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ABSTRACT

This instructor's lesson plan guide on soft tissue injuries is one of fifteen modules designed for use in the training of emergency medical technicians (paramedics). Six units of study are presented: (1) anatomy and physiology of the skin; (2) patient assessment for soft-tissue injuries; (3) pathophysiology and management of soft tissue injuries; (4) techniques of management including dressing and bandaging, controlling external hemorrhage, and dressing and bandaging of an amputation; (5) special considerations in soft tissue injuries to specific areas; and (6) clinical experience in an emergency department. Each unit contains these elements: behavioral objectives; teaching procedures, a content outline, demonstration outline, list of needed equipment and materials, and guidelines for activities to be performed by students applying the skills. Skill evaluation sheets are provided. (It is suggested that each module can be presented individually or combined with other modules to construct a course for a selected group of students. CE 017 514 is a course guide for use in planning and implementation of the total training program.) (JH)

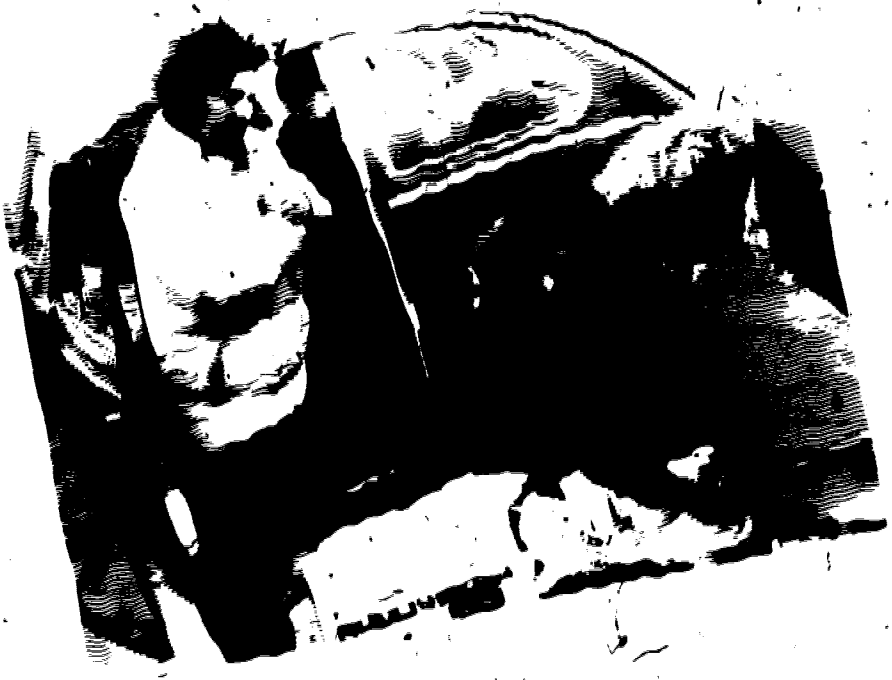
National Training Course

EMERGENCY MEDICAL TECHNICIAN/EMT PARAMEDIC

INSTRUCTOR'S LESSON PLANS

Module VIII

Soft Tissue Injuries



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HOW TO USE THE INSTRUCTOR LESSON PLANS

NOTES

The *Instructor Lesson Plans* are guides for teaching an advanced-level training program for emergency medical technicians. The *Plans* cannot be used by the instructor to develop the competency to conduct the program; the instructor should have this as a prerequisite to teaching the course.

The *Instructor Lesson Plans* are comprised of 15 modules, each containing the information and instructions needed to conduct a program on a particular subject. Each module can be used by itself or in concert with other modules.

Each module is subdivided into instructional units that deal with a particular segment of the module subject. Generally, the units contain the following components:

- *Performance Objectives.* These are classified as knowledge (K) objectives or skill (S) objectives. They are written in behavioral terms so they can be evaluated either through observation of student activities or through results obtained under specified conditions.
- *Unit Activities.* Reading assignments, reference materials, and outside activities are presented for both the students and the instructor. If the activities are identical, only the instructor's activities are presented.
- *Equipment and Materials.* Educational equipment includes chalkboard, overhead projector, slide projector, and screen. Medical equipment and materials required are drawn from those listed in Appendix F of the *Course Guide*.

- *Content Outline.* This presents the topics to be covered during the presentation of the unit. Where appropriate, it is divided into single skills or concepts. This approach gives the instructor the flexibility to add or delete specific skills and information. The content outline also provides directions to the instructor indicating when the use of demonstrations or group discussions would be most appropriate.

  Because the units are designed to be taught by technically competent instructors, the content outlines are not specific; they only enumerate topics and subtopics. It is expected that the instructor's skill and knowledge will supplement the depth of the course content outline. The instructor is encouraged to prepare additional notes.

- *Demonstration Outlines.* These are designed to present procedural steps that are important in performing the particular skill or calculation. Steps that are critical or that may lead to common errors are emphasized. Where critical steps exist, these outlines suggest what should be demonstrated.
- *Practice Sessions.* These sessions serve as guides to activities to be performed by students applying the skills. They may be performed in the classroom or assigned as homework. During classroom practice sessions, the instructor will be available to observe and correct student performance and to answer any questions.
- *Skill Evaluations.* The skill evaluation sheets provide checkpoints for the instructor to use to insure that students are following appropriate procedures or sequences. Skill evaluation sheets also provide a convenient method for feedback to students having particular problems with a given skill, and for monitoring a student's progress in attaining skill objectives.

  The skill evaluation should occur only after the students have had an opportunity to practice the skill under the supervision of the instructor. The skill evaluation sheets can be distributed during, or before, the demonstration or practice session. Thus, they can be used as a job aid during practice. They should not be used, however, as a job aid while the student is being evaluated. The sheets are designed to provide a learning and evaluation tool

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and are not intended to mandate performance in the field in a set manner, irrespective of the patient's condition or situation.

NOTES

Satisfactory performance of a given skill is defined as the correct performance of all steps in the proper sequence. The instructor's judgment is required to define correct performance and sequence of steps in a skill. Skill evaluations may be repeated at intervals throughout the course to assess skill decay and the need for remedial practice. Some instructors may wish to test skills immediately after they have been learned and again at the conclusion of the course.

The alphanumeric coding system is used to identify the various modules and units. When you see, for example, in Module II, 3.6.1.K, the 3 indicates the unit, the 6 indicates the main instructional topic, the 1 indicates the subsection of the major topic outlined in 3.6, and the K indicates the teaching objective (in this case, knowledge).

To illustrate further, 3.6.1.K would translate into:

- 3 = Unit number
- 6 = The main topic of the instructional section (The first two numbers – e.g., 3.6 – refer to a major heading in the unit content outline.)
- 1 = A subsection of the major topic outlined in 3.6 (This number relates to the number of objectives listed under skill or knowledge objectives and not to the content outline.)
- K = Knowledge objective
- S = Skill objective

The three-digit reference numbers (e.g., 3.6.1) within each module refer to the topical section in that module only. For example, in Module II, any topical heading with 3.6 as the first two digits refers to the discussion of the components of patient assessment in Unit 3.

A visual presentation of Unit 3, by Module II, of the coding system is presented on the following pages.

SAMPLE PAGE

CODING SYSTEM EXAMPLES

NOTES

- Abdomen
- Extremities

3.6.1.K Given a situation describing a patient with a possible illness or injury who may or may not be able to communicate, the student should be able to describe the procedure for evaluating the patient described. Minimally, the student should include the appropriate primary assessment and specify the order of the four components of the secondary assessment and the areas of the assessment that would be emphasized.

the demonstration, auscultation of the lung, heart, and abdominal sounds.

3.6.1.S Given a student posing as a communicative patient, the student should be able to demonstrate the procedure for conducting a patient assessment when the patient is suspected of having the following:

SAMPLE PAGE

CODING SYSTEM EXAMPLES

NOTES

8. Practice Session 3

3.6. Four components of assessment (order)

A. If the patient can communicate, determine if he has a medical or trauma-related problem.
   1. If a medical problem, the general order should be:
      a. Evaluate the diagnostic and vital signs.
      b. Develop the patient's history.
      c. Examine for a medical problem.

Skill Evaluation 3.6.1.S: Assessment of a Communicative Patient With a Suspected Trauma-Related Problem

Place an "X" in the appropriate column to indicate steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Student posing as a victim
Stethoscope

Clinical Training

To present this program, it will be necessary to have access to the clinical units listed below. If a unit is not available, adjustments should be made to insure that the activities proposed for that unit are included in others. Specific guidelines for the clinical units are included in the modules. The student's training should be supervised in each of the following clinical areas:

- Emergency department
- Intensive care unit/coronary care unit
- Operating/recovery room
- Intravenous (IV) team
- Pediatric unit
- Labor suite/delivery room/newborn nursery
- Psychiatric unit
- Morgue
- Mobile intensive care unit

Sample forms for maintaining student activity records are included in the *Instructor Lesson Plans*. The forms are designed so that the medical director can determine the number of times, and how successfully, a student has performed a skill. The medical director also will be able to determine how much time the student needed to become proficient in the skill. Further, the medical director will be able to evaluate student performance under a number of preceptors, because certain skills are repeated in various clinical units (e.g., initiating an IV is performed by the student with the IV team and in the emergency department and intensive care unit).

Although the clinical experience is listed with the module, it need not be presented each time, even if a number of modules are being presented.

Testing and Evaluating the Student

It is recommended that each student be evaluated on proficiency of skill and knowledge at the completion of each module. Skill evaluation sheets have been provided for each skill in each unit. These sheets can be used as guides for evaluating the student's skill proficiency. The evaluation of the knowledge objectives is left to the discretion of the instructor, according to predetermined objectives.

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Testing of knowledge should stress areas of clinical relevance over basic science. No matter what type of evaluation system is used, students should be kept informed of their progress and should be given additional activities to supplement weak areas.

As previously stated, the emphasis is on student competency, rather than on the total number of hours the student is involved in the program. Thus, it is possible for the student to be tested and given credit for any module. The medical director should not assume the student's competency simply because of prior training, but should develop an evaluation method to determine the student's proficiency based on first-hand observation and experience. With this type of method, it is possible for students to receive credit for prior training experience. This would be especially applicable for those modules that are primarily a review of skills concerned with Emergency Medical Technician-Ambulance; for example, soft-tissue injuries and rescue.

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MODULE VIII SOFT-TISSUE INJURIES

INTRODUCTION

Prerequisites

The students must have successfully completed the following modules:

I. The Emergency Medical Technician, His Role, Responsibilities, and Training

II. Human Systems and Patient Assessment

III. Shock and Fluid Therapy

V. Respiratory System

VII. Central Nervous System

Description of Module

This module contains the following six units:

Unit 1: Anatomy and Physiology of the Skin
Unit 2: Patient Assessment for Soft-Tissue Injuries
Unit 3: Pathophysiology and Management of Soft-Tissue Injuries
Unit 4: Techniques of Management
Unit 5: Special Considerations in Soft-Tissue Injuries to Specific Areas
Unit 6: Clinical Experience

Two units contain demonstrations and practice sessions:

- Unit 4, Techniques of Management, contains the following demonstrations:

  4.1.1.S: Dressing and Bandaging (general rules and principles)
  4.2.2.S: Controlling External Hemorrhage
  4.4.3.S: Dressing and Bandaging an Impaled Object
  4.4.4.S: Dressing and Bandaging an Amputation
  4.4.5.S: Dressing and Bandaging an Avulsion (other than eye avulsion)

  NOTE: Two practice sessions are designed to have the students practice the five skills.

- Unit 5, Special Consideration in Soft-Tissue Injuries to Specific Areas, discusses injuries to the eye, nose, throat, neck, and abdomen. This unit contains the following demonstrations:

  5.1.1.S: Dressing and Bandaging an Avulsed Eye or an Impaled Object in the Eye
  5.2.2.S: Foley Catheter—Posterior Epistaxis

  NOTE: There is one practice session that is designed to have the students practice the two skills.

The clinical experience unit offers direct experience in an emergency department.

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UNIT 1 emt-p

ANATOMY AND PHYSIOLOGY OF THE SKIN

NOTES

Knowledge Objectives

After completing this module, the student should be able to correctly respond to at least 80 percent* of the following:

1.1.1.K Given a list of functions, the student should be able to identify the four major functions of the skin.

1.1.2.K Given a list of results, the student should be able to identify the results of damage to the skin; for example, vulnerability to invasion by bacteria, temperature changes, and fluid imbalance.

1.1.3.K Given a diagram or an illustration of a segment of skin, the student should be able to attach the following labels.

- Epidermis
- Dermis
- Sweat gland
- Blood vessel
- Nerve endings
- Sebaceous gland
- Follicle

1.1.4.K Given two sets of definitions, with at least four definitions in each set, the student should be able to identify the definitions of epidermis and dermis.

*The selection of 80 percent as a passing criterion is arbitrary and can be modified.

1.1.5.K Given at least four functions, the student should be able to identify the function of sebaceous glands.

1.1.6.K Given a list of at least four functions, the student should be able to select the function of hair follicles.

1.1.7.K Given a list of at least four statements, the student should be able to select the statement that best describes sebum.

NOTES

Instructor Activities

Assign the following readings in class period before the beginning of this unit:

- Chapter 8, Unit 1, of the *Text*
- Knowledge objectives for this unit

Inform the students that there are no demonstrations or practice sessions associated with this unit.

Prepare a lecture following the content outline on page VIII-5. The following are suggested:

- Introduce the unit and explain what material is going to be covered. Distribute the knowledge objectives.
- In Section 1.3D, discuss the function of the specialized structures of the skin.
- After the specialized structures are presented, draw a diagram of the skin on the blackboard and have the students attempt to label the parts.
- If the materials are available, have the students examine a sample of skin under a microscope.

Prepare a written test, using the knowledge objectives. (It is suggested that the tests from Units 1 and 2 be administered together.)

Equipment and Materials

Equipment—Educational

Chalk and chalkboard (different colored chalk would be helpful)

Equipment—Medical

Microscope (if available)
Sample of skin (if available)

Materials

Text
Knowledge objectives (optional)
Written test (to be prepared by instructor)

NOTES

Content Outline

Introduction

- Inform the students that there will be no demonstrations or practice sessions included in this unit.
- Inform the students that the general purpose of this unit is to discuss the anatomy and physiology of the skin.
  - Function or purpose of skin
  - Specialized structures of the skin
- Have the students read the knowledge objectives for this unit.

1.1. Functions of the skin

A. It protects the underlying tissue from injury, extreme temperature, physical impact, and chemical and bacterial sources.
B. It aids in temperature regulation.
C. It prevents excessive water loss and drying of tissue, thereby maintaining the stability of the internal environment (homeostasis).
D. It serves as a sense organ, sending information to the brain through an extensive nerve supply.
   1. Temperature changes
   2. Touch
   3. Sensation of pain

1.2. Damage to the skin

A. Any damage causes increased vulnerability of the body to an invasion by bacterial agents.

B. It also causes temperature changes and major disturbances in the fluid balance.

1.3. Structure of the skin

A. Point out that the skin is composed of two layers:
   1. Epidermis (outermost layer)
   2. Dermis

B. Discuss the epidermis.
   1. The epidermis is the body's first line of defense.
   2. The outer layer of the epidermis is nonliving and is constantly being shed during a process called "desquamation."
   3. The deeper layers of the epidermis contain cells that are constantly dividing to give rise to cells of the outer layer; the deeper layers contain cells with melanin granules (pigment).

C. Discuss the dermis (underlying the epidermis).
   1. It is composed of connective tissue.
   2. It contains the following specialized structures:
      a. Nerve endings
      b. Blood vessels
      c. Sweat glands
      d. Sebaceous glands
      e. Hair follicles

D. Discuss the specialized structures.
   1. Discuss the nerve endings—they mediate the senses of touch, temperature, pressure, and pain.
   2. Discuss the blood vessels—they carry oxygen and nutrients to the skin and bear off carbon dioxide and metabolic waste products.
   3. Discuss the sweat glands—they produce sweat and discharge it through ducts; they are regulated by the action of the sympathetic nervous system.
   4. Discuss the sebaceous glands—they produce an oily substance called "sebum," which helps keep the skin

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waterproof; these glands usually open into hair follicles and discharge sebum along the hair shafts.

5. Discuss hair follicles—they are structures that produce hair and enclose the hair roots. Each follicle contains a single hair.
6. Show a diagram or illustration of a segment of the skin and label its parts.

1.4. Regeneration of skin—discuss healing and regeneration process of skin and soft tissue with respect to different injuries, that is:

A. Lacerations
B. Contusions
C. Burns

Summary

- Function of the skin
- Structure of the skin
- Specialized structures
  - — Nerve endings
  - — Blood vessels
  - — Sweat glands
  - — Sebaceous gland (sebum)
  - — Hair follicle
- Regeneration of the skin

NOTES

UNIT 2 emt-p

PATIENT ASSESSMENT

NOTES

Knowledge Objectives

After completing this module, the student should be able to correctly respond to at least 80 percent* of the following:

2.1.1.K Given a list of at least four statements, the student should be able to select the statement that best describes what information will be obtained when skin color and temperature are obtained.

2.1.2.K Given a list of at least four statements, the student should be able to select the one that best describes the color of the skin when there is reduced cardiac output.

2.1.3.K Given a list of at least four skin colors, the student should be able to select the color associated with cutaneous blood vessel dilatation.

2.1.4.K Given lists of possible causes, the student should be able to select the causes associated with the following skin colors:

- Red
- White
- Blue
- Mottled

*The selection of 80 percent as a passing criterion is arbitrary and can be modified.

2.1.5.K Given a list of causes, the student should be able to select the cause associated with:

- Rise in skin temperature
- Fall in skin temperature

2.1.6.K Given at least four lists, each containing at least four statements, the student should be able to select the statements that best describe the possible causes of the following skin temperatures:

- Hot and dry
- Hot and wet
- Cool and dry
- Cool and clammy

2.2.1.K Given a list of at least four statements, the student should be able to select the statement that best defines ecchymosis.

2.2.2.K Given a list of at least four statements, the student should be able to select the one that best defines hematoma.

2.2.3.K Given a list of at least four statements, the student should be able to select the statement(s) that best describes what to look for when conducting an assessment for soft-tissue injuries, that is, the statements that might lead the emergency medical technician (EMT) to suspect soft-tissue injuries.

NOTES

Instructor Activities

Assign the following reading assignments in the class period before this unit is to begin:

- Chapter 8, Unit 2, of the *Text*
- Knowledge objectives for this unit

Prepare a lecture following the content outline on page VIII-11. The following are suggested:

- Inform the students that there are no demonstrations or practice sessions.
- Explain the purpose of the unit.
- Explain and discuss how to use skin temperature and color in patient assessment as outlined in Section 2.1. The students must realize that this section is unrelated to the assessment of patients with soft-tissue injuries.
- Note that Section 2.2 discusses indications of soft-tissue injuries. The student should be aware that soft-tissue injuries are usually obvious. This section is only included to complete the other modules.

Construct a written test using the knowledge objectives.

Test the students after they have had an opportunity to study the material. (It is suggested that the tests from Units 1 and 2 be administered together.)

Equipment and Materials

Equipment—Educational

Chalk and chalkboard

Equipment—Medical

None

Materials

Text
Knowledge objectives (optional)
Written test (to be prepared by instructor)

Content Outline

Introduction

- Inform students that there are no demonstrations or practice sessions in this unit.
- Explain the purpose of this unit:
  - Point out that the purpose is to teach the student what to look for in a patient with soft-tissue injuries.
  - Have the students read the knowledge objectives.

NOTES

2.1. Introduction to patient assessment

NOTES

A. Before discussing how to assess patients with soft-tissue injuries, make the following comments:
   1. Assessment of every patient (regardless of problem or complaint) should include an examination of the skin color and temperature.
   2. Skin color and temperature give information about the patient's state of peripheral vascular profusion.

B. Point out that skin color gives information about the following:
   1. Discuss the circulation immediately under the skin.
   2. Discuss the oxygen saturation of the blood.
   3. Discuss the relationships of skin color to the flow of blood.
      a. If cutaneous blood vessels constrict or cardiac output increases, what would be the effect on the skin? It will become cool, moist and pale, mottled, or cyanotic (blue).
      b. If cutaneous vessels dilate, what effect will this have on the skin?
         (1) Skin will become warm.
         (2) Skin will become pink.
      c. If the blood flow stops, the skin will become cold and white (pallor).
   4. Review the possible causes of specific skin colors:
      a. Red: vasodilation (fever, allergic reactions, abnormal state of hemoglobin, carbon dioxide poisoning)
      b. White (pallor): vasoconstriction (excess blood loss, fright)
      c. Blue (cyanosis): oxygen desaturation; hypoxia vasoconstriction (cold or shock)
      d. Mottled: cardiovascular embarrassment (as in shock)

C. Discuss the skin temperature (as it relates to the blood flow).
   1. Point out that the temperature rises as peripheral blood vessels dilate.
   2. Point out that the temperature falls as peripheral blood vessels constrict.
   3. Ask what will cause dilatation.

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a. Fever
b. High environmental temperature

4. Ask what will cause constriction.
   a. Fear
   b. Anxiety (in most cases)
5. Point out that the sympathetic nervous system controls sweating.
   a. Increased activities cause sweating and moisture.
   b. Depression of the sympathetic nervous system causes the skin to be dry and cool.
6. Review the possible causes of certain skin temperatures:
   a. Hot and dry: excessive body heat
   b. Hot and wet: reaction to increased internal and external temperature
   c. Cool and dry: exposure to cold
   d. Cool and clammy: shock

2.2. Patient assessment (for soft-tissue injuries)

A. Define soft-tissue injuries as damage to the skin itself as well as to the underlying musculature.
B. Discuss the causes of damage to the skin.
   1. Mechanical injury
      a. Sharp or blunt instrument
      b. Fall, etc.
   2. Contact with:
      a. Extreme temperatures (including cold)
      b. Chemical substances
      c. Fire or flame
      d. Radiation
      e. Electricity
C. Discuss the need for concern about special areas or locations.
   1. Abdomen (because skin protects the organs) (review the topographic anatomy)
      a. Liver
      b. Spleen
      c. Pancreas
      d. Kidneys
      e. Bladder
   2. Eye, ear, and nose

NOTES

3. Throat and neck

D. Discuss patient assessment (general comments).

1. Point out that soft-tissue injuries are usually obvious and dramatic, but most are not life threatening. Treatment of soft-tissue injuries has low priority unless:
   a. The injury is causing a severe loss of blood
   b. The injury is interfering with the patient's breathing (obstructed airway)
2. Point out that the EMT must conduct a primary survey first—treat any life-threatening injury, then do a secondary head-to-toe survey.

E. Point out what to look for in:

1. Environmental situation
   a. Look for the cause of injury (mechanism of injury)—it helps to locate and assess the injury.
   b. Check for evidence of contact with:
      (1) Extreme heat or cold, including fire
      (2) Electricity
      (3) Chemical substance (If there has been contact with a chemical substance, note that the type of chemical will influence the treatment.)
2. Physical examination (findings usually obvious)
   a. Look for an external hemorrhage.
      (1) Color of blood (bright red or dark red)
      (2) Flow (spurts or steady flow)
      (3) Signs of shock
   b. Look for signs of an internal hemorrhage.
      (1) Restlessness and anxiety
      (2) Weak, rapid pulse
      (3) Cold, clammy skin
      (4) Tachypnea
      (5) Fall in blood pressure
   c. Look for discoloration in the skin.
      (1) Ecchymosis
      (2) Hematoma
      (3) Extreme redness (chemical burn)
   d. Look for swelling.
   e. Look for violation of skin integrity (small wounds) including:
      (1) Avulsions
      (2) Crushing injuries

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(3) Amputations
(4) Impaled objects
(5) Punctures
(6) Abrasions
(7) Lacerations

f. Look for protruding organs (abdominal injury).
g. Look for fluid draining from the ear (head injury).
h. Look for burns (indicated by mechanism of injury).
i. Always look for associated injuries, that is, fractures, etc.

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UNIT 3 emt-p

PATHOPHYSIOLOGY AND MANAGEMENT OF SOFT-TISSUE INJURIES

NOTES

Knowledge Objectives

After completing this module, the student should be able to correctly respond to at least 80 percent* of the following:

3.1.1.K Given at least four statements describing wounds, the student should be able to select the statement that best describes closed injuries.

3.1.2.K Given a picture, illustration, or definition of an open wound, the student should be able to correctly attach a label to each one, which may depict any or all of the following open wounds:

- Puncture
- Abrasion
- Incision
- Laceration
- Avulsion

3.1.3.K Given a list of at least four aims or goals, the student should be able to select the aims or goals of treating open wounds, for example:

- Control the bleeding
- Keep the wound clean
- Immobilize the injured area to prevent further injury

*The selection of 80 percent as a passing criterion is arbitrary and can be modified.

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3.1.4.K Given a list of do's and don'ts, the student should be able to select the don'ts associated with managing an impaled object.

3.2.1.K Given a list of definitions, the student should be able to correctly recognize the definition that describes:

- First-degree burns
- Second-degree burns
- Third-degree burns

3.2.2.K Given a list of percentages, the student should be able to recognize the correct percentage of the body burned, either for a child or an adult, given certain of the following body parts separately or in combination:

- Head
- Arm (left or right)
- Leg (left or right)
- Front torso
- Back torso

3.2.3.K Given a list of severities of burns (critical, moderate, minor), the student should be able to correctly associate them with a description; for example, a description might read "second-degree burns covering more than 30 percent of the body."

3.2.4.K Given a list of sterile dressings (e.g., dry, slightly wet, soaked), the student should be able to recognize the correct one to apply on third-degree burns.

3.2.5.K Given a list containing at least four statements, the student should be able to select the statement that best describes what information should be obtained when taking the history of a burn patient.

3.2.6.K Given a list of do's and don'ts, the student should be able to select those activities that should not be performed when treating any of the following:

- First-degree burns
- Second-degree burns
- Third-degree burns

3.2.7.K Given a list of at least four statements, the student should be able to select the one that best describes what to do when starting an intravenous (IV) lifeline on a patient who has completely burned arms.

3.2.8.K Given a list of solutions, the student should be able to select the one to administer intravenously to a burn patient.

3.2.9.K Given a list of statements, the student should be able to select the one that best describes why children and infants are more prone to fluid loss when burned than adults.

3.2.10.K Given a list of activities to perform, the student should be able to select the activity to perform when treating a frostbite victim.

3.2.11.K Given a list of alternatives, the student should be able to recognize the most acceptable alternative to treat frostbite when heated water is not available or the frostbitten section is impossible to immerse in heated water.

3.2.12.K Given a list of activities, the student should be able to recognize the most inappropriate activity to be performed when dressing and bandaging an abdominal wound from which organs are protruding.

3.2.13.K Given a list of water temperatures, the student should be able to recognize the correct temperature or range of temperatures to use when treating frostbite.

3.2.14.K Given a list of activities, the student should be able to recognize the correct activities to be performed in the case of a:

- Dry chemical burn
- Wet chemical burn

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when the chemical(s) involved is:

- Alkali
- Acids
- Dry lime
- Phenol
- Sodium metals
- Sulfuric acid

3.2.15.K Given a list of at least four statements, the student should be able to select the one that best describes how low-voltage will travel through the body.

3.2.16.K Given a list of statements, the student should be able to select the one that best describes how high voltages run through the body.

3.2.17.K Given a list of statements, the student should be able to select the one that best describes why some victims become frozen to the electrical source.

3.2.18.K Given a list of activities, the student should be able to select the activities required to treat an electrical-burn victim.

3.2.19.K Given a list of descriptions, the student should select the description associated with:

- Contact burns
- Flash burns
- Arc injuries

Instructor Activities

Make the following reading assignments during the class period before the beginning of this unit:

- Chapter 8, Unit 3, of the *Text*
- Knowledge objectives for this unit

Prepare a lecture following the content outline on page VIII-21. The following are suggested:

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- Inform the students that there are no demonstrations or practice sessions involved in this unit.
- Explain the purpose of the unit.
- When discussing open wounds (Section 3.1), use slides or draw illustrations on the board with colored chalk.
- When discussing the "rule of nines," use slides or diagrams of the human body (adult and infant).
- When discussing injuries to the abdomen, review the topographical anatomy of abdominal organs.

Prepare a written test using the knowledge objectives.

Test the students after they have had an opportunity to study the material.

NOTES

Equipment and Materials

Equipment—Educational

Chalk and chalkboard
Slide projector
Screen

Equipment—Medical

None

Materials

Text
Knowledge objectives (optional)
Written test (to be prepared by the instructor)

Content Outline

Introduction

- Inform the students that there are no demonstrations or practice sessions involved with this unit
- Explain the purpose of this unit:

  — To discuss mechanical injuries:
  a. Abrasions

b. Lacerations
c. Punctures
d. Avulsions

— To discuss burns:
a. Thermal
b. Chemical
c. Electrical

- Have the students read the knowledge objectives.

3.1. Mechanical injuries

A. Open and closed wounds
1. Closed injuries
a. Define them as damage to soft tissue beneath the skin, but causing no break in the continuity of the epidermis.
b. Discuss the types—contusions (bruises) that result in local pain and swelling.
c. Discuss the signs.
(1) Ecchymosis—discoloration
(2) Hematoma—collection of fluids (blood)
d. Discuss the treatment or management—cold applications to minimize edema.
2. Open wounds or injuries
a. Define them as the disruption of the continuity of the skin. Thus, there is the possibility of:
(1) External hemorrhage
(2) Contamination
b. Discuss the types:
(1) Abrasions—superficial wound caused by rubbing or scraping
(2) Incision—caused by a knife or sharp object—edges of the skin will be smooth; synonymous with laceration; difficult to pinpoint the source of injury
(3) Laceration—snagging or tearing of the tissue—can result in considerable bleeding, particularly if any arteries are cut
(4) Puncture wound—disruption of the skin by a pointed object such as a knife

NOTES

3. Discuss management and treatment (aimed at controlling hemorrhage and preventing further injury and contamination).
   a. Point out that hemorrhage must be controlled, using direct pressure either manually or with dressings or air splints; if in the lower extremities, use Military Anti-Shock Trousers.
   b. Discuss the use of compress dressings.
   c. Point out that the EMT must keep the wound as clean as possible—irrigate loose dirt and debris.
   d. Point out that the EMT must immobilize the injured area to prevent further injury.
   e. Deemphasize the use of tourniquets and hemostats.

B. Other soft-tissue injuries
   1. Impaled object
      a. Define as a special kind of puncture wound in which the object remains impaled in the skin.
      b. Discuss management—observe the following guidelines:
         (1) Do not remove the impaled object—to do so would cause further injury.
         (2) Control the hemorrhage using direct pressure, but do not apply pressure to the impaled object directly.
         (3) Stabilize the impaled object in place with a bulky dressing.
   2. Avulsion
      a. Define it as large flaps of skin and tissue that are torn loose or pulled off (mainly in industrial accidents). Avulsions usually involve:
         (1) Eyeballs (see next unit)
         (2) Ears
         (3) Fingers
         (4) Hands
      b. Discuss the general treatment for avulsions.
         (1) Save the avulsed part (wrap in a sterile saline solution).
         (2) Use bulky dressings to control the hemorrhage.
   3. Amputation
      a. Define it as the severing of a body member—that is, finger, hand, or arm.

NOTES

b. Discuss management.

(1) Control the hemorrhage—may cause severe bleeding.

(2) Cover the stump—discuss compress dressings versus tourniquets.

(3) Wrap the amputated segment in sterile iced saline solution—deliver it to the medical facility.

NOTES

3.2. Burns

A. Causes

1. Exposure to heat and extreme cold
2. Exposure to caustic chemicals
3. Contact with an electrical current
4. Contact with radioactive material

B. Thermal burns

1. Point out that an EMT must determin the depth and degree of the burns.
2. Discuss depth classifications:
   a. First-degree burns are limited to superficial areas of the skin—characterized by reddening and moderate pain.
   b. Second-degree burns (scalding) involve several layers of the skin—characterized by blistering (may not show up for hours—skin is usually red and mottled), subcutaneous edema, and severe pain, because nerve endings may be damaged.
   c. Third-degree burns involve damage or destruction to the full thickness of the skin—both epidermis and dermis.
      (1) Point out that they are characterized by a charred and leathery appearance, usually dry and pale; pain is usually absent since nerve endings are completely damaged.
      (2) Note third-degree burns cannot heal themselves and usually require grafting.

NOTE: Patients with third-degree burns are prone to massive quantities of fluid loss (because of loss of the skin protection).

3. Discuss rule of nines.
   a. Adults—9 percent for each body surface area gives a total of 100 percent
      (1) Head and neck, 9 percent
      (2) Each arm, 9 percent
      (3) Chest, 9 percent
      (4) Upper back, 9 percent
      (5) Abdomen, 9 percent
      (6) Genitalia, 1 percent
      (7) Lower back and buttocks, 9 percent
      (8) Front of each leg, 18 percent
      (9) Back of each leg, 18 percent
   b. Children and infants
      (1) Same as above for children
      (2) Infants (head and neck, 18 percent; each leg front and back, 13.5 percent)
4. Discuss severity of burns.
   a. Point out that severity combines the degree and the amount of the body affected.
   b. Discuss critical (severe) burns.
      (1) Second-degree burns covering more than 30 percent of the body
      (2) Third-degree burns covering more than 10 percent of the body
      (3) Burns complicated by respiratory injuries
      (4) Almost all burns to the face, hands, feet, and genitalia
      (5) Burns complicated by a fracture or a major soft-tissue injury
      (6) Burns concerning patients with serious underlying diseases (e.g., heart condition)
      (7) Electrical and deep acid burns
   c. Discuss moderate burns.
      (1) Second-degree burns involving 15 to 30 percent of the body surface
      (2) Third-degree burns of less than 10 percent of the body (excluding the hands, feet, and face)
   d. Discuss minor burns.
      (1) Second-degree burns of less than 15 percent of the body surface

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(2) Third-degree burns of less than 2 percent of the body surface

(3) First-degree burns of less than 20 percent of the body surface (excluding the hands, feet, and face)

C. Management and treatment of thermal burns

1. Point out that a history must include the following information:
   a. How long before an EMT arrived did the burn occur?
   b. What, if anything, has the patient or have the bystanders done for the injury?
   c. Was the patient in a closed space with smoke, steam, or other products of combustion?
   d. With what was the patient burned? Open flame? Hot liquids?
   e. Does the patient have any history of significant heart disease, which might complicate fluid therapy? Is there a history of pulmonary problems, which might cause a more severe reaction to smoke inhalation? Are there any other serious underlying illnesses, such as diabetes?
   f. Are there allergies, including allergies to any medications?
2. Discuss first-degree burns—general rules.
   a. Apply ice compress to burned area (or immerse in cold icy water).
   b. Place sterile dressings over the burned area.
   c. *Do not* use salves, ointments, or sprays. (These will have to be removed by the emergency department.)
3. Discuss second-degree burns.
   a. General rules
      (1) Immerse the burned area in ice water or apply cold compresses within 30 minutes from the time of injury—can diminish edema and provide relief from pain.
      (2) *Do not* attempt to rupture the blisters over the burn.
      (3) If second-degree burns cover more than 15 percent of the body, and if they are accompanied by first-degree burns covering more than 30 to 50 percent of the body, start IV fluids.

NOTES

b. Initiating an IV on a burned patient
   (1) If both arms are completely burned, start IV in a vein of foot.
   (2) In general, D5/normal saline or D5/Ringer's solution should be given at a rate of 150 milliliters per hour in adults.

4. Discuss third-degree burns.
   a. General rules
      (1) Put out any fire on the clothes.
      (2) Maintain an open airway. Suspect respiratory problem if:
         (a) There are burns around the face
         (b) Victim is unconscious
         (c) Victim was in enclosed area with smoke, fire, etc.
         (d) There is swelling in the oral cavity
         (e) There is loss of nasal hair
         (f) There is hoarseness, coughing, etc.
         (g) There is cyanosis
      (3) Intubate if necessary.
   b. Some general problems
      (1) Discuss acute gastric dilatation.
      (2) Point out that if the patient is intubated, he may need a nasogastric tube to decompress the stomach. This procedure should not be attempted for a stuporous or comatose patient who has not been intubated or in one who has severe thermal injury involving the nasopharynx.

5. Discuss general management.
   a. Open an airway.
   b. Complete the primary survey.
   c. Conduct a secondary survey.
      (1) Look carefully for associated injuries, eye injuries, fractures, etc.
      (2) Check the pulse in all extremities (burns may act as a tourniquet).
   d. Start an IV if there are third-degree burns.
   e. Remove rings, etc.—swelling of the hands and fingers may occur rapidly.

6. Discuss special considerations in treating the burned infant.

NOTES

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a. Point out that the infant's surface is much larger compared to the total body mass; thus, fluid loss can be massive.
b. Point out that an IV should be started—D5/normal saline with microdrip; consult the physician for the rate.

7. Discuss injuries due to cold temperatures (will be discussed again in Module X).
   a. Much like burns
   b. Frostbite of ears, nose, hands, and feet
      (1) Symptoms
         (a) Skin reddens
         (b) Skin turns gray or white
         (c) Area becomes numb
      (2) Treatment
         (a) *Do not* rub.
         (b) Warm affected parts with hands, between legs, etc.
         (c) Immerse in warm water 103°-107.5° F (higher temperature may cause further damage).
         (d) As patient recovers, raise and lower the parts to stimulate circulation.
   c. Freezing
      (1) Symptoms—skin is waxy white and hard
      (2) Treatment
         (a) Transfer to the medical facility.
         (b) Keep the affected parts warm and dry

D. Chemical burns
   1. Cause
      a. Point out that the cause of chemical burns is the contact of the skin with strong acids, alkalis, or other corrosive material.
      b. Point out that the burn will progress as long as the substance remains in contact with the skin.
   2. Types
      a. Wet chemicals
      b. Dry chemicals
   3. Management
      a. Point out that, in general, all wet chemicals should be flushed with water—see the exception below.

b. Point out that, in general, dry chemicals should be brushed away unless large amounts of water (from garden hose) are available. Lime (dry) is water soluble and gets corrosive when mixed with water; thus, it should be brushed off.

c. Procedures
   (1) Remove clothing from the patient (shoes and socks).
   (2) Be careful not to get the chemical substance on your own clothing or skin.
   (3) Start flushing the area for 20–30 minutes.
      (a) Final rinses may be given with vinegar for alkali burns.
      (b) Final rinse may be given with baking soda (1 teaspoon per pint of water) for acid burns.
   (4) Cover burned area(s) with sterile dressings or sheet and transport patient.

d. Special considerations
   (1) Point out that phenol (carbonic acid) is not water soluble; thus, water will be a poor irrigant.
   (2) Point out that alcohol should be used prior to water flushing; however, do not spend time looking for alcohol. If water is available, it is better than nothing.
   (3) Point out that sodium metals and sulfuric acid produce considerable heat when mixed with water and may explode.
      (a) Sodium metal—use oil; it will stop the reaction.
      (b) Sulfuric acid—use soap to neutralize the acid.
   (4) Discuss the special case of chemical burns to the eye.
      (a) Have patient remove contact lenses.
      (b) Flush with copious amounts of water—never use any chemical antidotes (vinegar, baking soda, alcohol, etc.).
      (c) Be sure to flush the eyelids.

NOTES

E. Electrical burns

1. Discuss contributing factors:
   a. Amount of the current (intensity)
   b. Duration of the current
2. Point out that 60–65 volts can be fatal.
3. Discuss body resistance to low voltage (exterior).
   a. Discuss nonconductivity of the skin.
   b. Point out that resistance becomes lower if the skin is broken.
   c. Point out that moisture (sweat) also reduces resistance.
4. Point out that interior body resistance is low.
5. Point out that there is usually extensive internal damage.
   a. As electricity travels from the contact point, it is converted into heat, which will follow the current flow (blood vessels, nerve endings, etc.), resulting in extensive internal damage.
   b. Low voltage follows the path of least resistance (blood vessels).
   c. High voltage follows the shortest path.
6. Discuss the alternating current and direct current.
   a. Point out that an alternating current is more dangerous because it causes tetanic spasms that may immobilize the victim.
   b. Point out that the victim may be immobilized to the source of the current.
      (1) Electrical flow causes the muscles to contract. (Flexor areas result in more serious injury.)
      (2) 8–22 milliamperes is the average let-go current.
7. Discuss the effects of a current.
   a. Point out that there is mainly internal damage.
   b. Point out that even small currents can produce malfunctions and paralysis of the nervous system.
   c. Point out that a current such as 100 milliamperes can cause ventricular fibrillation.
8. Discuss the types of electrical burns:
   a. Contact burns
   b. Flash burns (arc burns)
   c. Flame burns
9. Discuss contact burns.

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a. Usually has two sites—an entrance and an exit
b. Characterized by lesions that resemble a bull's-eye with a central, charred zone of third-degree burns; a middle zone of cold, gray, dry tissue; and an outer zone, or red zone, of coagulation necrosis

10. Discuss flash burns.
    a. Are usually associated with the arc of electricity
    b. Usually happen when the victim is close to the flash
    c. Have a craterlike appearance
11. Discuss flames—ignition of the patient's clothing in an arc or flash burn.
12. Discuss management of electrical burns.
    a. Point out that the EMT must first determine whether the patient is still in contact with the electrical sources.
        (1) Remove the patient from the source.
        (2) Do not jeopardize your own safety—be aware of touching:
            (a) Patient
            (b) Metal objects
            (c) Water
            (d) Wet ground
        (3) Use rubber gloves, wooden pole, lasso, etc.
    b. Point out that once the patient is removed, an EMT should:
        (1) Immediately check the respiration and pulse.
        (2) If the patient has vital signs, conduct secondary assessment.
        (3) Look for the burn itself—look for the exit burn.
        (4) Since most of the injury may be internal, pay attention to fluid therapy and shock.
        (5) Place sterile dressings on the burns.
        (6) Look for associated injuries (fractures, etc.).

NOTES

UNIT 4 emt-p

TECHNIQUES OF MANAGEMENT

NOTES

Knowledge Objectives

After completing this module, the student should be able to correctly respond to at least 80 percent* of the following:

4.1.1.K Given a list of activities the student should be able to correctly recognize the activity to be performed if a dressing becomes blood soaked.

4.1.2.K Given a list of "do's" and "don'ts" involved in dressing and bandaging an extremity, the student should be able to recognize the don'ts (e.g., a tourniquet should not be tightened before direct pressure has been tried).

4.1.3.K Given a list of rules, the student should be able to correctly identify the rules for applying bandages.

4.1.4.K Given a list of statements comparing a dressing and a bandage, the student should be able to identify the statement that best defines and compares a bandage and a dressing.

4.2.1.K Given a description of blood flow and the color of the blood, the student should be able to recognize the correct description and color for arterial, venous, and capillary bleeding.

*The selection of 80 percent as a passing criterion is arbitrary and can be modified.

NOTES

4.2.2.K Given a list of statements, the student should be able to select the statement that best describes how to calculate how much blood has been lost by a patient.

4.2.3.K Given a list of techniques of controlling bleeding in various sequences, the student should be able to recognize the correct sequence of the techniques (first to last) as they should be tried in controlling bleeding.

4.2.4.K Given a list of activities, the student should be able to recognize the activities that need to be performed after the application of a tourniquet; for example, tagging the patient.

4.2.5.K Given a list of common household materials, the student should be able to recognize those materials that should not be used in making a makeshift tourniquet.

4.2.6.K Given a list of pressure points (arteries), the student should be able to select the correct pressure point to be used to control bleeding from the arm or leg.

4.2.7.K Given a list of cautions, the student should be able to select the cautions associated with using the carotid artery to control bleeding.

4.2.8.K Given a list of dangers, the student should be able to select the dangers associated with using a tourniquet.

4.2.9.K Given the source of bleeding and a list of possible locations, the student should be able to select the location for a possible tourniquet.

4.3.1.K Given a list of activities, the student should be able to correctly recognize those activities to be performed when treating a patient with suspected internal hemorrhage.

4.3.2.K Given a list of signs and symptoms, the student should be able to select the signs and symptoms associated with internal hemorrhage.

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4.3.3.K Given a list of accidents, the student should be able to correctly identify those accidents in which internal bleeding should be suspected.

4.3.4.K Given a list of activities, the student should be able to select the activities to be performed when breaking or managing internal bleeding.

4.4.1.K Given a list of situations, the student should be able to identify those situations in which a saline solution should be used to treat a soft-tissue injury. The list will contain, among other situations, the following:

- Amputation of a finger
- Exposure of the small intestine in an abdominal injury

4.4.2.K Given a list of activities, the student should be able to recognize the correct activity to be performed in the situation in which a patient's clothing is sticking to the wound area.

4.4.3.K Given a list of situations involving the lodging of an impaled object, the student should be able to correctly identify the situation(s) in which the impaled object should be removed.

4.4.4.K Given a list of activities and justifications for those activities, the student should be able to recognize the correct activity and justifications for preserving the avulsed part in a degloving or avulsive injury of a part.

4.4.5.K Given that a patient has suffered from an electrical burn, the student should be able to recognize from a list of events the most probable event (e.g., the student will recognize that an electrical burn results in an entrance and exit burn).

Skill Objectives

After completing the module, the student should be able to correctly perform each of the skill objectives. "Correctly" will be

defined by the instructor during the lecture and demonstration sessions. Skill evaluation sheets are included in the module.

NOTES

4.2.1.S Given the following materials:

- Sterile dressings and a clean cloth or clean hankerchief
- A commercial tourniquet or a cravat and stick or other suitable materials

and given another individual to serve as a victim (either the instructor or a student), the student should be able to control the simulated external bleeding of the victim's leg or arm. Successful performance involves the use of the following techniques (used in order):

- Direct pressure
- Elevation of the extremity
- Application of pressure to pressure points
- Application of a tourniquet

At the end of each activity, the instructor will inform the student that the bleeding has not stopped. The student will then be expected to use the next technique.

4.4.2.S Given an unclothed practice arm on a fellow student with a simulated impaled object no longer than 2 inches from the surface, sterile dressings, a clean cloth or clean handkerchiefs, and a paper cup, the student should be able to correctly dress and bandage the wound. Successful performance involves the immobilization of the impaled object.

4.4.3.S Given a victim (either a fellow student or the instructor) simulating the complete amputation of a hand at the wrist and given sterile dressings and a clean cloth or clean handkerchiefs, the student should be able to correctly dress and bandage the stump. Successful performance need not include the application of a saline solution.

4.4.4.S Given a victim (either a fellow student or the instructor) simulating an avulsed eyeball or a glove avulsion, sterile dressings, a clean cloth or clean handkerchiefs, a paper

cup, and water, the student should be able to correctly dress and bandage the simulated injured area. The student should complete the objective for one of the two injuries.

NOTES

Instructor Activities

Assign the following readings during the class period before this unit is to start:

- Chapter 8, Unit 4, of the *Text*
- Skill objectives for this unit
- Knowledge objectives for this unit

Prepare a lecture following the content outline on page VIII-39. The following are suggested:

- The unit should be introduced.
  - — Explain the purpose.
  - — Explain the activities in which the students will be involved.
- A discussion of Section 4.1 should be concerned only with general principles of bandaging and dressing.
- A discussion of Section 4.2 should include methods for controlling external hemorrhage; when discussing pressure points, it would be helpful for the students to have available a chart or graph of the pressure points.
- A discussion of Section 4.3 should include how to control internal hemorrhage.
- A discussion of Section 4.4 should pay particular attention to:
  - — Impaled objects
  - — Amputations
  - — Avulsion—when discussing avulsion, it might be helpful if pictures of avulsions (glove avulsions, etc.) are available.
- A discussion of Section 4.5 should include a review of Unit 3.

Prepare the following five demonstrations:

4.1.1.S: Dressing and Bandaging
4.2.2.S: Controlling External Hemorrhage

4.4.3.S: Dressing and Bandaging an Impaled Object
4.4.4.S: Dressing and Bandaging an Amputation
4.4.5.S: Dressing and Bandaging an Avulsion

NOTES

Demonstrations 4.4.1.S, 4.4.3.S, 4.4.4.S, and 4.4.5.S are only given so the student will get practice in dressing and bandaging.

Prepare two practice sessions for the students:

- Practice Session 1: General Principles of Dressing and Bandaging and Techniques for Controlling Hemorrhage
- Practice Session 2: Dressing and Bandaging Impaled Objects, Amputations, and Avulsions

After the lectures, demonstrations, and practice sessions, evaluate the students' ability to perform the skills (using the skill evaluation sheets). Set up skill evaluation stations for every skill.

Prepare and administer a written test using the knowledge objectives.

Equipment and Materials

Equipment—Educational

Chalk and chalkboard
Suggested:
- Illustration of location of pressure points
- Pictures of avulsed injuries

Equipment—Medical

Adult manikins (four)
Scissors (one for every two students)
Tape (various sizes)
Bandages (various kinds)
Dressings (various kinds)

- Sterile gauze
- Compression dressings

Saline solution
Commercial tourniquet (one for every three students)
Material for homemade tourniquet

Materials

Knowledge objectives (optional)
Skill objectives (optional)
Written test (to be constructed by instructor)
Skill evaluation sheets
Text

NOTES

Content Outline

Introduction

- Explain the purpose of the unit:
  - — To discuss the general principles of dressing and bandaging
  - — To discuss and demonstrate techniques for the control of hemorrhage
- Have the students briefly review the knowledge objectives.
- Inform the students this unit involves:
  - — Demonstration sessions
    a. Dressing and bandaging
    b. Techniques of controlling bleeding
    c. Dressing and bandaging an impaled object
    d. Dressing and bandaging amputations
    e. Dressing and bandaging an avulsion
  - — Practice sessions
    a. Controlling hemorrhaging and dressing and bandaging
    b. Dressing and bandaging special injuries

4.1. Dressing and bandaging

A. Some definitions
   1. Dressings—used to apply to the wound to control bleeding and prevent contamination
   2. Bandages—used to secure the dressings in place

B. Varieties of dressings
   1. Many different kinds
      a. Sterile gauze
      b. Compression dressings

2. Substitutes (usually not sterile)
   a. Sanitary napkins
   b. Bed sheets
   c. Towels
   d. Handkerchiefs

C. Bandages—come in various shapes and sizes
   1. Self-adhering
   2. Form fitting

D. General rules for bandaging
   1. Point out that bandages need not be pretty or textbook perfect, as long as they do the job.
   2. Point out that bandages should not be applied too tightly or too loosely:
      a. Too tight will restrict the flow of blood
      b. Too loose will not hold the dressing in place
   3. Point out that when bandaging extremities, an EMT should leave the fingers and toes exposed so that color changes can be noted.

E. Demonstration 4.1.1.S

4.2. External hemorrhage

A. Define it as bleeding coming from a wound where the integrity of the skin has been violated.

B. Discuss characterization.
   1. In arterial bleeding, the blood is bright red and flows in spurts.
   2. In venous bleeding, the blood is dark red and the flow is steady and usually slow.
   3. A wound is usually a combination of arterial and venous bleeding.

C. Point out that besides respiratory and cardiac problems, hemorrhage is the most important factor to look for when treating soft-tissue injuries.
   1. Blood volume (in pints) is approximately equal to one-fifteenth of the body weight. An average adult has 12 pints of blood.
   2. When the body is at rest, the blood is distributed as follows:
      a. One-fourth in the heart, lung vessels, and larger vessels

NOTES

b. One-fourth in the vessels of the liver
c. One-fourth in the vessels of the muscles
d. One-fourth in the remaining organs

3. The loss of two pints in an average adult can lead to shock.

D. Discuss the methods of controlling hemorrhage (listed in order of attempt).

1. Point out that direct pressure should be applied against the bleeding site for 10 or 15 minutes.
   a. Point out that direct pressure is the most effective technique.
   b. Point out that an EMT must maintain pressure until the bleeding has stopped.
   c. Point out that an EMT must, if possible, use a sterile dressing; a clean cloth or handkerchief may be used if sterile dressing is not available. If no dressings are available, an EMT should use his bare hands to apply pressure. Sometimes it might be necessary for an EMT to insert his fingers into the wound and compress the artery.
   d. Point out that if the dressings become blood soaked, an EMT should not try to replace them. This may cause release of direct pressure—just add another dressing.
   e. Point out that an EMT must the use bulk dressings for severe bleeding—discuss the use of a compression dressing.
   f. Point out that the use of air splints may be helpful.
   g. Deemphasize the use of:
      (1) Hemostats
      (2) Elastic bandages (Ace bandages)
2. Discuss pressure-point control.
   a. Point out that this is the second avenue of attack and is used in conjunction with direct pressure.
   b. Point out that it is effective when there are multiple bleeding sites supplied by the same artery, or when it is impossible to reach the bleeding area.
   c. Discuss the location of pressure points (points where the artery to injury site is near surface of the skin and directly over a hard structure such as a bone).

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d. Discuss the 11 pressure points located throughout body. The 5 major pressure points are:
   (1) Brachial
   (2) Femoral
   (3) Carotid
   (4) Temporal
   (5) Facial

e. Point out that the most effective pressure points are:
   (1) Brachial
   (2) Femur
   (3) Carotid (questionable)

f. Point out that an EMT must use caution when applying pressure to the carotid artery.
   (1) He should not occlude both carotids at the same time.
   (2) He must remember that occlusion may restrict flow to the brain.

3. Discuss the application of a tourniquet.
   a. Point out that it is used only as a last resort.
   b. Discuss the potential hazards:
      (1) Damage to the blood vessels
      (2) Damage to the nerves
      (3) Loss of an extremity (if it is in place for extended periods of time)
   c. Point out that a tourniquet applied too loosely may increase the bleeding if venous return has been occluded without hampering arterial flow.

4. Discuss the procedures in using a tourniquet.
   a. Discuss the use of commercially made or home-made tourniquets with such materials as bandage, stocking, belt, or other flat material.
   b. Point out that an EMT must *not* use wire, rope, or thin material; these may cut the tissue of the limb.
   c. Discuss the steps.
      (1) Place it between heart and wound (closer to the wound the better, but not at the wound's edge).
      (2) Apply the pad over the artery to be compressed.
      (3) If a cravat is used, wrap the material around area at least twice, and tie a flat knot.
      (4) Place a stick or pencil on top of knot and tie a square knot around the stick.

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(5) Twist the stick to tighten the material until the bleeding has stopped—and no further.
(6) Secure it into position.
(7) Attach a notation to the patient that a tourniquet has been applied—also record the time of application.

d. Point out that when significant bleeding occurs from the lower extremities, an EMT should use the Military Anti-Shock Trousers (MAST).

E. Introduce Demonstration 4.2.2.S.

F. Introduce Practice Session 1.

4.3. Internal hemorrhage (usually not immediately noticed)

A. Signs of shock
1. Rapid, weak pulse
2. Pale, moist, and cold skin
3. Shallow and rapid respiration
4. Thirst
5. Dilated pupils

B. Other possible signs
1. Coughing up bright-red blood (injury or hemorrhage associated with lungs)
2. Appearance of coffee grounds and blood (bleeding in abdominal organs)
3. Hardness or spasms of the abdominal muscles (bleeding in abdominal organs)
4. Internal bleeding—occurs with fractures and crushing injuries

C. Examination of patients
1. Look for the signs and symptoms noted above.
2. Suspect internal bleeding when the mechanism of injury indicates possible internal damage—usually to the chest and/or abdomen.
3. Note the medical history: history of ulcer; reports of vomiting blood; blood passed via the rectum.

D. Methods of controlling
1. Point out that the method depends on the location and cause.
2. Point out that if the bleeding is caused by a blunt object, the application of a pressure bandage might be helpful;

NOTES

when a fracture is present, an EMT must be careful when using a pressure bandage.

3. Point out that for an internal hemorrhage of lower extremities and abdomen, the MAST should be used.
4. Point out that an EMT should give oxygen.
5. Point out that an EMT should start IV fluid-replacement therapy; normal saline or Ringer's solution—colloid is preferable, if available.

4.4. Dressing and bandaging wounds

A. Review the last unit.
   1. Lacerations
   2. Abrasions
   3. Punctures
   4. Impaled objects
   5. Avulsions
   6. Amputations

B. Discuss the general treatment (review).
   1. Control the bleeding.
   2. Prevent further injury and contamination.
   3. Treat for possible shock.

C. Discuss dressing and bandaging the wounds.
   1. Use the techniques discussed in Demonstration 4.1.1.S.
   2. Note the special considerations of dressing and bandaging.
      a. Impaled objects
      b. Amputations
      c. Avulsions

D. Discuss the dressing and bandaging of impaled objects (other than the eye).
   1. General approach
      a. Do not remove an impaled object. Removal will cause further damage unless the object is too large. The object should be cut if it is too large.
      b. Use bulky dressings to immobilize the impaled object.
   2. Demonstration 4.4.3.S

E. Discuss dressing and bandaging amputations.
   1. General approach
      a. Control the bleeding.

NOTES

b. Keep the area moist with a saline solution.
c. Preserve the amputated section (for possible surgery).

2. Demonstration 4.4.4.S

F. Discuss dressing and bandaging avulsions.

1. Avulsion
   a. Point out that this type of injury is common in industrial accidents.
   b. Discuss types.
      (1) Ear
      (2) Finger
      (3) Hand (glove avulsion)
      (4) Eye (special case)
   c. Point out that the avulsed part should be preserved if it is completely torn off.
2. General approach
   a. Control the bleeding.
   b. Immobilize the torn skin with bulky dressings.
3. Demonstration 4.4.5.S

4.5. Burns

A. Review the types:
   1. Thermal
   2. Electrical
   3. Chemical

B. Review the general principles (thermal burns).
   1. Important history
      a. How long ago did the burn occur?
      b. What have the bystanders done?
      c. Was the patient in an enclosed place?
   2. First-degree burns—treatment
      a. Apply ice compresses.
      b. Use sterile dressings and bandages.
      c. Avoid the use of ointments, sprays, salves, etc.
   3. Second-degree burns
      a. Immerse the burned area in ice water (30 minutes).
      b. *Do not* attempt to rupture the blisters.
      c. Start an IV (if arms are burned, start an IV in the feet).
   4. Third-degree burns

NOTES

a. Put out fire on the clothing.
b. Check respiration. Look for burns around the face, swelling in the oral cavity, loss of nasal hair, hoarseness, and cyanosis.
c. Intubate, if necessary.
d. Start an IV.
e. Treat for shock.
f. Remove rings, etc., because of potential swelling.

C. Review the steps for chemical burns.
1. Discuss the types.
a. Dry and wet chemicals
b. Acids and alkalis
2. Discuss the general approach.
a. Remove the patient's clothing.
b. Avoid personal contact with the chemical.
c. With dry chemicals, brush them away.
d. With wet chemicals, flush for 20 or 30 minutes with water.
3. Discuss special considerations:
a. Phenol
b. Sodium metals
c. Sulfuric acids

D. Review the steps for electrical burns:
1. Remove the patient from danger.
2. Look for:
a. Redness
b. Blisters
c. Charring
d. Entry location
e. Exit location

NOTES

Demonstration 4.1.1.S: Dressing and Bandaging

NOTES

Equipment

Manikin or a student posing as the victim
Various kinds of dressings and bandages, including:
- Sterile gauze
- Compression dressings
- Roller gauze
- Tape
- Cravats

Procedures

Review how to dress and bandage wounds.
Demonstrate so that all students can see.
Explain and discuss as you demonstrate.

Steps

1. Display the different types of dressings and bandages—explain the difference between dressings and bandages (purpose).
2. Review the general principles involved:
   a. Not tight enough to stop circulation
   b. Not loose (allow for stretching)
   c. Leave the fingers and toes exposed
   d. Secure the bandage when starting and finishing
   e. Need not be pretty—must do the job.
3. Demonstrate the dressing and bandaging of a simple injury to point out common errors:
   a. Forearm
   b. Hands and fingers
   c. Feet and toes
   d. Joints (knee or elbow)
   e. Head
      (1) Scalp
      (2) Eyes (special case)
   f. Legs
   g. Chest

When demonstrating these procedures, indicate alternate material that might be used (towels, etc.). After each demonstration, if time allows, have a student perform the demonstration and correct any errors that are observed.

NOTES

Demonstration 4.2.2.S: Controlling External Hemorrhage

NOTES

Equipment

Adult manikin or a student posing as the victim
Dressings and bandages and a commercial tourniquet
Chart or diagram of pressure points
Makeup kit

Procedures

Have a manikin or student made up to simulate a severe hemorrhage condition.

Demonstrate and explain each step, being sure to point out the critical errors.

Demonstrate so that all the students can see.

Steps

1. Review the steps of a primary survey (indicate and discuss why the survey should be done).
2. Review the steps of a secondary survey (assume it is a trauma-related problem).
3. Demonstrate and discuss:
   a. Direct pressure (application of)
      (1) Material used
      (2) What to do if no sterile dressings are available
      (3) What to do if no dressings are available
      (4) Materials not to be used:
         (a) Hemostats
         (b) Elastic roller bandages
   b. Pressure points (Demonstrate how to apply pressure at the three most commonly used points.)
      (1) Brachial
      (2) Femur
      (3) Carotid
   c. Elevation of the extremities
   d. Application of a tourniquet

      (1) Discuss commercial tourniquets.
      (2) Discuss alternate material if a commercial tourniquet

is not available. Discuss what material should not be used.

(3) Discuss the importance of attaching a notice to patient (discuss how).

(4) Discuss the dangers associated with tourniquets and why they are a last resort.

(5) Discuss the location of a tourniquet.

e. Application of MAST for severe hemorrhage in the lower extremities

f. Treatment for shock and fluid therapy

4. Introduce Practice Session 2.

NOTES

Demonstration 4.4.3.S: Dressing and Bandaging an Impaled Object

NOTES

Equipment and Material

Practice arm with an impaled object
Bulky dressings
Bandages
Scissors and tape

Procedures

Have ready the practice arm with an impaled object lodged in it (about 2 or 3 inches out from the surface of the skin).

Explain the situation to the students (to give the demonstration some realism).

Explain as each step is demonstrated.

Demonstrate so that all students can see.

Steps

1. Do a primary survey and explain why.
2. Do a secondary survey and explain why.
3. Discuss when and how an impaled object should be removed or cut.
4. Demonstrate the technique to stabilize impaled object and control the bleeding:
   a. Explain why immobilization is needed.
   b. Explain and demonstrate how to control bleeding.
   c. Explain why pressure should never be applied to an impaled object.
   d. Explain the need to carefully cut away the clothing.
   e. Explain and demonstrate how a cup might be placed over the impaled object and secured into place.
5. Review the steps for treatment of shock.

After the demonstration, ask the students if they want any or all the steps repeated. If time is available, have a student perform the demonstration and correct any errors that are observed.

Demonstration 4.4.4.S: Dressing and Bandaging an Amputation

NOTES

Equipment and Materials

A student to act as an amputation victim
Commercial tourniquet
Dressings and bandages
Saline solution
Makeup kit
Scissors and tape

Procedures

Have the student posing as the victim make up simulating an amputation injury (finger, hand, leg, etc.).

Have students concentrate on dressing and bandaging techniques.

Explain each step as it is demonstrated.

Demonstrate so that all the students can see.

Steps

1. Discuss the need to do a primary and secondary survey.
2. Review and demonstrate the procedures for controlling bleeding:
   a. Direct pressure on the amputated area
   b. Pressure point
   c. Tourniquet
3. Demonstrate how to dress and bandage an amputation:
   a. Explain the need to avoid touching the amputated area.
   b. Explain and demonstrate how and why a saline solution should be used.
4. Explain why an amputated section should be preserved and transported with the patient.
5. Review the treatment for shock.

Demonstration 4.4.5.S: Dressing and Bandaging an Avulsion

NOTES

Equipment

Student posing as a victim with a glove avulsion
Makeup kit
Sterile dressing and bandages
Saline solution
Scissors and tape

Procedures

Have the student make up the injury before the demonstration begins.

Demonstrate so that all students can see.

Describe each step as it is performed.

Steps

1. Review the steps and discuss the importance of primary and secondary surveys.
2. Demonstrate or review the steps involved in the control of bleeding.
3. Immobilize the injured area using bulky dressings:
   a. Explain why immobilization is important.
   b. Demonstrate how.
   c. Explain how to handle avulsed skin (should it go back in place, etc.).
4. Explain why it is important to preserve the avulsed part—explain how to preserve it.
5. Treat for shock—review the steps and procedures.

NOTES

Practice Session 1

Equipment and Materials

Gauze dressings (4 × 4 inches and 4 × 8 inches)
Multitrauma dressings
Compression dressings
Triangular bandages
Tape (1½ × 3 inches)
Gauze roller bandages
Tape scissors
Tourniquet

Procedures

Divide the class into small groups (two or three students in each group).

Have the students practice the following on one of the students in their group:

- Controlling severe hemorrhage, including application of the tourniquet
- Bandaging a simple bleeding injury of an extremity
- Bandaging a simple bleeding injury of the trunk of body
- Bandaging a simple bleeding injury of the head
- Bandaging a simple bleeding injury of the face
- Bandaging a simple bleeding injury of the joint
- Bandaging a simple bleeding injury of the hand
- Bandaging a simple bleeding injury of the hand

Circulate among the group and correct any errors or answer any questions.

Practice Session 2

Equipment and Materials

Scissors and tape
Manikin or students posing as victims
Dressing and bandages
Saline solution

Procedures

Set up the following practice stations, each with a manikin or a student posing as a victim, and the necessary materials:

- Dressing and bandaging an impaled object
- Dressing and bandaging an amputation
- Dressing and bandaging an avulsion

Have students rotate among the practice stations and practice the skills.

NOTES

Student's name _____

Date _____

Pass 1 2 3

Fail 1 2 3

NOTES

Skill Evaluation 4.2.2.S: Controlling External Hemorrhage

Place an "X" in the appropriate column to indicate the steps that are incorrect, out of sequence, or omitted. The student should be given three atempts to perform the skill.

Equipment

Sterile dressings and bandages
Adult manikin
Commercial tourniquet or material for a homemade tourniquet
Scissors
Tape

Procedures

Inform the student he is to be evaluated on his ability to use the four techniques of controlling hemorrhage.

Give the student an opportunity to practice the skill, but inform him you cannot help during this time.

Inform the student to assume the bleeding is located in the forearm, and the bleeding will not stop after any attempt to control it.

Have the student start when he is ready.

Steps

___ ___ ___ A. Conducts a primary and secondary survey

___ ___ ___ B. Determines the location of the wound, and cuts away clothing, if appropriate.

___ ___ ___ C. Selects the appropriate dressing and applies direct pressure over the wound.

NOTES

___ ___ ___ D. Elevates the extremity, while still applying direct pressure.

(Instructor is to inform the student that the bleeding has not stopped.)

___ ___ ___ E. Locates the supplying artery (brachial artery).

___ ___ ___ F. Holds the patient's arm at a right angle to his body with the palm up. Places the palm of his hand between the patient's elbow and armpit. Presses the fingers in the groove created by the bicep and tricep muscles on the inside of the arm.

(Instructor is to inform the student that the bleeding has not stopped.)

___ ___ ___ G. Wraps a bandage around the extremity between the heart and the wound as close to the wound as possible.

___ ___ ___ H. Places a rolled-up cloth over the main artery and under the bandage material.

___ ___ ___ I. Knots the bandage material.

___ ___ ___ J. Inserts a rodlike device in the knot.

___ ___ ___ K. Tighten[redacted]ough to stop the bleeding.

___ ___ ___ L. Attaches a [redacted]te to patient saying a tourniquet has been applied and the time of application.

___ ___ ___ M. Treats for shock.

Student's name_____

Date _____

Pass 1 2 3

Fail 1 2 3

Skill Evaluation 4.4.3: Dressing and Bandaging an Impaled Object

Place an "X" in the appropriate column to indicate the steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Practice manikin with an impaled object in the arm
Bulky dressings
Bandages
Tape and scissors
Paper cup

Procedures

Have the manikin set up and ready with an impaled object about 2 inches from the surface of skin.

Inform the student on what he is to be evaluated.

Give him a few minutes to practice, if he so desires; but inform him that you cannot help him during this time.

Inform him to start when he is ready.

Steps

___ ___ ___ A. Performs a primary survey.

___ ___ ___ B. Performs a secondary survey.

___ ___ ___ C. Cuts clothing away from the wound.

___ ___ ___ D. Controls the bleeding using direct pressure, being sure not to remove or move the impaled object.

NOTES

E. Stabilizes the impaled object using bulky dressings.

F. Places a paper cup over the impaled object and secures it.

G. Secures the dressing using bandages and tape.

H. Checks for signs of shock.

NOTES

NOTES

Student's name _____

Date _____

Pass 1 2 3

Fail 1 2 3

Skill Evaluation 4.4.4.S: Dressing and Bandaging an Amputation

Place an "X" in the appropriate column to indicate the steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Saline solution
Scissors
Dressings
Bandages
Tape
Adult manikin with amputation of hand at wrist
Saline solution

Procedures

Use an old manikin and have it ready before the evaluation is to begin.

Inform the student on what he is to be evaluated.

Give the student time to practice if he so desires (but do not help him during this time).

Inform the student to start when he is ready.

Steps

___ ___ ___ A. Does a primary survey.

___ ___ ___ B. Does a secondary survey.

___ ___ ___ C. Determines the location of the injury.

___ ___ ___ D. Cuts away the clothing if necessary.

___ ___ ___ E. Places a sterile dressing over the amputated section.

___ ___ ___ F. Keeps the amputated section moist with a saline solution.

___ ___ ___ G. Controls the bleeding.

___ ___ ___ 1. Pressure point

___ ___ ___ 2. Elevation

___ ___ ___ 3. Tourniquet

___ ___ ___ H. Secures the dressing and bandage in place.

___ ___ ___ I. Preserves the amputated section.

___ ___ ___ J. Treats for shock.

NOTES

Student's name _____

Date _____

Pass 1 2 3

Fail 1 2 3

Skill Evaluation 4.4.5.S: Dressing and Bandaging an Avulsion

Place an "X" in the appropriate column to indicate the steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Adult manikin or student with a glove avulsion
Sterile dressings
Bandages
Tape
Scissors

Procedures

Prepare the manikin or student.

Inform the student on what ~~he is to~~ be evaluated (glove avulsion).

Give the student an opportunity to practice, but do not help him during this time.

Steps

___ ___ ___ A. Conducts primary survey.

___ ___ ___ B. Conducts secondary survey.

___ ___ ___ C. Determines location of injury.

___ ___ ___ D. Places bulky dressings over injury site, but does not apply pressure.

NOTES

___ ___ ___ E. Applies bandages to secure dressing.

___ ___ ___ F. Preserves avulsed part in moist dressing.

___ ___ ___ G. Treats for shock.

NOTES

UNIT 5 emt-p

SPECIAL CONSIDERATIONS IN SOFT-TISSUE INJURIES TO SPECIFIC AREAS

NOTES

Knowledge Objectives

After completing this module, the student should be able to correctly respond to at least 80 percent* of the following:

5.1.1.K Given a diagram of the eye and a set of labels, for example

- Retina
- Optic nerve
- Conjunctiva
- Cornea
- Lens
- Pupil
- Iris
- Ciliary muscles
- Sclera
- Vitreous fluid

the student should be able to match the labels with the appropriate parts of the diagram.

5.1.2.K Given a list of at least four statements, the student should be able to select the statement or statements that are true about the vitreous fluid.

*The selection of 80 percent as a passing criterion is arbitrary and can be modified.

NOTES

5.1.3.K Given a list of at least four statements, the student should be able to select the statement or group of statements that best describes how light rays travel through the eye.

5.1.4.K Given a list of the parts of the eye and a group of statements, the student should be able to match the parts with the statements that best indicate what that part should be examined for.

5.1.5.K Given a list of at least four statements, the student should be able to select the statement that best describes the signs, symptoms, and complaints of a patient with an injury to the orbit.

5.1.6.K Given a list of activities, the student should be able to select the ones that need to be performed in dressing and bandaging an impaled object in the eye.

5.1.7.K Given a list of reasons, the student should be able to select the reason why contact lenses should be removed when flushing the eye in a chemical burn.

5.1.8.K Given a list of at least four reasons, the student should be able to select the reason why the uninjured eye should be bandaged in a chemical burn to the eye.

5.1.9.K Given a list of at least four statements, the student should be able to select the one that best describes what central retinal artery occlusion is.

5.1.10.K Given a list of at least four activities, the student should be able to select the activity to perform when managing a central retinal artery occlusion.

5.1.11.K Given several lists of signs, symptoms, and complaints, the student should be able to select the signs, symptoms, and complaints of the following:

- Central retinal artery occlusion
- Acute glaucoma
- Retinal detachment

NOTES

5.2.1.K Given a list of activities, the student should be able to select the activities to perform when managing an impaled object in the cheek.

5.2.2.K Given a list of dangers, the student should be able to select the primary danger associated with trauma to the mouth and jaws.

5.2.3.K Given a list of reasons, the student should be able to select the reason why teeth should be saved and transported with the patient when there is trauma to the mouth.

5.2.4.K Given a list of reasons, the student should be able to select the reason why fragmented dentures should be transported with the patient when there is trauma to the mouth.

5.2.5.K Given a list of activities, the student should be able to select the activities associated with managing temporomandibular joint dislocation.

5.2.6.K Given a list of activities and a description of a situation involving a foreign body in the ear, the student should be able to select the correct activity to be performed.

5.2.7.K Given a list of activities, the student should be able to select the activity to perform when managing anterior epistaxis.

5.2.8.K Given a list of purposes, the student should be able to select the purpose of the balloon, when managing posterior epistaxis.

5.2.9.K Given a list of activities, the student should be able to select the activities to perform when there is a foreign body in the nose or a nasal fracture.

5.2.10.K Given a list of activities, the student should be able to select the ones needed to be performed when there is a blunt injury to the neck and inadequate ventilation.

5.2.11.K Given a list of activities, the student should be able to select the ones needed to be performed when managing a penetrating injury to the neck.

NOTES

5.2.12.K Given a list of dangers, the student should be able to select the primary danger associated with a penetrating injury to the neck.

5.2.13.K Given a list of activities, the student should be able to select the ones needed to be performed when managing:

- Blunt injuries to the abdomen
- Penetrating injury to the abdomen
- Penetrating injury to the abdomen when there are viscera protruding

Skill Objectives

After completing the module, the student should be able to correctly perform each of the skill objectives. "Correctly" will be defined by the instructor during the lecture and demonstration sessions. Skill evaluation sheets are included in the module.

5.1.1.S Given an adult manikin simulating either an avulsed eye or an impaled object in the eye, 4- × 4-inch dressings, scissors, tape, bandages, and a paper cup, the student should be able to dress and bandage the injured area. Successful performance involves immobilizing the impaled object or the avulsed eye.

5.2.1.S* Given an intubation manikin, Foley catheter, scissors, tape, 4- × 4-inch dressings, and a 30-milliliter (ml) balloon, the student should be able to perform the steps of packing the posterior and anterior parts of the nose to control a simulated posterior epistaxis.

Instructor Activities

Make the following reading assignments in the class period before this unit is to begin:

- Chapter 8, Unit 5, of the *Text*
- Knowledge objectives for this unit
- Skill objectives for this unit

*Indicates optional skill.

NOTES

Prepare a lecture following the content outline on page xx. The

Prepare a lecture following the content outline on page VIII-70. The following are suggested:

- Introduce the unit and explain the purpose.
- Inform the student that the unit involves two demonstrations and a practice session.
- When going over the anatomy and physiology of the eye (Section 5.2), have a diagram, illustration, or slide of the eye and its parts.
- When discussing management of central retinal artery occlusion massage, demonstrate the technique. (NOTE: No demonstration is provided.)
- When discussing temporomandibular joint dislocation, demonstrate the technique. (NOTE: No demonstration is provided.)

Conduct the following two demonstrations:

5.1.1.S Dressing and Bandaging an Avulsed Eye or an Impaled Object in the Eye

5.2.2.S* Foley Catheter: Posterior Epistaxis

Conduct and supervise a practice session. A practice session outline is provided.

Prepare a written test, using the knowledge objectives.

Evaluate the student's ability to perform the skill objectives, using the provided skill-evaluation sheets.

Equipment and Material

Equipment—Educational

Chalk and chalkboard
Slide of anatomy of the eye
Slide projector and screen
Moulage kit

Equipment—Medical

Paper cup
Scissors

*Indicates optional skill

Tape

4- × 4-inch dressings

Bandages

Other dressings

Foley catheter*

30-ml balloon*

Water-soluble jelly*

Materials

Knowledge objective (optional)

Skill objectives (optional)

Skill evaluation sheets

Written test (to be prepared by instructor)

Text

Content Outline

Introduction

- Explain that the purpose of the unit is to discuss special considerations in soft-tissue injuries to specific areas:

  — Eye
  — Nose
  — Throat
  — Face
  — Neck
  — Abdomen

- Have students read the skill and knowledge objectives.
- Inform the students that there will be:

  — One practice session
  — Two demonstrations:
    a. Dressing and bandaging an avulsed eye or impaled object in the eye
    b. Foley catheter: posterior epistaxis**

NOTES

*Optional.
**Indicates optional skill.

5.1. Emergencies involving the eye

NOTES

A. Discuss the anatomy and physiology of the eye.
   1. Using a diagram or slide of the eye, discuss and point out the following:
      a. Retina
      b. Optic nerve
      c. Conjunctiva
      d. Cornea
      e. Lens
      f. Pupil
      g. Iris
      h. Ciliary muscles
      i. Sclera
      j. Vitreous fluid
   2. Point out that eyes are globe shaped and are approximately 1 inch in diameter.
   3. Point out that the globe shape is maintained by a jellylike mass called vitreous fluid. This fluid cannot be replaced—if lost, the eye is lost.
   4. Point out that the function of seeing depends on:
      a. Light entering the eyes (cornea)
      b. Light passing by the iris (which adjusts to amount of light)
      c. Light passing through the lens (muscles change the shape of the lens to focus the image on the retina)
      d. Light rays striking the retina (images upside down)
      e. Brain sensing images in an upright position

B. Point out that a physical examination includes checking:
   1. Orbits (sockets) for ecchymosis, swelling, laceration, and tenderness
   2. Lids—for ecchymosis, swelling, lacerations
   3. Conjunctivae—for redness, plus foreign objects
   4. Globe—for redness, abnormal pigment, lacerations
   5. Pupils—size, shape, equality, reaction to light, tinting (the latter is indicative of perforations of the cornea)
   6. Eye movement in all directions—for dysconjugate gaze, paralysis of gaze, or pain on movement
   7. Visual acuity—have patient read a newspaper or print

C. Discuss the history of the injury.
   1. When did the accident or pain begin?

2. What did the patient first notice?
3. Were both eyes affected? In what way?
4. Any other important questions.

D. Discuss emergencies to the eye.
   1. Injury to the orbits or sockets
   2. Injury to the lids (lacerations, chemical burns)
   3. Injury to the globe
      a. Avulsed eye
      b. Impaled object
      c. Chemical burns
      d. Injury due to light
   4. Other injuries
      a. Central retinal artery occlusion
      b. Eye infections
      c. Retinal detachment

E. Discuss injury to the orbits (sockets).
   1. Fractures of bones forming the socket
   2. Signs, symptoms, and complaints
      a. Ecchymosis
      b. Swelling
      c. Tenderness
      d. Lacerations of area around the orbits
      e. "Double vision"
      f. Loss of sensation above the eyebrow or over the cheek
      g. Nasal discharge
      h. Paralysis of upward gaze
   3. Treatment
      a. Point out that treatment is usually required in a hospital—surgery may be necessary.
      b. Point out that an EMT should transport the patient in a sitting position.
      c. Point out that if there is no globe injury, an EMT should use icepacks.

F. Discuss injury to the eyelids.
   1. Includes:
      a. Ecchymosis (black-and-blue eye)
      b. Lacerations and contusions
      c. Chemical burns
   2. General treatment
      a. Lacerations and contusions

NOTES

(1) Remember that these will bleed profusely.
(2) Use direct pressure to stop the bleeding.
(3) Before applying pressure, make sure the globe is not injured. (If the globe is lacerated, do not apply pressure.)
(4) Cover the lid with loose dressing.

b. Torn eyelids:
(1) Handle carefully to prevent further injury.
(2) Preserve any fragments and transport them with patient.
(3) Cover with loose dressing.

G. Discuss injury to the globe:

1. Impaled object and avulsed eye
a. Point out that this injury is generally treated in the same manner as injuries to eyelids.
b. Point out that an EMT should not remove an impaled object or try to replace an avulsed eye (place the eye back into the socket).
c. Point out that an EMT should cut a hole in the center of the dressings and place it over the avulsed eye or impaled object for stabilization.
d. Point out that the EMT should use a paper cup to avoid further disturbance.
e. Introduce Demonstration 5.1.1.S.

2. Contusions, lacerations, foreign bodies and abrasions, and injury due to flame or light
a. These conditions are best treated in an emergency department where specialized equipment is available.
b. Cold compresses may help to relieve the pain.
c. Both eyes should be patched loosely, using dressings and bandages.

3. Chemical burns to the eye
a. Check for and remove contact lenses.
b. Immediately flush with large amounts of water (only treatment).
c. Use sterile water, saline, or lactated Ringer's solution; use plain water if none of the above is available.
d. Continuously irrigate for 30–60 minutes.
e. Hold the patient's face up under running water.

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Have the patient hold his eyes open so that globe and eyelids can be flushed.

f. If running water is not available, have the patient hold his face down in basin of water. Ask him to blink continually.

g. Patch both eyes after irrigation.

h. Never apply an antidote to the eye.

4. Care of the eyes in an unconscious victim

a. If the victim is unconscious with his eyes open, the corneas may dry out and ulcers may form, causing blindness.

b. Treatment is to maintain natural moisture—close the eyelids and tape them; be sure the tape does not contact the globe.

H. Discuss other injuries:

1. Central retinal artery occlusion

a. Point out that it is caused by a clot lodged in the main artery of the retina.

b. Point out that if it is not treated, it will lead to blindness.

c. Discuss complaints by the patient—sudden, painless loss of vision.

(1) Determine when the injury occurred.

(2) Remember that blindness will occur within 6 hours.

d. Discuss examination.

(1) Patient will have only light perception.

(2) Pupil will be dilated and unreactive to direct light (will constrict when light is shown in the other eye).

e. Point out that a physician must be notified immediately.

f. Discuss massage of affected area:

(1) Point out that an EMT should apply pressure—for approximately 1 hour—with the heel of his hand (enough pressure to dent a tennis ball).

(2) Point out that the purpose is to dislodge the blood clot.

(3) Discuss cautions:

(a) Remember that it may cause vagal stimulation.

NOTES

(b) Monitor the heart rate.

2. Other emergencies involving the eye—only require patching in the affected eye and further irrigation, nothing else can be done in the field
   a. Eye infection (redness and discharge of pus)
   b. Acute glaucoma
      (1) Patient complains of eye ache, headache, or nausea, and sees haloes of light.
      (2) Eye is red; pupil is in the midposition and is nonreactive; cornea is hazy.
   c. Retinal detachment
      (1) Patient complains of curtain blocking vision, with light flashes or dark spots in front of his eyes.
      (2) Patient should be gently transported in a supine position.

5.2. Emergencies involving face, ear, nose, and throat

A. Injuries to the face

1. Introduction
   a. Usually very dramatic, but not serious
   b. May be associated with airway obstruction, so primary survey must be done first
2. General approach to treatment
   a. Do a primary and secondary survey.
   b. Control the bleeding using direct pressure.
   c. Dress and bandage to prevent further contamination.
3. Special problems—impaled objects in cheek
   a. Note that, generally, the object should be removed.
      (1) With your fingers, probe the inside of the patient's cheek to see if the object has passed through.
      (2) If the object has perforated the wall, carefully remove it in the same direction it entered.
      (3) If object will not easily come loose, leave it in place and pack a compress around it.
   b. When object is removed, place packing between the cheek wall and the teeth to prevent additional bleeding.
   c. Dress the outside of the wound in the usual manner.

NOTES

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d. If bleeding is profuse, position the patient so that blood will drain out of the mouth rather than into the throat, and suction as needed.

4. Trauma to the mouth and jaws
   a. Point out that this trauma usually encompasses fractures or dislocations.
   b. Point out that the problem is to open the airway, which may be obstructed by:
      (1) Teeth or teeth fragments
      (2) Bone fragments
      (3) Blood
   c. Discuss a lower (mandible) jaw fracture.
      (1) Usually broken in two places
      (2) Usually will show instability upon palpation
      (3) Usually there are signs of ecchymosis and swelling
   d. Discuss an upper jaw (maxilla) fracture
      (1) Usually accompanied by black eye
      (2) Usually bite is open
      (3) Usually noticeable edema
   e. Point out that with a face trauma, there may be cervical spine injury; so extreme care must be taken.
   f. Discuss treatment or management.
      (1) Open an airway, remove blood clots, fractured bone, teeth, teeth fragments, dentures, etc.
      (2) Try to locate all the teeth and save them (pack in heated sterile saline solution). If a tooth cannot be found, assume it has been aspirated. Teeth may be able to be reimplanted.
      (3) Bring any denture to the hospital—will be needed for alignment in wiring the jaw.
      (4) Firmly apply Kerlex wraps to hold mandible stable in transport.
      (5) Be sure that the dressings do not compromise the airway.

5. Temporomandibular joint dislocation
   a. Point out that it is the inability of the patient to close his mouth.
   b. Point out that it usually occurs during eating or yawning, and a pop is heard.
   c. Discuss the way to put joint back into place:

(1) Wrap thumbs in gauze to protect them.
(2) Place both thumbs in the patient's mouth over the lower molars.
(3) With the fingers, grasp the lower jaw near the angle.
(4) Apply pressure downward to open the joint and stretch the muscle. Use only moderate pressure; if more pressure is needed, sedation may be required.
(5) Direct force to the back of head and move the joint back into position.
(6) Watch your thumbs; the jaws may snap shut.

B. Emergencies involving the ear
1. Discuss foreign bodies in the external ear.
2. Discuss general treatment—leave the ear alone and transport the patient.
3. Discuss exceptions to treatment—hydroscopic (absorbs water) object in the ear:
a. Point out that this object may swell and cause further damage.
b. Point out that if the distance to a hospital is far, the EMT may want to flush the ear.
(1) Use a syringe (without needle) filled with alcohol.
(2) Place the patient lying down with the affected ear over basin.
(3) Place the tip of syringe near top of entrance to the ear canal and rapidly flush the alcohol in.
(4) Use gentle pressure—force pressure may drive the object deeper into the canal.
(5) Transport the patient to the hospital if the object cannot be readily removed.
4. Point out that if cerebral fluid is escaping from the ear, the EMT should not try to stop it.

C. Emergencies involving the nose
1. Types
a. Epistaxis (nosebleed)
b. Foreign object
c. Nasal fractures
2. Epistaxis (kinds)
a. Anterior

NOTES

b. Posterior

3. Anterior epistaxis—control method
   a. External compression
   b. Pinching the nostrils together
   c. Nasal pack (usually not required)
4. Posterior epistaxis
   a. Point out that it is usually more severe.
   b. Point out that it is often encountered in the elderly.
   c. Point out that it is associated with hypertension.
   d. Point out that there is sometimes no bleeding through nares.
   e. Point out that the EMT should inspect the back of the throat for drippings down the posterior oropharynx.
   f. Point out that it can be life threatening.
   g. Discuss control or treatment.
      (1) Start an IV (normal saline).
      (2) Keep the patient supine with the head turned to side to help drainage of blood.
      (3) If vital signs are stable, have the patient sit up, bending over a bowl with the mouth propped open with an airway or bite block. Instruct the patient to breathe through his mouth and not to swallow.
   h.* Point out this special maneuver if the above fails:
      (1) Insert posterior and anterior nasal packs.
      (2) Use a Foley catheter with 30-ml balloon. Lubricate the catheter with water-soluble jelly, and insert it into the more patent nostril until the tip is visible in the back of the throat.
      (3) Inflate the balloon about 15 ml and gently pull the catheter forward until resistance is met; then inflate it another 5–7 ml.
      (4) Hold the catheter in traction; pack the bleeding nostril anteriorly.
      (5) Then pack the external nares.
      (6) Place a plastic umbilical clamp across the catheter, and secure it against the nares, maintaining tension. (Attaching the catheter check is insufficient.)

*Indicates optional skill

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(7) Introduce Demonstration 5.2.2.S.

5. Foreign bodies in the nose
   a. Do not treat—usually require special equipment and good lighting.
   b. Transport to the hospital.
6. Nasal fracture
   a. Usually identified by edema and deformity
   b. Requires application of cold compresses to minimize swelling

D. Injuries to the neck
   1. Point out that injuries to the neck must be considered critical until proven otherwise, because the neck:
      a. Houses air passages
      b. Houses major blood vessels
      c. Houses the spinal cord
   2. Discuss blunt injuries to the neck.
      a. Discuss pain.
      b. Discuss swelling.
      c. Discuss ecchymosis.
      d. Point out that they can cause:
         (1) Collapsed larynx
         (2) Collapsed trachea
         (3) Airway obstruction
         (4) Cervical spine injury
      e. Point out that if there is inadequate ventilation, the following may be needed:
         (1) Forceful assisted ventilation with 100-percent oxygen
         (2) Endotracheal intubation (if no cervical spine injury)
   3. Discuss penetrating injuries to the neck.
      a. Discuss subcutaneous emphysema.
      b. Discuss frothy mixture of air and blood through a penetrating injury.
      c. Discuss management.
         (1) Seal off the wound.
         (2) Intubate the trachea from above with a cuff below the area.
      d. Discuss additional hazards—air embolism.
         (1) Define.
         (2) Point out that it causes arrhythmias.

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e. Point out that the EMT should seal the wound off with Vaseline gauze, apply a bulky dressing, and hold with manual pressure. Circumferential bandages *should not* be used to hold the dressing in place. Patient should be positioned in about 15° of Trendelenberg (head down, feet elevated)

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5.3. Injuries to the abdomen (also discussed in Module X)

A. Point out that blunt injuries may result in:
   1. Lacerated liver
   2. Ruptured spleen
   3. Damage to the pancreas
   4. Kidney damage
   5. Ruptured bladder

B. Discuss signs and symptoms.
   1. Point out that there is a blue-gray discoloration around umbilicus. This discoloration is a late sign that usually occurs 6–48 hours later.
   2. Point out that there is usually no visible evidence.
   3. Point out that if the patient is conscious:
      a. He complains of nausea
      b. He complains of abdominal pain
      c. Bowel sounds are absent
      d. Abdomen is tender or rigid and boardlike

C. Discuss management.
   1. Establish an airway.
   2. Administer oxygen.
   3. Complete a primary survey.
   4. Put the patient in a supine position; apply and inflate MAST.
   5. Start an IV with colloid, normal saline, or Ringer's solution—run wide open.
   6. Treat for shock.
   7. Attend to other injuries.

D. Discuss penetrating injuries to the abdomen.
   1. If there is an impaled object, treat as discussed in last unit (leave the object in).
   2. If viscera are protruding:
      a. Do not attempt to replace.

b. Leave the viscera on the surface of abdomen and cover with dressings soaked in saline solution.
c. Cover with bulky dressing and tape into place.

E. Introduce Practice Session 1.

NOTES

Demonstration 5.1.1.S: Dressing and Bandaging an Avulsed Eye or an Impaled Object in the Eye

NOTES

Equipment and Materials

Adult manikin or student simulating having an avulsed eye
4- × 4-inch dressings
Scissors
Bandages
Tape
Paper cup
Moulage kit

Procedures

Have the manikin or student already made up using a makeup kit (try to be as realistic as possible).

Explain to the students that you are going to demonstrate how to dress and bandage an avulsed eye or an impaled object in the eye.

Demonstrate so that all the students can see.

Explain each step as it is demonstrated.

Steps

1. Explain why primary and secondary surveys are important.
2. Explain why an impaled object or an avulsed eye should not be removed or placed back into socket.
3. Demonstrate how to dress and bandage an injured eye:
   a. Why bulky dressings are used
   b. How they are secured in place
   c. How bandage is applied
4. Dress and bandage remaining eye:
   a. Explain why.
   b. Explain and demonstrate how.
   c. Discuss how tight bandage should be.

After the demonstration is completed, ask the students if they would like any or all of the steps repeated. If time allows, have a student perform the demonstration, and correct any errors that are observed.

Demonstration 5, T.S.:* Foley Catheter—Posterior Epistaxis

NOTES

Equipment

Student posing as victim
Foley catheter
30-ml balloon
Scissors
Water-soluble jelly
4- × 4-inch dressings

Procedures

Demonstrate so that all the students can see.
Describe each step as it is demonstrated.
Inform the students that they need not take notes during the demonstration.

Steps

1. Explain when the procedures are to be used:
   a. Posterior bleeding
   b. When all other techniques fail
2. Describe and explain the preparation of a Foley catheter:
   a. Selection of catheter (30-ml balloon)
   b. Lubrication
3. Describe and explain how to insert:
   a. Location of the insertion
   b. When to stop
4. Inflate the balloon (15 ml).
5. Pull back the catheter until resistance is met.
6. Maintaining traction, further inflate the balloon and pack the nostrils anteriorly—explain and demonstrate how.
7. Secure the catheter:
   a. Explain and demonstrate how
   b. Explain why attachment to the cheek is not sufficient.

*Indicates optional skill

Practice Session 1: Dressing and Bandaging an Avulsed Eye or an Impaled Object in the Eye and Posterior Epistaxis

NOTES

Equipment

4- × 4-inch dressings
Bandages
Paper cup
Scissors
Tape
Foley catheter
30-ml balloon
Water-soluble jelly
Adult manikin (two for each group of students)
Moulage kit

Procedures

Prepare the manikin, using a moulage kit to simulate an avulsed eye.

Prepare intubation manikin for posterior epistaxis exercise.*

Break the students into two groups; have one group practice one skill; the other, the other skill.

When all the students have had time to practice, have them switch groups.

Walk around to both groups and monitor students; correct any errors that are observed.

*Optional.

Student's name _____

Date _____

Pass 1 2 3

Fail 1 2 3

Skill Evaluation 5.1.1.S: Dressing and Bandaging an Avulsed Eye or an Impaled Object in the Eye

Place an "X" in the appropriate column to indicate the steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Adult manikin made up to simulate an avulsed eye or an impaled object in the eye
4-inch dressings
Bandages
Scissors and tape
Paper cup
Moulage kit

Procedures

Prepare the manikin and assemble the equipment.

Inform the student on what he is going to be evaluated.

If the student so desires, give him an opportunity to practice the skill; but inform him that you cannot help him during this time.

Act as an assistant at the request of the student, but only follow the directions of the student.

Start when the student is ready.

Steps

___	___	___ A. Conducts primary survey
___	___	___ B. Conducts secondary survey

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___ ___ ___ C. Makes thick dressings and cuts a hole the size of the avulsion or the impaled object, in the center of the dressings.

___ ___ ___ D. Passes dressing past the avulsion, being careful not to touch it.

___ ___ ___ E. Positions a cup over the dressings (avoids touching eye with cup).

___ ___ ___ F. Tapes the cup into position.

___ ___ ___ G. Applies bandages to secure the cup and dressings.

___ ___ ___ H. Informs the patient why he is going to bandage the other eye.

___ ___ ___ I. Bandages the remaining eye.

NOTES

Student's name _____

Date _____

Pass 1 2 3

Fail 1 2 3

Skill Evaluation 5.2.2.S:* Foley Catheter: Posterior Epistaxis

Place an "X" in the appropriate column to indicate the steps that are incorrect, out of sequence, or omitted. The student should be given three attempts to perform the skill.

Equipment

Foley catheter (30-ml balloon)
4- × 4-inch dressings
Scissors and tape
Water-soluble jelly
Intubation manikin

Procedures

Secure the manikin and ready the equipment.

Inform the student on what he is going to be evaluated.

Inform the student that he can have a few minutes to practice the skill, but that you cannot help him during this time.

Inform the student that you will act as his assistant, if he needs one, to perform the skill, but that you will only do what he tells you to do.

Steps

___ ___ ___ A. Prepares the catheter by cutting off the tip and lubricating the tube with water-soluble jelly.

___ ___ ___ B. Passes the catheter into the patient's nostril [illegible] is visible in the back of the throat.

*Indicates optional

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___ ___ C. Inflates the balloon about 15 ml.

___ ___ ___ D. Gently pulls catheter forward until resistance is felt.

___ ___ ___ E. Further inflates the balloon another 5–7 ml.

___ ___ ___ F. Holds the catheter under traction; packs the bleeding nostril anteriorly.

___ ___ ___ G. Pads exterior nares with 4 x 4-inch pads and places umbilical clamp across catheter to secure against nares.

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UNIT 6

CLINICAL EXPERIENCE

NOTES

Description of Unit

In the previous units, the students were trained to perform skills in simulated situations in the classroom. The purpose of the clinical experience is to provide the student with the opportunity to become proficient in the skills presented in the classroom setting.

If a number of modules are being presented together, the clinical experience associated with each module can be combined and presented upon completion of the classroom sessions.

Objectives

The following objectives are proposed for the clinical experience. Because of patient availability, it is possible that all skills listed below may not be performed by the student, but as many skills as possible should be observed and practiced by the student under the supervision of the preceptor.

Emergency Department

During the experience in the emergency department, the student will have the opportunity to practice on actual patients under direct supervision, and demonstrate, with proficiency and to the satisfaction of the preceptor, each of the following:

- Perform patient assessment including developing relevant medical history and doing a physical examination. The assessment

should include, at a minimum, taking and recording vital signs and auscultation of chest and abdominal sounds, with emphasis placed on the assessment of patients with soft-tissue trauma.

- Assist and review the treatment of trauma cases. At a minimum, the student should review cases of:
  - — Massive hemorrhage, any source
  - — Injuries to specific areas
  - — Multiple trauma
- Assist in trauma cases requiring hemorrhage control, suturing, immobilization, and splinting.

Upon completion of the clinical experience, the trainee should be involved in a supervised internship on the vehicle. During this internship, the trainee will be supervised by a preceptor (physician, nurse, or certified EMT) in the skills presented during the training program. Guidelines for this internship are identical to those presented for the other clinical areas and should be used as a reference. Specific guidelines for the internship and sample checklists may be found in Appendix A of the *Instructor Lesson Plans*.

Preceptor Activities

Review the objectives with the course coordinator and discuss which objectives are to be included in the unit activities. If the preceptor has any questions concerning specific skills or procedures, he should be referred to the appropriate module for a review of the materials presented to the student.

Have the student sign in and determine his proper attire, for example, sterile greens.

Review the rules and operating procedures within the unit, making certain to define the student's role within the unit. Any special regulations concerning the student's activities should be defined.

Define those skills that will and will not be included in this instructional unit, but were discussed during the classroom activities.

Review the history, diagnosis, complications, and treatment of each patient in the unit. The activities of the student should not be limited to those specifically defined in the objectives.

For each activity, demonstrate the skill initially, coach the student

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through the skill at least one time, and then observe the student as he performs the skill.

Supervise the student when he is performing activities within the unit. The preceptor should review critically the student's technique and suggest corrections when appropriate.

Assist and evaluate the student until he is competent in each activity on the checklist.

Answer any of the student's questions concerning activities in the unit or specific patients and their conditions.

Review the objectives for this instructional unit periodically, and discuss the student's progress with respect to the items on the checklist.

Mark the student's activities checklist after each clinical session. The checklist should be marked indicating the number of total observations (O), total attempts to perform the activity by the student (T), and the number of successful attempts (S) for each activity. Once the student has demonstrated the skill to the satisfaction of the preceptor, the session number during which the preceptor made the evaluation should be entered in the "Completed" column. Any comments should be listed in the appropriate space. Specifically, comments should be made if the student does not become proficient at any given skill. Once the student has successfully demonstrated his proficiency at a given skill, however, he should still continue to perform the skill while in the unit.

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Student Activities

The student should:

- Report to the specialty unit on his scheduled date and shift and "sign in" with the supervisor
- Review the rules and operating procedures within the unit with the preceptor, making certain that his role in the unit is defined.
- Review the history, diagnosis, complications, and treatment of each patient in the unit
- Observe and participate in unit activities as directed by the preceptor. (If the student observes a technique of procedure performed differently from its presentation during the classroom activities, he may question the preceptor about differences observed, but remember that the techniques presented during the lecture may not be the only correct method.)

- Perform each activity on the checklist (when appropriate) under the direct supervision of the preceptor. (If the student is unsure of the activity, the preceptor will demonstrate the skill.)
- Review each activity performed with the preceptor, and be sure the preceptor critiques his performance
- Be sure the preceptor marks the checklist after each clinical session
- Develop a log on each patient seen during the experience—the log should include the following information as a minimum:

  — Patient's record identification—use identification number rather than patient's name
  — Major problem—that is, trauma, acute appendicitis
  — Complications
  — Skills and activities observed
  — Skills performed—that is, initiated IV, monitored cardiac activity

The preceptor and the student should review the objectives in the instructional unit and discuss which activities will be included in the experience.

NOTES

CLINICAL TRAINING CHECKLIST

SKILL EVALUATION SHEETS

Emergency Department

Student's name _____

Completed	Activities (objectives)	Session number 1			2			3			4			5			Comments
		O	T	S	O	T	S	O	T	S	O	T	S	O	T	S	
	Perform patient assessment for soft-tissue injuries																
	Assist in trauma cases: Hemorrhage control Specific injuries Multiple trauma																
	Preceptor																
	Date																

Note.—O = observations; T = student attempts; S = successful attempts.

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