KneeSuite™ TKA Module
Total Knee Arthroplasty

Navigation made by Aesculap

Aesculap and OrthoPilot® are pioneers in kinematic navigation. It has been more than a decade since the first knee was implanted with the use of the OrthoPilot Navigation System. Since then more than 100,000 surgeries have been performed using the OrthoPilot.

OrthoPilot®... Easy, Precise, and Accurate

The software technology for navigated TKA was developed in partnership with OrthoPilot users.

The Columbus Knee System was designed specifically to be implanted using the OrthoPilot Navigation System.

- Implantation and soft tissue balancing results can be simulated with an interactive planning tool prior to bone resection
- Enhanced and well balanced load distribution within the implant and from the implant to the bone
- Increased prospective implant longevity
- Improved post-op joint function
- Increased range-of-motion and stability
- Superior accuracy when calculating joint centers
- Streamlined instrumentation for use with navigation
The kinematic acquisition is the key factor for an optimal surgical result.

To compute the mechanical centers of the hip, knee and ankle joints, a camera tracks the movement of the markers that are fixed to the bone.

In addition to the kinematic acquisition data, prominent structures or anatomic bony landmarks such as the anterior cortex are palpated.
The position of the femoral resection can be adjusted with the cutting block according to:

- Varus / valgus
- Anterior / posterior tibial slope
- Medial and lateral height of resection

After the resection, the position and alignment of the final cutting plane is confirmed with a measuring plate.

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<table>
<thead>
<tr>
<th>Tibial Resection</th>
<th>Gap Measurement</th>
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<tbody>
<tr>
<td>The position of the femoral resection can be adjusted with the cutting block according to:</td>
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<tr>
<td>After distraction with a special instrument, the joint gaps on the medial and lateral side are measured; first in extension and then in flexion. The mechanical axis displayed in these steps provides information regarding the preoperative conditions of the soft tissue.</td>
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</tbody>
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Based on the information about ligament tension, the surgeon is able to determine the optimal size and ideal position of the femoral component prior to bone resection. This is what sets the OrthoPilot Navigation System apart from the competition.

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<th>Femoral Resection Planning</th>
<th>Femoral Resection</th>
<th>Femoral Rotation</th>
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| Based on the information about ligament tension, the surgeon is able to determine the optimal size and ideal position of the femoral component prior to bone resection. This is what sets the OrthoPilot Navigation System apart from the competition. | The position of the cutting block can be adjusted according to:  
> Varus / valgus  
> Anterior / posterior slope  
> Distal resection height | The femoral rotation is adjusted by taking into account:  
> Posterior condyles  
> Epicondyles  
> Whiteside’s line  
> Soft tissue balancing |
| After the resection, the position and alignment of the final cutting plane is validated. | Resulting gaps in extension and flexion, medial and lateral are displayed. |