

DIAGNOSIC RECOMMENDATIONS**History**

Ask about:

- ★ time of trauma and circumstances (sports, traffic accident, work);
- ★ type of trauma and additional symptoms (fall, external forces, (rotation) trauma during strain on the leg and a snapping feeling in the knee);
- ★ the ability to bear weight on the knee after the trauma (standing, walking);
- ★ pain (localisation, course after trauma, at rest or during movement);
- ★ swelling (speed of onset after the trauma);
- ★ locking symptoms (locked or not being able to straighten the knee);
- ★ insecure or unstable feeling (knee giving way);
- ★ dislocation of the patella during trauma;
- ★ previous knee problems or knee trauma (course and treatment);
- ★ limitation in daily activities, work and sports.

Physical examination

Inspection, look for:

- ★ weight-bearing capability of the leg (is standing or walking possible on the affected leg?);
- ★ deformation of the leg and position of the patella (shifted to the lateral side?);
- ★ knee swelling.

Palpation and assessment of the knee with the patient lying supine, look for:

- ★ ballottement of the patella;
- ★ pain on palpitation of the medial and lateral collateral ligaments and axial pain;
- ★ limitation of the range of movement in active and passive flexion and extension (in case of a locked knee it will be impossible to extend the knee either actively or passively);
- ★ pain or instability on valgising the slightly bent knee.

Additional investigations

Order an X-ray if in doubt of the diagnosis of fracture and with one or more of the following criteria:

- ★ inability to walk four steps after the trauma and during the consultation;
- ★ isolated tenderness of the patella or head of the fibula;
- ★ inability to actively flex the knee to 90 degrees;
- ★ 55 years of age or older.

Evaluation

If there are no indications of fracture, differentiate between:

- ★ *cruciate ligament injury, meniscal injury or collateral ligament injury*: ballottement, (self-reported) knee swelling or haemarthrosis are associated with these types of injury, in particular in case of > 40 years of age or (rotation) trauma during strain on the leg. Consider:
 - *cruciate ligament injury*: in case of the knee giving way, a snapping feeling during trauma, (self-reported) knee swelling;
 - *meniscal injury*: if the knee is locked;
 - *medial collateral ligament injury*: in case of pain and laxity in the valgus test.
- ★ *Contusion or distortion*:
 - no or slight degree of ballottement or (self-reported) swelling;
 - no or slightly limited passive movement;
 - full weight-bearing capability of the leg.
- ★ *Patellar dislocation*: patella is (or was) displaced in a lateral direction ballottement.

TREATMENT RECOMMENDATIONS

Education

- ★ Give information on the type and course of the condition.
- ★ With a (possible) injury of the *cruciate ligament, meniscal or collateral ligament*, the symptoms will disappear or reduce in most cases over the course of three months.
- ★ If there is much pain advise rest for the first few days and possibly using elbow crutches.
- ★ Advise to bend, extend and put weight on the knee as soon as the pain allows this, and to put increasingly more weight on it as soon as the pain and the swelling decrease.
- ★ Give quadriceps exercises to avoid muscle atrophy (see also the NHG Patient Letter on exercising the front upper leg muscles).
- ★ In the event of *distortion, contusion* or repositioned *patellar dislocation* (without intra-articular injury): advise using the knee as normally as possible to the extent the pain allows.

FOLLOW-UP AND REFERRAL

- ★ In case of a suspected *cruciate ligament, meniscal or collateral ligament injury*, check the patient a number of times at intervals of one to two weeks.
- ★ *Distortion or contusion*: follow-up is usually not necessary, instruct the patient to contact the GP practice if the pain persists or recurs.
- ★ Consider a referral to an orthopaedic surgeon in case of persisting instability, pain, limitation or ballottement due to a possible *meniscal or cruciate ligament injury* and in case of *patellar dislocation*.
- ★ Refer directly if there is: suspicion of a *fracture*, (repositioned) *patellar dislocation* with serious symptoms (inability to weight the leg, possible intra-articular lesion) or locked knee.