TOPIC: MANAGING SOFT TISSUE INJURIES

TIME REQUIRED – 3 hours

MATERIALS:
Occlusive Dressings, Kling, Cravats, 4x4s, Trauma Pads, Blankets, Pillows

REFERENCES: Brady Emergency Care, Maryland Protocols for Emergency Services Providers

MOTIVATION:
EMTs must be able to quickly recognize and treat the various types of soft tissue injuries. Often this injuries are gruesome and they may distract the EMT causing them to miss serious injuries or to inappropriately treat the soft tissue injuries that they have found. Several of these injuries have the potential to be very serious and possibly even life-threatening. Proper care frequently makes a difference in the outcome for the patient.

OBJECTIVE:
At the completion of the session, the Emergency Medical Technician will be able to identify and correctly treat the various soft tissue injuries in accordance with acceptable Maryland Medical Practice and Maryland Medical Protocols for Emergency Medical Providers.

OVERVIEW

Soft Tissue Injuries
  Scalp Injuries
  Eye Injuries
  Neck Injuries
  Chest Injuries
  Abdominal Injuries
  Groin Injuries
  Extremity Injuries
SPO 1-1 The student will demonstrate proper recognition and treatment of soft tissue injuries.

EO 1-1 Discuss general types of soft tissue injuries
EO 1-2 List the general principles for treatment of soft tissue injuries
EO 1-3 Discuss the types of scalp injuries and the concerns when treating each of these injuries
EO 1-4 Demonstrate the correct treatment for an avulsed eye
EO1-5 Discuss soft tissue injuries to the neck and perform the correct bandaging Techniques
EO 1-6 Discuss soft tissue injuries to the chest and demonstrate the appropriate Treatment including the correct transport position
EO 1-7 Discuss soft tissue injuries to the abdomen and demonstrate the appropriate treatment , verbalizing the appropriate transport position.
EO 1-8 Demonstrate the correct treatment for an impaled object
EO 1-9 Discuss the appropriate treatment for an amputation, including the criteria for referral to a specialty center.
EO-10 Given case reviews, discuss the appropriate treatment for each of the soft tissue injuries presented
EO-11 Given a patient – demonstrate correct treatment for each of the soft tissue injuries presented.
I. Types of Soft Tissue Injuries  
   A. Review and describe the following types of soft tissue injuries:  
      Abrasions, Contusions, Lacerations, Punctures, Avulsions, Amputations,  
      Eviserations

II. General Guidelines for Soft Tissue Injuries  
   A. Injuries can be gruesome and may distract provider from more serious injuries  
   B. Bleeding may be an issue depending on type of soft tissue injury  
   C. Infection is also a consideration  
   D. Underlying fractures must be considered and treated as appropriate  
   E. Place patient on oxygen  
   F. Complete an ongoing assessment enroute

III. Scalp Wounds  
   A. Soft tissue injuries to the scalp can result in a lot of bleeding  
   B. Care must be taken not to apply pressure if there the possibility of an underlying  
      skull fracture  
      Assess for signs and symptoms of skull fractures  
      Battles Sign  
      Raccoon Eyes  
      Deformity  
      Blood or CSF from nose or ears  
      Crepitus  
   C. Apply sterile 4x4s or trauma pads as appropriate  
   D. Use cravat to secure in place  
      Place cravat, triangle point to back of neck. Long end of cravat above  
      eyebrows. Wrap cravat around head, cross over back of neck and bring  
      back to front, tying over center of forehead. Pull on tail in back to secure  
      dressings in place.

IV. Eye Injuries  
   A. Avulsed Eye  
      Place eye back on eyelid  
      Place a donut around the eye  
      Place a cup on top of the donut (do not use a Styrofoam cup – the Styrofoam can  
      flake and get in the eye)  
      Cover the good eye to prevent paradoxical motion  
      Secure cup in place with kling. It needs to be secure enough that the eye is  
      completely covered.  
      *Be sure to explain everything to your patient. Remember you are taking away  
      their vision completely and it will be frightening for them.*
V. Neck Wounds
   A. Open wounds to large blood vessels in the neck are a major concern for air embolism being drawn in
      1. Immediately cover wound with a gloved hand
      2. Place the occlusive dressing on the wound
      3. Place a roll of kling (6" works best) on top of the occlusive dressing
      4. Secure in place with a figure 8 wrap using kling.
         a. Hold the patients shoulder (on the uninjured side) at a 90 degree angle from the body.
         b. Once the figure 8 is completed, put the arm down to the side, it will pull the bandage tighter against the side of the neck
      5. Transport the patient in the left lateral recumbent trendelenburg position. (This allows an air embolism to be trapped in the right atrium and prevents it from creating more harm to the patient.

VI. Chest Wounds
   A. Sucking Chest Wound
      1. Seal the wound immediately with a gloved hand
      2. Apply an occlusive dressing
      3. Tape 3 sides
      4. Tape part of the 4th side, have the patient forcibly exhale and then finish taping 4th side. *It is also acceptable to secure 3 sides and leave a flutter valve open on the 4th side*
      5. Monitor the patient for signs of tension pneumothorax
      6. Burp the occlusive dressing if necessary
      7. Transport the patient injured side down
         If spinal injury is suspected, tilt the backboard to put the injured side down

VII. Abdominal Evisceration
   A. Do not apply pressure to wound
   B. Apply occlusive dressing to wound. Dressing should be at least 2-3" greater than the diameter of the wound. (*Occlusive dressing prevents drying out*)
   C. Place 3 thicknesses of trauma pads over the occlusive dressing. (*Trauma dressings prevent loss of body heat*)
   D. Secure in place with 2 cravats tied loosely toward outer edges of dressings
   E. Transport the patient with the knees flexed

VIII. Impaled Objects
   A. Immediately stabilize the object with gloved hands
   B. Do not remove the object unless it is in the cheek and is clear through creating airway issues.
   C. Check to see if the object has exited the body
D. Stabilize the object with dressings. The first row should run with the long axis of the body. Subsequent rows run perpendicular to each other.

E. Pile the dressings high enough to stabilize it. Normally this will be 2/3 to 3/4 the way up the object.

F. The last row should also run with the long axis of the body.

G. Secure the dressing with 4 cravats
   1. Place two cravats close to the object – be sure not to touch or move the object when securing the cravats
   2. Place the other two cravats toward the outside of the dressing. Open them like a fan to help hold all dressings in place.

H. If the impaled object is in the abdomen, the patient should be transported with legs in the position found.

I. If the object is in the head, neck, or chest, consider the possibility of a spinal injury.

IX. Amputations
   A. Treat the attached part first. Control bleeding as necessary. Consider other injuries based on the mechanism of injury.
   B. Bandage the stump. Consider spinal immobilization if amputation is at the shoulder level.
   C. Wrap the affected part in a sterile dressing
   D. Place the part in a plastic bag
   E. Place the part on ice, (Do NOT pack it in ice or freeze it). Do not submerge in water
   F. Transport the part with the patient
   G. Consider referral to a specialty center per Maryland Protocols.

X. Review Case Histories
   A. Numerous case histories and photographs can be found on
      1. www.injury.org
      2. http://www.csmfoundation.org/Educational_Head_Injuries.html (this site has pictures of injuries as well as pictures showing mechanism shots which are good for discussion
      3. http://www.forensicmed.co.uk/gunshot_wounds.htm
   B. Use case histories from your own experience

XI. Practice skills

XII. Review