

AO Trauma Course—Principles of Operative Fracture Management

The principle of the internal fixator using the locking compression plate (LCP)

Practical exercise

Course participants should use this checklist upon completion of the practical to self-assess the simulation exercise step by step and discuss it with peers and faculty members. Faculty members should provide constructive and concrete feedback to participants.

Short oblique fracture type A—LCP as internal fixator protecting an independent lag screw (providing absolute stability)

Check the instruments needed	<input type="checkbox"/> yes <input type="checkbox"/> no
Identify the correct drill bit sizes	<input type="checkbox"/> yes <input type="checkbox"/> no
Point out the torque limiting screw driver	<input type="checkbox"/> yes <input type="checkbox"/> no
Name the implants needed and their sizes	<input type="checkbox"/> yes <input type="checkbox"/> no
Reduce fracture anatomically and hold it in place	<input type="checkbox"/> yes <input type="checkbox"/> no
Prepare drill hole for a 4.5 mm lag screw	<input type="checkbox"/> yes <input type="checkbox"/> no
Countersinking necessary?	<input type="checkbox"/> yes <input type="checkbox"/> no
Insert a 4.5 mm lag screw and provide inter-fragmentary compression	<input type="checkbox"/> yes <input type="checkbox"/> no
Remove reduction forceps	<input type="checkbox"/> yes <input type="checkbox"/> no
Contour the plate to approximately fit the bone shape (not absolutely anatomically)	<input type="checkbox"/> yes <input type="checkbox"/> no
Position plate and first screw to prevent screw penetration of the joint	<input type="checkbox"/> yes <input type="checkbox"/> no
Insert self-tapping locking head screw with the torque-limiting screw driver	<input type="checkbox"/> yes <input type="checkbox"/> no
Fix plate at the other end of the bone before fully tightening the first screw	<input type="checkbox"/> yes <input type="checkbox"/> no
Click heard and felt at max of 4 Nm with torque-limiting screwdriver?	<input type="checkbox"/> yes <input type="checkbox"/> no
Insert other needed screws in correct sequence and length (first most proximal, second proximal, one additional distally)	<input type="checkbox"/> yes <input type="checkbox"/> no
Plate pressed on bone in fractured area (no interference with periosteum)	<input type="checkbox"/> yes <input type="checkbox"/> no

Complex fracture—LCP as an internal fixator in a bridging function (providing relative stability)

Reduce fracture: consider length, axis, rotation	<input type="checkbox"/> yes <input type="checkbox"/> no
Apply indirect reduction techniques, eg, manual traction	<input type="checkbox"/> yes <input type="checkbox"/> no
Select appropriate plate considering plate length	<input type="checkbox"/> yes <input type="checkbox"/> no
Insert plate under the soft-tissue cover monitoring plate position	<input type="checkbox"/> yes <input type="checkbox"/> no
Fix the plate starting at one end and insert a locking head screw bicortically	<input type="checkbox"/> yes <input type="checkbox"/> no
Check reduction: length, axis, rotation of bone and adjust using drill sleeve, if necessary	<input type="checkbox"/> yes <input type="checkbox"/> no
Use torque-limiting screwdriver to tighten screws	<input type="checkbox"/> yes <input type="checkbox"/> no
Avoid insertion of screws in the comminuted zone	<input type="checkbox"/> yes <input type="checkbox"/> no
Fix plate with at least 2 screws on both main bone fragments	<input type="checkbox"/> yes <input type="checkbox"/> no