Nursing Care of Patients With Emergent Conditions and Disaster/Bioterrorism

Chapter 13

Niomi Quinteros BSN, RN

Triage

Primary Survey

- Airway
- Breathing
- Circulation
- Disability/Central Nervous System
- Exposure

Secondary Survey

- For patient with severe trauma
- Identifies non–life-threatening injuries
- Rapid head-to-toe assessment
- Keep covered and warm

Know the causes of shock

Shock

3 phases:
compensated
progressive
irreversible(leads to death)

- Circulatory failure
- Decreased cellular perfusion
- Treatment/Nursing Care
  - Maintain an open airway and give O2 as ordered
  - Control bleeding
  - Keep the supine if possible
  - Vital signs as indicated
  - Keep warm
  - I V fluids
  - Keep NPO until surgery is ruled out

Shock

- Hypovolemic
- Cardiogenic
- Obstructive
- Distributive

Anaphylaxis

Know the nursing care plans in all chapters

- Signs and Symptoms
- Severe allergic reaction
- Sudden
- Distributive shock
- Signs and symptoms
  - Respiratory distress: Wheezing
  - Hypotension
  - Decreased consciousness
  - Red, raised rash

Treatment

- Airway
- Oxygen
- Epinephrine
- Antihistamines
- Steroids

Nursing Diagnoses

- Risk for Shock
- Risk for Ineffective Peripheral Tissue Perfusion
- Risk for Allergic Reaction
- Ineffective Airway Clearance

Major Trauma

- Mechanism of injury
  - Transfers environmental energy to person
- Penetrating (open) injuries
  - Sharp object, projectiles
  - If sharp object is still in client, stabilize it so it remains in place
- Blunt (closed) injuries
  - Trauma extends to surrounding structures

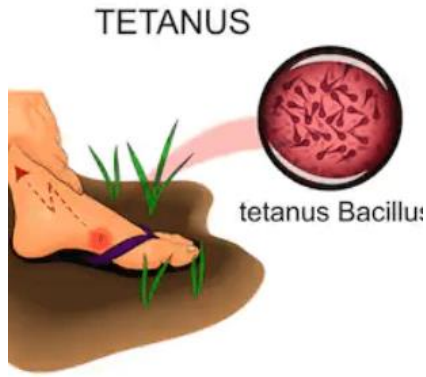
Surface Trauma

- Closed wound
  - Contusion, hematoma
- Open wound
  - Abrasion, puncture, laceration, avulsion, amputation

flesh is removed

Tetanus

- Cause: Bacillus *Clostridium tetani*
- Spores enter open wound and activate
- Signs and symptoms
  - Jaw spasm (lockjaw)
  - Abdominal rigidity
  - Dysphagia, dyspnea
  - Muscle stiffness
  - Seizures
  - Death



Tetanus

- Tetanus vaccinations
  - Boosters every 10 years
- Treatment
  - Hospitalization
  - Airway maintenance
  - Human tetanus immune globulin (intramuscular)
  - Muscle spasm control
  - Wound care
  - Tetanus toxoid booster

Head Trauma

- First phase
  - Initial injury
- Second phase
  - Involves intracerebral bleeding and edema
  - Increased intracranial pressure (I C P)

Signs and Symptoms of I C P

Early Signs

- Headache
- Nausea/vomiting
- Amnesia
- Change in level of consciousness

Late Signs

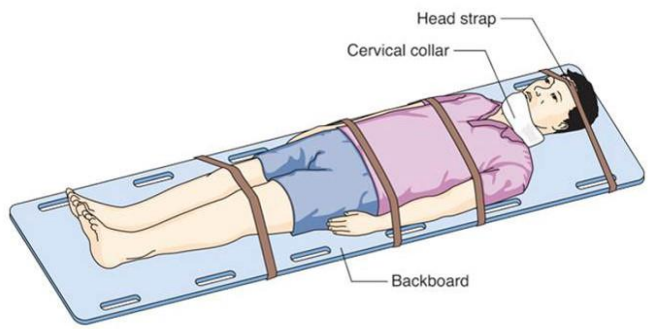
- Dilated, nonreactive pupils
- Unresponsive
- Abnormal posturing
- Decreased pulse rate, widening pulse pressure
- Changes in respiratory pattern

Head Trauma Nursing Care

- Decrease I C P
  - Oxygen
  - Head elevated 30 to 45 degrees
  - Head midline

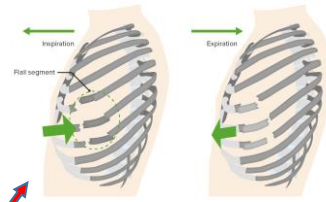
Spine Trauma

- Suspect with all trauma patients.
- **Stabilize spine (neck/back) until injury ruled out.**
- Maintain airway.



Chest Trauma

- Heart and lung damage
  - Pericardial tamponade
  - Hemothorax
  - Tension pneumothorax
  - Flail chest ← 2 or more fractured ribs and no longer attached.
- Treatment
  - Oxygen
  - Chest tube as needed (P R N)
  - Surgery



Abdominal Trauma

- Spleen, liver, bladder, intestinal damage
- Monitor for shock
- Abdominal distention, firm, tender
- I V fluids
- Surgery

Orthopedic Trauma

- Emergency care: “Splint it as it lies”
- Fractures
- Joint dislocations
- Treatment
  - Immobilize
  - Elevate
  - Ice
  - Open/closed reduction
  - Pain control

referring to surgery(open requires surgery close does not)

Know this

Major Trauma Assessment

- Identify mechanism of injury
- Vital signs
- Pain level
- Glascow coma scale

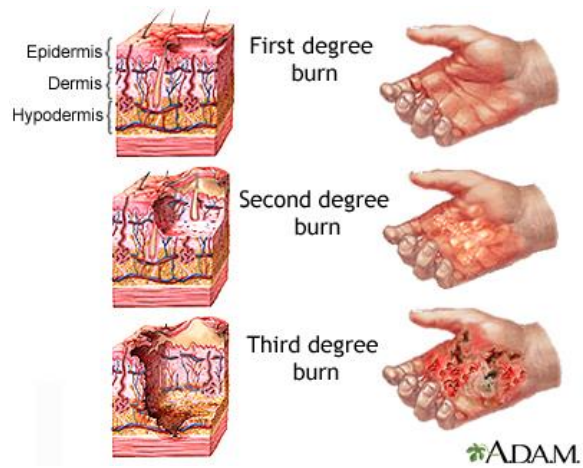
GLASGOW COMA SCALE	
Areas of Response	**Points**
Eye Opening	
Eyes open spontaneously	4
Eyes open in response to voice	3
Eyes open in response to pain	2
No eye opening response	1
Best Verbal Response	
Oriented (e.g., to person, place, time)	5
Confused, speaks but is disoriented	4
Inappropriate, but comprehensible words	3
Incomprehensible sounds but no words are spoken	2
None	1
Best Motor Response	
Obeys command to move	6
Localizes painful stimulus	5
Withdraws from painful stimulus	4
Flexion, abnormal decorticate posturing	3
Extension, abnormal decerebrate posturing	2
No movement or posturing	1
Total Possible Points	**3–15**
Major Head Injury	**≤ 8**
Moderate Head Injury	**9–12**
Minor Head Injury	**13–15**

Nursing Diagnoses

- Acute Pain
- Risk for Ineffective Cerebral Tissue Perfusion
- Ineffective Breathing Pattern
- Ineffective Airway Clearance
- Impaired Physical Mobility
- Decreased Cardiac Output
- Deficient Fluid Volume
- Risk for Infection
- Impaired Physical Mobility

Burns

- Primary survey: A B C D E
- Airway/respiratory monitoring
- Treatment
  - Oxygen
  - I V fluid resuscitation
  - Temperature regulation
  - Pain control
  - Wound care/infection control
    - Silver sulfadiazine (Silvadene, Flamazine)



Hypothermia

- Core temperature below 95 degrees Fahrenheit (35 degrees Centigrade)
- Rewarming (active/passive)
  - Wrap in warm blanket, including head
  - Give warm humidified oxygen and warm IV fluids
- Stabilizing vital functions
  - Monitor pulse and ECG rhythm
- Prevent further heat loss.

Frostnip versus Frostbite

- Frostnip
  - Extremities cold, not frozen
  - Pale and blanched, not painful
- Frostbite
  - Extremities frozen
    - Protect, never rub
    - Dry, sterile dressing
    - No weight-bearing
    - Elevate

Hyperthermia

- Heat cramps
  - Muscle spasms
- Heat exhaustion
  - Excessive sweating
  - Cold and clammy
  - Dizzy, weak or faint
  - NV, HA
  - Temperature slightly elevated to 100.4 to 102.2 F
- Heatstroke
  - Inability to sweat
  - Temperature 106 F (41 C)

- Treatment
  - Cool environment
  - Loosen clothing
  - Oral or I V fluids/electrolytes

Nursing Diagnoses

- Hypothermia
- Hyperthermia
- Deficient Fluid Volume

Poisoning and Drug Overdose

- Ingested
  - Drugs, plants, chemicals
- Inhaled
  - Natural gas, carbon monoxide, chlorine
- Injected drugs, stings
- Venom bites
  - Keep the patient calm and immobilize the affected body part.
  - The site should be cleaned with soap and water, loosely dress it with a clean dressing
  - If the bite is on an extremity, keep it below the level of the heart. Do not put ice on the affected area

- Treatment
  - Identify substance.
  - Contact poison control center.
  - Treat as indicated.

Near Drowning

- Water submersion with survival
- Respiratory failure
- Neurological injury
- Treatment
  - Primary survey: A B C D E
  - Airway, oxygen
  - Rewarm
  - Monitor for pulmonary edema
- Nursing diagnosis
  - *Ineffective Tissue Perfusion* related to severe anoxia

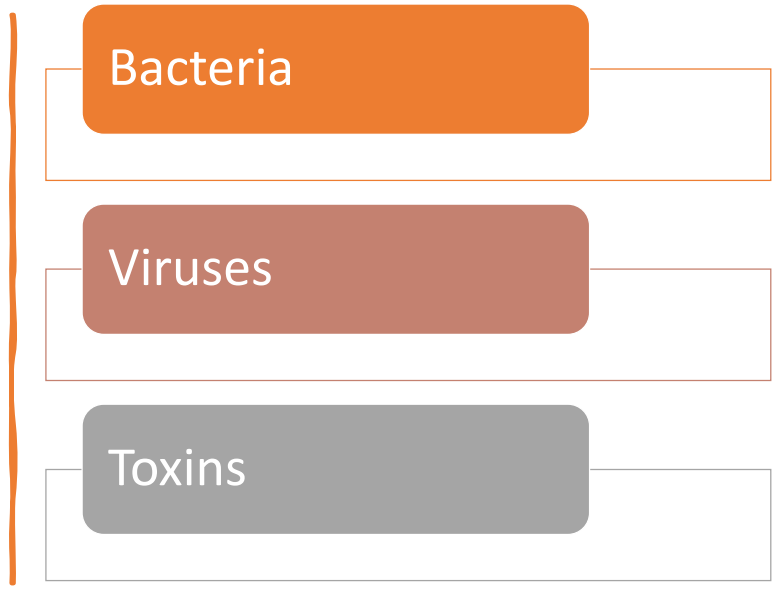
Psychiatric Emergencies

Disordered thoughts with potential for harm

Disaster Response

- Overwhelming event
- Institutional disaster plan activated
- Casualties are triaged
- Disaster drills

Bioterrorism Agents



Anthrax

- Bacterial disease
- Three forms
  - Inhalation
  - Cutaneous
  - Gastrointestinal
- No isolation; use standard precautions
- Fatal if not treated
- Antibiotic therapy

Botulism

- Caused by *clostridium botulinum*
- Most potent lethal toxin known
- Potent neurotoxin
- Paralytic illness
  - Blocks neurotransmission
- Not contagious

- Classic triad of botulism
  - Afebrile
  - Symmetrical descending flaccid paralysis with prominent bulbar palsies
  - Clear mentation

Treatment

- Trivalent (A B E) equine antitoxin
  - Prevents progression of disease
- Supportive care
  - Monitor airway, gag reflex, cough, swallowing, oxygenation
- Morbidity/mortality

- Standard precautions
  - Wash exposed clothes.
  - Shower if aerosol exposure.
  - Use 0.1% hypochlorite bleach solution for surfaces.

Plague

- Coccobacillus *yersinia pestis*
- Biological attack
  - Primary pneumonic plague
- Incubation period 2 to 4 days

- Treatment
  - Antibiotics

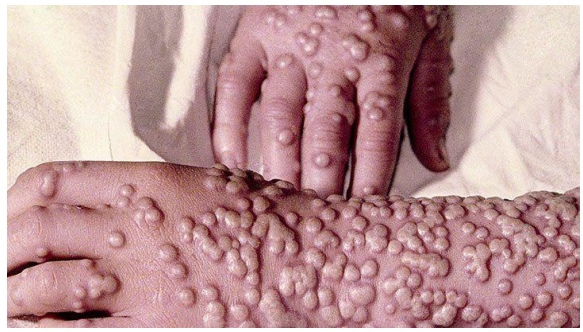
Signs and Symptoms

- High fever, chills
- Headache
- Chest discomfort
- Dyspnea
- Cough, hemoptysis
- Gastrointestinal symptoms
- Rapidly progressive respiratory failure and sepsis 2 to 4 days after onset

Smallpox

- Variola major
- Eradicated in 1980
- Low attack risk agent
- Highly infectious
- Public health emergency

- Isolation
  - Strict standard, contact, airborne precautions
  - Wear fit-tested N95 respirator



Principles For Treating Shock. True or False

t ____ Maintain an open airway
t ____ Give oxygen as ordered
f ____ Control external bleeding by indirect pressure
f ____ Apply cooling blankets to cool client
t ____ If possible, keep the client supine
f ____ Take hourly vital signs
f ____ Provide the client with oral fluids
t ____ Monitor IV fluids as ordered

Signs and Symptoms of Increased Intracranial Pressure

_____ Abnormal posturing
_____ Altered level of consciousness
_____ Amnesia
_____ Changes in respiratory pattern
_____ Changes in speech
_____ Decreased pulse rate
_____ Dilated nonreactive pupils
_____ Drowsiness
_____ Headache
_____ Nausea and vomiting
_____ Unresponsiveness
_____ Widening pulse pressure

1. Early sign
2. Late sign

Principles for Disaster or Bioterrorism Response

Fill in the Blank:

A disaster _____ existing personnel, facilities, and equipment.

Hospitals activate _____ plans in a disaster.

Those treated first are the most _____ injured but who have the greatest chance for _____ recovery.

Disaster _____ are conducted on a regular basis.

Sources of disaster can include _____ agency events such water, power, sewer, or computer issues.

Floods, storms, fires, earthquakes, tornadoes, mva's, plane crashes, and acts of terrorism are _____ sources of disasters.