

Sports Injuries:

**Analysis, Prevention and
Management**

The Analysis

Causes of Injuries:

1. Faulty training techniques
2. Biomechanical factors
3. Structural abnormalities

Causes of Injuries

1. Faulty Training Techniques

- **Training errors:**
 - **Inadequate warm-up**
 - **Inadequate flexibility exercises**
 - **Poor training methods**
 - **Over-training Syndrome**
 - **Other related factors and situations**

A. Warm-up period

- Designed to prepare the body for ensuing activity
- Two(2) Functions:
 - a. To prevent Injury
 - b. To enhance performance

Blood flow studies:

At rest: 15- 20% blood flow to the muscles

After 10-20 minutes of all-around exercise: 70-75% blood flow

B. Inadequate Flexibility

- flexibility is the key for longevity in activities
- Bob Bauman: “ Stretching is the most important injury preventive in sports today.”
 - * A tight muscle is more susceptible to injuries

C. Poor Training Methods

➤ Training errors include:

- a. Increasing workload and/or Intensity too soon
- b. Intensive work-out with interval training
- c. Adding a new training method

D. Overtraining Syndrome

➤ Three stages:

- a. Dull Pain within a joint, along a muscle/ ligament or tendon during a hard work-out or training
- b. If training is continued, pain is felt during and after the workout
- c. Failure to heed the symptoms often lead to pain even at rest

D. Overtraining Syndrome(cont'n)

➤ Signs of overtraining:

- a. Body warning signs
 - i. Headache
 - ii. Loss of appetite
 - iii. Unexplained drop in athletic performance
 - iv. Fatigue and sluggishness
 - v. Loss of weight
 - vi. Swelling of lymph nodes
 - vii. Bowel problems and affected menstruation

D. Overtraining Syndrome(cont'n)

➤ Signs of overtraining(cont'n):

b. Emotional Symptoms

- i. Loss of interest in training
- ii. Nervousness
- iii. Depression
- iv. “I don’t care” attitude
- v. Inability to relax
- vi. Drop in academic or work performance

“OVERUSE INJURY”

It is an injury from “doing too much”.

It causes tissue breakdown that athletes complain of pain that seems to worsen over time.

* Most overuse injuries are preventable with good pre-season conditioning and proper biomechanics

Common Overuse Injuries:

1. Tendinitis

Early signs:

- pain in the tendon
- pain worsens with activity
- pain worsens after sports activity

To Prevent:

- start a muscle strengthening program before the season starts
- stretch and do a good warm-up and cool-down

Common Overuse Injuries:

2. Stress Fractures

Signs:

- pain is in one specific part of the body (usually in the feet, legs or hips)
- pain worsens with activity and worsens overtime
- Point tenderness (specific site on the bone)

To Prevent:

- see a physician when pain develops instead of waiting until the athlete is limping or unable to play
- check his biomechanics, activity and bone density
- ensure proper diet (and for females: monitor their menstrual cycle)

UPPER BODY INJURIES

I. ELBOW INJURIES

- elbow injuries are common in sports that involve throwing

e.g.

“Little League Elbow”

signs: worsens with throwing

persists for more than two weeks

elbow is skeletally immature

swelling

UPPER BODY INJURIES

II. SHOULDER INJURIES

- injuries are common in sports that involve overhead motion

e.g.

“Rotator Cuff tendinitis”

signs: worsens with activity especially doing overhead movements

Treatment: relative rest and
aggressive strengthening

UPPER BODY INJURIES

I. SHOULDER INJURIES

e.g.

“Shoulder instability”

signs: *slipping sensation along the shoulder

*pain is sometimes associated with tingling in the hands and fingers

LOWER BODY INJURIES

I. ANKLE INJURIES

e.g.

“Ankle sprains”

key:

- recognize the mechanism
(inversion/eversion)

KNEE INJURIES	ACL RUPTURE	MCL	PATELLAR CONTUSION	MENISCUS TEAR	PATELLO-FEMORAL PAIN
Mechanism of Injury	Twisting, noncontact injury	Struck on the outside of the knee	Fall directly onto kneecap	Twisting, non-contact injury	No specific mechanism for injury, pain when bending
Swelling?	Yes, usually within 1 hour of injury	Rarely	rarely	usually	Almost never
“Pop”?	Almost always	Sometimes (Gr II or III)	never	usually	Never
Able to run after injury?	Knee feels “loose”, problem with side-to-side running	Rarely	Depends on the severity		Yes (children can run around with this)
Will it require surgery?	yes	Almost never	never	Usually, but small tears heal naturally	never

Stages of Healing and Rehabilitation

Stage 1: Inflammatory Process

a. first 7 days after the injury(Restorative)

- this period is a productive phase of healing process and should not be unduly interrupted

b. 7-21 days after injury(Proliferative)

- marked by proliferation of collagen fibers

-elastin fibers (most prominent component of ligaments) will proliferate depending on the stress applied to the injured structure

Stages of Rehabilitation	Stage I/II	Control of Signs and Symptoms Rest	3- 5/7 days
	Stage III	Prevention of Complications: Muscle Atrophy Joint Stiffness and soft Tissue Contractures Control of Signs and symptoms	3 days to 21 days (note: Significant muscle strength is noted after three weeks of active regular exercises while stretching/ lengthening of soft tissues at 7 days)
	Stage IV	Conditioning: *Muscle Strengthening *Increase Joint Mobility *Increase Flexibility *Coordination Training *Proprioception Training	3 weeks(21 days) to 3 months
	Stage V	Prevention Occurrences *Maintain muscle characteristics *Maintain Joint characteristics *Maintain Functional abilities by Increasing Muscle and general Body endurance	Stage Period Continues after 3 months

CONSERVATIVE MANAGEMENT

R – Rest/ Relative Inactivity

I – Ice

C – Compression

E – Elevation

S – Splint / Support

P – Protection

A – Anti-inflammatory medication

M – Modalities

WHAT MATTERS MOST
IS HOW YOU SEE YOURSELF.



***7 For as he
thinks in
his heart,
so is he.***

Proverbs 23 : 7



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