EVIDENCE INFOGRAPHIC

FEMORAL NECK SYSTEM (FNS)

A dedicated solution for femoral neck fractures, designed for **improved angular stability[1] and rotational stability[2]** with the intent to reduce reoperations related to fixation complications

The FNS implant consists of an antirotation-screw, a bolt and the option of a one or two hole side plate. These components are inserted through a targeted insertion handle over one central guide wire.

EPIDEMIOLOGY

HIP FRACTURE RATES are expected to rise, from **4M** today to up to **6.3M** in **2050**[3]

50% of hip fractures are **femoral neck fractures** – one of the **most traumatic** injuries in the elderly[3]

REOPERATION RATES AS HIGH AS **33%** **DUE TO VARIOUS COMPLICATIONS***[4,5]

CLINICAL COMPLICATIONS*

UNSTABLE CONSTRUCT leading to **VARUS COLLAPSE** resulting in a **REOPERATION** rate of up to **13%** with cannulated screws[5,6]

REPORTED THIGH PAIN resulting from **LATERAL IMPLANT PROTRUSION** in up to **5%** of cases[5,7]

INVASIVE SURGICAL APPROACH which contributes to **INFECTION** in up to **10%** of cases with sliding hip screws[7]

DESIGN EVIDENCE

FNS OFFERS A MINIMUM OF **100% MORE RESISTANCE TO VARUS COLLAPSE** (leg/neck shortening) compared to **3 cannulated screws**[1]

FNS offers a minimum of **150% MORE ROTATIONAL STABILTY** compared to **3 cannulated screws**[2]

DYNAMIC DESIGN with up to **20MM** of **CONTROLLED COLLAPSE**

with **NO LATERAL PROTRUSION** for the first **15mm**[8]

MINIMIZED IMPLANT FOOTPRINT **on the bone** compared to a **sliding hip screw**[8]

INCISION SIZE REDUCED by approximately **9CM** when compared to a **sliding hip screw**[8]

1. Stoffel K, Zderic I, Gras F, Sommer C, Eberli U, Mueller D, Oswald M, Gueorguiev B. Biomechanical evaluation of the femoral neck system in unstable Pauwels III femoral neck fractures: a comparison with the dynamic hip screw and cannulated screws. J Orthop Trauma. 2017; 31(3):131-137.†
2. DePuy Synthes Report: Static Cut Through Rotation Test in Bone Foam. 2018. Ref: 0000277853.†
3. Filipov O. Epidemiology and social burden of the femoral neck fractures. Journal of IMAB. 2014; 20(4):516-518.
4. Zhang LL, Zhang Y, Ma X, Liu Y. Multiple cannulated screws vs. dynamic hip screws for femoral neck fractures : A meta-analysis. Orthopade. 2017 Nov; 46(11):954-962. doi: 10.1007/s00132-017-3473-8.
5. Murphy DK, Randell T, Brennan KL, Probe AR, Brennan ML. Treatment and displacement affect the reoperation rate for femoral neck fracture. Clin Orthop Relat Res. 2013; 471(8):2691-2702.
6. Stiasny J, Dragan S, Kulei M, Martynkiewicz J, Plochowski J, Dragan SL. Comparison analysis of the operative treatment results of the femoral neck fractures using side-plate and compression screw and cannulated AO screws. Orthop Traumatol Rehabil. 2008; 10(4): 350-361.
7. Keating, J. Femoral Neck Fractures In P. Tometta (Ed). Rockwood And Green's Fractures in Adults, Philadelphia, PA, Wolters Kluwer. 2014; 2031-2073.
8. DePuy Synthes Report: FNS Design & Procedure Comparison. 2018. Ref: 0000274963.

*Percentages are quotes directly from the cited literature. Other publications may report different results.
†Benchtop testing may not be indicative of clinical performance.

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