Locked Plating
What, When, and How

Resident Comprehensive Fracture Course

The Evolution
PC Fix I  PC Fix II  LISS

Non-Locked Plating

Non-Locked Plating

Locked Plating

Non-Locked Plating Failure

Locked Plating Failure

- Osteoporosis
- Metaphyseal fractures
- Comminution

Partial Articular Fractures

Non-Locked Plating Technique

- A well-contoured plate can be used to help reduce a fracture.
- The plate then maintains the reduction as compression between plate and bone is generated.
If the same technique is attempted with a locked plate and locking screws, an anatomical reduction will not be achieved.

**New Technique:**
- Reduce fracture first!
- Then lock screws to plate to secure fixation and maintain reduction

**Conventional Plating**
1. Plate contour is critical to maintaining reduction.

**Locked Plating**
1. Plate contour not critical to maintaining reduction.
2. Reduce fracture prior to inserting locking screws.

1. Lag screws used to help reduce the fracture
2. Locking screws added for fixed-angle stability
Surgical Technique
Reduction with Hybrid Technique

Lag screw must be implanted before locking screw in each fragment requiring fixation.

Biology of Locked Plating

Before screw tightening

After screw tightening

Locked Plating

• Fixed Angle Construct
• Metaphyseal Comminution
• Osteoporosis
• Reduction is still important