

# **Course 1**

## **Introduction to Sports Medicine**

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## Learning objectives of the course

- Upon completion of this course, the student will be able to:
- Define sports medicine and its three fields of action (curative, preventive, performance).
- Distinguish the role of the coach / physical trainer from that of the sports physician.
- Identify the members of the interdisciplinary team and their interactions.
- Situate sports medicine in the modern preparation of the athlete.

## Introduction: why a sports medicine course for non-physicians?

Coaches, physical trainers, sports educators or performance consultants are often the first witnesses of athletes' health problems: unusual fatigue, pain, malaise, drop in performance.

Sports medicine is not meant to train you to diagnose or prescribe treatments. It provides the tools to:

- Recognise warning signs that require medical advice.
- Adapt training to prevent injuries and overtraining.
- Work effectively with the medical staff (physicians, physiotherapists, nutritionists).
- Contribute to sustainable performance without compromising health.

## 1. Definition and objectives of sports medicine

### Official definition

Sports medicine is a cross-disciplinary medical field concerned with all the relationships between physical activity, sport and health. It covers:

- Prevention of sport-related pathologies.
- Diagnosis and treatment of injuries and illnesses of athletes.
- Support for performance in a safe environment.
- Promotion of physical activity for all.

### Three fundamental objectives

Objective	Description	Example
Curative	Treat an existing injury or illness	Treatment of patellar tendinopathy
Preventive	Avoid the occurrence of a pathology	Eccentric hamstring strengthening
Performance	Optimise abilities without risk	Training load planning

The coach will be mainly involved in prevention and sustainable performance. Curative care remains the responsibility of the physician.

## 2. Role of the sports professional (coach, physical trainer)

The coach's role is not medical but educational, preventive and organisational.

### What you should do:

- Know the athlete's declared health status (annual medical questionnaire, history).
- Observe daily: sleep, mood, appetite, unusual muscle soreness.
- Adjust the session based on signs of fatigue or pain.
- Alert and refer to the physician as soon as a warning sign appears.
- Apply medical instructions (rest, re-athletisation).

### What you should not do:

- Make a medical diagnosis.
- Prescribe medication or dangerous supplements.
- Force an athlete to return to sport after an injury without medical advice.
- Hide an injury for competition reasons.

## 3. Differences between curative, preventive and performance medicine

Understanding these three approaches is essential to better collaborate with physicians.

	Curative	Preventive	Performance
<b>When?</b>	After the appearance of an injury/illness	Before it occurs	Continuously, in the healthy athlete
<b>Who acts?</b>	Physician, physiotherapist	Coach, physician, trainer	Coach, sports physician, nutritionist
<b>Example</b>	Treatment of a stress fracture	Strengthening weak muscles	Adjustment of hydration and load
<b>Your role</b>	Apply care instructions	Implement preventive exercises	Optimise without creating risk

### Example:

**Curative:** An athlete has a muscle tear. The physician prescribes anti-inflammatories and the physiotherapist performs massages. The coach adapts the load.

**Preventive:** Before the season, the coach incorporates proprioception and eccentric exercises to avoid injuries.

**Performance:** The sports physician performs a biological assessment (iron, vitamin D) and advises supplementation if a deficiency is present.

#### 4. Interdisciplinary work: the team around the athlete

No single professional can cover all the needs of an athlete alone. Modern sports medicine is based on a team approach.

Role	Main responsibility
<b>Sports physician</b>	Medical assessment, diagnosis, test prescription, pathology follow-up, fitness clearance
<b>Physiotherapist</b>	Rehabilitation, secondary prevention, massages, manual therapy
<b>Coach / physical trainer</b>	Training planning, load management, daily observation, primary prevention
<b>Nutritionist</b>	Dietary balance, hydration, weight management, RED-S prevention
<b>Sports psychologist</b>	Stress management, burnout prevention, return after injury
<b>Podiatrist / osteopath (as needed)</b>	Biomechanics, orthotic corrections

#### How does communication work?

Regular team meetings (weekly or monthly).

Information sharing via shared tools (logbook, app).

The coach is often the conductor: centralises information and adapts the field.

**Concrete example:** A runner presents with knee pain. The physician suspects tendinopathy. The physiotherapist massages and gives exercises. The podiatrist adjusts the insoles. The coach reduces volume and changes surfaces. The nutritionist checks collagen and vitamin C intake. The psychologist helps manage frustration. All communicate via a secure group.

#### 5. Place of sports medicine in modern preparation

##### Brief history

**1960s-1980s:** sports medicine mainly intervenes after injury (curative approach).

**1990s-2000s:** first prevention programmes (specific warm-ups, strengthening).

**2010s-2025:** integrated approach – health becomes a factor of sustainable performance. Training and prevention can no longer be separated.

## **Why this evolution?**

- Athletes train more intensely → more injuries.
- Media and financial pressure is immense → an injured athlete is costly.
- Scientific evidence shows that good prevention improves sporting longevity.
- Current place in preparation
- On the same level as technique, tactics or physiology.
- Integrated from the annual planning stage (recovery periods, medical check-ups).
- Monitored via internal load tools (RPE, HRV, sleep).

## **Key points to remember**

- Sports medicine has three objectives: curative, preventive, performance.
- The coach is not a physician but a key player in prevention.
- Interdisciplinary work (physician, physio, nutritionist, psychologist) is essential.
- Sports medicine is now integrated into modern preparation for sustainable performance.
- In case of a warning sign (chest pain, syncope, unusual fatigue): stop, alert, refer to a doctor.