




# PRIMARY CARE OF THE ATHLETE

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## Objective

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The student will be able to:

- Identify the causes of athletic injuries
- Assess the patient with recurrent injury
- Evaluate acute injuries
- Describe preventive measures

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## PREPARTICIPATION SPORTS EXAMINATION

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- Objective: to reduce specific risks of athletic competition
- *History*
  - screen for serious medical conditions  
→ sudden death (cardiomyopathy or heat stroke)
  - identify athlete at risk for common problems → exercise induce asthma

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## PREPARTICIPATION SPORTS EXAMINATION ...

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- *Physical Examination*
  - 3 most common abnormal findings:
    1. elevated blood pressures
    2. Heart murmurs
    3. Orthopedic problems (abnormal knee examinations)
- *Recommendation and follow up*
  - clearance for all sports, reexamination, rehabilitation, therapy, disqualification

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## IDENTIFYING THE CAUSES OF ATHLETIC INJURIES

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- Different sports pose variable injury risk
- Macrotrauma injuries
  - a sudden disruption of anatomical structures (shoulder dislocation)
  - urgent assessment and treatment
- Microtrauma injuries
  - nonurgent and allow time for careful assessment

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## Predisposing factors

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- Determining whether anatomical factors or specific characteristics of a given sport lead to injury
  - "Little league elbow"
  - weak anatomical area (ankle sprain)
- *Determining the mechanism of injury*  
an understanding of biomechanics will often explain the occurrence of specific injury

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## ASSESSING THE PATIENT WITH RECURRENT INJURY

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- A thorough training history
- Recovery from injury
- External and environmental factors
- Psychological assessment
- Diet history
- Other risk factors

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## A thorough training history

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- Compulsive over worker
- Experienced coaches → 50:20:4 rule
  - 50% of athletes who increase their training by 20% or more per week (recommended 10% or less) will be injured within 4 weeks
  - Increased risk of strains, sprains, and occasionally more serious injury

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## Recovery from injury

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- Critical part of the history
- The most common of injury is reinjury
- Exercise addiction
  - unwillingness to stop training
  - athletes 'compete' against their injury
  - more serious injury

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## External and environmental factors

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- Specific running or work-out surfaces and field conditions may all contribute to a specific injury
- Humidity → fatigue more quickly
- Muscle warm up legs on cold days, and strain type injuries occur more readily

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## Psychological assessment

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- Pressures from coach, parents, or athletes themselves
- Many changes in adolescence and self-esteem suffers when performance declines
- Self-recrimination → depression

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## Others factors

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- Diet history
  - seeking to remain thin, eat fewer calorie than they need
  - self-plan vegetarian meals
  - needs nutritionist
- High risk health behavior (alcohol use, unprotected sexual intercourse, smoke cigarettes, etc)

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## EVALUATING ACUTE INJURY

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- ***Focused clinical examination***

→ anatomical diagnosis is essential

Inspection: identify swelling (traumatic or overuse injuries)

Palpation: tenderness, changes in structures, crepitating during joint movement

Special skills: assessing normal joint motion, estimating strength and flexibility. → functional testing

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## Treatment

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- 4 basic principles of first aid comprise for immediate care for acute injuries: ice, compression, elevation, and splinting (ICES)

→ Variation depends on the type of injury and the clinical response

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- Application of ice → prevents swelling and inflammation
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- heat plays little role in acute trauma, but it becomes more important during rehabilitation
- Compression → w/ elastic wraps or air splints
  - Elevation → reduces swelling by eliminating the effect of gravity on tissue oncotic pressure in an injured extremity
  - Splinting → protection for the injured area

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## **PREVENTIVE MEASURES**

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- Safe training including adequate stretching, warm-up and warm-down periods, and gradual increases in training intensity and volume
- Training schedules that rotate hard and easy days emphasize different muscle groups on alternate days → decrease injury incidence

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## CONCLUSION

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- The key to success in sports medicine is the continuity that comes serving as a team physician
- The physician can identify the high risk athletes, begin preventive interventions, and more effective care for injured athletes

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## CONCLUSION...

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- Getting to know the athlete allows the doctor to weight relative contributions of psychological, physical and training components to a given injury

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