

KneeBar™ Procedure OSSIOfiber® Trimmable Fixation Nails

Surgical Technique Guide

*Treatment of Subchondral
Insufficiency Fracture of the Knee*



Subchondral Insufficiency Fracture Repair Using OSSIOfiber® 4.0mm Cannulated Trimmable Fixation Nail (CTFN)

Arthroscopically-Assisted Percutaneous Fracture Repair Technique

The surgical procedure utilizes the **OSSIOfiber® 4.0mm CTFN** for the management of subchondral insufficiency fracture of the femur and tibia. The CTFN provides mechanical stability and enables a healing response followed by bio-integration with implant replacement by bone.

Indications

The **OSSIOfiber® Trimmable Fixation Nails** are indicated for maintenance of alignment and fixation of bone fractures, osteotomies, arthrodesis and bone grafts in the presence of appropriate additional immobilization (e.g. rigid fixation implants, cast, brace) in adults, children (2-12 years) and adolescents (12-21 years) whose growth plates have fused or where growth plates will not be crossed by fixation.

1 Pre-op Planning

Consult pre-operative MR images for fracture location and accurate bi-cortical CTFN placement.



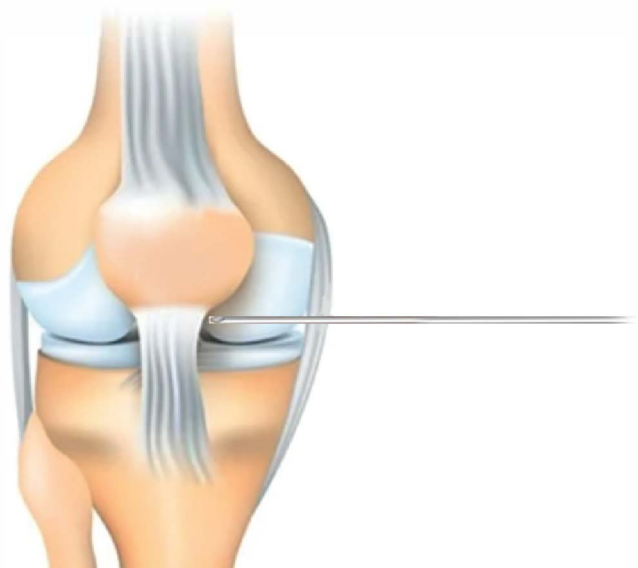
2 Place K-Wire

A 1.4mm K-Wire is placed bi-cortical and parallel to the articular joint surface ideally within the MRI verified location of the fracture.

The tip of the K-Wire is seated into but not past the far cortex.

NOTE:

It is recommended to use image guidance for accurate placement of K-Wires to ensure appropriate depth, spacing, and positioning of the CTFN relative to the subchondral plate with a goal to achieve bi-cortical placement.

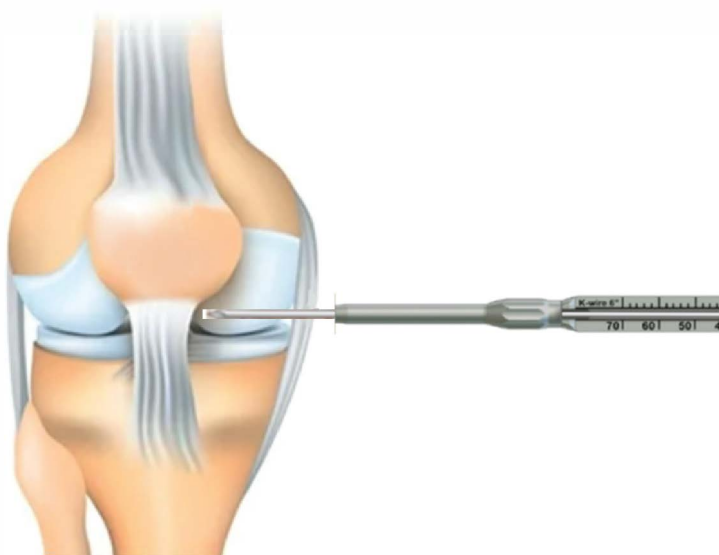


3 Measure Depth

The depth gauge is placed over K-Wire to measure and determine the required length of the CTFN.

The tip of the depth gauge must be flush with the near cortex as verified by image guidance.

Trim the CTFN to the measured length prior to implantation.

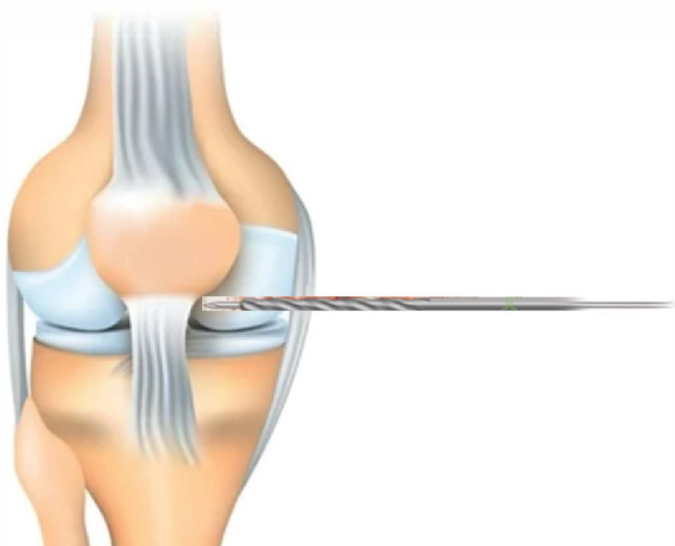


4 Drill Over K-Wire

Place the cannulated drill over the K-Wire to create a bi-cortical hole for the CTFN.

Optional Depth Measurement:

Hole depth can also be determined after drilling by removing the K-Wire and using a standard depth gauge.

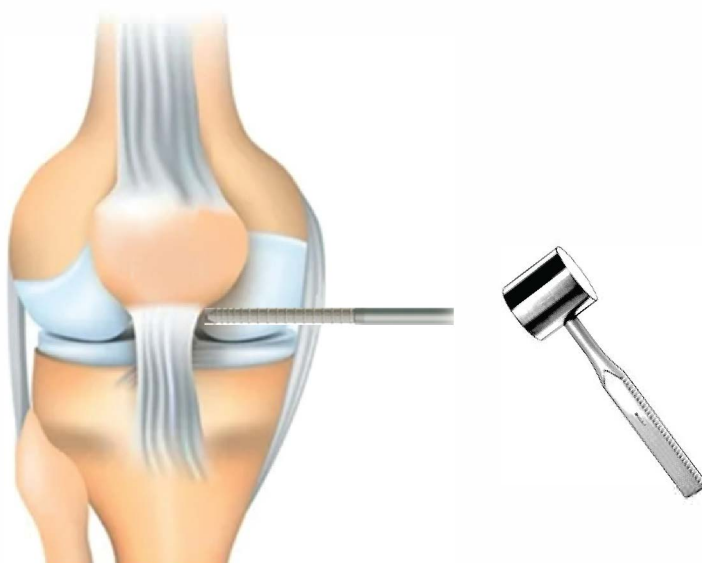


5 Advance CTFN Into Drilled Hole

Place tapered end of CTFN over K-Wire and impact using the cannulated tamp to advance the implant until it is flush with the cortical bone.

Note:

Avoid excessive force when using the mallet to prevent over-burying the nail, causing it to protrude the far cortex.



6 Repeat Steps if Needed

Steps 1-5 are repeated for use of multiple CTFNs.

Note:

Recommended spacing between CTFNs is approximately 1cm if more than one CTFN is used.

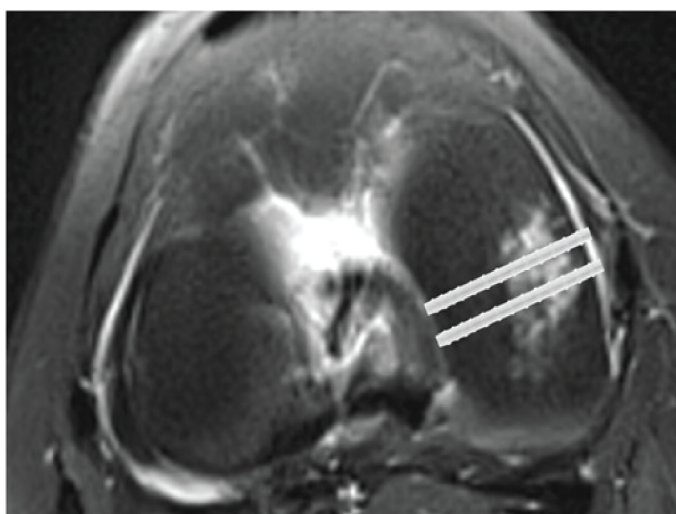
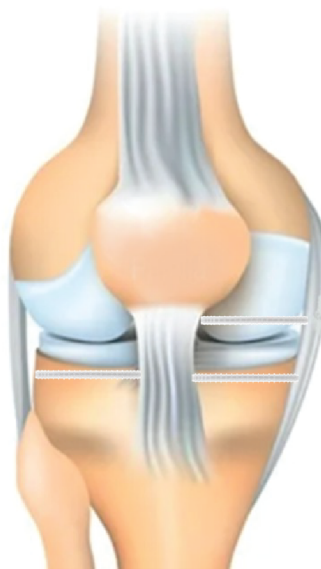


Illustration of CTFNs traversing a subchondral insufficiency fracture on MRI

Subchondral Insufficiency Fracture Repair Surgical Technique

Treatment of femur or tibia insufficiency fractures follow the identical steps to achieve bi-cortical fixation.

Implant Size Recommendation

- **Femoral Condyle Insufficiency Fracture Repair**

Utilize the 4.0 x 70mm Cannulated Trimmable Fixation Nail

- OF2054070S - **OSSIO**fiber® Cannulated Trimmable Fixation Nail System 4.0 x 70mm

- **Tibial Insufficiency Fracture Repair**

Utilize the 4.0 x 100mm Cannulated Trimmable Fixation Nail

- OF2054100S - **OSSIO**fiber® Cannulated Trimmable Fixation Nail System 4.0 x 100mm
- OF1054100S - **OSSIO**fiber® Cannulated Trimmable Fixation Nail Implant 4.0 x 100mm

Note: The surgeon must choose the appropriate size and number of **OSSIO**fiber® Trimmable Fixation Nails that best meets the clinical presentation and imaging findings.

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