

### **Undisplaced femoral neck fractures.**

The common treatment of undisplaced femoral neck fracture is internal fixation. The failure rate after internal fixation of undisplaced femoral neck fractures averages 11%. Not all failures are implant-related but the conventional implants have some biomechanical disadvantages. In a prospective multicentre clinical cohort study, 149 patients with undisplaced femoral neck fractures were treated by internal fixation by means of the Dynamic Locking Blade Plate (DLBP, 'Gannet'). This device is specifically designed for the fixation of femoral neck fractures. The DLBP fixation resulted in a low failure rate (4%).

### **Displaced femoral neck fractures.**

The osteosynthesis of displaced intracapsular hip fractures results in a 19%-48% failure rate. Only when the anatomical reduction is secured by stable internal fixation revascularisation of the femoral head can take place and the fracture can heal by primary osteonal reconstruction.

The combination of anatomical reduction and a low volume, dynamic implant, providing angular and rotational stability seems to be essential in the treatment of intracapsular hip fractures. This assumption formed the key point for the development of the Dynamic Locking Blade Plate (DLBP, 'Gannet'), a new implant in the internal fixation of intracapsular hip fractures. In a prospective multicentre cohort study internal fixation by means of the DLBP was performed in 197 consecutive patients with displaced intracapsular hip fractures. Failure in fracture healing due to non-union, avascular necrosis or implant failure was the primary outcome measure. The failure rate for the displaced fractures amounts to 14 %.

### **Better for patients, lower costs for health care.**

The much lower failure rate causes less interventions, improving the benefit of the patient. The lower reintervention rate is also responsible for lower health care costs. Shifting from DHS to DLBP, in cases of undisplaced fractures and in cases of biological 'young' patients with displaced fractures would yield 23 Mio Euro on an annual basis in the Netherlands (University Twente/Panaxis, 2015).



## STABLE FIXATION OF FEMORAL NECK FRACTURES



# For discussion only

# Hip fractures

For references, see separate attachment.  
Results presented are undisplaced fractures (AP view),  
without considering posterior tilt.

