The TSolution One Surgical System utilizes the tandem technologies of the TPLAN® 3D Planning Workstation and the TCAT® Computer-Assisted Tool.

**Core Technology**

- The TPLAN 3D Planning Workstation brings exceptional accuracy to personalized pre-surgical planning.
- The TCAT Computer-Assisted Tool executes the pre-surgical plan with unparalleled precision.

These two revolutionary technologies are the future of joint replacement surgery.

The TSolution One® Surgical System is the only active robotic system cleared by the United States FDA for total hip arthroplasty for both stem and cup placement. The TSolution One core technology has been used in tens of thousands of successful total joint replacements for both hip and knee* worldwide.

*TKA is not available for sale in the U.S.

**How it Works**

- **TPLAN**
  - Plan the procedure using 3D models generated from CT scan data.
  - Examine the entire joint anatomy in anterior, lateral and axial views.
  - Choose the ideal implant from the TPLAN library of legally marketed implants.
  - Optimize the implant size, fit, and position based on individual patient anatomy.

- **TCAT**
  - Precise Computer-Assisted Preparation of the Bone Cavity and Joint Surfaces.
  - TCAT Computer-Assisted Tool executes the surgeon’s designated pre-operative plan through automated bone milling with sub-millimeter accuracy.
  - The surgeon maintains complete control of the system through the use of a handheld pendant. Therefore, the surgeon applies less physical labor while achieving precise milling at the touch of a button.

**How it Works for Stem**

- Bone registration is simplified by digitizer; there is no need to find anatomical landmarks during surgery.
- The bone motion monitoring system halts the cutting tool if bone motion occurs.
- Precise intramedullary milling facilitates optimized placement of implants with improved fill, fit, and alignment.

**How it Works for Cup**

- The TCAT® arm is positioned according to the pre-operatively planned inclination and anteversion orientation of the cup.
- The coupler facilitates tool changes with a locking mechanism while retaining its position during reaming and impacting.

**How it Works for Total Joint Surgeries**

- Make preoperative decisions with TPLAN.
- TPLAN facilitates the design of customized procedures based on patients’ unique anatomy.
- Optimize the plan—and the results—before stepping into the OR.

**Personalized Surgical Plans with 3D Visualization**

- Personalized pre-surgical plans with 3D visualization.
- How it Works

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  - How it Works for Cup
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**Revolutionary Pre-Operative Planning for Optimal Post-Operative Results**

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Unique Advantages

As a proven clinical system, studies demonstrate improved fit, fill, and alignment when comparing the TSolution One to conventional joint replacement surgery. The TSolution One features:

- Surgeon’s choice of implants*
- Open platform surgical system
- Precise pre-surgical planning executed every time
- Sub-millimeter dimensional accuracy
- Precise milling for optimal alignment
- High precision smart-tool technology
- Elimination of less accurate templates and jig-based technology
- Non-optical technology

Active Robotics

Not all robotic surgical systems are the same. The TSolution One® Surgical System is the only active robotic system for orthopaedic surgery. Our active robotic system aids surgeons in executing their preoperative plans with essentially effortless control, performing autonomous milling for bone preparation with sub-millimeter accuracy. Other surgical systems merely guide the surgeon’s action within a range.

* TSolution One® Core Technology

<table>
<thead>
<tr>
<th>Clinical Results</th>
<th>Conventional</th>
<th>Active Robotics*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implant-Bone Interface Contact 1</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Intraoperative Femoral Fractures 2</td>
<td>0%</td>
<td>0/75</td>
</tr>
<tr>
<td>Leg Length Variance 2</td>
<td>0-12 mm</td>
<td>0-29 mm</td>
</tr>
<tr>
<td>Implant-Bone Interface Contact 2</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Intraoperative Femoral Fractures</td>
<td>21%</td>
<td>5/71</td>
</tr>
</tbody>
</table>

Research on long-term outcomes of hip replacement procedures shows that a more precise implant fit leads to better ingrowth of bone 1 and decline in loss of bone density due to better transfer of body weight 2.


Several studies have shown that a more precise implant fit leads to better ingrowth of bone and decline in loss of bone density due to better transfer of body weight. Other studies have shown that robotic-assisted surgery can improve the accuracy of bone preparation and reduce the risk of complications such as fractures and incorrect alignment.

One of the things that I’ve always liked about the THINK Surgical system is that it’s an active robotic system. Other systems are passive in that they guide the surgeon in performing the surgery. The THINK Surgical system will perform your preoperative plan on its own, under your guidance.” – Robert Jamieson, DO

Sacramento, CA