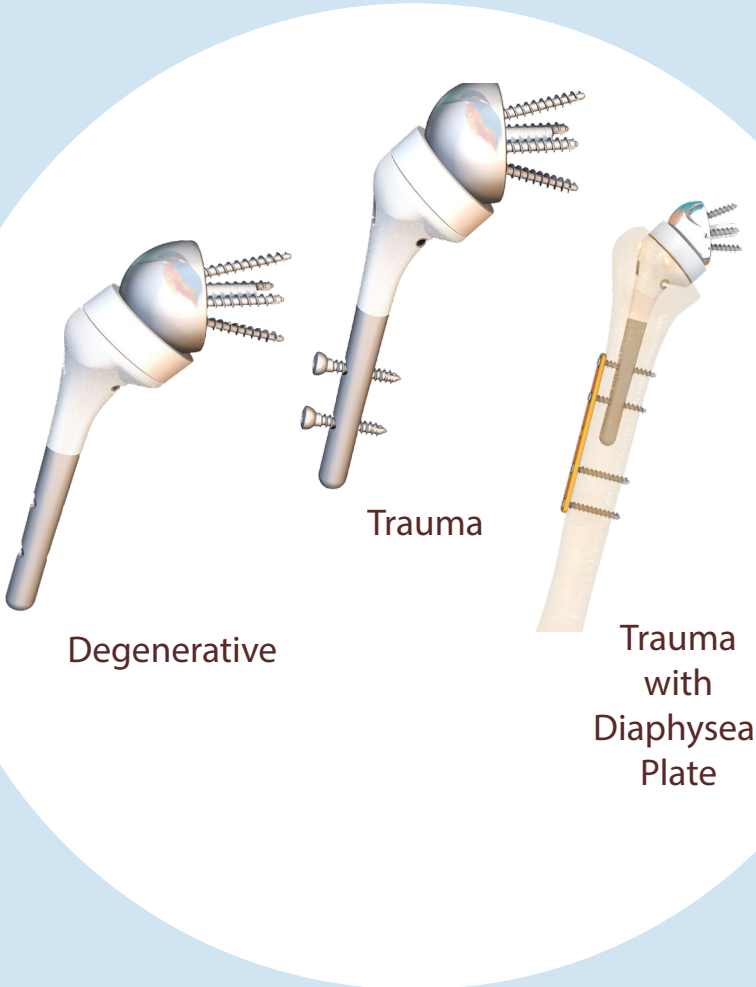
HUMELOCK REVERSED®

Cementless

SURGICAL TECHNIQUE



Shoulder Solutions

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INTRODUCTION

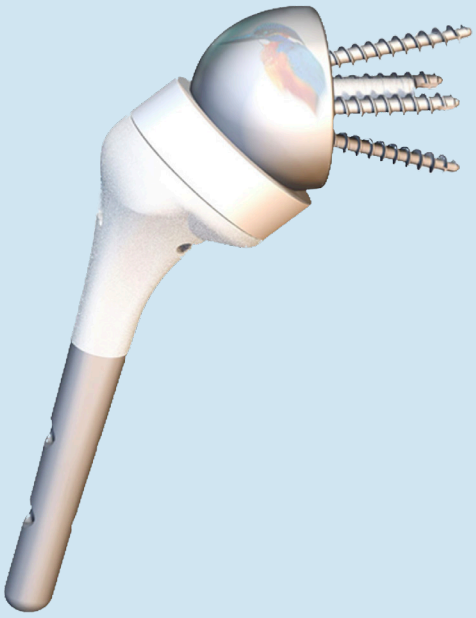
Humelock Reversed® is a new generation of reversed prosthesis, designed for numerous shoulder pathologies: ranging from offset arthritis to a complex cephalotuberosity fracture in a subject over 70 years. The technical characteristics of this implant have been designed based on computer simulations, correlated to results previously published in medical journals, in order to avoid the disadvantages of traditional reverse prostheses.

A centric or eccentric glenosphere, tilted at 10°, centered on a variable length baseplate post (compatible with positioning techniques), the position of which is guided by an intuitive adaptive instrumentation.

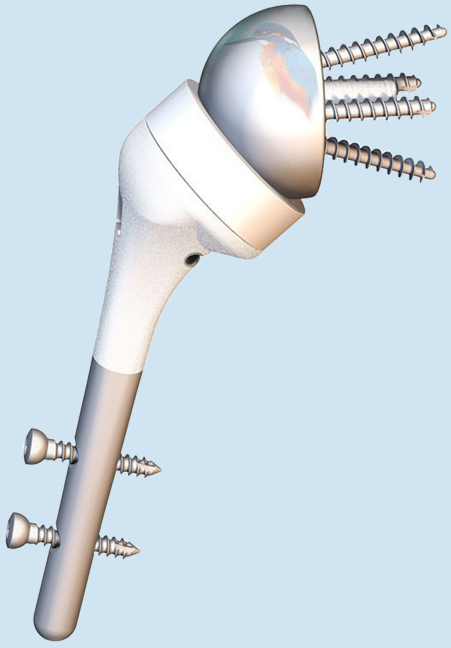
A 145° prosthetic epiphysis allows the pillar of the scapula to be protected while maintaining optimum stability.

The humeral implant is positioned naturally in the center of the epiphysis, preserving the remaining bone as much as possible. However, the options of locking or cementing will allow the surgeon to position the prosthetic stem at the required height, according to the patient's indication and anatomy.

HumelockTM Reversed is a totally modern implant, designed to adapt to the new lifestyles of older, increasingly active, patients for a longer timeframe.

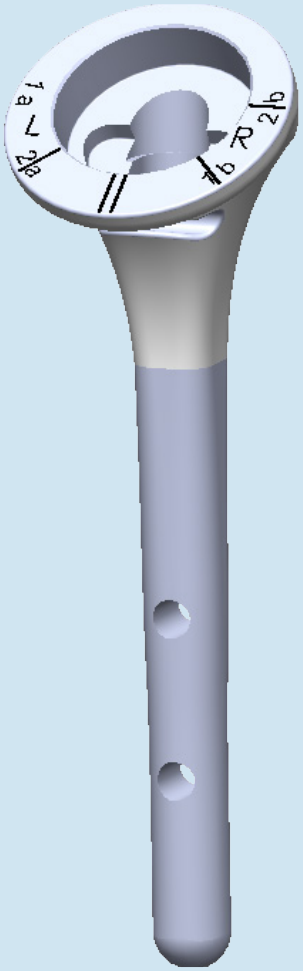


Degenerative



Trauma

DEVICE DESCRIPTION



HUMERAL STEMS

Stem designed with an anatomical shape giving intrinsic stability:
Fluted in diaphysis,
Belled in metaphysis,
Filling in epiphysis.

TA6V ELI / Ti + HA coated

Epiphysis 32 mm - diaphysis 08 mm

Epiphysis 32 mm - diaphysis 10 mm

Epiphysis 32 mm - diaphysis 12 mm

Epiphysis 36 mm - diaphysis 10 mm

Epiphysis 36 mm - diaphysis 12 mm

Epiphysis 36 mm - diaphysis 14 mm

Epiphysis 40 mm - diaphysis 12 mm

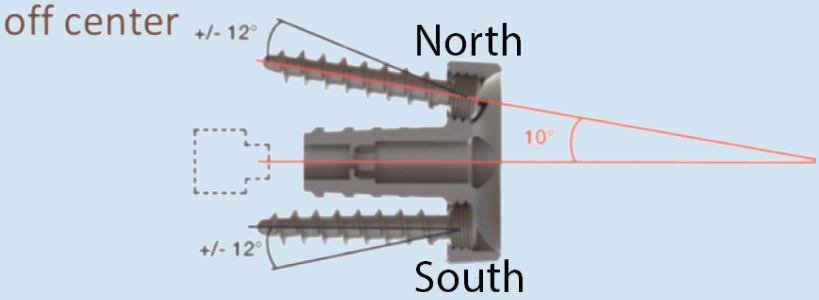
Resection at 145 = protection of scapula notching.

BASEPLATE (Ø24mm)

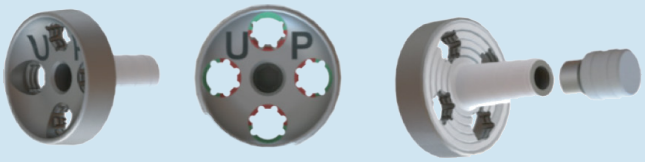
Fits all anatomies TA6V ELI / Ti + HA coated
Conical assembly 4 cylindrical threaded holes
2 extensions of +6 and +10 mm for lateralization and revisions.

Locking screw Ø4.5 TA6V ELI : Cortico-cancellous (conical core) Conical head
Non traumatic tip
5 sizes (Ø20 to 40 mm)

Standard screw Ø4.5 TA6V ELI: Cylindrical core
Conical head
Non traumatic tip
5 sizes (Ø20 to 40 mm)



Baseplate with Central Post



DEVICE DESCRIPTION

GLENOSPHERE

CoCr glenosphere*:
2 sizes: Ø36, Ø40 mm
Centered or eccentric (3mm)
Impacted with or without screw
Conical grooved impaction

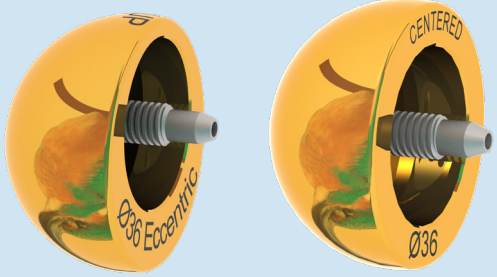
SIZES

36mm, 40mm

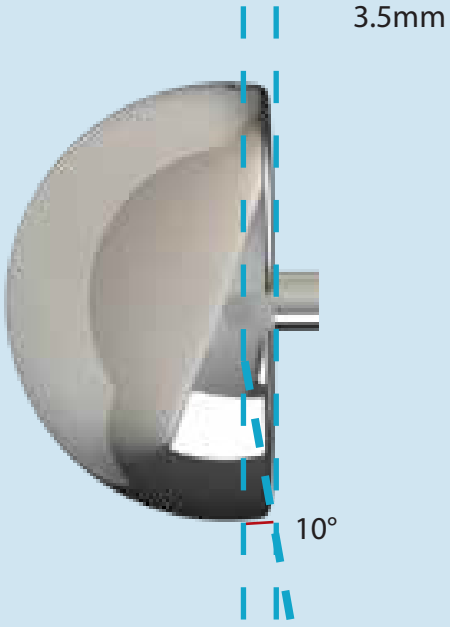
SIZES AND STYLES

Centered and Eccentric
Impacted or With Screw

Size 36 = 3mm Eccentricity
Size 40 = 1mm Eccentricity
Lateralization = 3.5mm



TiN (TITANIUM NITRIDE) ECCENTRIC AND CENTERED GLENOSPHERE
36 or 40MM



DEVICE DESCRIPTION

HUMERAL CUP

Thermocompressed poly UHMWPE in titanium shell

3 available heights (+3, 6, +9mm) + spacer (+9mm)

(A)

STANDARD
REVERSE
HUMERAL CUP

THICKNESS

+3/+6/+9mm

DIAMETERS

36mm, 40mm

HUMERAL CUP SPACER

The +9mm Ti-6Al-4V spacer can be used to build additional heights of +12mm, +15mm, and +18mm.

(B)

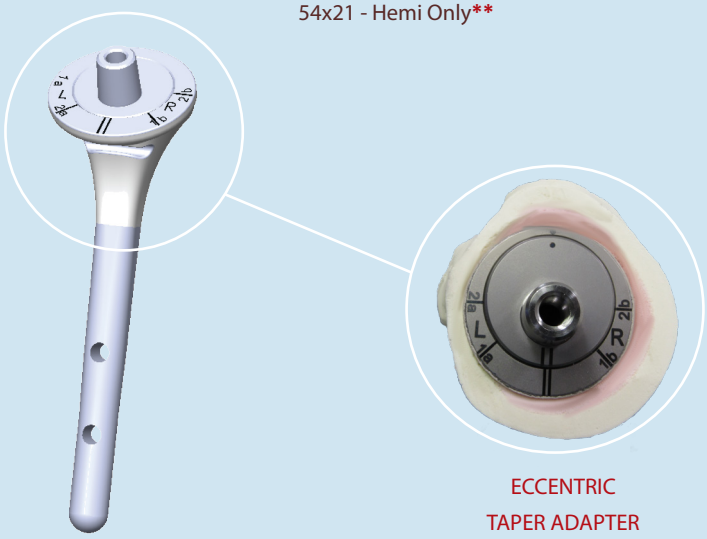
(B)

+9
HUMERAL
SPACER

FOR HEMI-PROSTHESIS ONLY**

ECCENTRIC TAPER ADAPTER

An Eccentric Taper Adapter connects the stem and the humeral head in cases of hemi prosthesis conversion/revision.



ECCENTRIC
TAPER ADAPTER

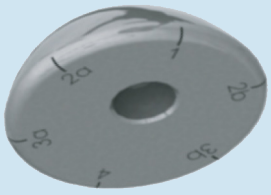
ECCENTRIC HUMERAL HEADS

SIZES

50x20**

52x21 - Hemi Only**

54x21 - Hemi Only**



ECCENTRIC
HEAD

Indications

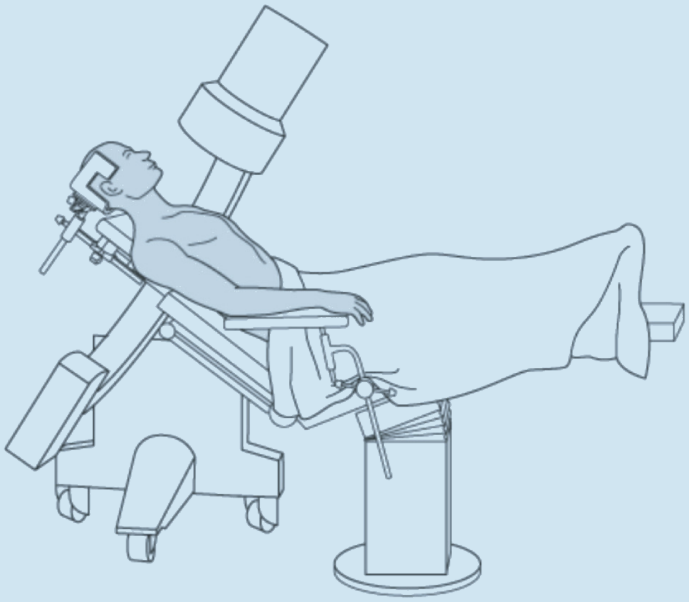
The Humelock Reversed ®prosthesis is indicated for patients presenting with:

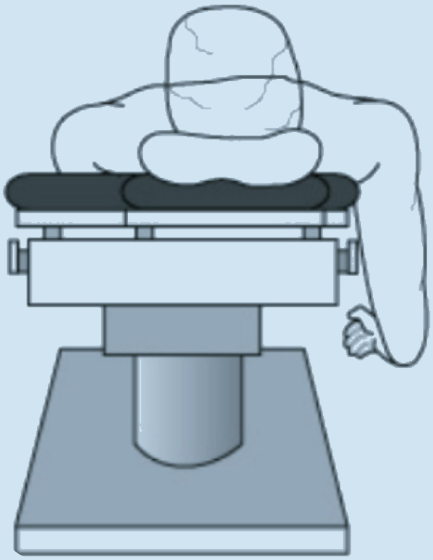
- eccentric omarthritis,
- a failed hemi-arthroplasty,
- a failed total arthroplasty,
- significant rupture of rotator cuff-tear: first surgery or revision surgery.

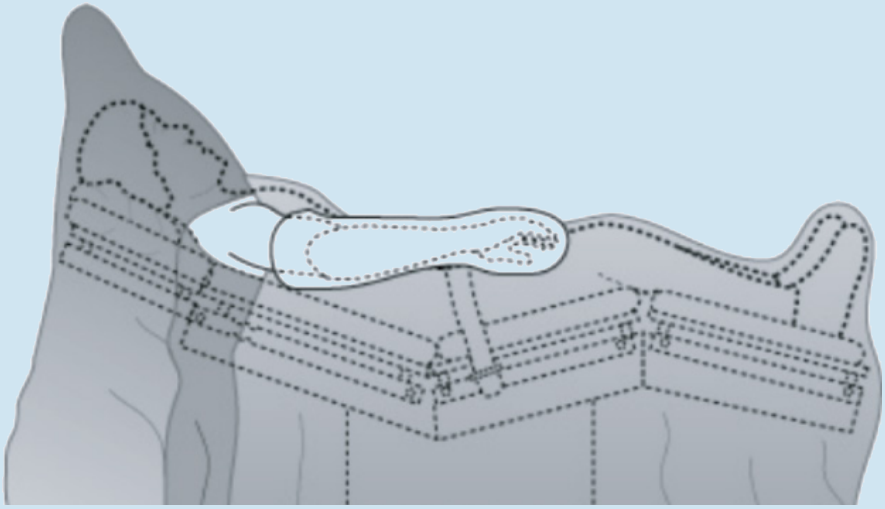
Patient Positioning

The recommended patient positioning is a beach chair with a member free in the operating area and the head fixed in position.

X-ray imaging must be available to confirm implants position intraoperatively.







HUMERAL PREPARATION

STEP 1: PREPARATION OF THE HUMERAL SHAFT

(Figure 1)

ALocate and perforate the top of the humeral head in the medullary canal axis using a triangular awl.
Use the reamers in increasing size order on the T-handle.
Go from one size to the next until the diameter of the reamer meets the diameter of the shaft.
The reamer should enter the humeral shaft up to the guard.

The stem choice is made depending on the last reamer size used:
Ø08 mm --> Stem with an epiphysis of Ø32 mm
Ø10 mm --> Stem with an epiphysis of Ø32 or 36 mm
Ø12 mm --> Stem with an epiphysis of Ø32, 36 or 40 mm
Ø14 mm --> Stem with an epiphysis of Ø36 mm

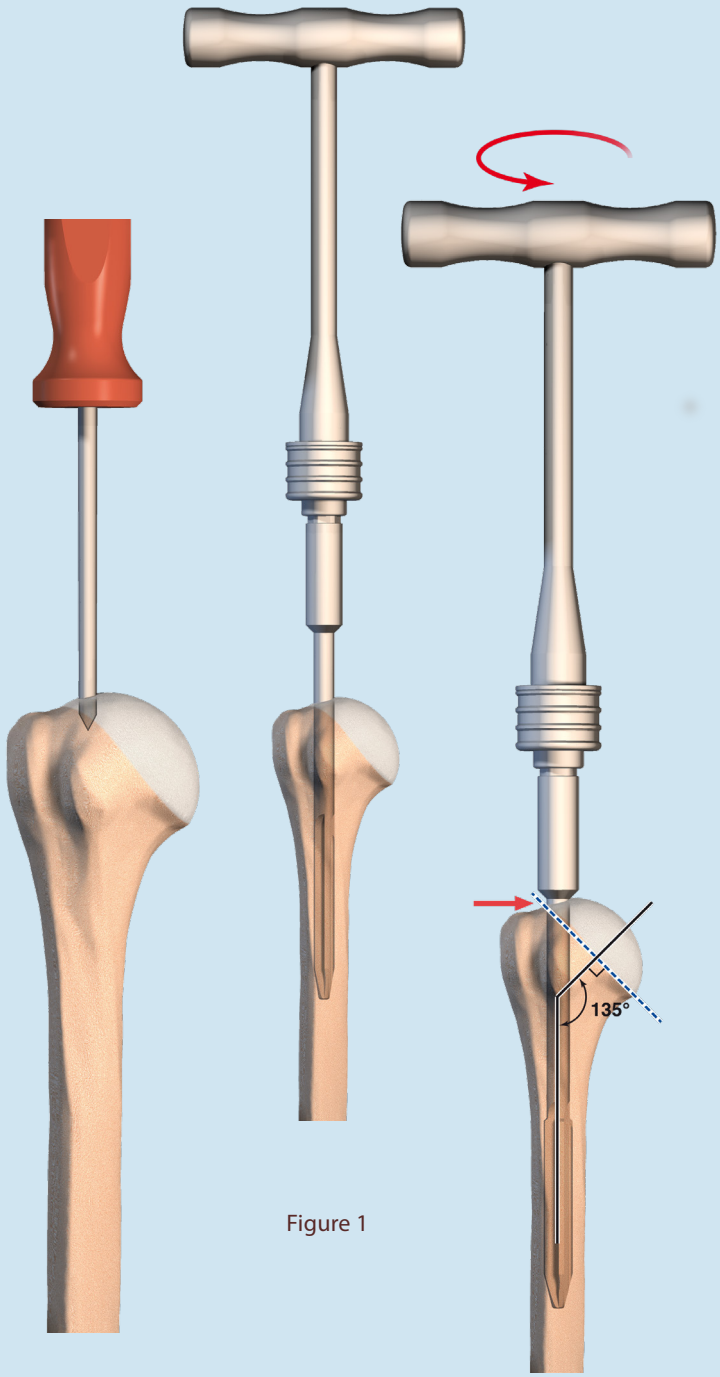


Figure 1

HUMERAL PREPARATION

STEP 2: MOUNTING THE DELTO-PECTORAL CUTTING GUIDE

(Figure 2)

Place the delto-pectoral cutting guide on the operating side on the guide holder.
Fasten the guide with the screw (1).

Slide the assembly onto the remaining reamer. Screw the retroversion stem into one of the three positions according to the required angle: 0°, 10,° 20°.

PLACING THE CUTTING GUIDE 145°

The probe stops at the top of the head and determines the incision height. . The retroversion is determined by screwing the stem into one of 3 positions (0°, 10°, 20°) and aligning it with the forearm axis. Fastening the retroversion stem sets the position for the cutting guide. Place two pins (A1+A2) by drilling if necessary, using the Ø3.2 mm bit.

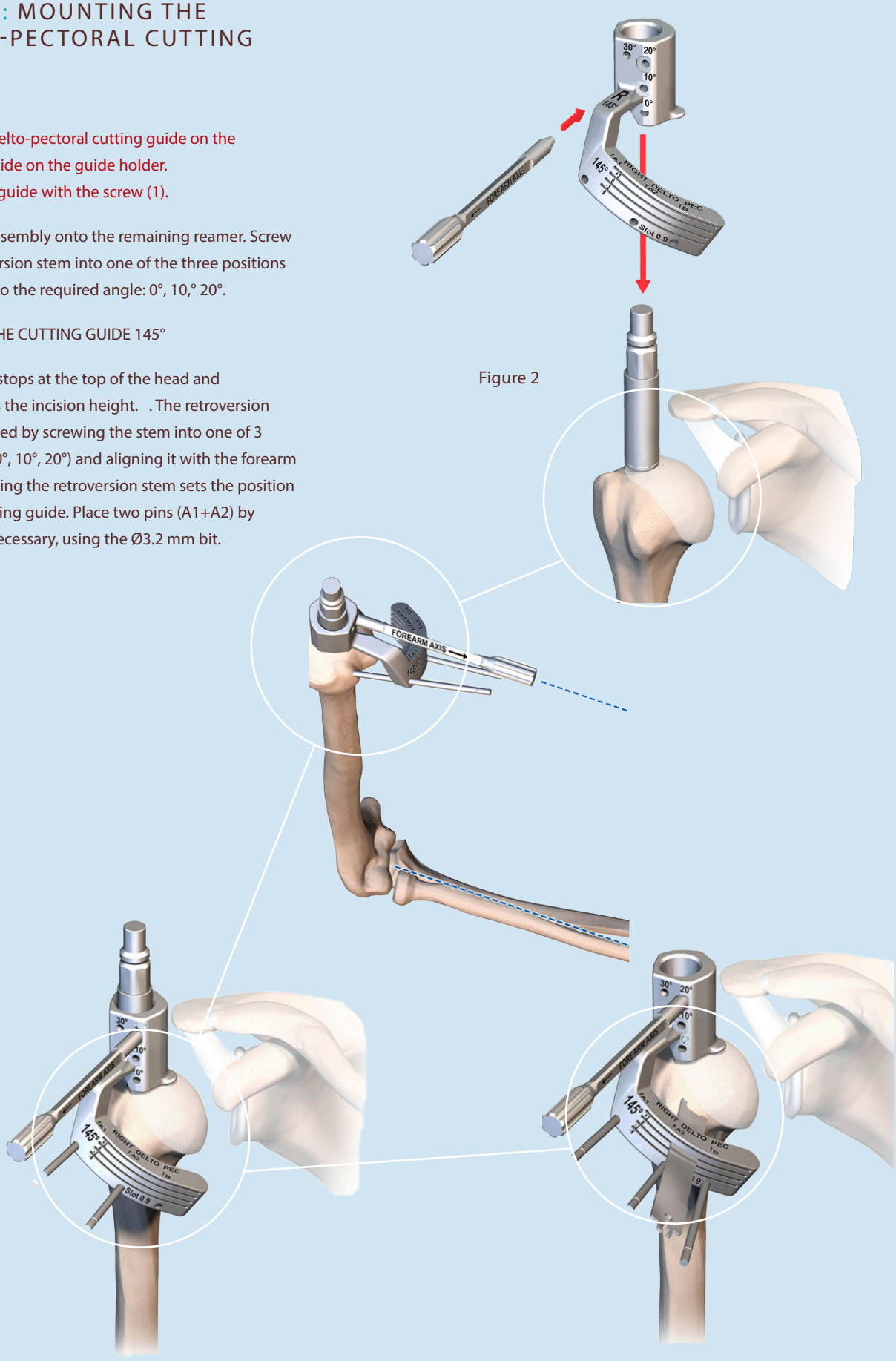


Figure 2

HUMERAL PREPARATION

STEP 2 - OPTION: SUPEROLATERAL CUTTING GUIDE 145°

(Figure 3)

Slide the superior lateral cutting guide onto the remaining reamer.

After the cutting guide is positioned on the guide, screw the retroversion stem into one of the four positions according to the required angle: 0°, 10°, 20°, 30°.

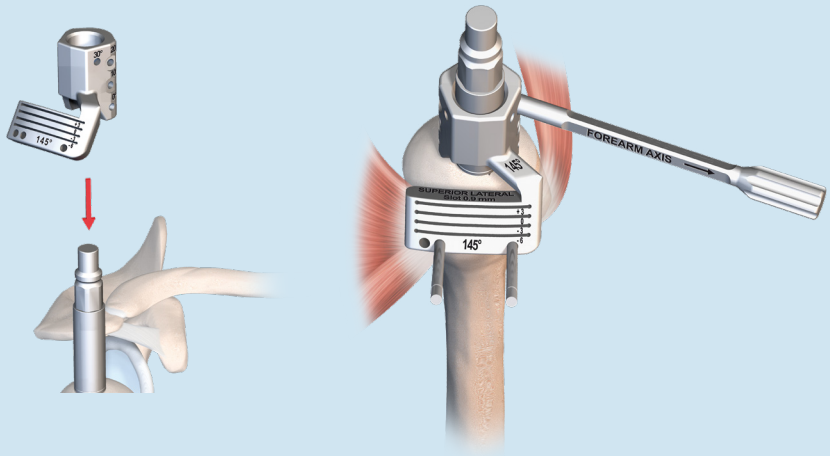


Figure 3

STEP 2 - OPTION: MOUNTING THE 145° CUTTING GUIDE:

(Figure 4)

The probe stops at the top of the head and determines the incision height. The retroversion is determined by screwing the stem into one of 4 positions (0°, 10°, 20°, 30°) and aligning it with the forearm axis and the anatomical neck.

Fastening the retroversion stem sets the position for the cutting guide.

Place two pins by pre-drilling if necessary, using the Ø3.2mm bit.

Remove the guide support, except if monobloc and the reamer as well as the retroversion bar.

Slide the cutting guide over the pins.

Make the cut through the slot with a saw blade with a thickness of 0.9mm or less.

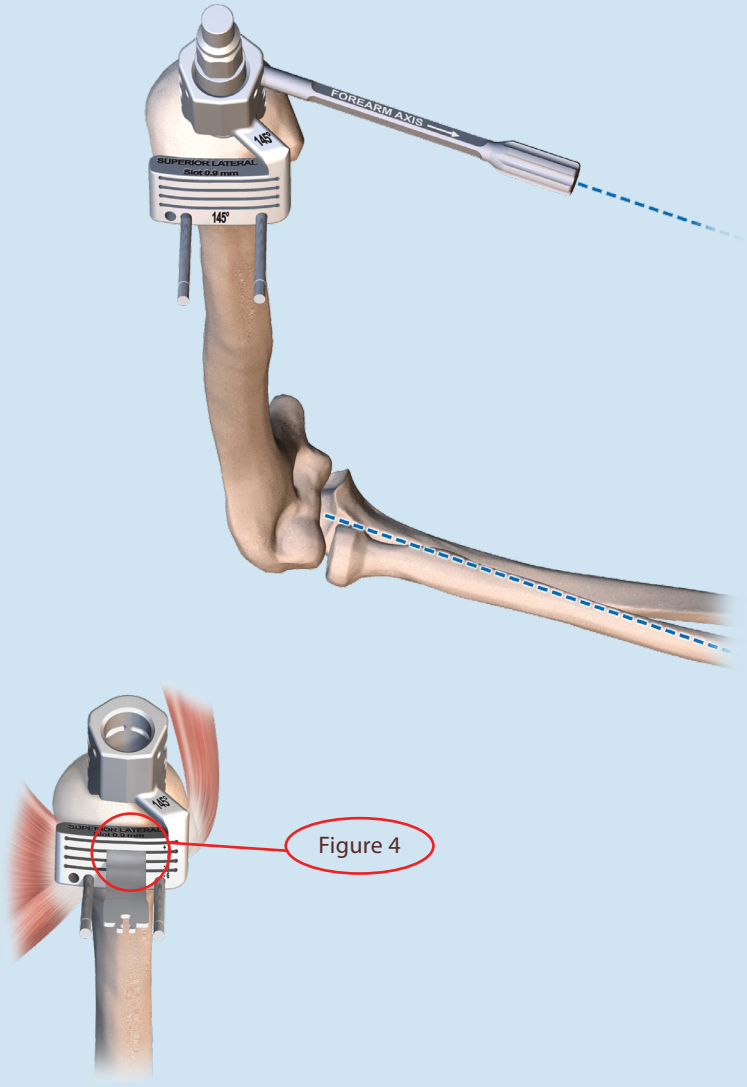


Figure 4

STEP 3: PROTECTOR CAP:

(Figure 5)

Protect the humerus, with a protector, by placing it in the humerus during the glenoid time.

Figure 5

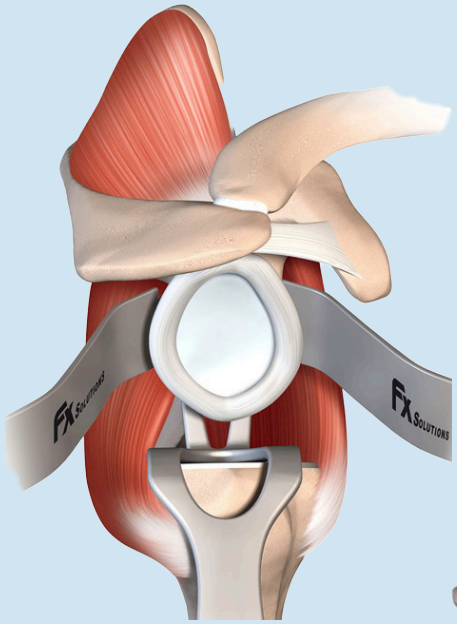
GLENOID PREPARATION

STEP 4: GLENOID EXPOSURE:

(Figure 6)

Expose the glenoid fully using the three types of retractors.
- Anterior retractor,
- Superior retractor,
- Inferior retractor.

Remove the glenoid labrum.
Remove any potential osteophytes to expose the full bone anatomy.



STEP 5: PLACING THE K-WIRE:

(Figure 7)

Three different positions for the guide: Left (L), Right (R) for a deltopectoral approach and Superior lateral (S).
Position the K-wire guide on the inferior part of the pillar of the scapula to determine the correct height.
The K-wire is 12 mm above the lower edge, according to Kelly* and must be centered in the antero-posterior plane.
The K-wire guide orientation is important for the glenoid tilt and must be done at 90°.
The glenospheres are lateralizing by 3.5 mm, tilted (lower lip) by 10°.

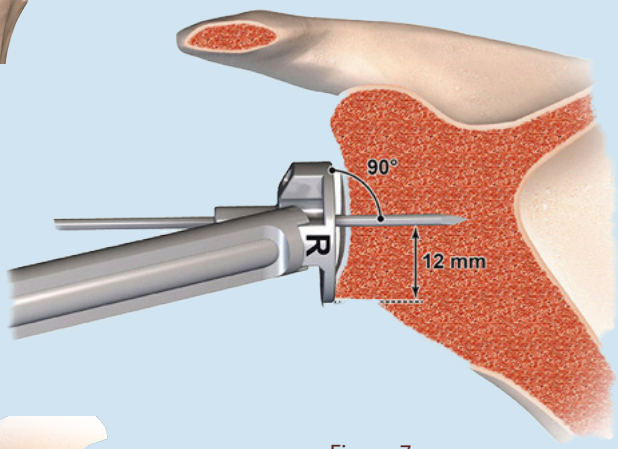
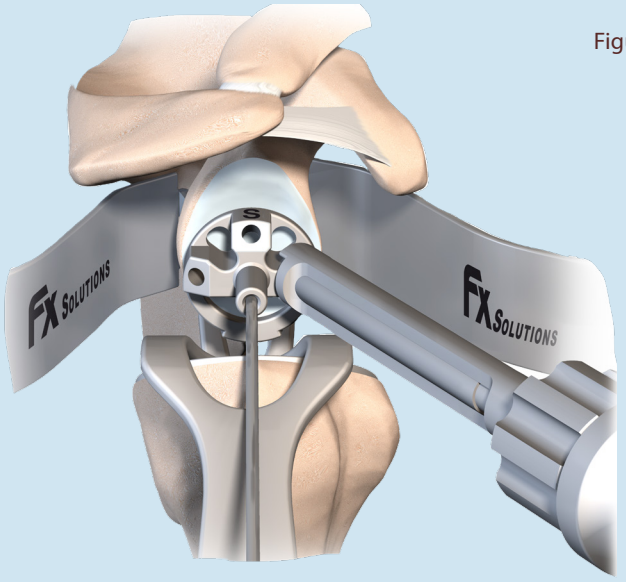


Figure 7

Positioning should be to fit the anatomy of the patient and planned according to the pre-operative X rays. This element must be decided in pre-operative planning.
By default, the k-wire is perpendicular to the mid plane of the glenoid.
Insert the K-wire using a power tool.



(*) Kelly JD. Humphrey CS, Norris TR. Optimizing glenosphere position and fixation in reverse shoulder arthroplasty, Part One: thetwelve mm rule. J Shoulder Elbow Surg 2008;17:589-94

GLENOID PREPARATION

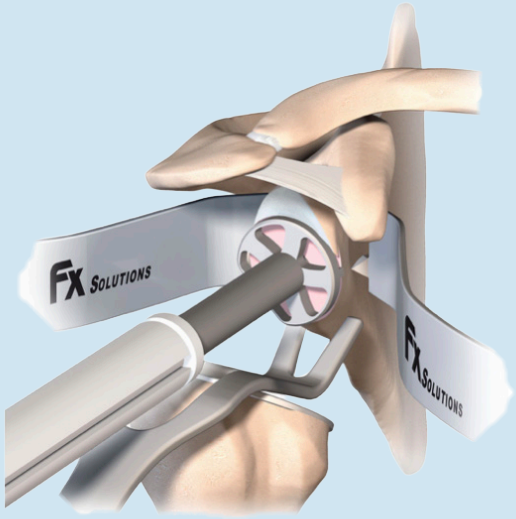
STEP 6: GLENOID REAMING:

(Figure 8)

Drill and ream the glenoid using the K-wire guide. Ream until the subchondral bone is reached.

This step can be done by power or by hand if the glenoid is osteoporotic.

Figure 8



STEP 7: EXTENSION POST:

(Figure 9)

In the case of revision or lateralization of the center of rotation with a graft from the pillar of the scapula, it is possible to extend the post by +6mm or +10mm.

Drill the post again with the drill +6mm or +10mm

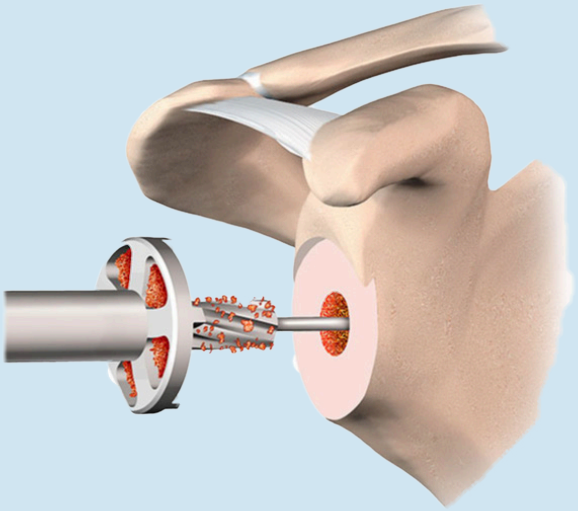


Figure 9

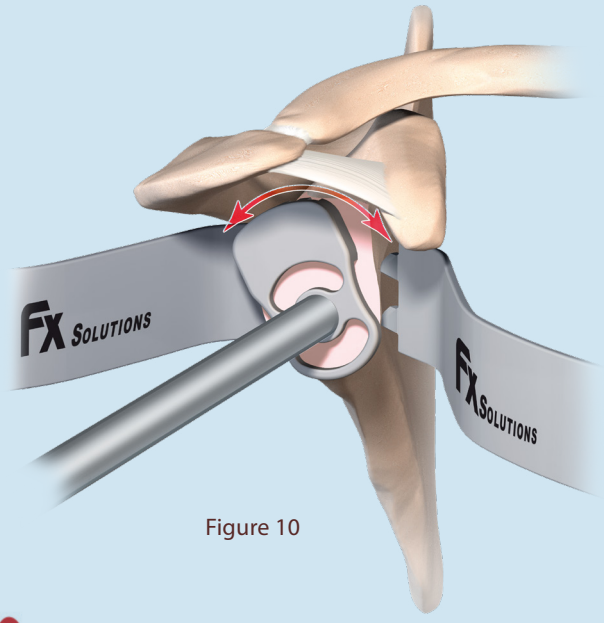


Figure 10

STEP 8: GLENOID CLEARANCE

(Figure 10)

To avoid any interference between the glenosphere and the scapula, ream the glenoid using the Ø36mm or Ø40 mm hand reamer.

CAUTION

Pay attention to avoid ovalizing the post hole.
360° clearance = succesfull impaction of the glenosphere.

GLENOID PREPARATION

STEP 9: POSITIONING THE BASEPLATE

(Figure 11)

Connect the holder / impactor to the baseplate. Impact the

baseplate so that there is pressure over the whole surface.

The impactor allows for the upper and lower holes to be placed so that a screw can be positioned in the base of the coracoid and in the pillar of the scapula.

The sign (UP) must be on top under the coracoid basis.

Remove the K-wire.

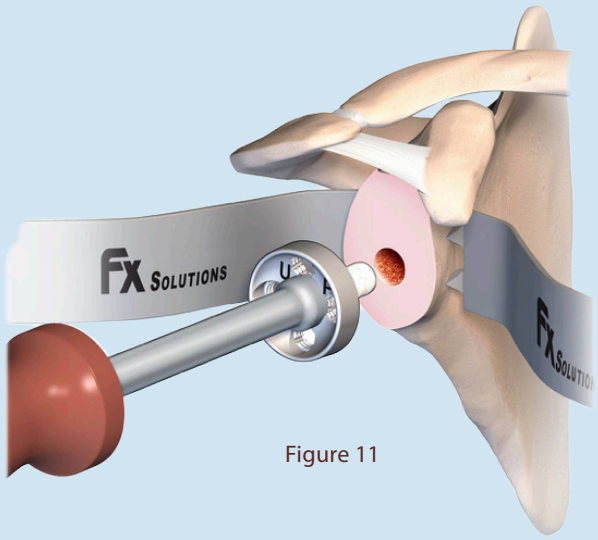


Figure 11

STEP 10: LENGTH OF SCREWS (6 SIZES FROM 15 TO 40MM)

(Figure 12)

An adapted guide allows for the holes to be drilled and the length of the screws measured with the Ø3.2mm drill bit. The length of the screws is measured directly.

The screw is measured between the head and his extremity.

Two types of screws are available, locking or standard.

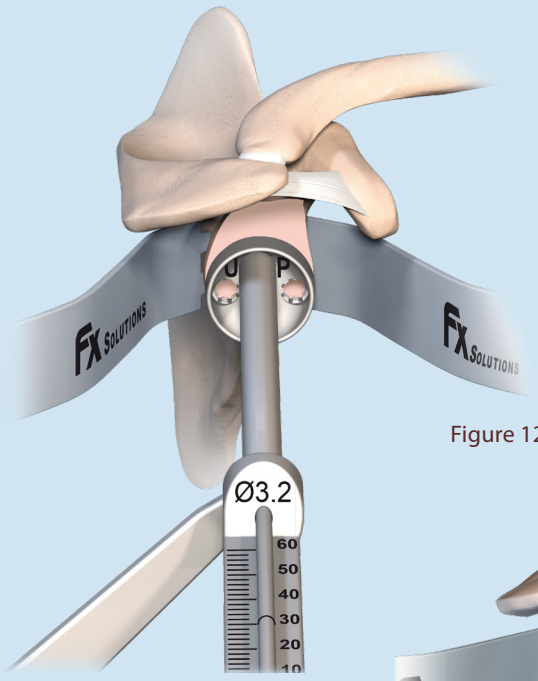


Figure 12

STEP 11: FIXATION OF THE BASEPLATE

(Figure 13)

Standard screws allow the baseplate to be lagged to the bone, and locking screws fix the mounting.

Each screw allows an angulation of +/-12° around the axial hole.

The upper hole for the first screw is pre-oriented by 10° to optimise its positioning in the base of the coracoid.

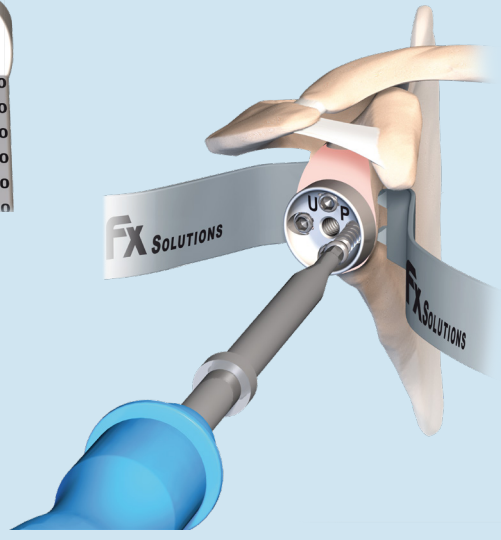


Figure 13

RECOMMENDATION

2 compression screws (std) for anterior and posterior holes.

2 locking screws for superior and inferior holes.

GLENOSPHERE - TRIAL AND DEFINITIVE

STEP 12: TRIAL IMPLANTS - GLENOSPHERE (Figure 14)

There are (2) diameters of glenospheres: Ø36mm and 40mm.

All glenospheres are centered or eccentric--with or without a screw.

The choice of glenosphere does not depend on the size of the humeral stem.

All glenospheres are tilted downwards by 10°.

For slim patients (BMI (W/S2)≤21) (Body Mass Index(weight / size2)), use of the Ø40mm glenosphere is recommended, where possible, particularly if the subject is male.

Position the glenosphere with the special clamp allowing the humerus to be circumvented by the delto-pectoral approach.

Input the screwdriver in the screw of the glenosphere.

Insert the glenosphere paying attention to the "UP"m arking, if an eccentric glenosphereis used.

Introduce the screw of the glenosphere in the post of the baseplate.

Be sure to check that the baseplate is clean and free of any bone or tissue particles that could

hinder impaction of the morse taper.

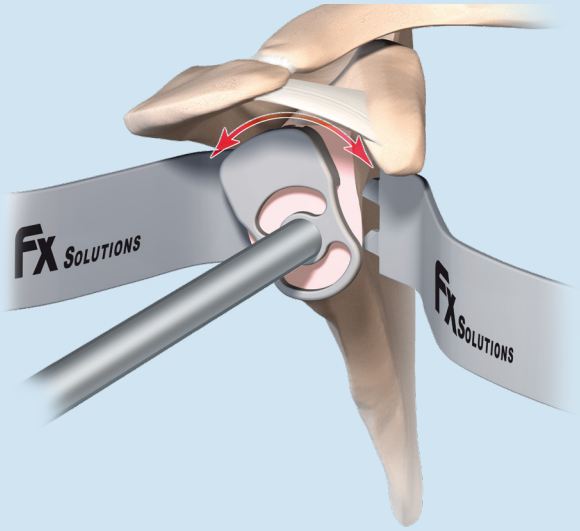
1- Begin to screw the glenosphere w/ screw.

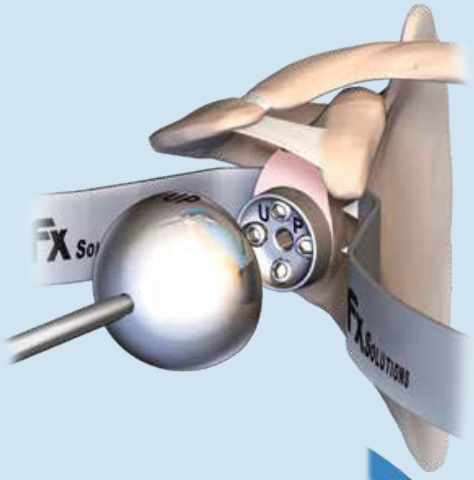
2- Impact the glenosphere with the impactor.

3- Finish screwing.

Figure 14

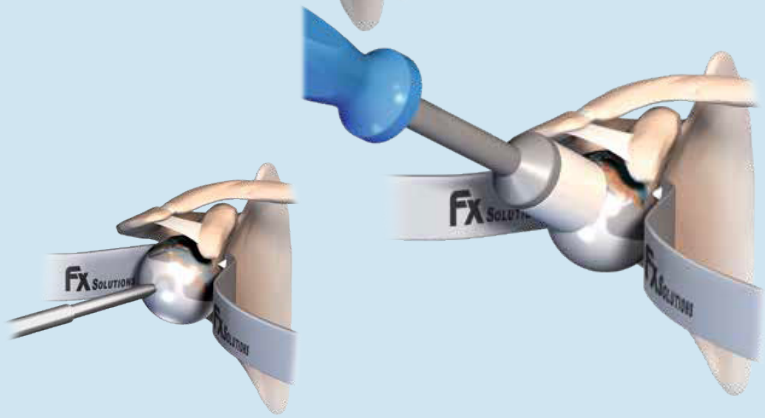
GLENOSPHERE TRIALS
Ø36/40MM





Recommendation:
If the neck of the scapula is short, it is recommended to use an eccentric glenosphere to reduce the risk of notching.

If the neck of the scapula is long, depending on the deltoid tension and the stability of the mounting, a centered glenosphere can be implanted.



CAUTION

To ensure the morse taper engages properly, be sure that all of the bone and soft tissue have been removed as per Step 8: Glenoid Clearance on page 13

STEP 13: METAPHYSEAL PREPARATION

(Figure 15)

Use the metaphyseal rasps in order of increasing size while also checking the retroversion.

The size of the epiphysis is determined by the size of the last reamer used.

Ø08mm = Stem with an epiphysis of Ø32mm

Ø10mm = Stem with an epiphysis of Ø32 or 36mm

Ø12 mm = Stem with an epiphysis of Ø32, 36 or 40mm

Ø14 mm = Stem with an epiphysis of Ø36mm or 40mm

Ø16mm = Stem with an epiphysis of Ø40mm

Connect the rasp to the T handle.
Screw the retroversion stem onto the rasp.
Impact the rasp until it is flush with the height of the resected bone surface.

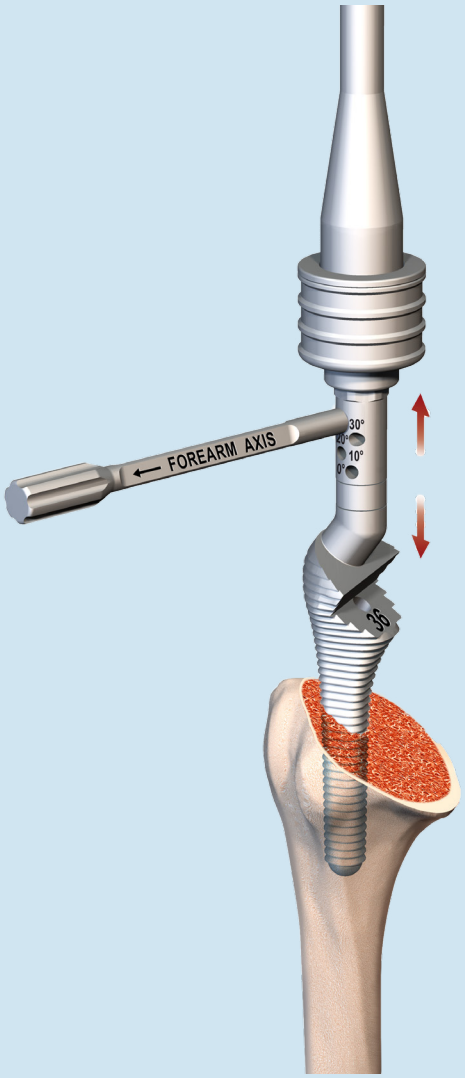


Figure 15

STEP 14: EPIPHYSEAL PREPARATION (OPTION)

(Figure 16)

Use the same size epiphyseal rasp as the metaphyseal rasp, or not according to bone density.
The metaphyseal and epiphyseal rasps are color-coded.
Unfasten the inside part of the rasp and fit the epiphyseal raspin the designated hole.
Maintain the metaphyseal rasp using the special wrench.
Shape the epiphysis up to the height of the metaphyseal rasp.

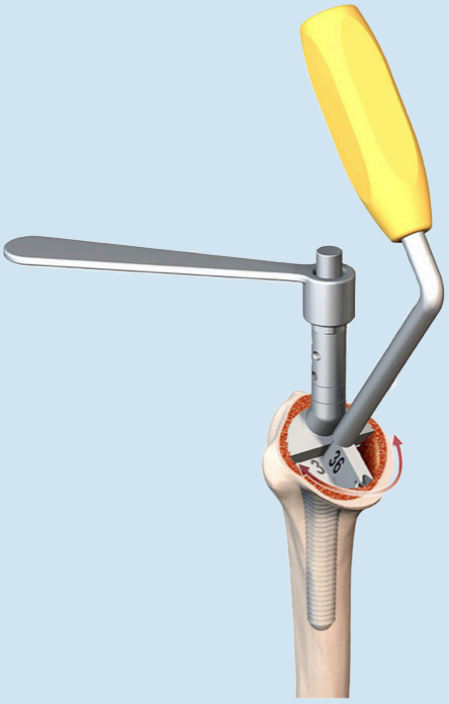


Figure 16

HUMERAL CUP - TRIAL

STEP 15: TRIAL IMPLANTS – HUMERAL CUP

(Figure 17)

The cup diameter matches the glenosphere diameter.

Three heights are available (+3, +6, +9mm). If required a spacer (+9 mm) is available to add to the cup. Take care to respect index marks on the stem and cup.

On the definitve implant, you will need to add the +9mm humeral spacer to build up of +12/+15/+18mm.

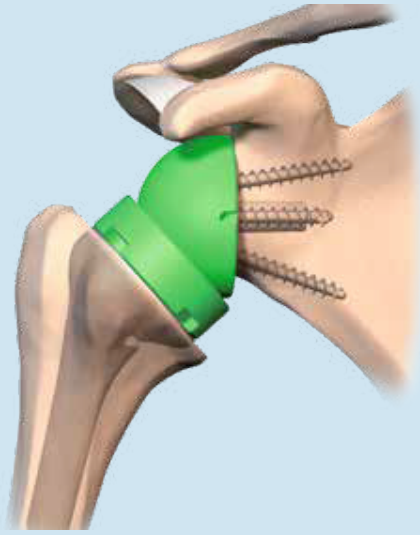
DIAMETERS

36mm, 40mm

The choice of the Standard Reversed Humeral Cup or the addition of the Humeral Spacer (+9mm) is based on the height need for the humeral side of the joint reconstruction.

Recommendation:

The choice of height depends on the amount of resected humeral head, the stability of the reconstructed joint, and the tension of the supporting soft tissues— additional humeral cup height may be desired.



HUMERAL CUP TRIALS
Ø36/40MM

There is no possible indexation between spacer and stem.
Test for stability and mobility.
Trials are identical to the final implants.

Figure 17

HUMERAL STEM - DEFINITIVE

STEP 16: DEFINITIVE HUMERAL STEM

(Figure 18)

Fit the appropriate implant to the stem impactor by aligning the screw of the impactor to the definitive stem taper. Tighten the screw until the stem is secured.

Screw the retroversion rod onto the impactor to check the angulation while impacting the stem.

Impact the definitive stem into the prepared humerus.

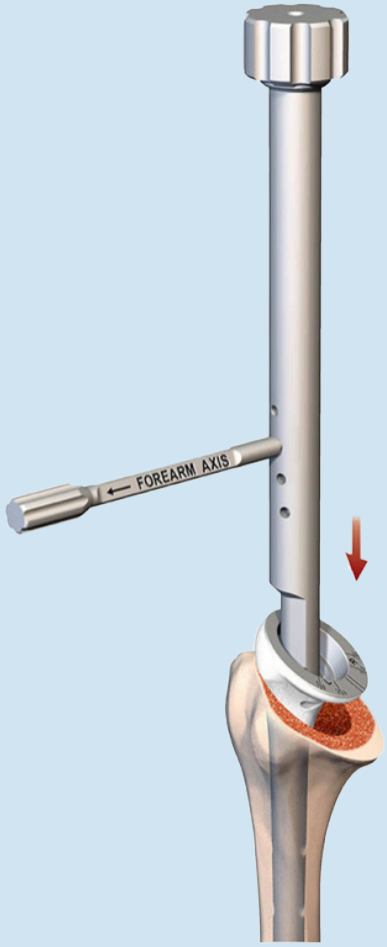


Figure 18

CAUTION

Tighten the screw into the definitive stem

HUMERAL CUP - DEFINITIVE

STEP 17: DEFINITIVE HUMERAL CUP

(Figure 19)

Select the appropriate humeral cup implant that corresponds to the trial used to assess range of motion and stability. Neutral position is achieved when the medial lines on the Humelock stem and the Humeral cup are aligned.

The +9mm optional humeral spacer enables humeral cup rotation. Place the selected definitive humeral cup into the definitive +9mm humeral spacer (aligning the medial lines of both implants).

Place both implants into the impacted definitive stem by aligning the medial lines of the +9mm spacer to the stem. Impact both into the definitive stem.

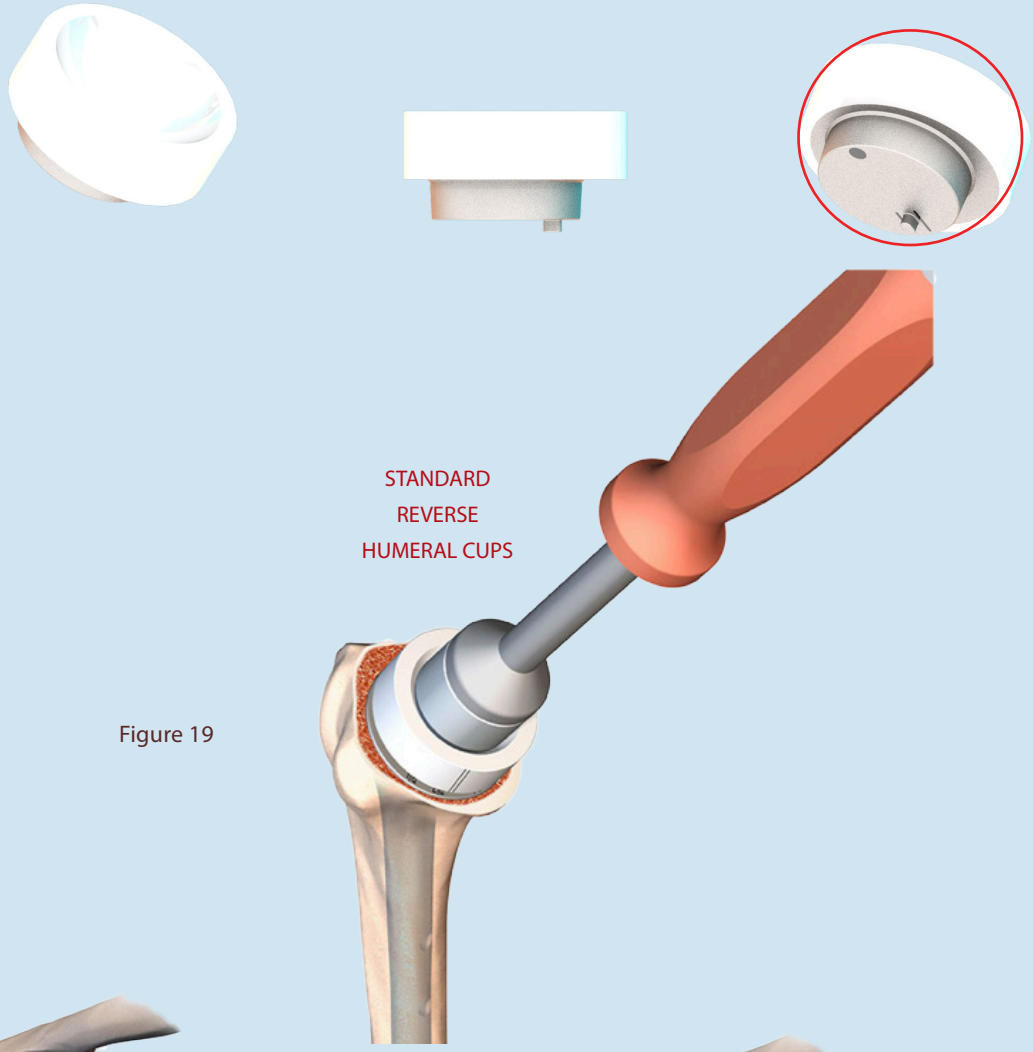
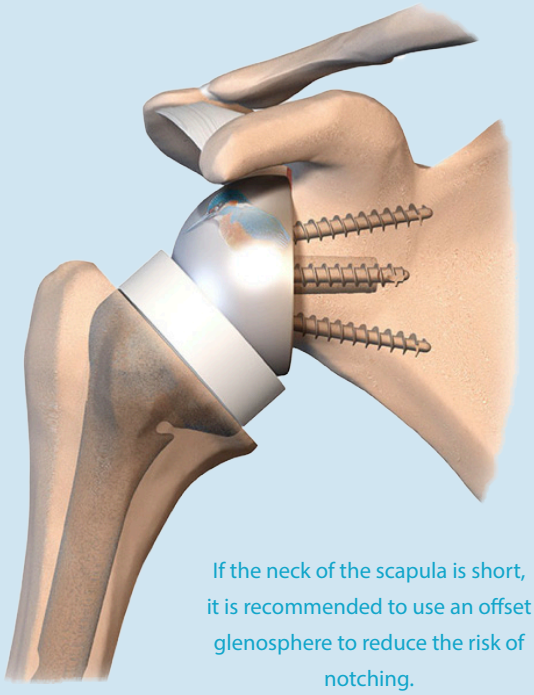
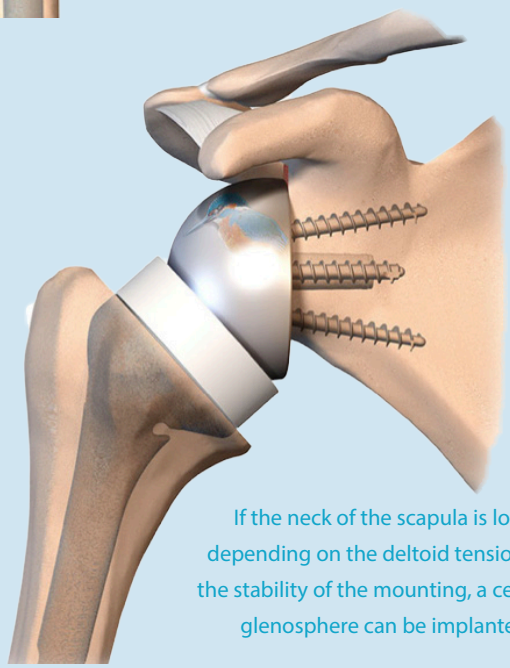


Figure 19



If the neck of the scapula is short, it is recommended to use an offset glenosphere to reduce the risk of notching.

REDUCTION WITH
ECCENTRIC GLENOSPHERE



If the neck of the scapula is long, depending on the deltoid tension and the stability of the mounting, a centered glenosphere can be implanted.

REDUCTION WITH
CENTERED GLENOSPHERE

STEP 18: FITTING THE FINAL STEM

(Figure 20)

Screw the aiming device into the threaded hole in the stem.

Check that the centering pin is properly in its housing in the proximal portion of the stem.

Lock the "implant + aiming device" assembly screw.

Figure 20

STEP 19: ADJUSTING THE RETROVERSION

(Figure 21)

Screw the retroversion stem onto the sight on the right side or left. Position this stem parallel to the forearm to have the chosen retroversion.

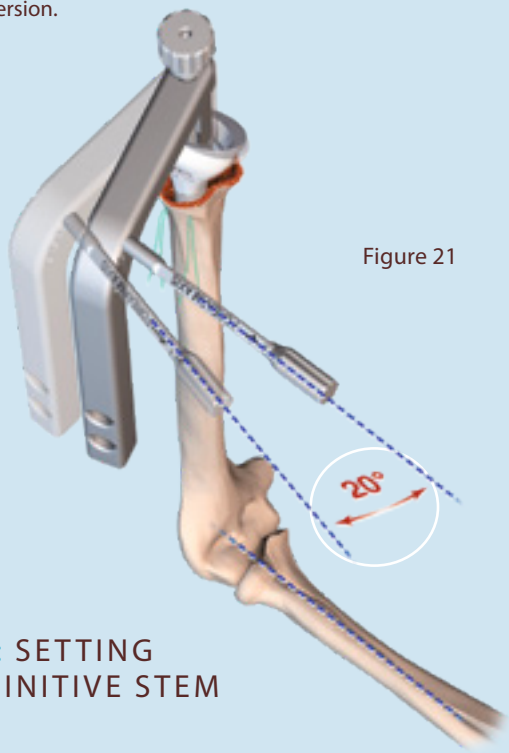


Figure 21

CAUTION

If the epiphysis is and/or metaphysis is totally damaged, it is better to use a cemented stem ao as not to have all the weight bearing on the cortical screws.

STEP 20: SETTING THE DEFINITIVE STEM HEIGHT

(Figure 22)

The retroversion is defined by screwing the bar in one of the 3 positions (0°, 10°, 20°, 30°) by aligning it along the arm.

Use Muraschosky's criterion (1) to fix the height of the implant.

(1) Murachowsky J et al. JSES 06; Torrens C et al. JSES 08; Hasan SA et al. Orthopedics 09

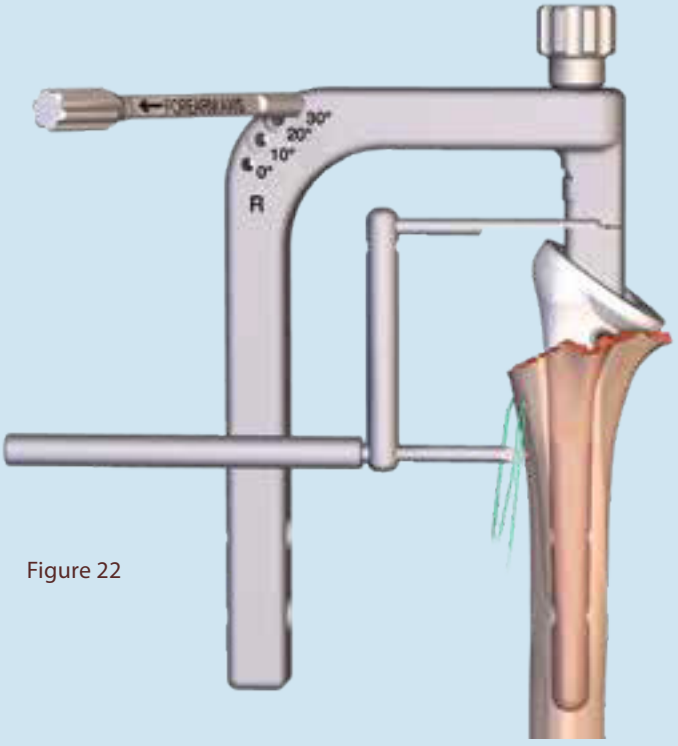


Figure 22

STEP 21:
PROXIMAL AND DISTAL INTERLOCKING

(Figure 23)

After carefully dissecting the soft parts using with Halsted forceps. Insert the Ø10 mm guide into the upper hole of the aimerusing the soft tissue protector, until contact is made with the cortex. Insert the measuring drill guide into the guide Ø10mm. Place the drill guide into the desired hole for screw fixation.

The Drill Guide Sleeve should contact bone to provide an accurate screw length. Insert the Drill guide/Depth Gauge into the Drill Guide Sleeve until it contacts the Drill Guide Sleeve.

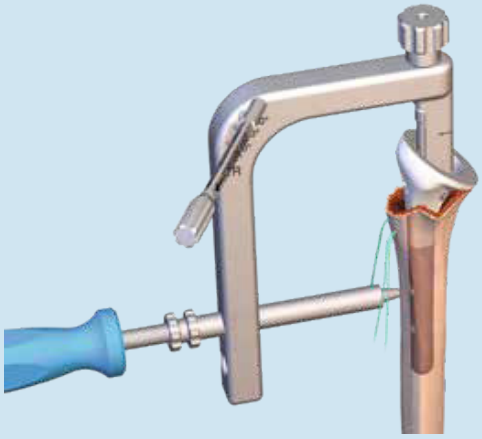


Figure 23

CORTICAL SCREW LENGTHS (10 SIZES)

(Figure 24)

The calibrated 3.2mm x 240mm Drill Bit is drilled through the first cortex, stop at the second cortex and measure. Read the length directly on the Drill Guide/ Depth Gauge ruler. Add +4mm to the measurement (Figure 29)

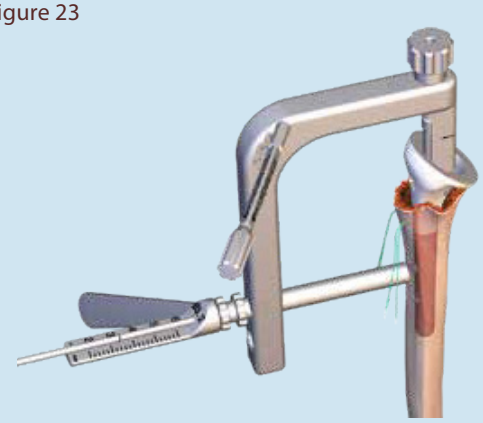


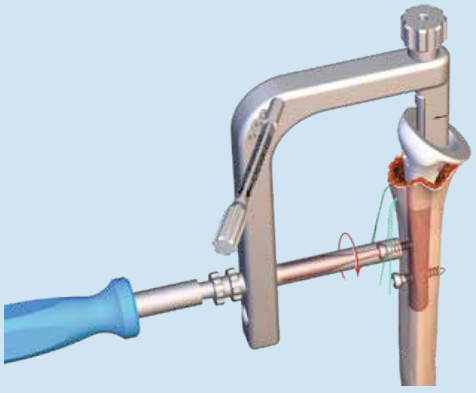
Figure 24

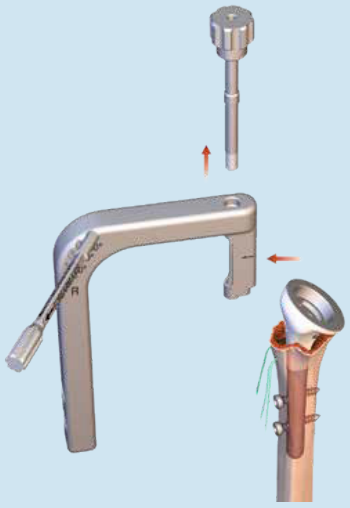
(Example: If the 3.2mm drill bit ring indicates 20mm at the opposite cortex, the definitive screw is 24mm).

If the preference is to drill through both cortices an alternative AO type depth gauge is available.

Drill through the second cortex. Place the definitive screw on the screwdriver (blue handle) and through the guide to screw through and fixate the humerus and stem. (Figure 30)

An optional depth gauge is available to measure screw length if desired.





CAUTION

For Trauma Indications, use both interlocking screws to ensure stability of the prosthesis

CAGE OPTION

CHOICE OF THE CAGE SIZE

(Figure 25)

Use the trials in order of increasing sizes. The cage allows for the metaphysis to be increased at the anterio-posterior and lateral level.

It therefore allows for a homogeneous epiphyseal mass to be reconstructed.

Figure 25

FITTING OF THE DEFINITIVE CAGE

(Figure 26)

Fit the appropriate implant to the stem. Secure using the screw provided with the Hex 3.5mm screwdriver.

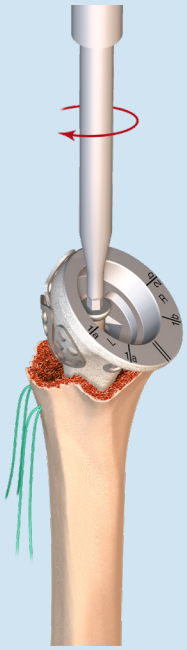


Figure 26

CAGE FILLING

(Figure 27)

Use small autograft cubes (5mm) taken from the native head to fill the cage.

The cage, made of T40 titanium, allows for optimized epiphyseal filling in patients with porotic bone.

For these patients one may not wish to cement the stem but preserve maximum bone stock.

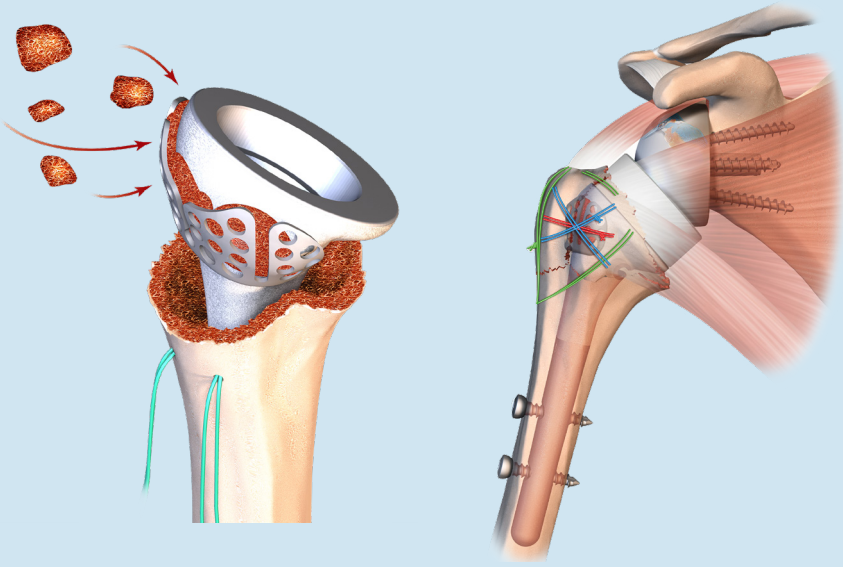


Figure 27

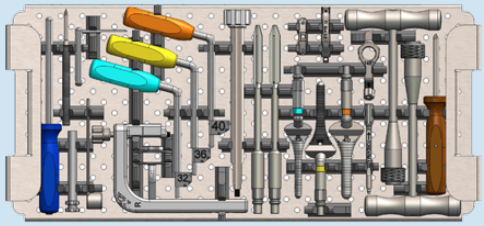
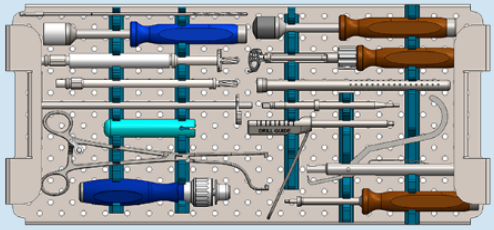
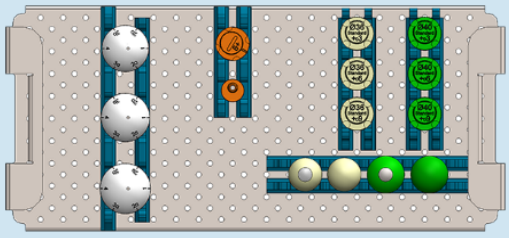
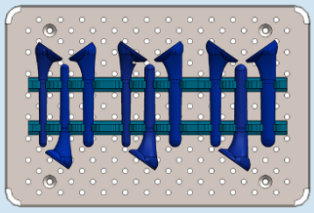
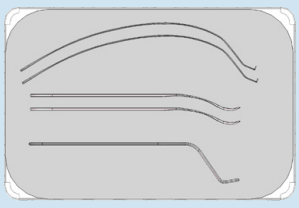
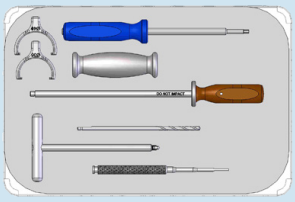
DEFINITIVE IMPLANT LIST

Part number	Designation
312-3208	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø32/08 Ti/HA
312-3210	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø32/10 Ti/HA
312-3212*	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø32/12 Ti/HA
312-3610	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø36/10 Ti/HA
312-3612	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø36/12 Ti/HA
312-3614	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø36/14 Ti/HA
312-4012	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø40/12 Ti/HA
312-4014*	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø40/14 Ti/HA
312-4016*	HUMELOCK REVERSED STEM TA6V CEMENTLESS Ø40/16 Ti/HA
107-4518	CORTICAL SCREW TA6V Ø4.5mm L.18 mm
107-4520	CORTICAL SCREW TA6V Ø4.5mm L.20 mm
107-4522	CORTICAL SCREW TA6V Ø4.5mm L.22 mm
107-4524	CORTICAL SCREW TA6V Ø4.5mm L.24 mm
107-4526	CORTICAL SCREW TA6V Ø4.5mm L.26 mm
107-4528	CORTICAL SCREW TA6V Ø4.5mm L.28 mm
107-4530	CORTICAL SCREW TA6V Ø4.5mm L.30 mm
107-4532	CORTICAL SCREW TA6V Ø4.5mm L.32 mm
107-4534	CORTICAL SCREW TA6V Ø4.5mm L.34 mm
107-4536	CORTICAL SCREW TA6V Ø4.5mm L.36 mm
103-0803	HUMERAL CUP STANDARD PE/TA6V Ø36/+3
103-0806	HUMERAL CUP STANDARD PE/TA6V Ø36/+6
103-0809	HUMERAL CUP STANDARD PE/TA6V Ø36/+9
103-1003	HUMERAL CUP STABILITY PE/TA6V Ø36/+3
103-1006	HUMERAL CUP STABILITY PE/TA6V Ø36/+6
103-1009	HUMERAL CUP STABILITY PE/TA6V Ø36/+9
104-0803	HUMERAL CUP STANDARD PE/TA6V Ø40/+3
104-0806	HUMERAL CUP STANDARD PE/TA6V Ø40/+6
104-0809	HUMERAL CUP STANDARD PE/TA6V Ø40/+9
104-1003	HUMERAL CUP STABILITY PE/TA6V Ø40/+3
104-1006	HUMERAL CUP STABILITY PE/TA6V Ø40/+6
104-1009	HUMERAL CUP STABILITY PE/TA6V Ø40/+9
103-0007	HUMERAL SPACER TA6V +9 mm
105-3610	HUMELOCK REVERSED CENTERED GLENOSPHERE W/ SCREW CoCr/TA6V 10° TILT Ø36mm
105-4010	HUMELOCK REVERSED CENTERED GLENOSPHERE W/ SCREW CoCr/TA6V 10° TILT Ø40mm
105-3613	HUMELOCK REVERSED ECCENTRIC GLENOSPHERE W/ SCREW CoCr/TA6V 10° TILT Ø36mm
105-4011	HUMELOCK REVERSED ECCENTRIC GLENOSPHERE W/ SCREW CoCr/TA6V 10° TILT Ø40mm
105-0024	HUMELOCK REVERSED TA6V CEMENTLESS GLENOID BASEPLATE Ti/HA Ø24mm
105-0006	POST EXTENSION TA6V +06mm CEMENTLESS Ti/HA
105-0010	POST EXTENSION TA6V +10mm CEMENTLESS Ti/HA

DEFINITIVE IMPLANT LIST

109-4515	STANDARD SCREW TA6V Ø4.5mm L.15 mm
109-4520	STANDARD SCREW TA6V Ø4.5mm L.20 mm
109-4525	STANDARD SCREW TA6V Ø4.5mm L.25 mm
109-4530	STANDARD SCREW TA6V Ø4.5mm L.30 mm
109-4535	STANDARD SCREW TA6V Ø4.5mm L.35 mm
109-4540	STANDARD SCREW TA6V Ø4.5mm L.40 mm
108-4515	LOCKING SCREW TA6V Ø4.5mm L.15 mm
108-4520	LOCKING SCREW TA6V Ø4.5mm L.20 mm
108-4525	LOCKING SCREW TA6V Ø4.5mm L.25 mm
108-4530	LOCKING SCREW TA6V Ø4.5mm L.30 mm
108-4535	LOCKING SCREW TA6V Ø4.5mm L.35 mm
108-4540	LOCKING SCREW TA6V Ø4.5mm L.40 mm
108-3632	HUMELOCK REVERSED CAGE T40 R36/Ø32 mm
108-4036	HUMELOCK REVERSED CAGE T40 R40/Ø36 mm
108-4440	HUMELOCK REVERSED CAGE T40 R44/Ø40 mm
101-0000	HEX. 3,5 SCREW TA6V FOR OFFSET MODULAR SYSTEM
SMARTLOOP	
292-1001	SMARTLOOP WHITE USP 5
292-1003	SMARTLOOP GREEN USP 5
SMARTAPE	
292-2000	SMARTAPE BLUE / BLUE
292-2001	SMARTAPE WHITE / BLUE

INSTRUMENTATION

REFERENCE NUMBER	DESCRIPTION	INSTRUMENTATION
604-0006	HUMELOCK REVERSED HUMERAL TRAY	
604-0008	HUMELOCK REVERSED GLENOID TRAY	
604-0020	HUMELOCK REVERSED TRIAL TRAY	
604-0014	HUMELOCK REVERSED STEM TRIAL	
603-0010	RETRACTOR	
	EXTRACTION TRAY	

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