Lateral instability of the ankle
The following procedure is indicated for chronic instability or when the type of the ligament injury does not permit a solid repair and needs a reinforcement.

**Operative technique**

The laxity is evaluated by a comparative varus stress radiography.

- **1st Fibular step.**
  - Incision in front of the lateral malleola of about 5 to 6 cm. The scar tissue is incised and the joint is open downwards. The tip of the malleola is exposed.
  - A vertical tunnel is drilled (5 mm) from the intra-articular side of the tip of the malleola, up to the lateral cortex and exits 5 or 6 cm above.
  - A second tunnel is then drilled perpendicular to the axis of the fibula through a micro incision 2 cm above the exit of the first one.
  - A wire loop is passed downwards into the first tunnel.

- **2nd Step: Preparation of calcaneum.**
  - Horizontal incision 2 cm below the tip of the fibula (attention to the saphenous nerve).
  - The lateral cortex of the calcaneum is exposed under the peroneal tendons.
  - Two blind bonny tunnels (4.5 mm) are drilled in the alignment of the anterior and posterior borders of the fibular malleola.
  - Two pathes are created with curved fine forceps flush to the bone and at the deep aspect of the tendons, from the entrance of each tunnel toward the malleolar tip.

- **3rd Step: Passage of the ligament.**
  - The specific ligament to be used is the LARS LLE A 44 which has a Y shape.
  - The single branch is passed upwards into the fibular distal tunnel with the help of the wire loop. The proximal extremity is cut long enough to be introduced and pushed 2 cm deep into the upper perpendicular tunnel.
  - A k-wire is passed through this tunnel and is used as a guide to put in place a 5.2 x 15 mm or 5.2 x 20 mm interference screw.
  - The two bundles of the Y ligament are then passed at the deep aspect of the peroneal tendons toward the entrance of the anterior and posterior tunnels. The extremity of each branch is cut long enough to be introduced of about 4 cm into the bonny tunnels. The two bundles must be straight when the foot is at 90° of flexion. The fixation is carried out with 2 interference screws. (5.2 or 6 mm according to the bone density).

**Important**:

The tensioning must be adjusted to allow full motion as well as to control the varus laxity.

- **4th Step: Closure**
  - The capsule and remnants of the natural ligament are sutured and cover the free fibers of the LARS ligament.
  - Careful hemostasis. Closure of the incisions by sub-cutaneous and cutaneous sutures.
Post operative care

- First dressing at 3rd day.
  A posterior splint made of resin is applied with the foot at 90° for protection.
  This splint will be removed daily to allow passiv and activ mobilisation.
- Weight bearing is authorized at day + 35.
- Rehabilitation of full motion and proprioception.
- Jogging at day + 50.
- Return to sports around day + 75.

NOTE:

The functional instability may be caused by a laxity between the talus and the calcaneum, isolated or combined with the laxity of the ankle itself. One must think about this type of injury if the functional instability is severe while the stress varus xray does not show a corresponding abnormal varus. The advantage of this technique is that the two bundles are fixed in the calcaneum and therefore stabilize both joints.

But in case of major instability of the talus - calcaneum joint, it is mandatory to reconstruct the specific talus calcaneum ligament in the tarsal sinus.

Technique:

Dorsal micro incision at the level of the talus neck and second micro incision at the level of the lower border of the calcaneum.

A 6 mm drill bit is introduced into a canula and drills a tunnel from the neck of the talus toward the lower lateral cortex of the calcaneum. A wire loop is passed through this tunnel and will pull a LARS AC 80 ligament until the free fibers are in the tarsal sinus.

Each extremity of the ligament is fixed with an interference screw (5.2 or 6 mm) and cut flush to the bone surface.

Post op cares are the same.
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in compliance with the requirements
of the international standard
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