Shoulder Extraction INSTRUMENTS

Introducing the orthopaedic industry’s first dedicated Shoulder Extraction Instrument set. *DePuy Synthes Joint Reconstruction* has created this set of instruments to help address obstacles encountered during revision shoulder arthroplasty. These instruments provide for a confident component removal with various instruments aiding in cement removal, component removal, and bone restoration.
CEMENT REMOVAL

Slotted Mallet
Used alongside various other instruments in this system.

Cement Rongeur
Aids in removing small pieces of cement from the humeral canal.

Straight Osteotomes
Used to help create a humeral osteotomy when needed during a revision surgery.

12.5mm Straight Osteotome
20mm Straight Osteotome

Cement Splitter
Allows cutting and also separating cement from the bone once the humeral component has been removed. This instrument should be used with care, as bone can be softer than cement.

Cement Separator
Used to separate cement from bone.

Cement Rongeur
Aids in removing small pieces of cement from the humeral canal.

Osteotome Handle
May be used along with interchangeable flexible osteotome blades.
**Humeral Drills and Guides**

Used to drill distal cement in the humeral canal. 3.2, 4.5, and 6.5mm sizes are provided to sequentially increase hole diameter. Drills fit in the stepped and long humeral drill guides. The largest drill diameter correlates with the diameter of the 6mm cement curette. The guides also help when drilling cement plugs in order to remove them.

**Cement Curettes**

Can be used to remove cement from the humeral diaphysis and also to remove cement in the distal humeral canal. The diameter of the curette is 6mm, so after drilling with the 6.5mm drill, the curette can be passed through to the cement mantle to help remove the distal cement.

**Threaded Plug Extractor**

Used to remove distal cement stoppers. It can be used through the drill guides to perfectly place it in the plug.
COMPONENT REMOVAL AND UTILITY

Head Removal Fork
Aids in the removal of the humeral head components of anatomic prosthesis.

Head Extractor
May be used in the removal of humeral head components.

Anterior Glenoid Chisels
Designed to preserve maximum glenoid bone stock while aiding in the removal of glenoid components.

Wide Glenoid Chisel

Narrow Glenoid Chisel

Thin Tip Rongeur
May be used to remove the proximal cement mantle around the humeral stem.

Needle Nose Pliers
Used to remove small pieces of cement.
Forked Stem Extractor (Wide)
Used to remove anatomic humeral stems with collars. This instrument attaches to the Universal Slap Hammer.

Forked Stem Extractor (Narrow)
If the stem has lateral fin geometry that will not accommodate the Wide Forked Extractor, the Narrow Forked Extractor can be used instead. This instrument attaches to the Universal Slap Hammer.

Small Locking Pliers
May be used to aid in the removal of a metaglene component.

Large Locking Pliers
May be used to aid in the removal of humeral stem components.

Humeral Bone Clamp
Helps protect humeral osteotomy and allows the positioning of new a humeral stem. Also helps when placing cerclages to reconstruct humeral osteotomy.

Glenoid Graft Tamp
Used to pack graft in central glenoid defects (sized for 48mm glenoid).

Cable Passer
Used to aid in the reconstruction of proximal humeral osteotomy.

Universal Slap Hammer
Attaches and gives leverage to the locking pliers, head removal tool, and forked extractors. The handle is oval-shaped to reduce “roll” on the back table.
HUMERAL STEM REMOVAL – PRESS-FIT

COLLARED

Flexible Osteotome Technique
Attempt to extract the collared humeral stem utilizing the Humeral Forked Stem Extractor and Universal Slap Hammer after each osteotome technique.

CAUTION: When using the flexible osteotomes, make sure to use the bevel side towards the bone.

COLLARLESS

Flexible Osteotome Technique
Attempt to extract the collarless humeral stem utilizing the Large Locking Pliers after each osteotome technique.

REVERSE

Flexible Osteotome Technique
Attempt to extract the reverse humeral stem utilizing the Large Locking Pliers after each osteotome technique.
**HUMERAL OSTEOTOMY**

If a controlled humeral osteotomy needs to be performed, you may use the straight chisels to aid in creating a window in the humerus. Humeral bone clamps as well as a cable passer are also contained in the set to help assist you in this reconstruction.

**FLEXIBLE OSTEOTOMES**

The flexible osteotomes are thin, sharp instruments that may be used to disrupt the implant to bone fixation, or a cement mantle.

**Flat Osteotomes**

Available in short, medium, and long. Short is designed to be used for the loosening of proximal humeral components. Medium and long osteotomes may be used on middle and distal stem to aid in stem removal.

**Radial Osteotomes**

Also available in short, medium, and long. Radial osteotomes may be used in the same situations as the flat osteotomes, but where a contoured edge is required.

**Fin Osteotome**

Aids in the removal of cement from the proximal lateral and posterior fins of the prosthesis.

* All osteotome products are sterile and intended for single use only – they are not included with the instrument set and need to be ordered separately.
HUMERAL STEM REMOVAL – CEMENTED

Cement Removal Technique
Attempt to extract the collared humeral stem utilizing the Humeral Forked Stem Extractor and Universal Slap Hammer after each cement removal technique.

CAUTION: When using the flexible osteotomes, make sure to use the bevel side towards the bone.

Cement Removal Technique
Attempt to extract the collarless humeral stem utilizing the Large Locking Pliers after each cement removal technique.

Cement Removal Technique
Attempt to extract the reverse humeral stem utilizing the Large Locking Pliers after each cement removal technique.
HUMERAL OSTEOTOMY

If a controlled humeral osteotomy needs to be performed, you may use the straight chisels to aid in creating a window in the humerus. Humeral bone clamps as well as a cable passer are also contained in the set to help assist you in this reconstruction.

Cement Removal Technique
Utilize the Cement Rongeur, Drill Bits, Cement Curettes, and Cement Separator or Splitter to remove cement from the distal humeral canal.
GLENOID COMPONENT REMOVAL

**Component Loosening**
Use Anterior Glenoid Chisel to lever glenoid component and loosen it.

**Component Removal**
Use locking pliers to remove the glenoid component.

**Cement Removal**
Use Needle Nose Pliers to remove any cement from the bone.

**Glenosphere Removal**
To remove glenosphere use the removal tool included in the instrument set for the implant being removed.

**Metaglene Screw Removal**
Remove screws by using the screwdriver included in the instrument set for the implant being removed.

**Component Capture**
Use the locking pliers to grip the metaglene component.
**Metaglene Loosening**
Loosen the metaglene component by using the anterior glenoid chisel.

**Component Removal**
Remove metaglene component using the locking pliers.

**Defect Repair**
Use the bone graft tamp to assist in shaping the glenoid after bone graft is inserted.
ORDERING INFORMATION – CEMENT REMOVAL

### Case 1 Tray 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>201103039</td>
<td>Straight Osteotome 12.5mm Blade</td>
</tr>
<tr>
<td>201103040</td>
<td>Straight Osteotome 20mm Blade</td>
</tr>
<tr>
<td>250000757</td>
<td>Osteotome Handle</td>
</tr>
<tr>
<td>250000761</td>
<td>Cement Separator</td>
</tr>
<tr>
<td>250000762</td>
<td>Cement Splitter</td>
</tr>
<tr>
<td>250000774</td>
<td>Anterior Glenoid Chisel Narrow</td>
</tr>
<tr>
<td>250000775</td>
<td>Anterior Glenoid Chisel Wide</td>
</tr>
<tr>
<td>270902006</td>
<td>Slotted Mallet</td>
</tr>
</tbody>
</table>

### Case 1 Tray 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>250000763</td>
<td>Cement Curette 6mm</td>
</tr>
<tr>
<td>270901009</td>
<td>Cement Curette 9mm</td>
</tr>
<tr>
<td>250000766</td>
<td>3.2mm Drill Bit Short</td>
</tr>
<tr>
<td>250000767</td>
<td>3.2mm Drill Bit Long</td>
</tr>
<tr>
<td>250000768</td>
<td>4.5mm Drill Bit</td>
</tr>
<tr>
<td>250000769</td>
<td>6.5mm Drill Bit</td>
</tr>
<tr>
<td>250000770</td>
<td>4.5mm Threaded Extractor</td>
</tr>
<tr>
<td>250000771</td>
<td>Humeral Drill Guide Stepped</td>
</tr>
<tr>
<td>250000772</td>
<td>Humeral Drill Guide Long</td>
</tr>
<tr>
<td>250000778</td>
<td>Thin Tip Rongeur</td>
</tr>
</tbody>
</table>
# ORDERING INFORMATION – COMPONENT REMOVAL & UTILITY

## Case 2 Tray 1

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>250000759</td>
<td>Large Locking Pliers</td>
</tr>
<tr>
<td>250000774</td>
<td>Anterior Glenoid Chisel Narrow</td>
</tr>
<tr>
<td>250000775</td>
<td>Anterior Glenoid Chisel Wide</td>
</tr>
<tr>
<td>250000776</td>
<td>Head Removal Fork</td>
</tr>
<tr>
<td>250000779</td>
<td>Head Extractor</td>
</tr>
<tr>
<td>250000780</td>
<td>Forked Stem Extractor Narrow</td>
</tr>
<tr>
<td>250000781</td>
<td>Forked Stem Extractor Wide</td>
</tr>
<tr>
<td>250000785</td>
<td>Small Locking Pliers</td>
</tr>
</tbody>
</table>

## Case 2 Tray 2

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>250000760</td>
<td>Universal Slap Hammer</td>
</tr>
<tr>
<td>250000777</td>
<td>Needle Nose Pliers</td>
</tr>
<tr>
<td>250000782</td>
<td>Glenoid Bone Graft Tamp</td>
</tr>
<tr>
<td>250000783</td>
<td>Humeral Bone Clamp</td>
</tr>
<tr>
<td>250000784</td>
<td>Humeral Cable Passer</td>
</tr>
<tr>
<td>250000773</td>
<td>Cement Rongeur</td>
</tr>
</tbody>
</table>

## Flexible Osteotome Blades

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>250010750</td>
<td>Flat Short Osteotome Blade</td>
</tr>
<tr>
<td>250010751</td>
<td>Flat Medium Osteotome Blade</td>
</tr>
<tr>
<td>250010752</td>
<td>Flat Long Osteotome Blade</td>
</tr>
<tr>
<td>250010753</td>
<td>Radial Short Osteotome Blade</td>
</tr>
<tr>
<td>250010754</td>
<td>Radial Medium Osteotome Blade</td>
</tr>
<tr>
<td>250010755</td>
<td>Radial Long Osteotome Blade</td>
</tr>
<tr>
<td>250010756</td>
<td>Fin Short Osteotome Blade</td>
</tr>
</tbody>
</table>

* All osteotome products are sterile and intended for single use only – they are not included with the instrument set and need to be ordered separately.
Limited Warranty and Disclaimer: DePuy Synthes Joint Reconstruction products are sold with a limited warranty to the original purchaser against defects in workmanship and materials. Any other express or implied warranties, including warranties of merchantability or fitness, are hereby disclaimed.

WARNING: In the USA, this product has labeling limitations. See package insert for complete information.

CAUTION: USA Law restricts these devices to sale by or on the order of a physician.

To order in the US, call DePuy Synthes Joint Reconstruction Customer Service (800) 473-3789.

Not all products are currently available in all markets.

Symmetry Medical, Inc.
486 W 350 N
Warsaw, IN 46582
T. +1 (574) 267-8700

www.symmetrymedical.com

DePuy Orthopaedics, Inc.
700 Orthopaedic Drive
Warsaw, IN 46582
T. +1 (800) 366-8143

www.depuyorthopaedics.com

© DePuy Synthes Joint Reconstruction, a division of DOI 2013 All rights reserved.

0612-50-513 1SM 0313