Section VII

SUMMARY

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Fractures of the shaft of the tibia are major cause of morbidity and mortality in patients with lower extremity injuries. Many patients suffer major physical impairment as a result of these fractures, disability usually results from fractures shortening, fracture mal-alignment or prolonged immobilization of the extremity.

Regardless of the treatment method chosen, most important consideration is an acceptable reduction, good alignment, rotation, length and position.

The continually evolving understanding of bone biology and analysis of clinical complications, have led to a modified approach in internal fixation using plates, anatomical reduction of the fragments in comminuted diaphyseal fractures itself is no longer a goal.

Important reduction aims are the correct length of the bone and axial and tortional alignment.

The preservation of the viability of the bone fragments is a key to unimpaired fractures healing.

The primary stability of an osteosynthesis seems to be of minor importance for bone healing. More important is the rapid integration of unreduced but vital fragments into the fracture callus which buttreses the fracture area opposite the plate, reducing the risk for overload and fatigue failure of the implant.

Additional primary bone grafting leads to local vascular disturbance of the bone and is rarely indicated. Indirect reduction

technique and a minimal but optimal use of implant material is the new concept to achieve undisturbed fracture repair in metaphyseal and diaphyseal fractures.

One of absolute indications of biological plate of the tibia is comminuted fracture of metaphyseal or metaphyseo-diaphyseal juriction injuries not involving knee joint **(Brett R., 1995)**.

Some relative indications of biological plating of tibial fractures are:

1. Poly-trauma patient.
2. Pregnant females where excessive X-ray exposure is not desired.
3. Bad skin conditions where excessive dissection is not desired.
4. Critical patients where rapid, simple manouver is desired.

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