Gamma Nail vs Lateral plate

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Biomechanics of IM Nail

- Greater strength and stability
- Shorter lever arm
- Force transmitted down centre of femur
- Less weakening of cortex with locking screws
- Compression still achievable
- Particularly beneficial in reverse oblique pattern
Indications

Short
• Inter-troch #
• Per-troch #
• Non/Malunion

Long
• Sub-troch #
• Per-troch # with shaft #
• Pathological
• Non/Malunion
Contra indications

Short
• Medial neck #
• Sub-troch #

Long
• Medial neck #
Rehabilitation benefits

- Early mobilisation
- Dynamic compression
- Less traumatic operative technique (less blood loss, less fluoroscopy time)
General conclusions

• IM device has superior biomechanical properties
• Outcomes for stable # similar with IM and lateral plate devices
• IM device better in unstable fracture configurations
• IM device better in reverse oblique fracture
References

- Leung et al 1996
- Sowmianarayanan et al 2008
- Lucas et al 2005
- Utrilla et al 2004