

Open Periprosthetic Femoral Fracture

Click on radiographs and clinical pictures to view larger images.

Introduction

A 78 year old woman was leaving church when she fell down three stairs, landing on her left knee. She had bilateral total knee arthroplasties six years prior to her fall. She presented to the emergency department with a deformed left femur, and a 2mm puncture wound over the anterolateral distal left femur. She had a cardiac murmur, was taking Aspirin daily and had no allergies. She was unsure of the date of her last tetanus booster. She sustained an isolated injury to the left knee. Pulses were present and radiographs were taken in the emergency department. Left Knee - 2mm anterolateral soft tissue wound with visible deformity

What are your next steps in the Emergency Room management of this patient ?

Further inquiry into the heart murmur revealed that the patient was being followed by a cardiologist and did not have to take antibiotics prior to dental or minor surgical procedures specifically for her heart. 0.5cc of Tetanus Toxoid was administered since she was unsure of her last booster. 1g of Ancef was administered in the emergency department. Prior to radiography, the dimensions and location of the open wound were documented, and it was covered with a sterile dressing. A Thomas splint was placed on the leg and appropriate analgesia was administered.

What is your definitive management of this patient ?

After informed consent was obtained, this patient was taken to the operating room and the following procedures were carried out after induction of general anaesthesia and sterile prepping and draping of the patient. She was placed on a radiolucent operating table for the procedure and intraoperative image intensification was used.

1) Irrigation and debridement of the open wound with 12L of sterile Normal Saline

2) Lateral approach to the distal femur for ORIF with a 10-hole, 95-degree Dynamic Condylar Screw (used as a bridge plate across the comminuted part of the fracture)

3) Excision of devitalized bone fragments at the fracture site and replacement with Osteocet-T

What is your postoperative management of this patient ?

A Hemovac was placed in the wound and removed 48h postoperatively. The leg was placed in a Jones Bandage and this was taken down 48h postoperatively. At this time Continuous Passive Motion was started from 0-30 degrees, and the patient was allowed to be nonweightbearing on the left leg with a walker. We intend to progress weightbearing at 6 weeks but continue passive ROM exercises during this time.