

Basic Athletic Training

Course Pack A

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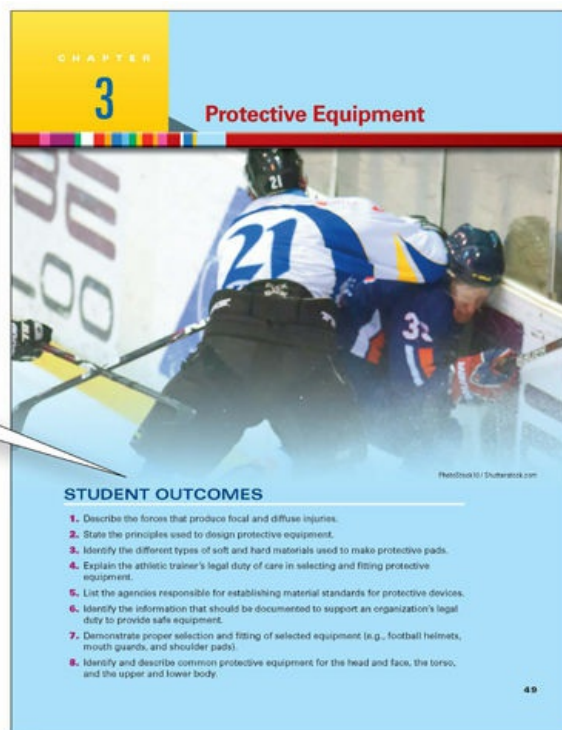
User's Guide

CHAPTER OPENING ELEMENTS

Each chapter begins with the following elements, which will help you get off to the right start.

Outcomes

These are the learning objectives that you need to meet after reading the chapter content. (Here's a tip: Read them again after finishing the chapter as a self-test.)



SPECIAL FEATURES

The new and unique aspects of this edition are shown and explained here so that you can make the most out of them.

CHAPTER 20 • Head and Neck Injuries 307

APPLICATION STRATEGY 20.1

Cranial Injury Evaluation

Determine the initial level of consciousness.

1. If unconscious or altered level of consciousness and/or complaining of neck pain or findings consistent with cervical spine injury:
 - a. Stabilize head and neck.
 - b. Check ABCs.
 - c. Perform eye exam.
 - d. Activate the emergency plan, including summoning EMS if necessary.
 - e. Take and monitor vital signs (i.e., pulse, respiration, and blood pressure).
 - f. Recheck airway.
2. If conscious with no complaints of neck pain or findings consistent with cervical spine injury:
 - a. Take history and assess mental status.
 - Orientation (i.e., time, place, person, and situation) mechanism of injury.
 - Concentration (e.g., count right backward or recall the details of the eye or vision exam).
 - Memory (e.g., names of recent emergency contacts, one of three events and three objects, recent memory recall, or details of the accident).
 - Symptoms (e.g., headache, nausea, or tinnitus, pain).
 - Orientation and response.
 - Language (if EMT).
 - Signs of trauma (e.g., deformity, tenderness, or discoloration around the eyes and behind the neck).
 - Loss of emotional control (e.g., irritability, aggressiveness, or uncharacteristic crying).
 - b. Perform history and soft tissue structures for joint tenderness, crepitus, deformities, swelling, blood, or changes in skin temperature.

Application Strategies

Here is where you get hands on. These boxes will tell and show you in a step-by-step manner how to perform skills, conduct assessments, and teach injury prevention exercises.

Have learners remain the potential that the patient may have sustained a brain injury that requires immediate attention and the patient suspected for signs of skull and brain trauma. A complete neuro assessment and assessment of mental status should be conducted followed by administering the GCS.

EMS Alerts

Sometimes injuries and medical conditions can become life threatening, so situations in which the athletic trainer should immediately call for an emergency medical services (EMS) response and transport are highlighted and explained.

FOUNDATIONS OF ATHLETIC TRAINING

Nearly 50% of all fractures involve the middle third of the shaft of the femur. Whether open or closed, the fracture is associated with significant pain, swelling, deformity, and instability. The most common cause of an isolated open fracture of the femur is a direct blow to the middle third of the shaft of the femur. Fractures of the femur are classified as open or closed. Open fractures are characterized by a break in the skin of the femur. Closed fractures are characterized by a break in the bone without a break in the skin. The femur is the longest bone in the body and is the most common bone to fracture. The femur is the most common bone to fracture because it is the longest bone in the body and is the most common bone to fracture.

Signs and Symptoms

In a simple closed or compound fracture, a crack is heard, and the individual is unable to bear weight on the injured leg. Swelling, deformity, gross bone motion at the fracture site, and severe pain are also present. In a compound fracture, the bone is exposed through the skin. The individual is unable to bear weight on the injured leg. Swelling, deformity, gross bone motion at the fracture site, and severe pain are also present. In a compound fracture, the bone is exposed through the skin. The individual is unable to bear weight on the injured leg. Swelling, deformity, gross bone motion at the fracture site, and severe pain are also present.

Management

Management of lower leg, ankle, and foot fractures involves immobilizing the limb and seeking to restore the injured area. If a fracture is suspected, the individual should perform pain management, compression, and elevation to limit and movement of the limb. Depending on the site, the techniques listed in Application Strategy 14.2 may be helpful. The clinician also should assess the neurovascular integrity of the limb before and after immobilization by taking a distal pulse at the posterior tibial artery and/or dorsalis pedis artery or by checking the neurovascular status. The clinician should note the distal pulse of the foot and toes and should have the toes flex and extend. Swelling can be managed by using the principle of the RICE rule (rest, ice, compression, and elevation) and by using the individual if the limb was not. The action is that required using the RICE rule.

Nondeformed isolated fractures are treated conservatively, with cast immobilization for 4 to 6 weeks, followed by a functional brace. The fracture is completely healed. Fractured bones involving joint mobility require surgical intervention with open reduction and internal fixation. Healing after surgery usually takes 6 to 8 weeks or longer, followed by extensive rehabilitation. Internal fixation with plates and screws often is necessary to stabilize distal fractures. However, some individuals may experience a high rate of infection as a complication of internal fixation.

In addition to lower leg, ankle, and foot fractures, the following conditions may lead to foot pain or injury: athlete's foot, bunions, flat feet, gout, ingrown toenails, interdigital corns, metatarsalgia, neuroma, plantar fasciitis, stress fractures, tarsal tunnel syndrome, and various foot deformities.

REHABILITATION

The most common reason for plantar fasciitis. What assessment about how to include in the rehabilitation program?

Critical Thinking Questions and Answers

This tried-and-true feature gives you a realistic scenario and then poses a question, which is answered at the end of the section. Use these to practice your critical thinking, problem-solving, and decision-making skills—they'll serve you well in the future.

CHAPTER 19 • Assessment of Body Alignment Posture and Gait 289

Body weight, impact forces transmitted upward through the skeleton from the feet, and muscle tone contribute to this compressive load. Walking or running increases the force on the leg. The use of a gait cycle as a unit on the side supports an internal lower limb system to move easily. Distribute the load between the legs throughout the gait cycle. It is better to use an anterior stance than to use a stance or to use the same side as the lower extremity injury because this actually increases joint force on the injured side.¹⁸

The leg and lower extremity in part of a kinetic chain that transfers forces from the ground to the body. Each joint within the chain is a link that must function effectively and efficiently to produce an efficient and pain-free gait. If a particular joint is dysfunctional, the entire chain is affected. If the patient has normal range and joint function of each link in the kinetic chain that are responsible for walking and running, if dysfunction is found, the location and type of dysfunction will vary the distance in determining if it is related to or even the cause of the patient's leg pain.

GAIT ASSESSMENT

The therapeutic trainer patient presents with a history of intermittent and growing pain to her right leg but could not identify an acute mechanism of injury. The patient begins walking running in her exercise program about a year ago and has had no right leg pain remaining to do with her pain. How will the athletic trainer determine what is a normal gait for this patient and, if the gait is altered, what factors could contribute to her walking gait?

The gait cycle, the 100% begins with a period of single-leg support in which body weight is supported by one leg while the other leg swings forward. The swing phase ends with the foot leaving the ground and the foot is in the air. The body weight transfers from the support leg to the swing leg, the swing leg undergoes a loading response and becomes the new support leg. A new period of single support then begins as the swing leg leaves ground contact. The time during which body weight is balanced over the support leg is referred to as midstance. As the body's center of gravity shifts forward, the forward stance phase of the support leg concludes with the forward swing phase of the opposite leg.

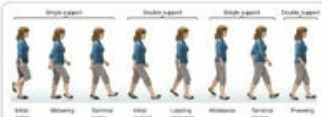


Figure 19.9: Gait The gait cycle consists of alternating periods of single-leg support and double-leg support.

ADDITIONAL LEARNING AND TEACHING RESOURCES

This textbook features a power companion Web site:
<http://thePoint.lww.com/AndersonFound6e>



Student Resource Center

- Clinically oriented anatomy images
- Drag-and-drop image labeling
- Audio glossary
- Chapter quizzes
- Electronic flash cards
- Web Links for supplemental information
- Additional reference material, such as boxes, tables, field strategies, and sample forms to support chapters

- **PLUS:** Video clips from *Acland's DVD Atlas of Human Anatomy*

Instructor's Resource Center

- Instructor's manual with testing strategies, lecture notes, worksheets, answers, and handouts
- Test generator
- Image collection
- PowerPoint presentations
- BOC Correlation Chart
- Web Links for supplemental information