First Aid Manual

Health Science

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Section 1- First Aid For Bleeding And Wounds

PART 1.
I. Open and Closed Wounds
   A. Open wounds is a break in the skin or in the mucous membrane.
   B. Closed wounds can be involved in underlying tissues without a break in the skin.
   C. Open and closed need to be cared for because of excessive bleeding and cause of infection.

II. Types of Open Wounds
   A. Abrasions
      1. Scrape on the skin
   B. Incision
      2. Cut or injury by sharp objects
   C. Laceration
      3. Jagged irregular injury with tearing
   D. Puncture
      4. Wound caused by sharp pointed objects
   E. Avulsion
      5. Tissue torn or separated from the body
   F. Amputation
      6. Body part cut off

III. Types of Bleeding
   A. Arterial Blood
      1. Spurts bright red in color with each beat of the heart.
   B. Venous Blood
      2. Steady flow of dark or maroon colored blood. This type of bleeding is easier to control.
   C. Capillary Blood
      3. Slow, oozing flow of blood. This type has a higher risk of infection.

III. Methods to control bleeding
   A. Direct pressure
   B. Elevate
C. Pressure at pressure point
D. Pressure Bandage

Main pressure point for arm:
Brachial Artery

Main pressure point for the leg:
Femoral Artery

***Make sure to use gloves or a plastic wrap to form a protective barrier when controlling bleeding***

PART 2.

III. Infection
A. Ways to prevent infection while caring for minor bleeding
   1. Washing hands
   2. Washing the wound
   3. Wiping the wound with sterile gauze
   4. Re-wash the wound with cool water
   5. Apply sterile dressing

B. Signs of infection
   1. Fever
   2. Aches
   3. Chills
   4. Vomiting
   5. Nausea
   6. Weakness

C. Tetanus Infection
   1. If a possibility for getting infected, getting a tetanus shot or a booster is necessary

IV. Embedded objects
   A. Big objects in wounds should be left for a physician to deal with
B. If the object is small, use a small tweezer to dig it out.

V. Closed wounds
   A. Signs and Symptoms
      1. Pain, swelling, tenderness deformity, cold/clammy skin
      2. Rapid/weak pulse and drop in blood pressure

VI. Conclusion
   A. When caring for wounds always be prepared for shock.
   B. Always remain calm while giving first aid.
   C. Obtain appropriate care as soon as possible.
Section 2- Providing First Aid For Shock

I. What is Shock?
   A. Shock is a clinical set of signs and symptoms associated with an inadequate supply of blood that goes through the organs, brain, and heart.
   B. Brain and heart are the main body organs that are affected by shock

II. Types of shock
   A. Septic- Usually caused by an acute infection
   B. Cardiogenic- The heart cannot pump effectively because heart muscle is damaged
   C. Hemorrhagic- Severe bleeding leads to a decrease in blood volume
      *Easy way to remember is that the first letters spell hemo which is also in the word hemoglobin. Hemoglobin is in blood and hemorrhagic has to do with blood*
   D. Anaphylactic- hypersensitivity or allergic reaction causes body to release histamine
   E. Psychogenic- Emotional distress causes sudden dilation of blood vessels
      *A good way to remember this could be that psychology deals with emotions and psychogenic has the the letter psycho*
   F. Metabolic- Loss of body fluid causes disruption in normal acid-base balance of body

III. Symptoms
   A. Pale, cold skin
   B. Diaphoresis
   C. Rapid pulse and respirations
   D. Low blood pressure
   E. Weak victim (some may have anxiety)
   F. Thirst and blurred vision
IV. Treating Shock
   A. Treating for shock is directed at eliminating the cause of shock, improving circulation, providing adequate supply of oxygen, and maintaining body temperature.

   B. Victim with neck or spine injuries
      a. Do not move victim and wait for medical help
   C. Victim vomiting or bleeding from mouth
      b. Place victim’s body on either side
   D. Victim with respiratory distress
      c. Place victim on back but elevate and raise the head and shoulder
   E. Position if none of the previous conditions are present
      d. Place victim flat on his/her back
   F. If necessary, if a shock victim in the accident scene has been covered in blankets and is perspiring, then remove some of the blankets without removing too many blankets.

   - Place the victim in shock position
   - Keep the person warm and comfortable
   - Turn the victim’s head to one side if neck injury is not suspected
Section 3 - Providing First Aid For Poisoning

I. How to prevent poisoning-
There are different ways poisoning can be caused. Swallowing, inhaling, injecting, or contact to the skin can cause poisoning. You can help yourself by reading the labels on the dose you should take and how you should take it. The first thing you should always do when someone swallows a poison is to call poison control. This section will tell you what to do while poison control is on their way and what to do when they get there.

II. 3 types of information you can give to the physician or poison control center-
- the label or container of substance taken.
- give an estimation on how much of the poison has been taken.
- the time the victim took the poison

III. Vomiting of poisoned victim
- If they vomit save some of the material
  If victim is unconscious place them on the side with head slightly downward.
- To induce vomiting give them syrup of ipecac with a glass of water (another way to induce vomiting would be to administer salt water)
activated charcoal can be used after a poisoning victim vomits because the charcoal absorbs the poison.

IV. Inhalation poisoning
- DO NOT INDUCE VOMITING
- get victim out of the area

V. Chemical poisoning
- DO NOT INDUCE VOMITING
- use large amounts of water to wash the skin for at least 20 minutes

VI. Allergic reaction to an injected poison
- Redness and swelling of the throat
- Difficult or labored breathing
- Dizziness
- Change in the level of consciousness
- Pain

Section 4- Providing First Aid For Burns
**Burn** - an injury that can be caused by fire, heat, chemical agents, radiation, and electricity.

If victim gets chemicals or irritating gases burn the eyes; **flush the eyes with large amounts of water for 15 to 20 minutes.**

First Degree burn/ superficial
- only burns the top layer of skin
- skin is reddened
- mild sweating

Second Degree burn/ partial thickness
- injury to epidermis and dermis
- blister forms
- swelling occurs

*Cover burnt areas with thick, sterile dressings*

Third Degree burn/ full-thickness
- injury to all layers of skin
- charred/ white appearance

*Cover burnt areas with thick, sterile dressings*

First remove the source of heat and cool the affected skin. Cover the burn to relieve the pain while observing and treating for shock (see section 2) to prevent infection.

**Seek medical care if the victim is**
- burnt more than 15% of adult body
- burns cover more than one body part
- burns are from chemicals
- burns affect respiratory tract
- victim has difficulty breathing

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Section 5

I. Heat Cramps-
   If you have heat cramps you should:
- apply firm pressure to the muscle
- rest and move to a cooler area
- take small sips of water

II. Heat Exhaustion-
Signs or symptoms for heat exhaustion are:
- paleness
- weakness
- fatigue
- muscle cramps
- headaches
- profuse perspiration

If you have heat exhaustion you should:
- move to a cooler area
- remove any excessive clothing
- apply cool or wet clothes

III. Heat Stroke
Signs and symptoms for a heat stroke:
- rapid pulse
- dry skin
- loosening of consciousness

If you or someone else is having a heat stroke you should:
- be placed in a tub of cool water
- place ice or cold packs on wrists
- be alert for signs of shock

and Heat exhaustion

If you are recovering from any condition due to exposure to heat you should avoid abnormally or low temperatures and drink sufficient amounts of water.

Chris Gothman

Section 6: Providing First Aid for Cold Exposure

There are three factors that affect the degree of injury caused by exposure to cold. These
three factors are wind velocity, amount of humidity, and
length of exposure.

Five symptoms of that can result from prolonged exposure to the cold:
1. Numbness
2. Shivering
3. Low body temperature
4. Confusion
5. Poor coordination

If a victim has hypothermia these are the three first aid treatment:
1. Remove wet clothing
2. Move victim to a warm area
3. Wrap in blankets

Frostbite is the freezing of tissue fluids, accompanied by damage. Frostbite is commonly found in fingers, ears, cheeks, toes, and the nose.

When using water to warm the body the water should be between 100 and 104 degrees Fahrenheit. When dealing with frostbite be sure not to rub or massage any affected body parts. Rubbing frostbite can cause gangrene. If a victim has blisters avoid letting one break.

Frostbite has four symptoms:
1. Redness
2. Pale, glossy skin
3. Blisters
4. Numbness

Lastly place a sterile gauze between any fingers or toes injured by frostbite. This prevents rubbing and causing of further injury.

Chris Gothman

Section 7: Providing First Aid For Bone and Joint Injuries

There are five bone and joint injuries:
1. Fracture: Break in a bone
2. Dislocation: end of a bone is either displaced from a joint or moved from it’s normal position
3. Sprain: Injury to tissues surrounding a joint
4. Strain: Overstretched

Treatment for Fractures is directed at maintaining respirations, treating shock, keeping the broken bone from moving, and preventing further injury.

There are two types of fractures. There’s a closed or simple fracture and an open compound fracture. A closed or simple fracture is a bone-break that is not accompanied by an external or open wound. An open or compound fracture is when there’s a bone-break accompanied by a wound in the skin.

There are six signs and symptoms of fractures:
1. Deformatty
2. Limited motion
3. Loss of motion
4. Pain
5. Tenderness
6. Swelling

There are five symptoms for dislocation:
1. Deformatty
2. Limited or abnormal motion
3. Pain
4. Tenderness
5. Discoloration

When dislocation occurs be sure not move the injured part. Movement can cause additional injury to nerves, blood vessels, and other tissue.

There are four symptoms of a sprain:
1. Swelling
2. Pain
3. Discoloration
4. Impaired motion

There are three first aid treatments for a sprain:
1. Apply something cold to reduce swelling
2. Elevate affected part
3. Rest

When dealing with strains apply warmth to relax muscles.

There are six materials that can be used for splints:
1. Cardboard
2. Newspaper
3. Blankets
4. Pillows
5. Boards
6. Inflatables

To test that an air splint is inflated properly apply slight pressure to splint using thumb. An indication mark should result.
When using a sling make sure the hand is elevated higher than the elbow. This promotes circulation, prevents swelling, and reduces pain.

These are the four points to check to make sure circulation is not impaired after a splint or sling is applied:
1. Skin color/temperature
2. Swelling
3. Numbness
4. Nailbeds are white

If you notice signs of impaired circulation after applying a splint check a pulse site below the splint to make sure it isn’t applying much pressure. If it is it can affect nerve endings.

If a victim has a spinal or neck injury be sure not to move them. Moving them can cause paralysis and/or permanent damage.

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Section 8

Attention when any injury to the eye occurs medical assistance is necessary the one of an eye specialist preferably since injuries to the eye involve the danger of vision loss.

I. Eye Injuries

When a foreign object is floating free in the eye you should:
- gently draw the upper lid over lower lid
- grasp eye lashes and gently raise upper lid
When an object is embedded in the eye you should **not remove the object** and **apply a dry sterile dressing** and **obtain medical help**.

II. Ear Injuries
When tissue is torn from the ear you should:
- apply sterile dressing with light pressure to control the bleeding

When a person has cerebrospinal fluid draining from the ear you should position them by:
- allow the fluid to flow from ear
- keep the victim laying down
- elevate the head and shoulders to allow the fluid to drain

III. Brain injuries
Signs and symptoms for injuries to the brain are:
- loss of conscious
- headache
- visual disturbance
- pupils are unequal in size
- muscle paralysis
- there’s fluid draining from the ears

If a person has any brain injuries you should:
- keep the victim laying flat
- watch for respiratory distress
- make no attempt to stop the fluid
- do not give the victim any liquids

IV. Nose Injuries
What can cause an epistaxis or a nosebleed
- a change in altitude
- strenuous activity
- high blood pressure

When a person is having a nosebleed they should be on a sitting position with their head leaning slightly forward.

V. Sucking Chest Wound
When a person has a sucking chest wound you should **use airtight dressing** and place it over the wound to prevent any air flow into the wound.

When a person has a sucking chest wound you should position them by:
- position the victim on injured side
- elevate the victim’s head and chest slightly
VI. Abdominal Injuries

Signs and symptoms for abdominal injuries are

- severe pain
- open wounds
- protruding organs
- nausea and vomiting

When a person has any abdominal pains you should position them flat on their back and put a pillow under their knees.

When abdominal organs are protruding from a wound you should remove the victim’s clothing and put a large moistened dressing with water or saline on wound.

Principles of first aid for injuries to genital organs:

- control severe bleeding
- treat victim for shock
- do not remove any objects
- save any torn tissue and use sterile

Section 9
Providing First Aid For Sudden Illness

By: Morgan Salazar

In this section you will be learning about sudden types of illness’s and the first aid care you need for each of these illness.

3 types of important Sudden Illness’s

1. Heart Attacks
2. Stroke
3. Fainting
4. Insulin Shock
5. Convulsion
First you want to check the victim for specific signs and symptoms. If the victim is conscious, get information on the history of their illness, type of pain, and other details.

**Heart Attacks**

If you think there is a victim having a heart attack, follow these directions.

- Place the victim in a comfortable position, and avoid movement. If the victim is having a difficult time breathing, use pillows or rolled blankets to elevate the head and shoulders.
- Obtain medical help immediately, advise that oxygen may be necessary.
- Tell the victim to relax. Remain calm and encourage others to remain calm
- Watch for signs of shock and treat shock as necessary. Avoid overheating the victim.

**Stroke**

If you think the victim is having a stroke, these are the symptoms.

- Numbness
- Paralysis
- Eye pupils in unequal size
- Mental confusion
- Slurred speech
- Nausea

The following list are first aid treatments for strokes.

1. Maintaining Respirations
2. Laying Flat on Back
3. Avoid any fluids from mouth

**Fainting**

If you think the victim is having a stroke, here are some signs and symptoms.

- Loss of conscious

If someone is expierencing these symptoms here is the first aid care.

1. Supine position
2. Elevate legs and feet
3. Loosen tight clothing

**Insulin Shock**
If you think a victim is suffering from insulin shock, here are some signs and symptoms.

- Muscle Weakness
- Mental Confusion
- Restlessness and Anxiety
- Diaphoresis
- Pale/Moist skin
- Hunger pangs

If a conscious victim is experiencing these signs and symptoms give them a drink containing sugar or a cube of sugar.

**Convulsion**

A convulsion is a type of seizure, a strong involuntary contraction of muscles.

If a victim is having a convulsion, you want to make sure that you prevent self-injury.

It is important that you DO NOT force or restrain muscle movements during a convulsion because it causes the contractions to become more severe. It is also important that you DO NOT place anything between the victim's teeth. It can cause severe injury to fingers and the victim's teeth and gums.
What is a Dressing?
A dressing is a sterile covering placed over a wound or an injured part.

3 Main Purposes of Dressings
1. Control Bleeding
2. Absorbs blood and secretions
3. Prevents infections
4. Ease Pain

CAUTION: You should avoid using fluff cotton as a dressing because these contain fibers that contaminate the wound.

Bandages

What is a Bandage?
A bandage is materials used to hold dressings in place.

Bandages should be applied snugly enough to control Bleeding and prevent Movement of the Dressing, but not so tightly that they interfere with circulation.

Examples of how bandages are used:
- Secure splints
- Support and protect body parts

3 Types of Bandages
1. Roller Gauze
2. Triangular Bandages
3. Elastic Bandages

CAUTION: Elastic Bandages may be hazardous because they can cut off or constrict circulation. Signs that indicate poor circulation are swelling, paleness or blue color to the skin, coldness, or numbness and tingling. If any of these signs are indicated then you should loosen the bandages immediately.