Resection Guide System

Design Rationale
Personalized Patient Instruments for Total Knee Replacement

TruMatch®
PERSONALIZED SOLUTIONS

DePuy Synthes
PART OF THE johnson&johnson FAMILY OF COMPANIES
The TRUMATCH Personalized Solutions program from DePuy Synthes Companies brings a high level of patient-specific instrumentation for use in Total Knee Replacement surgery to your OR, allowing you to work with femoral and tibial resection guides individually designed to match the alignment criteria and actual bone surfaces of each patient. The design software takes into account your own surgical preferences. With TRUMATCH Personalized Solutions, you are able to provide a knee treatment designed around the individual needs of your patients.

TRUMATCH® Personalized Solutions is based on the proven philosophy of mechanical alignment.

Instruments that are designed to the natural anatomy of your patient.

Individually shaped to fit securely to the bone.

Predetermined key surgical cuts - based on the patient’s mechanical alignment.

Our rigorous approach to technological innovation means you can have confidence in offering a knee treatment that is right for you, your hospital, and your patient.
Gordon,
Hockey player,
SIGMA® Knee and TRUMATCH
Personalized Solutions Patient
Procedural Efficiency

Reduced surgical decisions and steps

Fewer standard instruments needed

Fewer instrument cases to resterilize

Eliminates the need, and assembly, of the femoral IM rod guide, sizing guide and the tibial resection guide

Function

Elimination of up to nine steps from the surgical workflow

Based on the patient’s mechanical alignment
Dear Dr. Surgeon,

Please review the following patient proposal. On your DePuy TruMatch website use the "Make Decision" button to select the appropriate status. Please contact DePuy TruMatch support if you have any questions or need further information.
Phone: 800-689-0746, 574-372-7129 or Email: TruMatchSupport@tms.inj.com

**Use with HP Instrumentation:**

4-in-1 Cutting Block

**Patient Information:**

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Example Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>M</td>
</tr>
<tr>
<td>DOR:</td>
<td>01-Jan-9999</td>
</tr>
<tr>
<td>Affected Side:</td>
<td>R</td>
</tr>
<tr>
<td>Profile:</td>
<td>Varus</td>
</tr>
<tr>
<td>Reference Case #:</td>
<td>CPTR#666X</td>
</tr>
<tr>
<td>Date:</td>
<td>01-JAN-9999</td>
</tr>
</tbody>
</table>

**Case Information:**

<table>
<thead>
<tr>
<th>Instrument Type:</th>
<th>Cutting Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implant System:</td>
<td>PFC Sigma</td>
</tr>
<tr>
<td>Instrument Syste:</td>
<td>HP</td>
</tr>
<tr>
<td>Femoral Component:</td>
<td>Sz 6 CR R</td>
</tr>
<tr>
<td>Tibial Component:</td>
<td>Sz 5 CR</td>
</tr>
<tr>
<td>Femoral Sizing Reference:</td>
<td>Anterior Down</td>
</tr>
<tr>
<td>External Rotation Reference:</td>
<td>3° from Posterior Condyles</td>
</tr>
<tr>
<td>Distal Femoral Resection:</td>
<td>12.0 mm from the Most Distal Condyle</td>
</tr>
<tr>
<td>Proximal Tibial Resection:</td>
<td>10.0 mm from the High Plateau</td>
</tr>
<tr>
<td>Posterior Tibial Slope:</td>
<td>7°</td>
</tr>
</tbody>
</table>

**Notes/Comments:**

Distal femur resection thickness increased by 1.0mm to accommodate the additional 1.0mm thickness of the Sigma size 6 femoral implant (size 1.5 to 5 = 9mm, size 6 = 10mm).

For example only

**Proposal Version: 1**

CONFIDENTIAL

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Software that delivers your plan.

Your patient’s 3D anatomy data and your personal surgical preferences are used together to define the Patient Proposal.

DePuy Synthes Companies takes this information and then creates a Patient Proposal based on mechanical alignment.

The TRUMATCH Personalized Solutions website allows you to review, approve, change, re-design or cancel any Patient Proposal at any stage of the process.
With a three-dimensional plan of the whole leg structure, the TRUMATCH Personalized Solutions team of engineers will model resection guides designed to provide mechanical alignment through the new total knee replacement. These will determine distal femoral and proximal tibial resection levels, varus/valgus alignment, femoral rotation and tibial slope.
Patient Imaging
Following an assessment and recommendation from the surgeon, the TRUMATCH Personalized Solutions process begins with a CT scan of the whole leg, from hip to ankle, per a defined TRUMATCH Personalized Solutions Scanning Protocol. The CT scan will be conducted at a validated imaging center (local to the surgeon) and will then be electronically forwarded to our TRUMATCH Personalized Solutions Team. The team will confirm the quality of the scan and create a new patient record for later submission by the surgeon’s office.

Case Submission
Through a simple web interface, the surgeon’s office finalizes the pertinent case information and submits the order to the TRUMATCH Personalized Solutions Design Team. Immediately, the system will provide the delivery date of the finalized resection guides. Surgery can be scheduled any time thereafter, up to 120 days from the date of manufacturing. The case information will be collated with the surgeon’s surgical preferences already recorded in the system. Together with the implant geometry, the TRUMATCH Personalized Solutions Design Team will prepare a personalized Patient Proposal.

Image Processing and Patient Proposal
Utilizing proprietary software, the TRUMATCH Personalized Solutions Design Team will create a complete three-dimensional model of the whole leg structure, which will be combined with the patient’s information and the surgeon’s surgical preferences to create a personalized Patient Proposal. The Patient Proposal will include information such as distal femoral and proximal tibial resection levels, varus/valgus alignment, femoral rotation, femoral and tibial sizing, and tibial slope.

The seamless TRUMATCH Personalized Solutions process
Patient Proposal Approval

An e-mail will alert the surgeon when the case specific Patient Proposal is ready for his/her comment and approval. The surgeon is then able to visit a password protected area of the TRUMATCH Personalized Solutions Website to make, if necessary, any revisions and approve the Proposal.

Instrument Preparation and Kit Consolidation

Once the surgeon approves the details of the Patient Proposal, preparation of the personalized patient instruments takes place within our dedicated manufacturing centers. Individual patient name and data are etched on each, to confirm identification in the OR. Stainless steel guides within the plastic resection guides are designed to minimize particle generation during bone resection.

Delivery and Surgery

The TRUMATCH Personalized Solutions Resection Guides are delivered sterile. The guides are delivered on, or prior to, the stated delivery date communicated during the case submission step. Surgery can take place any time thereafter up to 120 days from the date of manufacturing.