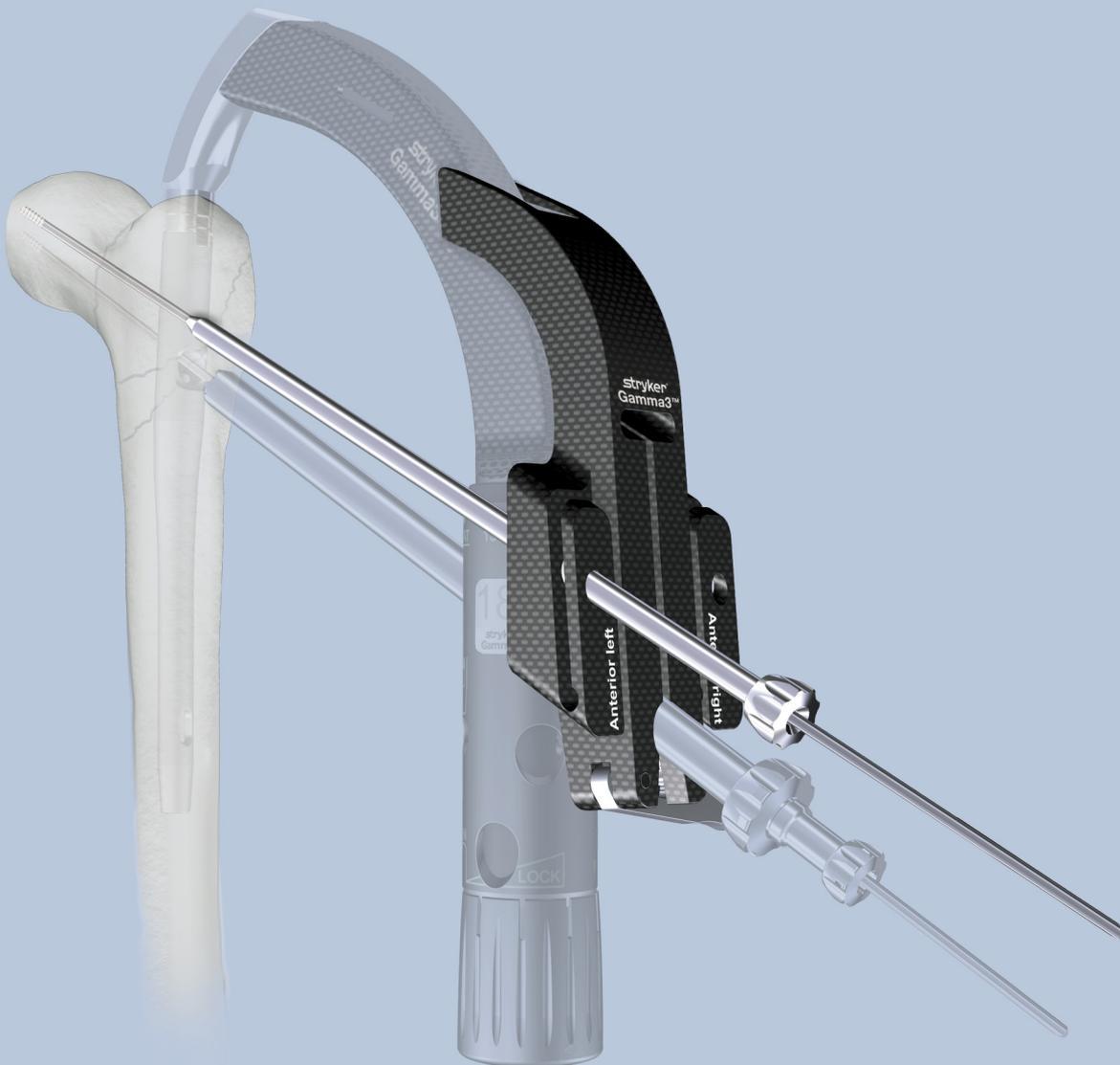


Gamma3™

Fragment Control Clip

Operative Technique

Hip Fracture



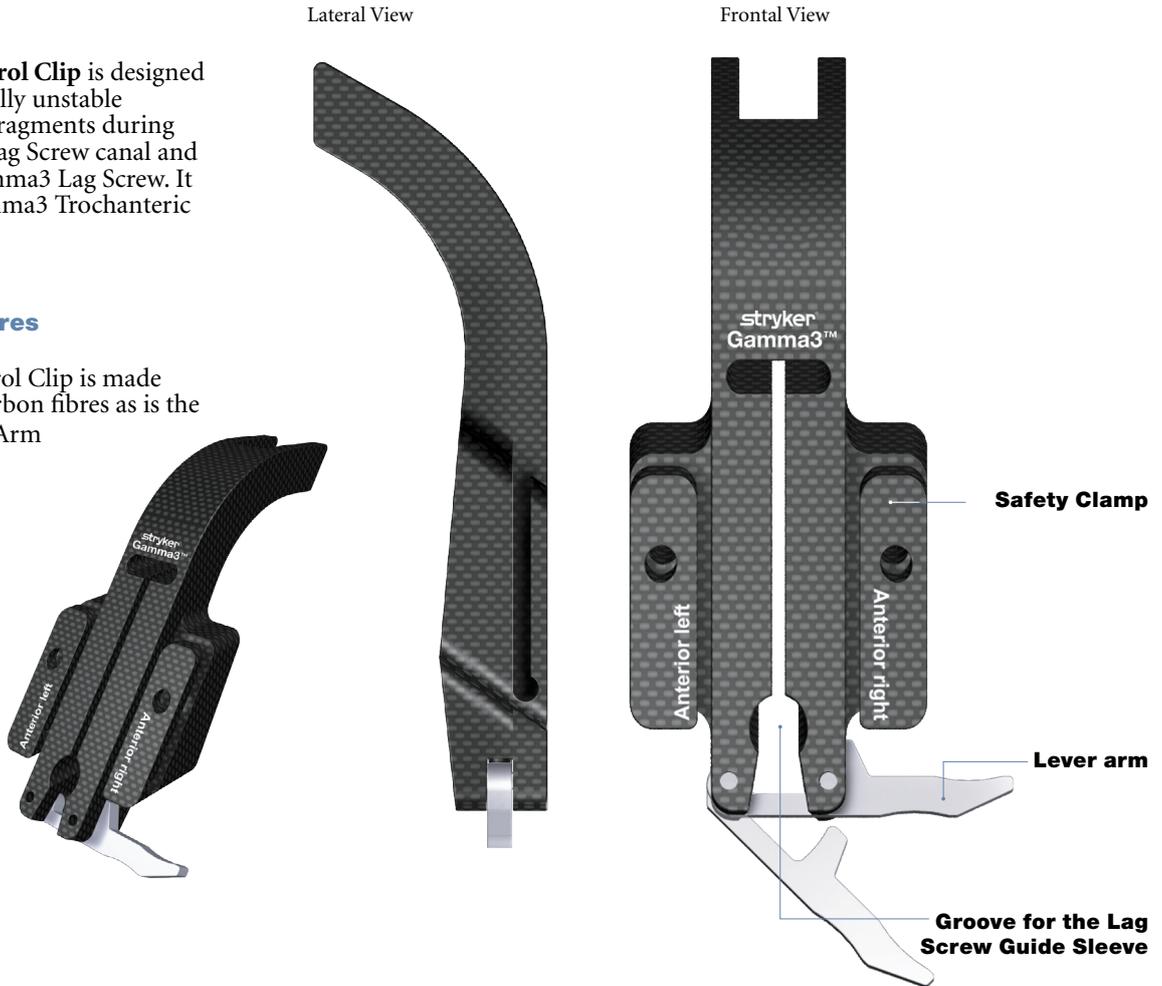
Introduction

Indication

The **Fragment Control Clip** is designed to stabilize rotationally unstable femoral head-neck fragments during preparation of the Lag Screw canal and insertion of the Gamma3 Lag Screw. It can be used for Gamma3 Trochanteric and Long Nails.

Instrument features

The Fragment Control Clip is made from radiolucent carbon fibres as is the Gamma3 Targeting Arm



Note:

Follow the Gamma3 Operative Technique up to the chapter entitled “Lag Screw Insertion” where the K-wire is in place and the Lag Screw length determination has been done.

At this point, continue with the Operative Technique. The instructions for the **Fragment Control Clip** should not interfere with or replace any chapters in the Gamma3 Operative Technique except for those detailing Lag Screw Insertion.

Note:

K-wires are not intended for re-use. They are single use only. K-wires may be damaged or bent during surgical procedures. If a K-wire is re-used, it may become lodged in the cannulated instruments and could be advanced into the pelvis, and may damage large blood vessels or cause other serious injuries.

It is important to observe the K-wire tip during drilling with the image intensifier.

Situation prior to the Assembly of the Fragment Control Clip onto the Targeting Device

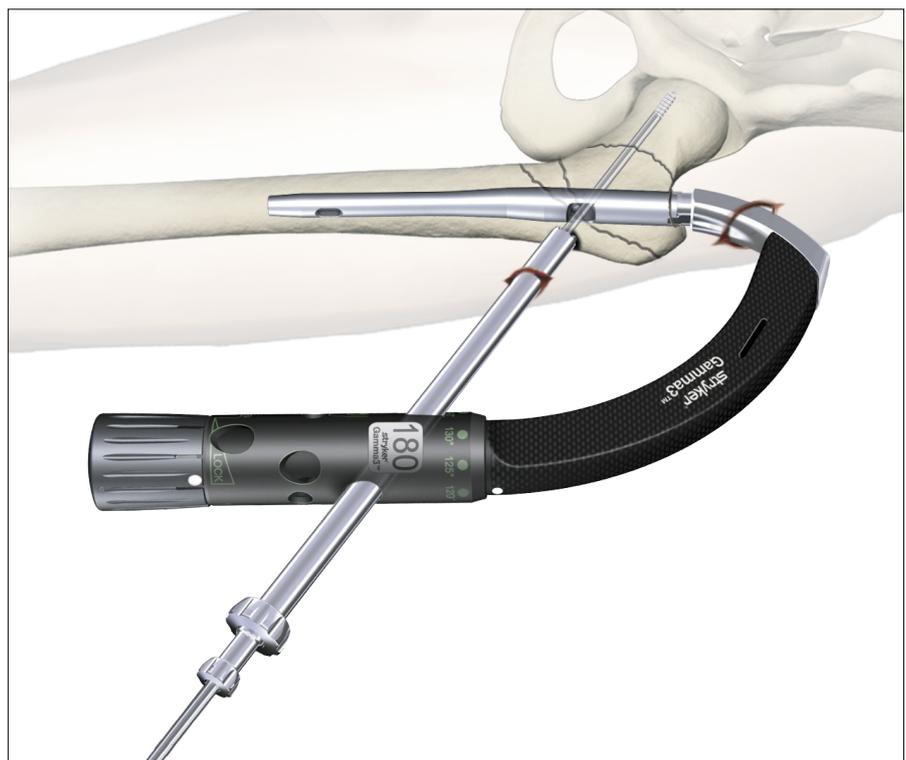


Figure 1

Operative Technique

Assembling of the Fragment Control Clip on the Targeting Device

Assemble the **Fragment Control Clip**, with the open Lever Arm onto the inserted Lag Screw Guide Sleeve and then on to the Targeting arm (Figure 2). A snap is felt, if the **Fragment Control Clip** is placed correctly onto the Lag Screw Guide Sleeve.

Make sure that the **Fragment Control Clip** is positioned in close contact to the Targeting Arm (Figure 2).

Close the Lever Arm completely to stabilize the **Fragment Control Clip**. Resistance is felt, if the Lever Arm is in its final position.

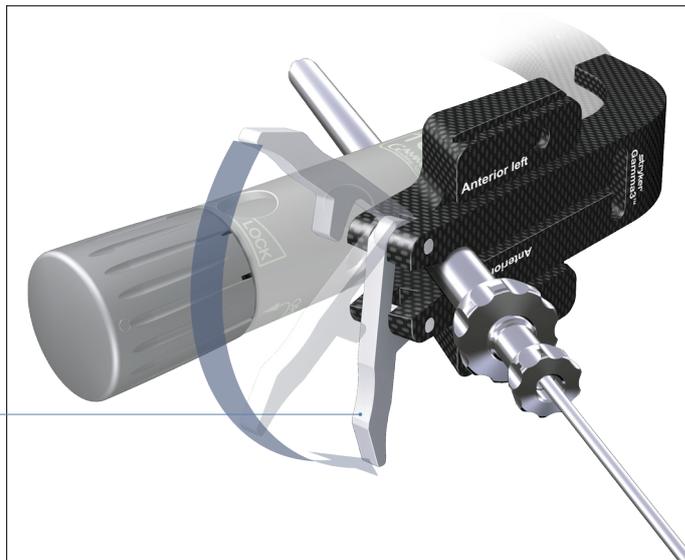


Figure 2

Inserting of the Fragment Control Sleeve

Advance the Fragment Control Sleeve through the anterior hole of the Safety Clamp in the **Fragment Control Clip**. The anterior Safety Clamp of the **Fragment Control Clip** has to be pressed down during this procedure to allow free sliding of the sleeve. The Safety Clamp is marked with “anterior left”, for the left femur and “anterior right”, for the right femur. If the Safety Clamp is released, it will keep the Fragment Control Sleeve in place and prevent it from falling out. It will also prevent the Fragment Control Sleeve from sliding during drilling and K-wire insertion.

The Fragment Control Sleeve has to be pushed to the level of the skin. This indicates the site for a small incision down to the bone.

The Fragment Control Sleeve is now advanced through the incision (Figure 3a). If the Fragment Control Sleeve catches the fascia lata, twisting will usually allow it to pass through to the bone.

Alternatively, pass the K-wire with the blunt end in front through the Fragment Control Sleeve. Advance the Fragment Control Sleeve and the K-wire together to the bone, while pushing the anterior Safety Clamp. Remove the K-wire.

In order to open the lateral cortex by drilling, the Fragment Control Sleeve must be in contact with the lateral cortex of the femur (Figure 3b).

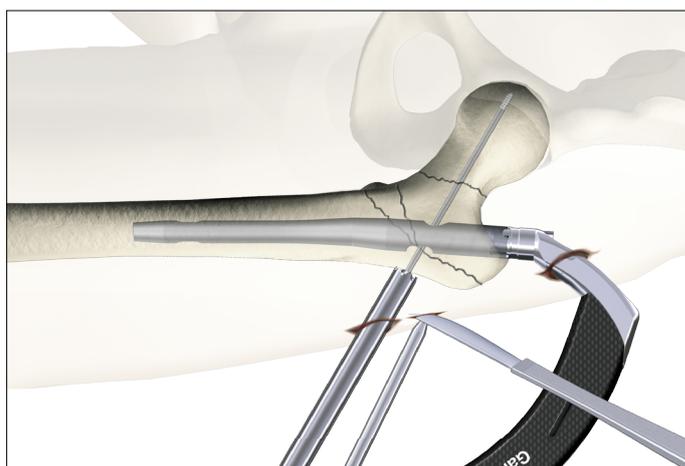


Figure 3a

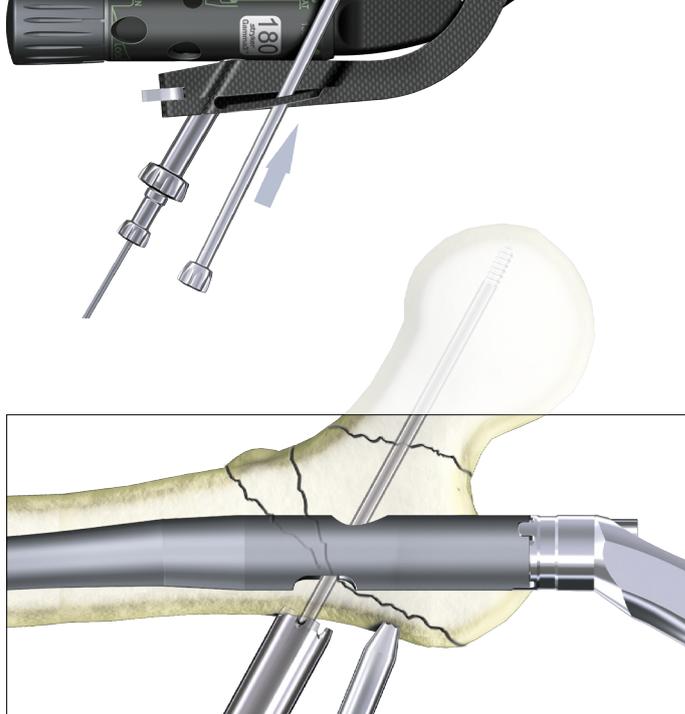


Figure 3b

Operative Technique

Opening of the lateral cortex

Using the white coded centre tipped drill 3.0mm × 300mm, the lateral cortex should be carefully opened by using a power tool (Figure 4).

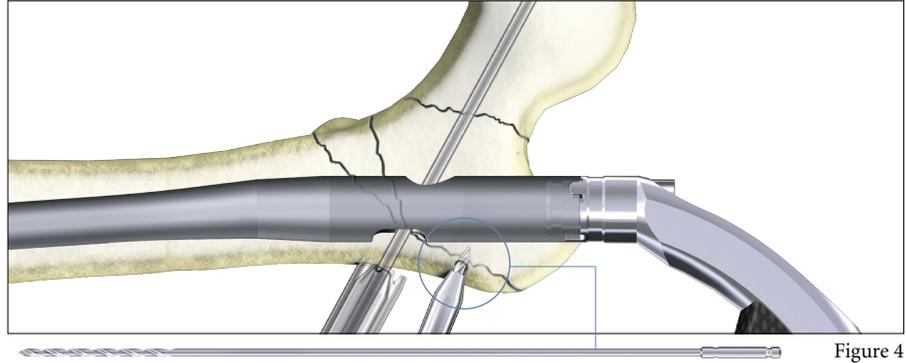


Figure 4

K-wire insertion

The white coded 3.0mm x 300mm drill is then replaced by the 3.2mm x 450mm K-wire. Using the Guide Wire Handle, the K-wire should be placed as close as possible to the subchondral bone of the femoral head, to allow maximum stabilization of the head-neck fragment (Figure 5).

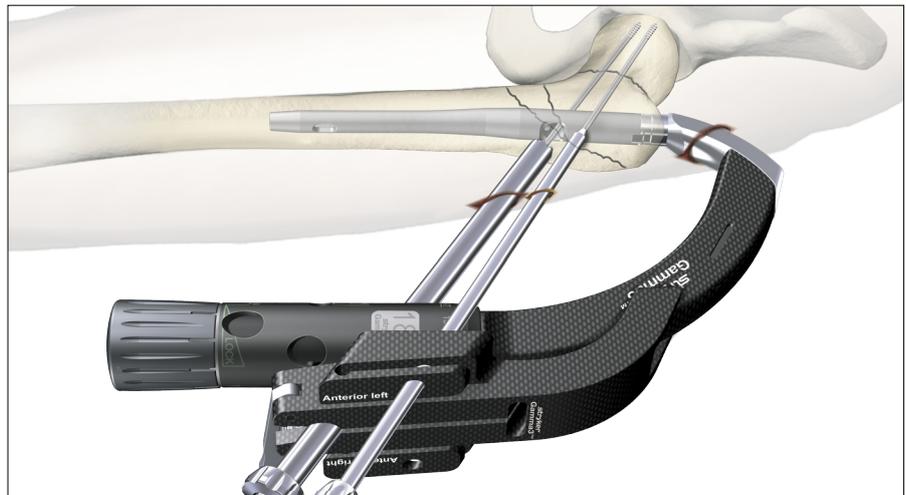


Figure 5

Lag Screw Insertion and Lag Screw Fixation

After proper fracture fragment stabilization, remove the Guide Wire Handle and follow the Gamma3 Operative Technique beginning at the chapter entitled “Lag Screw Insertion”, where the K-wire is in place and the Lag Screw length determination has been done.

After the Lag Screw Insertion is complete, follow the Gamma3 Operative Technique until the chapter entitled “Lag Screw Fixation” (Figure 6).

Make sure that the fixation of the Lag Screw and the insertion of the Set Screw is done correctly.

Now disconnect the Lag Screwdriver by loosening the end thumbwheel, and remove the Lag Screwdriver and the K-wire of the Lag Screw.



Removal of the Fragment Control Clip

By using the Guide Wire Handle, the K-wire of the Fragment Control Clip must be removed after Lag Screw fixation.

Remove the Fragment Control Sleeve by pressing the Safety Clamp down and then remove the **Fragment Control Clip** by opening the lever arm.

After removal of the Fragment Control Clip, follow the Gamma3 Operative Technique beginning at the chapter entitled “Distal Screw Locking”, if distal locking is required.

The Lag Screwdriver and the K-wire of the Lag Screw should already have been removed!

Note:

The **Fragment Control Clip** should only be used if the diameter of the femoral neck allows K-wire insertion without penetrating the cortex of the femoral neck, to avoid damaging the circumflex artery.

It is strongly recommended to use the anterior approach of the **Fragment Control Clip** only. A posterior insertion of the K-wire could cause injury of the circumflex artery at the dorsal portion of the trochanteric region.

If the fixation of the **Fragment Control Clip** on the Targeting Arm/ Lag Screw Guide Sleeve is not properly done, a dislocation of the K-wire may cause injuries.

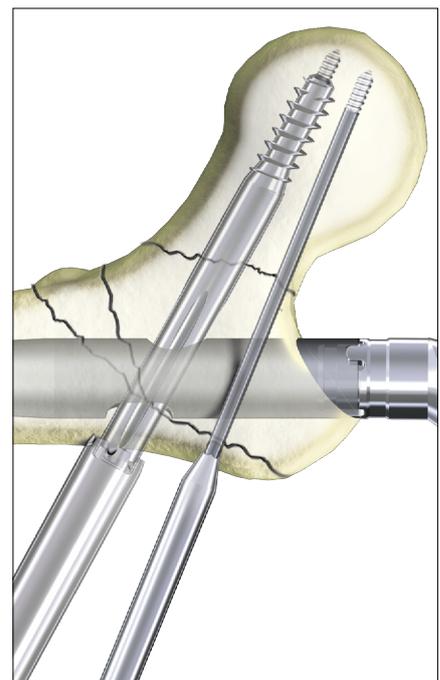
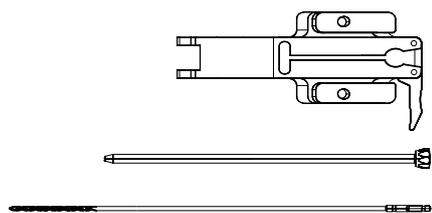


Figure 6

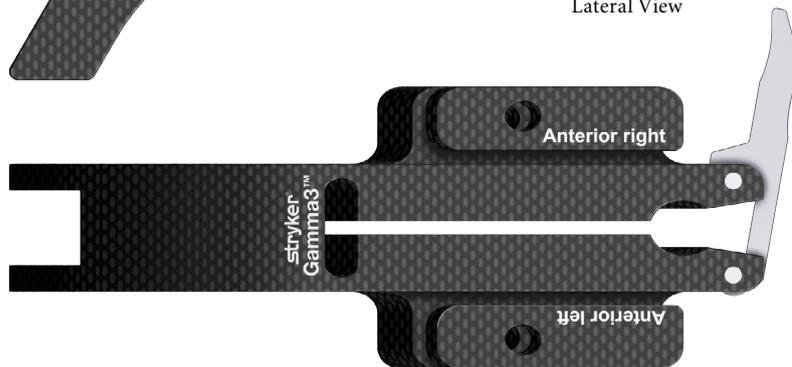
Ordering Information - Instruments



REF	Description
Standard Instruments	
1320-0160	Fragment Control Clip
1320-0170	Fragment Control Sleeve
1320-3030S	Drill 3.0mm x 300mm, AO small, sterile, white coded



1320-0160 Fragment Control Clip Lateral View



1320-0160 Fragment Control Clip Frontal View



1320-0170 Fragment Control Sleeve



1320-3030S Drill 3.0mm x 300mm, AO small, sterile, white coded

This publication sets forth detailed recommended procedures for using Stryker Trauma devices and instruments. It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required. A workshop training is required prior to first surgery.

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