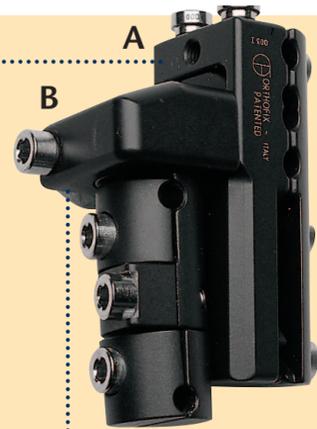


## The Orthofix Pertrochanteric Fixator comprises:

### A posterior clamp (A):

For the screws which are inserted along the femoral neck. This has fixed screw seats (1) machined at an angle of 115° to the longitudinal axis to enable one screw to be inserted along the axis of the neck (right or left femur), and a single swivelling seat to enable a second screw to be inserted in a convergent mode (2).



### An anterior clamp (B):

Movement of the anterior clamp in the frontal plane is controlled by locking screws (5).

Which has proximal (3) and distal (4) screw seats for insertion of diaphyseal screws in the subtrochanteric region.



Rotation of the screw seats in the anterior clamp is controlled by a locking screw (6).



Rotation of the distal screw seat of the anterior clamp in relation to the proximal screw seat is controlled by a locking screw (7).



# ORDERING INFORMATION

FIXATOR		
QTY.	CODE N°	DESCRIPTION
1	10048	Pertrochanteric Fixator complete with Allen Wrench 5 mm

INSTRUMENTATION		
QTY.	CODE N°	DESCRIPTION
1	11126	Special Pertrochanteric Screw Guide

Not included in the box:

1	91150	Universal T-wrench
1	91120	Hand Drill
1	91101	Bone Screw Cutter

SCREWS*		
QTY.	CODE N°	DESCRIPTION
2	99-612630	XCaliber Osteotite Bone Screws 260/30, sterile
2	99-612640	XCaliber Osteotite Bone Screws 260/40, sterile

\* The screws listed are the most commonly used. Selection of correct total screw length and thread length is based upon the criteria described under Operative Technique. Note that bone screws are for single use only and must **not** be reused.

⚠ See Manual 1 "General Application Instructions" for Equipment Maintenance, Cleaning and Sterilization.

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- 14) Mahaisavariya B., Laupattarakasem W. Cracking of the femoral shaft by the gamma nail. Injury, 1992, 7:493-500.
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The Orthofix Quality System has been certified to be in compliance with the requirements of:

- Medical Devices Directive 93/42/EEC, Annex II - (Full Quality System)
- International Standards ISO 13485 / ISO 9001 for external fixator devices, implants for osteosynthesis and related instruments.

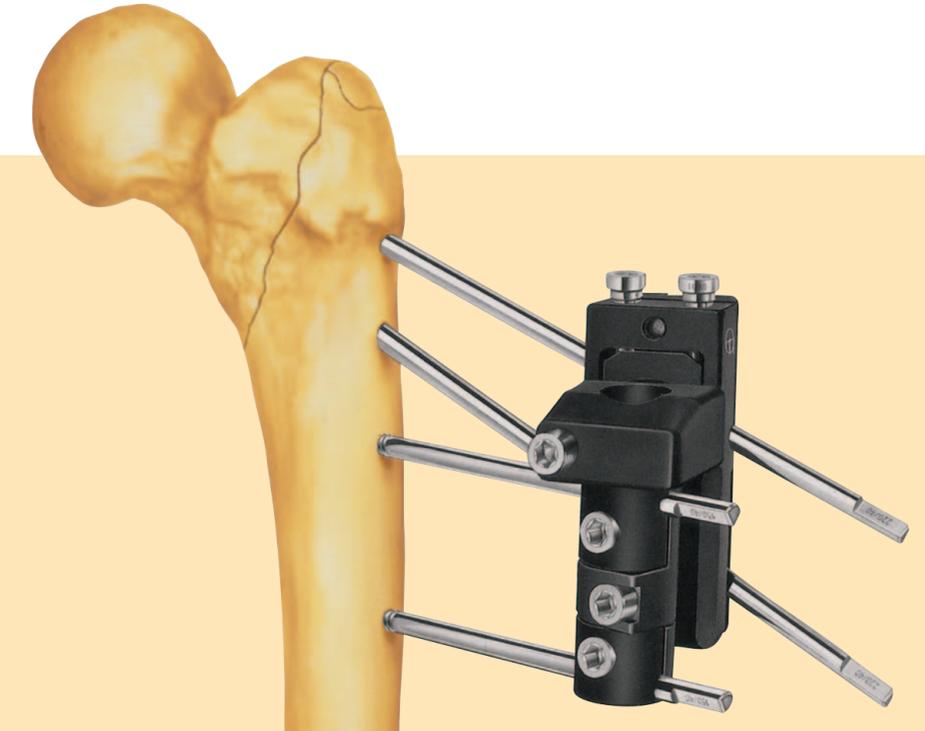


See "Orthofix External Fixation System" instruction leaflet (PQ EXF) prior to use.

Your Distributor is:

Where minimal blood loss and the shortest possible duration of surgery are mandatory...

## The Orthofix Pertrochanteric Fixator



Applied as a closed procedure

Reduced operating time

Minimal blood loss

Early weightbearing

Complete mobility of hip and knee

Simple removal in Outpatient Department

**ORTHOFIX**



PC PER E0 12D-11/09

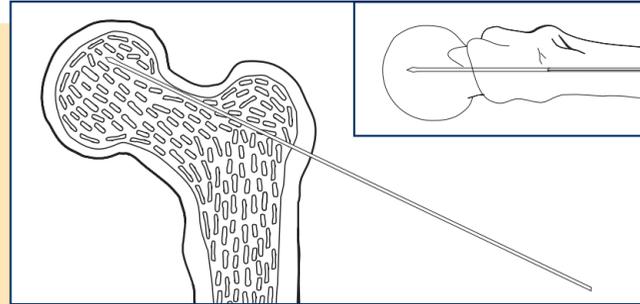
# OPERATIVE TECHNIQUE

The fracture must be reduced in both planes under image intensification, before application of the fixator.

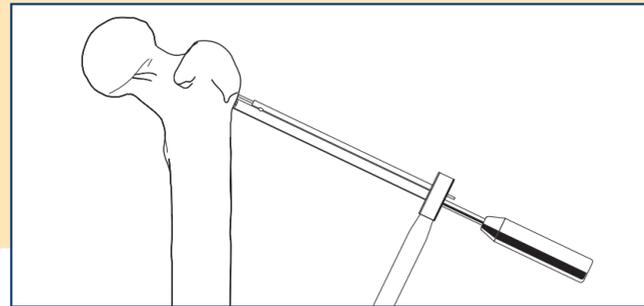
## FEMORAL NECK (SELF-DRILLING) SCREWS

*Note: The thread length is selected to ensure that it passes through and beyond the fracture site.*

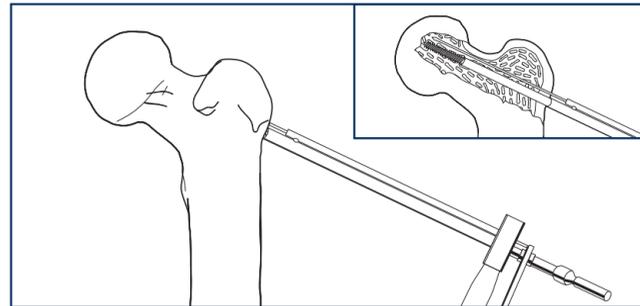
1 The most proximal screw is inserted first. A 2 mm Kirschner wire is inserted along the femoral neck at an angle of 110° to 130° to the long axis of the diaphysis. The path of this wire must be within 5 mm of the superior border of the femoral neck, and must be perfectly central when viewed axially. Correct positioning of this wire is essential, since it will determine the final position of the first proximal screw. In osteoporotic bone, this screw should be in contact with the superior cortex of the femoral neck.



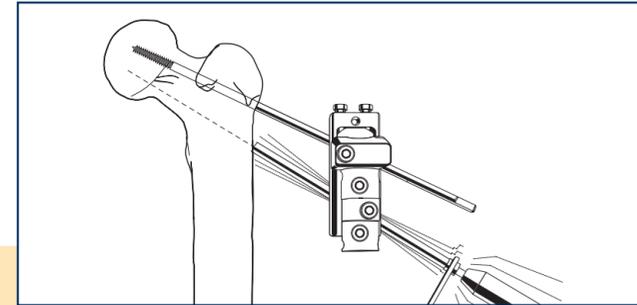
2 A 1 cm incision is made distal to the K-wire through the tissues following the direction of the wire. The 6.0 mm trocar inserted into the special screw guide is used to locate the bone, sliding the upper, cannulated section of the screw guide over the K-wire.



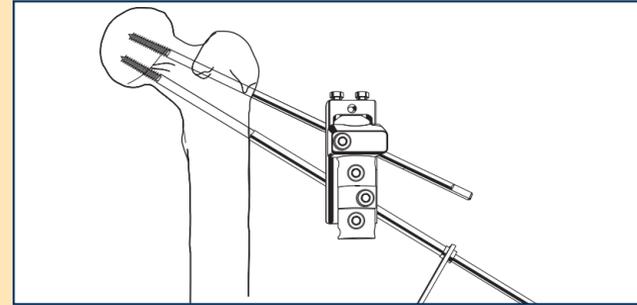
3 The first XCaliber screw 260/30 is inserted using the T-wrench or the Hand Drill (not included in the box). Image intensification is used to ensure that the screw path is perfectly parallel to that of the K-wire and the tip of the screw lies no closer than 1 cm to the articular surface.



4 The Kirschner wire and special screw guide are now removed, and the screw is positioned in one of the two fixed screw seats in the posterior clamp of the fixator, depending upon the width of the femoral neck. A screw guide, with the 6 mm trocar, is inserted into the posterior clamp distal to the swivelling screw seat, through a second incision down to the lateral aspect of the femur. Its position is adjusted according to shape of the femoral neck, and ideally so that it is slightly convergent with respect to the first screw. The trocar is then replaced by the second XCaliber screw 260/30, which is inserted down to the bone, and its position confirmed under image intensification. After positioning the posterior clamp 2 cm from the skin, its cover is tightened firmly.

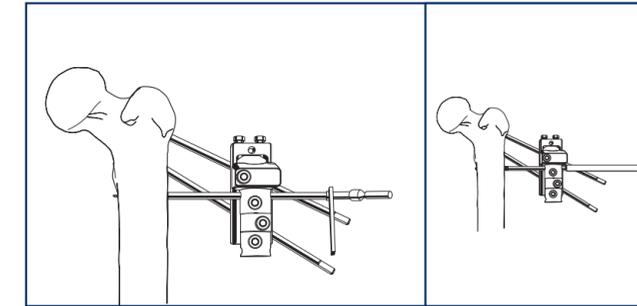
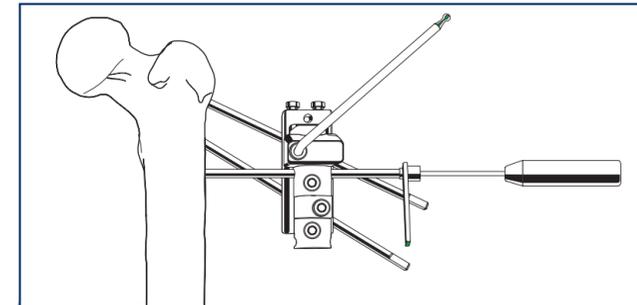


5 The second femoral neck screw is inserted in the same manner as the first. The screw guide is now removed and the screw positioned in the swivelling screw seat, after which the posterior clamp locking screws are definitively tightened. The Image Intensifier is again used to ensure that the tip of the screw lies no closer than 1 cm to the articular surface, and that it is central in the axial view.



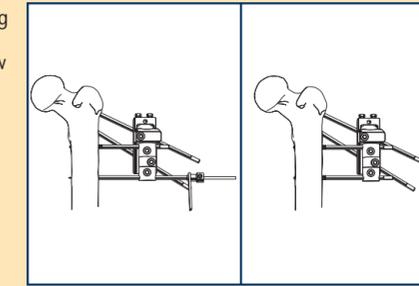
## FEMORAL DIAPHYSIS SCREWS

6 These screws may be inserted perpendicular to the long axis of the femur, or obliquely, by rotating the anterior clamp in the frontal plane and locking it in the desired position using the appropriate screws (5) (see page 5). A screw guide and trocar are inserted into the proximal seat of the anterior clamp down to the bone through an appropriate incision, and positioned over the centre of the diaphysis. The upper locking screw of the anterior clamp (6) (see page 5) is tightened to prevent any further rotational movement of the clamp, and the clamp cover is now partially tightened over the screw guide.



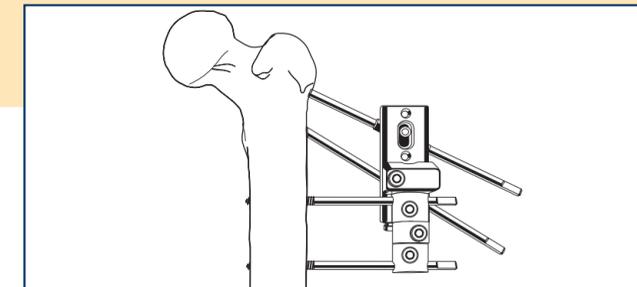
7 Although the XCaliber bone screws are self-drilling, in diaphyseal bone pre-drilling is recommended, using a 4.8 mm drill bit when the bone is hard; when the bone quality is poor a 3.2 mm drill bit should be used. The pilot hole is drilled using the correct drill guide, and a 260/40 XCaliber screw inserted until it is just protruding from the second cortex. After insertion, the screw guide is removed and the clamp cover definitively tightened.

8 The distal diaphyseal screw is now inserted through a screw guide after pre-drilling as before. The distal screw seat of the anterior clamp can rotate axially in relation to the proximal screw seat, to enable ideal positioning of this second diaphyseal screw in the centre of the bone.



The clamp is locked in this position by tightening the locking screw (7) (see page 5). After inserting the second diaphyseal screw the screw guide is removed and the clamp cover definitively tightened.

At the end of the procedure, confirm that the fracture is reduced, the cephalic screw tips are central in the head in the lateral view and about 10 mm from the articular surface, and the diaphyseal screws fully engage both cortices. All locking screws are finally tightened using the long arm of the Allen wrench. The fixator should be about 20 mm from the skin to allow for pin site care. The screw shafts should now be cut with the bone screw cutter close to the fixator clamps, leaving about 6 mm of screw shank protruding from the fixator, and the cut ends protected with screw caps. The arms of the cutter should be extended for greater efficiency, and the outer end of the screw held to prevent it causing injury.



9 This fixator configuration is used where the fracture line extends beyond the trochanteric region and is obtained by rotating the posterior clamp through 180°. In these circumstances, the proximal femoral neck screw is inserted in the swivelling screw seat, and the distal femoral neck screw in one of the fixed seats.

Traction is then discontinued, and flexion and extension of the hip and knee performed to make sure that there is no tethering of the skin around the bone screws, if necessary making releasing incisions. Dressings are now applied round the pin sites so as to exert gentle compression to stabilise the skin and help prevent haematoma formation. The dressings may be soaked before application in a non irritant antiseptic if desired.

**Disinfectants containing iodine or chlorine should never be used to clean the screws or the fixator, because this may set up corrosion on the surface of the fixator.**

*The Orthofix Peritrochanteric Fixator was developed in collaboration with Dr. E. Alcivar, Clínica Alcivar, Guayaquil, Ecuador, and Dr. F. Lavini, Insitute of Clinical Orthopaedics and Traumatology, University of Verona, Verona, Italy. and Dr. L. Renzi Brivio, Carlo Poma Hospital, Mantua, Italy*