TORNIER
TECHNOLOGY

# TORNIER
# LATITUDE EV™
## Total Elbow Prosthesis

SURGICAL TECHNIQUE

WRIGHT™
FOCUSED EXCELLENCE

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# Indications and Known Contraindications

chapter 1

## Indications

The LATITUDE™ Elbow Prosthesis and the LATITUDE EV™ Total Elbow Arthroplasty system are intended for total elbow arthroplasty. Prosthetic replacement with this device may be indicated to relieve severe pain or significant disability following the effects of primary or secondary osteoarthritis and rheumatoid arthritis; correction of functional deformities; revision procedures where other treatments or devices have failed; treatment of fractures that are unmanageable using other techniques.

The LATITUDE™ Elbow Prosthesis and the LATITUDE EV™ Total Elbow Arthroplasty system are intended for cemented use only.

When the anatomical spool is used solely with the humeral stem, the LATITUDE™ Elbow Prosthesis and the LATITUDE EV™ Total Elbow Arthroplasty system are distal hemi-elbow prostheses indicated for the same indications that are previously described.*

***Note:** Anatomic Humeral Spool is not available for sale within the United States.*

## Radial Head Replacement Considerations

The LATITUDE EV™ Total Elbow Arthroplasty system offers the option for a radial head replacement component. The humeral and ulnar components must always be used in the procedure. The radial head component needs to be carefully considered in all cases, particularly when lateral joint load sharing needs to be reasonably recreated, such as in the case of unlinked arthroplasty.

## Known Contraindications

Systemic infection is an absolute contraindication. Every effort should be made to rule out the possibility of preoperative sepsis in patients who have one or more of the following abnormalities: fever and/or local inflammation; rapid joint destruction or bone resorption apparent on roentgenograms; elevation of sedimentation rate unexplained by other disease; elevation of WBC count; distant foci of infection from genitourinary, pulmonary, skin and other sites, dental focus infection which may cause hematogenous spread to the implant site; skeletally immature patients; cases where there is inadequate neuromuscular status, poor bone stock, or poor skin coverage around the elbow joint that would make the procedure unjustifiable; neuromuscular or psychiatric disorders which might jeopardize fixation and postoperative care; known allergy to one of the materials; pregnancy.

## Surgical Steps

### Exposure

**Patient Position**
The patient may be positioned in a lateral decubitus position or a supine position based upon surgeon preference. It is important to have full mobility of the elbow during the procedure. A sterile tourniquet is employed.

**Incision**
A straight incision is made approximately 15 centimeters in length and centered just medial to the tip of the olecranon. Full thickness medial and lateral flaps are elevated on the deep fascia.

**Ulnar Nerve Transposition**
The medial aspect of the triceps mechanism is identified and the ulnar nerve is isolated. The medial intermuscular septum is excised. The ulnar nerve is mobilized and transposed anteriorly into the subcutaneous tissue.

**Triceps Management**
Management of the triceps mechanism is at the surgeon's discretion.
If the surgeon does not have extensive experience with the elbow, a triceps-splitting approach is recommended. In this case, the distal 6 to 8 cm of the triceps is split in line with the center of the olecranon.
The triceps is then kept in continuity with the distal forearm fascia as it is split distally along the subcutaneous border of the ulna.
Both the medial and lateral triceps flaps are then elevated subperiosteally over the medial and lateral epicondyles respectively, exposing the elbow joint. Both medial and lateral ulnar collateral ligaments are elevated off the humeral insertions subperiosteally with sharp dissection, allowing dislocation of the elbow.

***Note:*** *For surgeons with greater experience, a triceps-on approach (not shown) is compatible with the instrumentation.*

## Sizing

Size the width of the humeral articular surface using the Sizing Spools. Start by comparing the Sizing Spools to the patient's capitellum and trochlear groove. Then verify that the spool fits precisely into the trochlear groove of the ulna and aligns with the center of the radial head. Small, Medium, Large and Large+ sizes are available. Sizing is particularly important if the native radial head is going to be retained or if a prosthetic radial head is planned. The selected size will be used throughout the procedure; the humeral, ulnar and radial component sizes are not interchangeable. The Large+ spool is used with a Large humeral stem.

***Note:*** *If the patient is between sizes, select the smaller size.*

***Note:*** *Size is important for this implant as it has a radial head component. Ensure that the implant capitellum properly articulates with the radial head to facilitate the restoration of the natural kinematics of the elbow.*

Tray Humeral Preparation

Small Sizing Spool

Medium Sizing Spool

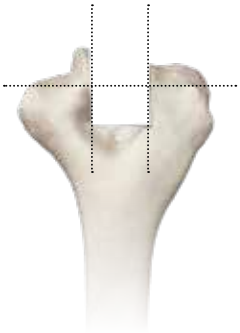
Large Sizing Spool

Large+ Sizing Spool

***Note:*** *Consider starting the procedure with the ulna if there are any concerns about sizing – the ulna typically provides the size limitation for the implant.*

# Humeral Preparation

chapter 2



## Surgical Steps

### Initial Cut

Make a cut between the medial and lateral posterior trochlear ridges and a coronal cut at the center of the fossa. The initial cut should be wide enough to accommodate the stem of the humeral broach to allow access to the medullary canal. Nearly all of the trochlea needs to be removed in order to accommodate the humeral broach.

***Note:*** *The osteotome in the tray can be used as a reference for how wide to make the initial cut in the distal humerus. Consider creating a bone graft (autograft) for the flange with the bone resected from the distal humerus prior to making the full cut.*

### Initial Entry

Use a high speed burr to open the medullary canal. If preferred, cannulated Flexible Reamers may be used to further open the canal prior to broaching and are recommended if using a revision stem. Guide Wires are provided if desired when utilizing a flexible reamer.

| Humeral Component | Reamer Size |
|---|---|
| Small | Up to 6 mm |
| Medium | Up to 8 mm |
| Large | Up to 10 mm |

***Note:*** *Use the base of the fossa as a landmark for how deep to make the initial entry*

***Note:*** *Listen for diaphyseal chatter, not entry chatter, when using the reamers to know that the canal has been sized up appropriately. Reaming may be performed manually with the 10Nm torque driver.*

Tray Long Stem Top

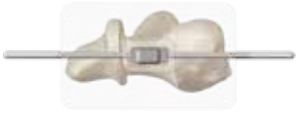


4 mm Straight Reamer

5 mm -10 mm Flexible Reamers



Guide Wire



## Humeral Broaching

Using a mallet, insert the Starting Broach until the Flexion/Extension (F/E) line on the posterior surface is lined up with the patient's F/E axis.

***Note:*** *If the patient has healthy bone stock, consider tapping the broach 2-3 times, removing, and then repeating. This will reduce the bone that gets pushed down the canal and will help reduce the possibility of cracking.*

***Note:*** *If broaching becomes difficult, use the flexible reamers to further open the diaphyseal canal.*

**The F/E axis can be approximated in several ways:**

The easiest way is to impact the Broach until the F/E line on the posterior surface of the Broach lines up with the anteroinferior portion of the medial epicondyle (origin of the medial collateral ligament).

When viewing the internal cut surface of the trochlea it will approximate a circle. The center of the circle will be the approximate F/E axis.

The internal cut surface of the capitellum on the lateral side can also approximate a circle and the center of this is approximately the F/E axis.

If performing a left elbow replacement, the words POSTERIOR LEFT should be visible. If performing a right elbow replacement, the words POSTERIOR RIGHT should be visible. The F/E Alignment Pin can be used to aid rotational alignment by inserting it through the medial/lateral hole in the Humeral Broach. Humeral broaching should be done sequentially to the selected humeral component size. Broaches are color coded to match the correct spool size.

***Note:*** *The Humeral Broaches allow for a 1mm cement mantle. If the Broach is too tight, avoid fractures by either reaming the canal with a Flexible Reamer or using a Broach one size lower than the definitive implant.*

Tray Humeral Preparation

Humeral Broach Starting Size

Humeral Broach Small Size

Humeral Broach Medium Size

Humeral Broach Large Size

Tray Long Stem Top



F/E Alignment Pin

## Trochlear Cut

Attach the Broach Adaptor to the Humeral Broach and push it down to lock it in place. Attach the Trochlear Cut Guide to the Broach using the Broach Adaptor. Depress the lever on the guide and slide it on until it touches bone. Use a 3 mm Drill Bit to drill through the two holes in this guide and insert a Stabilization Pin into each hole in order to secure it.
The distal cut extension on the Trochlear Cut Guide should be over the capitellum indicating that the mediolateral and rotational orientation is correct. Care should be taken not to place the cutting guide too proximal as it may result in a very thin medial column susceptible to fracture.
Thus, it is important to line up the F/E axis correctly on the original Broach to prevent overly proximal placement of the Trochlear Cut Guide.
If the medial column appears to be very thin, consider downsizing the component or shifting the Humeral Broach more laterally.

Tray Humeral Preparation

Humeral Broach Adapter: Right & Left

Small Trochlear Cut Guide

Medium Trochlear Cut Guide

Large Trochlear Cut Guide

Stabilization Pins

Use a reciprocating or oscillating saw to cut along the outside edges of the Trochlear Cut Guide. When making the bottom cut, stop before hitting the Broach. Avoid notching at the corners as this may lead to a stress riser and predispose to a column fracture. For the distal capitellum cut, cut along the bottom surface marked DISTAL CUT. For the anterior cut, use the back of the Broach Adaptor marked ANTERIOR CUT.

***Note:*** *It may be easier to use the guide to score the cuts and then complete the cuts once it is removed. Be sure to complete all five cuts – often the anterior cut is missed.*

Use the Pin Puller to remove the Stabilization Pins from the Trochlear Cut Guide, and then remove the Trochlear Cut Guide, Broach Adaptor and Humeral Broach. Finish the bottom cut with an oscillating saw.

Tray Humeral Preparation

Pin Puller

***Note:*** *In situations where distal humeral landmarks are not present due to previous trauma or bony erosions, several different strategies can be used to obtain a reasonable approximation of appropriate humeral positioning:*

1. If the proximal portion of the olecranon fossa is still present, it can be used for a landmark as the location of the proximal portion of the yoke of the humeral component.

2. Internal rotation of the humeral component 15 degrees relative to the flat posterior surface of the distal humerus approximates the correct rotational alignment.

3. If no distal humeral landmarks are present, appropriate positioning can be estimated by soft tissue tensioning with respect to the proximal ulna. This is better approximated with triceps-on approaches.

4. Appropriate size of the component can be estimated based on radiographic templating of the uninvolved contralateral elbow.

5. When distal humeral landmarks are not present, generally a linked component will be employed and sizing is not quite as important. Sizing can be based more on ulnar fit or intramedullary fit.

## Humeral Gusset Broaching

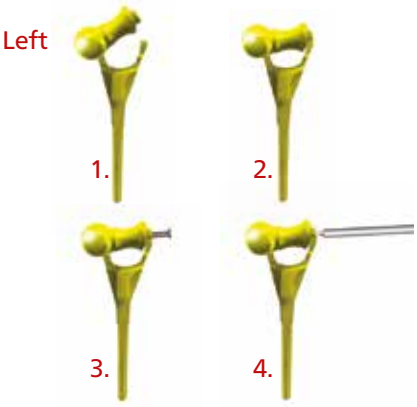
To prepare the humerus for the fins of the humeral component, use the Humeral Gusset Broach that matches the final Humeral Broach used (Small, Medium, or Large). Align the tip of the Gusset Broach into the canal, checking for correct alignment and rotation, with the correct RIGHT or LEFT visible. Use a mallet to insert the Humeral Gusset Broach until the F/E mark lines up with the natural F/E axis.

Tray Humeral Preparation

Small Humeral Gusset Broach

Medium Humeral Gusset Broach

Large Humeral Gusset Broach




## Humeral Trial

Select the appropriate side, size and length Trial Humeral Stem and corresponding Trial Humeral Spool. Place the capitellum of the Trial Humeral Spool on the left for a left trial stem and on the right for a right trial stem. An "M" is marked on the medial side and an "L" is marked on the lateral side. Insert the appropriate size Trial Humeral Screw from medial to lateral, and tighten using the 3.5 mm Screwdriver on the 3 Nm Torque Driver.

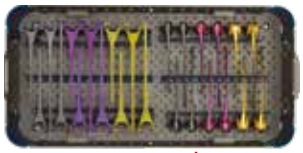
Position the trial stem assembly in the humeral shaft and use the Impactor to seat the trial implant flush with the capitellum. Appropriate distal proximal and rotational positioning of the Trial Stem can be verified by ensuring the Humeral Screw of the trial component lines up with anteroinferior aspect of the medial epicondyle.

When the LATITUDE™ elbow prosthesis is a distal hemi-elbow prosthesis, the corresponding Trial Anatomical Spool is selected and assembled with the selected Trial Humeral Stem and Trial Humeral Screw.

Tray Humeral Preparation

Small Trial Humeral Spool | Medium Trial Humeral Spool | Large Trial Humeral Spool | Large+ Trial Humeral Spool | Small Trial Screw | Medium Trial Screw | Large Trial Screw | 3.5mm Screwdriver

Right & Left



Tray Long Stem bottom

Small Trial Humeral Stem | Medium Trial Humeral Stem | Large Trial Humeral Stem

Right & Left, Standard, 150 mm & 200 mm (Tray 2 Bottom)

Tray Long Stem Top

3 Nm Torque Driver

Impactor

Tray anatomic spool

***Warning:*** *The 3.5mm Screwdriver must only be used with the 3Nm Torque Driver. Deviation from this technique could result in screw or instrument breakage*

# Ulnar Preparation

chapter 3

In considering ulnar preparation, the surgeon should determine whether or not the radial head will be retained, replaced, or removed.
As a general rule, if the radial head has relatively normal proximal bone stock, it can be retained, even in the absence of cartilage loss.
Replacing the radial head with the prosthetic component should only be done when the radial capitellar alignment is near anatomic and thus can be restored in this fashion. Removal of or not replacing the radial head should be considered when anatomic alignment to the capitellum is not possible; this is generally the case if the radial head has been previously resected or there is pre-existing deformity.

There are two options for Ulnar Preparation:

## Ulnar Preparation Option 1 - Ulnar Jig

This option is used most commonly when proximal ulnar bonestock is preserved.

Tray Humeral Preparation

Select the correct Ulnar Jig, LEFT or RIGHT, and assemble by placing the Sizing Spool into the greater sigmoid notch of the ulna; the capitellar portion should align and articulate with the center of the radial head where available. Slide the post of the Ulnar Jig into the sizing spool. Tighten the clamp until the Ulnar Jig is secure.

***Note:*** *The foot of the jig should sit on the flat portion of the olecranon to aid in stability and accuracy of the cut.*

**Caution: Be sure to irrigate or tap the bell saw during the cut to reduce heat build-up.**

**Caution: Do not restart the bell saw in the jig if it doesn't move freely.**

Small Sizing Spool | Medium Sizing Spool | Large Sizing Spool | Large+ Sizing Spool

Tray Ulnar Preparation

Ulnar Jig: Right & Left

If removing the radial head use the cutting surface marked RADIAL CUT and resect the radial head.

***Note:*** *An alternative option for radial head resection described in Radial Head Resection - Option 2. If using this option, continue to use the Ulnar Jig as if the radial head will not be removed.*

Select the correct Bellsaw size (Small, Medium, or Large) and attach to power. If the radial head was not removed, place the Radial Head Protector between the radial head and the ulnar head. With the appropriate size Bellsaw, cut the ulna. Ensure the ulnar nerve is protected when making this cut. After the cut is made, remove the Ulnar Jig assembly and Bellsaw. If there is any additional bone on the ulna that needs to be removed, use the Barrel Reamer to refine this cut.

Tray Ulnar Preparation

Small Bellsaw

Large Bellsaw

Medium Bellsaw

Radial Head Protector

Tray Long Stem Top

Barrel Reamer

Tray Long Stem Top

Barrel Reamer

## Ulnar Preparation Option 2 - Barrel Reamer

Used in the setting of proximal ulnar bone loss.

**Barrel Reamer:**
Attach the Barrel Reamer to power and use it to shape the ulna into C-shape that will accommodate the appropriate Ulnar Trial.
The Ulnar Trial can be used as a visual aid to help in appropriate ulnar preparation when utilizing this option.

Tray Long Stem Top

## Initial Entry

Open up the ulnar canal using a burr at the base of the coronoid.
If preferred, cannulated Flexible Reamers may be used to further open the canal prior to broaching and are recommended if using a revision stem.
Guide Wires are provided if desired when utilizing a Flexible Reamer.



4 mm Straight Reamer

5 mm -10 mm Flexible Reamers



Guide Wire

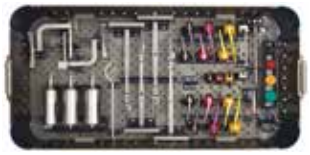
| Ulnar Component | Reamer Size |
|---|---|
| Small | Up to 5 mm |
| Medium | Up to 6 mm |
| Large | Up to 7 mm |

***Note:*** *Do not use the flexible reamers in the ulna without a guide to reduce the possibility of perforation.*

## Ulnar Broaching

Broach the ulnar canal beginning with the Starting Ulnar Broach and proceeding sequentially to the Broach sizes that match the selected ulnar component size. Insert the Ulnar Broach in the ulnar canal respecting the radial inclination of the proximal ulnar shaft. The Broach should be parallel to the flat posterior portion of the proximal ulna. The F/E Alignment Pin can be used to aid in alignment by inserting it through the medial/lateral hole in the Ulnar Broach.

Impact with a mallet and Broach until the apex of the fin is in contact with the bone.



Tray Ulnar Preparation

Starting Ulnar Broach | Small Ulnar Broach | Medium Ulnar Broach | Large Ulnar Broach

Tray Long Stem Top



F/E Alignment Pin

***Note:*** *A small portion of the posterior tip of the olecrenon may need to be removed to ensure proper alignment of the broach. the possibility of perforation.*

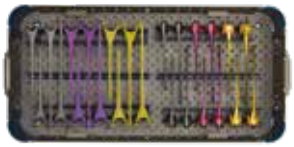
## Ulnar Trial

Select the correct Trial Ulnar Stem and impact it using a mallet and the Impactor

Tray Ulnar Preparation

Small Trial Ulnar Stem | Medium Trial Ulnar Stem | Large Trial Ulnar Stem

Right & Left, Short, Standard, 125 mm & 150 mm



Tray Long Stem Bottom

***Note:*** *Align the flat portion of the braoch with the flat spot of the bone. Look from the top for version and the laser line for the depth.*

***Note:*** *If there are challenges seating the trial, consider trialing with the short stem. If that seats, then additional diaphyseal reaming is needed. If the short stem does not work, then check that the broach has been completed sufficiently.*

# Radial Head Resection Option 2

chapter 4

**Caution : The LATITUDE EV™ Total Elbow Arthroplasty system offers the option for a radial head replacement component. The humeral and ulnar components must always be used in the procedure. The radial head component needs to be carefully considered in all cases, particularly when lateral joint load sharing needs to be reasonably recreated, such as in the case of unlinked arthroplasty.**

With the Ulnar Stem Trial in place, insert the Radial Head Impactor (the Radial Head Impactor is also used in conjunction with the Trial Radial Stem to broach the radial canal) through the Radial Cut Guide Alignment Block and thread into the Ulnar Stem Trial. Insert the Radial Cut Guide into the Radial Cut Guide Alignment Block from the appropriate side and push it in until it touches bone. Use an oscillating saw to cut the radius using the surface marked "RADIAL CUT" as a guide. Remove the Radial Cut Guide, unscrew the Radial Head Impactor and remove the Radial Cut Guide Alignment Block.

Tray Ulnar Preparation

Radial Head Impactor

Radial Head Cut Guide Adaptor

Radial Head Cut Guide

## Radial Preparation and Radial Trial

The head of the radius must be resected to gain entry into the radial canal and also establish the height of the radial assembly. If a standard radial stem is to be used, the ulnar jig based radial head cut made during the initial ulnar preparation should be used. If a long stem implant is to be used the long stem cut guide should be used. With the joint reduced, the long stem cut guide rests against the native or trial humeral capitelum while also being half perpendicular to the diaphyseal axis of the radius.

Sequentially ream the radius to open up the radial canal. Reamers should be advanced until the end of the cutting flutes is flush with the resected surface of the radius.

Choose the radial stem trial which corresponds with the final size of reamer used in the previous step. The trial can be impacted into final position by either using the impactor tip or the Radial Head Impactor threated into the proximal end of the trial.

Also note: orientation of the long stem trials is important in restoring the radial neck angle. The long stem trial has notched at the base of the neck which are normal to the plane of neck inclination. With the arm in neutral rotation these notches should be placed anterior and posterior with the neck angling towards the thumb.

Radial head trial which coresponds with the sizing of humeral and ulnar components snaps onto the radial stem trial.

Reduce the trial humeral, ulnar and radial components. It is strongly recommended that the radial head component be carefully considered when leaving the prosthesis unlinked. Perform the initial trial reduction by placing the triceps in its anatomic position. The elbow should articulate through a full range of motion (ROM), testing for stability, articular tracking, and axis of rotation. Of particular concern is tracking of the prosthetic radial head to the capitellum. In general, for the elbow to be unlinked, lateral joint load sharing needs to be reasonably recreated. Radial capitellar articulation should be visualized through a flexion/extension arc and through spination/pronation to verify reasonable tracking. Additionally, there should be 10° of varus-valgus motion available through the elbow joint even in the presence of radial capitellar articulation. If there is less than this amount of valgus angulation possible, it indicates that the radial head component may be proud and thus preventing normal varus-valgus freedom in the articulation. If the trial reduction is satisfactory, remove the trial components and prepare the elbow for the final implants. If the trial reduction is not satisfactory, check that the trial implants are correctly positioned and that no soft tissue impingement has occurred. Check for impingement of the coronoid process on the anterior flange of the humeral component in flexion and impingement of the olecranon process on the humeral component in extension, and resect as required. In case of an unstable elbow, use the trial cap to link the implant.

Tray Ulnar Preparation

Radial Head Impactor

Trial Radial Stems: 5 mm & 6.5 mm

Small Trial Radial Head

Medium Trial Radial Head

Large Trial Radial Head

Large+ Trial Radial Head

## Trial and Reduction

The trial components can be placed unlinked or linked.

**Unlinked:**
Reduce the Trial Humeral, ulnar and radial components. Perform the initial trial reduction by placing the triceps in its anatomic position.
The elbow should articulate through a full range of motion (ROM), testing for stability, articular tracking, axis of rotation, and ROM.
Of particular concern is tracking of the native radial head to the prosthetic capitellum or the prosthetic radial head to the capitellum. In general, for the elbow to be unlinked, lateral joint load sharing needs to be reasonably recreated. Radial capitellar articulation should be visualized through a flexion/extension arc and through supination/pronation to verify reasonable tracking. Additionally, there should be $10^0$ of varus-valgus motion available through the elbow joint even in the presence of radial capitellar articulation. If there is less than this amount of valgus angulation possible, it indicates that the radial head component may be proud and thus, preventing normal varusvalgus freedom in the articulation.
If the trial reduction is satisfactory, remove the trial components and prepare the elbow for the final implants. If the trial reduction is not satisfactory, check that the trial implants are correctly positioned and that no soft tissue impingement has occurred. Check for impingement of the coronoid process on the anterior flange of the humeral component in flexion and impingement of the olecranon process on the humeral component in extension, and resect as required. In case of an unstable elbow, use the trial cap to link the implant.

Tray Ulnar Preparation

Small Trial Ulnar Cap

Medium Trial Ulnar Cap

Large Trial Ulnar Cap

Trial Ulnar Cap Screw



2.5 mm Screwdriver

**Linked:**
Assemble the Trial Ulnar Cap to the Trial Ulnar Stem and tighten the trial locking screw. Confirm appropriate component placement and perform another trial reduction. Perform the initial trial reduction by placing the triceps in its anatomic position. The elbow should articulate through a full ROM, testing for stability and axis of rotation. If the trial reduction is satisfactory, remove the trial components and prepare the elbow for the final implants. If the trial reduction is not satisfactory, check that the trial stems sit properly on the bone and that no soft tissue or boney impingement has occurred. Check for impingement of the coronoid process on the anterior flange of the humeral component in flexion and impingement of the olecranon process on the humeral component in extension, and resect as required.

If the Trial Radial Head articulates congruently with the capitellum, a radial head component should be employed. If maltracking of the Trial Radial Head is evident, component positioning should be adjusted.
If maltracking persists, a radial head replacement should not be performed.

Tray Long Stem Top

3 Nm Torque Driver

***Warning:*** *The 2.5mm Screwdriver must only be used with the 3Nm Torque Driver. Deviation from this technique could result in screw or instrument breakage.*

## Final Implant Assembly

After all trial components have been removed, clean and dry all intramedullary canals.

Cement Restrictors should be used:
» EBO101 Diameter range of 8-15mm
» EBO102 Diameter range of 5-8mm

**Assembly of Final Components:**
The Humeral Stem (side and size) is assembled to the appropriate Spool (side and size). The implant Humeral Screw (cannulated) is firmly tightened with the 3.5 mm Hex Screwdriver which has a torque release.

Tray Humeral Preparation



3.5 mm Screwdriver

Tray Long Stem Top

3 Nm Torque Driver

***Note:*** *The 3.5mm Screwdriver must only be used with the 3Nm Torque Driver. Deviation from this technique could result in screw or instrument breakage.*

***Note:*** *If the radial head component is not going to be used, proceed to the next page and follow the steps for the cement technique and the bone graft (autograft) resected from the distal humerus.*

Optional - Assemble the radial head trial and the radial components by snapping the Trial Radia Head onto its stem prior to implantation.

Tray Ulnar Preparation

Small Trial Radial Head

Medium Trial Radial Head

Large Trial Radial Head

Large+ Trial Radial Head

### Cement Technique and Bone Graft

Using a cement gun, antibiotic laden bone cement is injected retrograde into the humeral, ulnar and radial canals. The components are placed into position, removing all excess cement, particularly around the bipolar radial head component. Depending on preference, the radial and ulnar components can be cemented first and then the humerus or all three can be cemented simultaneously.

***Note:*** *When using the Radial Head Component, cement both Radial Head and Ulnar Stem at the same time. To ensure that both components are seated at the same level, use the Trial Humeral Stem and Spool as a visual guide to correct insertion.*

Tray Long Stem Top



Cement Restrictor

### Radial Head Assembly

Reduce the elbow to ensure correct alignment of the components to each other and wait until cement has set. Remove the Trial Radial Head component and clean any residual cement from the bipolar articulation.

Place the radial head implant onto the radial stem and depress until the head snaps onto the stem and is loosely held by the internal lock ring.

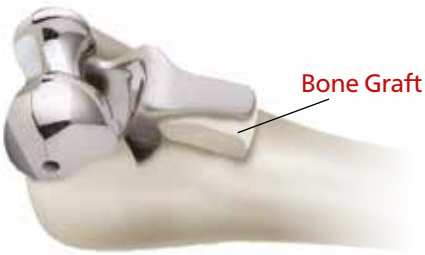
Remove the Trial Radial Head component and clear any residual cement from the bipolar articulation.

Important : Introduce the Radial Head Assembly instrument as shown. Firmly squeeze the instrument handles together pressing the poly into the collar of the radial head trapping the lock ring of the radial head implant.

***Note:*** Do not remove and reapply head on stem as repeated assembly reduces the disassembly force.

Radial Head Unlocked

Radial Head Locked




## Cement Technique and Bone Graft (Continued)

Cement each component according to the technique described. Remove any excess cement from around the components, avoiding cement in the bipolar articulation and the ulnar component in particular.

Insert a cancellous bone fragment from the resected bone of the distal humerus in between the humeral shaft and the anterior flange of the humeral component. The bone graft is wedged firmly in place.

Leave protecting Ulnar Screw in its component to prevent cement from coming in contact with the threads during cementation. After the cement has completely set, remove the protecting Ulnar Screw with the 2.5 mm Hex Screwdriver with the 3 Nm torque handle and discard. Reduce humeral and ulnar components and flex to approximately 140°; insert Ulnar Cap into the Ulnar Stem. Tighten the screw until the torque release is reached. Using the tab Bending Tool and a mallet, bend the cap tab over the screw.

Tray Ulnar Preparation



2.5 mm Screwdriver

Tray Long Stem Top

3 Nm Torque Driver

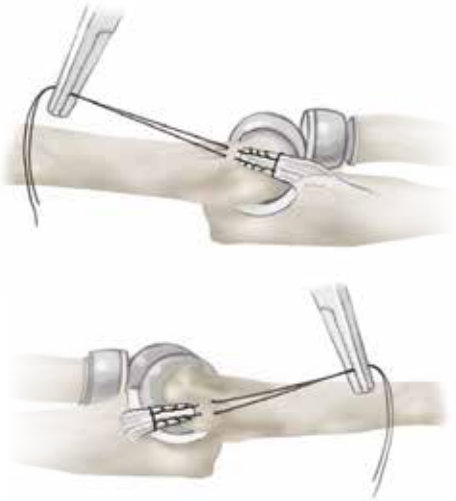
***Warning:*** *The 2.5mm Screwdriver must only by used with the 3Nm Torque Driver. Deviation from this technique could result in screw or instrument breakage.*

# Closure

chapter 5

The tourniquet is deflated and hemostasis is secured. The LATITUDE EV™ system has a cannulated humeral bolt allowing for repair of the collateral ligaments and common flexor/extensor origins to the implant and the adjacent epicondyle if desired. #2 Force Fiber™ sutures are placed into the medial and lateral collateral ligaments. A suture passer is used to pass these sutures across the axis bolt of the distal humerus. With the elbow reduced the end of these sutures are then passed through the contralateral collateral ligament as well as the common flexor and extensor origins and securely tied. The end of these sutures are left long and then passed over the posterior aspect of the olecranon to serve as a circumferential suture to prevent elbow subluxation or dislocation of an Unlinked implant in the post-operative period.

If the triceps had been detached it should be carefully repaired using nonabsorbable locking Krackow sutures placed through drill holes in the ulna. Oblique and transverse drill holes are employed.
Care should be taken to ensure that any knots are buried such that they will not be irritating to the patient. The ulnar nerve is secured in the anterior subcutaneous pouch using a #1 absorbable suture approximating the subcutaneous fat to the flexor pronator origin. The wound is closed in layers over a drain.



# Postoperative Recommendation

chapter 6

## Unlinked TEA

The elbow is immobilized at 60° in a well-padded splint for 2 to 10 days depending on skin quality. Active flexion and gravity assisted extension is performed with forearm in neutral rotation.

Active extension is avoided for 6 weeks to protect the triceps repair. If a triceps sparing approach was used, active extension is permitted as soon as the wound is stable. Prosupination is performed with the elbow in flexion. A collar and cuff or sling is used between exercises for the first 6 weeks. Extension splinting at night may be used to assist in regaining elbow extension after four weeks. Light strengthening is initiated 10 weeks postoperatively.

## Linked TEA

The elbow is immobilized in full extension with a well-padded splint for 2 to 3 days depending on skin quality. Active flexion and prosupination is performed without restriction. Gravity assisted extension is used to protect the triceps repair for 6 weeks. If a triceps sparing approach was used, active extension is permitted immediately postoperatively. Light strengthening is initiated 10 weeks postoperatively.

Night extension splinting is initiated immediately postoperatively to maximize elbow extension.

# Ulnar Bushing Revision Technique

chapter 7

## Step 1

Remove the mantle of cement surrounding the ulnar polyethylene using a fine tipped burr.

## Step 2

Locate the position of the Assembly Pin from the medial side.

## Step 3

Using a burr, remove the polyethylene to gain full access to the pin. Grasp the pin with heavy pliers and remove.

## Step 4

If the pin does not come out, use a tapered device, such as the tab Bending Tool, and a hammer, and tap from the lateral side to remove the pin.

## Step 5

Once the pin has been removed, the ulnar polyethylene can be slid off the Ulnar Stem. It can be helpful to use a tapered tool and a hammer to assist.

## Step 6

Position the new polyethylene bushing on the Ulnar Stem and rotate it on the slide channel until it is fully engaged.

## Step 7

Assemble the Ulnar Cap to the Ulnar Stem after the polyethylene bushing is replaced, and bend the tab over the screw using the tab bender and a mallet. The Ulnar Cap secures the bushing on the Ulnar Stem.

## Radial Head Revision Technique

The radial head removal instrument should be used for the removal of the radial head implant from the radial stem.

The instrument is placed over the top of the head and advanced by hand. The instrument will force the head off the stem using an inclined plane between the collar of the stem and the collar of the head.

# Generational Compatability and Incompatibilities

chapter 8

## LATITUDE™ Total Elbow Implant History

| Generation | Year Available | Implant Changes |
|---|---|---|
| 1 | 2001-2002 | |
| 2 | 2003-Nov 2007<br>Nov 2007-July2012 | Redesigned Ulnar Stem and Cap<br>Redesigned Humeral Stem and Spool |
| 3 LATITUDE EV™ | July 2012 | New Humeral and ulnar Stems ;<br>New Plasma Coated Humeral Stems ;<br>Humeral Spools Centered only |
| 4 LATITUDE EV™ (Radial Head) | TBD | New Radial Stem diameters and lengths and new Radial Heads with updated locking mechanism |

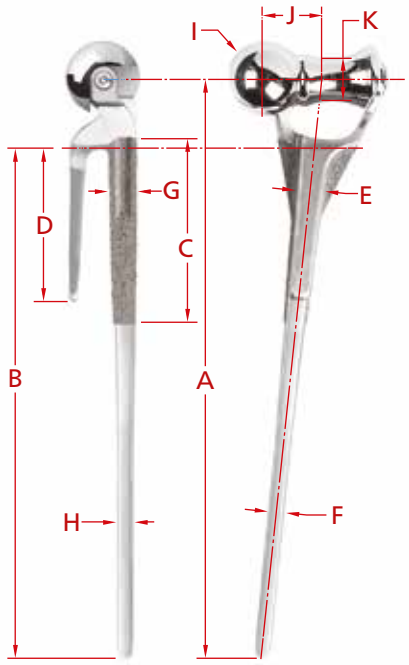
When preparing for Revision Surgeries using the LATITUDE EV™ Total Elbow, it is important to take note of the original surgical date as well as the components used in order to ensure appropriate components are available. There are several known mating conflicts that can be avoided with adequate preparation.

## LATITUDE EV™ Revision Incompatibilities*

| Mating Conflict | Component | Historic Item - Number Reference | Options |
|---|---|---|---|
| LATITUDE EV™ Humeral Spool with Generation 2 Humeral Stem | Humeral Spool | Generation 2 Humeral Stem: DKY-001, 002, 003, 006, 007, 008.<br>Spool: DKY-011, 012, 013, 014, 016, 017, 018, 019, 021, 022, 023, 024, 026, 027, 028, 029, 031, 032, 033, 034, 036, 037,038. | » Revise the humeral stem with a LATITUDE EV™ Humeral Stem<br>» Order custom Humeral Spool |
| LATITUDE EV™ Ulnar Cap with Generation 1 Ulnar components | Ulnar Cap | Generation 1<br>Ulnar Stem: DKY-041, 042, 043, 046, 047, 048.<br>Cap: DKY-051, 052, 053. | » Revise the Ulnar Stem and Cap with LATITUDE EV™ components<br>» Order custom Ulnar Cap to fit with Generation 1 Ulnar Stem |
| LATITUDE EV™ Ulnar Bushing with Generation 1 Ulnar components | Ulnar Bushing | Generation 1<br>Ulnar Stem: DKY-041, 042, 043, 046, 047, 048.<br>Cap: DKY-051, 052, 053. | » Revise all Ulnar Stem and Cap with LATITUDE EV™ components<br>» Order custom Ulnar Bushing and Cap to fit with Generation 1 Ulnar Stem |
| LATITUDE EV™ Radial head with Generation 1 Radial components | Radial Head | Generation 1<br>Radial Stem: DKY061,062<br>Radial Stem DKY-056,057,058,059 | » Revise Radial Implants with LATITUDE EV™ Components |

*All other revision combinations are compatible.

# Product Dimensions




## Humeral Stem & Spool Dimensions (in millimeters)

### Stems

| Item | Description | Length | Small | Medium | Large |
|---|---|---|---|---|---|
| A | Stem Length *From Flexion/Extension Axis* | Standard | 90 | 97 | 104 |
| | | 150 | 150 | 150 | 150 |
| | | 200 | 200 | 200 | 200 |
| B | Stem Length *From Flange* | Standard | 72 | 77 | 83 |
| | | 150 | 132 | 130 | 129 |
| | | 200 | 182 | 180 | 179 |
| C | Plasma Spray Length | Standard | 28 | 28 | 28 |
| | | 150 | 42 | 42 | 42 |
| | | 200 | 42 | 42 | 42 |
| D | Flange Length | Standard | 18 | 18 | 18 |
| | | 150 | 45 | 45 | 45 |
| | | 200 | 45 | 45 | 45 |
| E | Stem Width *Medial/Lateral* | All | 7.7 | 8.2 | 8.7 |
| F | Stem Width *Distal* | All | 4.4 | 4.7 | 5 |
| G | Stem Depth *Anterior/Posterior* | All | 6.5 | 6.7 | 7 |
| H | Stem Depth *Distal* | All | 4 | 4 | 4 |

Using the corresponding size broach will create approximately .50 mm cement mantle on the anterior, lateral and medial surfaces of the plasma spray coated areas. Downsizing one broach size will create a line to line fit on the anterior, posterior, lateral and medial surfaces of the plasma spray coated areas.

### Humeral Spools for Tea

| Item | Description | Small | Medium | Large | Large + |
|---|---|---|---|---|---|
| I | Condyle Diameter | Ø19 | Ø21 | Ø23 | Ø23 |
| J | Trochlea/Condyle Distance | 15.5 | 17.5 | 19.5 | 21.5 |
| K | Trochlea Diameter | Ø10 | Ø11 | Ø12.5 | Ø12.5 |

### Anatomic Spools for Hemi Arthroplasty

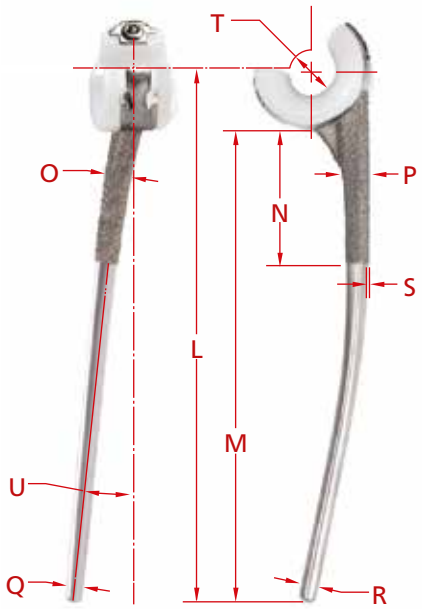
| Item | Description | Small | Small + | Medium | Medium + | Large | Large + |
|---|---|---|---|---|---|---|---|
| I | Condyle Diameter | Ø19 | Ø20 | Ø21 | Ø22 | Ø23 | Ø23 |
| J | Trochlea/Condyle Distance | 16.3 | 16.3 | 19.6 | 20.5 | 21.4 | 24.4 |
| K | Trochlea Diameter | 15.1 | 16 | 16.5 | 17.1 | 18 | 18 |

The Humeral Stem is made from Cobalt-Chromium alloy according to ASTM F-799 Standard Specification for Cobalt-28 Chromium-6 Molybdenum Alloy Forgings for Surgical Implants (UNS R31537, R31538, R31539) or Cobalt-Chromium Molybdenum Casting Alloy according to ISO 5832-7 Implants for Surgery-Metallic Materials-Part 7 (LATITUDE™) or, Cobalt-Chromium Molybdenum casting alloy according to ISO 5832-4 Implants for Surgery - Metallic Materials-Part 4.
Only the LATITUDE EV™ Humeral Stem is coated according to ASTM F1580 Standard Specification for Titanium and Titanium-6Aluminum-5Vanadium Alloy Powders for Coatings of Surgical Implants.
The Humeral Spool is made of Chromium-Cobalt alloy (CrCo) according to ISO standard 5832-7 or ISO 5832-12 and of polyetheretherketone (PEEK-OPTIMA polymer) according to standard ASTM F 2026.
The Humeral Screw is made of stainless steel according to ISO 5832-9.

## Ulnar Stem Dimensions (in millimeters)

### Stems

| Item | Description | Length | Small | Medium | Large |
|---|---|---|---|---|---|
| L | Stem Length<br>*From Flexion/Extension Axis* | Short | 41 | 47 | 52 |
| | | Standard | 70 | 75 | 80 |
| | | 125 | 125 | 125 | 125 |
| | | 150 | 150 | 150 | 150 |
| M | Stem Length<br>*From Gusset* | Short | 27 | 33 | 37 |
| | | Standard | 56 | 61 | 65 |
| | | 125 | 111 | 111 | 110 |
| | | 150 | 136 | 136 | 135 |
| N | Plasma Spray Length | Short | 14 | 14 | 14 |
| | | Standard | 20 | 20 | 20 |
| | | 125 | 31 | 31 | 31 |
| | | 150 | 31 | 31 | 31 |
| O | Stem Width<br>*Medial/Lateral* | All | 6.2 | 6.7 | 7.3 |
| P | Stem Depth<br>*Anterior/Posterior* | All | 6.2 | 6.6 | 7.2 |
| Q | Tip Width<br>*Medial/Lateral* | All | 4.3 | 4.4 | 4.4 |
| R | Tip Depth<br>*Anterior/Posterior* | All | 4.3 | 4.4 | 4.4 |
| S | Plasma Spray Thickness | All | 3 | 3 | 3 |
| T | Plasma Spray Thickness | All | Ø10 | Ø11.5 | Ø13 |
| U | Plasma Spray Thickness | All | 7° | 7° | 8° |

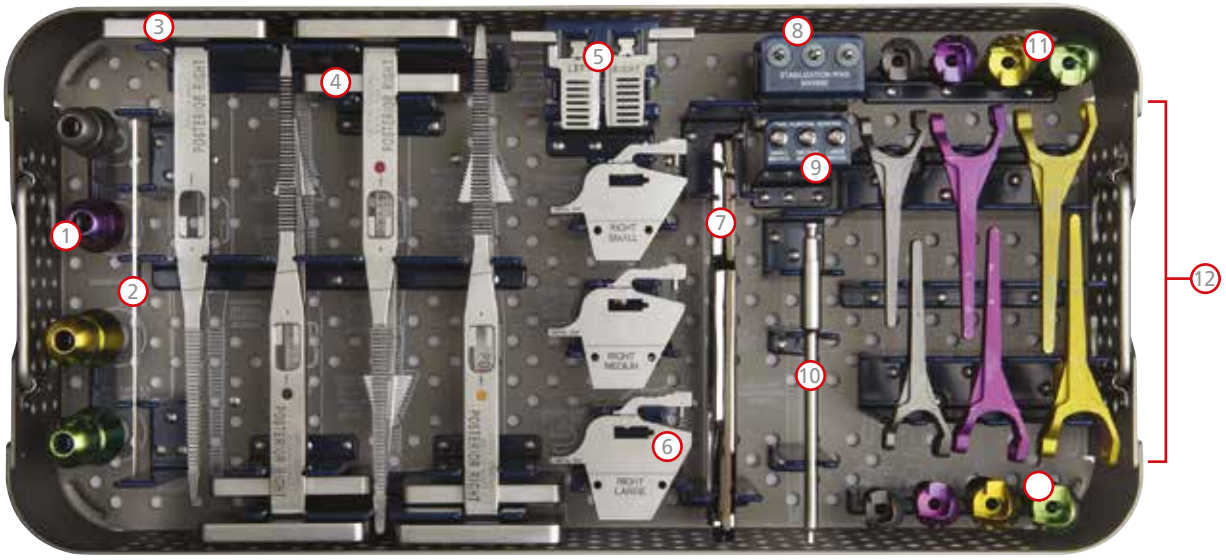



Using the corresponding size broach will create approximately .50 mm cement mantle on the anterior, posterior, lateral and medial surfaces of the plasma spray coated areas.

The Ulnar Stem is made of Cobalt-28 Chromium-6 Molybdenum Alloy Forgings for Surgical Implants according to ASTM F-799 Standard Specification (UNS R31537, R31538, R31539) or, Cobalt-Chromium Molybdenum Casting Alloy according to ISO 5832-7 Implants for Surgery-Metallic Materials- Part 7 or Wrought Cobalt-Chromium-Molybdenum Alloy according to ISO 5832-12 Implants for Surgery--Metallic Materials--Part 12. Only the LATITUDE EV™ Ulnar Stem is coated according to ASTM F1580
Standard Specification for Titanium and Titanium-6Aluminum-5Vanadium Alloy Powders for Coatings of Surgical Implants.

The Ulnar Radial Components are made of Chromium-Cobalt alloy (CrCo) according to ISO standard 5832-7 or ISO standard 5832-12 or ISO standard 5832-4 and ultra high molecular weight polyethylene (UHMWPE) according to ISO standard 5834-2.

# Instrumentation



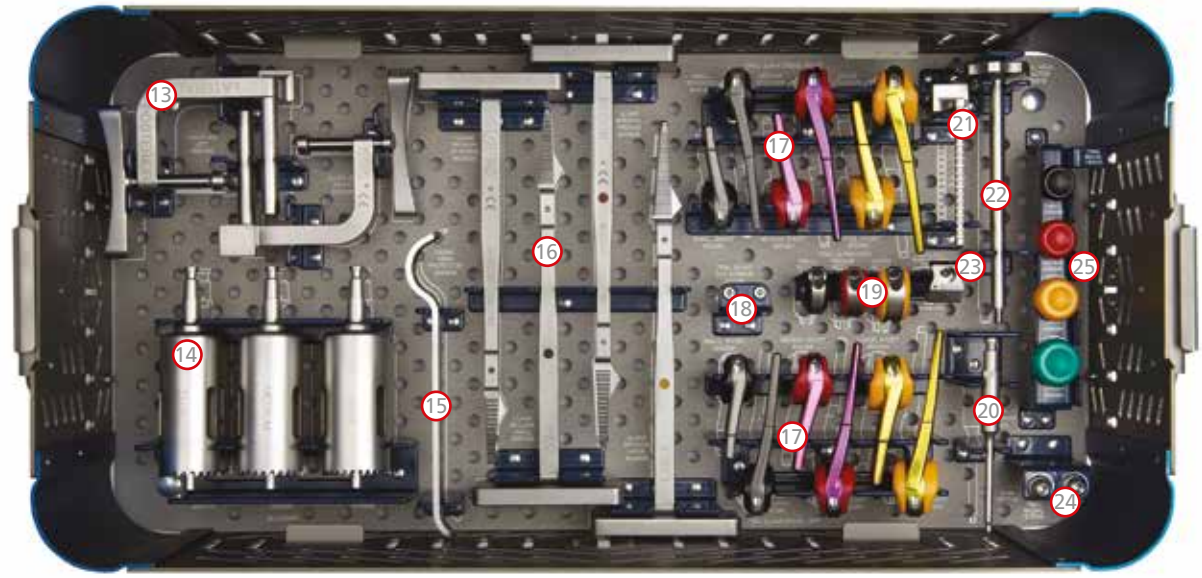

## Tray Humeral Preparation YKAD 501

### Tray 1 Top

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 1 | Small Sizing Spool | 9030001 | 1 |
| | Medium Sizing Spool | 9030003 | 1 |
| | Large Sizing Spool | 9030005 | 1 |
| | Large + Sizing Spool | 9030007 | 1 |
| 2 | Osteotome | MDU500 | 1 |
| 3 | Humeral Broach, Starting Size | 9030035 | 1 |
| | Humeral Broach, Small Size | 9030040 | 1 |
| | Humeral Broach, Medium Size | 9030045 | 1 |
| | Humeral Broach, Large Size | 9030050 | 1 |
| 4 | Humeral Gusset Broach, Small | 9030056 | 1 |
| | Humeral Gusset Broach, Medium | 9030057 | 1 |
| | Humeral Gusset Broach, Large | 9030058 | 1 |
| 5 | Humeral Broach Adapter Left | 9030030 | 2 |
| | Humeral Broach Adapter Right | 9030031 | 2 |
| 6 | Trochlear Guide Small | 9030060 | 1 |
| | Trochlear Guide Medium | 9030065 | 1 |
| | Trochlear Guide Large | 9030070 | 1 |
| 7 | Pin Puller | MCI511 | 1 |
| 8 | Stabilization Pin | MKY062 | 1 |
| 9 | Trial Humeral Screw, Small | MKY104 | 1 |
| | Trial Humeral Screw, Medium | MKY105 | 1 |
| | Trial Humeral Screw, Large | MKY106 | 1 |

### Tray 1 Top

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 10 | 3.5 mm Screwdriver | 9030110 | 1 |
| 11 | Trial Humeral Spool, Small Left | 9030010 | 1 |
| | Trial Humeral Spool, Small Right | 9030011 | 1 |
| | Trial Humeral Spool, Medium Left | 9030012 | 1 |
| | Trial Humeral Spool, Medium Right | 9030013 | 1 |
| | Trial Humeral Spool, Large left | 9030014 | 1 |
| | Trial Humeral Spool, Large Right | 9030015 | 1 |
| | Trial Humeral Spool, Large + Left | 9030016 | 1 |
| | Trial Humeral Spool, Large + Right | 9030017 | 1 |
| 12 | Trial Humeral Stem, Standard Small, Left | 9030080 | 1 |
| | Trial Humeral Stem, Standard Small, Right | 9030081 | 1 |
| | Trial Humeral Stem, Standard Medium, Left | 9030090 | 1 |
| | Trial Humeral Stem, Standard Medium, Right | 9030091 | 1 |
| | Trial Humeral Stem, Standard Large, Left | 9030100 | 1 |
| | Trial Humeral Stem, Standard Large, Right | 9030101 | 1 |




## Tray Ulnar Preparation YKAD 503

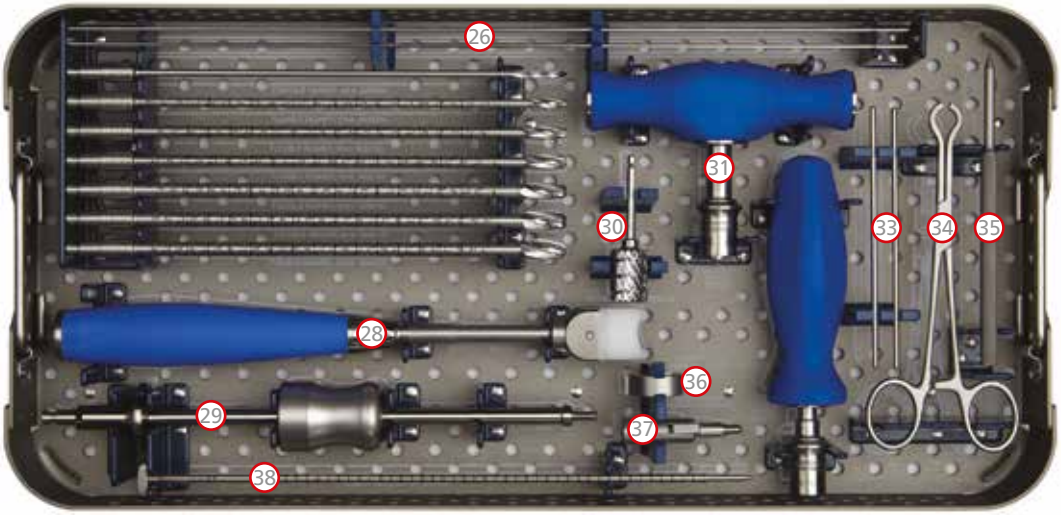
### Tray 1 Bottom

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 13 | Ulnar Jig, Left | 9030190 | 1 |
| | Ulnar Jig, Right | 9030200 | 1 |
| 14 | Small Bellsaw | 9030215 | 1 |
| | Medium Bellsaw | 9030220 | 1 |
| | Large Bellsaw | 9030225 | 1 |
| 15 | Radial Head Protector | 9030210 | 1 |
| 16 | Ulnar Broach, Starting | 9030235 | 1 |
| | Ulnar Broach, Small | 9030240 | 1 |
| | Ulnar Broach, Medium | 9030245 | 1 |
| | Ulnar Broach, Large | 9030250 | 1 |
| 17 | Trial Ulnar Stem, Short Small, Left | 9030280 | 1 |
| | Trial Ulnar Stem, Short Small, Right | 9030281 | 1 |
| | Trial Ulnar Stem, Standard Small, Left | 9030282 | 1 |
| | Trial Ulnar Stem, Standard Small, Right | 9030283 | 1 |
| | Trial Ulnar Stem, Short Medium, Left | 9030290 | 1 |
| | Trial Ulnar Stem, Short Medium, Right | 9030291 | 1 |
| | Trial Ulnar Stem, Standard Medium, Left | 9030292 | 1 |
| | Trial Ulnar Stem, Standard Medium, Right | 9030293 | 1 |

### Tray 1 Bottom

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 17 | Trial Ulnar Stem, Short Large, Left | 9030300 | 1 |
| | Trial Ulnar Stem, Short Large, Right | 9030301 | 1 |
| | Trial Ulnar Stem, Standard Large, Left | 9030302 | 1 |
| | Trial Ulnar Stem, Standard Large, Right | 9030303 | 1 |
| 18 | Ulnar Cap Screw | DKY066 | 2 |
| 19 | Trial Ulnar Cap, Small | MKY113 | 1 |
| | Trial Ulnar Cap, Medium | MKY114 | 1 |
| | Trial Ulnar Cap, Large | MKY115 | 1 |
| 20 | 2.5 mm Screwdriver | 9030375 | 1 |
| 21 | Radial Head Cut Guide* | 9030310 | 1 |
| 22 | Radial Head Impactor | 9030315 | 1 |
| 23 | Radial Head Cut Guide Adapter | 9030255 | 1 |
| 24 | Trial Radial Stem, 5 mm | MKY116 | 1 |
| | Trial Radial Stem, 6.5 mm* | MKY117 | 1 |
| 25 | Trial Radial Head, Small* | 9030340 | 1 |
| | Trial Radial Head, Medium* | 9030345 | 1 |
| | Trial Radial Head, Large* | 9030350 | 1 |
| | Trial Radial Head, Large +* | 9030355 | 1 |

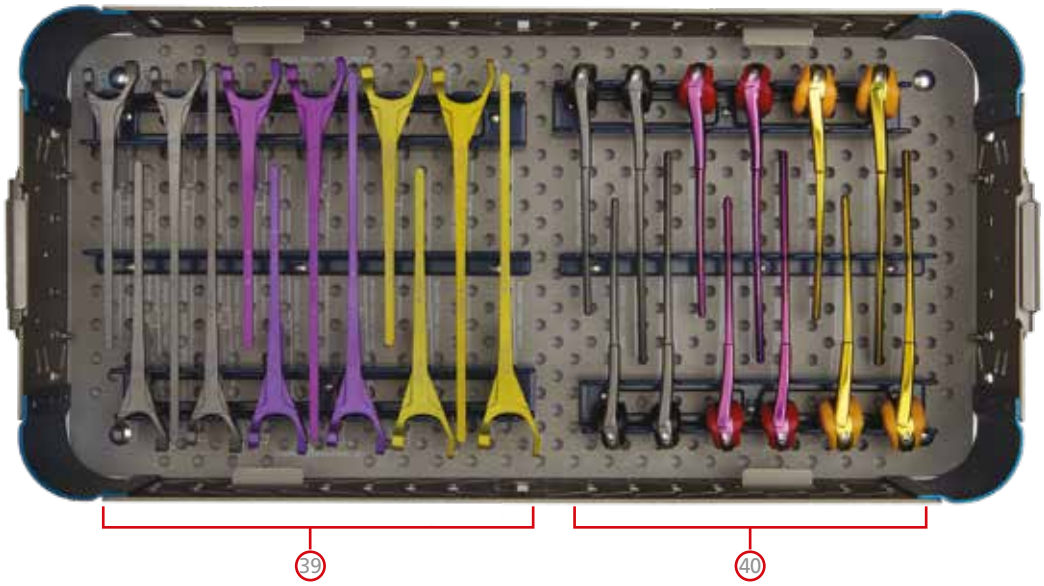
*Used with generation 1 radial head only




## Tray Long Stem Top YKAD 502

### Tray 2 Top

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 26 | Guide Wire | 9030150 | 2 |
| 27 | Straight Reamer, 4mm | 9030393 | 1 |
| | Flexible Reamer, 5 mm | 9030394 | 1 |
| | Flexible Reamer, 6 mm | 9030155 | 1 |
| | Flexible Reamer, 7 mm | 9030160 | 1 |
| | Flexible Reamer, 8 mm | 9030165 | 1 |
| | Flexible Reamer, 9 mm | 9030170 | 1 |
| | Flexible Reamer, 10 mm | 9030175 | 1 |
| 28 | Impactor | 9030120 | 1 |
| 29 | Slaphammer | 9030370 | 1 |
| 30 | Barrel Reamer | 9030125 | 1 |
| 31 | 10 Nm Torque Driver | 9030391 | 1 |
| 32 | 3 Nm Torque Driver | 9030115 | 1 |
| 33 | F/E Alignment Pin | 9030135 | 2 |
| 34 | Humeral Extractor | MKY147 | 1 |
| 35 | Ulnar Cap Bending Tool | MKY124 | 1 |
| 36 | Slaphammer Humeral Extractor | 9030372 | 1 |
| 37 | Slaphammer Ulnar Extractor | 9030371 | 1 |
| 38 | Cement Restrictor | MKY149 | 1 |




## Tray Long Stem Bottom YKAD 502

### Tray 2 Bottom

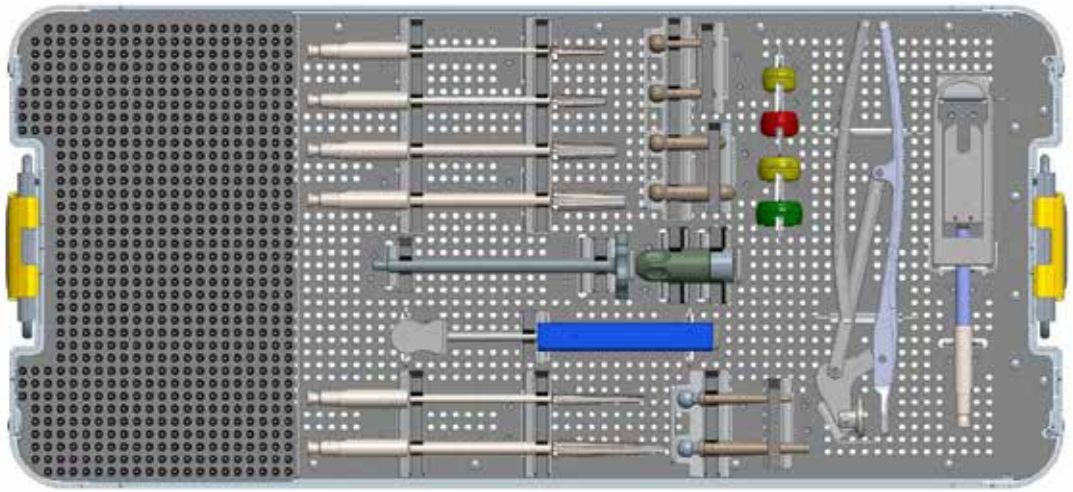
| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 39 | Trial Humeral Stem, 150 mm Small, Left | 9030082 | 1 |
| | Trial Humeral Revision Stem, 150 mm Small, Right | 9030083 | 1 |
| | Trial Humeral Revision Stem, 200 mm Small, Left | 9030084 | 1 |
| | Trial Humeral Revision Stem, 200 mm Small, Right | 9030085 | 1 |
| | Trial Humeral Revision Stem, 150 mm Medium, Left | 9030092 | 1 |
| | Trial Humeral Revision Stem, 150 mm Medium, Right | 9030093 | 1 |
| | Trial Humeral Revision Stem, 200 mm Medium, Left | 9030094 | 1 |
| | Trial Humeral Revision Stem, 200 mm Medium, Right | 9030095 | 1 |
| | Trial Humeral Revision Stem, 150 mm Large, Left | 9030102 | 1 |
| | Trial Humeral Revision Stem, 150 mm Large, Right | 9030103 | 1 |
| | Trial Humeral Revision Stem, 200 mm Large, Left | 9030104 | 1 |
| | Trial Humeral Revision Stem, 200 mm Large, Right | 9030105 | 1 |
| 40 | Trial Ulnar Revision Stem, 125 mm Small, Left | 9030284 | 1 |
| | Trial Ulnar Revision Stem, 125 mm Small, Right | 9030285 | 1 |

### Tray 2 Bottom

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 40 | Trial Ulnar Revision Stem 150 mm Small, Left | 9030286 | 1 |
| | Trial Ulnar Revision Stem 150 mm Small, Right | 9030287 | 1 |
| | Trial Ulnar Revision Stem, 125 mm Medium, Left | 9030294 | 1 |
| | Trial Ulnar Revision Stem, 125 mm Medium, Right | 9030295 | 1 |
| | Trial Ulnar Revision Stem, 150 mm Medium, Left | 9030296 | 1 |
| | Trial Ulnar Revision Stem, 150 mm Medium, Right | 9030297 | 1 |
| | Trial Ulnar Revision Stem, 125 mm Large, Left | 9030304 | 1 |
| | Trial Ulnar Revision Stem, 125 mm Large, Right | 9030305 | 1 |
| | Trial Ulnar Revision Stem, 150 mm Large, Left | 9030306 | 1 |
| | Trial Ulnar Revision Stem, 150 mm Large, Right | 9030306 | 1 |

### Tray Ordering

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| | LATITUDE™ Tray Lid | 9030414 | 1 |
| | LATITUDE™ Instrument Set Kit 1 | 9030421 | 1 |
| | LATITUDE™ Instrument Set Kit 2 | 9030422 | 1 |



## Radial Head Instrument Tray

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| | 4.5mm X 25mm Trial Radial Stem | 9039000 | 1 |
| | 6.0mm X 25mm Trial Radial Stem | 9039001 | 1 |
| | 6.0mm X 45mm Trial Radial Stem | 9039002 | 1 |
| | 8.0mm X 30mm Trial Radial Stem | 9039003 | 1 |
| | 8.0mm X 55mm Trial Radial Stem | 9039004 | 1 |
| | 10.0mm X 35mm Trial Radial Stem | 9039005 | 1 |
| | Radial Trial head, Small | 9030341 | 1 |
| | Radial Trial Head, Medium | 9030346 | 1 |
| | Radial Trial Head, Large | 9030351 | 1 |
| | Radial Trial Head, Large + | 9030356 | 1 |
| | 4.5mm X 25mm Reamer | 9039006 | 1 |
| | 6.0mm X 25mm Reamer | 9039007 | 1 |
| | 6.0mm X 45mm Reamer | 9039008 | 1 |
| | 8.0mm X 30mm Reamer | 9039009 | 1 |
| | 8.0mm X 55mm Reamer | 9039010 | 1 |
| | 10.0mm X 35mm Reamer | 9039011 | 1 |
| | Radial Head/Stem Impactor | 9030434 | 1 |
| | Radial Head Removal Instrument | 9030395 | 1 |
| | Radial Head Long Stem Cut Guide | 9030397 | 1 |
| | Radial Head Locking Instrument | 9030398 | 1 |

## Tray Anatomic Spool YKAD 49

| Item | Instrument | Ref# | Quantity |
|---|---|---|---|
| 1 | Trial Spool Small Right | MKY151 | 2 |
| | Trial Spool Small + Right | MKY152 | 1 |
| | Trial Spool Medium Right | MKY153 | 1 |
| | Trial Spool Medium + Right | MKY154 | 1 |
| | Trial Spool Large Right | MKY155 | 1 |
| | Trial Spool Large + Right | MKY156 | 1 |
| | Trial Spool Small Left | MKY161 | 1 |
| | Trial Spool Small + Left | MKY162 | 1 |
| | Trial Spool Medium Left | MKY163 | 1 |
| | Trial Spool Medium + Left | MKY164 | 1 |
| | Trial Spool Large Left | MKY165 | 1 |
| | Trial Spool Large + Left | MKY166 | 1 |

# Implants

## Implant Ordering Information

### Humeral Spools for Tea

| Ref# | Implant |
|---|---|
| DKY211 | Small Right |
| DKY212 | Small Left |
| DKY213 | Medium Right |
| DKY214 | Medium Left |
| DKY215 | Large Right |
| DKY216 | Large Left |
| DKY217 | Large + Right |
| DKY218 | Large + Left |

### Humeral Anatomic Spools for Hemi Arthroplasty

| Ref# | Implant |
|---|---|
| DKY161 | Small Right |
| DKY171 | Small Left |
| DKY162 | Small + Right |
| DKY172 | Small + Left |
| DKY163 | Medium Right |
| DKY173 | Medium Left |
| DKY164 | Medium + Right |
| DKY174 | Medium + Left |
| DKY165 | Large Right |
| DKY175 | Large Left |
| DKY166 | Large + Right |
| DKY176 | Large + Left |

### Humeral Anatomic Spools for Hemi Arthroplasty

| Ref# | Implant |
|---|---|
| 0030302 | Small Standard Right |
| 0030303 | Small Standard Left |
| 0030402 | Medium Standard Right |
| 0030403 | Medium Standard Left |
| 0030502 | Large Standard Right |
| 0030503 | Large Standard Left |
| 0030312 | Small 150 mm Right |
| 0030313 | Small 150 mm Left |
| 0030412 | Medium 150 mm Right |
| 0030413 | Medium 150 mm Left |
| 0030512 | Large 150 mm Right |
| 0030513 | Large 150 mm Left |
| 0030322 | Small 200 mm Right |
| 0030323 | Small 200 mm Left |
| 0030422 | Medium 200 mm Right |
| 0030423 | Medium 200 mm Left |
| 0030522 | Large 200 mm Right |
| 0030523 | Large 200 mm Left |

### Ulnar Stems

| Ref# | Implant |
|---|---|
| 0030010 | Small Short Right |
| 0030011 | Small Short Left |
| 0030110 | Medium Short Right |
| 0030111 | Medium Short Left |
| 0030210 | Large Short Right |
| 0030211 | Large Short Left |
| 0030020 | Small Standard Right |
| 0030021 | Small Standard Left |
| 0030120 | Medium Standard Right |
| 0030121 | Medium Standard Left |
| 0030220 | Large Standard Right |
| 0030221 | Large Standard Left |
| 0030030 | Small 125 mm Right |
| 0030031 | Small 125 mm Left |
| 0030130 | Medium 125 mm Right |
| 0030131 | Medium 125 mm Left |
| 0030230 | Large 125 mm Right |
| 0030231 | Large 125 mm Left |
| 0030040 | Small 150 mm Right |
| 0030041 | Small 150 mm Left |
| 0030140 | Medium 150 mm Right |
| 0030141 | Medium 150 mm Left |
| 0030240 | Large 150 mm Right |
| 0030241 | Large 150 mm Left |

### Ulnar Caps

| Ref# | Implant |
|---|---|
| DKY067 | Small |
| DKY068 | Medium |
| DKY069 | Large |

### Radial Heads and Stems

| Ref# | Implant |
|---|---|
| 830816 | Ø4.5mm x 25mm Radial Stem |
| 830817 | Ø6.0mm x 25mm Radial Stem |
| 830818 | Ø6.0mm x 45mm Radial Stem Long |
| 830819 | Ø8.0mm x 30mm Radial Stem |
| 830820 | Ø8.0mm x 55mm Radial Stem Long |
| 830822 | 18mm Radial Head |
| 830823 | 20mm Radial Head |
| 830824 | 22mm Radial Head |
| 830825 | 24mm Radial Head |

### Cement Restrictors

| Ref# | Implant |
|---|---|
| EBO101 | Cement Restrictor (Diameter Range 8-15 mm) |
| EBO102 | Cement Restrictor (Diameter Range 5-8mm) |

### Sterile Instrument

| Ref# | Implant |
|---|---|
| DKY090 | Sterile Suture Passer |
| DWD060 | Sterile 3mm Drill Bit |

# Notes

# Notes

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Prior to using any Tornier/Wright device, please review the instructions for use and surgical technique for a complete listing of indications, contraindications, warnings, precautions, potential adverse events, and directions for use.

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