

MEDACTA SHOULDER SYSTEM

COMPLETE, CONVERTIBLE, INNOVATIVE



Surgical Technique

Joint

Spine

Sports Med

GRAB INSTRUMENTS

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1. INTRODUCTION

This surgical technique describes how to harvest a bone graft from the humeral head and how to shape it.

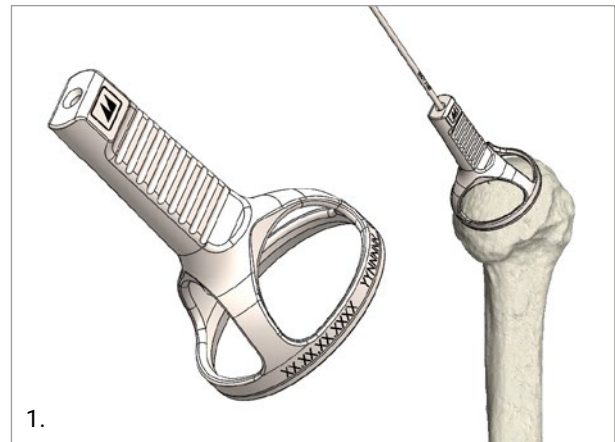
This surgical technique is not recommended in cases of humeral head necrosis, humeral head fractures and revision of failed total or hemi arthroplasty.

In these cases, an allograft should be used and shaped with the instruments.

This operating technique is independent of the chosen approach.

2. K-WIRE POSITIONING

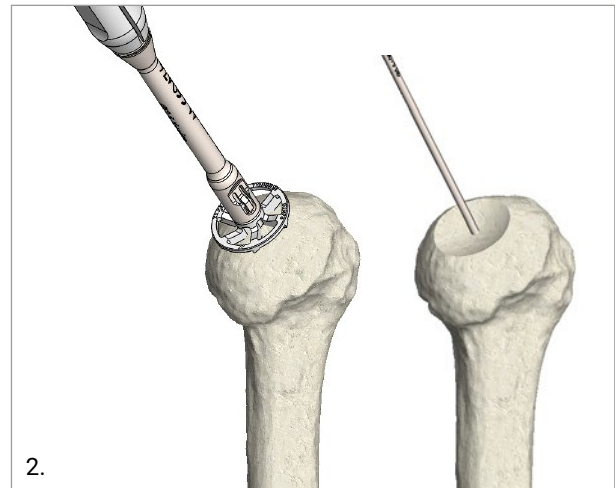
Position the Humeral K-wire Positioner onto the center of the humeral head in order to match the bone convexity. Insert the Ø2.5mm K-wire through the central hole of the Humeral K-wire Positioner and drill until it penetrates the lateral cortex. Placement through the lateral cortex will prevent K-wire migration during the subsequent steps.



Remove the instrument, leaving the K-wire in place.

3. BACK SURFACE REAMING

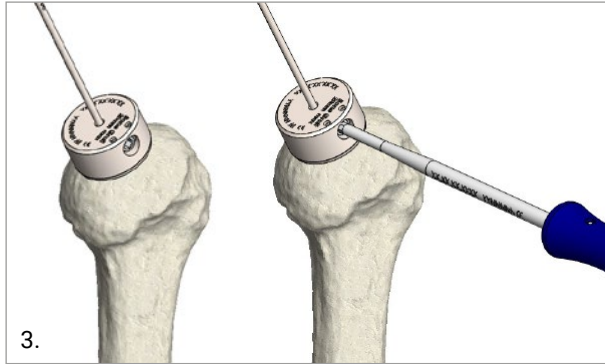
Connect the Reamer Ø27mm to the Reamer Handle and slide them over the Ø2.5mm K-wire. Ream the humeral head surface until the Reamer is completely in contact with the bone.



Extract the instrument, leaving the K-wire in place.

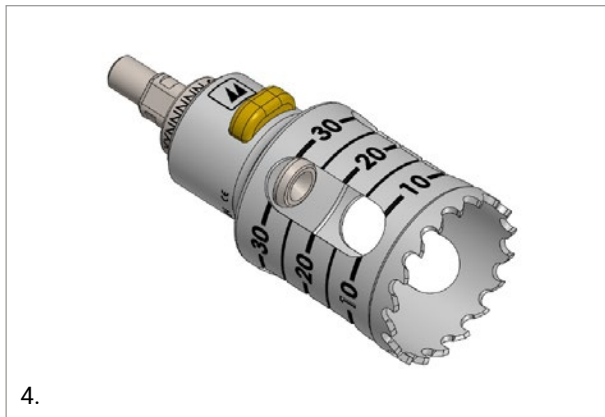
4. BONE GRAFT REAMING

Slide the Central Piston Guide over the K-wire and place it on the reamed humeral head surface. Use a HEX 3.5 screwdriver to tighten the screw inside the instrument in order to lock it on the K-wire.

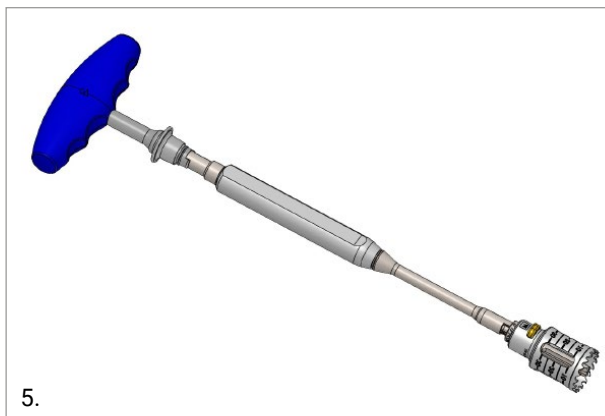


The Central Piston Guide is available in two different height options, depending on the desired reaming depth.

Connect the Modular Trepine - Graft Reamer with the Modular Trepine - K-wire Adaptor.



Assemble the Reamer Handle with the T-handle and connect them to the previously assembled instruments.



Slide this construct on the K-wire and the Central Piston Guide. Ream the humeral head until the desired depth is reached. The numbers on the external surface of the Graft Reamer represent the height of the bone graft.

If the Central Piston Guide is used as a mechanical stop, the maximum bone reaming depth is 10mm or 20mm, depending on the selected Central Piston Guide. If a higher bone graft height is necessary, unscrew the Central Piston Guide, remove it and proceed with the reaming.



Extract the instruments.

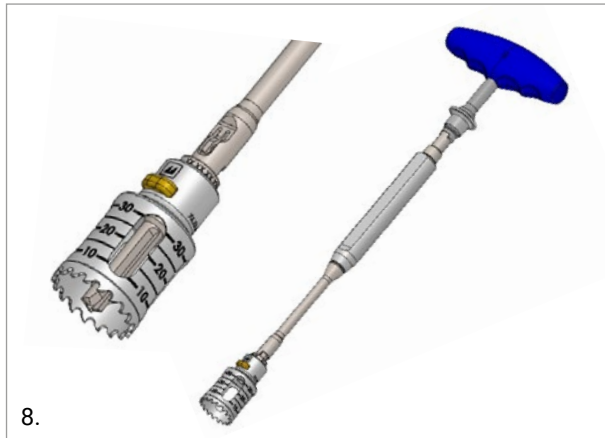
Select the desired length of the Central Peg Reamer and connect it to the Reamer Handle. Slide the assembled reamer over the K-wire and use a power tool to ream until the mechanical stop is reached.



Remove the instruments.

Alternatively, it is possible to perform the steps described above in only one phase.

In this case, connect the Modular Trepine - Central peg reamer to the Modular Trepine - Graft reamer and assemble them with the Reamer Handle and T-handle.

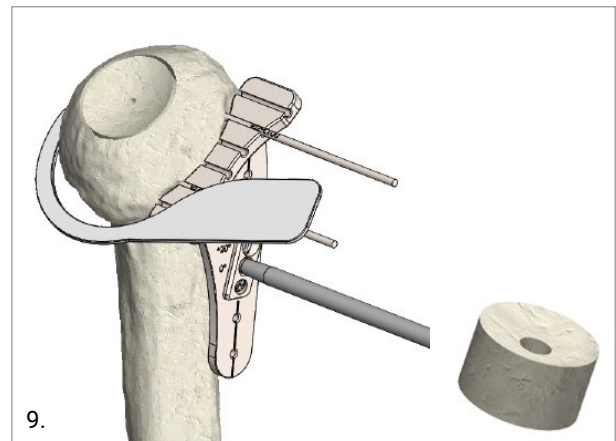


Without using the Central Piston Guide, slide the assembled devices over the K-wire and ream the humeral head according to the desired depth.

5. BONE GRAFT HARVESTING

Position the Extramedullary Humeral Cutting Guide so that the resection plane is flush with the most medial insertion line of the supraspinatus and the shaft that follows the humeral diaphysis. This will result in an approximate cut inclination of 135°.

Check the cut inclination and retroversion using the Humeral Sickle and the Retroversion Rod. Once the desired position is found, fix the guide with two Ø2mm pins.

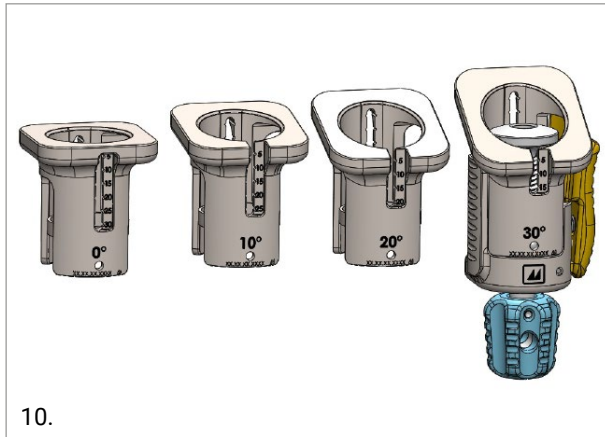


Perform the cut using an oscillating saw and extract the cylindrical graft resulting from the resection.

6. BONE GRAFT SHAPING

The bone graft should be shaped according to the planned/ desired dimensions.

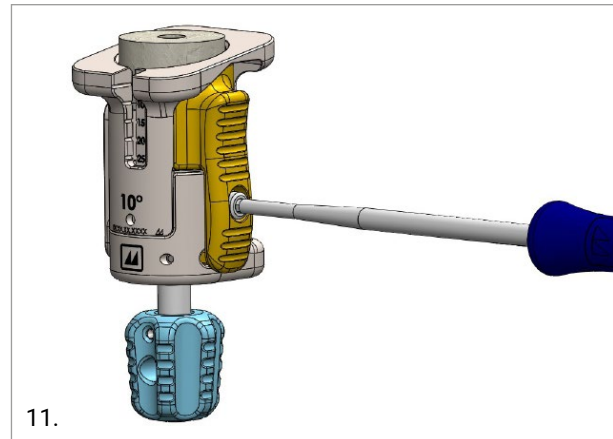
Select the Graft Shaper according to the desired angulation and assemble it with the Graft Holder. Four different angles are available: 0°, 10°, 20° and 30°.



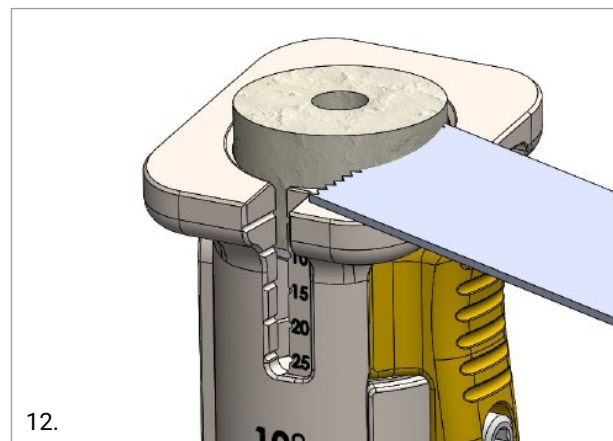
Put the bone graft into the assembled instrument making sure to place the curved surface of the graft on the bottom of the device.

Rotate the knob to adjust the graft height according to the desired dimensions. The numbers on the Graft Shaper indicate the bone graft thickness. Depending on the chosen angle, the numbers indicate the thickness of the two sides of the graft.

Then, press the lateral pincer in order to firmly hold the graft in place. Use a HEX 3.5 screwdriver to tighten the screw inside the pincer to lock it.



Perform the final shaping using an oscillating saw



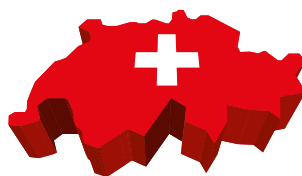
CAUTION

Pay attention to keep the hands away from the cutting plane while performing the resection.

Part numbers subject to change.

NOTE FOR STERILIZATION

The instrumentation is not sterile upon delivery. Instruments must be cleaned before use and sterilized in an autoclave respecting the US regulations, directives where applicable, and following the manufactures instructions for use of the autoclave. For detailed instructions please refer to the document "Recommendations for cleaning decontamination and sterilisation of Medacta International orthopaedic devices" available at www.medacta.com.



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MEDACTA.COM



Medacta International SA
Strada Regina - 6874 Castel San Pietro - Switzerland
Phone +41 91 696 60 60 - Fax +41 91 696 60 66
info@medacta.ch

Find your local dealer at: [medacta.com/locations](https://www.medacta.com/locations)

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