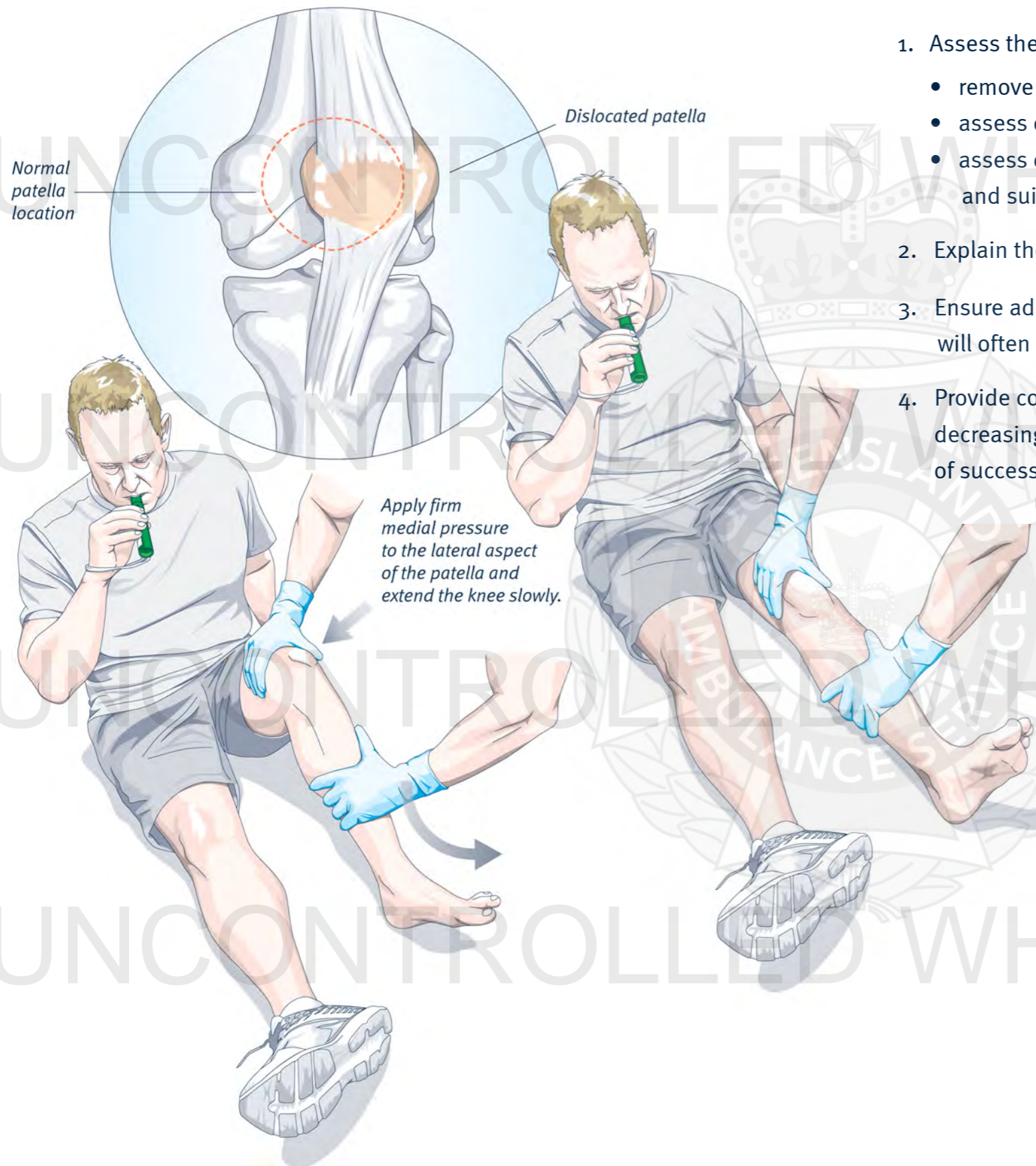
Contraindications

- Patella dislocation other than lateral

Complications

- Iatrogenic injury

Procedure – Dislocation reduction – patella



1. Assess the injury:
 - remove clothing from the limb;
 - assess distal neurovascular status and exclude open injury; and
 - assess direction of patella dislocation, confirming lateral dislocation and suitability for pre-hospital reduction.
2. Explain the procedure to the patient.
3. Ensure adequate analgesia for the patient: methoxyflurane alone will often suffice.
4. Provide constant verbal reassurance to facilitate relaxation; decreasing quadriceps muscle spasm and increasing the likelihood of successful reduction.
5. While applying firm medial pressure to the lateral aspect of the patella, extend the knee slowly. If required, gently lift the lateral patella edge to encourage movement over the lateral femoral condyle.
6. Confirm correct positioning of the patella.
7. Reassess and document neurovascular status of the affected limb post reduction.
8. Place the leg in a supported anatomical position for transport.

Additional information

- It is important to distinguish patella dislocation from the more serious knee dislocation, which is a high mechanism injury involving tibio-femoral dislocation and high incidence of popliteal artery injury.
- It is safe to attempt reduction of a lateral patella dislocation in the field, with no case reports of complications from gentle reduction.^[5] If there is suspicion of patella dislocation in a direction other than lateral, reduction should be deferred until at hospital, as radiographic evaluation will likely be required prior to attempted reduction.
- Osteochondral fractures are associated in approximately half the cases and can occur with either atraumatic or traumatic dislocation.^[5]
- All patients presenting with a dislocated patella (including those with successful reduction) require mandatory transport to an appropriate health facility for assessment.

NUMBER OF ATTEMPTS

- This procedure is limited to one attempt. Cases of irreducible lateral patella dislocation occur with a concurrent osteochondral fracture or with a degree of patella rotation, most commonly in the vertical axis.^[2] In these instances, if closed reduction fails in the emergency department, the patient may go for open reduction in theatre.

