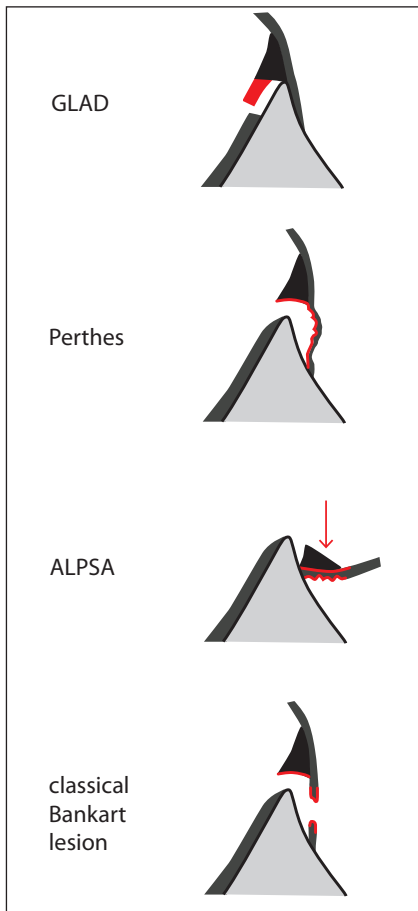


Labral lesions



The term “**Bankart lesion**” is a general description of structural damage to the anterior-inferior labrum with tearing of the anterior capsule as a result of anterior shoulder dislocation. It may include an osseous fragment (Figs. 2.155 to 2.157).

The majority of the Bankart variants are seen anterior-inferiorly. There are many acronyms used to describe the different subtypes, which are distinguished on the basis of their severity, extent and clinical implications:

- **GLAD lesion:** “**G**lenoid-**L**abral **A**rticular **D**isruption” is a partial tearing of the labrum associated with adjacent articular cartilage damage, with no dislocation. The capsule remains intact and stability is maintained (Figs. 2.158, 2.159).
- **Perthes lesion:** avulsion of the labrum and periosteal stripping from the anterior scapular neck (Figs. 2.160 to 2.162). The labrum remains attached to the glenoid through the periosteum and there is no disruption of the resulting pouch-like capsule. On standard MRI planes the detached labrum may be observed in a normal anatomical position. ABER position imaging can help by pulling it away from the glenoid (Fig. 2.163).
- **ALPSA lesion:** “**A**nterior **L**abroligamentous **P**eriosteal **S**leeve **A**vulsion”, in which the torn labrum and periosteum are displaced medially along the scapular neck (Fig. 2.164). The capsule remains intact.

Some authors use the term “extensive anterior labral tear” for a tear reaching from the inferior glenohumeral ligament to the biceps anchor that results in all three anterior glenohumeral ligaments becoming detached (Fig. 2.165). The term corresponds to a type of SLAP lesion.

Paralabral cysts may occur as a sequela of labral lesions (Fig. 2.166). They remain asymptomatic in most cases, but may cause compression neuropathy of adjacent nerves.

Posterior dislocations result in a similar range of posterior-inferior labral injuries, described as **reverse Bankart** tears (Figs. 2.167 to 2.170). A reverse Hill-Sachs defect is also recognized in the anterior-superior humeral head (Fig. 2.167, 2.168). The posterior variation of the ALPSA lesion is called a **POLPSA** lesion (“posterior labrocapsular periosteal sleeve avulsion”, Fig. 2.170). It is rare and occurs in athletes with posterior instability. The labrum is simply sheared off, leaving the capsule unharmed.

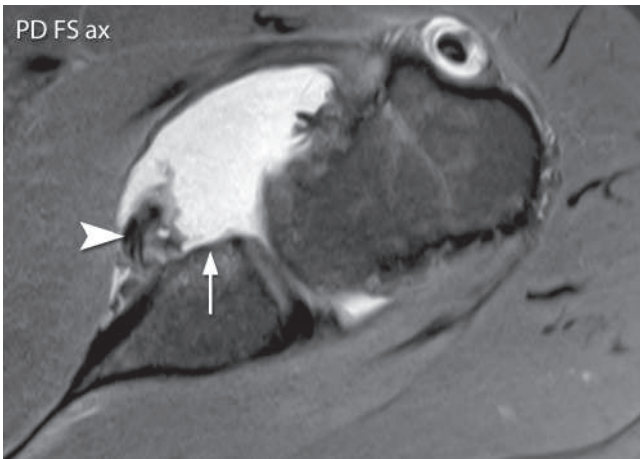


Fig. 2.155 Bankart lesions with a small bony defect at the anterior glenoid rim (arrow) with dislocation medially, towards the scapula neck (arrowhead).

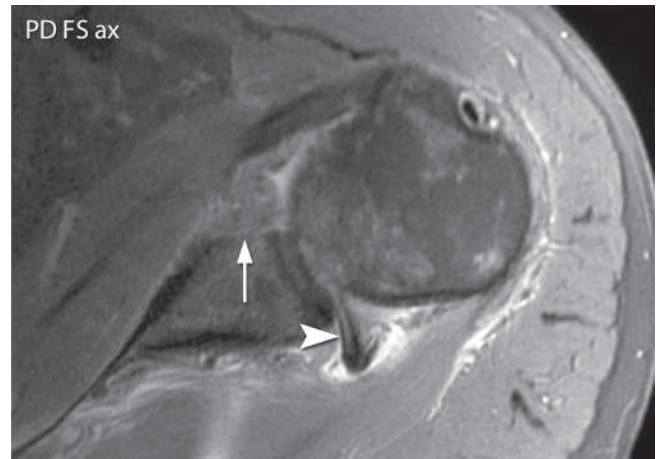


Fig. 2.156 A Bankart lesion with a large bony defect (arrow) with dislocation into the posterior joint space (arrowhead).

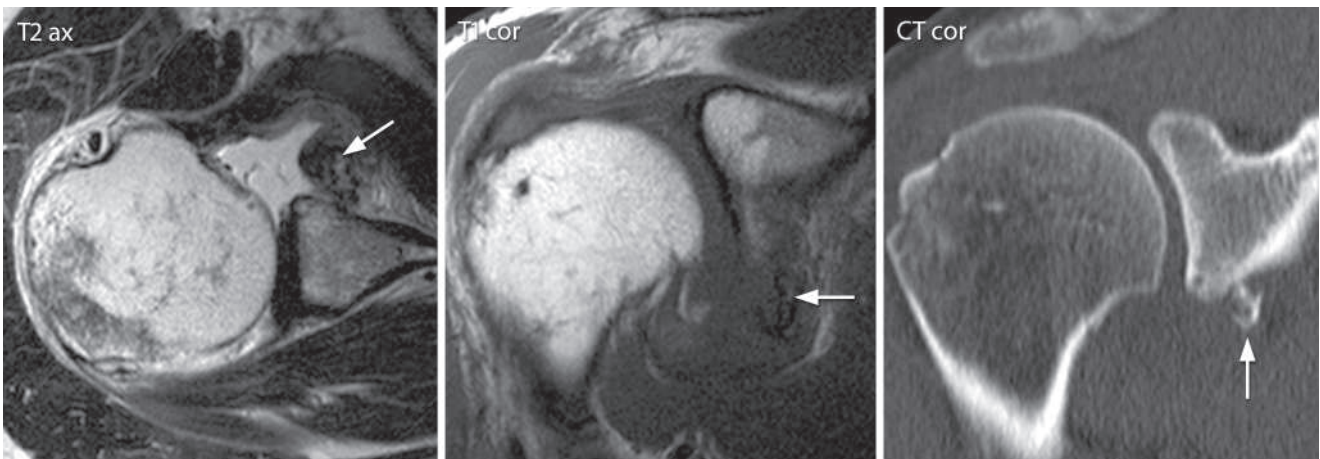


Fig. 2.157 Classic Bankart lesion with torn anteroinferior glenoid rim (arrows). The bony component is best visualized on CT. CT is warranted for maximum sensitivity to any osseous fragments, in selected cases, although the clinical relevance of such fragments is inconsistent.

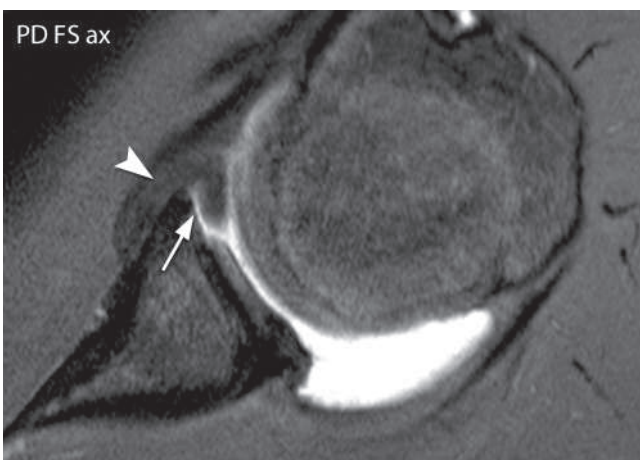
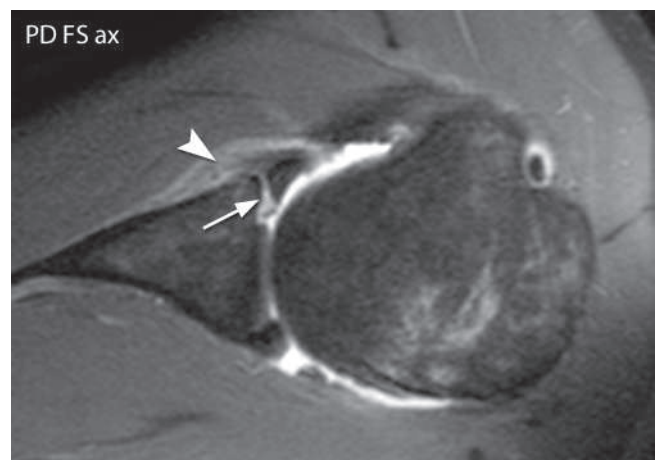


Fig. 2.158 A 16-year-old boy with a GLAD lesion (arrow). Note the intact insertion of the anterior joint capsule (arrowhead).



! **Fig. 2.159** Another case with a torn labrum (arrow) and an associated cartilage defect. However, this is not a typical GLAD lesion, as the periosteum is also torn (arrowhead). The precise description would be a fibrocartilaginous Bankart lesion with periosteal stripping and associated chondral fracture.

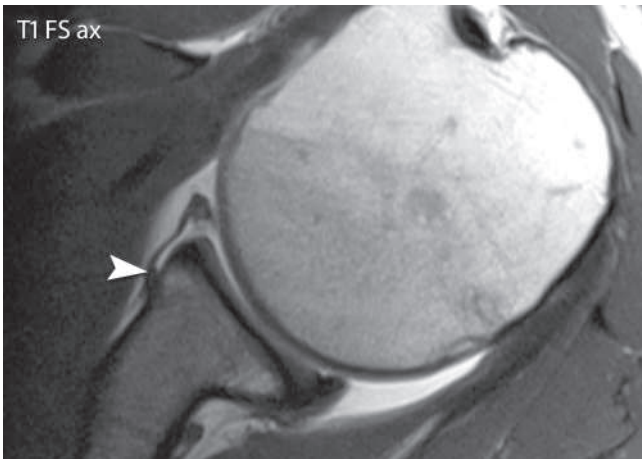


Fig. 2.160 This typical Perthes lesion is characterized by a single tear at the base of the labrum. There is no displacement and most notably no tear of the periosteum (arrowhead), which is why Perthes lesions are so easy to miss without arthrography.

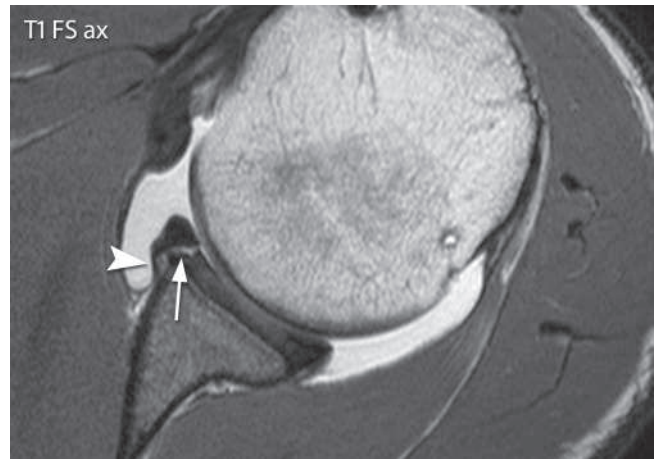


Fig. 2.161 A 28-year-old man with recurrent shoulder dislocations and a Perthes lesion. MR arthrography shows discrete contrast penetration between the labrum and glenoid surface (arrow) without labral dislocation and with intact periosteum (arrowhead).

Fig. 2.162 An initial standard MRI (left) showed only an indistinct irregularity at the anterior labrum (short arrow). MR arthrography three weeks later demonstrated a combination of a Perthes lesion (arrow) with a torn anteroinferior labrum but with intact periosteum and an additional cartilage defect as in GLAD (arrowhead).

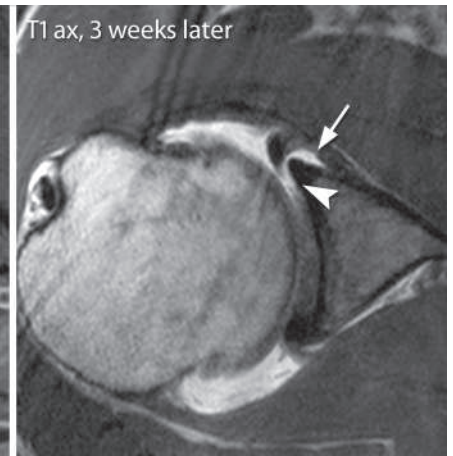
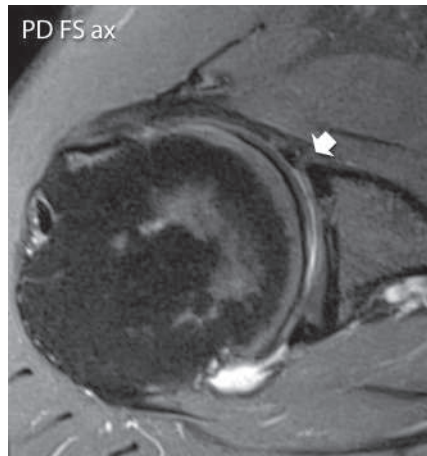


Fig. 2.163 This Perthes lesion is barely visible in standard position, even with MR arthrography. In ABER position, the labrum is pulled away from the glenoid rim and the defect becomes much clearer (arrow).

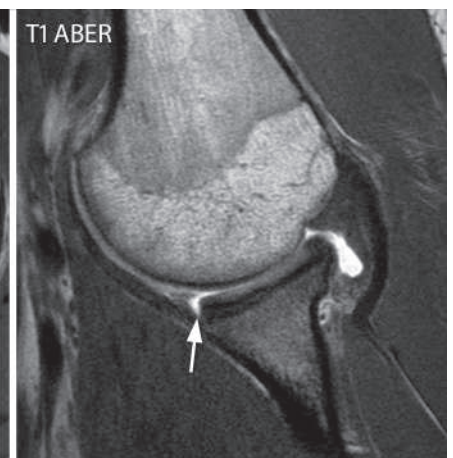
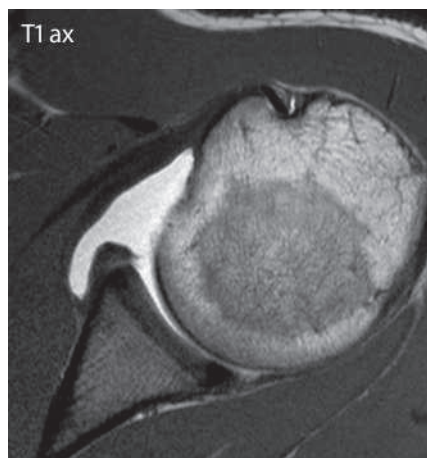




Fig. 2.164 Three examples of ALPSA lesions with different grades of medial dislocation. The periosteum always remains intact; it is only stripped off and pushed medially.

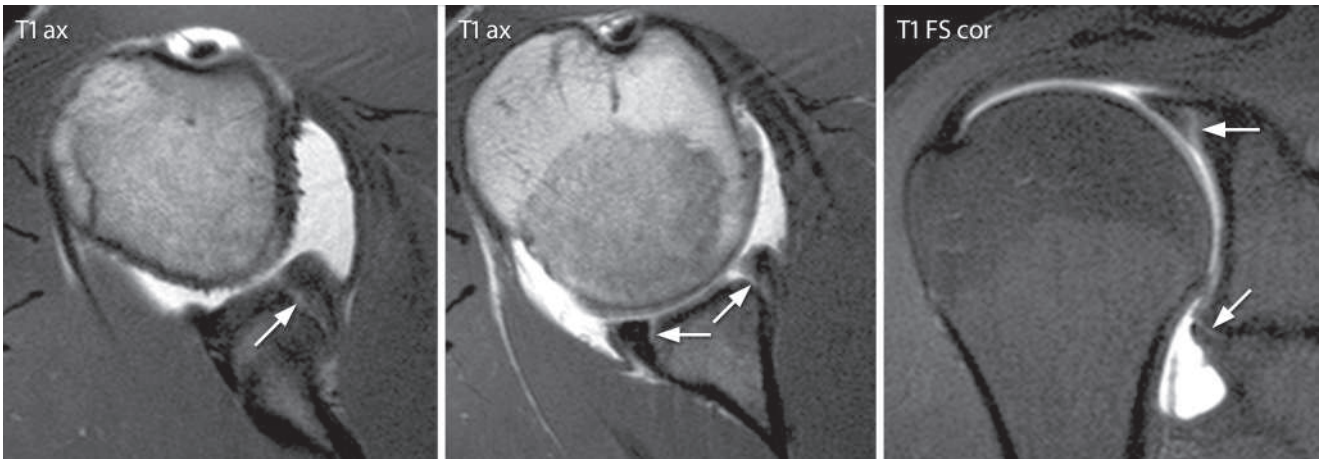


Fig. 2.165 An extensive labral tear after shoulder dislocation. The arrows indicate a tear of almost the entire circumference of the labrum. Anteroinferiorly a bony component is also depicted.

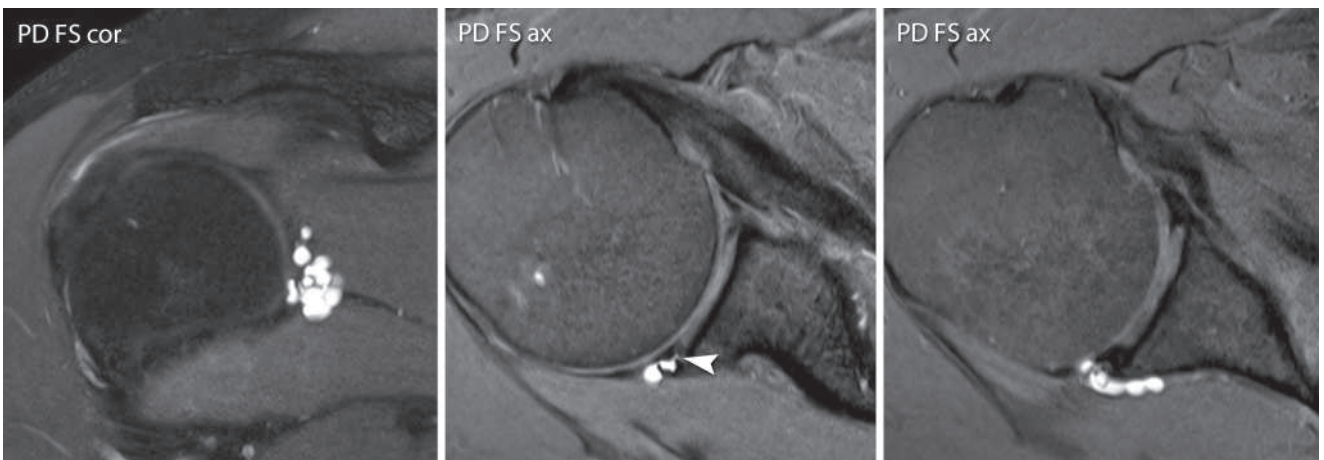


Fig. 2.166 Asymptomatic paralabral cyst adjacent to the torn posterior labrum (arrowhead).



Fig. 2.167 Posterior Bankart lesion three months after injury (left, standard MRI, arrow) and three weeks later (right, MR arthrography, arrowhead).

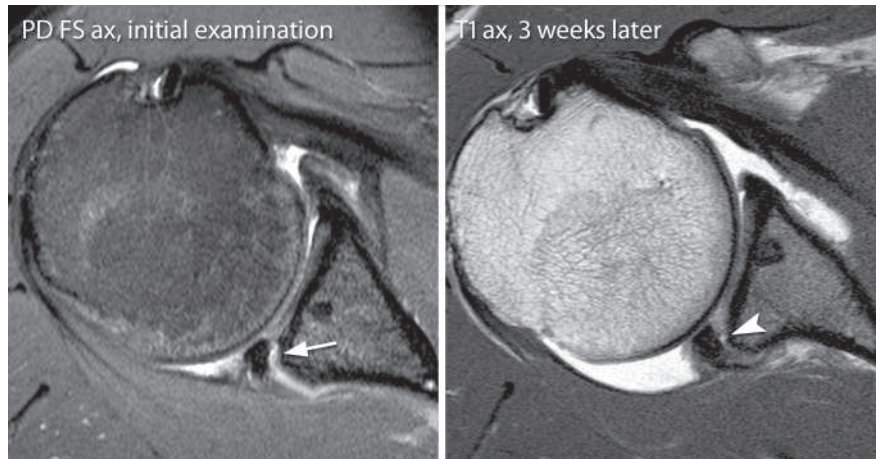


Fig. 2.168 A 39-year-old man one week after posterior shoulder dislocation with a posterior GLAD lesion (arrow) and a reversed Hill-Sachs lesion (arrowhead).

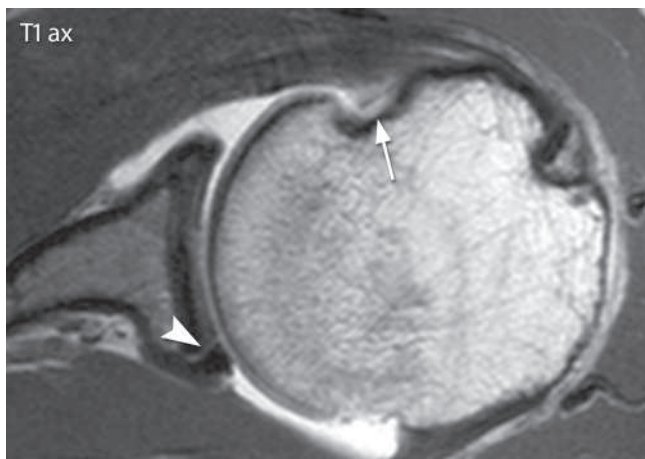
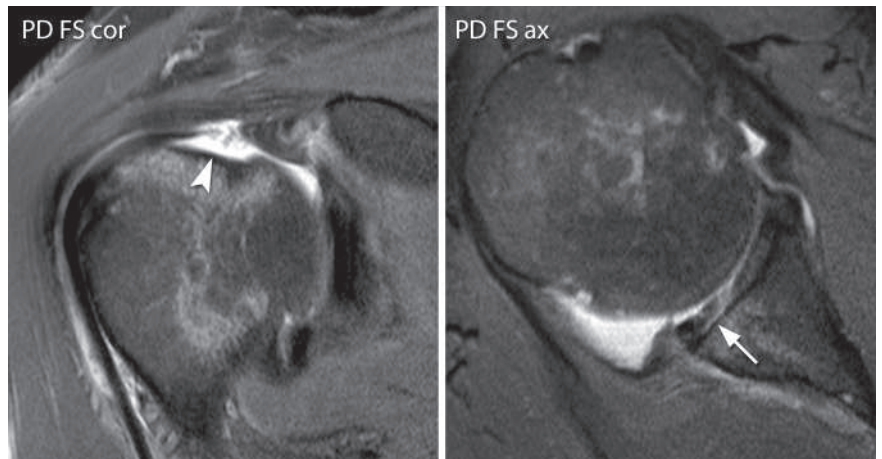


Fig. 2.169 An extensive reversed Hill-Sachs defect (arrow) and posterior Perthes lesion with a small fluid intrusion at its base (arrowhead).

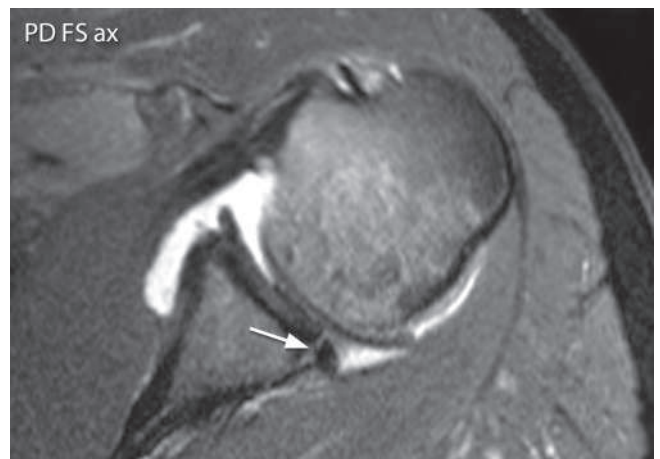


Fig. 2.170 Posterior avulsion of the labrum (arrow) with medial displacement ("POLPSA").

Shoulder instability

Shoulder instability describes the disposition of the humeral head to dislocate

- due to a constitutional weakness of the capsular structures or dysplasia or
- as a sequela of antecedent trauma.

There are numerous classifications of instability. A simple and commonly used system is described by Matsen.⁸⁸

- **Atraumatic instability:** Due to congenital capsular laxity or glenoid hypoplasia, it is multidirectional and often bilateral. It is described with the mnemonic **AMBRI: A**traumatic, **M**ultidirectional, **B**ilateral, **R**ehabilitation, **I**nferior capsular shift. The last two terms refer to the therapeutic options.
- **Traumatic instability:** Often follows dislocation with resultant damage to the glenoid, labrum or glenohumeral ligaments; unidirectional. **TUUBS: T**raumatic, **U**nidirectional, **U**nilateral, **B**ankart, **S**urgery.

Following a primary dislocation the typical pattern of injury depends on the patient's age:

- Under 40 years: Bankart lesion and possibly a Hill-Sachs defect.
- Over 40 years: rotator cuff tear or avulsion of the greater or lesser tuberosity.

In a third of older patients the subscapularis tendon is torn during anterior dislocation.

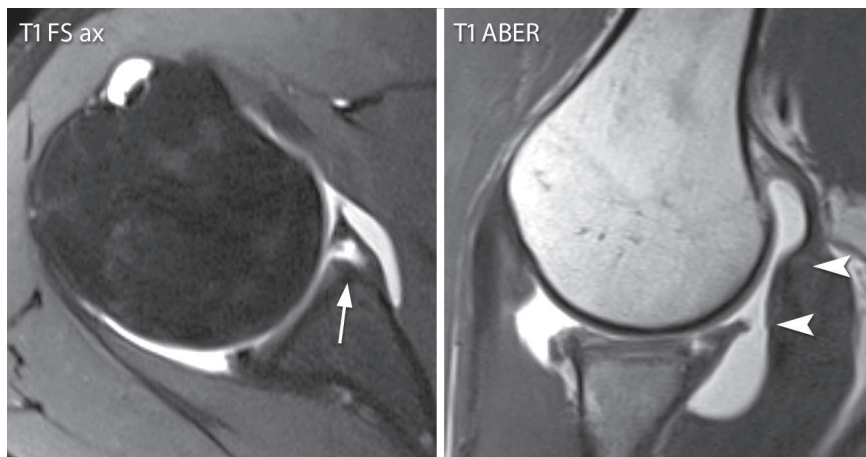
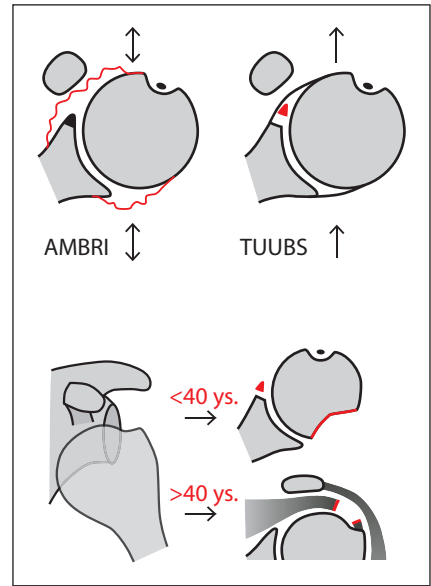


Fig. 2.171 Repetitive dislocations of the shoulder with subsequent Perthes lesion antero-inferiorly (arrow). Note the inadequate tension of the anterior joint capsule in ABER position (arrowheads).



Fig. 2.172 Chronic posterior subluxation-caused labral degeneration (arrow), with deformation of the glenoid and chondropathy. There is also tendinopathy of the subscapularis tendon (arrowhead).