



Zimmer®
M/L Taper Hip
Prosthesis with
Kinectiv® Technology



Superior intraoperative flexibility to fit a wide range of patient anatomies



Independent control for a natural fit

Simple, practical solutions for optimal restoration of hip joint kinematics

Restoring leg length, joint stability, and range of motion involve distinct surgical challenges. The *Zimmer M/L Taper Hip Prosthesis with Kinectiv Technology* is a system of modular stem and neck components designed to help the surgeon restore the natural hip joint center intraoperatively by addressing leg length, offset, and version independently. The broad array of neck options efficiently targets a wide range of male and female patient anatomies.



Built on the proven M/L Taper design philosophy

The collarless prosthesis incorporates the bone-conserving design and tapered wedge fixation philosophy of the *Zimmer M/L Taper Hip Prosthesis*.

Simple technique. MIS-enabled.

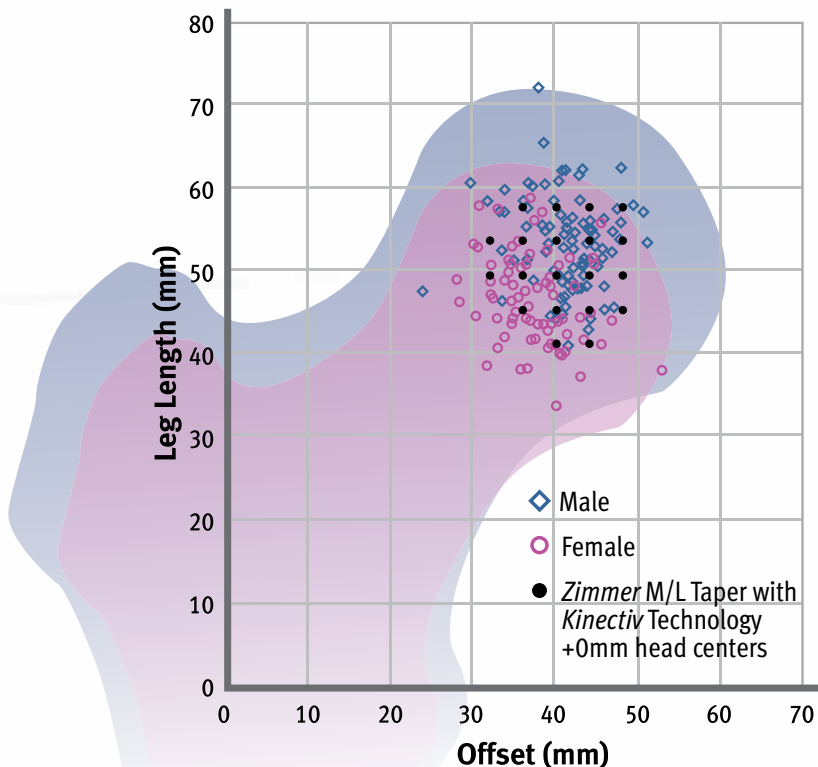
Implants and instrumentation with *Kinectiv Technology* are designed to facilitate insertion and assembly during minimally invasive THR procedures while minimizing soft-tissue trauma. They provide simple intraoperative flexibility in adjusting head center location and optimizing hip kinematics.



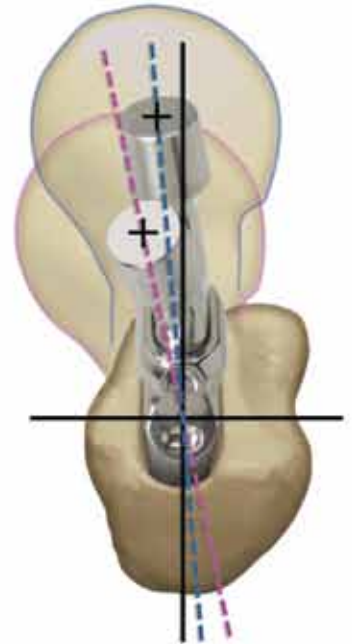
Gender Solutions™ Technology

The Zimmer M/L Taper Hip Prosthesis with *Kinectiv* Technology helps the surgeon address a wide range of bone morphologies. For example, women tend to have lower head centers, less offset, and greater anteversion, whereas men tend to have greater offset and less anteversion.¹⁻⁷ These gender-specific tendencies are addressed by offering a broad range of head centers and progressively increasing version for shorter offset head center locations to better match the anatomical differences between men and women.

Head center data



Plotting head height and offset reveals two distinct populations: female and male.



Zimmer M/L Taper Hip Prosthesis with Kinectiv Technology addresses both male and female bone morphology.



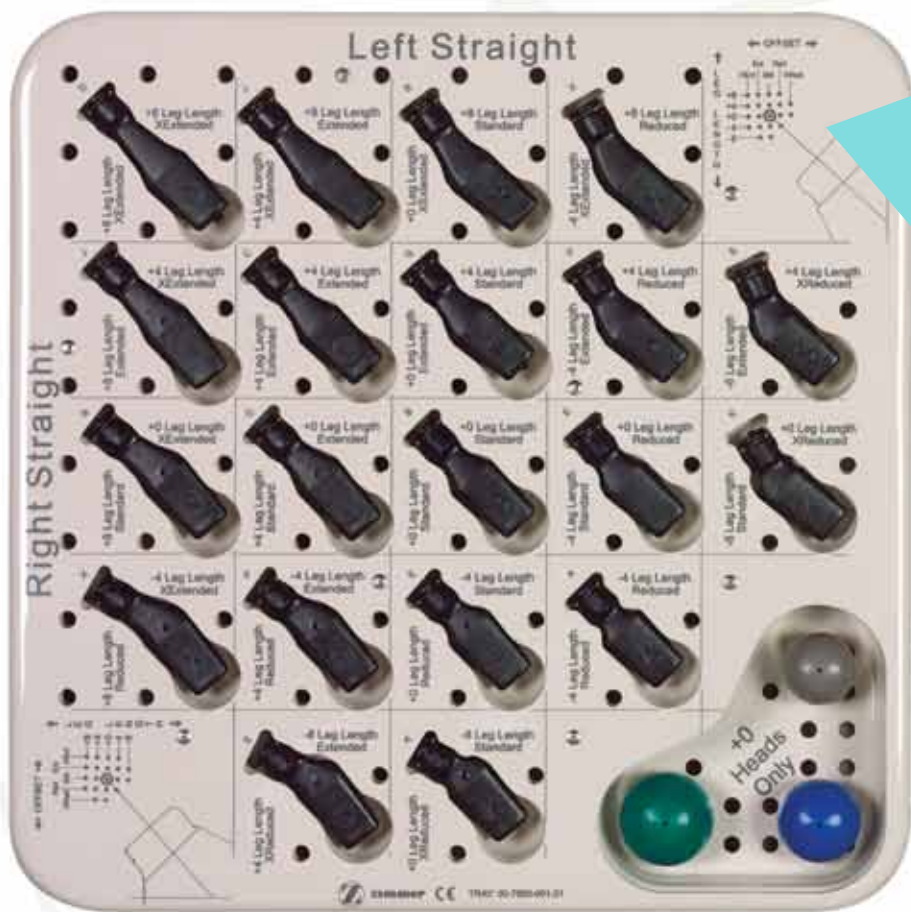
The kinematic connection

Kinectiv Technology allows simple independent adjustment of the three key kinematic dimensions—leg length, offset, and version—to restore appropriate kinematics and help improve overall patient satisfaction.

- Using only a +0mm femoral head component, the system offers 60 different head center locations with varus, valgus, anteverted, and retroverted head center solutions to help restore accurate joint kinematics.
- After implanting the stem based on the most desirable proximal stem fit, the surgeon selects the appropriate modular neck that provides the desired combination of leg length, offset, and version.
- Adjustment of each dimensional factor is achieved independently, allowing the surgeon to optimize leg length, range of motion, and joint stability.

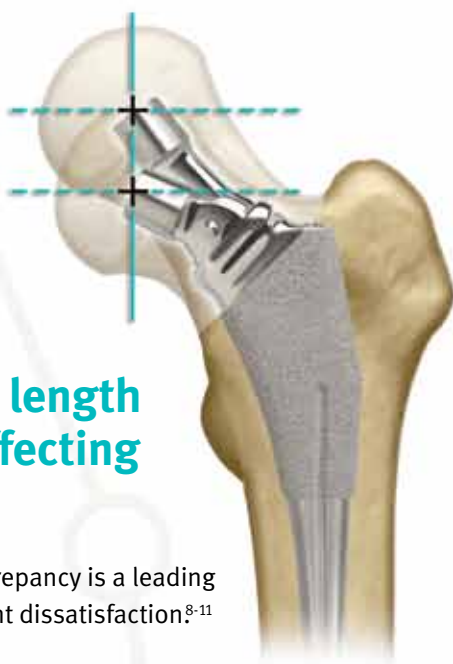


Preoperative templating establishes precise head center location, while Kinectiv Technology facilitates accurate head center positioning.



Head center grids located on the tray corners correspond to the head center options shown on the templates.

Leg length and offset can both be adjusted for left and right THA using the same provisional tray.



Adjust leg length without affecting offset

- Leg length discrepancy is a leading source of patient dissatisfaction⁸⁻¹¹



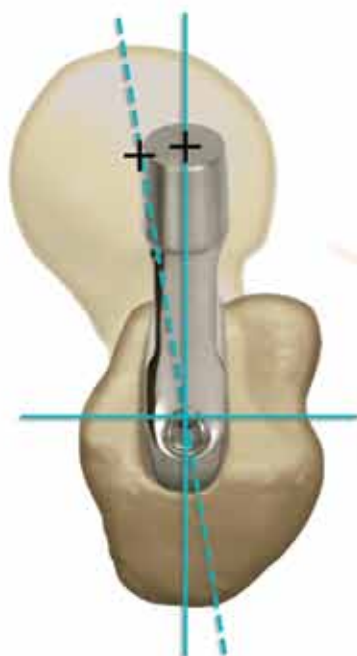
Adjust offset without affecting leg length

- Proper leg length and offset restoration improve total hip replacement function and minimize the risk of dislocation and limp.¹²⁻¹³

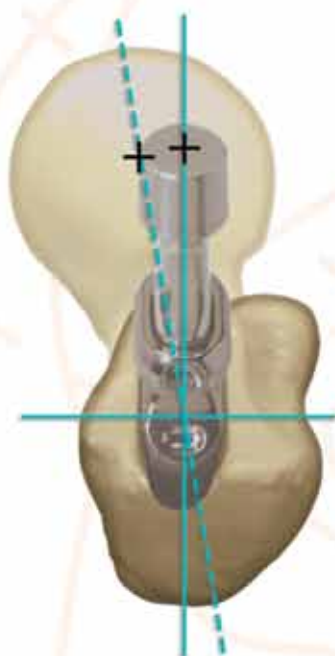
Independent, intraoperative version adjustment

The Zimmer M/L Taper Hip Prosthesis with *Kinectiv* Technology allows independent version adjustments after stem implantation. This facilitates optimal stem position based on the patient's proximal femoral anatomy.

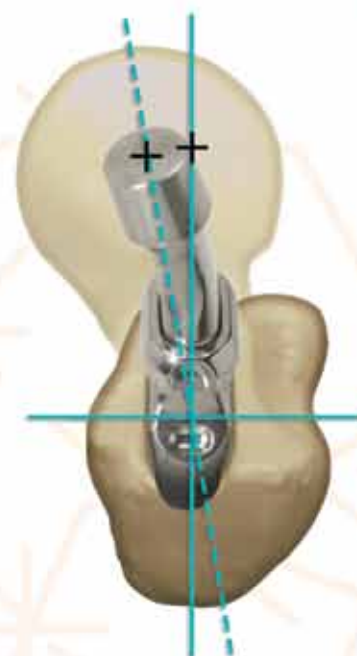
Optimized version without compromising stem orientation



Stem: non modular, straight neck
Disadvantage: cannot adjust for version following stem implantation



Stem: modular, straight neck



Stem: modular, anteverted neck
Advantage: optimized version following stem implantation

Optimized range of motion

Dislocation can occur up to four times more often in women,^{2,7,14-15} and is a costly complication in total hip replacement.¹⁶ Furthermore, component-on-component impingement has been shown to contribute to accelerated wear of the liner. The Zimmer M/L Taper Hip Prosthesis with *Kinectiv* Technology is designed to reduce the incidence of impingement and dislocation by optimizing range of motion.^{7,17-19}

Range of motion is enhanced by the reduced neck geometry and the ability to achieve the desired head center location without the need for skirted femoral head components.

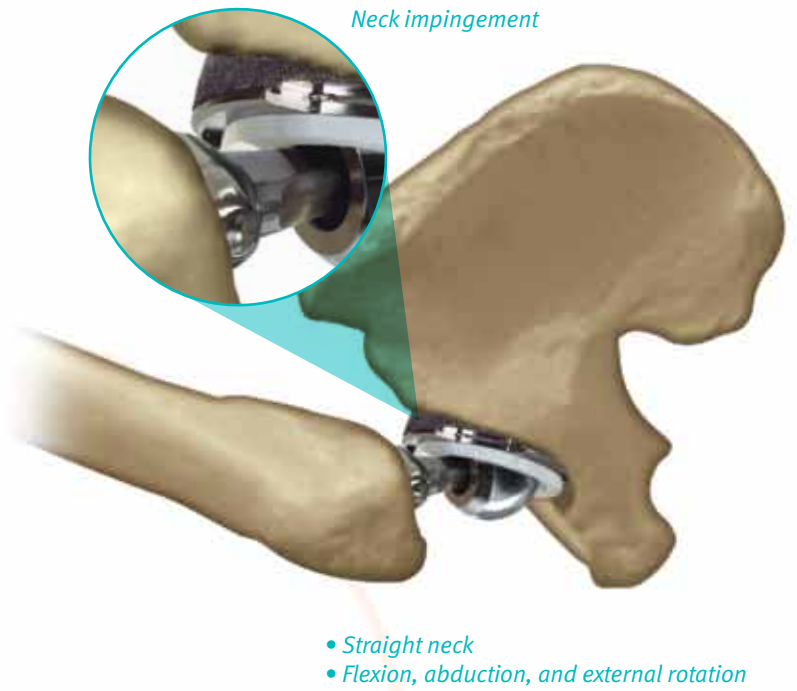


Reduced neck geometry

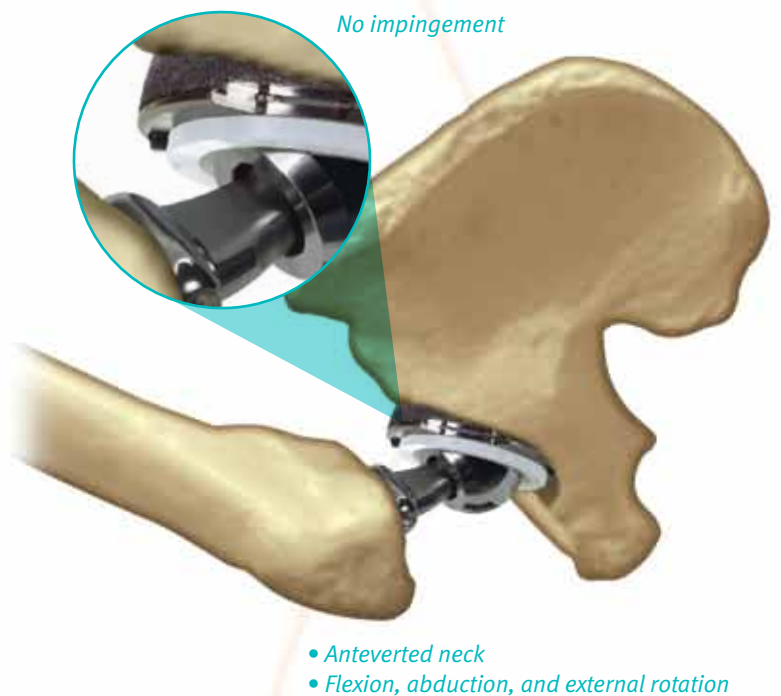
Intraoperative flexibility

When cup placement is not optimal, *Kinectiv* Technology allows the surgeon to optimize range of motion intraoperatively by adjusting version without affecting leg length or offset.

Straight neck with neck impingement



Anteverted neck resolves neck impingement

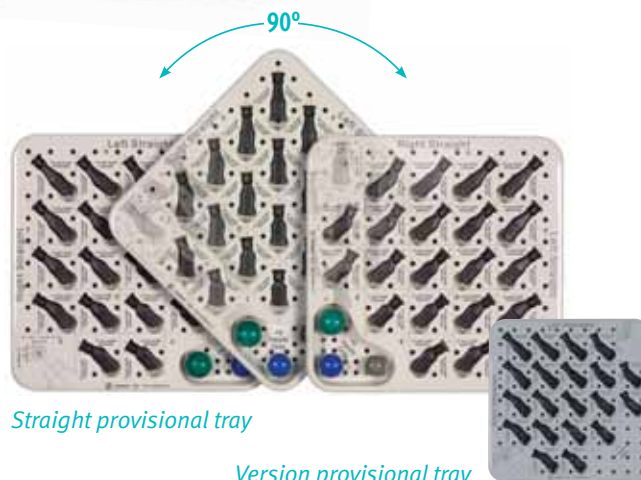


Instrumentation designed for simplicity

Locking Stem Inserter provides easy, straight-forward stem insertion.



A simple 90-degree rotation of the provisional neck tray allows the use of the same provisional sets for both right and left hips.



References

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