

Patient Care Theory 2

UNIT 2, PART 7: Soft Tissue Injuries

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Learning objectives

- ❖ Identify the different soft tissue injuries
- ❖ Identify treatment principles for various soft tissue injuries
- ❖ Describe the treatment for all identified soft tissue injury types
- ❖ Identify the stages of wound healing

Soft Tissue Injuries

- ❖ As a general rule:
 - Can be extremely graphic
 - Rarely life-threatening

- ❖ Major concerns
 - Hemorrhage
 - infection

Soft Tissue Injuries

❖ Skin

- Largest organ in the body
- Commonly injured as a result of trauma
- Protects against infection
- Regulate temperature
- Contains nerves, glands, blood vessels

Soft Tissue Injuries

- ❖ “Wound” – an injury to the skin and its underlying tissues
 - Closed
 - Open
 - Single
 - Multiple

Soft Tissue Injuries

- ❖ Closed
 - No external breaking of the skin
 - Contusion
 - Hematoma
 - Crush injury

Soft Tissue Injuries

❖ Contusion

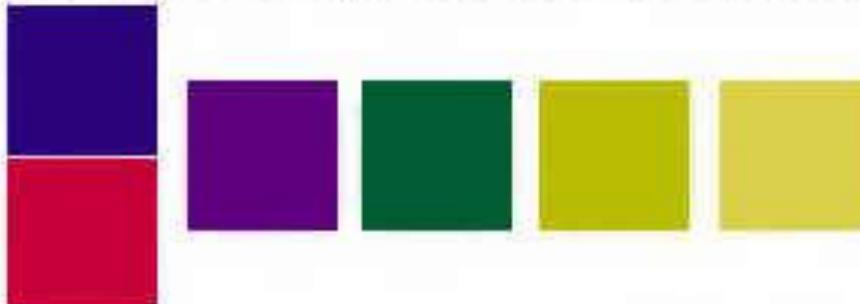
- Injury to cells and small blood vessels within the dermis
- Can cause discoloration (ecchymosis)

➤ Periorbital ecchymosis (raccoon eyes)



Stages of a bruise

hemoglobin → biliverdin → bilirubin



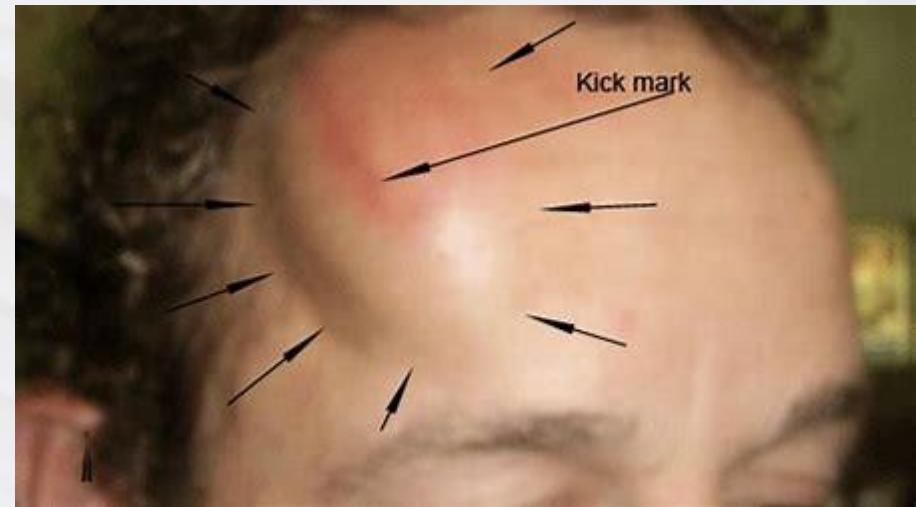
Bruise Age By Color

Bruise Color	Bruise Age
Red (Swollen, Tender)	0 to 2 Days
Blue, Purple	2 to 5 Days
Green	5 to 7 Days
Yellow	7 to 10 Days
Brown	10 to 14 Days
No further evidence of Bruising	2 to 4 Weeks

Soft Tissue Injuries

❖ Hematoma

- Similar to contusion – involves a larger amount of skin damage and vessel damage
- Characterized by a large lump
- Ecchymosis common



Soft Tissue Injuries

- ❖ Crush Injury
 - Can result in open or closed
 - Severe external force is applied to the body and underlying tissues (fractures and or organ rupture may result)
 - Pressure builds up in the fascial space

Soft Tissue Injuries

- ❖ Assessment – Closed soft tissue injuries
 - PPE
 - Scene safety
 - C-spine prn
 - ABCDE – interventions as required
 - Focused history and physical exam
 - RTS with high acuity/altered patient
 - Focused assessment with isolated injury
 - Include ***pre and post*** CSM with all extremity trauma
 - Vital signs

Soft Tissue Injuries

- ❖ Closed soft tissue injuries – Signs and Symptoms
 - Swelling
 - Pain
 - Discolouration
 - CSM
 - ROM
 - Area affected large enough for hypoperfusion?
 - Femur, body cavities
 - CLAPS DTICS
 - DCAP-BLS

Soft Tissue Injuries

- ❖ Closed soft tissue injuries
 - Treat for shock as indicated (BP <90 mmHg systolic)
 - 20cc/kg bolus NS if IV certifies
 - Splint, elevate, ice

Soft Tissue Injuries

- ❖ Open Soft tissue Injuries
 - Break in the protective surface of the skin
 - High risk of infection
 - 6 types
 - Abrasion
 - Laceration
 - Avulsion
 - Amputation
 - Penetration and puncture
 - Open crush injury

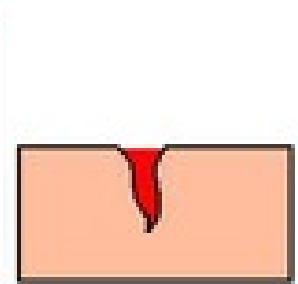
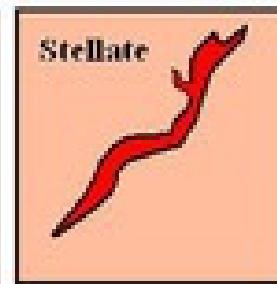
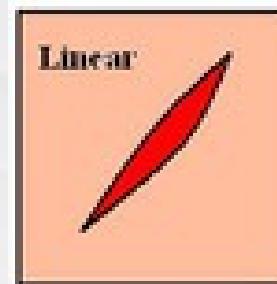
Soft Tissue Injuries - Open

- ❖ Abrasion
 - Scraping, rubbing or shearing away of the epidermis
 - Blood leakage common
 - Well controlled with pressure



Soft Tissue Injuries - Open

- ❖ Laceration
 - Linear or stellate (star-like) break in the skin – varying length
 - Bleed more than other soft tissue injuries venous and/or arterial



Soft Tissue Injuries - open

❖ Avulsion

- Skin is torn away from the body
- Can Cause ++bleeding
- NEVER remove an avulsion or flap of skin
 - degloving



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Soft Tissue Injuries - Open

❖ Amputation

- Disruption in the continuity of an extremity or body part (traumatic)
 - Complete or partial
- Bleeding may be severe or minimal depending on MOI
 - Partial amputations may bleed more than complete
- If possible bring amputated part with you
 - Remove any gross contaminants with sterile water/NS
 - Wrap in moistened gauze
 - Place in plastic container/bag (sterile if possible)
 - Place container/bag on ice pack if available (avoid allowing part to freeze)

Soft Tissue Injuries - open

- ❖ Penetration and Puncture
 - An object is pushed or driven into the soft tissue of the body



Soft Tissue Injuries - Open

- ❖ Penetrating -Gunshot wounds



Soft Tissue Injuries - Open

- ❖ Crush Injury
 - Usually result of blunt trauma or crushing forces
 - May not appear serious at first, but may actually be fatal
 - Pinned or trapped patients
 - once freed the patient may rapidly deteriorate



Soft Tissue Injuries - Open

- ❖ Assessment and Management
 - PPE
 - Scene safety
 - ABCDE – many of these have underlying trauma
 - Control any hemorrhage
 - Dress wounds PRN
 - Assess pre and post CSM on all extremity trauma
 - Focused assessment of injury AFTER any life-threatening interventions have been made

Soft Tissue Injuries – Special Considerations

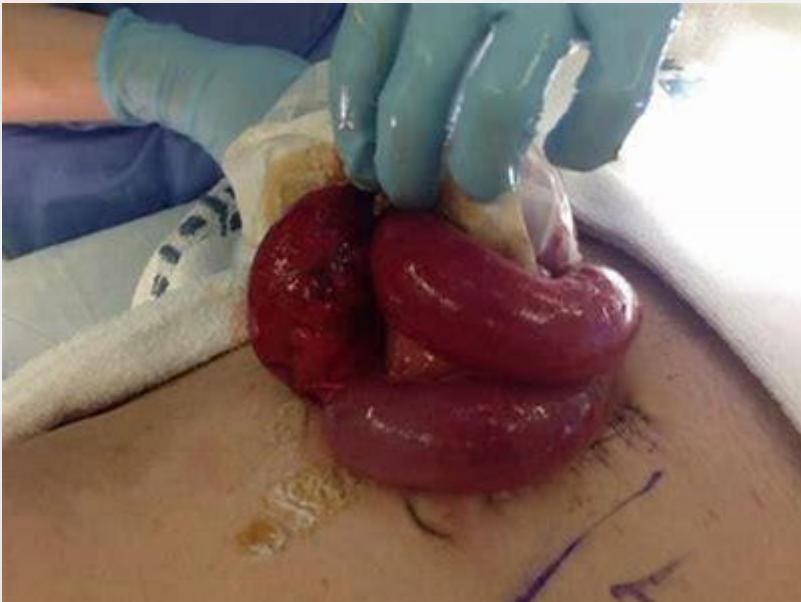
❖ Chest Injuries

- Penetrating chest trauma may lead to pneumo/hemothorax
- Apply occlusive dressing
- ACP – needle thoracostomy



Soft Tissue Injuries – Special Considerations

- ❖ Abdominal evisceration
 - Open injury of the abdominal cavity allows for the protrusion of abdominal organs
 - Cover with moist dressing then occlusive



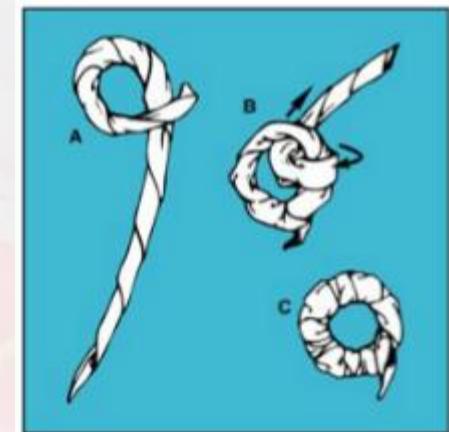
Soft Tissue Injuries – Special Considerations

- ❖ Impaled objects
 - Leave in place **UNLESS** it is interfering with the airway



Soft Tissue Injuries – Special Considerations

- ❖ Impaled object
 - Expose area around impalement
 - Stabilize and secure in place
 - A triangular “doughnut” can be used



Soft Tissue Injuries – Special Considerations

- ❖ Arterial Bleeding – control in the following order
 - Pressure (digital pressure)
 - If this works you can apply dressings to maintain pressure at the site
 - Tourniquet (extremities)
 - Second tourniquet may be applied/tried
 - Hemostatic dressing if tourniquet inadequate
 - Apply to uncontrolled torso, groin, axillary injuries if pressure ineffective
 - DO NOT apply to ***open cranial wounds***
 - Maintain pressure with the use of pressure dressings

Soft Tissue Injuries – Special Considerations

- ❖ Uncontrollable bleeding
 - Hemostatic dressing/packing
 - If the wound is in any junction or extremity, it should be packed to help control the pressure and the bleed.
 - Do not insert fingers into the hollow spaces of the head/chest/abdomen
 - Trauma/pressure dressing
 - venous bleeds/non arterial bleeds

Soft Tissue Injuries – Special Considerations

- ❖ If eyes involved – cover both eyes to reduce the movement and risk further injury to affected eye

Soft Tissue Injuries – Special Considerations

- ❖ Bites

- Usually a combination of penetrating and crush injuries – also avulsion or stellate laceration as person tries to pull free
- Risk of various infections ++



Bandaging

- ❖ Head and Eyes



Bandaging

- ❖ Head and Ears



Bandaging

- ❖ Head and/or Cheeks



Bandaging

- ❖ Hands/wrists



Bandaging

- ❖ Shoulder



Bandaging

- ❖ Foot or ankle



Bandaging

- ❖ Arm sling – using triangular





QUESTIONS?