



# Know more. Mako<sup>®</sup> Total Hip

With the use of CT based preplanning, Mako allows surgeons to plan cup position, hip length, and offset. Mako Total Hip 4.1 will allow surgeons to plan their patient's implant position considering changes in their pelvic tilt in the sitting, standing and supine poses.

## Pelvic tilt planning

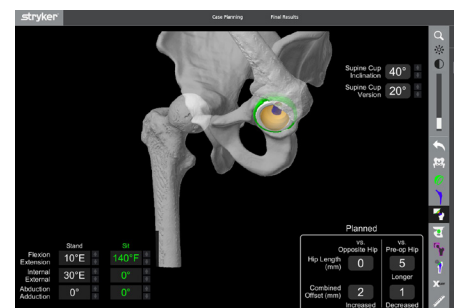
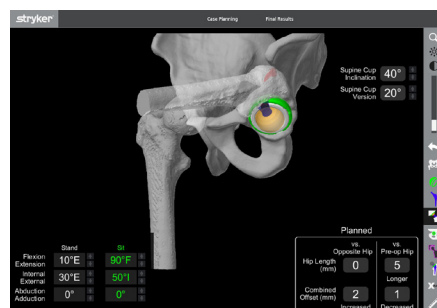
- Enter pelvic tilt or sacral slope values into pelvic tilt pop-up
- The exact initial orientation is not critical as the virtual range of motion feature drives final component inclination and version



## Virtual range of motion (VROM)

### Recommended poses to check using VROM:

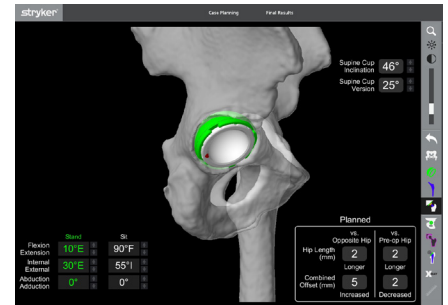
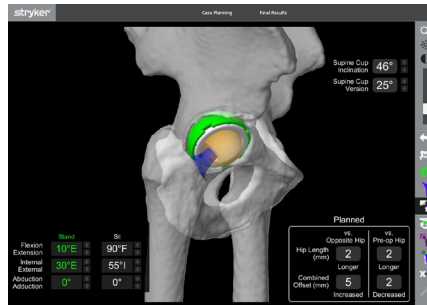
- **Stand** – 10° extension/30° external rotation
- **Sit** – 90° flexion/50°- 60° internal rotation
- If desired, checking for maximum hip flexion can be assessed in the seated position. Minimum acceptable is 140° flexion (0° internal rotation)



# Potential impingement profiles

## Implant-on-implant impingement

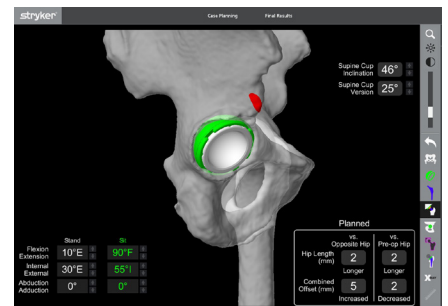
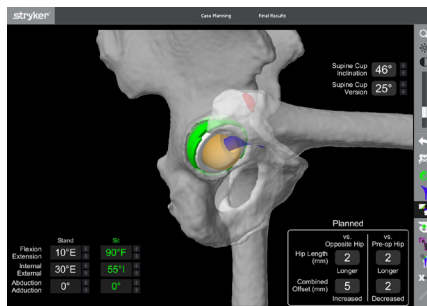
- Adjust cup inclination, version, or both
- Adjust planned stem version if possible
- Increase head size when appropriate
- Use MDM when impingement cannot be avoided



## Bone-on-bone impingement

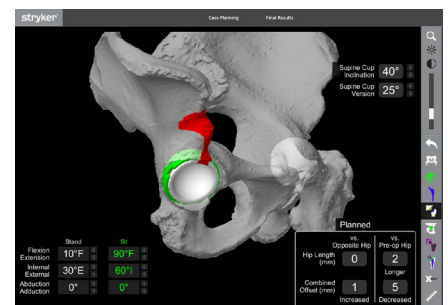
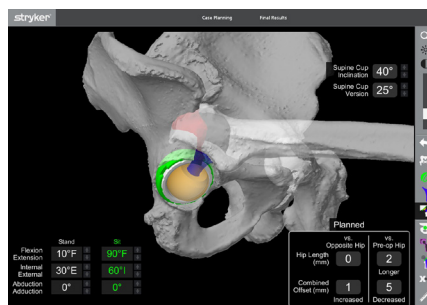
### Common areas for bone-on-bone impingement:

- **Extension** – lesser trochanter on ischium
- **Flexion** – greater trochanter/ anterior neck on the anterior inferior iliac spine
- Plan to remove osteophytes (acetabular or anterior portion of femoral neck – reference red highlighted region on bone model)
- Consider offset (eccentric) liner, increasing head length, lateralizing the cup, or increase offset of the stem



## Bone-on-implant impingement

- Plan to remove osteophytes
- Adjust planned stem version if possible
- Consider offset (eccentric) liner, increasing head length, lateralizing the cup, or increase offset of the stem



## Joint Replacement

A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.

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