

OPTIMIZED SIZING RATIONALE

Predictable Size Intervals



Correct sizing of the femoral stem in DAA is difficult*. It is a logical conclusion that irregular size intervals could make difficult DAA sizing even more difficult to predict. This downside compared with compaction broaching could potentially increase the risk of under-sizing and periprosthetic fracture.

KOSMO® is designed taking great care to avoid sudden changes in the frontal plane. **KOSMO®** size increments are more predictable compared to other commercially available systems, allowing the surgeons to size the femur more accurately*.

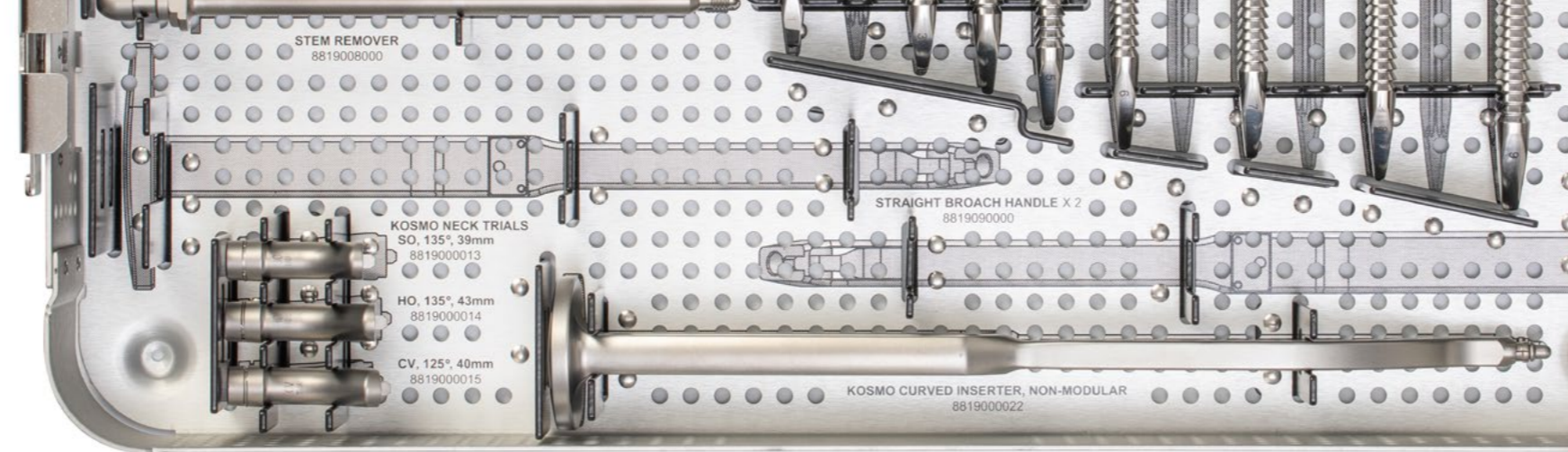
Also, **KOSMO®** femoral stem sizing rationale is further improved by featuring smaller size intervals in core sizes. From size 4 to size 6, it features a smaller intervals around 1.2mm. The interval remains at 1.5mm for the rest of the sizes.



Easy to Reproduce



KOSMO® stem offers 9 stem sizes in each of the Standard Offset, High Offset and Coxa-Vara options to enable accurate restoration of hip biomechanics. The standard and high offset versions maintain a constant 135° neck angle. The high offset stem is lateralized by +6mm versus the standard offset stem increasing tissue tension without affecting leg length. The Coxa-Vara neck angle is 125° and vertical offset is reduced by -6mm versus the high offset stem.



USER FRIENDLY INSTRUMENTATION

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- b-ONE internal test data.

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KOSMO® Femoral Hip System

Restore
Activity



b-ONE
ORTHO

PROVEN DESIGN FOR OPTIMAL FIXATION

b-ONE is aiming to improve the performance of a proven philosophy with over 30 years of clinical history with reimagined and redesigned **KOSMO**® femoral hip system.

Intramedullary Fixation



The stem body features tapered geometry on both the medial/lateral sides and anterior/posterior sides. The horizontal groove designed onto the proximal portion of the stem in combination with the tapered geometry creates stepped geometry that provides stabilization in all three dimensions¹. Distal quadrangular cross section with vertical grooves provides macro geometry for compacted bone and future osteointegration to provide excellent mechanical stability¹.

Osteointegration for Longevity



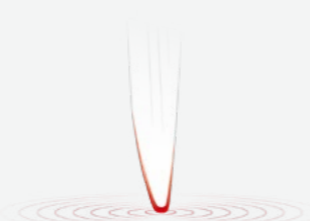
On top of the grit blasted surface of the stem body, there is a layer of HA coating with an average of 0.351 mm thickness, providing excellent osteointegration. Studies show that osteo integration improves long term results and reduces thigh pain².



Easy to Insert



Reduced distal tip allows the stem to be naturally guided in the femoral canal. **KOSMO**® stem also features constant insertion path feature, together with the reduced distal tip, this allows the stem to be inserted more easily, more preferable in minimal incision approaches such as DAA.



OPTIMIZED DISTAL TIP

Reduced Risk of Thigh Pain



Thigh pain causes dissatisfaction especially among the active patients who are primarily considered for DAA surgeries, thus, reducing thigh pain is crucial to improving DAA performance and DAA compatibility of the stem. Thigh pain has been associated with cementless total hip arthroplasty, and one of the risk factors that could cause thigh pain is distal tip contact to cortical bone.³ The distal tip of the **KOSMO**® femoral hip system is reduced in all sides, the stem length was shortened compared to traditional bone compacting stem designs. Reduced profile of the distal tip avoids stem making contact with the cortical bone, consequently, reducing the risk of thigh pain.



COLLARED STEM REDUCES COMPLICATIONS

Direct Anterior Approach has shown to have several advantages over posterior approach such as being less invasive, showing faster recovery. However, many studies have shown that Direct Anterior Approach comes with its shortcomings. Due to the difficulty in femoral exposure and femoral preparation, this approach can result in higher rate of femoral stem under-sizing⁴. Under-sizing of the femoral stem could lead to early stem subsidence, subsequently exposing the patient to leg length discrepancy, increased rate of periprosthetic fracture and increased rate of early loosening of the stems. Early loosening is hypothesized to be caused by inability to obtain adequate initial fixation and subsequent osteointegration⁴.

LESS SUBSIDENCE

Meta-Analysis shows that collarless stems has lower complications such as stem subsidence rates compared to collared stems⁴.

LESS FRACTURE

Collared stems has 5 times lower risk of early revision for fracture⁴.

