LARS™

ACJ

Acromioclavicular Joint Reconstruction

Surgical Technique

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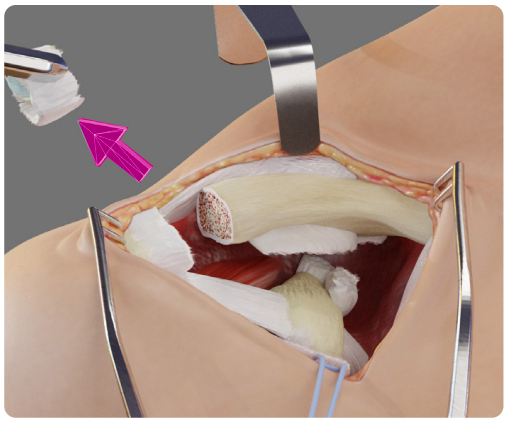
LARS™ ACJ

Stability / Versatility / Recovery

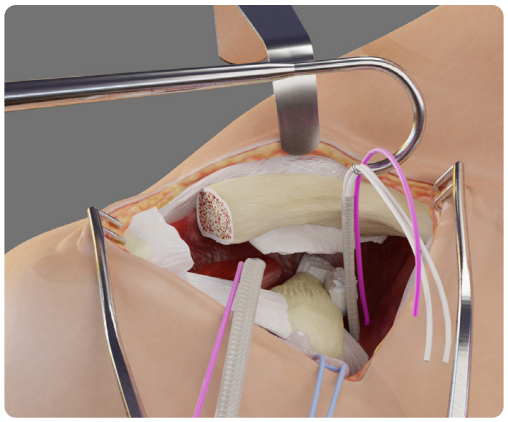
The next generation in soft tissue internal fixation

Content

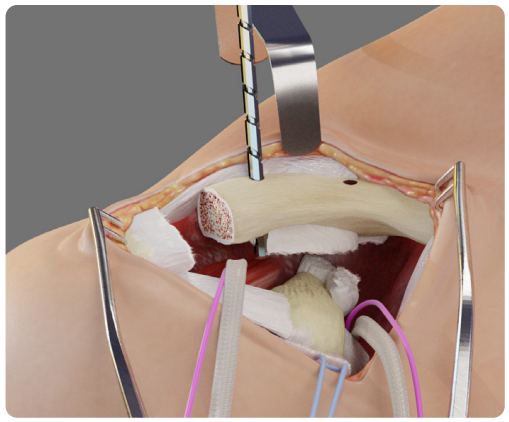
Surgical Technique Overview



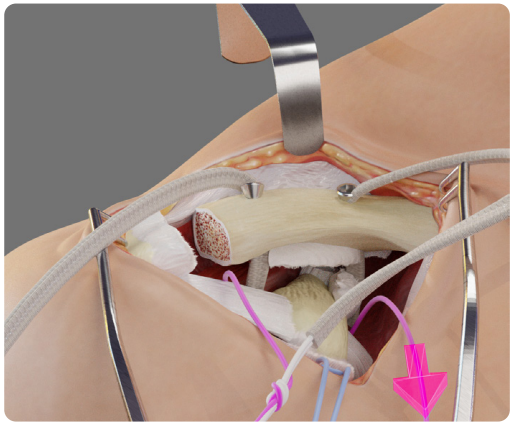
a. Excision of the clavicle



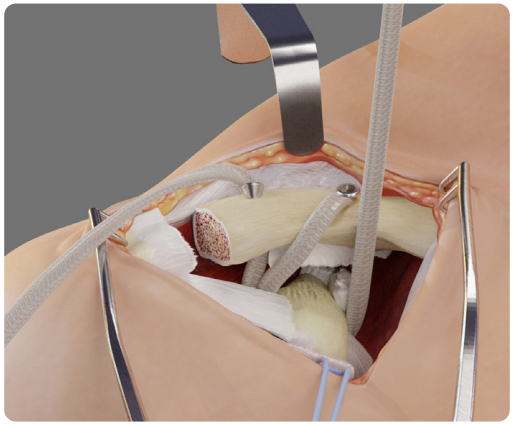
b. Insertion of the LARS™



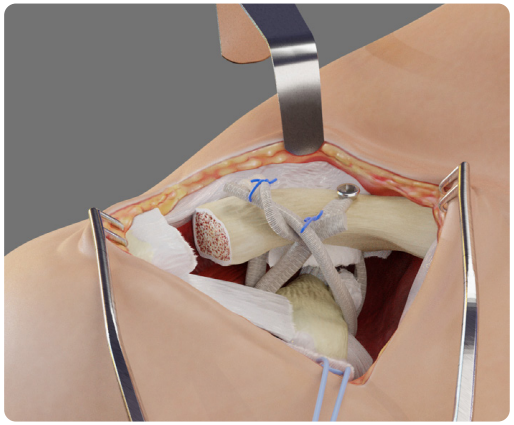
c. Preparation of the tunnels



d. Fixation of the LARS™

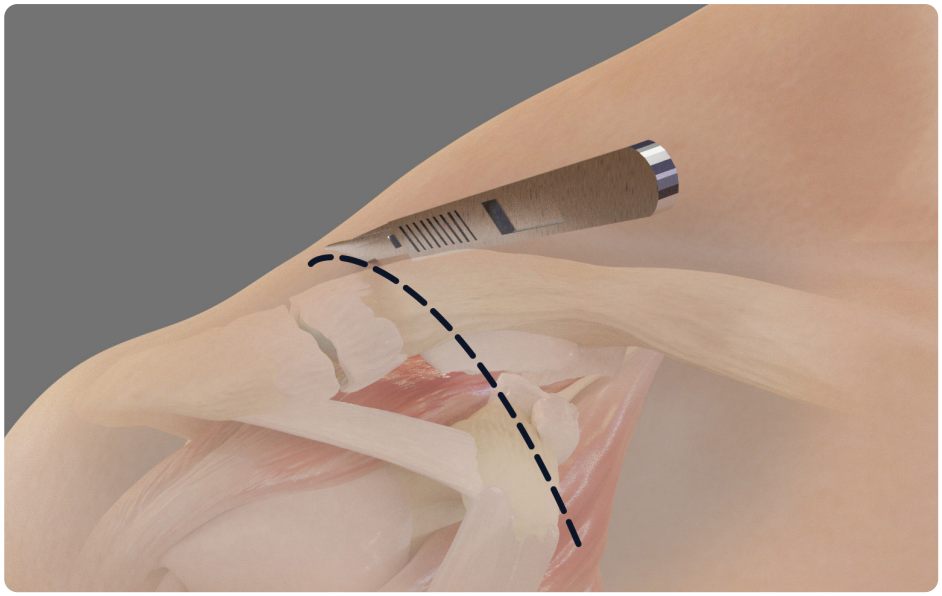


e. Finalization of the LARS™ implantation



f. Suturing the LARS™

Surgical Technique



Step 1.
Surgical Exposure

The patient is positioned in the beach chair, semi-recumbent position, with a firm arm support under the elbow and forearm for counter-pressure during intra-operative joint reduction.

Following standard skin preparation and draping, a sabre-cut incision is made in Langer's lines, about 1-2 cm medial to the lateral end of the clavicle and overlying the coracoid.

A medial based 'L' take-down of the deltoid is performed with a stay suture at the apex of the 'L', described by Angus Wallace and LARS™ Neumann, Nottingham. This is made through the fascial coalescence of the deltoid and trapezius and the trapezius is peeled off from the lateral clavicle to expose the clavicle and AC joint.

This exposure allows visual access to the coracoid, pectoralis minor muscle, coracoacromial ligament and conjoined tendon (if needed).

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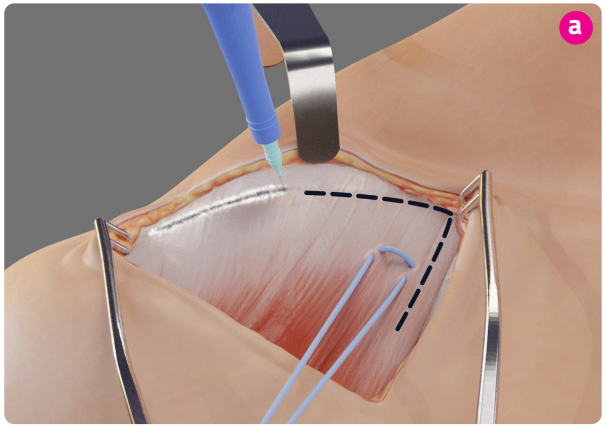
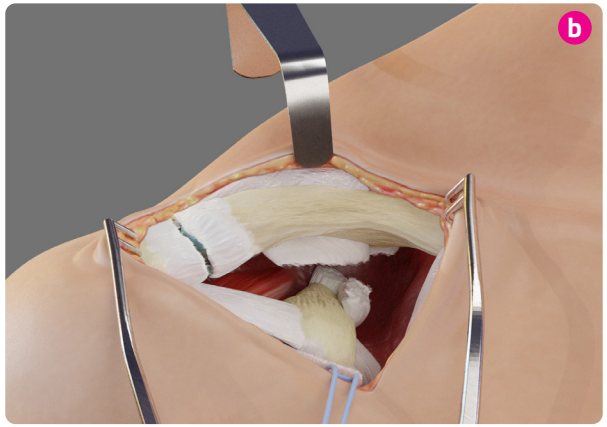
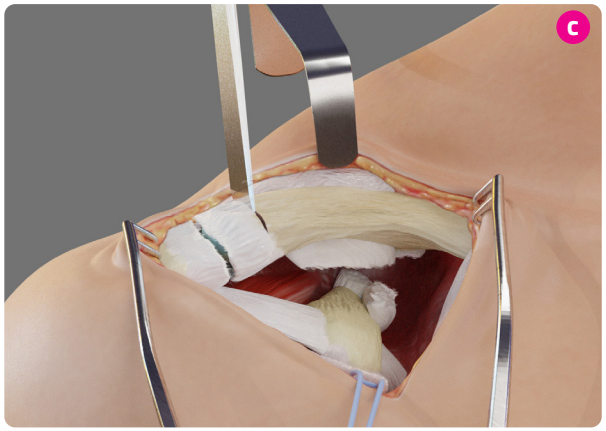


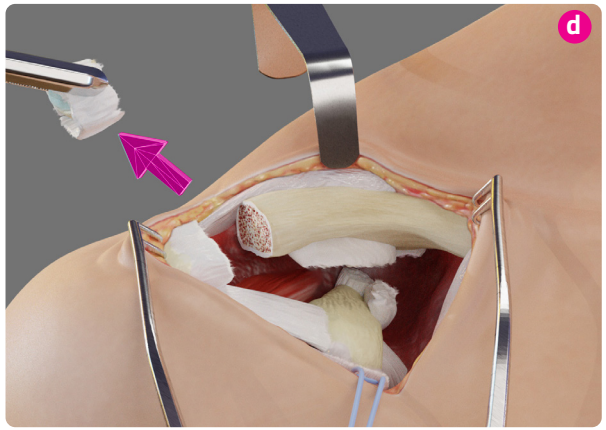


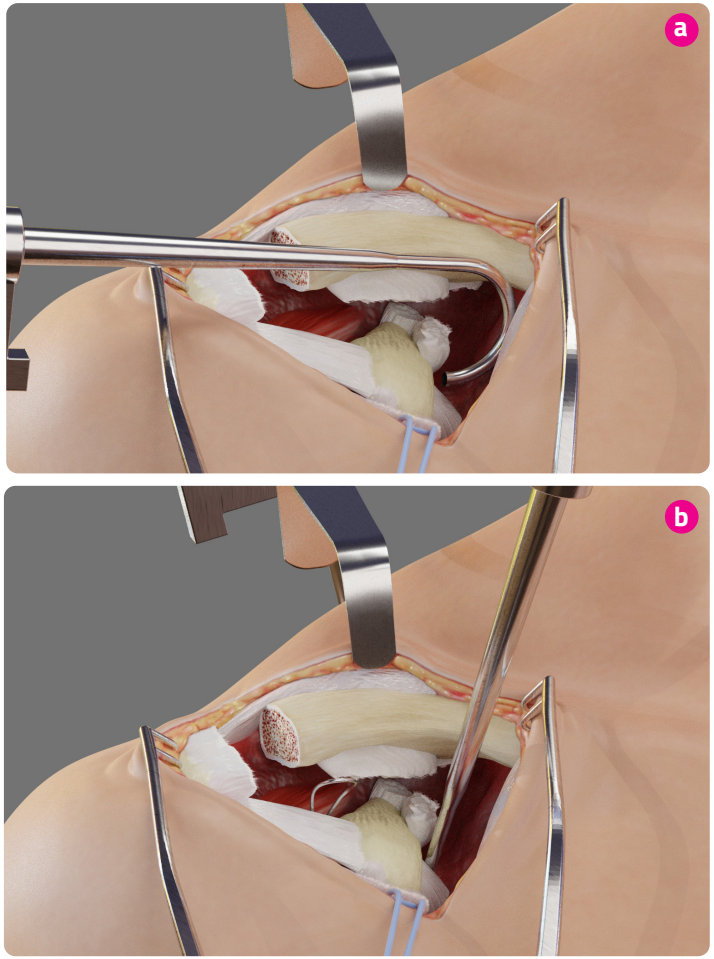


Step 2.
Excision of the clavicle

The lateral end of the clavicle is excised. No more than 5-8 mm may be removed, to allow for a superior capsular repair on closure.

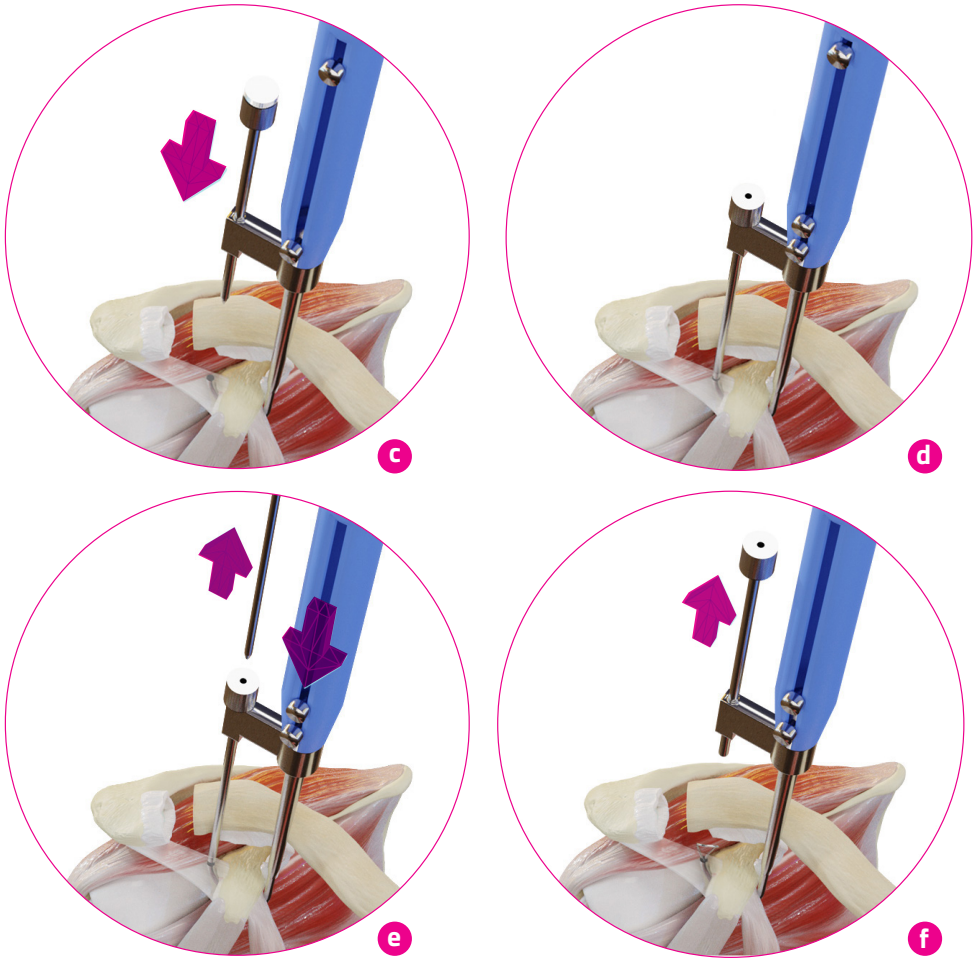
Any adhesions and scar tissue under the lateral clavicle may be removed, to allow for an easy reduction of the coracoclavicular gap. Ensure reduction and alignment is achieved in both horizontal and vertical planes.





Step 3.

The guiding hook is inserted under the coracoid from the medial border to the lateral border and the wire-passer cannula is set-up.



The drift is gently turned several times to get the top of the hook free from the fibrous tissue which may be interposed, then removed from the guide, and the cursor is lowered.

Insert the guide's hook under the coracoid from the medial border to the lateral border. Set up the wire-passer cannula. Tap the drift several times to get the top of the hook free from the fibrous tissue which may be interposed.

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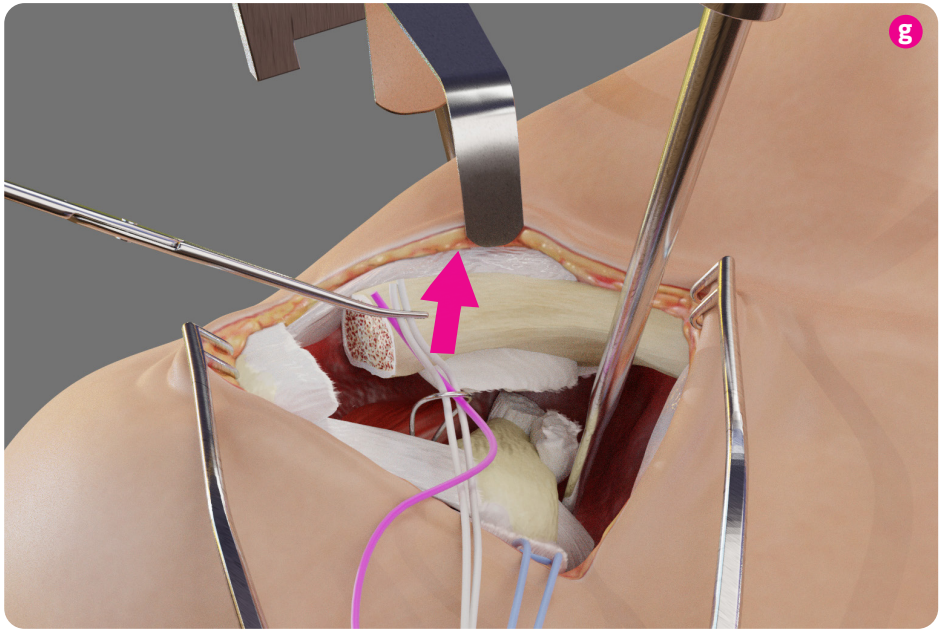
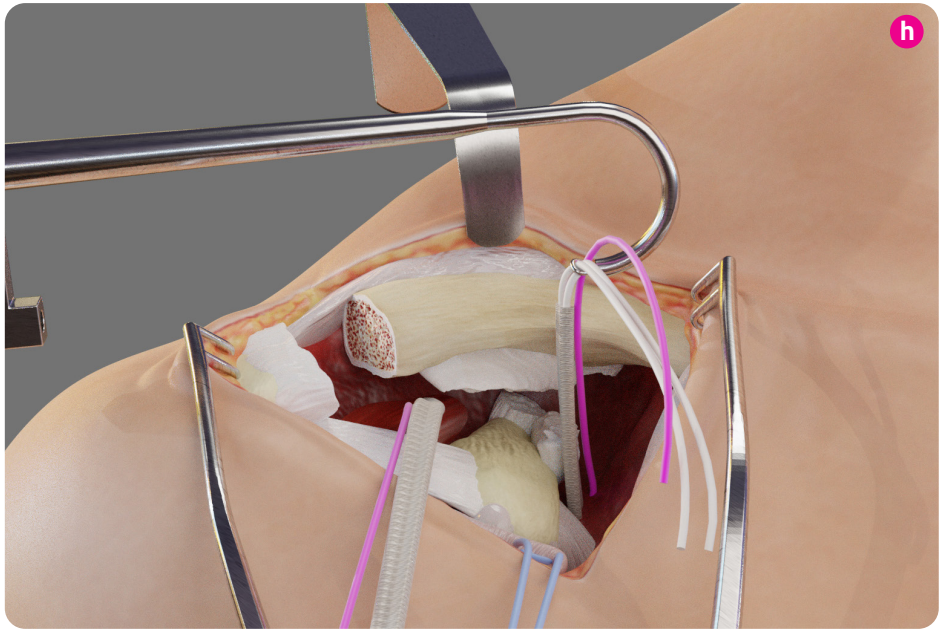
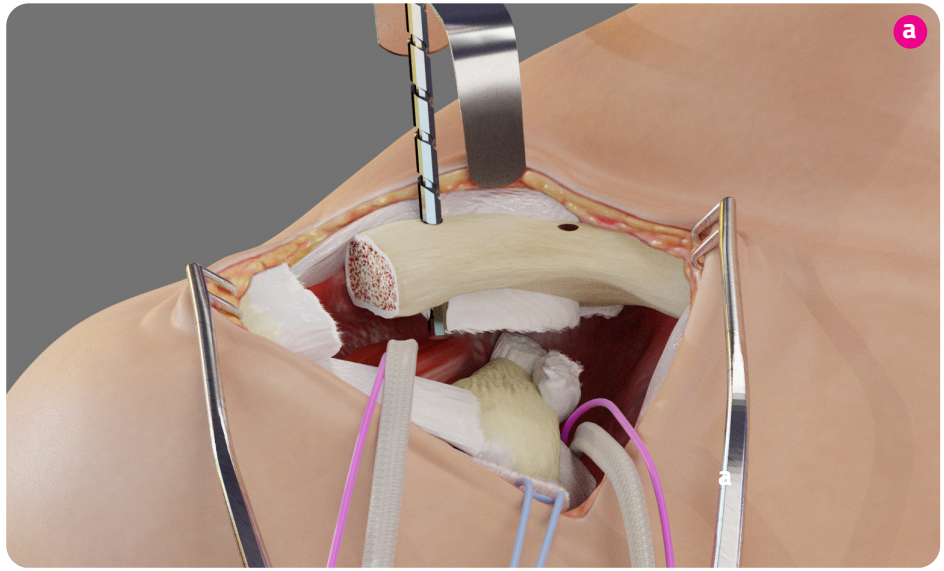


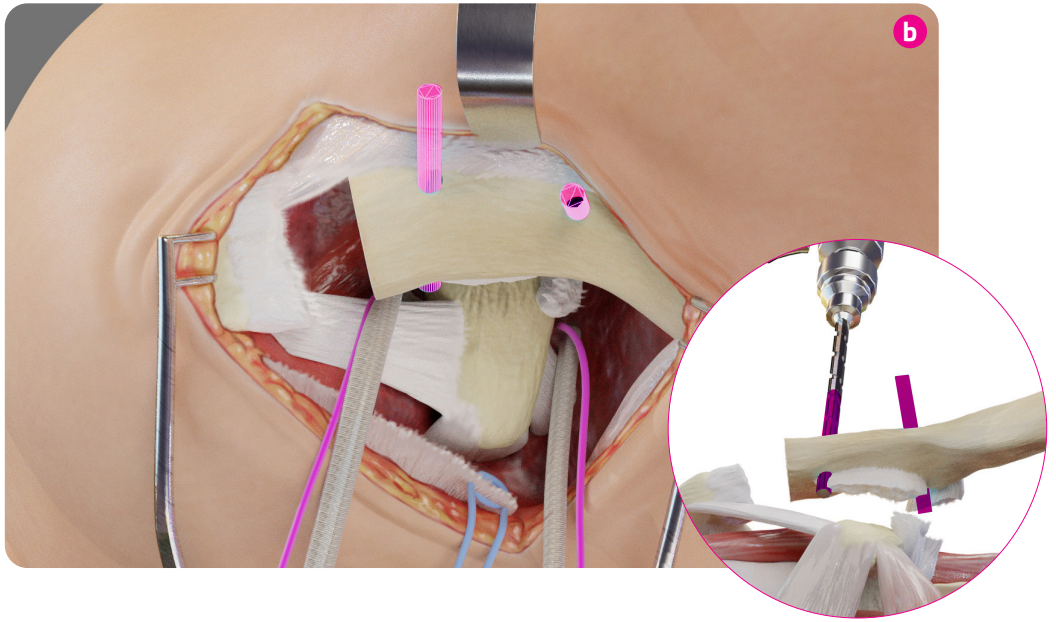
The wire-passer cannula is taken out, and the wire loop may appear at the level of the anterior border of the clavicle.



The LARS™ implant may be soaked beforehand to ease passing, and an additional passing suture (No. 2 braided high-strength suture) may be passed through the wire loop; the curved guide is pulled out medially.

The LARS™ is passed under the coracoid and tensioned by pulling on each end of the tensioning wires reciprocally.





Step 4
Preparation of the tunnels

Two non-parallel tunnels are drilled in the clavicula; whenever possible they are drilled through the anterior cortex of the clavicula; when this is not possible, they are drilled through the superior cortex, as showed in the figures of this technique.

The tunnels are in the isometric points of the coracoclavicular ligaments and aligned with their orientation.

Shall the surgeon prefer to drill the tunnels through the superior cortex, the medial one may be directed from antero-superior to postero-inferior and the lateral one is directed from postero-superior to antero-inferior.

A space of about 25 mm is allowed between the lateral tunnel and lateral end of clavicle; a 25 mm space is allowed between the two tunnels to avoid any iatrogenic fractures.

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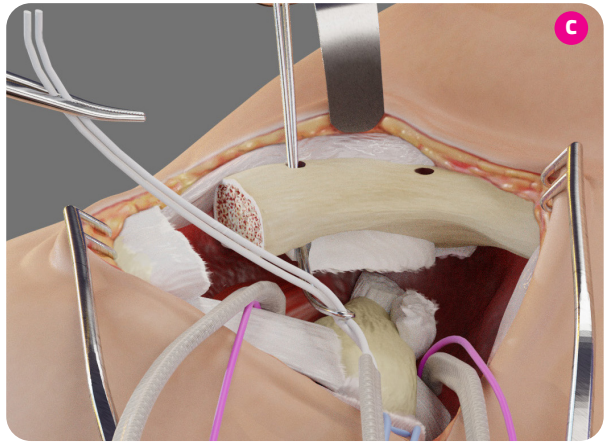
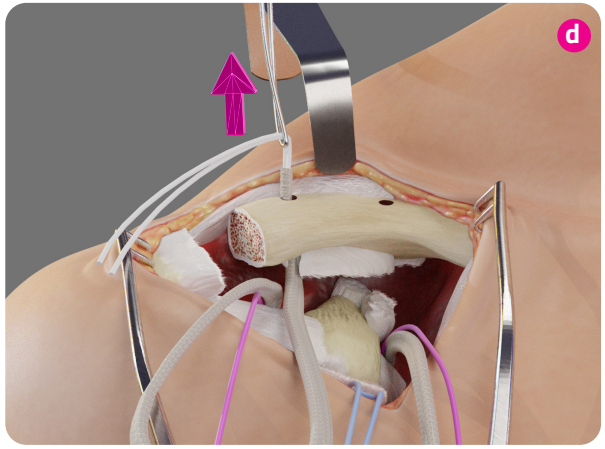
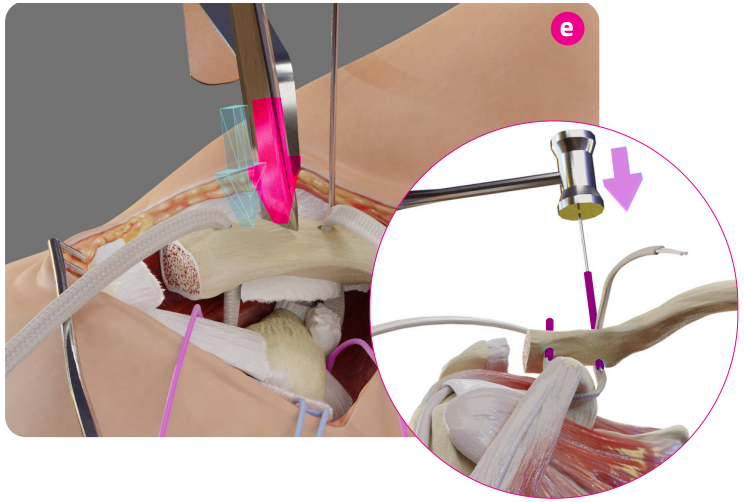


The looped wire is passed through the lateral bone tunnel and is loaded with the LARS™ tensioning wire from the lateral side of the coracoid.

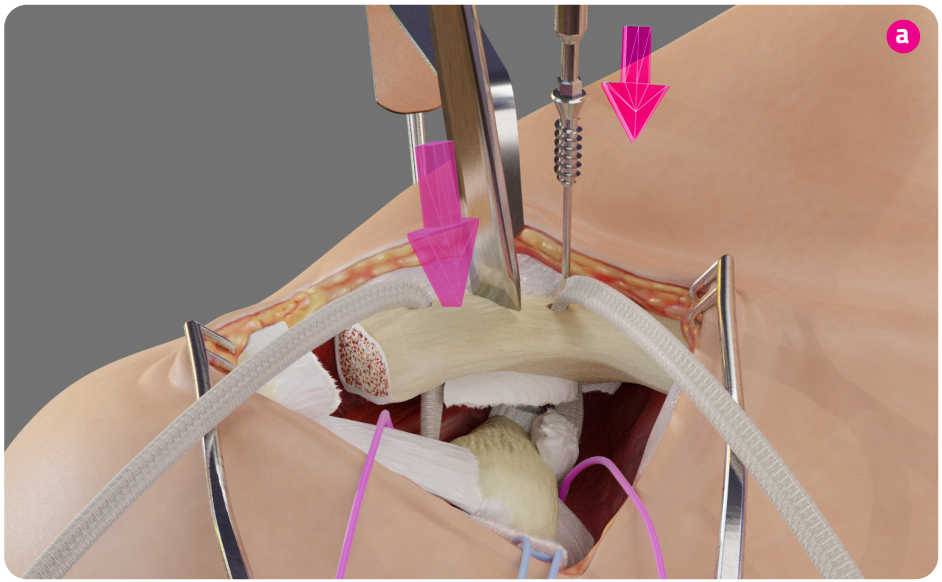


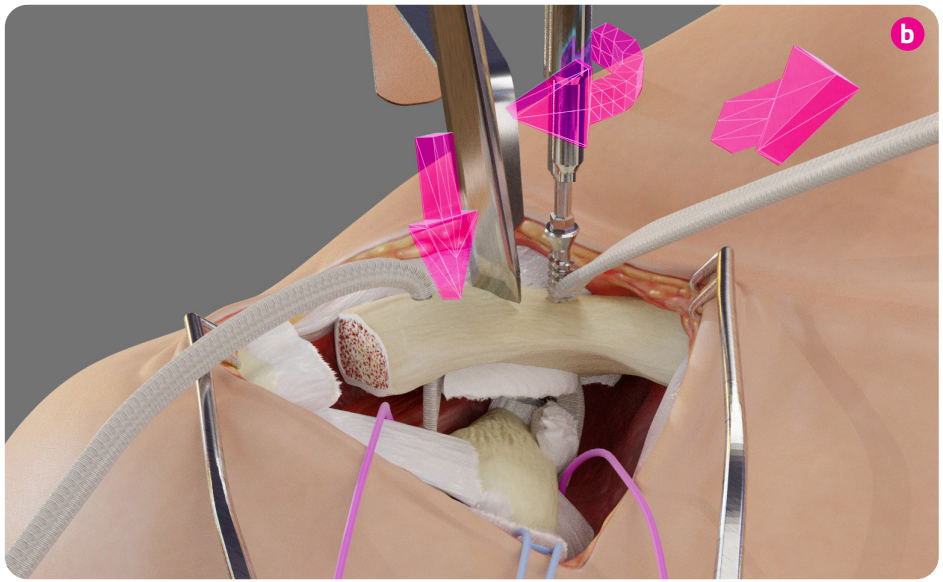
The looped wire is passed through bone tunnel by pulling the wire-loop.
This process is repeated through the other bone tunnel.



The blunt K-wire is tapped into the medial drill hole alongside the LARS™. The clavicle is reduced to be aligned with the acromion and the coracoclavicular gap is then reduced. The ACJ alignment may be checked in both horizontal and vertical planes.

The LARS™ is tightly tensioned again under the coracoid to ensure good tension whilst reduced.





Step 5.
Fixation of the LARS™

The medial screw is inserted, whilst pulling tight on the LARS™ implant; the clavicle is maintained reduced without over-reducing it.

The screws are inserted slowly, screwing is intermittently paused to relieve torque stresses.

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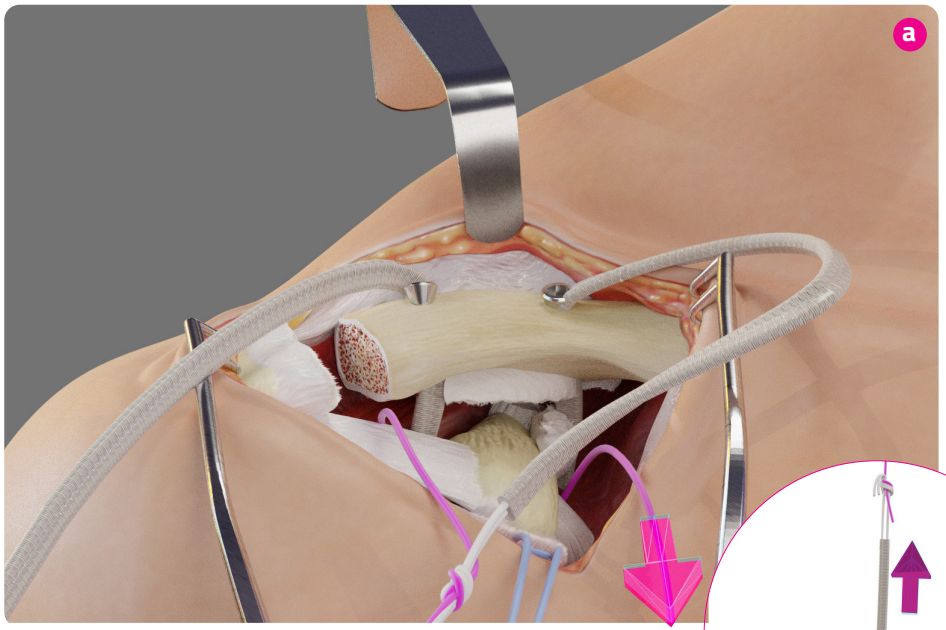
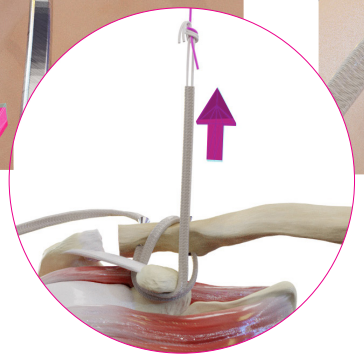
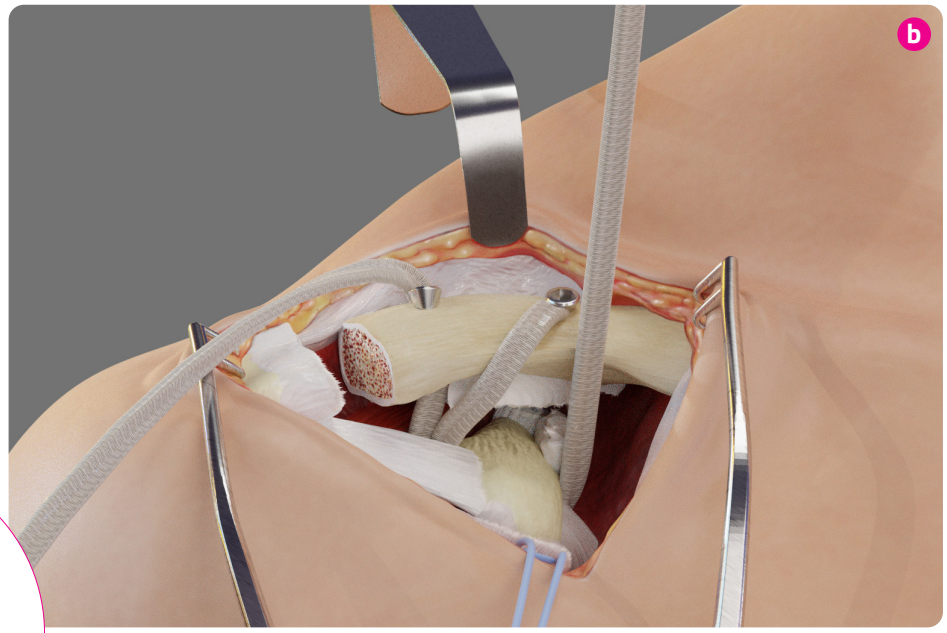
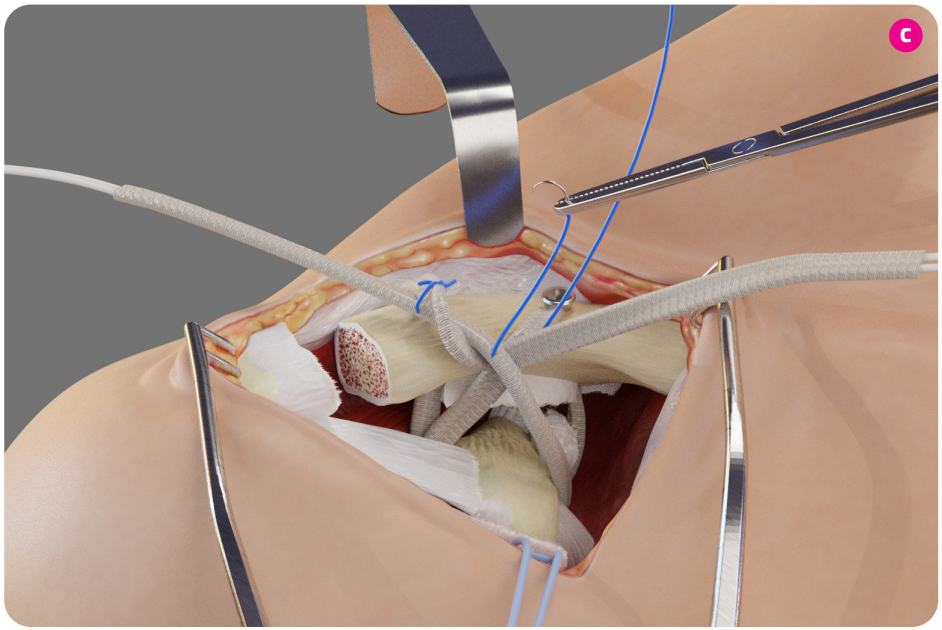


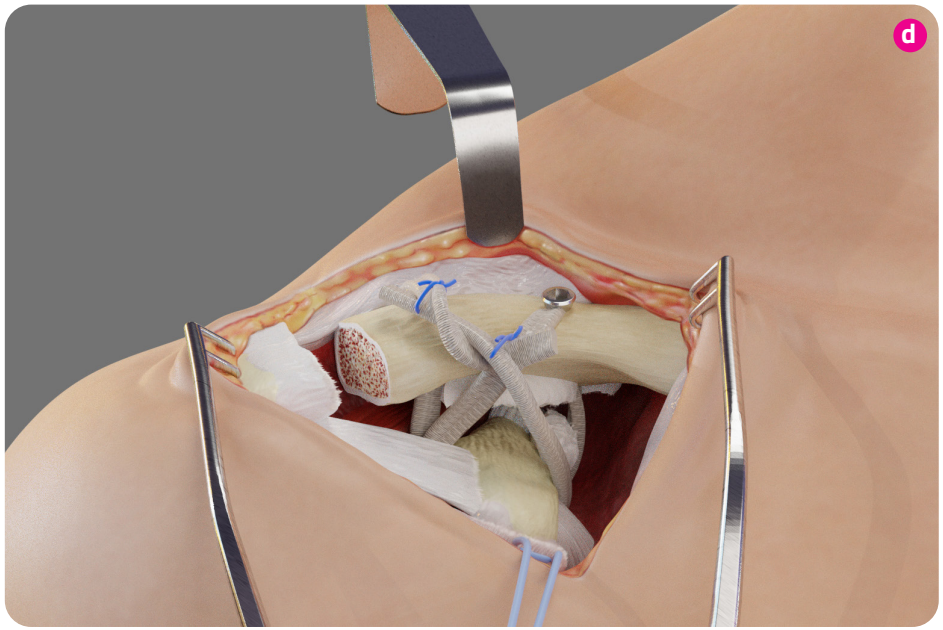




Step 6.
Finishing the implantation

An additional figure-of-8 loop around the coracoid may improve the horizontal stability, reduce tension on the interference screws, and reduce the stress under the coracoid.





The lateral part of the suture (No. 2) is tied to the medial one of the LARS™ and then pulled under the coracoid. The two free LARS™ extremities are tied together, and they are secured with sutures (No. 2); finally, the excess lengths are cut.

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Ordering information

The list of ligaments, fixations and instruments are available in the catalogue VEN/IN.03.

Notes

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