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Clinical quick guide
Insignia®

Why **Insignia?**

The Insignia Hip Stem has been shown to provide a reproducible **fit** across a wide range of femoral anatomies[1,2,3] while offering surgeons **ease of use**.[2] Early **clinical outcomes** show low rates of all-cause revisions and reduced risk of femoral fractures.[4,5,6,7,8]

Fit

The Insignia Hip Stem is a collared, metaphyseal-filling implant engineered to optimize metaphyseal fit and fill across a broad spectrum of femoral anatomies.[1] Its design has been shown to minimize micromotion at the bone implant interface and reduce stress-shielding.[2,3] The Insignia Tri-Stage Broach enables a consistent and reproducible broach-to-stem seating height, supporting surgical precision.[2]

Reference	Detail	Link
1 Rainey J, Frandsen J, Mortensen A, Faizan A, Bhowmik-Stoker M, Springer B, Gililland J. Early Radiographic Fit and Fill Analysis of a New Metaphyseal-Filling Triple Taper Stem Designed Using a Large Computed Tomography Scan Database. Arthroplast Today. 2023 Sep 19;23:101199.	This study retrospectively looked at postoperative radiographs of patients receiving an Insignia stem. Standing AP and lateral radiographs preoperatively and at 6 weeks postoperatively were taken of 59 THAs in 55 patients. These radiographs were analyzed in accordance with previously published fit and fill analyses. It was found that the Insignia stem, implanted with the Tri-Stage Broach, afforded adequate proximal fill in both the coronal and sagittal planes.	Click or scan to read more
2 Carlson VR, Springer BD, Faizan A, Peterson J, Imami D, Gililland JM. Design and Verification of a Metaphyseal Filling Stem for Total Hip Arthroplasty Based on Novel Measurements of Proximal Femoral Anatomy. Arthroplast Today. 2024 Jan 25;25:101299.	To verify the design of the Insignia Hip Stem, bench top testing was done. Under simulated stair climbing conditions (for 10,000 cycles), the Insignia Hip Stem demonstrated 77% lower proximal micromotion than a clinically successful fit-and-fill stem. Additionally, it was determined that the Insignia Tri-Stage Broach yielded both reliable and reproducible broach-to-stem seating heights.	Click or scan to read more

Fit cont.

Reference	Detail	Link
3 Gibian J, Hollenberg AM, Nunley RM, Barrack RL, Riegler V, Salih R, Schneider AM, Bendich I, The Cementless, Triple-Tapered, Collared Stem has Minimal Proximal Femoral Stress Shielding at One Year, The Journal of Arthroplasty (2026), doi: https://doi.org/10.1016/j.arth.2026.04.098.	This prospective primary cohort of 94 patients receiving an Insignia femoral stem (45 direct anterior approach (DAA), 49 posterior approach (PA)) underwent dual-energy X-ray absorptiometry (DEXA) at six weeks and one year postoperatively. Across all Gruen zones, Insignia demonstrated limited bone mineral density (BMD) changes between six weeks and one year following primary THA ($P > 0.05$). Additionally, collar seating was not associated with differences in BMD ($P > 0.05$). DAA was associated with a lower BMD in Gruen zone one compared to PA ($.90 \pm .07$ versus $0.96 \pm .17$, $P = 0.025$).	Click or scan to read more

Ease of use

The Insignia Tri-Stage Broach—developed using Stryker Orthopaedics Modeling and Analytics (SOMA) technology—has been shown to offer efficient broaching and ease of insertion.[2] It allows for a consistent and reproducible broach-to-stem seating height.[2]

Reference	Detail	Link
2 Carlson VR, Springer BD, Faizan A, Peterson J, Imami D, Gililland JM. Design and Verification of a Metaphyseal Filling Stem for Total Hip Arthroplasty Based on Novel Measurements of Proximal Femoral Anatomy. Arthroplast Today. 2024 Jan 25;25:101299.	A laboratory study compared the broaching effort required for the Insignia Tri-Stage Broach with the broaching effort required of a clinically successful tapered wedge stem and clinically successsful fit-and-fill stem. Results showed that the broaching effort required with the Tri-Stage Broach was reduced by 80% when compared to the fit-and-fill stem and is equivalent to that of the tapered wedge stem. Additionally, it was determined that the Insignia Tri-Stage Broach yielded both reliable and reproducible broach-to-stem seating heights.	Click or scan to read more

Clinical outcomes

Early clinical data has demonstrated that the Insignia stem design is associated with low rates of all-cause revisions and a threefold reduction in the risk of periprosthetic femoral fractures (PFF).[4,5] The studies also demonstrated the design's reliability and high patient satisfaction in total hip arthroplasty.[4,5]

Reference	Detail	Link
4 Neitzke CC, Bhowmik-Stoker M, Faizan A, et al. Threefold Decrease in Early Periprosthetic Femur Fracture Risk With a Modern, Triple-Tapered, Noncemented, Collared Stem: An American Joint Replacement Registry Study. J Am Acad Orthop Surg. Published online September 10, 2025.	This retrospective study utilized American Joint Replacement Registry (AJRR) data of over 8,432 patients who received an Insignia Hip Stem for primary THA to evaluate the early survivorship (2-years). Insignia had a low early cumulative percent all-cause 2-year revision (1.32%, $P < 0.001$) and a threefold reduction in PFF (0.19%, $P < 0.001$) when compared to noncemented, collarless stems. With increasing primary THA volume and noncemented stem utilization, this study adds to the existing literature to suggest that collars may help mitigate the risk of early PFF and all-cause revision.	Click or scan to read more
5 Dunleavy ML, Jan K, Savoia A, O'Brien B, Karas V, Nam D. Early Outcomes Following Total Hip Arthroplasty With a Newly Designed, Collared Triple-Tapered Cementless Femoral Stem. J Arthroplasty. 2025;40(8S1):S196-S201.	This retrospective study evaluated any early complications (within 90 days) post primary THA with the Insignia Hip stem. During the review period, a total of 443 cases were performed and included in this study. Of the 443 cases, only 6 patients (1.4%) required readmission following their THA. 1 patient sustained a fall, 1 patient had an acute periprosthetic infection, and 4 patients had other medical issues. Patient-reported outcome measures (PROMs) were recorded at the 6-week mark and at final follow up. The PROMs examined included the Veterans Rand 12 (VR-12) Item Health Survey (both physical and mental components), Hip Dysfunction and Osteoarthritis Outcome Score for Joint Replacement (HOOS, Jr.), and the Harris Hip Score (HHS). All patients experienced significant improvements compared to their preoperative condition at both the 6-week mark and at the final follow-up. The VR-12 mental scores improved by 3.1 points ($P < 0.0001$) by the final follow-up, VR-12 physical improved by 14.9 points ($P < 0.0001$), HOOS Jr. improved by 33 points ($P < 0.0001$), and HHS improved by 36.2 ($P < 0.0001$).	Click or scan to read more

Clinical outcomes cont.

Reference	Detail	Link
6 Ibaseta A, Hoelscher Z, Mascarenhas D, Hartline B, Ismaily EE S, Frangie R, Rogers N, Rodriguez D, Outcomes of Triple-Tapered Collared Cementless Versus Cemented Stems in Total Hip Arthroplasty for Femoral Neck Fracture: A Propensity Score Overlap-Weighted Cohort Study, The Journal of Arthroplasty (2026), doi: https://doi.org/10.1016/j.arth.2026.04.103.	This retrospective study compared Insignia with a collared composite-beam cemented stem in total hip arthroplasty (THA) for displaced femoral neck fracture (FNF). During the review period (2017 to 2024) a total of 521 primary THAs for displaced FNF performed and completed in this study. Of the 521 primary THAs, 105 patients received a cemented collared composite-beam stem and 416 recieved an Insignia hip stem. Insignia showed similar periprosthetic fracture rates compared to the cemented stem cohort (2.74% vs. 2.97%) and all-cause revision (2.76% vs. 5.36%). Additionally, the revision-free survivorship through 24 months did not differ (hazard ratio 0.896; P = 0.916) and there were no dislocations. The Haris Hip Scores favored the Insignia stem (81.0 vs. 74.5, P < 0.0001).	Click or scan to read more
7 Smith NS, Grimm AJ, Malkani AL, Gililland JM, Mayman DJ, Westrich GH, Zepeda KE, Smith LS, Jerabek SA, Incidence of Early Periprosthetic Hip Fractures in Patients Over Age 70 Years Following Primary Total Hip Arthroplasty Using a Novel Triple-Tapered Collared Femoral Stem, The Journal of Arthroplasty (2026), doi: https://doi.org/10.1016/j.arth.2026.05.010.	This retrospective study evaluated patients aged 70 years who were undergoing primary THA and received either a dual-taper collarless femoral stem or a triple-taper collared femoral stem (Insignia). There were 385 patients who received an Insignia stem and 383 who received the dual-taper collarless stem and the overall revision rates, incidence of periprosthetic fractures, and complications were compared. The Insignia group had six less early periprosthetic fractures than the dual-tapered group 1 (0.26%) vs. (7 (1.8%), P = 0.038). Additionally, the dual-tapered group had a higher overall revision rate of 5.7% (primarily due to prosthetic join infection (PJI) and periprosthetic fractures) compared to the Insignia group with a revision rate of 1.0%, P < 0.01.	Click or scan to read more
8 Salehi N, Stratton A, Restrepo C, Smith EB, Ong AC, Hozack WJ, Fully Hydroxyapatite-Coated, Collared, Triple-Taper Stems May Be Safe for All Patients Undergoing Primary Total Hip Arthroplasty: Minimum Two-Year Follow-Up, The Journal of Arthroplasty (2026), doi: https://doi.org/10.1016/j.arth.2026.05.016.	This retrospective study collected data on 265 patients undergoing a DAA primary THA and receiving an Insignia hip stem with a minimum two-year follow up. The two-year implant survivorship was 98.1% with only 5 cases of revisions. 2 for infection, 2 for dislocation and 1 for acetabular periprosthetic fracture. Radiographic results showed collar-to-calcar contact in 87.5% of cases and successful biologic fixation in 100% of cases. Additionally, patients experienced a statistically significant 18.8-point improvement in their HOOS, JR, jumping from a preoperative average of 41.6 to 60.4 (P < 0.0001).	Click or scan to read more

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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