



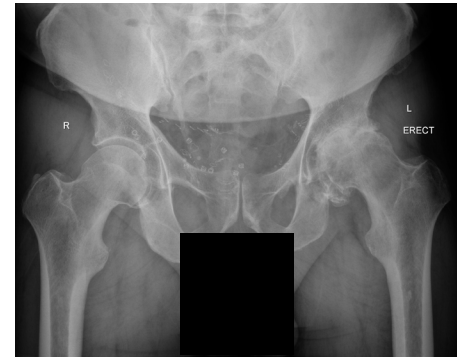
# Mako Total Hip SmartRobotics™



► Case review with **Rajesh K. Jain, M.D. MPH**  
Direct superior

## Patient history / Pre-op x-ray

- 65 year old male with OA
- BMI of 31.2
- Past medical history of hypertension, GERD, and prostate cancer.
- Sacral slope standing: 60°
- Sacral slope sitting: 28°



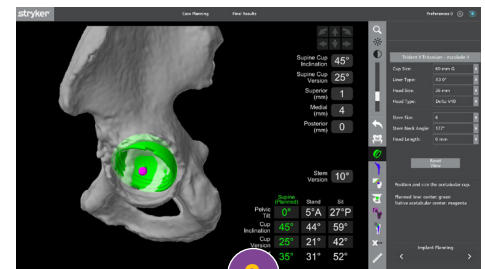
## Preplanning



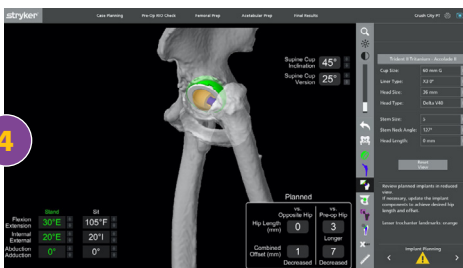
1. Starting CT-based pre-op plan shows that the operative hip is 3mm shorter and 7mm increased in combined offset from the opposite hip.



2. Surgeon assesses planned broach position in the coronal view. The stem position can be planned by scrolling through the CT view in the transverse, sagittal and coronal view to help ensure the fit throughout the canal.



3. Planned cup positioning is 45° of inclination and 25° of version. Surgeon ensures no anterior overhang of the cup to help prevent iliopsoas impingement.



4-5. Taking the femur through a virtual range-of-motion, surgeon can visualize any risk of potential impingement in the sitting and standing positions, indicated in red.



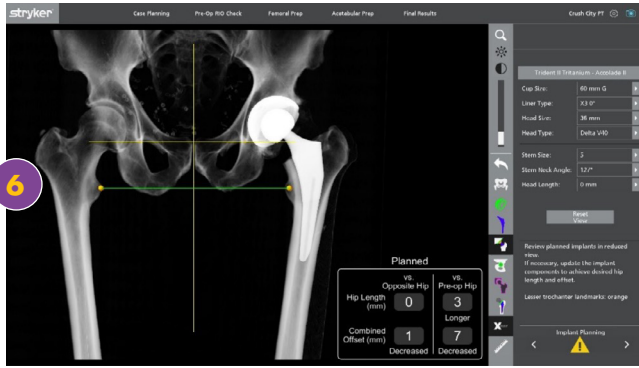
Surgeon enters standing and seated sacral slope values and evaluates cup position in each pose.



**Standing pose:**  
30° extension,  
20° external rotation.  
Implant on implant  
impingement (neck  
on liner).

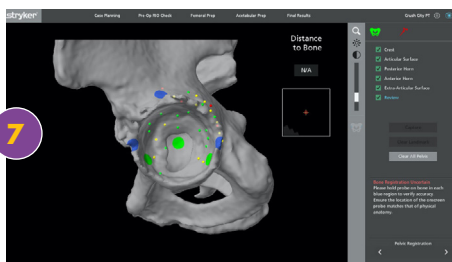


**Sitting pose:**  
90° flexion, 55°  
internal rotation.  
Bone on bone  
impingement (greater  
trochanter on pelvis).

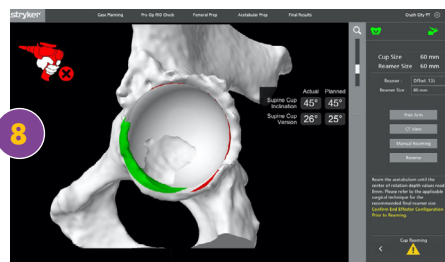


6. Final CT-based plan places the supine cup inclination at 45° and version at 25°. The reduced hip is planned to be 3mm longer than the pre-op hip, neutralizing it to the opposite hip. Meanwhile the combined offset of the pre-op hip will be reduced by 7mm, matching the opposite hip.
- Size 5 Accolade II stem
  - Size 36 Trident II Tritanium cup
  - Size 0 head

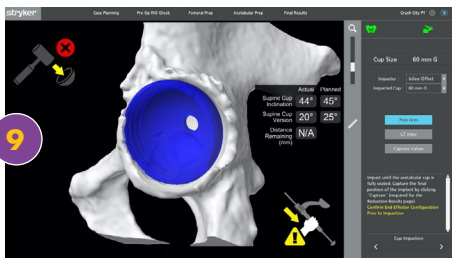
## Intraoperative



7. Bone registration complete. Verified spheres all within the allowable range of distance to bone.



8. Robotic-arm assisted single stage reaming completed. Power to reamer shuts off when surgeon reams 2.3mm past the planned cup.



9. Guided cup impaction at 45° inclination and 25° of version



10. Reduced final hip: Hip length 3mm longer than opposite hip, 6mm longer than pre-op. Combined offset is neutral to the opposite hip, 7mm decreased versus the pre-op hip.
- Size 6 Accolade II stem
  - Size 36 Trident II Tritanium cup
  - Size 0 head

## Post-op x-ray



## Learn more about Mako Total Hip SmartRobotics



Dr. Jain is a paid consultant of Stryker Orthopedics. The opinions expressed by Dr. Jain are those of Dr. Jain and not necessarily those of Stryker. Individual experiences may vary.

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