Bigliani/Flatow®

The Complete Shoulder Solution

Cannulated Instruments

Surgical Technique

Enhancing Glenoid Placement

zimmer

Bigliani/Flatow The Complete Shoulder Solution Cannulated Instruments Surgical Technique

For use with the *Bigliani/Flatow* pegged or keeled all-polyethylene glenoid implants

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Cannulated Preparation

A cannulated technique has been developed with specific instrumentation for surgeons who are more comfortable with this surgical method. This enhances the ability to reliably find the center of the glenoid vault and ream the glenoid surface relative to the centerline of the glenoid vault.

Glenoid Preparation

Use the Glenoid Scraper and Glenoid Planer to remove any remaining cartilage and soft tissue from the glenoid face (Fig. 1). To help determine the anatomic center of the glenoid, mark the superior, inferior, anterior and posterior poles of the articular surface with a cautery or surgical marker.

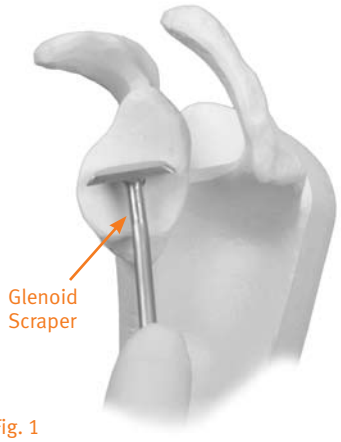

Fig. 1

Glenoid Sizing

Use the Glenoid Centering Guide to determine if the glenoid size (black=40mm, white=46mm, and blue=52mm) will fit well on the glenoid face. The outer dimensions of the guide match the articular profile of the glenoid implant.

At this point, decide if cannulation pin placement will be accomplished by using the Cannulated Drill Guide or the (optional) Glenoid Centering Guide Technique. If Glenoid Centering Guide is chosen, proceed to the boxed section on page 3.

Cannulated Guide Placement

Place the Cannulated Drill Guide along the anterior surface of the scapula so that the instrument arm is at 3 o'clock (right) / 9 o'clock (left) and the bushing hole is centered on the glenoid articular surface (Fig. 2).

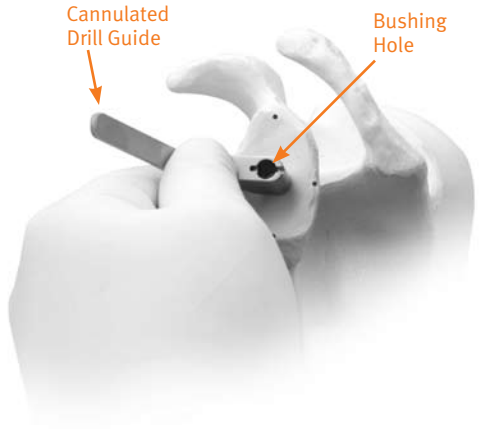

Fig. 2

The anterior surface of the instrument arm has a channel for holding with the index finger and a sharpened tip to aid positioning. The tip should be placed at the **medial aspect of the glenoid vault** along the transition to the scapula (Fig. 3).

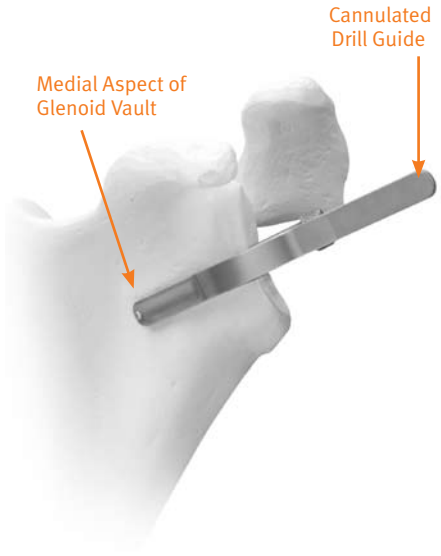

Fig. 3

Glenoid Centering Guide (Optional)

Place the 2.5mm Drill Bushing into the central hole of the appropriately-sized Glenoid Centering Guide, using the Bushing Clip to hold it in place (Fig. 4). Attach the 2mm Drill to the Cannulated Straight Driver. Slide the 2mm Drill into the Drill Bushing. Place the Glenoid Centering Guide/Drill Bushing assembly on the middle of the articular surface (Fig. 5). Mark the center of the glenoid face by drilling a few millimeters into the subchondral bone. Remove the instruments to visually confirm the drill mark is at the center of the articular surface.

If satisfied with location, load a 2.5mm Pin into a Pin Driver/Chuck. Slide the 2.5mm Pin all the way through the Bushing Clip until the Bushing Clip touches the Pin Driver/Chuck. Place the sharp tip of the 2.5mm Pin into the drill hole and slide the Glenoid Centering Guide/Drill Bushing assembly down onto the glenoid until it seats flush on the bone.

The Pin is marked for the appropriate insertion depth. Drive the Pin until the depth mark on the Pin meets the top of the Drill Bushing.

Release the Pin from the Pin Driver/Chuck. Remove the Glenoid Centering Guide/Bushing Clip from the Pin, and assess the Pin location and alignment on the glenoid face. If satisfied, proceed to the Ream section on page 4.

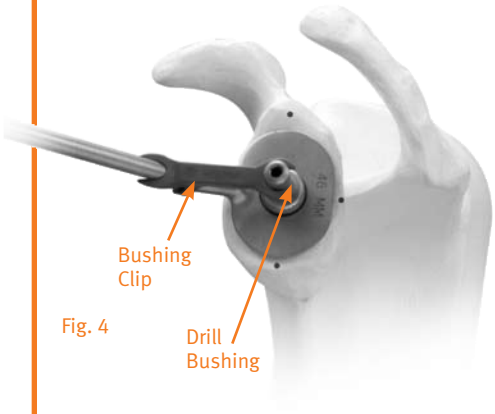

Fig. 4

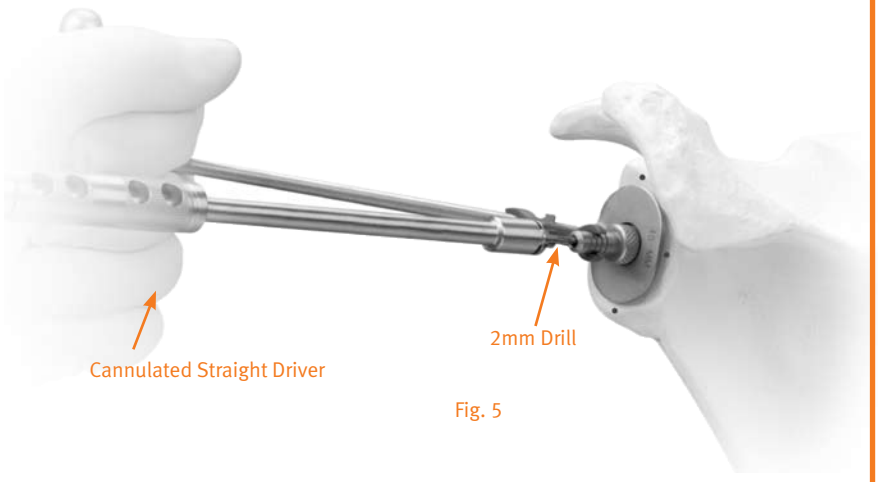

Fig. 5

Insert Central Pin

Insert the 2.5mm Drill Bushing into the Cannulated Drill Guide and assess position on the glenoid face relative to the marked poles (Fig. 6).

The bushing targets to the tip of the guide and is to be located at the center of the glenoid.

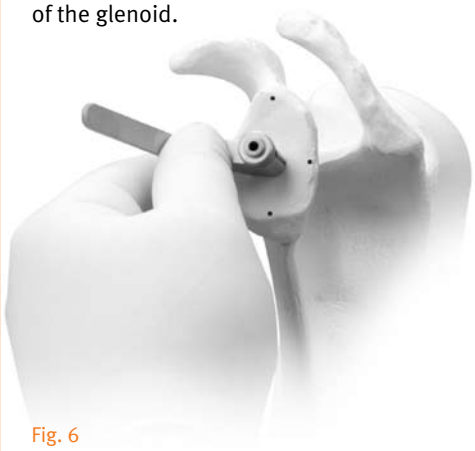

Fig. 6

If the position of the bushing is not on the center of the glenoid face, use the 2.5mm Offset Drill Bushing to make 1mm adjustments in either the anterior or posterior direction (Fig. 7). The Offset Drill Bushing has an alignment pin that must be inserted into the anterior or posterior slot of the Guide to lock it in place.

Visually reconfirm the bushing aligns to the center of the glenoid face.

Fig. 7

Load one 2.5mm Pin into a Pin Driver/Chuck. The Pin is marked for the appropriate insertion depth. Insert the Pin through the Drill Bushing and drive (Fig. 8) until the depth mark indicated on the Pin meets the top of the Drill Bushing.

Fig. 8

Release the Pin from the Pin Driver/Chuck. Remove the Drill Bushing and then the Drill Guide, and assess the Pin position and alignment on the glenoid face (Fig. 9).

Fig. 9

Ream

Glenoid reaming is performed to achieve intimate contact between the bone and the spherical undersurface of the glenoid implant as well as to establish glenoid version. To help minimize soft tissue damage, **do not use power for reaming.** Place the appropriate size Cannulated Glenoid Reamer over the Central Pin. Slide the Cannulated Straight Driver (gold handle) over the Pin and into the Reamer by aligning the ears on the driver into the slots on the Reamer Head. Using the T-Handle, ream to the desired depth or proper version (Fig. 10).

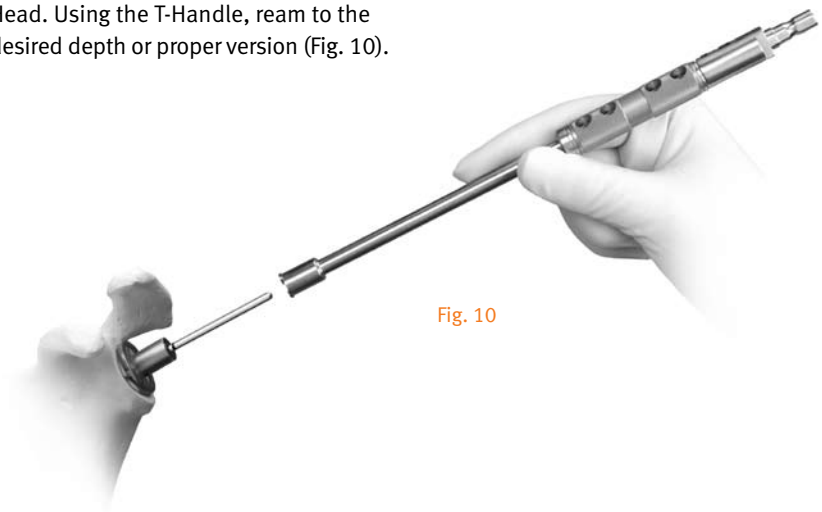

Fig. 10

Avoid wobbling the Reamer to maintain alignment with the Pin. The prepared surface should allow for full contact along the back side of the *Bigliani/Flatow* Glenoid (Fig. 11).

NOTE: Overreaming will reduce the depth of the glenoid vault and should be avoided. It is important not to remove too much subcortical bone as this may affect glenoid stability.

Remove the Reamer.

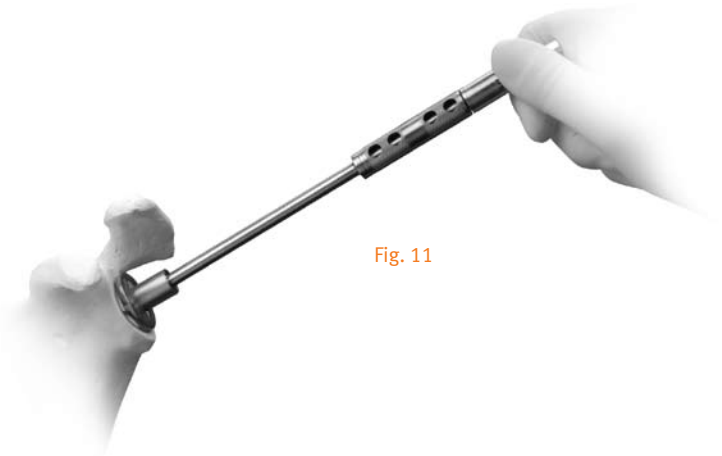

Fig. 11

Create Central Drill Slot Opening

Attach the Glenoid Cannulated 6mm Drill to the Straight Driver. Drill the central hole until the stop bottoms out on the bone surface (Fig. 12 & 13).

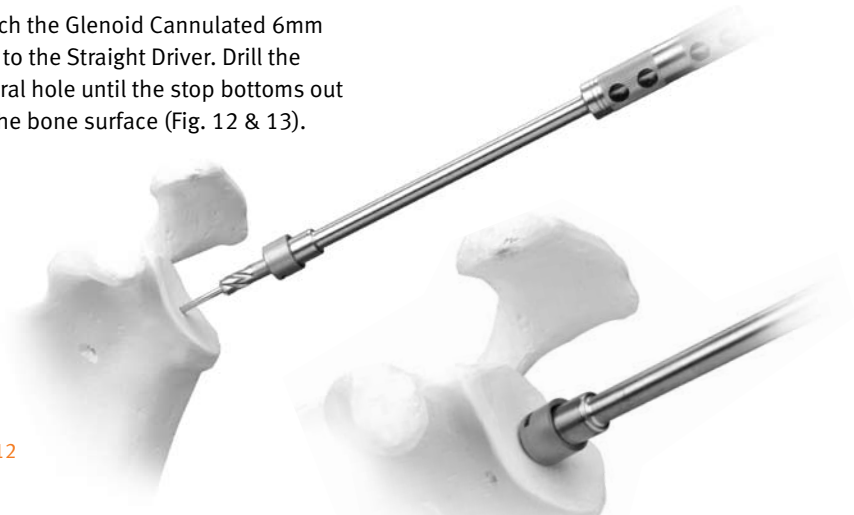

Fig. 12

Fig. 13

NOTE: The Drill can be placed over the Pin first, then slide the reamer shaft over the Pin and engage the Drill as described in the reamer section.

Reattach the Pin Driver/Chuck to the Pin and remove it from the glenoid.

Insert Glenoid Drill Guide

To prepare the inferior and superior holes, attach the 6mm Drill (non-cannulated) to the Straight Driver. Preparation of the inferior and superior holes is accomplished by inserting the appropriate size pegged or keeled Glenoid Drill Guide into the prepared center hole and aligning to the glenoid face. Drill the inferior hole first (Fig. 14).

The 6mm Cannulated Drill or one of the Drill Bushings should be placed in the inferior hole as an anti-rotation pin to maintain alignment of the Glenoid Drill Guide while the third hole (superior) is drilled (Fig. 15). Drill the superior hole. Remove the anti-rotation pin and Drill Guide.

Completion of the Glenoid Preparation and Insertion should continue as described in the *Bigliani/Flatow* Shoulder Surgical Technique (Keeled see page 12; Pegged see page 14).

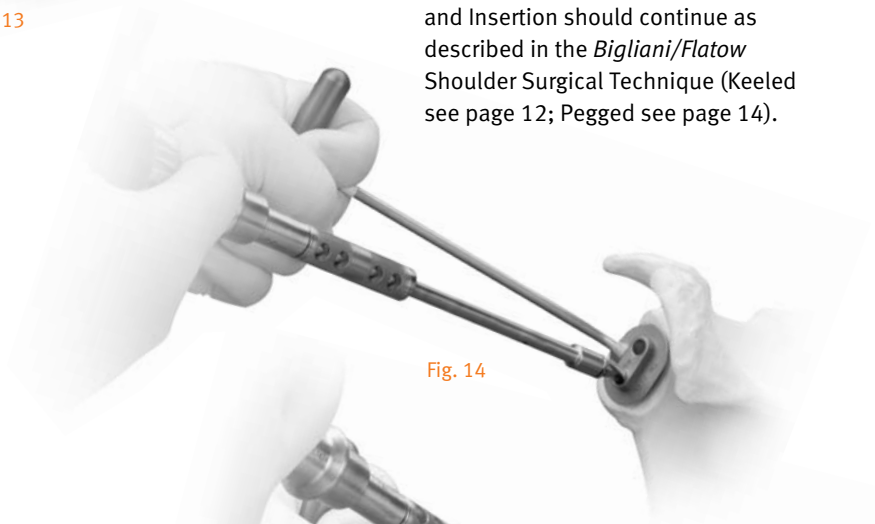

Fig. 14

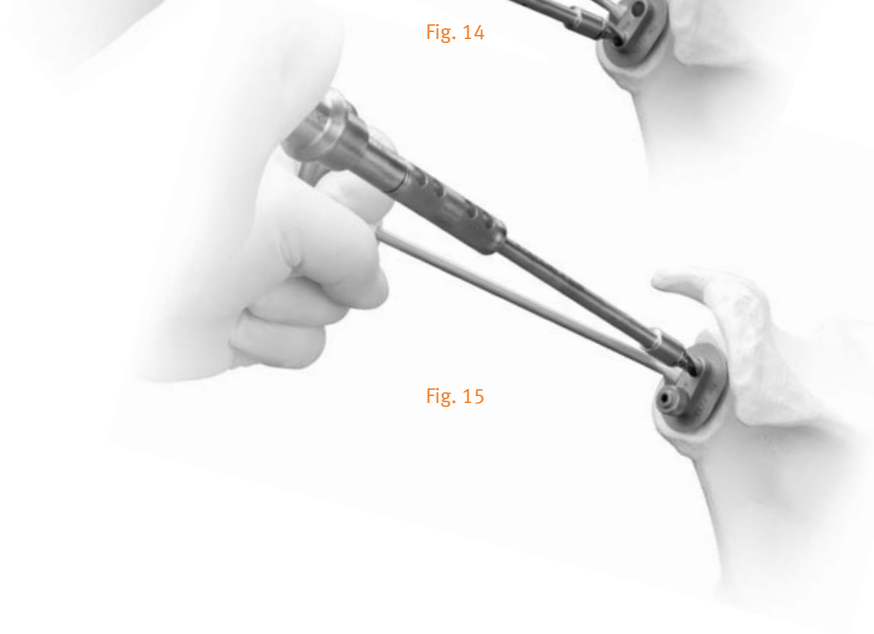

Fig. 15

Bigliani/Flatow **Cannulated Instrument Kit**
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Please refer to package insert for complete product information, including product information, contraindications, warnings, precautions, and adverse effects.

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