

FARM TRAUMA, NOT DRAMA

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Farm Trauma Not Drama



Farm Trauma Not Drama



- ▣ All incidents have the same beginning
 - Scene safety
 - Triage
 - Basic skills
 - Need for more resources
 - Often rural with limited back up
 - Mechanism of injury / differential diagnosis

Farm Trauma Not Drama

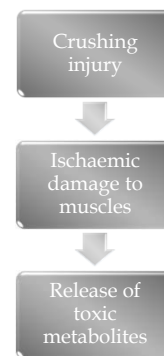


- ▣ What type of injuries and disease process do we face?
 - Crush injury
 - Burns
 - Amputation
 - Penetrating trauma
 - Acute MI

Crush Injuries



PATHOPHYSIOLOGY

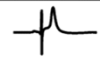

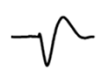


Clinical Features

EKG Changes from Potassium

- ❑ Effects of hyperkalaemia on the ECG
- ❑ Serum potassium > 5.5 mEq/L is associated with **repolarization abnormalities**:
- ❑ Peaked T waves (usually the earliest sign of hyperkalaemia)
- ❑ Serum potassium > 6.5 mEq/L is associated with **progressive paralysis of the atria**:
- ❑ P wave widens and flattens
- ❑ PR segment lengthens
- ❑ P waves eventually disappear
- ❑ Serum potassium > 7.0 mEq/L is associated with **conduction abnormalities and bradycardia**:
- ❑ Prolonged QRS interval with bizarre QRS morphology
- ❑ High-grade AV block with slow junctional and ventricular escape rhythms
- ❑ Any kind of conduction block (bundle branch blocks, fascicular blocks)
- ❑ Sinus bradycardia or slow AF
- ❑ Development of a sine wave appearance (a pre-terminal rhythm)

Elevated Potassium EKG

Serum potassium	Typical ECG appearance	Possible ECG abnormalities
Mild (5.5-6.5 mEq/L)		Peaked T waves Prolonged PR segment
Moderate (6.5-8.0 mEq/L)		Loss of P wave Prolonged QRS complex ST segment elevation Ectopic beats and escape rhythms
Severe (>8.0 mEq/L)		Progressive widening of QRS complex Sine wave Ventricular fibrillation Asystole Atrial diverticula Bundle branch blocks Fascicular blocks

Burns



combine fire

Inhalation Injury

Exposure to heat and toxic products of combustion

- ❑ 50% of fire deaths are related to inhalation injuries
- ❑ Asphyxia/Carbon Monoxide displacement of oxygen

Inhalation injury diagnosis

- ❑ Closed-space fire
- ❑ Face burns



Terminology

- ☐ Inhalation injury “nonspecific”
 - Thermal injury
 - Upper airway
 - Heat and toxic fumes
 - Local chemical irritation
 - Throughout airway
 - Primarily toxic fumes
 - Systemic toxicity
 - CO

Signs and symptoms

- ☐ Lacrimation
- ☐ Cough
- ☐ Hoarseness
- ☐ Dyspnea
- ☐ Disorientation
- ☐ Anxiety
- ☐ Wheezing
- ☐ Conjunctivitis
- ☐ Carbonaceous sputum
- ☐ Singed hairs
- ☐ Stridor
- ☐ Bronchorrhea

Burn Depth

Factors

- ☐ Temperature
- ☐ Duration of contact
- ☐ Dermal thickness
- ☐ Blood supply
- ☐ Special Consideration: Very young and very old have thinner skin

Burns begin at 44 degrees C

- ☐ 6 hours for burns to occur at 111 degrees F (44 C)
- ☐ 1 second f burns to occur at 140 degrees F (60 C)

Time For Full Thickness Burns To Occur In Scalds

- ☐ 5 seconds in water @ 140 F (60 C)
- ☐ 30 seconds in water @ 130 F (55 C)
- ☐ 5 minutes in water @ 120 F (49 C)

Ice Pack-----DO NOT USE EVER

- ☐ DOES NOT
 - Reverse temperature
 - Inhibit destruction
 - Prevent edema
- ☐ DOES
 - Delay edema
 - Reduce pain

Non-medication methods

- ▣ Cover burns with plastic wrap
 - Wet dressings will stick and cause more pain
 - Other burn dressings are expensive and not necessary
 - Quik Clot is expensive and will not provide any patient benefit

Medication

- ▣ Medications
 - Opioids
 - Narcotics
 - Pain medications
 - IV Analgesia

Idaho Burn Protocol

- ▣ http://healthandwelfare.idaho.gov/Portals/0/Medical/EMS/EMSPC/EMSPC_Protocols_Final_2016.pdf?ver=2016-06-30-140516-003

Encounters with Sharp Things



Amputation

- ▣ [PTO demonstration](#)

Amputation

- ▣ http://healthandwelfare.idaho.gov/Portals/0/Medical/EMS/EMSPC/EMSPC_Protocols_Final_2016.pdf?ver=2016-06-30-140516-003

Penetrating Trauma



Acute MI

