

## **Infection After Osteosynthesis In Open Fractures**

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Infection after osteosynthesis for open fractures has some the common causes of infection after osteosynthesis for closed fractures are invasion by skin organisms or introduction of organisms by instruments and mops at the time of surgery .Occasionally the haematogenous spread from distant infective focus is responsible for the infection. The type of organisms can generally be predicted. The contamination is generally located near the implants. But in osteosynthesis after open fractures the contamination has already occurred prior to osteosynthesis and could be located far away from the fracture or surgical site. Also the contaminating flora is unpredictable. Extreme care is need for prevention of infection after osteosynthesis for open fractures. The first & most important step in prevention is aggressive debridement of open fracture. Appropriate antibiotics need to be started and continued for at least 24 hours after obtaining skin cover. Severe open injuries are often treated initially by external fixation and chances of infection are more if the EF is kept for a longer time. Use of NPWT (Negative pressure wound therapy) is useful if fixation is delayed but use of NPWT beyond 7 days has been shown as a factor in increasing infection rate. The placement fixator pins need to be planned well so they are away from possible incision site. When a patient presents with infection the management needs to be planned well. A careful analysis of injury photographs and X rays is done to localize the site of possible contamination because only exploration of surgical site may not yield correct organism nor help in getting rid of contamination or infective focus. The standard practice of maintaining implants if they are stable also needs modification as very often the infection is underneath the implants or around implants and implants need to be removed early. The apparent union has to be opened, medullary canal reamed & the tissues deep to bone have to be opened. The other basic principles of management of infected fractures are to be followed viz aggressive debridement, early soft tissue cover, appropriate antibiotics and stabilization.