PÉCSI TUDOMÁNYEGYETEM
ÁLTALÁNOS ORVOSTUDOMÁNYI KAR

Sportphysiotherapy

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"Have you ever experienced a sports-related injury? How did you recover?"

Sports physiotherapists: (sports physios) play a crucial role in athletics and physical fitness. They are healthcare professionals specializing in preventing, diagnosing, treating, and rehabilitating **sports-related injuries**.

They help: recover from injuries
enhance performance
prevent future issues

Where do sports physios work?

Sports Teams and Clubs: on-site care during training sessions, games, and competitions. They are a vital part of the team's medical staff.
Private Clinics: they treat a variety of patients, including athletes and non-athletes
Hospitals and Rehabilitation Centres: orthopedic or physical therapy departments, helping patients recover from surgeries or severe injuries.
Fitness Centres and Gyms: offering guidance on injury prevention and helping clients achieve their fitness goals safely.

https://www.youtube.com/shorts/E7tnrS8onQc

https://www.youtube.com/watch?v=4N0KCsVQcME

Key Responsibilities

Injury Prevention: design and implement programs to help athletes avoid injuries (educating athletes on proper techniques, warm-up routines, and exercises that enhance strength and flexibility)
Injury Assessment and Diagnosis: They use their knowledge of anatomy and biomechanics to identify the problem accurately.
Rehabilitation: Developing and overseeing rehabilitation programs is a core function. Sports physios guide athletes through tailored exercises and treatments to promote healing and restore function.
Performance Enhancement: Beyond injury care, sports physios help athletes improve their overall performance (optimizing movement patterns, improving strength and conditioning, and providing advice on nutrition and recovery strategies).
Emergency Care: During sporting events, sports physios are often the first responders to injuries, providing immediate care.

Summary

They help athletes:

- recover quickly and safely
- minimizing downtime
- swift return to sport
- reduce the risk of re-injury
- long-term athlete health

Testing methods

Motor functions

1. ROM testing (goniometer)
2. Muscle strength (0-5 system, instrumented test, 1RM-MVC)
3. Muscle tests (extensibility)
4. Stability testing (FMS, Y balance, Triple Hop, Davies test)

Physical examination

1. Medical history, visual inspection, palpation
2. Special tests

Medical History

„Twenty Questions” game

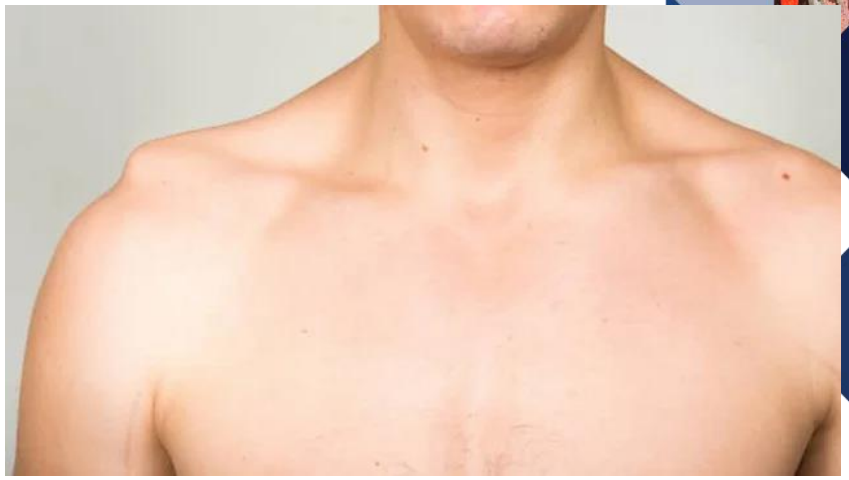
1. **Chief Complaint** (CC):
“What brings you here today?”“Can you describe your symptoms?”“When did it start?”“Has it gotten better or worse?”
2. **History of Present Illness** (HPI):“How did the problem begin?” (gradually, suddenly, after an injury, etc.)“What makes it better or worse?”“Describe your pain.”“Have you had this problem before?”“Have you tried any treatments?”
3. **Past Medical History** (PMH):“Do you have any chronic illnesses (e.g., diabetes, hypertension)?”“Have you ever had any major injuries, surgeries, or hospitalizations?”“Are you currently under medical treatment for any condition?”
4. **Medication History**“Are you taking any medications or supplements?”“What is the dosage and frequency?”
5. **Family History** (FH):“Has anyone in your family had similar symptoms?”
6. **Social History** (SH):“Do you smoke, drink alcohol, or use recreational drugs?”“Do you exercise regularly?”“What is your diet like?”
7. **Review of Systems** (ROS) (Checking for symptoms in different body systems)“Have you experienced fever, fatigue, or unexplained weight loss?”“Any issues with breathing, digestion, or sleep?”“Do you have any joint pain, swelling, or muscle weakness?”

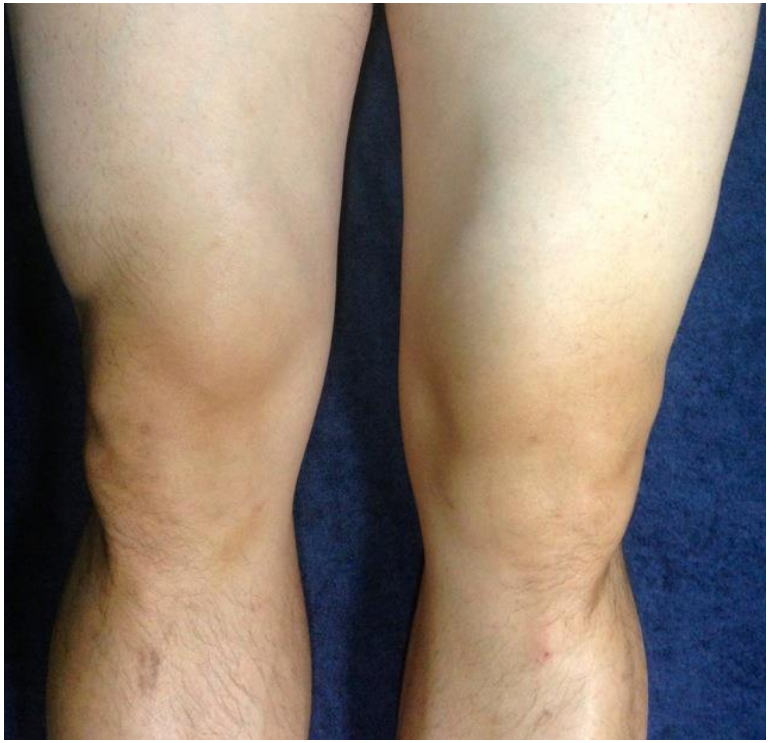
Inspection

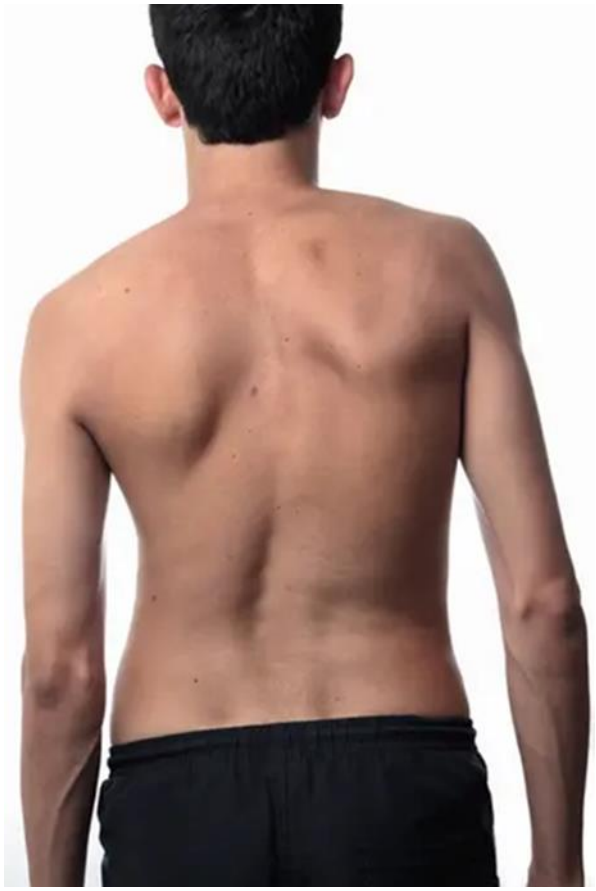
In rest

- Unloaded, loaded

During movement







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Functional Movement Screen (2006)

Deep Squat

Hurdle Step

In Line Lunge

Shoulder Mobility

Active Straight Leg Raise

Trunk Stability Push Up

Rotary Stability

Score	Criteria
0	Pain, regardless of performance
1	Unable to perform
2	Performed with compensation
3	Performed as directed

Testing methods

Strength, and endurance tests:

1. Endurance track tests (Cooper, pendulum, Yo-Yo)
2. Endurance lab test-spiroergometry
3. Acceleration sprint runs
4. Agility track tests (Illinois, Bochum)
5. Dynamic strength track test (high from place, high from place distance)
6. Instrumental force measurement in biomechanical laboratory https://www.youtube.com/watch?v=1qxCNoPGiew

https://www.youtube.com/watch?v=8K0Dxa1H26Y

https://www.youtube.com/watch?v=prOn_OcCMBQ

Phases of Sports Rehabilitation

1. **Acute Phase (Inflammation Control)**
   - Focus: Pain and swelling reduction.
   - Methods: Rest, Ice, Compression, Elevation (**RICE**), and gentle mobility exercises.
2. **Early Rehabilitation (Restoring Mobility & Basic Strength)**
   - Focus: Regaining joint mobility and muscle activation.
   - Methods: Passive & active range-of-motion exercises, isometric strengthening, and light stretching.
3. **Intermediate Rehabilitation (Strength & Stability)**
   - Focus: Improving muscle strength, coordination, and balance.
   - Methods: Resistance training, proprioception exercises (e.g., balance boards), controlled functional movements.
4. **Advanced Rehabilitation (Sport-Specific Training)**
   - Focus: Restoring power, endurance, and agility.
   - Methods: Plyometrics, high-intensity resistance training, sport-specific drills.

Techniques & Tools Used in Sports Physiotherapy

- **Manual Therapy** – Hands-on techniques like joint mobilization, soft tissue massage, and myofascial release to reduce pain and improve mobility.
- **Therapeutic Exercises** – Strength, flexibility, and balance exercises to restore function and prevent re-injury.
- **Electrotherapy** – Modalities like **TENS (Transcutaneous Electrical Nerve Stimulation)** and **ultrasound therapy** to reduce pain and promote healing, as well as **shock-wave therapy**.
- **Cryotherapy & Heat Therapy** – Ice packs and heat applications to manage inflammation and improve circulation.
- **Kinesiology Taping** – Supports muscles and joints, reduces pain, and enhances movement efficiency.
- **Proprioceptive & Balance Training** – BOSU balls, balance boards, and stability exercises to improve coordination and injury prevention.
- **Foam Rolling & Self-Myofascial Release** – Helps with muscle recovery and flexibility.
- **Sport-Specific Drills** – Functional movement training to ensure a safe return to play.

Returning to sport

Precondition:

1. No pressure sensitivity in the affected area

2. Overall function (ROM, muscle strength)

3. Pain relief during both concentric and eccentric muscular activity

Task: Tailor a rehab protocol after an ankle sprain

https://www.youtube.com/watch?v=yohLKy5Ij5k&t=17s

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Thank you for your attention!

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