

AO Trauma Course - Basic Principles of Fracture Management

Day 1: Thursday, February 24, 2022

Time	Topic	
9:00	9:10	Welcome and introduction
General principles		
9:10	9:20	The AO world—from history to lifelong learning
9:20	9:40	Bone healing and the effect of patient factors and injury mechanism on fracture management
9:40	9:55	The 2018 AO/OTA Fracture and Dislocation Classification Compendium
9:55	10:10	The soft-tissue injury—a high priority consideration
10:10	10:25	Absolute stability: biomechanics, techniques, and fracture healing
10:25	10:40	Relative stability: biomechanics, techniques, and fracture healing
10:40	10:55	The use of plates in fracture fixation
10:55	11:10	Principles of external fixation
11:10	11:20	Summary and Q&A
11:20	11:35	<i>COFFEE BREAK</i>
11:35	12:30	AO Skills Lab (First 5 rounds) A. Torque measurement of bone screws (10) B. Soft-tissue penetration during drilling (10) C. Heat generation during drilling (10) D. Mechanics of bone fractures (10) E. Techniques of reduction I(10)
12:30	13:10	<i>LUNCH BREAK</i>
13:10	14:05	AO Skills Lab (Second rounds) F. Techniques of reduction II (10) G. Mechanics of intramedullary fixation (10) H. Mechanics of plate fixation (10) J. Fracture healing and plate fixation (10) K. Damaged implant removal (10)
14:05	14:15	<i>Location change to practicals</i>
14:15	14:25	How to use drills and benders - before Practical exercise
14:25	15:25	Practical exercise 1: Internal fixation with screws and plates—absolute stability
15:25	16:35	Practical exercise 2: Principle of the internal fixator using the locking compression plate (LCP)
16:35	16:50	<i>COFFEE BREAK</i>
Treatment of diaphyseal fractures		
16:50	17:10	Principles of diaphyseal fracture management—what is important in treating these fractures?
17:10	17:25	Intramedullary nailing—to ream or not to ream?
17:25	17:30	<i>Location change to small group discussions</i>
17:30	18:30	Small group discussion 1: General principles, classification, concepts of stability, their influence on bone healing, and how to apply implants to achieve appropriate stability
18:30		End of day 1

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Day 2: Friday, February 25, 2022

Time	Topic
8:00	9:00 Practical exercise 3: Tibial shaft fractures—intramedullary nailing with the expert tibial nail (ETN) (with reaming)
9:00	9:15 <i>COFFEE BREAK</i>
9:15	10:25 Small group discussion 2: Management principles for the treatment of diaphyseal fractures
10:25	10:35 <i>Location change to lecture room</i>
	Principles and management of articular fractures
10:35	10:55 Principles for articular fractures —how do they differ from diaphyseal fractures?
10:55	11:10 Forearm fractures—understanding the principles of diaphyseal and articular fractures
11:10	11:25 Preoperative planning— rationale and how to do it
11:25	11:35 Summary and Q&A
11:35	11:40 <i>Location change to Practicals</i>
11:40	12:20 Practical exercise 4: Application of a modular large external fixator (tibia modular external fixator)
12:20	13:20 <i>LUNCH BREAK</i>
13:20	14:20 Preoperative planning—“plan your forearm operation” (Templating exercise)
14:20	14:30 <i>Location change to Practicals</i>
14:30	15:30 Practical exercise 5: Operate your plan? Fixation of a 22C1 forearm fracture using the LCP 3.5 (8 and 11 holes)
15:30	15:45 <i>COFFEE BREAK</i>
15:45	16:00 Tension band principle and cerclage wiring
16:00	16:15 Ankle fractures—a systematic approach to their fixation
16:15	16:30 Introduction to tibial plateau fractures
16:30	16:45 Femoral neck fractures
16:45	17:00 Trochanteric fractures
17:00	17:15 Distal femoral fractures—management principles
17:15	17:25 Summary and Q&A
17:25	17:30 <i>BREAK</i>
	Emergency management, minimally invasive surgery, and special fractures
17:30	17:40 Radiation in the operating room—appropriate use and hazards
17:40	17:55 Treatment algorithms for the polytrauma patient
17:55	18:10 Emergency management of pelvic fractures—a critical skill can save lives
18:10	18:25 Fixation principles in osteoporotic bone—the geriatric patient
18:25	18:35 Summary and Q&A
18:35	End of day 2

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Day 3: Saturday, February 26, 2022

Time	Topic
8:00	9:10 Small group discussion 3: Management principles for the treatment of articular fractures
9:10	9:15 <i>Location change to lecture room</i>
	Special issues and problems
9:15	9:30 Management of open fractures
9:30	9:45 Perioperative infection—prevention, evaluation and management
9:45	10:00 Delayed healing—causes and treatment principles
10:00	10:10 Summary and Q&A
10:10	10:25 <i>COFFEE BREAK</i>
10:25	11:00 Practical exercise 6: Tension band wiring of the olecranon
11:00	12:00 Practical exercise 7: Management of a type 44C malleolar fracture
12:00	12:40 <i>LUNCH BREAK</i>
12:40	13:30 Practical exercise 8: Management of a trochanteric fracture (TFNA)
13:30	13:35 <i>Location change to lecture room</i>
	Special issues and problems 2
13:35	13:50 Violation of principles
13:50	14:00 Implant removal—Why, when, and how?
14:00	14:15 Minimally invasive osteosynthesis (MIO)—when to use it?
14:15	14:30 Fractures in the growing skeleton—how are they different?
14:30	14:45 The future of fracture treatment
14:45	15:10 Grand final discussion
15:10	15:15 Closing remarks
15:15	End of the course