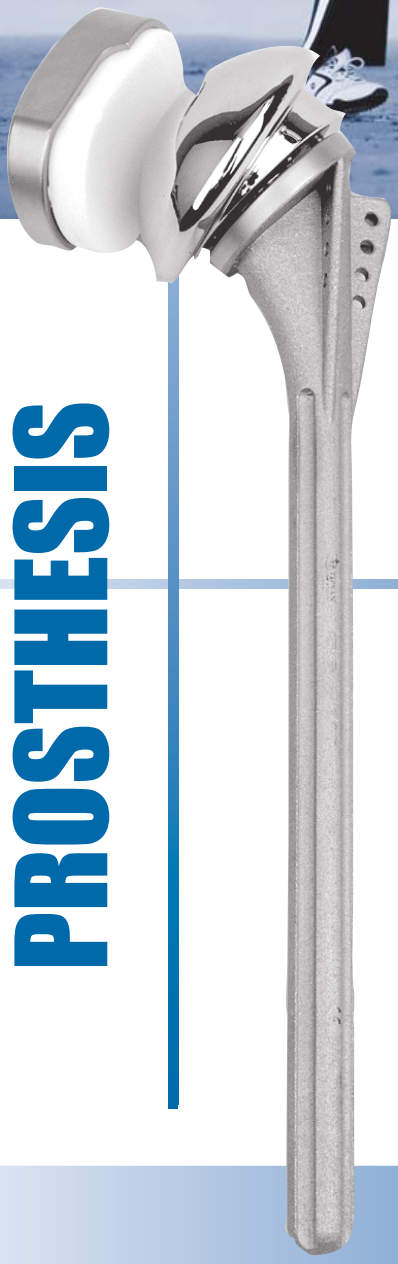


MODULAR SHOULDER PROSTHESIS

The key in

orthopaedic

sciences

CONTENTS

Introduction

Modular Shoulder Prosthesis

The Tipsan cemented shoulder prosthesis has been designed for both total and hemi-arthroplasty of shoulder. The modular components allow for superior tensioning of the soft tissue. Modular design technology provides you with maximum intraoperative flexibility and the patient with maximum postoperative function. The modular components contents the following.

Humeral Stem

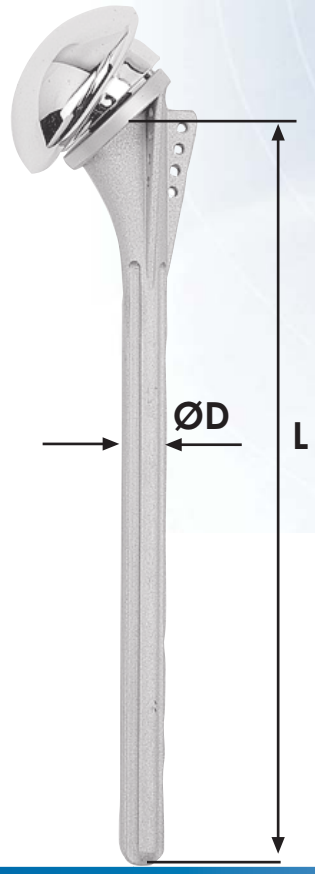
- Humeral stems;allow the surgeon for better reconstruction of rotator cuff tuberosity mechanism in difficult fractures and secure fixation of stem in humeral shaft.
- Rotational stability enchanced by lateral and posterior fins.
- Lateral fins allow fixation of tuberosities during hemi-arthroplasty for fracture. Modular humeral stem designed for pleno-humeral arthrosis and multifragment proximal humerus fractures.
- Humeral stem designed for cemented fixation in four different diameters (7-9-11.25-12.5 mm) with two different lenght 130-150 mm.

Modular Heads

- Four stainless steel humeral head sizes are avaliable with 3 standard heights (standard - 15° protrudet - high) for each diameter, offering comprehensive coverage of size range for soft tissue balancing and ensure accurate fit to glenoid cavity.
- Designed to enhance range of motion.
- Heads can be removed to expose the glenoid surface for future arthroplasty.

Metal-backed glenoid component

- Modular polyethylene liners designed to prevent superior migration.
- Medial fin to enhance glenoid component stability. Provisional glenoid allow intraoperative flexibility in soft tensioning.



Please Note : This document is intended as a guide for the surgeon only. There are multiple techniques for the insertion of Modular Shoulder Prosthesis and, as with any surgical procedure, a surgeon should be thoroughly trained and beware that this procedure is appropriate for the patient before proceeding.

Material

Certified Stainless Steel according to ASTM F.138 - ISO 5832/1 for Modular heads and Glenoid shell. Stem is manufactured either from casting Co.Cr.-alloy according to ASTM F.75 - ISO 5832/4 or Titanium according to ASTM F.136 - ISO 5832/3 Glenoid insert is manufactured from UHMWPE Ulltra Heavy Molecular WeightPolyethylyene

Ref. Number Stainless Steel	Ref. Number Titanium	Ref. Number CoCr - alloy	Size D mm	L mm
10235011001	10235012001	10235013001	7.00	130
10235011002	10235012002	10235013002	7.00	150
10235011003	10235012003	10235013003	9.00	130
10235011004	10235012004	10235013004	9.00	150
10235011005	10235012005	10235013005	11.25	130
10235011006	10235012006	10235013006	11.25	150
10235011007	10235012007	10235013007	12.50	130
10235011008	10235012008	10235013008	12.50	150

Modular Heads

Ref. Number Stainless Steel	Ref. Number Titanium	Size mm	
10235021001	10235022001	40	Standard
10235021002	10235022002	42	
10235021003	10235022003	44	
10235021005	10235022005	47	
10235051001	10235052001	40	15°
10235051002	10235052002	42	
10235051003	10235052003	44	
10235051005	10235052005	47	
10235211040	10235212040	40	High
10235211042	10235212042	42	
10235211044	10235212044	44	
10235211047	10235212047	47	
10235031001	10235032001	40	Eccentric
10235031002	10235032002	42	
10235031003	10235032003	44	
10235031005	10235032005	47	
10235041001	10235042001	40	10°
10235041002	10235042002	42	
10235041003	10235042003	44	
10235041005	10235042005	47	
10235061001	10235062001	Standard	Glenoid shell

Ref. Number Polyethylene		
10235077001	Standard	Glenoid insert

Patient Positioning

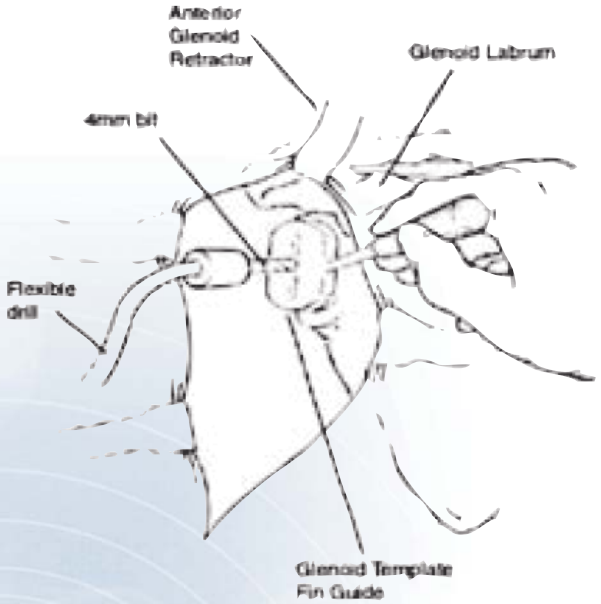
The patient should be placed in a semi sitting or beach chair position at about 45 to 60 degrees of head-up tilt. It is essential to have the patient close to the edge of the table to permit extension of the shoulder during surgery to facilitate access for instruments and the humeral component when it is inserted into the humeral medullary canal.

Resection of Humeral Head

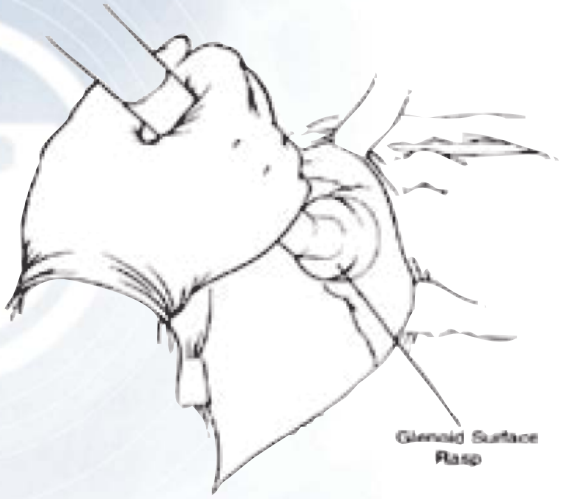
Resection of humeral head wit Humeral Head Osteotomy Guide (Ref:10606121052)

Glenoid Preparation

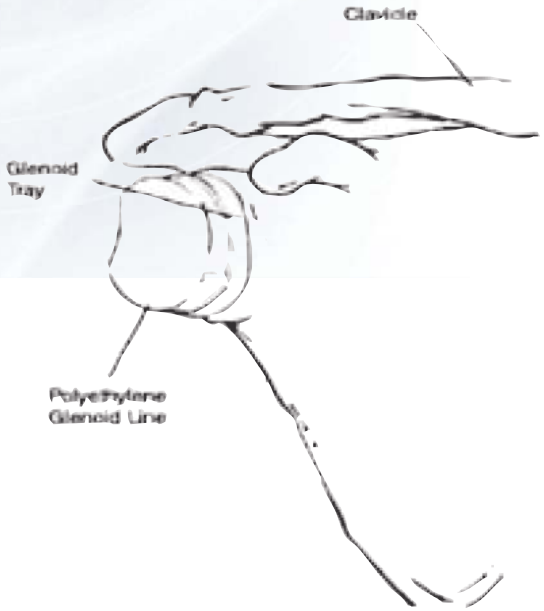
If the surgeon has chosen to use a cemented polyethylene component, the size is determined with the Glenoid Center Drill Guide (Ref:10606121051). A 3mm hole is drilled through the central hole of the pegged glenoid guide.



The glenoid fossa is then prepared using the T-Handle Reamer for Glenoid. (Ref:10610081001).



A high speed burr is employed to begin creating the glenoid fin vault. A glenoid fin reamer then enlarges the slot to accept the glenoid fin. Sequential curettes are used to undercut the glenoid vault, in order to accommodate the keel of the polyethylene component, and to allow for better cement fixation. Prior to cementing the glenoid component, a high speed irrigation lavage system should be utilised to cleanse the cortical cancellous surface. This completed, the final polythylene component is now introduced after bone cement has been applied, with digital pressure, to ensure proper fixation. All excess cement is then carefully removed, particularly posterior to the component.



Reaming of the Humeral Shaft

If the humeral component is being cemented a stem the same size as the final humeral rasp should be selected as the flute design allows an appropriate cement mantle. Cement around the proximal porous coated portion of the stem should be avoided. If there is any bone defect here use autograft from the excised head to fill any gaps in order to obtain a biological proximal fixation. For a press fit implantation, a stem is selected corresponding to the last humeral shaft rasp used.

Insertion of Prosthesis

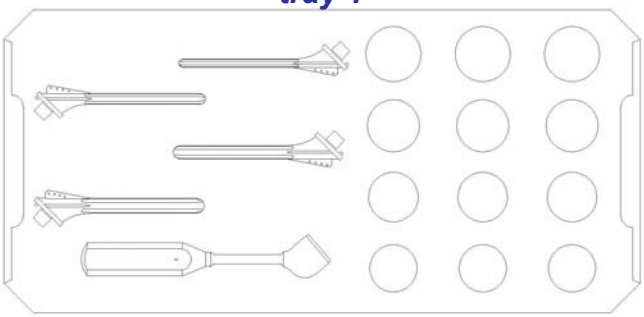
Insert the prosthesis by hand. Insertion of the prosthesis with an impactor for shaft (Ref:10607020004)

Head Impaction

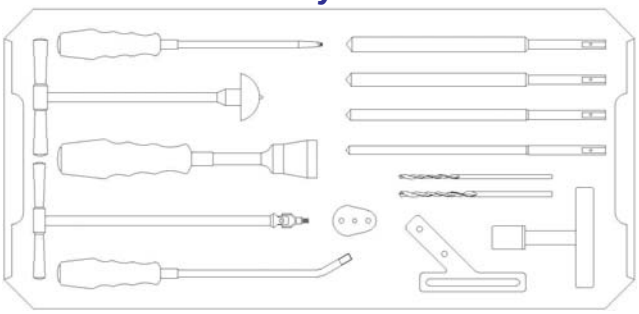
Prior to insertion of the final head component we recommend a second trial reduction with the selected trial head and the 3 tests should now be repeated. Once the appropriate head component size and rotation has been established, care should be taken to thoroughly clean and dry both the male and the female parts of the morse taper prior to the attachment of the head to the stem. Foam tipped cleaning buds are provided with the head components for this purpose. The definitive humeral head component should now be attached to its suction Femoral Head Impactor (Ref:10607020003) and aligned in the same orientation as the trial head.

Instruments & Trays

tray 1



tray 2



10604010001		Hexagonal Head Screw driver
10604011001		Universal Joint Screw driver
10604071001		T- Handle with Chuck
10606121051		Glenoid Center Drill Guide
10606121052		Humeral Head Osteotomy Guide
10607020003		Femoral Head Impactor
10607020004		Impactor for Modular Shoulder Prosthesis Shaft
		Rasp for Modular Shoulder Prosthesis
10610010001		7
10610010002		9
10610010003		11.25
10610010004		12.50
10610081001		T-Handle Reamer for Glenoid
		Drill with Round Shaft
10809011008		Ø3.5 X 130 X 50
10809011009		Ø4.5 X 130 X 50

Revision 01 / Printed in TURKEY - 08/09 - TIPSAN Design

The products being manufactured by TIPSAN A.S. has been certified from SZUTEST (Strojírensk• Zkušební Ústav) for EC certificate **(CE 1015)** according to Annex II. 3 and II.4 of Council Directive 93/42/EEC concerning medical devices

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