

Biplane Double-Supported Screw Fixation (BDSF) At Femoral Neck Fractures – Principles And Methods.

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INTRODUCTION:

Osteosynthesis of femoral neck fractures is related 46% rate of complications. Angular spiral shape proximal femur exposes femoral neck to powerful shearing in bending and torsion forces. Biplane double-supported screw fixation (BDSF) offers better stability using three medially diverging cannulated screws with two of them buttressed on calcar. Two supporting screws implanted in the distal fragments to provide resistance to the shearing forces. Indicated for neck of femur fracture in adults.

MATERIALS & METHODS:

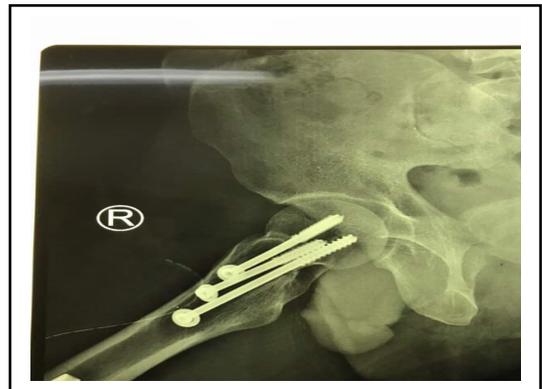
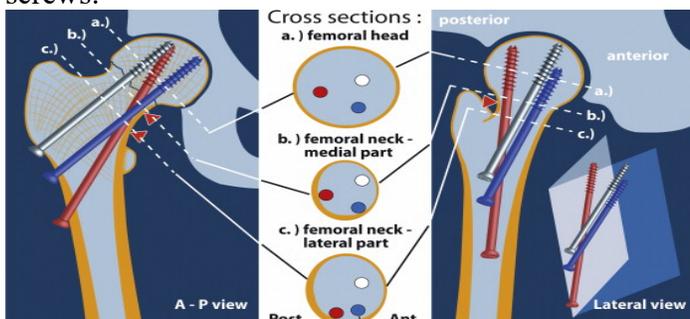
Implants : 7.3 cannulated screws

Reduction : Mild traction, slight abduction with internal rotation. Only anatomical reduction is acceptable.

Method : A straight lateral incision from lower border greater trochanter distally till 5-6cm. Firstly we lay guide wire for distal cannulated screw, 7cm from greater trochanter. The wire is directed proximally at angle 150-165 degree towards diaphysial axis with inclination posteriorly through the calcar until dorsal third of femoral head.

The middle guide wire placed next at 2-4cm from distal wire at 135-140 degree towards diaphyseal axis inclined to antero-inferiorly.

Then we placed proximal wire 1.5-2cm proximally to middle wire into antero-superiorly. Measure the length and reamed with 5.0mm reamer and placed the 7.3mm cannulated screws.



DISCUSSIONS:

Many authors prefer inverted triangle configuration, as it provides greater strength. With BDSF method of three screws, two screws at calcar and the obtuse angle screw, allow the body weight to be transferred successfully from head of femur to diaphysis. The position of the screws allow them to slide under stress with minimal risk of displacement. It ensures reliable fixation and early rehabilitation.

CONCLUSION:

By providing additional cortical support, the BDSF method enhances femoral neck fracture fixation stability and strength.

REFERENCES:

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