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**Proximal femoral and proximal tibial compressive osseointegration: Intermediate term outcomes**

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**Background:** For massive distal femoral endoprosthetic reconstructions, the Compress® device has been shown to have a nearly 90% 10-year survival rate at the bone-prosthetic interface. Less is known about prosthetic survival in the comparatively less frequent primary oncologic reconstructive locations involving the proximal femur and proximal tibia.

**Questions/Purposes:** What are the aseptic and septic failure rates for proximal femoral and proximal tibial primary oncologic reconstructions using Compress® technology?

**Patients and Methods:** The compressive osseointegration database was reviewed for all patients with proximal femoral or proximal tibial Compress® reconstructions. Demographic data, diagnoses, and treatment data were abstracted; outcomes, including aseptic failure, septic failure, local recurrence, and metastatic disease were reviewed.

**Results:** For the proximal femoral Compress® reconstructions, 18 patients were identified with overall average follow-up of 56 months (range, 2-142). There were no (0%) aseptic rotational failures at the bone-prosthetic interface. There was 1 (5.6%) septic failure. For the proximal tibial Compress® reconstructions, 29 patients were identified with an overall average follow-up of 70.7 months (range, 1-175). There was one (3.4%) aseptic rotational failure that was successfully revised to another Compress® device. There were 4 (13.8%) cases of infection.

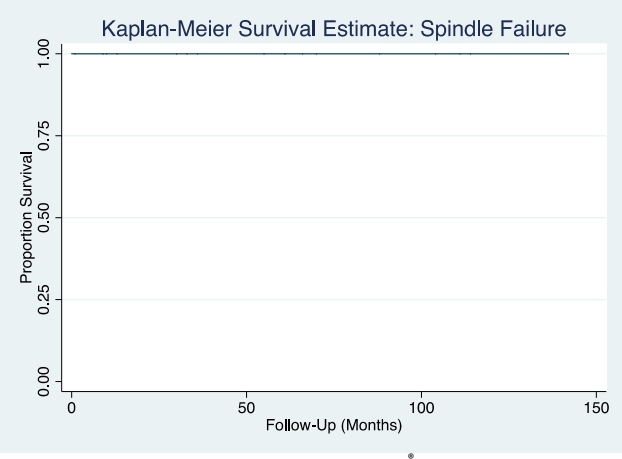
**Conclusion:** Compressive osseointegration is shown to be associated with very high intermediate term success rates for proximal femoral and proximal tibial locations. Aseptic failure rates at the bone-prosthetic interface in these locations is very low. Septic failure remains a more common complication, with rates in the proximal tibia similar to those observed in the distal femur.

**Comment [RW1]:** Range 2-142mo

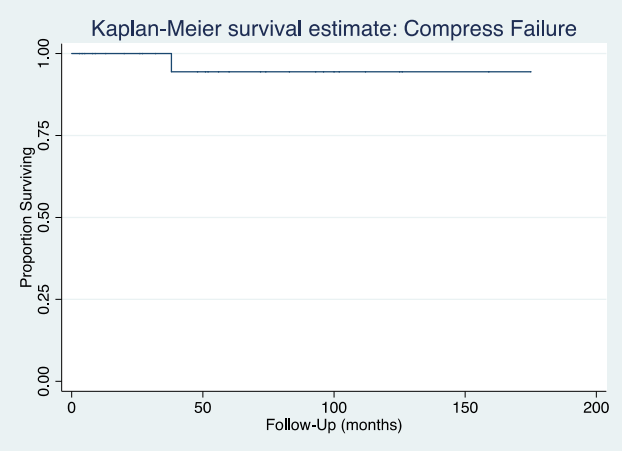
**Comment [RW2]:** Range: 1-175mo

**Comment [RW3]:** There were also 4 fractures in this group, all treated successfully non-operatively.

**Figures:**




None of the 18 (0%) proximal femur Compress® endoprostheses failed requiring revision surgery at average 55.8 months follow-up.




One of the 29 (3.4%) proximal tibial Compress® endoprostheses failed requiring revision surgery at average 70.7 months follow-up.