

# DISASTER FIRST AID

*AKA What do you do when 9-1-1 can't come*

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## 1) Know your neighbors & ask them for help

- Do you have neighbors, co-workers and/or nearby friends who are medically trained?
- Doctors, ARNPs, nurses, veterinarians, dentists, midwives, military personnel and ship captains are all great medical resources
- Plan ahead - help organize your neighborhood BEFORE disaster strikes

## 2) Injuries or illnesses that you may see after disasters - and how to help:

- **Contusions** (AKA scrapes and bruises) can vary from minor bruises and scrapes to large, painful hematomas. They can be minor or can hide deeper injuries.

### EVALUATION:

- What was the mechanism of injury?
- Is the wound dirty?
- Is there any swelling or underlying bone injury?
- Is there any abdominal pain?

### TREATMENT:

- Wash the wound thoroughly, removing as much dirt or debris as possible
  - If the wound is open, apply antibiotic ointment or petroleum jelly/Vaseline to a bandage, then cover the wound with bandage.
  - If there is swelling at the site of the wound apply an elastic compression bandage (like an ACE bandage) if you can.
  - If you have ice, apply an ice pack.
  - Instruct patient to change the bandage daily and watch for any signs of infection: redness, drainage from the wound, fever, increasing pain and swelling.
- **Lacerations** are cuts to the skin caused by a sharp object.

### EVALUATION:

- Is the wound actively bleeding?
- How deep is the laceration?
- Is there a wound infection (pus, swelling & redness of the wound)?
- Is there any other injury like a broken bone?

### TREATMENT

#### Stop the bleeding

- Apply direct pressure until bleeding stops. May take >5 minutes.
- If wound is very deep then direct pressure may not work.

#### Clean the wound

- Wash thoroughly with tap water (if available). Rinse for 2-3 minutes if possible.
- If no running water, rinse with as much clean water as available (preferably at least a gallon)

Close the wound (if wound large and/or won't stop bleeding)

- Use a butterfly bandage
- Apply tissue adhesive or super glue (new tube/never opened)
- Use skin stapler (if available)
- Use strips of tape (tear duct tape into smaller pieces)
- Stitches (if wound is gaping or large) - can use needle and thread

Apply bandage(s)

- Apply antibiotic ointment or Vaseline to wound or bandage
- Cover wound completely with clean bandage(s)
- Tape bandage into place or wrap with elastic/ACE wrap
- If bleeding heavy/won't stop, apply a pressure dressing

- **Sprains** occur when the ligaments that connect the bones in a joint get over-stretched, or tear.

EVALUATION:

- Can the patient bear weight?
- Is there any other injury (laceration, bony abnormality)

TREATMENT:

- The joint should be elevated (ie: propped up to keep more swelling from occurring)
- Ice (if available) should be applied
- The joint should be wrapped in a compressive wrap like an ACE bandage to help keep the swelling down.
- If patient can't bear weight they should avoid walking - using a cane or crutches, if available.
- Ibuprofen will help decrease pain and swelling

- **Fractures are Broken Bones** They can be simple (hairline) or complicated (multiple bones, displaced/out of alignment, or compound - AKA sticking out of the skin). Symptoms include pain, swelling, bruising and sometimes obvious deformity.

EVALUATION:

- Any pinpoint tenderness?
- Any obvious bone deformity?
- Any open wound where bone may have poked through?
- Can you feel a pulse?

#### TREATMENT:

- If no pulse and/or toes/fingers are turning blue, apply traction to reset bones (hold pressure above fracture and pull gently but firmly on the area below the fracture, until bones seem aligned).
  - Splint fracture to keep joints above and below fracture stable
  - If no splinting material or elastic bandages handy, can use sticks, pieces of wood, rolled up newspaper or magazines and bandanas, dish towels, T-shirts
  - Put splinted arm in a sling (can make one)
  - “Buddy tape” broken fingers or toes together
  - Use crutches or avoid bearing weight on broken legs.
- **Burns** are damage to your body's tissues caused by heat, chemicals, electricity, sunlight, or radiation.

#### EVALUATION:

- 1st degree burns damage only the outer layer of skin (Red)
- 2nd degree burns damage the outer layer and the layer underneath (Blisters)
- 3rd degree burns damage or destroy the deepest layer of skin and tissues underneath (muscles, fat, & bone)

#### TREATMENT FOR 1st or 2nd DEGREE BURNS:

- **Cool the burn to help soothe the pain.** Hold the burned area under cool (not cold) running water for 10 to 15 minutes, or apply a clean towel dampened with cool tap water.
- **Remove rings or other tight items** from the burned area.
- **Don't break small blisters.** If blisters break, gently clean the area with mild soap and water, apply an antibiotic ointment, and cover it with a nonstick gauze bandage.
- **Apply aloe vera lotion/gel**, or a burn cream like , which may provide relief in some cases.
- **If needed, take an over-the-counter pain reliever**, such as ibuprofen (Advil, Motrin IB, ), naproxen sodium (Aleve) or acetaminophen (Tylenol).

#### TREATMENT FOR 3rd DEGREE BURNS:

- **Protect the burned person from further harm.** But don't remove burned clothing stuck to the skin.
- **Remove jewelry, belts and other restrictive items**, especially from around burned areas and the neck. Burned areas swell rapidly.
- **Don't immerse large severe burns in cold water.** Doing so could cause a serious loss of body heat (hypothermia) or a drop in blood pressure and decreased blood flow (shock).

- **Elevate the burned area.** Raise the wound above heart level, if possible.
  - **Cover the area of the burn.** Use a cool, moist, bandage or a clean cloth.
  - Apply **antibiotic ointment.** Change the bandages daily. Watch for signs of infection.
- **Concussions** are traumatic brain injuries usually caused by blows to the head that affect the brain's function. Sometimes a person is knocked unconscious, but often they are just "stunned," or don't seem that bad, at first. Some concussion symptoms appear right away and others may not be apparent initially. Concussion symptoms can last up to 4 weeks.

#### SYMPTOMS

- Poor concentration, poor memory
- Nausea, vomiting
- Headache, dizziness
- Balance problems
- Light/sound sensitivity
- Fatigue
- Feeling anxious, emotional
- Insomnia or sleeping more than usual

#### TREATMENT

- Rest (both physical and mental)
  - Avoiding activities that are physically or mentally demanding
  - Apply an ice or cold pack to any area of swelling for 10 to 20 minutes at a time.
  - Pain medication as needed for headache (Ibuprofen, Aleve or Tylenol)
- **Hypothermia** occurs when a person's body loses heat faster than it can produce heat, and the core body temperature, which is usually 98.6 F (or 36 C) drops below 95 F (or 35 C).

#### SYMPTOMS:

- Shivering
- Slurred speech
- Drowsiness/lethargy
- Clumsiness
- Weak pulse
- Slow, shallow breathing
- Confusion
- Unconsciousness

#### TREATMENT:

- Be gentle - Excessive, vigorous or jarring movements may trigger cardiac arrest
- Move the person out of the cold

- Remove wet clothing
- Cover the person with dry blankets
- Insulate the patient's body from the cold ground
- Provide warm beverages if the patient is able to drink
- Apply a compress of warm water in a plastic bottle or a dryer-warmed towel but only to the neck, chest wall or groin. Don't apply a warm compress to the arms or legs. Heat applied to the arms and legs forces cold blood back toward the heart, lungs and brain, causing the core body temperature to drop, which can be fatal.
- Don't use hot water, a heating pad or a heating lamp to warm the person. The extreme heat can cause irregular heartbeats so severe they can cause the heart to stop.

- **Wound infections** can happen to any open area of injured skin. They are more likely with deep wounds, dirty wounds, bites (from people or animals) and in wounds that still contain foreign bodies (like dirt, gravel, etc).

SYMPTOMS:

- Painful
- Red
- Swollen
- Oozing or draining yellow material, or pus
- Fever

TREATMENT:

- Clean area with soap and a lot of water
- Scrub/wash to remove any visible dirt, debris or foreign body
- Apply antibiotic ointment twice daily
- If available, start on an antibiotic by mouth if getting worse (Amoxicillin, Bactrim, Cipro, Doxycycline)

- **A tourniquet** is usually a treatment of last resort, but can save lives if applied to stop severe bleeding due to an arterial injury and/or a traumatic amputation of an arm or leg due to injury, and has been used increasingly, lately, for management of life-threatening injuries due to increased knowledge about their benefits.

TREATMENT OF HEAVILY BLEEDING WOUND:

- Apply pressure using clean bandages or clothing
- Elevated affected limb above the heart
- Apply pressure to pulse above the area of amputation (especially radial artery in wrist, behind knee, in inner elbow, or femoral artery at groin)
- If bleeding continues to be uncontrollable, apply tourniquet

TOURNIQUET MATERIAL

Best option: commercial tourniquet

Other options (improvised):

- Neck Tie
- Neckerchiefs, scarves, bandanas
- Fabric long enough to wrap around limb
- Nylon webbing
- Ace bandage
- Belt, electrical cord
- Stick, pocket knife, pen, pencil

## TOURNIQUET "RULES"

### Placement:

- 1st tourniquet always goes as low down an upper part of the limb as possible - 5cm above the wound or immediately above the joint.
- The 2nd tourniquet is placed just above the first. If an extremity amputation, the 2nd tourniquet can be placed 5cm above the wound.
- The tourniquet is tightened as much as possible, even after bleeding has been controlled.
- The casualty is clearly marked including time and date. This is clearly communicated at handover and the casualty is elevated to "Immediate" in triage

### Removal if:

- The casualty DOES NOT have an amputation *and*
- Dangers at the scene have been stabilized *and*
- Bleeding has stopped *and*
- The casualty's vital signs are normal and stable *and*
- Transfer time to definitive care is greater than one hour

### 3) Unfortunately you cannot help everyone.

- If nobody answers when you call 9-1-1 then some people are definitely going to die
- Unless you're a trained surgeon with a working operating room nearby, some injuries and illnesses will be untreatable
- These people cannot be saved unless paramedics are on the way:
  - No pulse\*
  - Not breathing\*
  - Head injury with fixed & dilated pupils
  - Small premature baby (< 1 lb), not breathing well
  - Traumatic injuries with bleeding that cannot be stopped with prolonged holding pressure
  - Severe burns (through the skin to underlying tissue) covering > 50% of body

\* The only exception is a lightning strike victim – CPR can keep them alive until their system“reboots”
- In some cases you can only comfort people - just be present. Nobody should have to die alone.