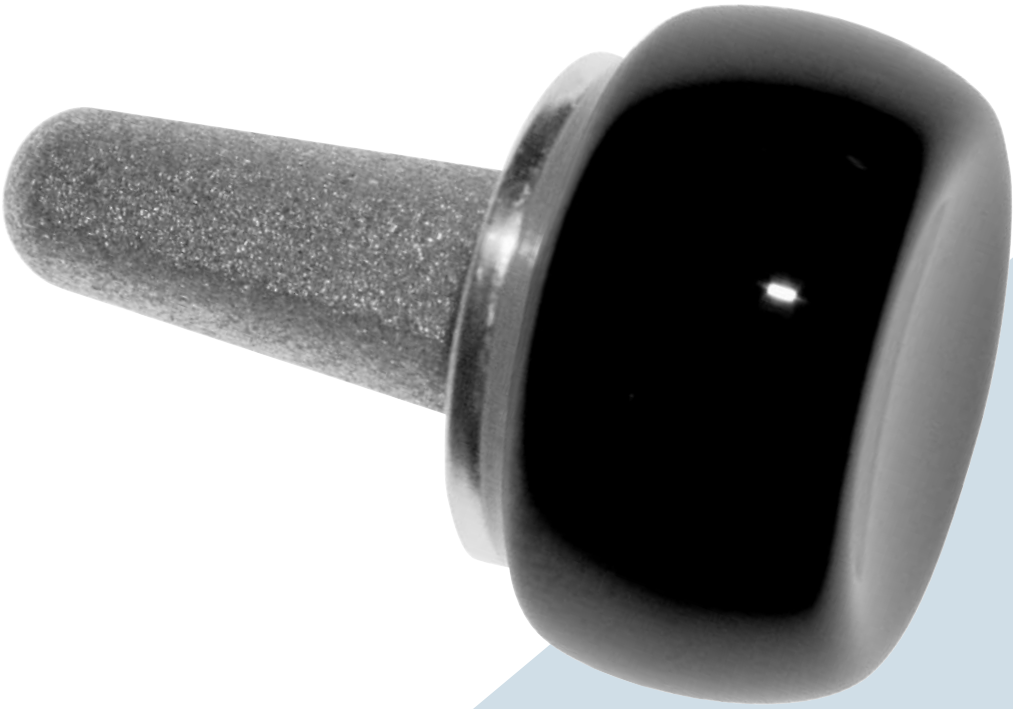


Combining advanced material with anatomic design



# Ascension<sup>®</sup> Carbon Modular Radial Head

# surgical technique

## The Initial Incision and Capsular Exposure

Expose the radial capitellar joint using the Kocher approach through the interval between the anconeus and extensor carpi ulnaris muscles. Make a 6-7 cm incision centered on the radial head **FIGURE 1**.

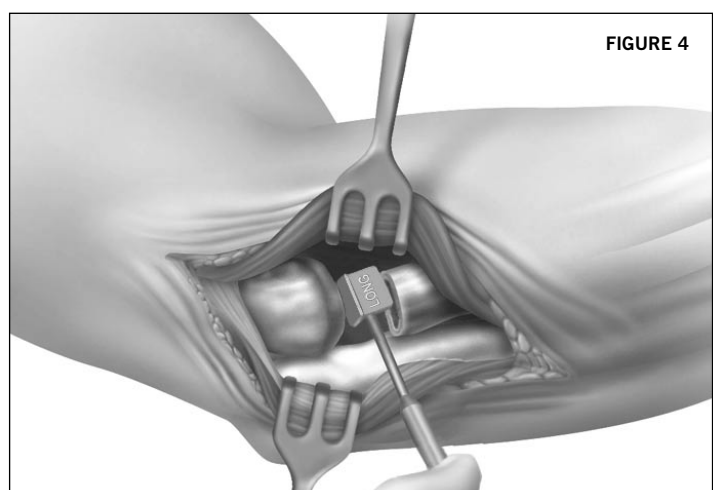
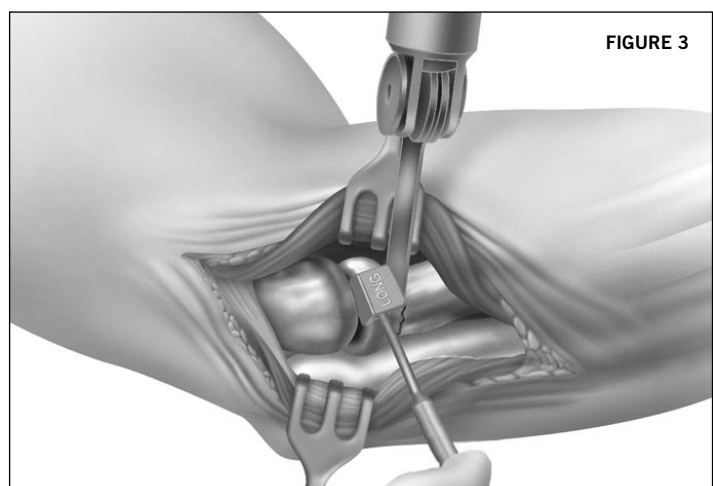
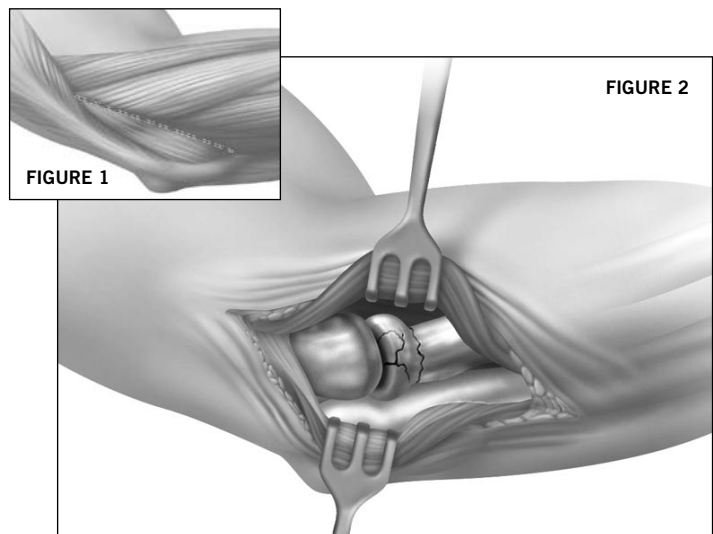
Pronate the forearm during exposure to protect the motor branch of the radial nerve that passes around the radial neck. If needed, release the origin of the anconeus subperiostally and retract it posteriorly to permit adequate exposure of the capsule. Continue the dissection to the joint capsule. Divide the annular ligament (AL) and radial collateral ligaments (RCL) longitudinally along the centerline of the head. Reflect the lateral capsule anteriorly and posteriorly to expose the radial head **FIGURE 2**.

## Resecting the Radial Head

### *Radial Head Resection Guide:*

The radial head resection guide has two resection levels. Inspection of the radial head and trauma to the neck will determine if the standard or long collar radial stem implant will be used. Prior templating of the x-ray will also assist in determining which radial stem will be used. Use the normal or long Radial Head Resection Guide to mark the level of the resection **FIGURE 3**.

With the flat platform of the guide resting on the capitellum, use a surgical marker to mark the resection line on the neck of the radius by resting the tip of the marker against the distal side of the guide while rotating the forearm through supination-pronation. The resulting line



should mark a plane that is perpendicular to the pronation-supination axis of the forearm. Resect the head holding the saw blade perpendicular to the axis of rotation. Reinsert the guide between the capitellum and the resection to ensure a perpendicular cut **FIGURE 4**.

## Preparation for Trial Sizers and Trial Reduction

The medullary canal is now prepared for insertion of the Trial Sizers, which are used to select the implant size. Enter the canal with the Starter Awl using a twisting motion **FIGURE 5**.

The Starter Awl should be inserted only 2 cm. The Trial Sizer has an undersized stem for ease of trial insertion and to maintain the integrity of the medullary canal for the final press fit of the implant.



Starting with the "01" size broach, progressively broach the canal to the appropriate size. Using a twisting motion, broach down the canal until the proximal edge of broach "flutes" is even with the radius resection **Figure 6**. Select the appropriate size stem and insert into the medullary canal. The appropriate size head trial can be determined by

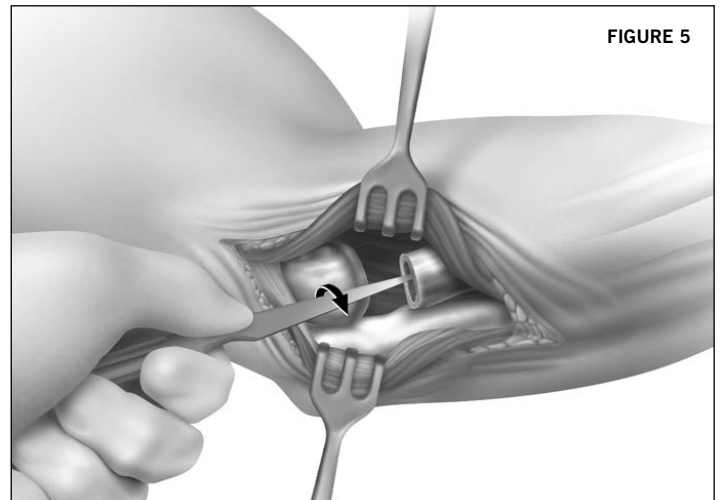


FIGURE 5

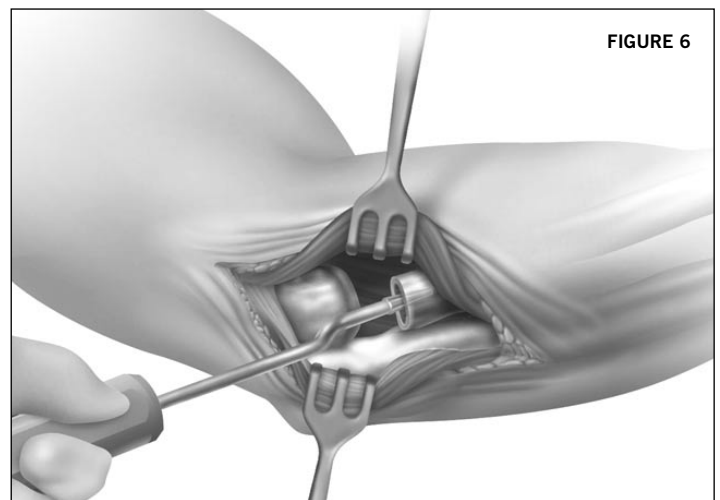


FIGURE 6

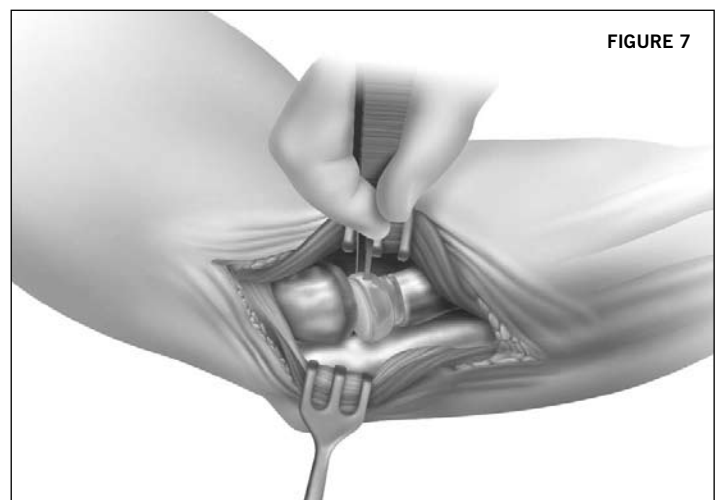


FIGURE 7

inserting the removed intact head or fragments into black assembly plate. Select Trial closest in size to, but not larger than, the resected head. Place the trial head onto the stem trial **Figure 7**.

Assess elbow stability and tracking in forearm flexion, extension and rotation. An osteotomy that is poorly-aligned will cause the Trial to be unstable during the assessment. Be sure to coapt or slightly overlap the dissected capsule edges (previously reflected anteriorly and posteriorly) to assess the fit of the annular ligament around the head of the trial. The edges should meet easily. If the annular ligament cannot wrap completely around the Sizer, a smaller implant is preferred.

## Assembly and Implantation

### *OR Back Table Assembly*

Place the correct size head into its corresponding position in the back table assembly plate. The collar of the implant stem is inserted into the implant head. Place the stem impactor over the stem. While holding the assembly plate, seat the implant by firm impaction with a mallet **FIGURE 8**.

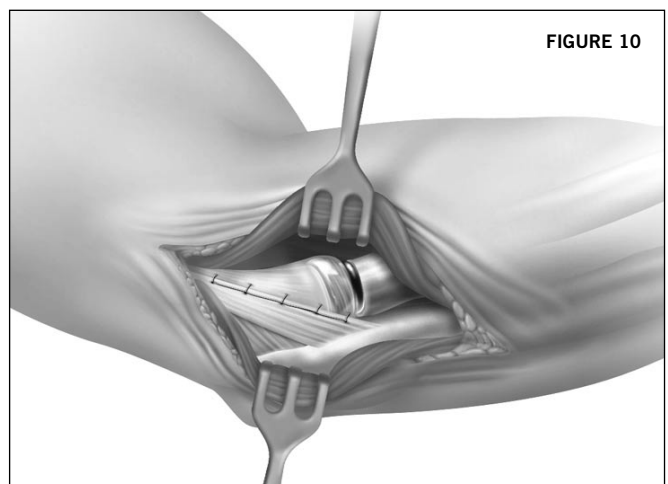
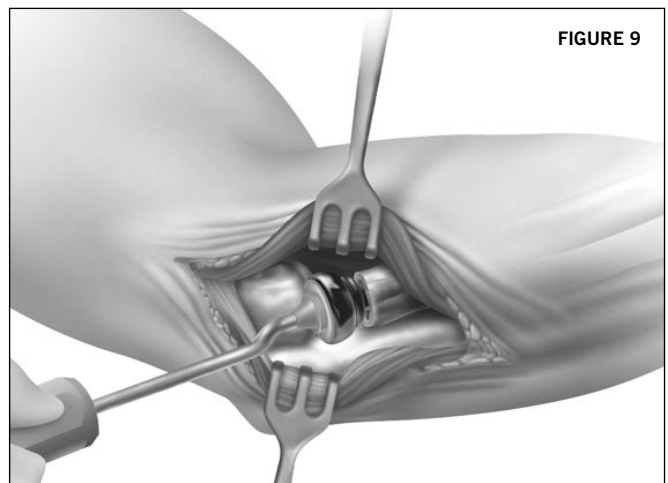
Using finger control, insert the prosthesis stem into the prepared hole. It may be necessary to retract the radius to access the canal and allow the head to clear the capitellum. Using the head impactor provided, impact the implant until the collar abuts the osteotomy **FIGURE 9**.

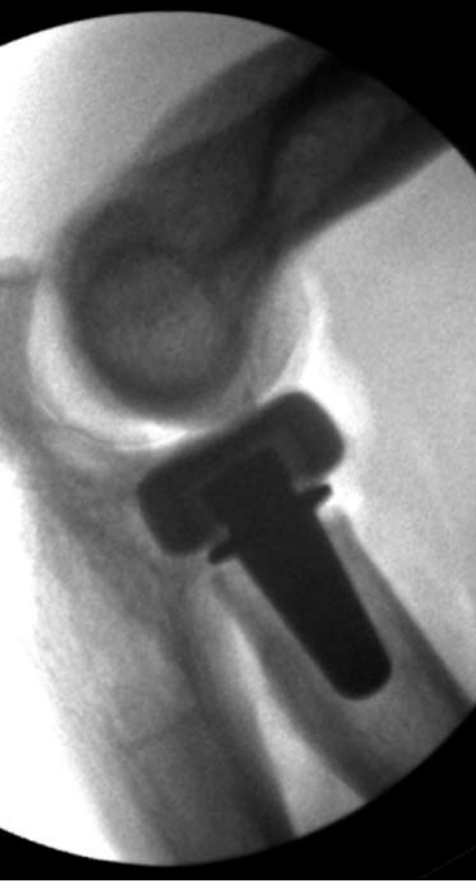
### Closure

Repair the AL and RCL **FIGURE 10**. Repair the fascial interval connecting anconeus and extensor carpi ulnaris muscles. Close the skin. Splint the elbow at 90° flexion and in neutral to full pronation.



**FIGURE 8**  
**BACK TABLE**  
**IMPLANT ASSEMBLY**





advanced material

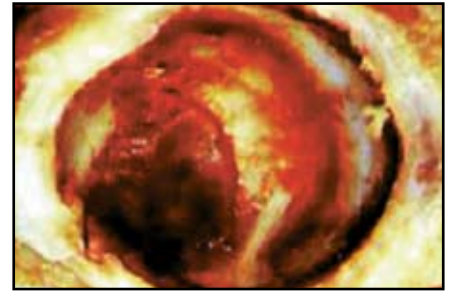
# pyrocarbon

- PyroCarbon implants have seen significantly less wear to articular cartilage than metal implants\*
- 92% probability of cartilage survival articulating with PyroCarbon compared to 20% with metal alloys\*

\* Cook SD, Thomas KA and Kester MA, Wear Characteristics of the Canine Acetabulum Against Different Femoral Prostheses, JBJS Vol. 71-B, No.2, Mar 1989



Cartilage degeneration at 18 months with PyC



Cartilage degeneration at 18 months with metal

Elastic Modulus (GPa)

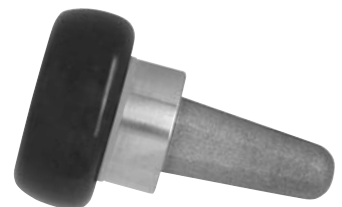


Elastic modulus of metal is much greater than that of bone or PyroCarbon. PyroCarbon minimizes bone loss due to stress shielding.

design

# anatomic

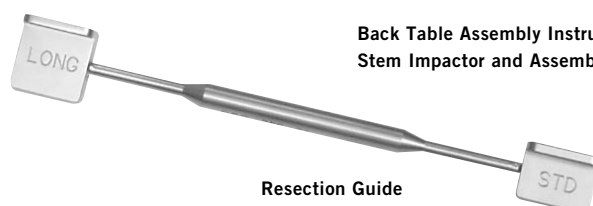
- stem and head sizes to fit your indications and patient anatomy
- bone removal is minimized, and critical soft tissue structures are preserved
- cementless, press-fit titanium stem



simplified

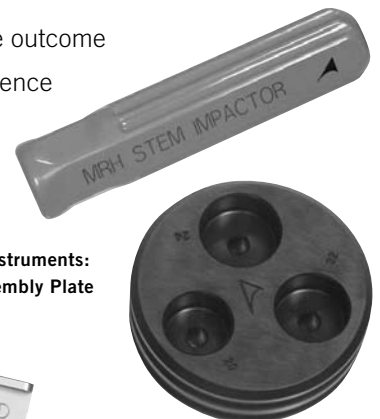
# instrumentation

- simplified instruments provide a reproducible outcome
- resection guide provides accurate visual reference for selecting standard or long collar stems
- back table implant assembly



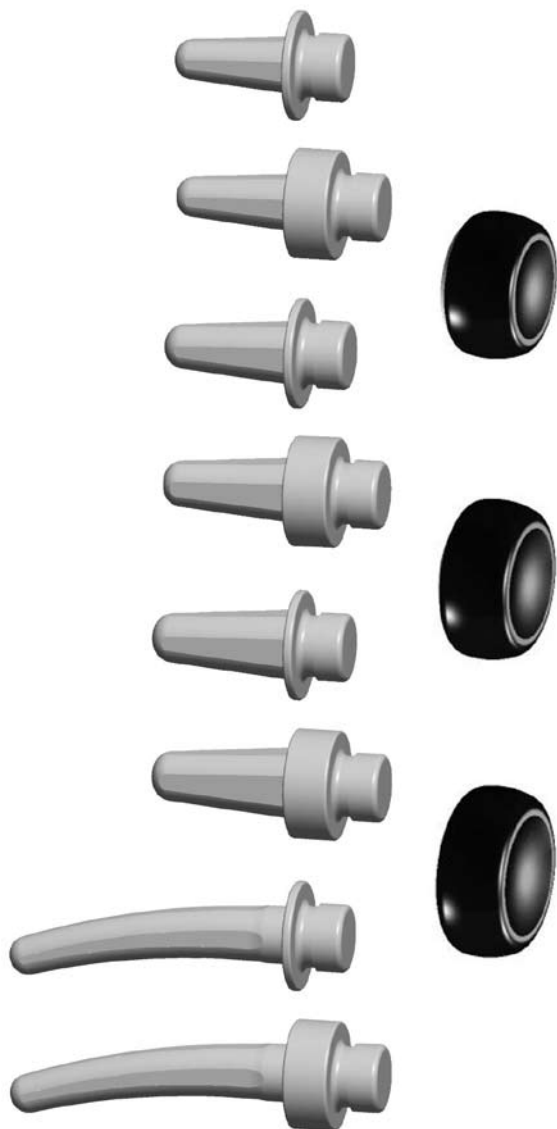
Resection Guide

Back Table Assembly Instruments:  
Stem Impactor and Assembly Plate



# Ascension® CMRH®

## Carbon Modular Radial Head



SIZE / COMPONENT	CATALOG NUMBER
20mm head	CMRH-310-H20
22mm head	CMRH-310-H22
24mm head	CMRH-310-H24
01 standard stem, standard collar	CMRH-310-S01S
01 standard stem, long collar	CMRH-310-S01L
02 standard stem, standard collar	CMRH-310-S02S
02 standard stem, long collar	CMRH-310-S02L
03 standard stem, standard collar	CMRH-310-S03S
03 standard stem, long collar	CMRH-310-S03L
04 long stem, standard collar	CMRH-310-S04S
04 long stem, long collar	CMRH-310-S04L



	CATALOG NUMBER
Instrument Set	INS-310-00



ASCENSION ORTHOPEDICS, INC.  
 8700 CAMERON ROAD, SUITE 100  
 AUSTIN, TEXAS 78754  
 512.836.5001 512.836.6933 fax  
 CUSTOMER SERVICE: 877.370.5001 (toll-free in U.S.)  
 customerservice@ascensionortho.com  
 www.ascensionortho.com

Caution: U.S. federal law restricts this device  
 to sale by or on the order of a physician.

LC-04-317-001 rev B  
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