



## Management of periprosthetic fracture

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### ARTICLE INFO

#### Article history:

Received: 24 February 2016;

Received in revised form:

6 April 2016;

Accepted: 11 April 2016;

#### Keywords

Hiphemiarthroplasty,  
Periprostheticfracture,  
Diabetesmellitus,  
Osteoporoticbone,  
Cerclage wire.

### ABSTRACT

In this report a case of periprosthetic fracture of femur associated with diabetes mellitus since 10 years, 2years ago, she was operated with A.M prosthesis for neck right femur fracture. It takes into account the site of the fracture, the stability of the implant, and the surrounding bone stock, which are the important elements of the fracture and hip that determines treatment.

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### Citation

The Journal of Arthroplasty , Volume 17 , Issue 4 , 11 - 13itation

### Introduction

Periprosthetic femoral fracture in association with total hip arthroplasty (THA) and hemiarthroplasty was first reported in 1954. Since then, the incidence has steadily increased 3, as the indications for THA and hemiarthroplasty have broadened and the life expectancy of the population has increased. The current overall incidence of periprosthetic femur fracture is approximately 4.1%, with higher rates for uncemented and revision THA and hemiarthroplasty. Fractures around joint replacement prostheses are commonly called periprosthetic fractures, Fractures around hemiarthroplasty prosthesis increasing in incidence as a result of increased arthroplasty procedures and high-demands of elderly patients, mechanism of fracture [proximal fractures] usually occur with bone preparation (ie aggressive rasping) and prosthetic insertion, may occur during implant insertion from dimension mismatch[middle-region fractures] usually occur when excessive force is used during surgical exposure or bone preparation[distal fracture] usually occur when tip of a straight-stem prosthesis impacting at femoral bow.

Each periprosthetic fracture poses a unique challenge to the treating orthopedic surgeon because of the many variables that must be considered with each fracture pattern. These variables include the relationship of the fracture to the implant, the specifics of the implant including wear, and the functional demands of the patient with Diabetes mellitus adversely affects the skeleton and is associated with an increased risk of osteoporosis and fragility fractures. The mechanisms underlying low bone strength are not fully understood but could include impaired accrual of peak bone mass and diabetic complications, such as nephropathy. Type 1 diabetes mellitus (T1DM) affects the skeleton more severely than type 2 diabetes mellitus (T2DM). Assessment of BMD and other risk factors as part of the diagnostic procedure can help design tailored treatment plans. All osteoporosis drugs seem to be effective in patients with diabetes mellitus.

Increased awareness of osteoporosis is needed in view of the growing and aging population of patients with diabetes mellitus.

### Classification<sup>7</sup>

Type	Description	Treatment
A	Fracture in the trochanteric region	ORIF if displaced
B1	Fracture around stem or just below, with well fixed stem	ORIF with cables and plate
B2	Fracture around stem or just below, with loose stem but good proximal bone	Revision of femoral component
B3	Fracture around stem or just below, with poor quality or severely comminuted proximal bone	Revision of femoral component with proximal femoral replacement
C	Fracture below the prosthesis	ORIF with plate

It is named for the city Vancouver, home province of the University of British Columbia where the authors of the 1995 paper worked.

### Patient Details

Name-Mrs. Pramilabai Patil F AGE 67yrs came with periprosthetic Fracture on 15/06/2015. She is having H/O fracture neck femur[R] treated by AMP 2yrs back, she was diabetes since 10yrs. she had fall in bathroom. After fitness, we have done Reduction & cerclage wiring & achieved good stability. At 22/09/2015 she was walking/ Sitting Square reasonably well.

### Results

A fractures healed in satisfactory alignment at twelve weeks without evidence of implant loosening or malalignment

### Conclusions

The result of this study support the indirect open reduction and internal fixation with 4,5 multiple cerclage wiring without the use of allograft, for treatment of periprosthetic femur fracture post-operative periprosthetic femoral fractures following a hip arthroplasty.



Pre-operative X-ray



Post-op X-ray

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