

## Intertrochanteric Fracture Reductions: Tips and Tricks

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Reduction is one of the most important factors to achieve good results and avoid complications in surgical treatment of femoral trochanteric fractures. Anatomical reduction in medial cortex has been recommended especially in treatment of sliding hip screw (SHS). However, it is difficult in some cases without bone in medial side. Anterior cortex has been focused in such case to obtain bony contact. In Japan, the importance of bony contact in anterior cortex to improve the stability of the fracture and the efficacy of the SHS and nail is emphasized. With no bone support at the medial and anterior cortices there is a higher risk of fixation failure or severe complications such as cut-out and cut-through. Extramedullary reduction of anterior cortex (anterior cortex of proximal fragment is one cortex outside to cortex of shaft) is more recommended than anatomical reduction or intramedullary reduction (anterior cortex of proximal fragment is inside of shaft fracture)..

I present the reduction technique of anterior cortex in unstable trochanteric fractures. At first manual reduction under fracture table is performed and the reduction status of medial and anterior cortex by AP and Lateral view with image intensifier. In the cases of anatomical or intramedullary type reduction in anterior cortex, special designed elevator is inserted through small incision of anterior thigh to fracture site. This elevator is inserted toward to femur shaft first and then reversed direction to proximal. In this method, extramedullary reduction is performed. We need to keep this reduction status until insertion of lag screw or blade in nail and side plate fixation in SHS.

However, there are pitfalls of this technique. One of the pitfalls is the fracture of anteromedial part in proximal fragment. If the reduction method is too rough or there is occult fracture, the fracture of anteromedial part occurs during surgery. If fracture occurs, extramedullary reduction usually changes to intramedullary type without bony support.