

Gender-Specific Design

What is a gender-specific implant?

Traditionally, knee implants have been designed using combined male and female “average” dimensions even though men and women are different. More recently, gender-specific knee implants are shaped and sized for either males or females. Implant designs vary based on the difference in medial to lateral (side-to-side) dimension of the femur between men and women.

The advantage of gender-specific knee implants is that they can more accurately crown (cap) and reseal the specific bone structure. Figure 6 contrasts the femoral and patellar components for females and for males.



Figure 6. Female preference implant trials (top) and male preference implant trials (bottom).

Why gender-specific implants?

When male/female differences are not considered, implant designs may not provide optimal bone coverage. Inadequate bone capping may result in atrophy or dissolution of uncovered bone (osteolysis). Overcapping (protrusion beyond normal bone structure) may irritate soft tissues around the knee during activity. Optimal coverage can improve hemostasis (control of bleeding), bone integration into the implant, and broad loading of the bone structure. Figures 7 and 8 show examples of undercoverage and overcoverage, respectively.

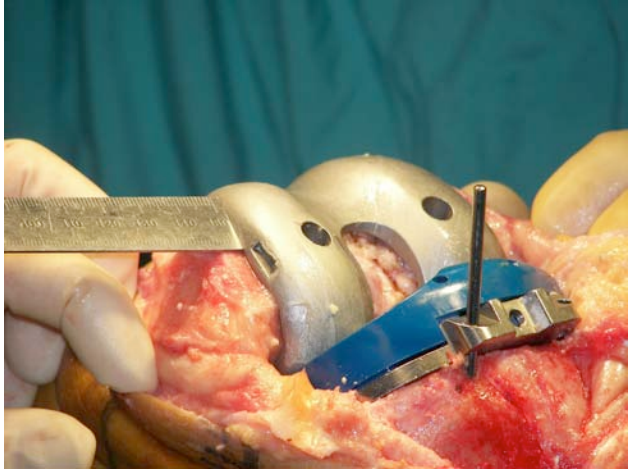


Figure 7. Example of undercoverage of femoral implant trial in a male patient.

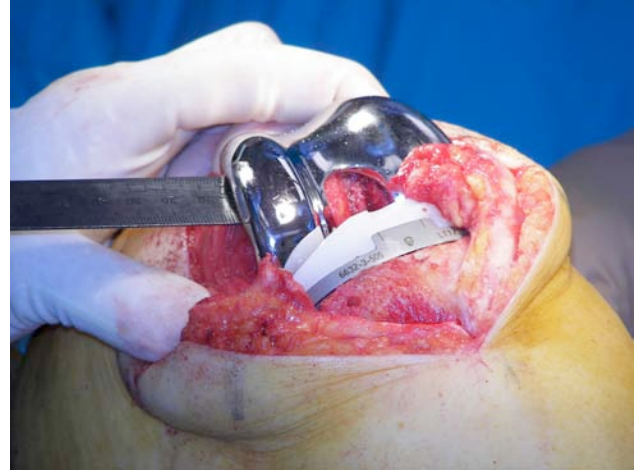


Figure 8. Example of overcapping of implant in a female patient. Prior to gender-specific implants overcapping could occur in female patients.