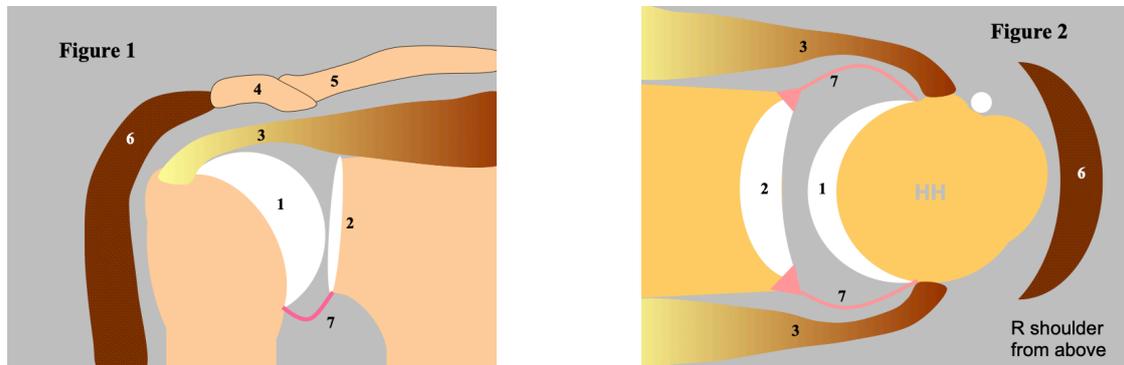


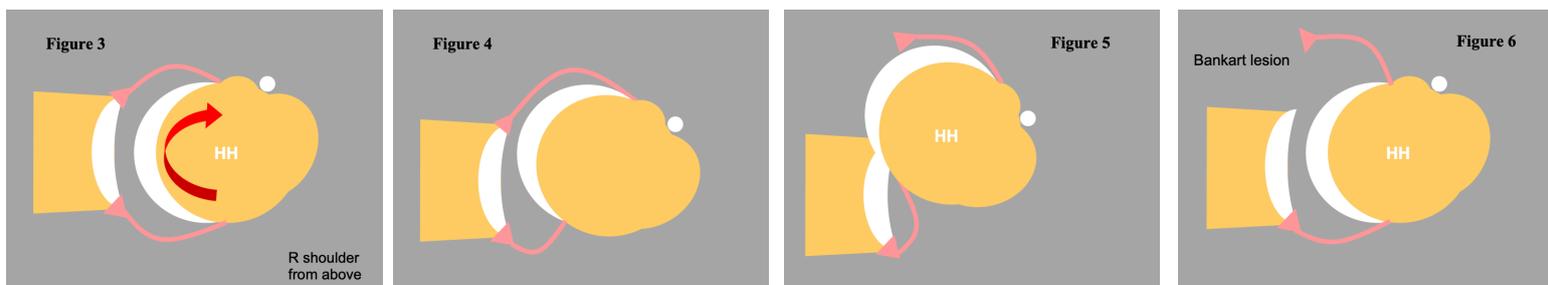
Shoulder dislocations and treatment

Figure 1 is a cartoon diagram looking directly at a right shoulder and Figure 2 is a cross-section through the shoulder:



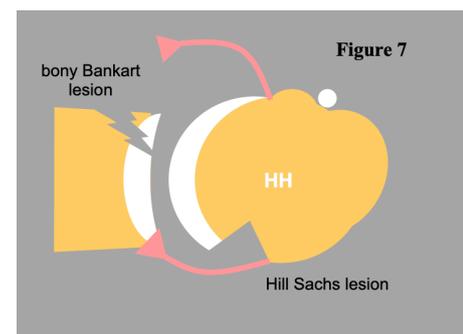
- 1 - humeral head, the ball of the main ball & socket joint of the shoulder
- 2 - glenoid, the socket of the main joint
- 3 - rotator cuff, the strong tendons around the shoulder from the shoulder blade muscles
- 4 - acromion, the bony roof of the shoulder which is part of the shoulder blade
- 5 - clavicle - the collar bone which joins to the acromion as the acromioclavicular joint or ACJ
- 6 - deltoid, the big muscle around the outside of the shoulder which gives its shape
- 7 - capsule, the deepest lining of the shoulder

In the majority of [shoulder dislocations](#) the ball comes out the front of the shoulder (anteriorly). Figure 3 shows rotation of the ball on the socket such that it perches on the edge in Figure 4 and if pushed more in Figure 5 the ball dislocates over the front of the socket with damage to the pink capsule pulling off the pink triangular labrum from the bony socket. When the shoulder is put back into joint (Figure 6), often by staff in a hospital Emergency Department, the immediate dysfunction and pain of the acute dislocation is relieved but this leaves the disruption to the anterior soft tissues with detachment of the labrum and related capsule known as the 'Bankart lesion'.



Following a dislocation the shoulder is rested in a sling for up to a week before rehabilitation physiotherapy starts to return the shoulder to normal function. Depending on patient age, damage sustained to the shoulder and demands placed on the shoulder this may be an isolated one-off incident of dislocation but there is a risk of further recurrent dislocations.

If a patient has recurrent dislocations then an MRI Arthrogram scan is recommended. This involves an injection of contrast into the shoulder before lying still in the body scanner tunnel to get images of the damage sustained. The surgeon will take some measurements from the scan images and using a formula can calculate the amount and extent of damage. This might include damage to the bone at the front of the glenoid socket called a 'bony Bankart lesion' and an indentation at the back of the humeral head called a 'Hill Sachs lesion' (Figure 7). The latter is analogous to the dent created if a ping pong ball is compressed which doesn't regain its shape.



Patients may have symptoms such as loss of confidence in the shoulder, apprehensive feelings of further dislocation, pain, weakness or stiffness or simply not be able to return to desired leisure and sporting activities or even normal activities of daily living. In such circumstances the surgeon may recommend surgery to repair the damage to optimise long term function.

There are a variety of surgical options either repairing soft tissues or addressing bone damage or a combination of the two and operations may be open or keyhole.

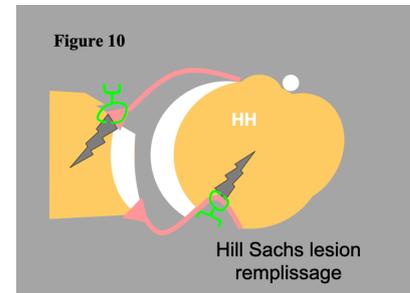
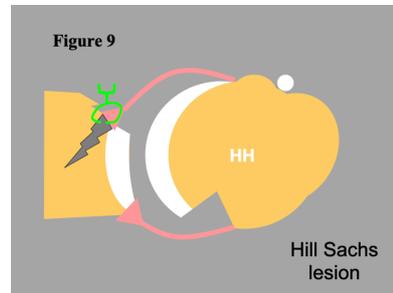
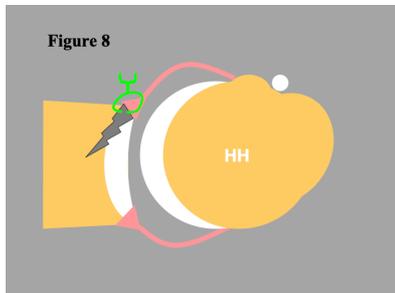
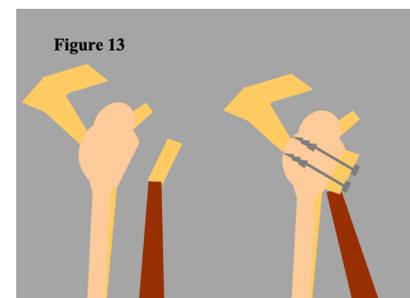
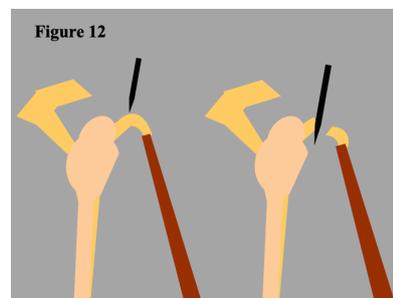
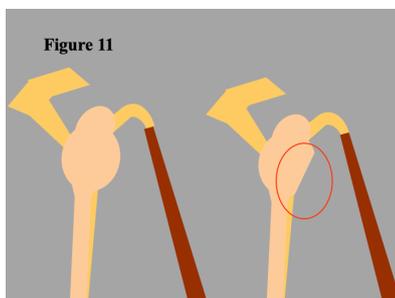
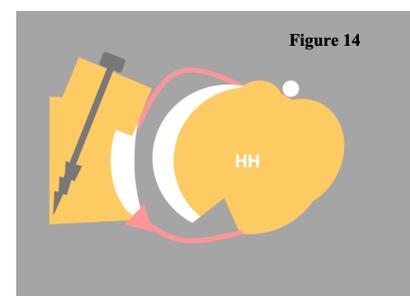


Figure 8 shows a repair of the soft tissues at the front of the socket using a bone anchor and stitch to hold the soft tissue to the edge of the bony socket, a Bankart repair. Figure 9 shows the same in a shoulder that has previously described bony injuries. Sometimes the [shoulder surgeon](#) may calculate that the repair in Figure 9 should be supplemented by the remplissage shown in Figure 10. This term comes from the French verb ‘remplir’ which means ‘to fill’ as the Hill Sachs indentation is filled with soft tissue using another bone anchor to prevent further dislocations.

If the bone damage is significant then a bony operation may be recommended. Figure 11 shows the side on view of a normal shoulder socket on the left but the appearance of the bony Bankart lesion with loss of bone from the socket in the red circle on the right as seen in cross section in Figure 7. One option to address this is to use the Latarjet operation whereby a piece of bone from the front of the shoulder is taken with its attached tendon as shown in Figure 12. This bone is then fixed to the front of the shoulder using screws as shown in Figure 13.



The aim is for the transferred bone to heal and replace that lost from the socket and the attached tendon reinforces the soft tissue constraints at the front of the shoulder. Figure 14 shows the position in cross section. An alternative is to use a patient's own bone graft taken from the side of their pelvis and fixed into the shoulder in similar fashion as shown for the Latarjet procedure. Either technique is very successful at reducing symptoms and preventing further dislocations.



The risks and potential complications of such operations are small but include failure to achieve the desired outcome with further dislocations, pain, weakness, stiffness (post-operative frozen shoulder), nerve or blood vessel damage (some bruising is normal), numbness, arthritis, infection, further surgery for whatever reason, prolonged rehabilitation, the medical risks of any operation such as blood clots in the legs or lungs (DVT or PE), heart attack (MI) or stroke (CVA).