



PÉCSI TUDOMÁNYEGYETEM

ÁLTALÁNOS ORVOSTUDOMÁNYI KAR

Sports rehabilitation (Upper limb)

Kollárné Kiss Gabriella

Physiotherapist

University of Pécs, Faculty of Medicine

Sport Medicine Department

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Joint-specific aspects

➤ Upper limbs

Shoulder joint, upper limb

- Shoulder-to-shoulder complex: functional unit
- Significance of scapular movements
- Priority to regain full range of motion
- Role of cervical and dorsal spine
- Priority role of soft tissues in static and dynamic stabilization
- Proportional development of rotator cuff (ROK) and scapular muscles!
- Sequence of engagement of adjacent joints





Relaxation exercises, guided active movements:

- Pendulum exercises
- Exercises with spherical stick
- Liotard method (counter hand assisted movement)
- "snail" exercise

STRETCHING EXERCISES



Strengthening exercises:

- Isolated- complex reinforcement
- Self-weight exercises - starting position (push-up, TRX)
- Various equipment: dumbbells, theraband, gymstick, flexar, kettlebell, etc.
- Rubber ball, medicine ball standing on stable and unstable surfaces, etc.



Proprioception development:

- Scapular movements, scapulohumeral rhythm
- Movement correction
- Resistance modification - rubber band, TRX, flexible, etc.
- Key to treating instability

Plyometry:

- Rapid Movements
- Propping exercises
- Sport-specific exercises

Elbow

- Prevention of contracture (arthrofibrosis, adhesive capsulitis)
- Pain relief!
- Passive pushing is prohibited
- Role of manual therapy (pain relief, ROM increase)
- Gradual, individually adapted muscle strengthening
- Throwing athletes: role of shoulder stabilization and shoulder movements!
- Requires patient rehabilitation



Wrist, hand

- The role of movement + perception! (importance of tactile stimuli)
- Reduction of paracoordination (elbow, shoulder)
- Passive mobilization of metacarpus
- Develop fine movements, manipulation





Protocols for rehabilitation

Impingement syndrome

- Scapula control - proprioception development
- Muscle strengthening - stabilisation (shoulder, shoulder girdle, trunk)
- Movement correction (trainer, physiotherapist)

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For posterosuperior impingement (throwing atlases)

- Increasing berotation (stretching, stretching the posterior capsule)



Subacromial decompression

- **Fixation** - 5-10 days depending on pain (but: removable for physiotherapy!)
- **Movement:**
 - wrist, hand, elbow full ROM
 - shoulder: pendulum exercise, Liotard stretch
 - abduction sometimes only 0-90 degrees for the first 4 weeks
 - By week 6 full ROM
- **Muscle strengthening:**
 - Scapular stabilization exercises, periscapular muscle strengthening
 - Strengthening of core muscles
 - ROK strengthening
- **Proprioception development:**
 - Gradation, movement correction!



Arthroscopic Bankart surgery



- **Fixation** – 6 weeks
- **Movement:**
 - 0-3rd week: abd. 0-45°, elevation 0-90°, ext.rot. 0°, not allowed behind the back
 - 3-6th week: abd. 0-90°, elevation 0-90°, ext.rot. 0°, not allowed behind the back
 - 6-12th week: no anchorage, but ext.rot. max. 90°, behind the back NO then gradual ROM increase in all directions
- **Muscle strengthening:**
 - 0-6th week: strengthening periscapular muscles and core muscles, ROK isometric exercises
 - 6-12th week: ROK progressively harder to strengthen
 - From week 12, sport-specific strengthening
- **Proprioception development – after 3 months:**
 - Gradation, movement correction!

Anterior shoulder dislocation

- **Movement:**
 - 0-3rd week: pendulum exercises
 - 3-6th week: guided active movement, abduction and external rotation should not be done
 - 6-12th week: active movements, , abduction and external rotation should not be done
 - Full ROM from week 12
- **Muscle strengthening:**
 - 0-3rd week: isometric exercises, shoulder stabilisation exercises, core muscle strengthening
 - 3-6th week: Gradual strengthening of ROK in limited ROM, isolated muscle strengthening exercises
 - 6-12th week: ROK strengthening in full ROM, trapezius strengthening, push up
 - from week 12: strengthening in the end positions of the movement path
- **Proprioception development – more difficult exercises: after 3 months**





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**Thank you for your
attention!**

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