Injuries to the Musculoskeletal System
Background

• Australia is experiencing increasing incidence of Lifestyle Diseases.
• Lifestyle Diseases are those which stem from an inactive lifestyle.

• Type 2 diabetes
• Atherosclerosis
• Heart disease
• Stroke
• Osteoporosis
Sports Injury Incidence

• Sports injury is a major component of annual accidental injury data

• Across the population, sports injuries are second only to Road Accident Trauma

• 15 years or younger alone, Sports Injuries represent 4 times the Financial Health car burden than Road Accident Trauma in the same age group.
Immediate and Long Term Injury ‘costs’

- Healthcare costs for treatment
- Health system Insurance costs
- Productivity loss (school, work, home)
- Performance loss in Sport

- Physical Impairment
- Psychological/Emotional impact
- Rehabilitation and prevention
- Specialist equipment
Acute Injuries

• Occur suddenly with little or no notice

• Classified as:
  • Direct
  • Indirect
Direct Injuries

- Result from direct contact or collision with:
  - Another player
  - Sporting equipment
  - Playing or Training surface

- Direct injured can result in:
  - Minor damage such as a haematoma (bruising)
  - Serious damage such as a bone break
Indirect Injuries

• Caused by sudden change in:
  • Direction
  • Intensity

• Force required is greater than the load the muscle, tendon or ligament can sustain.
• Muscles/Tendons = Strain
• Ligaments = Sprain
• Ligaments are damaged when the movement is beyond the physiological range of motion for the joint.
Sprains

• Grade 1
  • Mild damage to ligament
  • Stretched ligament fibres

• Grade 2
  • Minor or partial tear to the ligament

• Grade 3
  • Complete rupture or tear of the ligament.
  • Associated nerve damage
  • Associated ligaments may exhibit Gr 1 & Gr 2 damage

Lateral ankle sprain

[Diagram of Lateral ankle sprain showing different grades of sprain]
Strains

• Grade 1
  • Damage to 5% of muscle fibres.
  • Diagnosed by ultrasound

• Grade 2
  • More damage than Gr1
  • Muscle not completely ruptured

• Grade 3
  • Complete rupture of the muscle or tendon.
Chronic Injuries

• Associated with overuse of a body part over time

• Overuse injuries (Tendinopathy, shin splints, stress fractures etc)
  • Stem from continual performance of the same type of movement
  • Repetitive activity
  • Insufficient recovery
  • Excess over load (increase in training)
  • Inadequate footwear
  • Inadequate training surface
Activities

• Complete Chapter Check up from P 55 of Text

• Complete the following questions from your workbook
  • Chapter 3 P 14 – 19
    • 1, 5 -11, 15, 21