Rotator cuff repair with artificial reinforcement

LARS

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Principles

The principle is to secure the suture or reinsertion of a torn rotator cuff by a bridge made of a specially designed artificial tendon.

One side is fixed on the proximal muscle and the other side into the upper extremity of the humerus. This bridge is resistant enough to protect the healing of the repair, to immediately lower and recenter the humeral head and to allow early mobilization.

The prognosis depends on the condition of the muscle still functional or degenerative. If the supra spinatus is totally degenerated, one cannot reasonably expect a full recovery. But, in that case the artificial tendon which has shown a good fibroblastic invasion, is acting like a prosthesis to recenter the joint and re-establish good mechanical conditions for the deltoid.

Implants and fixations

The ligament consists of two parts :

- The flat proximal " muscular " portion, rectangular and porous, 25-30 mm in width,
- The distal " tendinous " portion, composed of two cylindrical fiber ended with traction threads.

Two ligaments are available :

- The **LARS CR 25** (réf L410205), which is made of 40 fibers, offering a rupture resistance of 1 800 newtons.
- The **LARS CR 30** (réf L410305), which is made of 48 fibers, offering a rupture resistance of 2 100 newtons.

The fixation is assured using titanium interference fit screws of 5.2 mm x 20, 5.2 mm x 30 or 6 mm x 30.

Surgical technique

The repair must always be done without tension and with the arm in adduction.

Acute rupture

Simple suturing is done after mobilization and freshening-up of margins. The tendons are reinserted into bone according to classical procedure. The rectangular part of the ligament, largely covers the lesion like a " patch " and is sutured all around its borders by thin but resistant slowly resorbable threads or non resorbable threads.
After classical preparation of the tendons of the rotator cuff and acromioplasty, two parallel tunnels are drilled using a special LARS guide from the bottom of the bone section. The vertical part of each tunnel must join the horizontal part.

Wire loops are passed through the passing tubes and after removal of the guide, the two "legs" of the ligament are pulled out of the tunnels. The tension is adjusted, with the arm momentarily in abduction if necessary, until it recenters the humeral head with no tension on the suture of the tear when the shoulder is placed in adduction.

The fixation is made with the canulated interference LARS screws Ø 5.2 mm or Ø 6 mm.

Chronic rupture

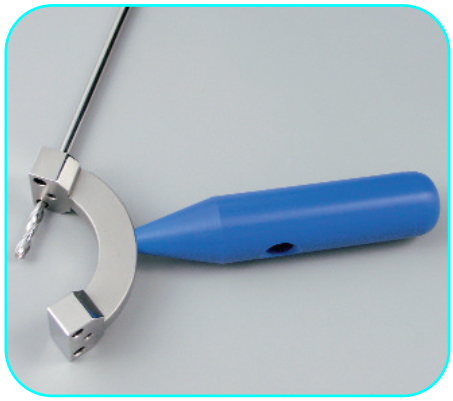
The muscle-tendon unit must be capable of advancement ; results depend upon the state of degeneration of the proximal muscle.

The " patch " is sutured " piggy back " onto the healthy muscular zone and the tendinous zone. The reinsertion is identical to that described for acute lesions.

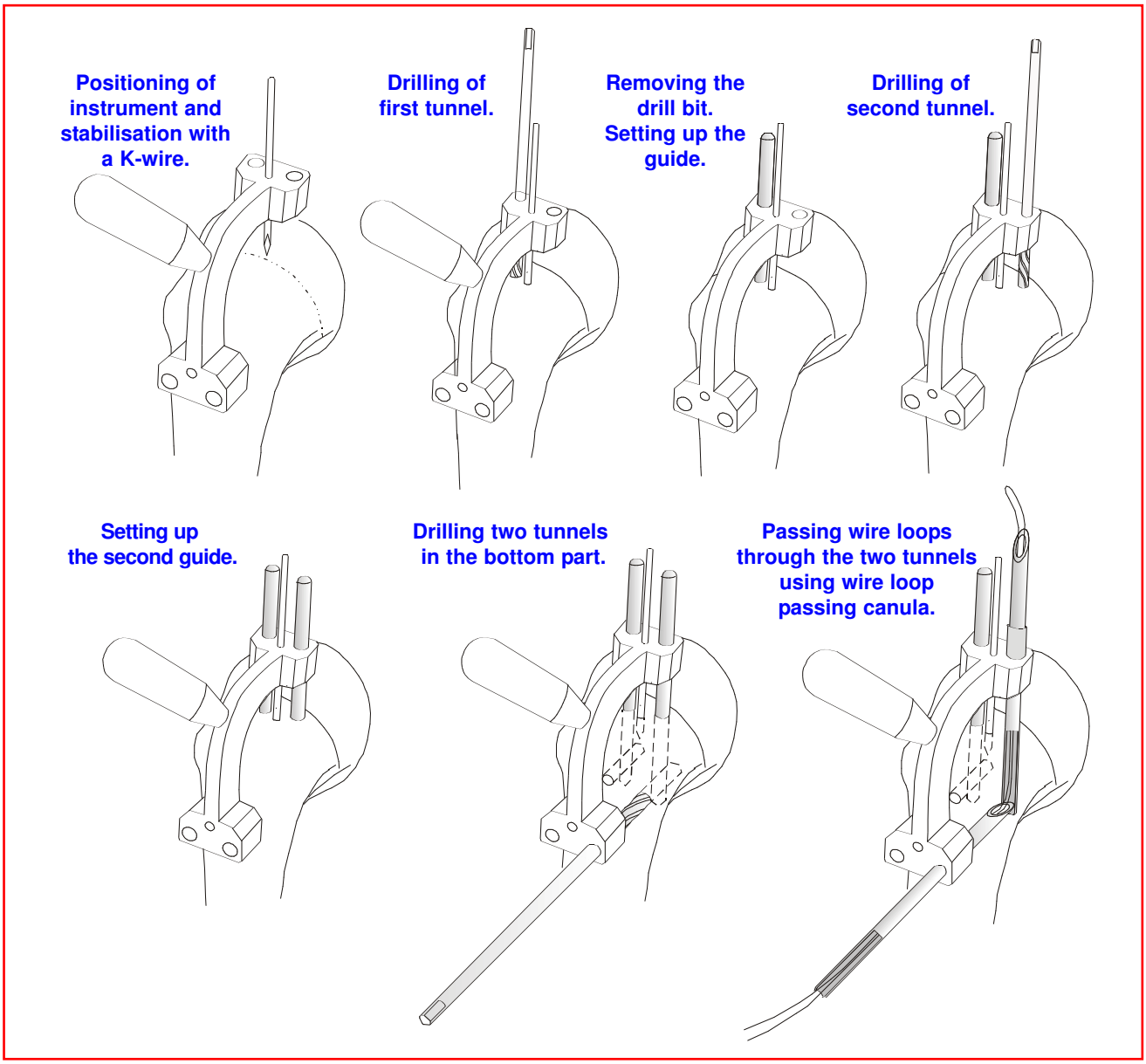
Ø 6 x 25 mm
reference F110625

Ø 5.2 x 20 mm
reference F315220

Ø 5.2 x 30 mm
reference F315230



ACR03 Guide

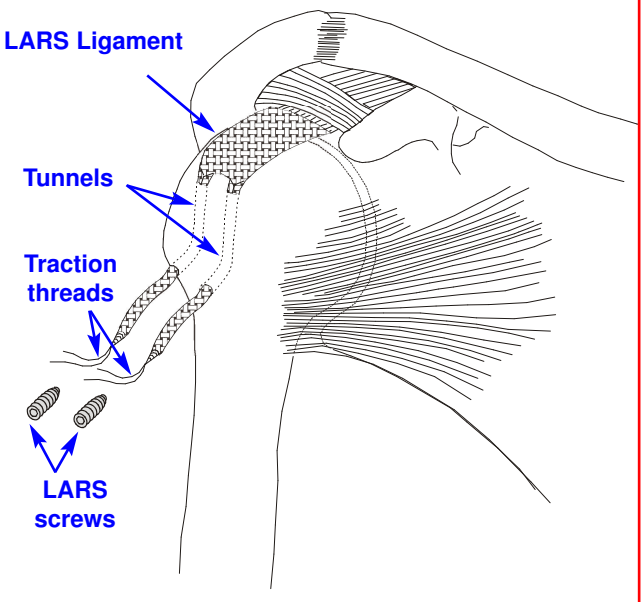


Post-operative care

- Arm with elbow against the body.
- Passive mobilization starting on the 5th day.
- Assisted active mobilization starting in the 2nd or 3rd week depending on the severity and age of the lesion.

Note

In order to obtain a clear passage at the start, a Grammont type osteotomy of the acromion, with a mouvement towards the outside, front and top is often carried out.



LARS

Certified company,

in according with the requirements of the international standards

NF EN ISO 13485

93/42 EEC

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