

Outcomes of Surgical Implant Generation Network (SIGN) Intramedullary Nail in Treatment of Lower Limb Implant Failure in Herat Regional Hospital, Herat, Afghanistan

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Purpose: The aim of fracture treatment is to achieve union with timely functional recovery. Internal fixation with adherence to strict biomechanical principles is often required to achieve this. However, a fixation device may fail to hold a reduced fracture until union, giving rise to nonunion or delayed union with implant failure. The aim of this study was to see the efficacy of exchange of failed implant with Surgical Implant Generation Network) SIGN, an intramedullary interlocking nail.

Methods: 41 cases of long bone fractures that had the problem of poor fracture healing because of the fracture pattern of implant were prospectively studied for 6 months postoperation. The failed implants were exchanged with SIGN interlocking intramedullary nails. Only 15 cases completed the duration.

Results: 80% of patients were males and the other 20% were females. Range in age was 9 to 48 years. The femur was more frequently involved than the tibia, and the rate of infection was 6%. 75% of patients were able to squat and smile. Painless full weight bearing was 93% and healing by radiographic evidence was observed in 93%. Knee flexion >90° was present in 87.5%. There were no cases of screw loosening, implant failure, or deformity.

Conclusion: The SIGN intramedullary nail has excellent outcomes in treatment of lower limb implant failure. It is the option of choice in our hospital, as in any hospital in low- and middle-income countries.