TORNIER BLUEPRINT™
3D Planning + PSI

SURGICAL TECHNIQUE V2.1–TITANIUM
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Surgical Technique

Patient-Specific Instrumentation Overview

If pre-operative planning and patient-specific instrumentation are desired, BLUEPRINT™ 3D Planning software may be used prior to the procedure to visualize the anatomy in 3-dimensional space (automated 3D reconstruction) and perform a virtual implantation. BLUEPRINT allows the surgeon to virtually position the various implants and understand the appropriate path of treatment based on the patient’s anatomy. BLUEPRINT creates a visual and accurate aid when making important treatment decisions, including:

» Identification of glenoid wear patterns
» Visualization of humeral head subluxation and migration
» Planning correction of glenoid version and inclination
» Ensuring full implant seating
» Analyzing bone removal required for various implant options
» Assuring implant containment within the glenoid vault (size and radius curvature)

When the planning is complete, the software can generate patient-specific instrumentation (PSI) that replicates intra-operatively the same implant positioning as previously planned.
3D Planning

Once BLUEPRINT 3D Planning software is installed on a clinic, hospital, or personal computer and a compatible CT scan is obtained (refer to BLUEPRINT Scan protocol), run the software and plan a new case by loading the CT scan (in DICOM format).

BLUEPRINT 3D Planning provides preoperative glenoid measurements in order to identify the glenoid wear patterns, humeral head subluxation and migration, and bone stock.

Select and place the glenoid component in order to get an appropriate position within the three displayed views of scapula.

Positioning is defined by adjusting the following parameters:

» Version
» Inclination
» Position (Antero-Posterior, Supero-Inferior, implant Rotation)
» Medialization or Lateralization
» Bone seating of implant

Note: Implant turning to red means the presence of bone perforation of the implant existing from the glenoid vault. When needed, visualize the perforation and correct the perforation by repositioning the implant.
PSI GUIDE CREATION AND ORDER

When the glenoid implant positioning is set and a patient specific guide is desired, select the blue “Continue” button in the lower right corner of the screen (Figure 1).

Choose four different points on the edge of the glenoid (Figure 2). These points will establish the position of the feet of the PSI guide. One point needs to be on the posterior part of the glenoid fossa and three points on the anterior part of the glenoid fossa.

**Note:** Select the points according to the position of retractors of desired surgical approach.

A 3D PSI guide will be generated automatically based on the planning previously performed and the four selected points (Figure 3).

By saving the planning and specifying the date of surgery, the software will generate a planning report including a summary of parameters and the specifications of the created PSI guide.

**Note:** When a PSI guide needs to be ordered for a case, confirm the computer is connected to internet and upload the planned case.

All planned cases and PSI orders can be reviewed and managed online on www.shoulderblueprint.com in your surgeon portal.

**Note:** No patient data is requested by Wright Medical and no patient data will be sent to Wright Medical.
USE OF PSI GUIDE INTRA-OPERATIVELY

PSI guide assembly
The case identification (anonymous patient specific tracking information) is available on the side of the PSI guide. (Figure 4).
Insert the pin guide into the central hole on the PSI guide and give a quarter turn to secure the assembly (Figure 5).

*Note: The pin guide features a morse taper style press-fit design which fits in the central hole on the PSI guide.*
Use of the glenoid 3D model and the PSI guide

The BLUEPRINT PSI guide matches the patient’s glenoid bone. Osteophytes must be kept in order to ensure a good fit of the guide. Additionally, the operative glenoid must be cleaned of soft tissues such as cartilage and labrum prior to use of the PSI guide on the patient’s glenoid bone.

The surgeon may use the PSI guide with the 3D glenoid model and compare the fit to the glenoid. (Figure 6 & 7)

The feet of the PSI guide are designed to match the landmarks chosen previously by the surgeon during the final guide design process.

Once the PSI guide is in place on the glenoid, insert the guide pin into the orientation hole (Figure 8) in order to create a bony hole 5 mm deep that will serve as a rotational marker for the final implant. Remove the guide pin and insert it into the central pin guide.

*Note: This step is not available for reversed implants*

*Note: In case of AEQUALIS PERFORM implantation, the orientation hole is placed superiorly. In case of AEQUALIS PERFORM+ implantation, the orientation hole is placed anteriorly.*

The guide pin will guide the subsequent cannulated drills and reamers. After reaming the glenoid surface and drilling the central hole, use the rotational bony marker to align the drill guide. These steps allow the surgeon to replicate the preoperative planning. (Figure 7)

*Note: Osteophytes must be kept prior to the use of the BLUEPRINT PSI to ensure guide fit.*
PATIENT SPECIFIC INSTRUMENTATION BREAKDOWN

BLUEPRINT Patient Specific Instrumentation

<table>
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<tr>
<th>Description</th>
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<td>BLUEPRINT PERFORM Glenoid Guide</td>
<td>MWJ003</td>
<td>AEQUALIS™ PERFORM™</td>
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<tr>
<td>BLUEPRINT Reversed Glenoid Guide</td>
<td>MWJ004</td>
<td>AEQUALIS™ REVERSED II</td>
</tr>
<tr>
<td>BLUEPRINT PERFORM+ Glenoid Guide</td>
<td>MWJ021</td>
<td>AEQUALIS™ PERFORM™+</td>
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<td>BLUEPRINT Glenoid Bone Model</td>
<td>MWJ013</td>
<td>All implants</td>
</tr>
<tr>
<td>BLUEPRINT Reusable Pin Guide</td>
<td>MWJ020</td>
<td>All implants</td>
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Proper surgical procedures and techniques are the responsibility of the medical professional. This material is furnished for information purposes only. Each surgeon must evaluate the appropriateness of the material based on his or her personal medical training and experience. Prior to use of any Tornier implant system, the surgeon should refer to the product package insert for complete warnings, precautions, indications, contraindications, and adverse effects. Package inserts are also available by contacting Wright. Contact information can be found in this document and the package insert. The BLUEPRINT™ Glenoid Guides are intended to be used as surgical instruments to assist in the intraoperative positioning of glenoid components used with total anatomic or reversed shoulder arthroplasty procedures.

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