**TFN-ADVANCED™ Proximal Femoral Nailing System**

Designed to reduce the risk of post-operative complications associated with hip fractures by providing **surgical options to enhance stability in poor bone**, improved anatomic fit and increased implant strength.

The TFNA system is also designed to provide a range of options to support surgical preferences and patient anatomies, including choice of augmentable blade or screw head elements, various locking options and a range of nail sizes.

### EPIDEMIOLOGY

**HIP FRACTURE RATES**

- Are expected to rise, from 4M today to up to 6.3M in 2050.

**HIP FRACTURES ARE FREQUENTLY SERIOUS**

- Osteoporotic fractures
- <50% have the same walking ability they had prior to the fracture
- Mortality rates can be as high as 34%
- 1 year after hip fracture

### CLINICAL COMPLICATIONS

**NON ANATOMICAL NAIL FIT**

- As many as 8% of patients experience loss of fixation or cut-out, which frequently requires reoperation.
- Distal cortical impingement in up to 25% of cases, which may lead to a fracture at the distal nail tip and subsequent revision surgery.

**NAIL BREAKAGE**

- May occur in as many as 5% of patients and requires revision surgery.

### DESIGN EVIDENCE

**INCREASED RESISTANCE TO CUT-OUT**

- Increased resistance to migration in poor bone
- 346% more cycles to varus collapse
- 244% increase in resistance to cut-out
- 0 revisions due to mechanical failure
- In three prospective multicenter trials

**ANATOMIC 1.0M RADIUS OF CURVATURE**

- Based on a multiethnic 3D computational study

**LATERAL RELIEF CUT™ DESIGN**

- Preserves bone in insertion area due to reduced critical width

**BUMP CUT™ Design**

- Combined with a unique high strength Titanium Alloy (TiMo), contributes to improved implant fatigue strength, in addition to a small proximal diameter.

**NAIL BREAKAGE**

- May occur in as many as 5% of patients and requires revision surgery.
References:

6. DePuy Synthes Test Data. Head Element Volume Displacement Analysis. Windchill# 000276709.11
19. DePuy Synthes Trauma. Fatigue strength testing of cephalomedullary nails. 2014. Windchill# 0001513715, 000122418.11

*Compared to a lag screw
**Compared to constructs with non-augmented head elements
† Data for augmentation used with PFNA, a predecessor nailing system available outside of the United States
††Bench test results may not be indicative of clinical performance

The third party trademarks used herein are the trademarks of their respective owners.