

Smith+Nephew

TITAN

Modular Shoulder System

Removal Surgical Technique



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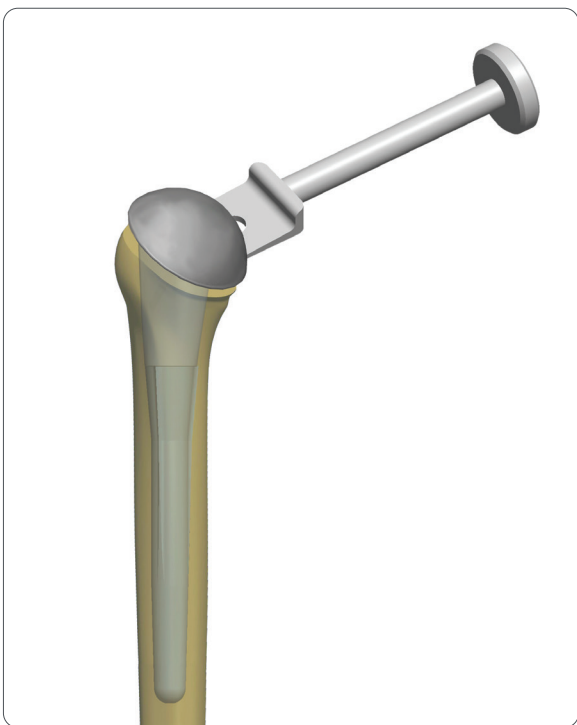
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Introduction

The TITAN Reverse Shoulder System and the following technique guide was prepared under the guidance of Phillip Duke, MB.BS, FRACS, FA(ORTH)A; William Geissler, MD; Sanford Kunkel, MD; Matthew Ramsey, MD; Mark Ross, MB.BS.FRACS, FA(ORTH)A; Jean-Marc Glasson, MD; and Reza Omid, MD under close collaboration with each physician. It contains a summary of medical techniques and opinions based upon their training and expertise in the field, along with their knowledge of Smith & Nephew products. It is provided for educational and informational purposes only. Smith & Nephew does not provide medical advice and it is not intended to serve as such. It is the responsibility of the treating physician to determine and utilize the appropriate products and techniques according to their own clinical judgment for each of their patients. For more information on the products in this surgical technique, including indications for use, contraindications, effects, precautions and warnings, please consult the products' Instructions for Use (IFU).

Nota Bene

The following technique is for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of treating physicians to determine and utilize the appropriate products and techniques according to their own clinical judgment for each of their patients. For more information on the product, including its indications for use, contraindications, and product safety information, please refer to the product's label and the Instructions for Use packaged with the product.

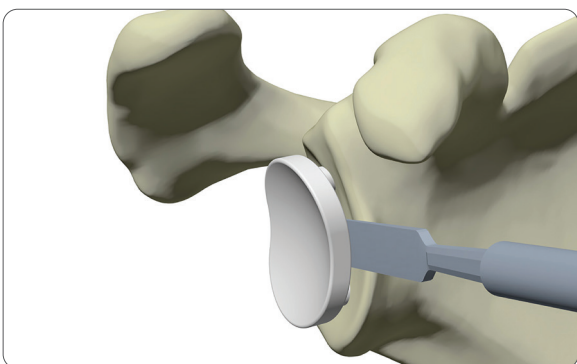


1-1

Removing Anatomic Components

Removing the Humeral Head

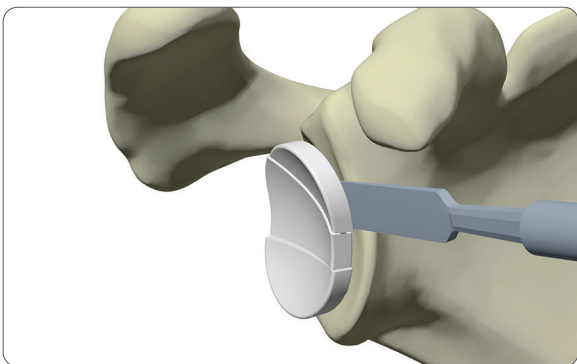
1-1 The Humeral Head can be removed using the Humeral Head Extractor. Place the two prongs of the extractor between the humeral head and the osteotomy surface so that the prongs will advance in each side of the linking component. Lift the head off the proximal humeral body taper by impacting the end of the extractor with the slotted mallet. (Figure 2)



2-1

Removing the Anatomic Glenoid

2-1 To remove the Anatomic Glenoid Implant, gently tap a narrow osteotome in the interface between the Implant and the glenoid bone surface at various locations to try to cleave the back side pegs off the surface of the implant. Gentle levering of the osteotome may help pry the implant off the glenoid surface but may risk fracture of the glenoid bone. The glenoid implant may also be removed piecemeal by cutting the implant surface into 2 or 3 parts with an osteotome and then removing them one by one with an osteotome. Likewise, a rongeur may be used to remove the glenoid component piecemeal with less risk of glenoid bone fracture in the setting of jeopardized glenoid bone stock.



2-2

2-2 Once the articulating surface of the anatomic glenoid implant has been removed, the residual pegs and/or bone cement remaining in the glenoid vault may be removed with curettes if needed. In the case of revising an anatomic glenoid implant or converting an anatomic implant to a reverse baseplate, check whether the remaining glenoid bone stock is sufficient to support the implantation of the new component.



3-1

Removing Reverse Components

3-1 Prior to performing a revision case, verify the post diameter of the baseplate used. This technique and associated instrumentation is only valid for GBP-0961-094-S (RSS GLENOID BASEPLATE-S). If a different baseplate was used, please reference the TITAN Reverse Shoulder System Surgical Technique for the appropriate technique and instrumentation.

To remove the in-situ Glenosphere, the Glenosphere Removal Handle is fully threaded into the in situ Glenosphere to release the taper lock of the Glenosphere from the Baseplate. If a central screw is in the Baseplate, the tip of the Glenosphere Removal Handle will push the two components apart with advancement. If no central screw is in the Baseplate use the slotted mallet on the Glenosphere Removal Handle to disengage the Glenosphere from the Baseplate with gentle strikes. (Figure 1)

Note: The Glenosphere Removal Handle will not work to remove the Glenosphere from the Baseplate without use of the slotted mallet, if the central screw was not previously placed in the Baseplate.



3-2

3-2 After the glenosphere is removed, utilize the TX-15 Star Drive for 4.5mm screws. If Locking Caps were used, the Locking Caps must be removed to gain access to the screw. Remove all locking caps by turning the TX-15 Star Drive for 4.5mm screws counter-clockwise until the Locking caps are free from the baseplate.

After all locking caps have been removed all peripheral and central screws may now be removed. Remove all screws by turning the TX-15 Star Drive for 4.5mm screws counter-clockwise until the screw are free from the bone and baseplate.



4-1

Removing Humeral Poly Liner

4-1 The Humeral Poly Liner is removed using an osteotome. The 1/8 Hex Driver is used to remove the body screw. The Body Separator is threaded into the Reverse Body and threaded until the Reverse Body is disengaged from the in-situ stem. The Humeral Body Inserter/Extractor may be attached to the Reverse Body to help remove the Reverse Body from the proximal humerus.

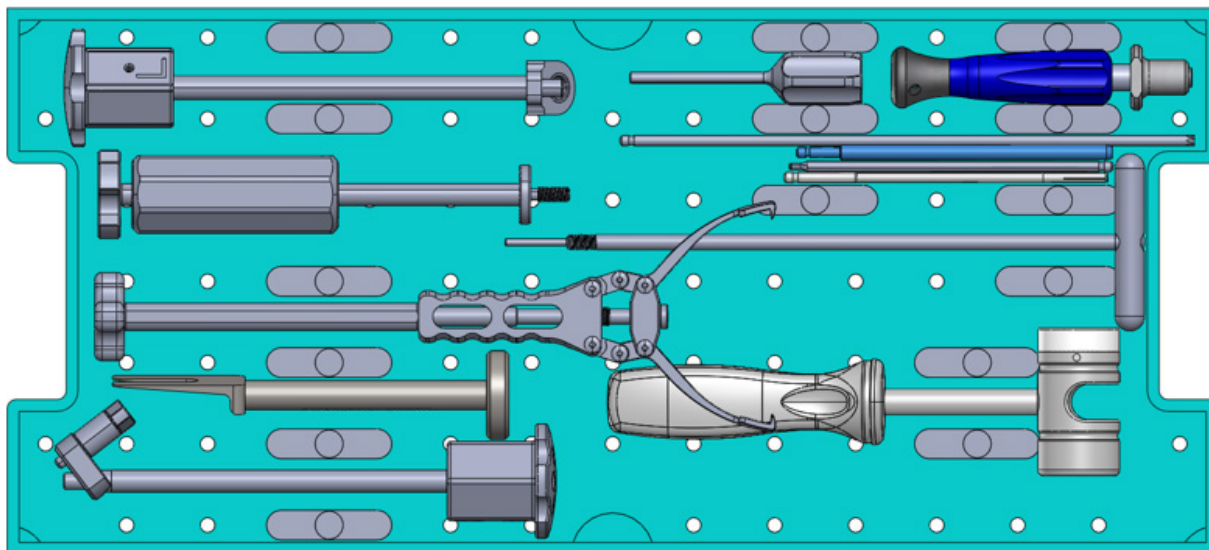
Removing the Proximal Humeral Body

4-2 The Humeral Body can be removed using the Body Separator and the final Implant Inserter/Extractor. Disengage the Humeral Body Screw and remove using the 1/8 Hex Driver. Unthread the inner rod from the Implant Inserter/Extractor and replace with the Body Separator. Place the Inserter/Extractor over the taper, and thread the Body Separator into the Humeral Body until resistance is felt. Grip the Inserter/Extractor firmly to control rotation of implant and continue to tighten the Body Separator to disengage the morse taper between the Humeral Body and Distal Stem. Remove the Humeral Body, which will be threaded onto the Body Separator. (Figure 3)

Removing the Stem

A Slap Hammer and Stem Adaptor that can attach to the implanted stem for removal.

TITAN Instrument Tray



Cat no	Description
7205683	X-Large Multi-Purpose Tray
SCR-0960-072-01	T-25 Driver
SCR-0960-063-01	T-15 Driver
SCR-0960-062-01	2.5mm Hex
HDL-0920-060-001	1/8 Driver
RM-1011S03	AO Handle
INS-0960-094-01	Humeral Body Knob
INS-0960-048-01	Humeral Body Extractor
INS-0923-045-001	Humeral Implant Extractor
HDL-0960-067-01	Glenosphere Removal Handle
SET188A001	Head Extractor
AA-0950040502	Stem Adaptor
SP0920068001	Body Separator
EXT91000	TITAN Extractor

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**Surgical Technique**

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