


Significantly fewer cases of excessive lag screw sliding with TRIGEN[◇] INTERTAN[◇] Intertrochanteric Antegrade Nail compared with Gamma3[™] nail in elderly hip fracture patients

Goto K, Murakami T, Saku I. Postoperative subtype P as a risk factor for excessive postoperative sliding of cephalomedullary nail in femoral trochanteric fractures in old patients: A case series of 263 patients using computed tomography analysis. *Injury*. 2022;53(6):2163–2171.

Available at: [Injury](#) 

Key points



Significantly fewer cases of excessive lag screw sliding with TRIGEN INTERTAN nail compared with Gamma3[™] nail ($p=0.02$; at 5.9 months follow-up)



No instances of excessive lag screw sliding or related post-operative complications (cut-out or non-union) with TRIGEN INTERTAN nail at 5.9 months follow-up



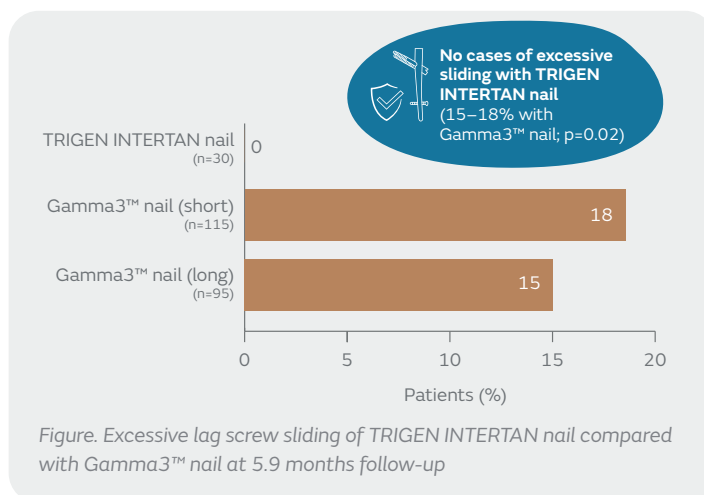
As post-operative reduction pattern P is a risk factor for excessive sliding, it may be beneficial to use TRIGEN INTERTAN nail for unstable fractures that tend to have this position

Overview

- Independent, retrospective, multi-surgeon study investigating risk factors for the amount of sliding and occurrence of excessive sliding ($\geq 8\text{mm}$) with cephalomedullary nails in femoral trochanteric fractures among 263 Japanese patients aged ≥ 65 years
- Patients were a mean of 84 years old, had experienced low-energy trauma with pre-surgery CT scans and short-term clinical and radiological follow-up (mean of 5.9 months)
- 3D-CT classification, reduction pattern (subtypes A, N, and P) in the lateral view, medullary mismatch, and implant type (TRIGEN INTERTAN nail or short/long Gamma3[™] nail [Stryker, Mahwah, NJ, USA]) were investigated
- Post-operative complications assessed were lag screw cut-out and non-union

Results

- No instances of excessive sliding, post-operative cut-out or non-union were reported for TRIGEN INTERTAN nail
- Compared with Gamma3[™] nail (short and long, respectively), TRIGEN INTERTAN nail demonstrated:
 - Significantly fewer cases of excessive lag screw sliding (18% and 15% vs 0%; $p=0.02$; Figure)
 - Significantly shorter mean lag screw sliding distance (6.0mm and 4.0mm vs 2.0mm; $p<0.005$)
- There were four revisions in the long Gamma3[™] nail group: lag screw cut-out ($n=3$) and non-union ($n=1$)
- Post-operative reduction pattern P was identified as a risk factor for excessive sliding (odds ratio: 2.99; $p=0.024$)



Conclusions

TRIGEN INTERTAN nail demonstrated significantly less excessive lag screw sliding and fewer related post-operative complications (cut-out and non-union) compared with Gamma3[™] nail at 5.9 months. As post-operative reduction pattern P was identified as a risk factor for excessive sliding and other studies also support the clinical benefits of TRIGEN INTERTAN nail over Gamma3[™] nail, the authors recommended use of TRIGEN INTERTAN nail for unstable fractures that tend to have this position.