

Disaster Medical Operations Part 2

2/10/09

Maintain Proper Hygiene

Exposed Entry Sites for Germs Into Body

- Cuts on skin
- Eyes
- Nose
- Mouth

Universal Precautions (Assumes all body liquids are germs)

- Avoid contact with body fluids
- Wash hands frequently using soap and water
- Wear *gloves; change or disinfect after each patient
- Cover open wounds on your self
- Wear a mask (N95) and goggles

- Clean wounds when possible
- Keep dressings sterile
- If victim is believed to be contagious keep separate from other victims

Have a Tetanus immunization within the last 10 years

Maintaining Proper Sanitation

- Control disposal of bacterial sources.
- Put waste products in plastic bags, tie off, and mark as medical waste.
- Bury human waste.
-

Purifying Water for Drinking Alternatives

- Boil one minute
- Water purification tablet
- Eight drops of unscented bleach/gallon

Function of Disaster Medical Operations

- Triage
- Treatment
 - Minor treatment leader
 - Immediate treatment leader
 - Delayed treatment leader
- Transport (to treatment areas)
 - Liter bearers
- Morgue
 - Record information
 - Secure body

Site Selection Criteria

- In a safe area.
- Close to (but upwind and uphill from) the hazard.
- Accessible by transportation vehicles.
- Protected from the elements
- Expandable

Site Plan Considers

- Verbal communication between areas
- Shared medical supplies
- Easy transfer of victims between areas
- Access to victims
- Effective use of space and personnel

Advanced planning Considerations

- Alternate locations for treatment
- Roles of personnel assigned to treatment area
 - Medical
 - Recorders
 - Admin
 - Communications
 - Transportation
- Availability of setup equipment
 - Group cover/tarps
 - Signs to identify different areas
 - Forms
 - First aid equipment

Treatment Area Documentation

Treatment

- Description (age, sex, and weight)
- Injuries
- Treatment
- Transfer location

Identification information

- Description (body build, height)
- Clothing
- Other identifying information

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Patient Evaluation

Initial Assessment

Provide immediate treatment for life-threatening injuries

Suspect that anyone that is unconscious may have a head injury

Head to Toe Assessment

- Ask permission from conscious victims
- Determines extent of injuries
 - Pay attention to how the person was injured
- Determines type of treatment needed
- Provides information to document injuries

Complete entire assessment before other treatment looking for **DOTS**

- **D**eformities
- **O**pen injuries
- **T**enderness
- **S**welling

Head-to Toe Assessment

Head

- Feel the skull for deformities, open injuries, tenderness & swelling
- Look for fluids or blood in the ears, nose or mouth
- Note any changes in the level of consciousness

Neck

- Feel side and back of neck

Shoulders

- Feel shoulders and collar bone
- Ask person to shrug shoulders

Chest

- Feel ribs and sternum
- Ask person to take a deep breath
- Listen for signs of difficulty breathing

Abdomen

- Apply slight pressure to each side of abdomen, high and low

Pelvis

- Push down on both sides of pelvis with your hands

Arms and hands

- Feel both sides of each arm and hand, one at a time
- Ask person to move fingers, hands and arms
- Ask person to squeeze your right index and pointer finger with his left hand at the same time he squeezes your left fingers with his right hand

Legs and Feet

- Feel both sides of leg and feet one at a time.
- Ask person to try to move toes, foot, ankle and bend leg

Back

- Gently reach under person and feel back

Reasons to suspect a Head, Neck and Spinal Injury

- Motor vehicle, bicycle or motorcycle accident as an occupant, rider or pedestrian
- Injured from a fall from a height greater than victims height
- Victim found under collapsed building material or heavy debris
- A person is unconscious for unknown reasons
- Is not fully alert
- Appears to be intoxicated
- Appears frail or over 65 years of age
- Complains of neck or back pain, tingling of extremities, or weakness
- Has a head or neck injury

Signs of a head, neck or spinal injury

- Change in level of consciousness
- Heavy bleeding, bruising or deformity of the head or spine
- Severe pain or pressure in the head neck or back
- Inability to move one or more body part
- Tingling or numbness of extremities
- Difficulty breathing or seeing
- Blood or fluid in the nose or ears.
- Uneven pupils.
- Seizures.
- Nausea or vomiting

Treatment

- Keep spine in a straight line
- If head is turned sharply to one side , do not move it. Support in position found.
- When moving the victim
 - Use backboard, door or other building material.
 - Stabilize head at all times when moving victim.
 - Stabilize head on board with towels, draperies
 - See "Transportation of Injured"

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Classification of Burns

- First Degree (Superficial)
 - Reddened skin
- Second Degree (Partial Thickness)
 - Reddened, wet appearance, blistered skin
- Third Degree (Full Thickness)
 - Whitened, leathery or charred

Treating Burns

- Remove burning
- Cool skin with water
- Cover loosely with dry sterile dressing (Keeps liquid in and germs out)

Treat Second and Third degree burn victim for shock.

- Do not use ice
- Do not apply antiseptics or ointments
- Do not remove shards of tissue, or adhered particles of clothing.
- Do not break blisters
- Do not cool more than 15% of body at a time to prevent hypothermia

Treating Minor Wounds

- Control bleeding
- Clean wound
- Use drinking water (minimize infection)
- Use soap
- Don't scrub
- Do not use peroxide or Betadine
- Apply clean dressing and bandage
 - Dressing is applied directly to wound
 - Bandage holds dressing in place

Signs of Infection

- Swelling around wound site
- Discoloration
- Discharge from the wound
- Red striations from the wound site towards heart
- Heat

Dressing Maintenance

No active bleeding

- Keep wound dry for 24 hours
- Check for infection
- Clean with water, dry and re-bandage
- Repeat every 24 hours

Active bleeding

- Redress over existing dressing and maintain pressure.

Treating Amputation

- Control bleeding
- Treat for shock
- Do not clean tissue with liquid
- Save tissue parts, wrapped in clean cloth in a plastic bag.
- Keep tissue cool but do not let ice touch
- Keep tissue with the victim

Treatment for Impaled Objects

- Immobilize
- Don't move or remove (unless it obstructs the airway)
- Control bleeding
- Clean and dress wound
- Wrap

Bandaging an Impaled Object

- Support the Object
 - Pack bulky dressing around the object to stabilize it in place.
- Continue to apply light pressure
- Apply a pressure bandage
- Using a roller bandage, cover the dressing completely, using overlapping turns so that the object is stabilized.

Nasal Bleeding

Causes

- Blunt force
- Skull fracture
- Non-trauma-related conditions
- Blood loss can lead to shock.
- Victims may become nauseated and vomit if they swallow blood.

Treatment for Nasal Bleeding

- Lean forward
- Pinch nostrils together
- Keep victim quiet

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Muscle & Bone Injuries

Types of muscle & bone injuries

- Fractures
 - Open
 - Closed
- Dislocations
- Sprain
- Strain

Signs of Muscle & Bone Injury

- Pain
- Bones grating or a snap or pop felt or heard by victim.
- Tenderness at injury site
- Swelling and/or bruising
- Deformity
- Bone fragment protruding from wound
- Restricted use or loss of use

Treating an Open Fracture

Do:

- Cover wound.
- Splint fracture without disturbing wound.
- Place a moist 4" x 4" dressing over bone end to prevent drying.

Do not

- Draw exposed bones back into tissue.
- Irrigate wound.

Treating Closed Fractures, Dislocations, Sprains, and Strains

- **R**est
- **I**mmobilize the injury and joints above and below the injury.
- **C**old (ice if you have any)
- **E**levate
- Cover any wound with a sterile dressing.

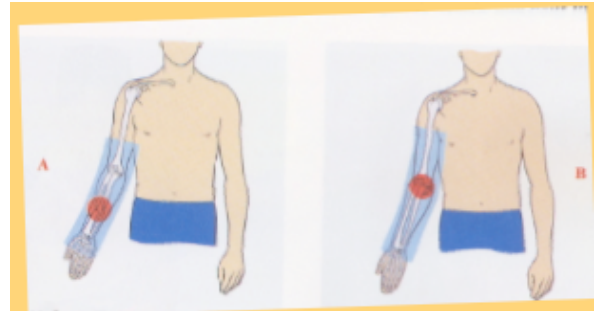
Splinting

Types of Splints

- Soft
- Rigid
- Anatomic
- Traction

Guidelines for Splinting

- Treat open injury first
- Support the injured area
- Check for **feeling**, warmth, and **color**
- Splint injury in the position that you find it
- Don't try to realign bones
- Immobilize above and below the injury
- Check again for Feeling, warmth, & **color**



See attached for more information on splinting

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Hypothermia

Hypothermia occurs when the body can not generate sufficient heat to keep the bodies core temperature above 95 degree F

Heat Transfer

Body loses it's heat to cold

Body loses heat 25 faster to cold water than to cold air

We lose heat through

- Radiation-melting chocolate chip cookies in your hand
- Conduction-touch something that is cold
- Convection-wind
- Evaporation-sweat

Wind and wetness can take away body heat faster than the body can produce it

When it's cold

- Shivering is our body generating heat by exciting our muscles
- Blood vessels near the skin contract to conserve heat
- Alcohol causes blood vessels near the skin to dilate giving a warm sensation

Seniors are at a Higher Risk for Hypothermia

- Less ability to compensate
- Slower to sense temperature changing
- Less muscle mass (shivering)
- Less insulation
- Low metabolism

Hyperthermic Risk Factors

- Meds
- Diabetes
- Alcohol abuse
- Malnutrition
- Parkinsonism
- Hyperthyroidism
- Obesity

50% of Hyperthermia happens when the weather is:

- Wet
- Windy
- 30 to 50°F
-

Avoid Hyperthermia

Eat and Drink

- Eat food to generate heat
- Drink water or sweet non-caffeinated beverages
- Don't drink
 - Caffeinated beverages - promotes dehydration
 - Coffee-makes blood vessels expand

Cover

- Wear scarves and hats on head, neck and face.
- Wear mittens

Overextension

- Don't overwork your self as it will deplete the bodies energy reserve
- Body will have a harder time warming

Layer

- Dress in layers
- Remove layers if too hot
- Loose clothing retains heat

Dry

- Use insulating fabrics like wool, silk or

Mild

95° - 91° F

Shivering

Clear speech

Fine motor skills impaired (i.e. can't use a zipper) Gross motor skills O.K.(can hold a coffee cup)

Conscious and aware

Red or blue skin

polypropylene

Severe

Below 91°F

Past shivering

Slurred speech

Both fine and gross motor skills impaired

Diminished level of consciousness, unaware

Ashen or grey skin

Signs and Symptoms of Hypothermia

Treating Hypothermia

- Protect the victim from wind, cold & rain
- Remove wet clothing ASAP
- Wrap the victim in a blanket or sleeping bag and cover the head and neck
- Expose to sun
- Provide warm sweet drinks and food to conscious victims.
- Do not offer alcohol, caffeine or massage
- Place an unconscious person in the recovery position
- Do not allow victim to walk around as it may trigger a heart attack

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Heat Related Emergencies

Heat related Emergencies happen when the body is unable to cool itself sufficiently and the bodies core temperature raises to dangerous levels

When the ambient temperature is over 90 degrees F almost all of the body cooling is from evaporation

Seniors are a Higher Risk Group

- Lower ability to survive high temperatures
- Lower ability to compensate
- Slower to sense temperature changing
- Perspire less

Avoiding Heat Related Emergencies

- Drink water
- Avoid alcohol and caffeine
- Wear light colored clothing that fit loosely and cover all exposed areas of the skin
- Avoid exercise in high temperatures and high humidity
- Avoid becoming exhausted
- Reduce heat gain
- Think & plan ahead

Signs that you are not hydrated

- Tenting
- Thirst
- Not urinating
- Bright yellow urine (except when taking vitamins)
- Other heat exhaustion signs or symptoms

Early Symptoms of Heat Emergency

- Headache
- Nausea
- Muscle cramps

Heat Exhaustion	Heat Stroke
< 104° F	104° F +
Cool, moist, pale, ashen or flushed skin	Dry skin
Heavy sweating	Dry skin
Headache, nausea, dizziness	Vomiting
Weakness, exhaustion	Changes of level of consciousness
	Rapid shallow breathing
	Get person to advanced life support

Care for Heat Related Emergencies

- Move the person to a cool place
- Loosen tight clothing
- Apply cool wet towels to skin
- Fan the person
- If person is conscious, give small amounts of cool water to drink

If the person refuses to drink water, vomits or starts to lose consciousness

- **Get person to Advanced Life Support**
- Place the person on his or her side
- Continue to cool the person with ice or cold pack on wrists, ankles, groin, neck and in the arm pits
- Continue to check for breathing