

## **Free Vascularised Fibular Graft In The Treatment Of Infected Non-Union And Large Skeletal Defect In Osteomyelitis**

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Treatment of chronic infected non-union and skeletal defect following trauma and infection is challenging problem. The infected segment of non-union poses slow healing and predisposed to chronic osteomyelitis. Thus complete cure of infection remained difficult. We proposed a radical tumor like resection of entire infected segment and reconstruction with vascularized fibular graft to achieve a complete eradication of infection.

Preoperative planning with MRI is important to evaluate the infected segment. Preoperative antibiotic of 1-2 weeks to minimized the edema and sterilized the soft tissue infection followed by radical tumor like debridement. The entire sinus tract, infected soft tissue and unhealthy granulation tissue together with infected bone will be removed in total. The bony and soft tissue defect is covered by osteocutaneous vascularized fibular flap with minimal implant for stabilization. Vascularity environment provided by normal tissue bed and vascularized flap ensure good antibiotic penetration around the area and improve the chance of eradicating infection Further intravenous antibiotic during inflammatory postoperative period will be given for 2-3 weeks, followed by oral antibiotic 6-8 weeks

The unique features of fibula graft allow intramedullary fits to tibia and femoral canal for load sharing mechanic and facilitate reconstruction with minimal implant. The fibula has dual vascularity through endosteal and periosteal allow creeping substitution furthermore the perforator to the skin is well established to allows osteocutaneous reconstruction without bulk and acceptable cosmesis. The entire procedures was possible with advancement of MRI, meticulous detailed technique of debridement and advent of microsurgical technique for vascularized flap

Chronic infected non-union remained a difficult problem and eradication of infection is possible with described technique.