

TRIGEN[®] INTERTAN[®] has significantly less femoral neck shortening and varus collapse compared with a single lag screw cephalomedullary nail

Results with the active compression hip fracture nail were superior at all follow-up points, regardless of whether patients' intertrochanteric (IT) femur fractures were stable or unstable



Study design

- A retrospective, comparative analysis of patients (mean age, 76 years) with 413 IT fractures who received either:
 - INTERTAN integrated compression screws (ICS): 283 fractures (155 stable, 128 unstable)
 - Gamma3[™] (Stryker) single lag screws: 130 fractures (79 stable, 51 unstable)
- Patients underwent radiographic assessment at 3, 6, and 12 months postoperatively



Key results

- Compared with INTERTAN ICS, treatment with a single lag screw led to:
 - 2.5 times more varus collapse (Figure 1)
 - 2 times more femoral neck shortening (Figure 2)
 - o Results were significant at every follow-up point, regardless of fracture stability
- Single lag screw had a significantly higher failure rate than INTERTAN ICS (7.7% vs 1.7%, respectively; $p = 0.007$)

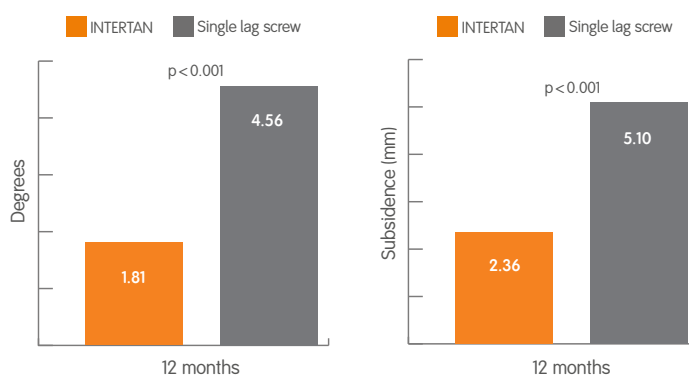


Figure 1. Average degree of varus collapse

Figure 2. Average femoral neck shortening



Conclusion

INTERTAN appears to maintain initial IT fracture reduction and subsequent position over time, with significantly less varus collapse and femoral neck shortening than a single screw device. The authors hypothesised that this improved fracture stability is due to INTERTAN's unique screw fixation design, which provides enhanced rotational stability and active compression of the fracture site postoperatively.



Considerations

- As is common with studies in an elderly population in which mortality rates are high, there was a notable loss to follow-up; at 12 months, 41.5% of the single screw device group and 19.1% of the INTERTAN group were available



Study citation

*Serrano R, Blair JA, Watson DT, et al. Cephalomedullary nail fixation of intertrochanteric femur fractures: Are two proximal screws better than one? *J Orthop Trauma*. 2017;31:577-582.