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**Lectures, workshops, seminars & discussions
for the course**

**“Basic principles of external skeletal fixation. Temporary fixation with
tubular modular frames and treatment of fractures according to Ilizarov”**

Course Chair:

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Faculty:

Assist. Prof. Elena A. Shchepkina

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Lectures

1. Ilizarov frame, Ilizarov method and modern external fixation
2. Method of unified designation of external fixation
3. Basic biomechanical principles of external fixation
4. Atlas for insertion of wires and pins reference positions
5. Reference lines and angles (RLA). Principles for determining fracture reposition accuracy
6. Preoperative preparation
7. Principles of tubular modular fixator construction for temporary fracture fixation
8. Principles of circular frame construction for definitive fracture fixation
9. External fixation in fractures of the lower leg: temporary and definitive fixation
10. External fixation in femur fractures: temporary and definitive fixation
11. External fixation in distal lower leg fractures: temporary and definitive fixation
12. External fixation in upper arm fractures: temporary and definitive fixation
13. External fixation in forearm fractures: temporary and definitive fixation
14. Unified reduction units (Ilizarov hinges)
15. External fixation in pelvic fractures
16. Postoperative care

Workshops

1. Evaluation of the accuracy of fracture reduction
2. Lower leg shaft fractures: tubular modular fixators construction and applying

3. Lower leg shaft fractures: circular frame construction and applying
4. Femur shaft fractures: tubular modular fixators construction and applying
5. Femur shaft fractures: circular frame construction and applying
6. Proximal tibia fractures: tubular modular fixators construction and applying
7. Proximal tibia fractures: circular frame construction and applying
8. Distal lower leg fractures: tubular modular fixators construction and applying
9. Distal lower leg fractures: circular frame construction and applying
10. Fractures of the calcaneus: tubular modular fixators construction and applying
11. Fractures of the calcaneus: circular frame construction and applying
12. Upper arm fractures: tubular modular fixators construction and applying
13. Forearm fractures: tubular modular fixators construction and applying
14. Distal forearm fractures: circular frame construction and applying
15. Transition from temporary tubular fixation to definitive fixation by a circular apparatus
16. Transition from temporary tubular fixation to definitive nail fixation
17. Acute translation using Ilizarov hinges
18. Acute rotation using Ilizarov hinges
19. Acute angular deformity correction using “virtual” hinge
20. Creation of artificial deformity (acute shortening, angulation, rotation) to close soft tissue defects
21. Pelvic fractures: tubular modular fixators construction and applying
22. Clavicle combined strained fixation

Seminars & Discussions

1. Internal contradictions of external fixation
2. Complications and solutions