PREPARE FOR SUMMER EMERGENCIES

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INTRODUCTION

- IMPORTANT TO KNOW THESE LIFESAVING SKILLS IF YOU LIVE OR TRAVEL IN REMOTE AREAS, AWAY FROM HOSPITALS, PARAMEDICS, NURSES, AND PHYSICIANS.
- DISCLAIMER: SINCE WE DON'T HAVE TIME TODAY FOR PRACTICAL AND DETAILED TRAINING, YOU SHOULD OBTAIN FORMAL FIRST AID TRAINING BEFORE ATTEMPTING THESE TREATMENTS.

GOAL OF THIS PRESENTATION

- TO INTRODUCE YOU TO IMPORTANT CONCEPTS THAT MAY HELP SAVE A LIFE IN A SUMMER EMERGENCY OCCURRING IN A REMOTE WILDERNESS SETTING.
- TO STIMULATE INTEREST, AND ENCOURAGE YOU TO GET FURTHER, DETAILED TRAINING TO BECOME A CERTIFIED WILDERNESS FIRST AID PROVIDER.
- TO HELP PREVENT ACCIDENTS IN THE FIRST PLACE, BY FORWARD THINKING AND CAREFUL PLANNING.

SUMMER IS COMING!

- MOST OF US REALLY LIKE THE SUMMERTIME, ESPECIALLY IN THE NORTHWEST.
- IT IS THE TIME FOR ALL KINDS OF OUTDOOR ACTIVITIES: HIKING, SWIMMING, BOATING, HANGING OUT AT LAKES, RIVERS, BEACHES, MOUNTAINS, OR EVEN WORKING IN THE OUTDOORS IN THE HEAT.
- EMERGENCIES OCCUR IN THE SUMMERTIME THAT ARE OFTEN DIFFERENT THAN AT OTHER TIMES OF THE YEAR.

GOALS OF THIS PRESENTATION-1

- AS AN EMERGENCY AND FAMILY PRACTICE PHYSICIAN, MY GOAL IS TO HELP YOU PREPARE FOR UPCOMING OUTDOOR ACTIVITIES, AND TO BE AWARE OF POSSIBLE ACCIDENTS THAT COULD HAPPEN IN SPECIFIC ACTIVITIES.
- "AN OUNCE OF PREVENTION IS WORTH A HUNDRED POUNDS OF CURE."
- OFTEN, AN ACCIDENT HAPPENS SO QUICKLY YOU HARDLY KNOW IT HAPPENED, AND OFTEN A LOT OF PHYSICAL DAMAGE IS ALREADY DONE.
- WE NEED TO DO "FORWARD THINKING," IN OTHER WORDS, CONSTANTLY BE THINKING, "WHAT COULD GO WRONG HERE?" "IS THIS ACTIVITY SAFE" "WHAT CAN I DO TO MAKE IT SAFER?
- WE NEED TO PLAN AHEAD AND WORK TOGETHER AS A TEAM TO ENSURE THAT EVERYONE IN OUR GROUP STAYS TOGETHER AND THAT WE HAVE EACH OTHER'S BACKS.

GOALS OF THIS PRESENTATION-2

- PREPARING FOR THE SUMMER MIGHT INCLUDE:

1. TRYING TO GET IN THE BEST POSSIBLE PHYSICAL CONDITION AND FITNESS, STARTING NOW (EXERCISE, GOOD HEALTHY DIET—AVOID THE BAD DIET, GET PLENTY OF REST, DRINK PLENTY OF WATER AND AVOID SODAS—ESPECIALLY WITH CAFFEINE, AVOID ALCOHOL, AVOID SUN OVER-EXPOSURE, AVOID TOO MUCH SUGAR).
2. I HAVE A LIFESTYLE GUIDELINES HANDOUT WHICH YOU COULD PUT ON YOUR REFRIGERATOR DOOR OR SOME PROMINENT PLACE.
3. LOOK OVER YOUR OUTDOOR ACTIVITIES EQUIPMENT AND MAKE SURE IT IS SAFE AND READY TO USE.
4. I WILL TRY TO GIVE OTHER PRACTICAL IDEAS ON PREVENTING ACCIDENTS AND CATASTROPHES (A MOMENTOUS TRAGIC EVENT RANGING FROM EXTREME MISFORTUNE TO UTTER OVERTHROW, RUIN, OR DEATH.

PREPARE A GOOD PERSONAL AND A GOOD FAMILY EMERGENCY KIT

- AT THE END OF THIS PRESENTATION, I WILL SHOW YOU SOME EXAMPLES OF EMERGENCY KITS YOU CAN PURCHASE, AND I'LL MAKE A FEW SUGGESTIONS.
- ALWAYS CARRY YOUR EMERGENCY KIT WITH YOU-–IT WILL NOT HELP YOU IF YOU LEFT IT HOME, IN THE CAR, OR IF YOU CAN'T FIND IT.
- THE EMERGENCY KIT CAN BE TAILORED FOR POSSIBLE ACCIDENTS THAT YOU MIGHT EXPERIENCE IN A SPECIFIC ACTIVITY (FOR INSTANCE WHILE BOATING OR KAYAKING.
- GO THROUGH THE KIT FREQUENTLY, SO YOU KNOW EXACTLY WHERE EVERYTHING IS LOCATED.

UNIVERSAL PRECAUTIONS FOR BLOOD-BORNE PATHOGENS

- TREAT ALL HUMAN BLOOD AND BODY FLUIDS AS IF THEY WERE KNOWN TO BE INFECTED WITH HIV, HBV, HCV AND OTHER BLOOD-BORNE PATHOGENS.
- USE GLOVES BEFORE HANDLING ANY BODY FLUIDS.
- AVOID CONTACT WITH BODY FLUIDS ON SKIN, FACE, MOUTH, EYES, ETC., BY USING GOGGLES OR FACE MASKS WHEN NECESSARY.

FOR ANY EMERGENCY:

- ESTABLISH CONTROL AND RECOGNIZE THE EMERGENCY.
- CHECK THE SCENE BEFORE YOU APPROACH, TO MAKE SURE IT IS SAFE FOR YOU, THE PERSON, OTHER MEMBERS OF YOUR RESCUE GROUP, AND ANY BYSTANDERS.
- FOLLOW STANDARD UNIVERSAL PRECAUTIONS TO PREVENT DISEASE TRANSMISSION.
- OBTAIN CONSENT FOR TREATMENT, UNLESS PERSON IS UNCONSCIOUS.
- CHECK FOR CLUES ABOUT MECHANISM OF INJURY (MOI) OR NATURE OF THE ILLNESS.
- MOVE THE PERSON ONLY IF NECESSARY TO PREVENT ADDITIONAL HARM.

CHECK THE AVAILABLE RESOURCES

- IDENTIFY YOUR AVAILABLE RESOURCES, INCLUDING MATERIALS AND OTHERS WHO MIGHT BE TRAINED TO HELP.
- SITUATIONAL AWARENESS. ALWAYS BE AWARE OF YOUR SURROUNDINGS. ALWAYS TRY TO PREVENT ACCIDENTS.
- LIVE HEALTHFULLY, KEEP YOUR IMMUNE SYSTEM STRONG BY GOOD DIET, EXERCISE, ADEQUATE REST, AVOID ALCOHOL, TOBACCO, CAFFEINE, AND UNNECESSARY RX MEDS.
- BE CAREFUL NOT TO ACT TOO QUICKLY: "DON'T JUST DO SOMETHING, STAND THERE."
- TAKE A COURSE ON WILDERNESS FIRST AID ONLINE, OR AT LEAST A BASIC FIRST AID CLASS.
- TAKE A BASIC LIFE SUPPORT ONLINE CLASS—ONLY TAKES 2-3 HOURS.

CHECK THE PERSON

- PRIMARY OR INITIAL ASSESSMENT
- USE THE ABCDES TO ASSESS LIFE-THREATENING CONDITIONS.
  - CIRCULATION, AIRWAY, BREATHING, DISABILITY, ENVIRONMENT.

CALLING FOR HELP

- IMPORTANT TO HAVE AT LEAST A CELL PHONE. CARRY EXTRA BATTERIES OR CHARGER.
- HAVE A LIST OF EMERGENCY PHONE NUMBERS READILY AVAILABLE (LAMINATED CARD IN YOUR FIRST AID KIT).
- MAY NEED TO SEND SOME TO CALL FOR HELP.
- IT MIGHT BE NECESSARY TO FIND A HIGHER PLACE OR OPEN AREA TO GET CELL PHONE SERVICE.

DECIDING WHETHER TO TRANSPORT

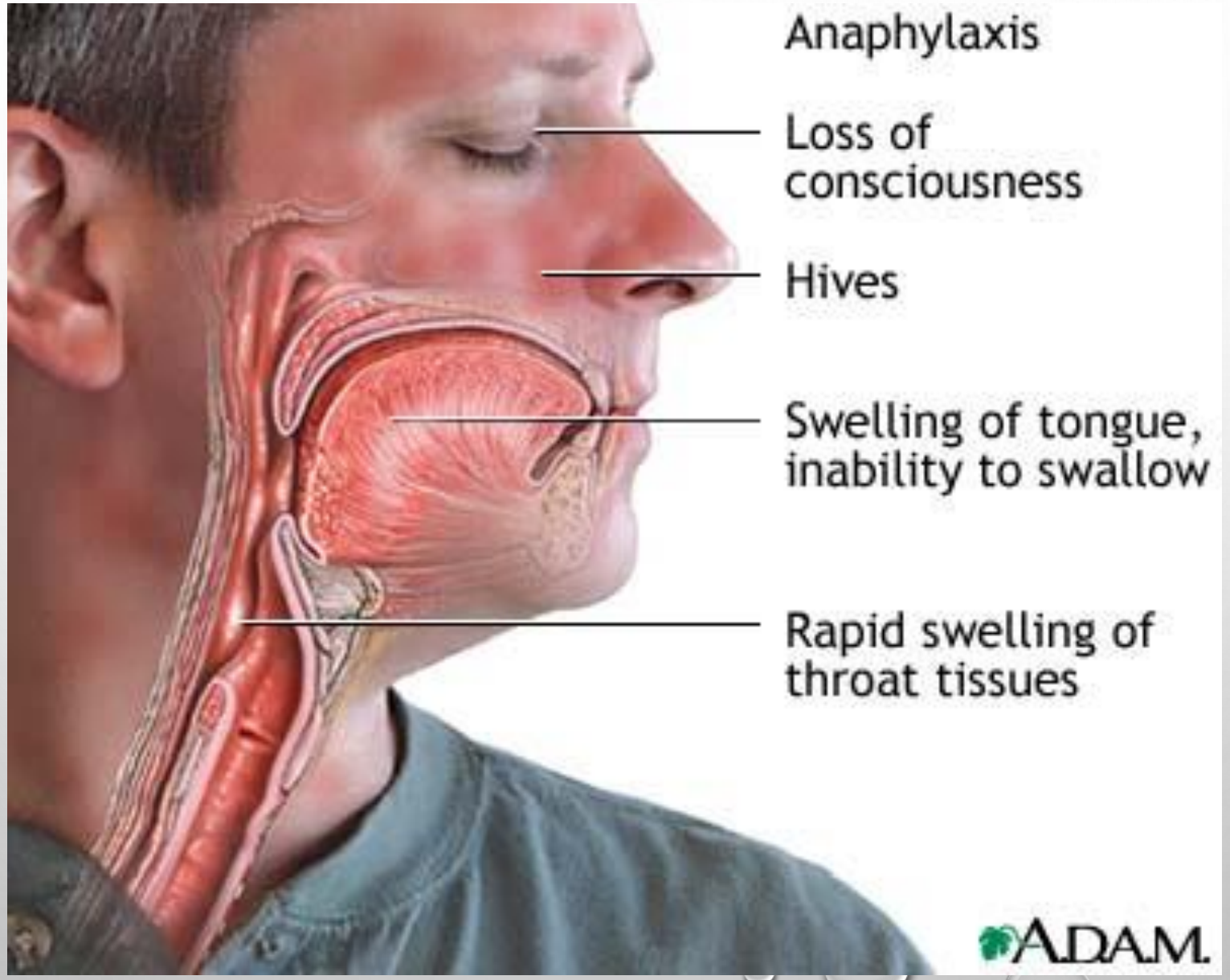
- SOMETIMES A DIFFICULT DECISION.
- MAY NEED TO QUICKLY MOVE TO A SAFER LOCATION CLOSE BY; A MORE ADEQUATE LOCATION TO GIVE NECESSARY TX.
- IF UNABLE TO MAKE TELEPHONE CONTACT WITH 911, AND PERSON HAS A LIFE-THREATENING CONDITION, MAY HAVE TO TRANSPORT.
- IF EVACUATION IS NECESSARY, MUST DECIDE IF IT SHOULD BE FAST OR SLOW.
- IMPLEMENT A PRE-TRIP PLAN USING AVAILABLE RESOURCES.
- THROUGHOUT THE EVACUATION, CONTINUE CARE AS LONG AS NECESSARY.
- PRIORITIZE CARE BY THE SEVERITY OF THE INJURY OR ILLNESS.

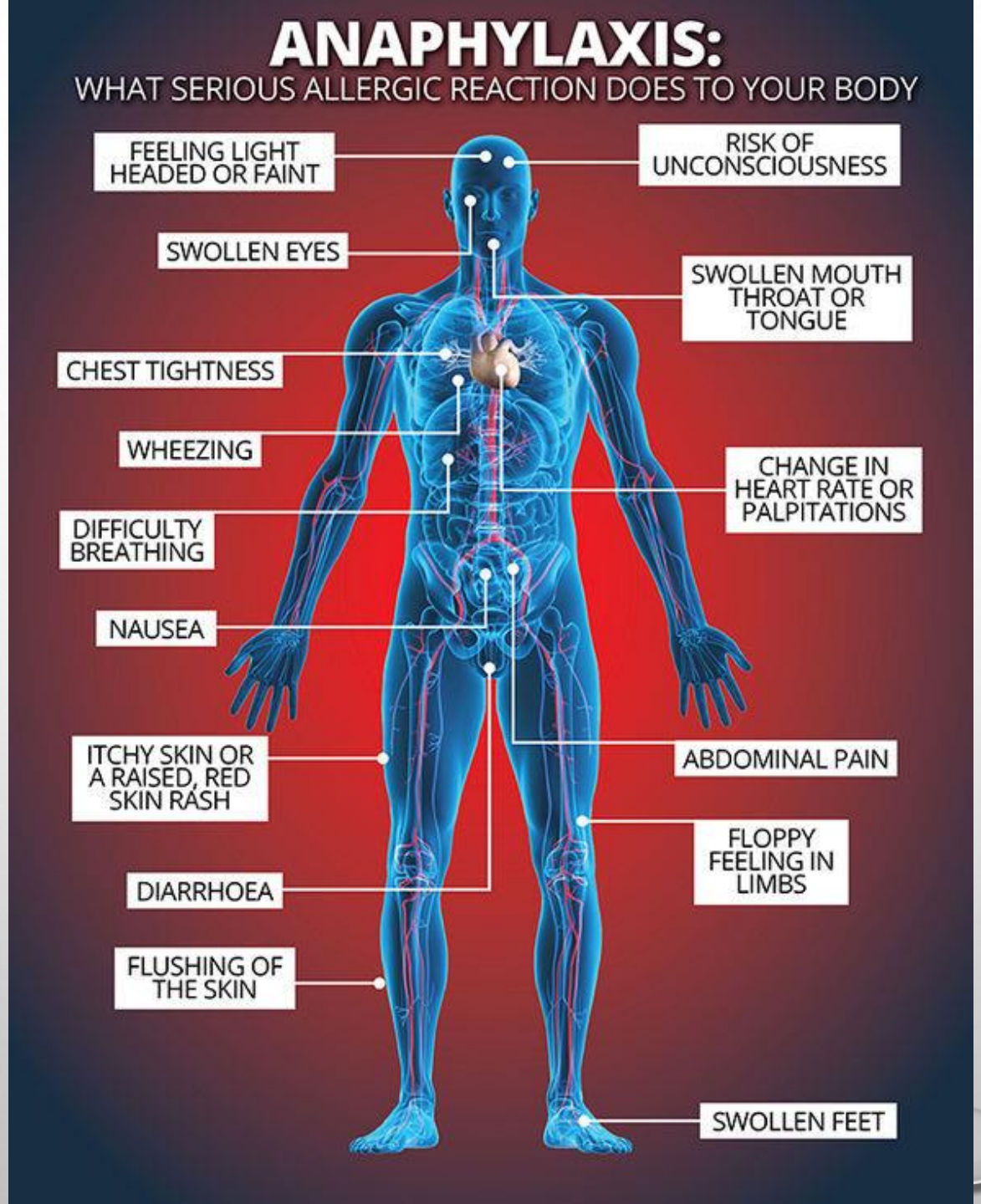
HOW TO MOVE INJURED OR SICK PATIENT

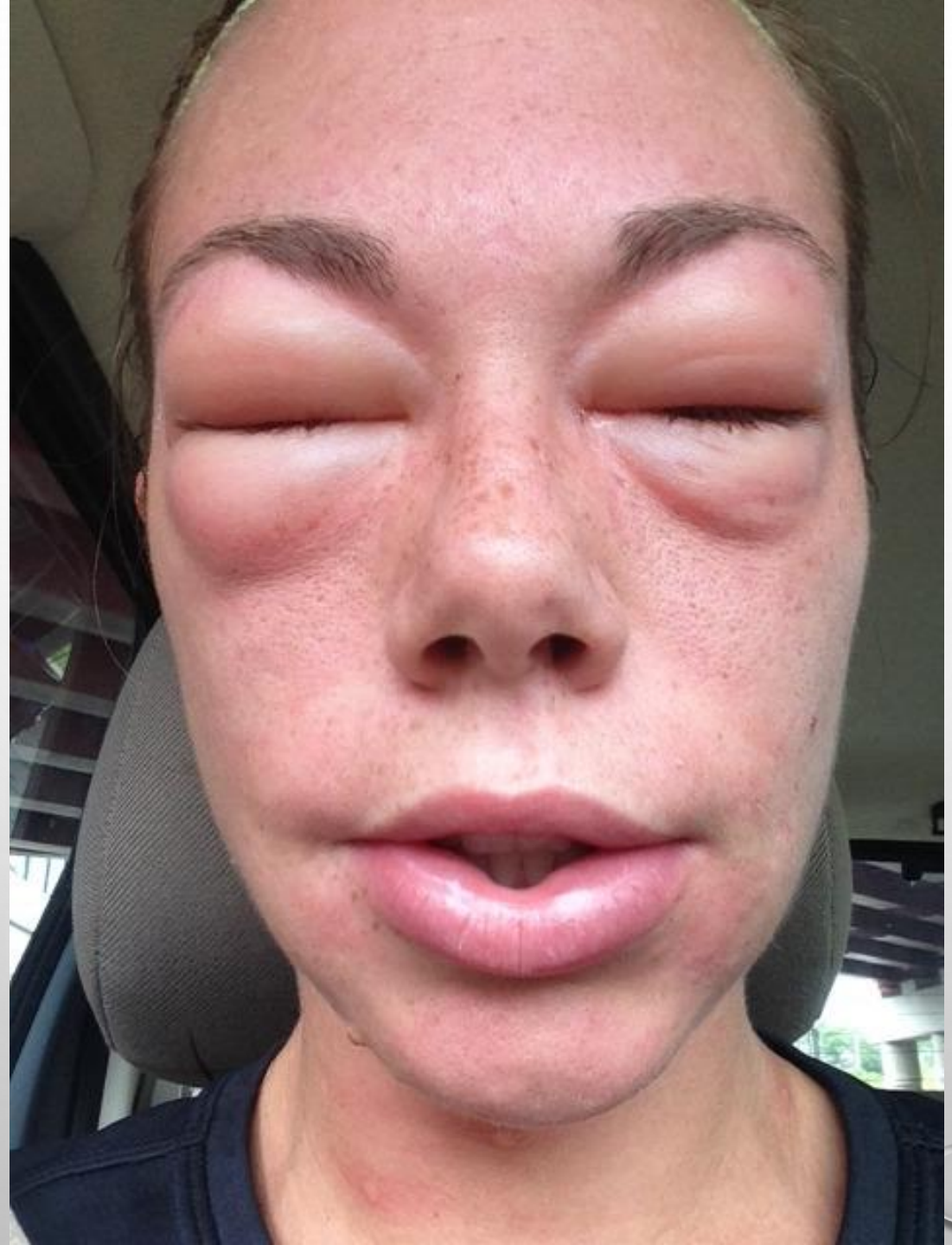
- BE ESPECIALLY CAREFUL TO NOT CAUSE FURTHER INJURIES OR MAKE THE ILLNESS WORSE.
- KEEP PATIENT WARM AND COMFORTABLE AS POSSIBLE.
- PROTECT THE NECK AND SPINE IF THERE IS SUSPICION OF AN INJURY THERE.
- PROTECT THE AIRWAY, AND CONTROL BLEEDING.

FIRST EMERGENCIES: ALLERGIC REACTIONS AND ANAPHYLAXIS

- CAUSED BY AN ALLERGEN (FOREIGN SUBSTANCE).
- THE BODY RELEASES HISTAMINES AND OTHER CHEMICAL FOR PROTECTION.
- ALLERGIC REACTION HAPPENS WHEN THE BODY PRODUCES TOO MUCH OF THESE SUBSTANCES.
- MAY BE MILD: ITCHY SKIN, STUFFY NOSE, WATERY EYES
- MAY BE LIFE-THREATENING: ANAPHYLAXIS
    - MUST BE TREATED IMMEDIATELY OR PERSON WILL DIE. NATURAL REMEDIES HAVE NO PLACE IN THE TREATMENT OF ANAPHYLAXIS.


Anaphylaxis
Loss of consciousness
Hives
Swelling of tongue, inability to swallow
Rapid swelling of throat tissues
A.D.A.M.


ANAPHYLAXIS:
WHAT SERIOUS ALLERGIC REACTION DOES TO YOUR BODY
FEELING LIGHT HEADED OR FAINT
RISK OF UNCONSCIOUSNESS
SWOLLEN EYES
SWOLLEN MOUTH THROAT OR TONGUE
CHEST TIGHTNESS
WHEEZING
CHANGE IN HEART RATE OR PALPITATIONS
DIFFICULTY BREATHING
NAUSEA
ITCHY SKIN OR A RAISED, RED SKIN RASH
ABDOMINAL PAIN
FLOPPY FEELING IN LIMBS
DIARRHOEA
FLUSHING OF THE SKIN
SWOLLEN FEET



KEY TAKEAWAYS

- *Anaphylaxis is an acute, severe, and life-threatening systemic allergic reaction.*[1]
- *Epinephrine is the first-line treatment for anaphylaxis.*[2]
- *Antihistamines are commonly used in the treatment of anaphylaxis; however, the use of antihistamines alone may increase the risk of progression toward a life-threatening reaction.*[2]
- *Patients at risk for anaphylaxis should have 2 doses of epinephrine available at all times.*[2]

Anaphylaxis At a Glance

An Anaphylaxis Community Experts (ACE) Guide

A Allergens that can set off anaphylaxis

FOOD

- Peanuts
- Tree nuts: almonds, pecans, cashews, walnuts
- Shellfish
- Cow's milk products
- Hen's eggs
- Fish
- Soy

VENOM

- Yellow jackets
- Wasps and hornets
- Honeybees
- Fire ants
- Spiders

LATEX

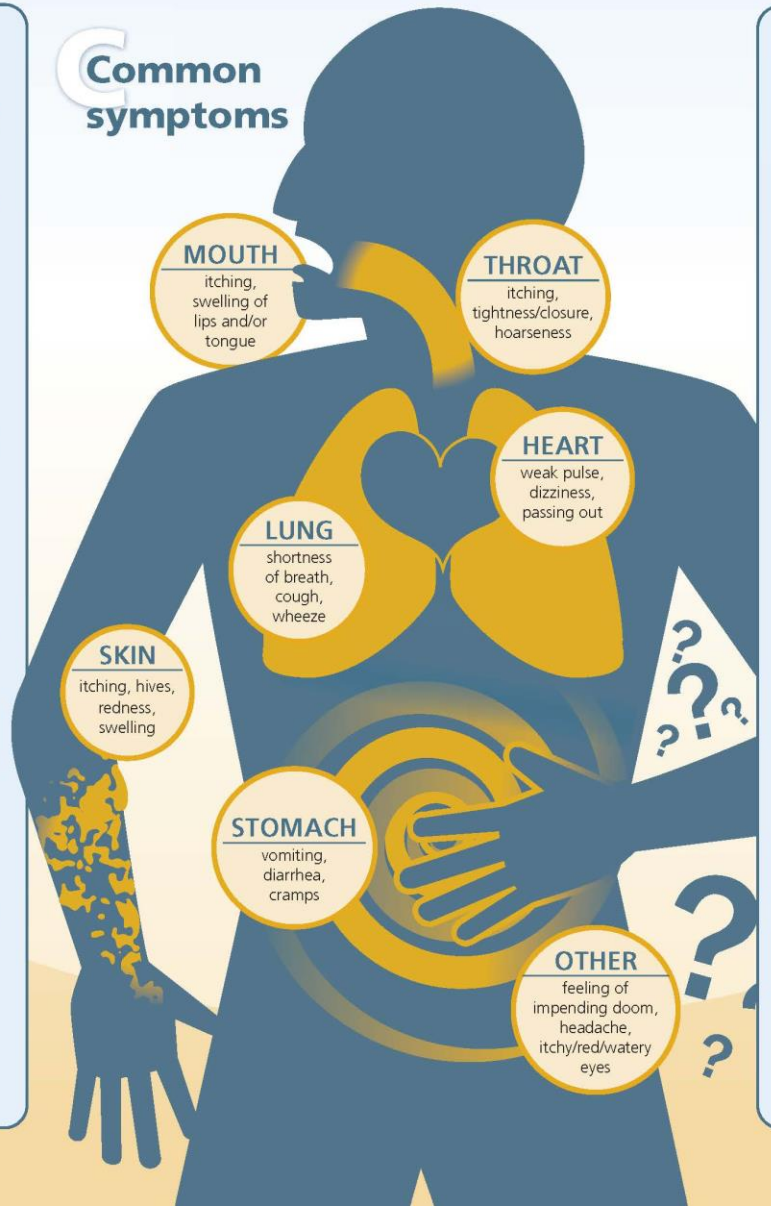
- Balloons
- Rubber gloves
- Condoms
- Elastic bands (i.e., physical therapy bands/rubber bands)
- Dental dams

Foods with cross-reactive proteins to natural rubber: banana, avocado, chestnut and kiwi

MEDICATION

- Penicillin
- Aspirin, ibuprofen and other NSAID pain relievers

C Common symptoms



E Epi Everywhere! Every Day! Right Away!

RECOGNIZE THE SEVERITY

Anaphylaxis is life-threatening, unpredictable, presents in multiple ways and can progress quickly

USE EPINEPHRINE IMMEDIATELY

!

An epinephrine auto-injector is the **first line** of treatment to stop the progression of anaphylaxis in all body systems. Use it at the **first sign of symptoms** – don't wait to see what happens!

CALL 911

911

Always call for emergency medical assistance and go to the emergency room for follow-up observation and treatment.

CARRY TWO AUTO-INJECTORS

2

Keep two epinephrine auto-injectors on hand, in case symptoms recur before emergency medical assistance is available. Up to 35% of people will require more than one.

FOLLOW UP

Consult a board-certified allergist for accurate diagnosis and prevention/treatment plan.

TREATMENT OF MILD ALLERGIC REACTIONS

1. FOR LOCAL SKIN REDNESS AND IRRITATION: HC 1% CREAM (OTC), CALADRYL LOTION, BENADRYL (DIPHENHYDRAMINE) 25 - 50 MG EVERY 6 HOURS P.O.
2. FOR MILD DIFFICULTY BREATHING AND MILD SWELLING OF LIPS AND TONGUE: BENADRYL 50 MG EVERY 6 HOURS.
3. MAY USE ALBUTEROL INHALER 2 PUFFS EVERY 6 HOURS AS NEEDED.

SECOND INJURIES:
HEAT INJURIES AND BURNS

- **PREDISPOSING FACTORS FOR HEAT-RELATED EMERGENCIES:** ALCOHOL AND OTHER DRUGS, DEHYDRATION, LACK OF ACCLIMATIZATION TO HEAT, POOR PHYSICAL FITNESS, SLEEP DEPRIVATION, OBESITY, RESTRICTIVE CLOTHING, SWEAT GLAND ABNORMALITIES (CYSTIC FIBROSIS, QUADRIPLEGIA).
- **HIGH-RISK OCCUPATIONS FOR HEAT-RELATED EMERGENCIES:** ATHLETES, CONSTRUCTION WORKERS, MINERS, NEW MILITARY RECRUITS.

HEAT-RELATED EMERGENCIES

1. SUNBURN
2. HEAT EDEMA
3. PRICKLY HEAT (HEAT RASH)
4. HEAT CRAMPS
5. HEAT TETANY
6. HEAT EXHAUSTION
7. MAJOR HEAT ILLNESS: HEAT STROKE

SUNBURN

- THE SUN'S ENERGY REACHING THE EARTH'S SURFACE IS THE ULTRAVIOLET (UV)SPECTRUM, VISIBLE LIGHT, AND SOME INFRARED.
- THE SPECTRUM IS DIVIDED INTO C, B, AND A. HOWEVER, UV-C DOES NOT REACH THE EARTH'S SURFACE. UV-B (WAVELENGTHS BETWEEN 290-320 NM) IS WHAT BURNS HUMAN SKIN, ("THE SUNBURN SPECTRUM"). UV-A HAS WAVELENGTHS BETWEEN 320-400 NM, AND IS ABOUT 100 TIMES LESS APT TO CAUSE SUNBURN—EXCEPT AT MIDDAY, WHEN THERE IS MORE UV-A THAN UV-B.

SUNBURN

- CAN BE MILD OR SEVERE, DEPENDING ON THE SKIN TYPE AND LENGTH OF TIME IN THE SUN AND AT WHAT TIME OF DAY THE EXPOSURE TOOK PLACE.
- **66 TYPES OF HUMAN SKIN:**
    1. **TYPE I**: ALWAYS BURNS, NEVER TANS
    2. **TYPE II:** ALWAYS BURNS, SOMETIMES TANS
    3. **TYPE III**: SOMETIMES BURNS, SOMETIMES TANS
    4. **TYPE IV**: SOMETIMES BURNS, ALWAYS TANS
    5. **TYPE V**: NEVER BURNS, SOMETIMES TANS
    6. **TYPE VI:** NEVER BURNS, ALWAYS TANS

LONG –TERM SUN EXPOSURE

- SKIN LOOKS WRINKLED, BLOTCHY, ROUGH, IRREGULAR, “WEATHER-BEATEN,” AND MAY HAVE TELANGESCTASIAS (BLOOD VESSELS VISIBLE IN THE SKIN)—HIGH RISK FOR SKIN CANCER.

TREATMENT OF SUNBURN

- ACUTE SUNBURN: COOL TAP WATER. STEROID LOTIONS ARE HELPFUL. CARRY TUBE OF 1% HYDROCORTISONE CREAM (AVAILABLE OTC)

- PREVENTION OF SUNBURN: PROTECTIVE CLOTHING (WIDE-BRIMMED HATS, LONG SLEEVES, AND PANTS; SIMPLY LIMITING MIDDAY EXPOSURE TO SUNLIGHT WILL SUBSTANTIALLY REDUCE LIFETIME UV-A EXPOSURE.

HEAT EDEMA

- SELF-LIMITING PROCESS OF MILD SWELLING AND TIGHTENING OF THE HANDS AND FEET.
- USUALLY SEEN IN OLDER PEOPLE WHO ARE NOT ACCLIMATIZED TO HEAT, AFTER A PROLONGED PERIOD OF SITTING IN A CAR, BUS OR AIRPLANE.
- IT IS DUE TO VASODILATION AND ORTHOSTATIC POOLING OF INTERSTITIAL FLUID IN THE EXTREMITIES.
- USUALLY RESOLVES IN A FEW DAYS, BUT MAY TAKE 6 WEEKS. NO SPECIAL TREATMENT IS NECESSARY.

PRICKLY HEAT RASH

- AN ITCHY, ERYTHEMATOUS MACULOPAPULAR RASH FOUND IN THE CLOTHED AREAS OF THE BODY.
- IT IS AN ACUTE INFLAMMATION OF THE SWEAT DUCTS CAUSED BY BLOCKAGE OF THE SWEAT PORES BY MACERATED STRATUM CORNEUM.
- THE ITCHING CAN BE TREATED WITH ANTIHISTAMINES.
- PREVENTION: WEARING CLEAN, LIGHT, AND LOOSE-FITTING CLOTHING AND AVOIDING SWEAT-GENERATING SITUATIONS.
- AVOID TOO MUCH TALCUM POWDER OR BABY POWDER.
- CHLORHEXIDINE IN A LIGHT CREAM OR LOTION IS TX CHOICE.

HEAT SYNCOPE OR FAINTING

- RESULTS FROM PERIPHERAL VASODILATION, DECREASED VASOMOTOR TONE, AND RELATIVE VOLUME DEPLETION.
- USUALLY OCCURS IN UN-ACCLIMATIZED PERSONS DURING THE EARLY STAGES OF HEAT EXPOSURE.
- TREATMENT: REMOVE PATIENT FROM THE HEAT SOURCE, GIVE ORAL OR IV FLUIDS AND PRESCRIBE REST. MOST PATIENTS RECOVER QUICKLY WITH FLUIDS.

HEAT CRAMPS

- PAINFUL, INVOLUNTARY, SPASMS OF THE SKELETAL MUSCLES OF THE ABDOMEN, THIGHS, CALVES, AND SHOULDERS. BODY TEMPERATURE IS NORMAL.
- THE CRAMPS MAY OCCUR DURING EXERCISE OR AFTER SEVERAL HOURS.
- NOT USUALLY SERIOUS.
- CAUSED BY NOT ENOUGH SODIUM, POTASSIUM, AND FLUID IN THE MUSCLES. THE PERSON LOSES SODIUM IN THE SWEAT AND DOESN'T DRINK ENOUGH SODIUM.
- USUALLY THESE ARE ASSOCIATED WITH STRENUOUS ACTIVITY.
- THE INDIVIDUAL HAS USUALLY BEEN SWEATING LIBERALLY AND DRINKING WATER.
- THERE IS NO EVIDENCE OF DEHYDRATION.
- TREATMENT: REST IN A COOL ENVIRONMENT, FLUID AND SALT REPLACEMENT (ORAL OR IV). USE ELECTROLYTE SPORTS DRINKS.
- DO NOT USE SALT TABLETS ALONE—THEY IRRITATE THE STOMACH, OFTEN CAUSE NAUSEA/VOMITING, AND THEY DO NOT REPLACE FLUID VOLUME.

HEAT TETANY

- USUALLY SEEN AFTER INTENSE PERIODS OF INTENSE HEAT STRESS.
- CHARACTERIZED BY HYPERVENTILATION, WITH FEELING OF NUMBNESS AND TINGLING, AND SPASMS OF WRISTS, HANDS, AND FEET.
- TREATMENT: REMOVE THE PERSON FROM HEAT AND DECREASE THE RESPIRATORY RATE (HAVE PERSON BREATHE FOR 2-3 MINUTES INTO A PAPER SACK.

HEAT EXHAUSTION

- SYMPTOMS: FATIGUE, MALAISE, N/V, SEVERE HEADACHE, LIGHTHEADEDNESS, DIZZINESS, AND MUSCLE PAINS.
- EXAM: BODY TEMPERATURE NORMAL TO 104 F (40 C), FAINTING, LOW BP, SINUS TACHYCARDIA, HYPERVENTILATION, PROFUSE SWEATING, DEHYDRATION. NORMAL NEUROLOGIC EXAM AND NORMAL MENTAL STATUS.
- TREATMENT: REST, VOLUME AND ELECTROLYTE REPLACEMENT. NORMAL SALINE IV 1-2 LITERS MAY BE NECESSARY.

MAJOR HEAT ILLNESS: HEAT STROKE

- A TRUE MEDICAL EMERGENCY. IT MAY RESULT IN WIDESPREAD ORGAN SYSTEM INJURY.
- IT IS CAUSED BY A COMPLETE BREAKDOWN OF THERMOREGULATION.
- USUALLY OCCURS IN SUMMER HEAT WAVES IN POOR, ELDERLY, AND CHRONICALLY ILL PEOPLE.
- REQUIRES IMMEDIATE INTERVENTION, SINCE THERE IS A HIGH POTENTIAL FOR MORTALITY (UP TO 40% MORTALITY)
- EXAM: CLASSIC TRIAD:
    1. USUALLY BODY TEMPERATURE IS OVER 40.5 C (105 F)
    2. PATIENT IS USUALLY NOT SWEATING (ANHIDROSIS). SKIN IS RED, HOT, AND DRY.
    3. CNS DYSFUNCTION—SYNCOPE, IRRITABILITY, BIZARRE BEHAVIOR, COMBATIVENESS, HALLUCINATIONS, ATAXIA (MUSCLE INCOORDINATION), SEIZURES MAY OCCUR, OR COMA

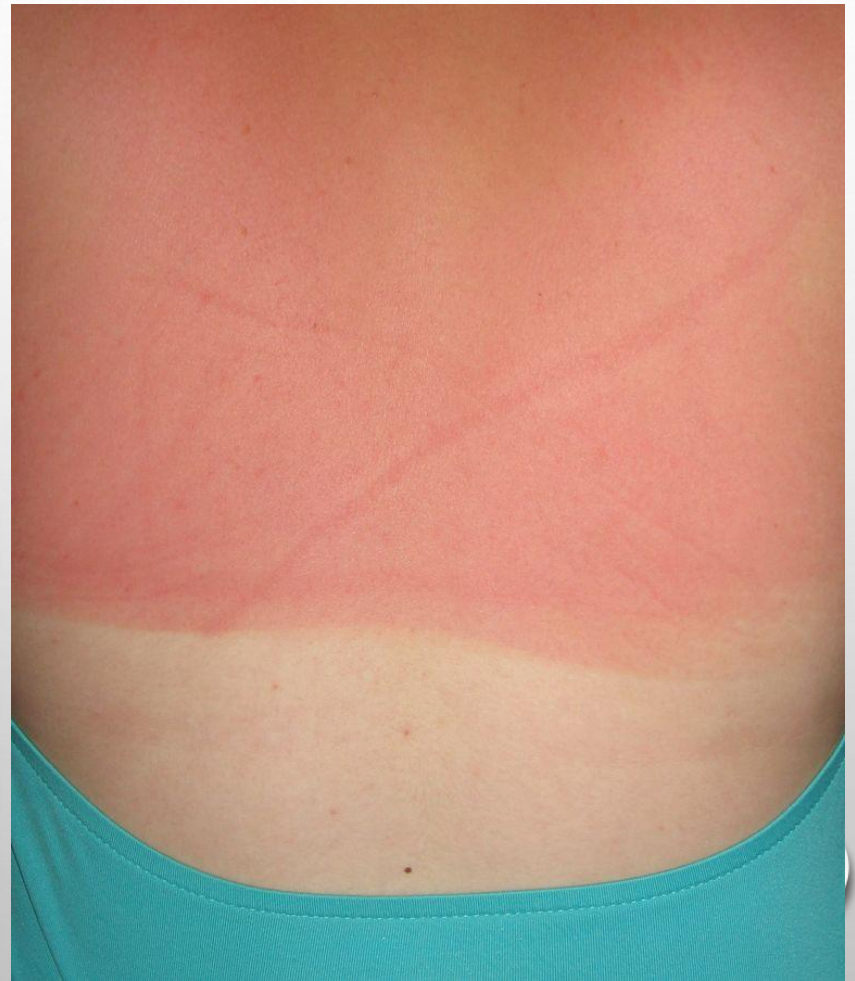
TREATMENT OF HEAT STROKE

- RAPIDLY COOL THE PATIENT. MOVE PATIENT TO A COOLER ENVIRONMENT. REMOVE HEAT-RETAINING CLOTHING. IMMERSE THE PATIENT IN COLD WATER IF POSSIBLE, UNTIL HE OR SHE BECOMES ALERT. DRENCH PATIENT WITH COLD WATER—ESPECIALLY THE HEAD AND NECK. TRY TO COOL THE NECK, ARMPITS, GROINS, HANDS AND FEET.
- MONITOR CAREFULLY, AND STOP COOLING EFFORTS WHEN NORMAL MENTAL STATUS RETURNS.
- GIVE COLD WATER TO DRINK IF PATIENT IS ABLE TO ACCEPT IT.
- DO NOT GIVE FEVER-REDUCING DRUGS.
- EVACUATE AS SOON AS POSSIBLE, FOLLOW-UP WITH A HEALTH CARE PROVIDER SOON.

BURNS

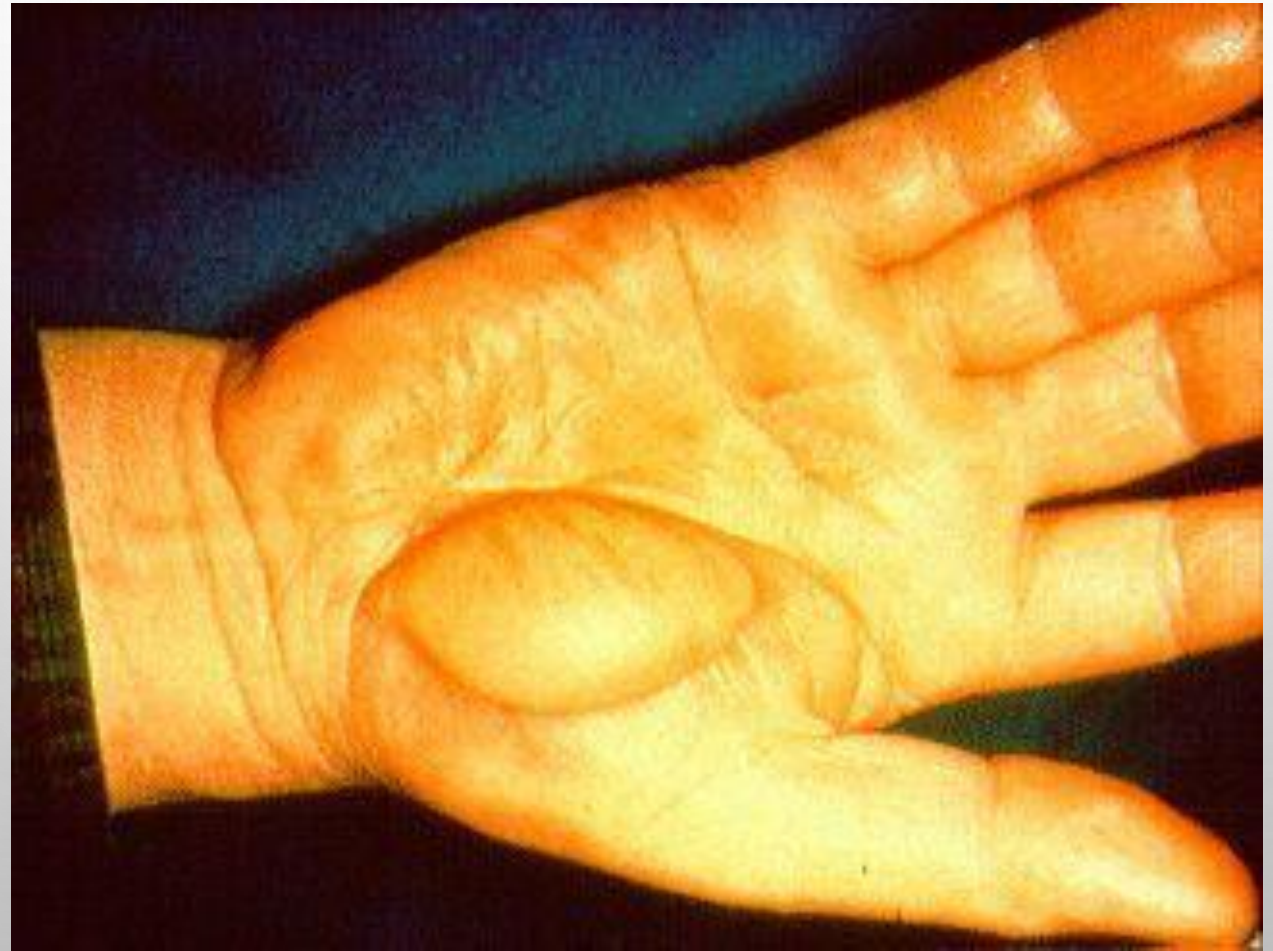
- CAUSED BY HEAT, CHEMICAL REACTIONS, ELECTRICITY (INCLUDING LIGHTNING) AND RADIATION (INCLUDING SUNBURN).
- DETERMINE DEPTH OF BURNS:
  - **SUPERFICIAL**: RED, PAINFUL, POSSIBLY SWOLLEN SKIN.
  - **PARTIAL–THICKNESS**: RED, PAINFUL, SWOLLEN SKIN, BLISTERS WHICH SOMETIMES FORM MORE THAN AN HOUR AFTER COOLING.
  - **FULL-THICKNESS**: PAINLESS SKIN WITHOUT BLISTERS, PALE SKIN (IF INJURED BY SCALDING), CHARRED SKIN (IF INJURED BY FIRE).

FIRST DEGREE SUNBURN

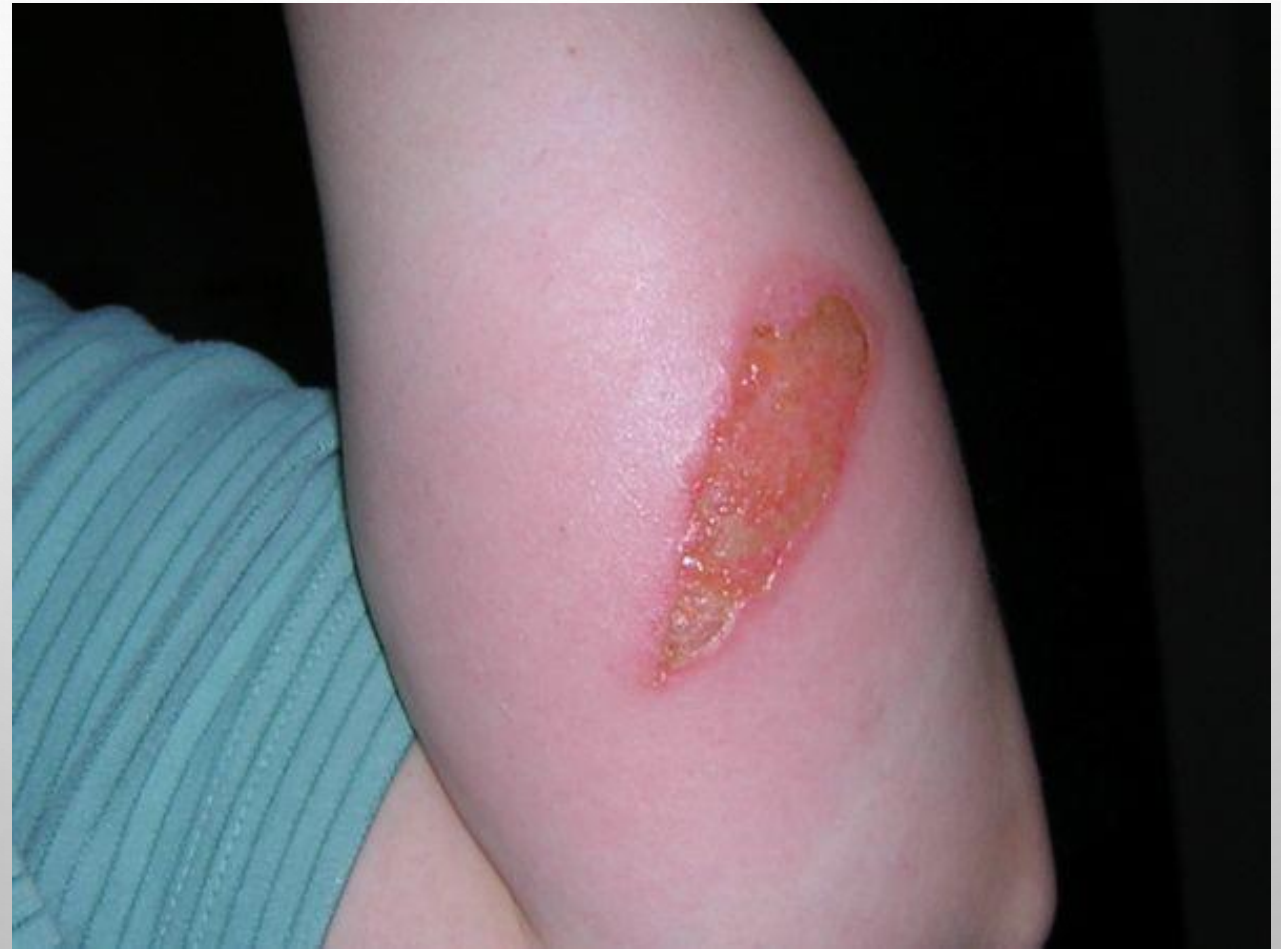


SUNBURN

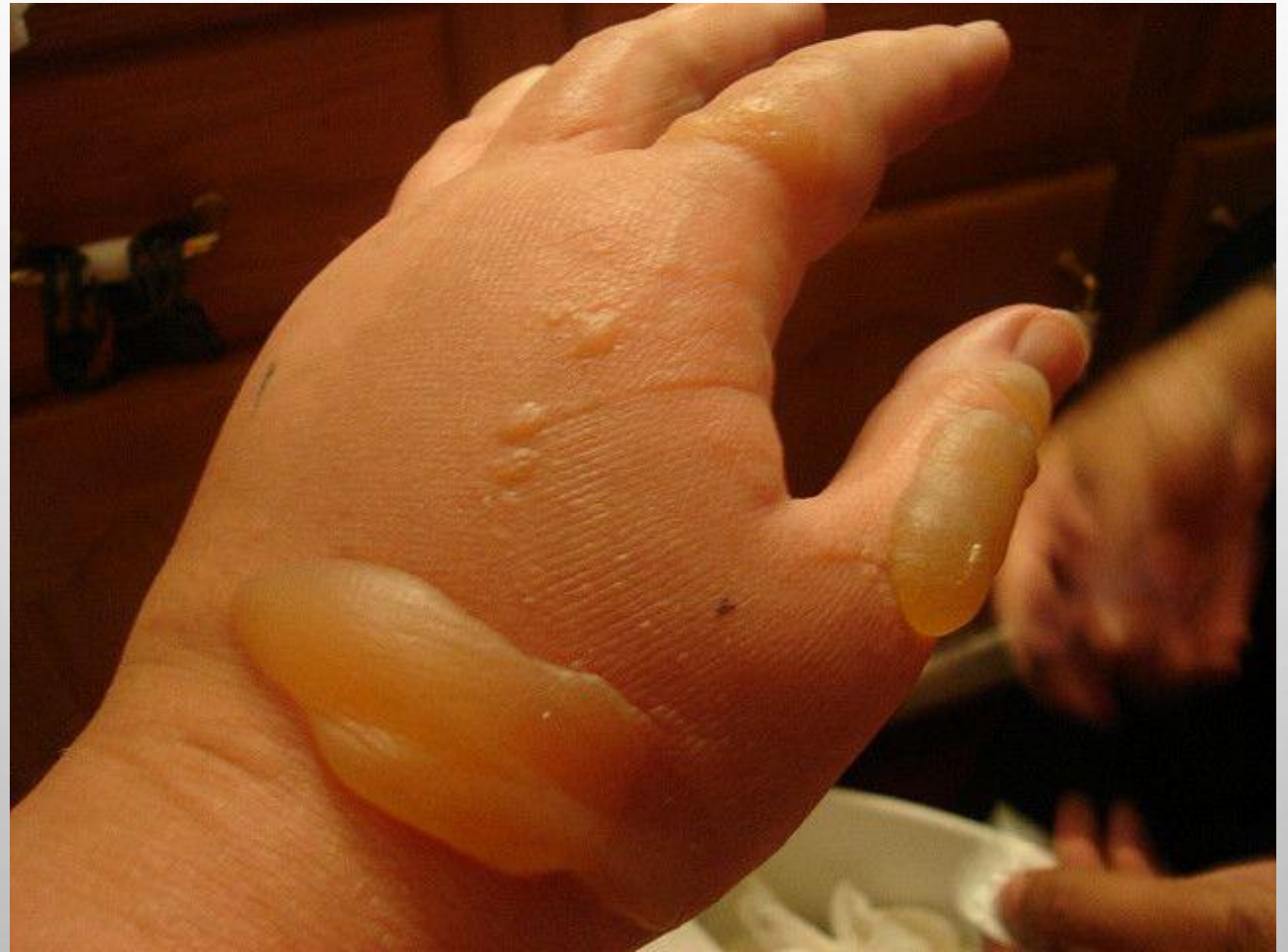
SECOND DEGREE ELECTRICAL BURN



DEEP SECOND DEGREE BURN



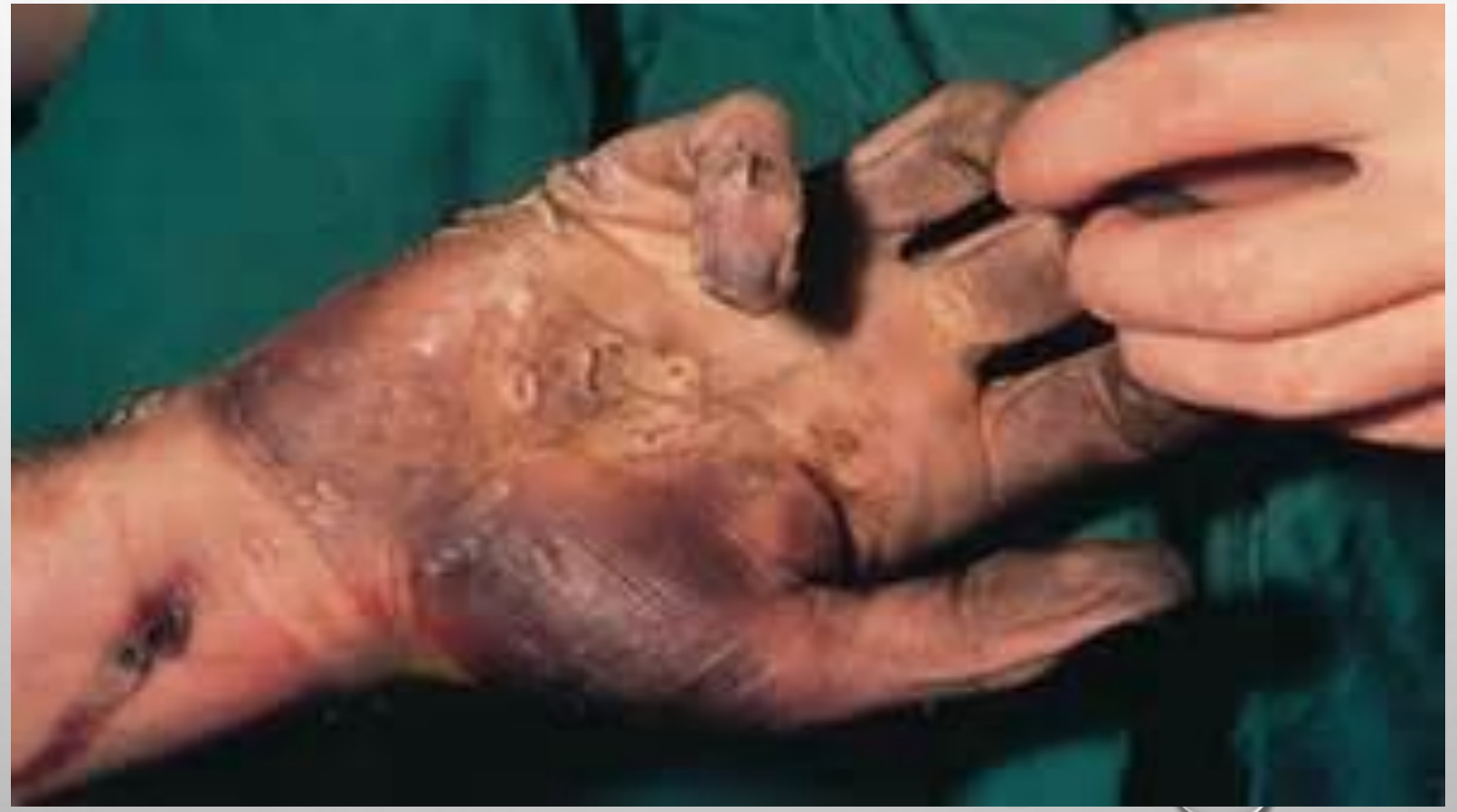
SEVERE HAND BURN



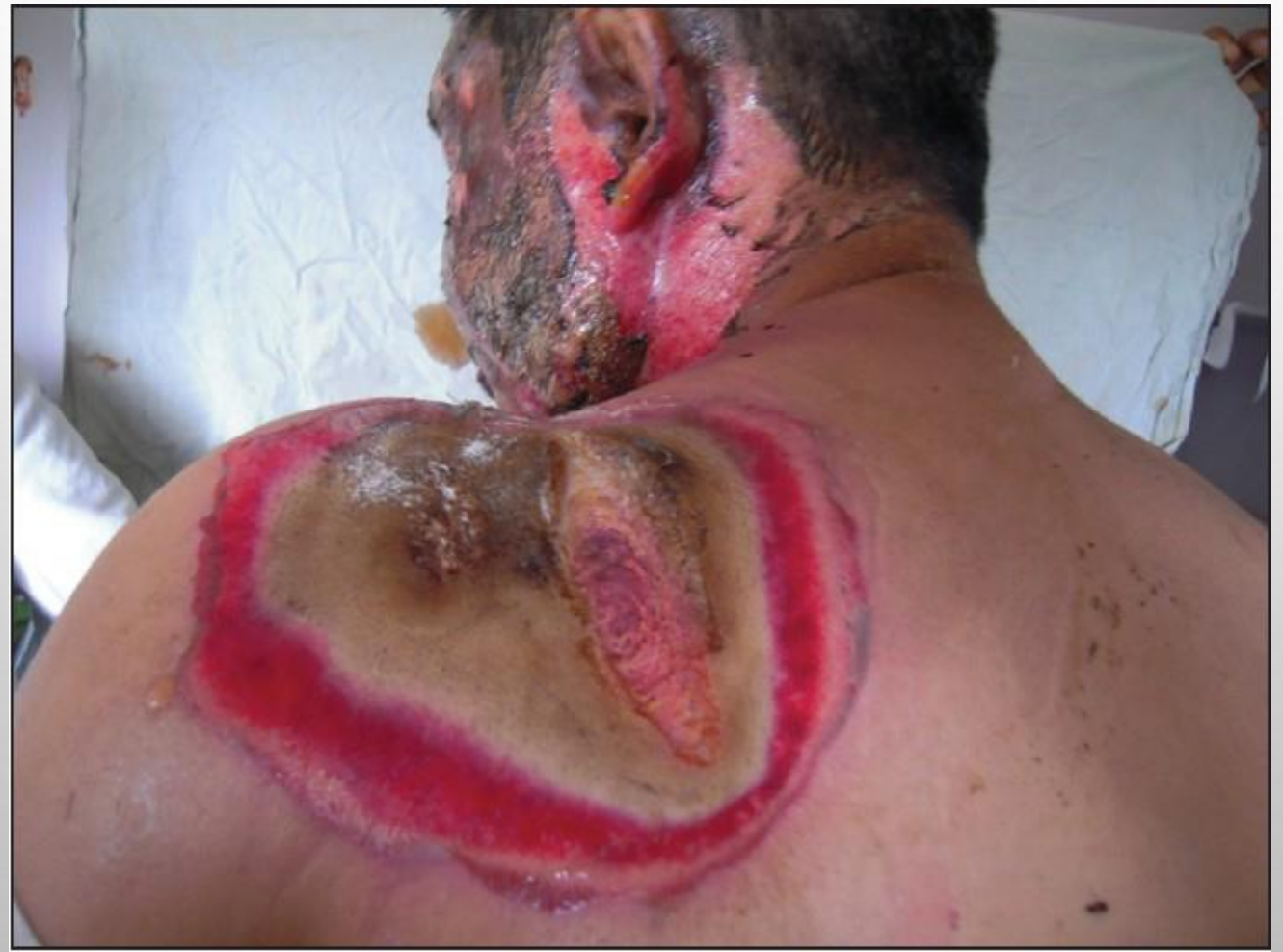
THIRD DEGREE FINGER BURN

SEVERE HAND BURN

THIRD DEGREE HAND BURN



SEVERE FULL-THICKNESS BURNS



% OF TOTAL BODY SURFACE AREA BURNED (TBSA)

- RULE OF PALMAR SURFACE: PATIENT'S PALMAR SURFACE OF PALM AND FINGERS = 1% TBSA
- RULE OF NINES:
    - HEAD: 9%
    - ARMS: 9% EACH
    - LEGS: 18 % EACH
    - ABDOMEN: 18%
    - BACK 18%
    - GENITALS: 1%
    - PEDIATRICS:
        - HEAD: 18%
        - ARMS: 9%
        - LEGS: 14%
        - BACK: BUTTOCKS: 5% UPPER BACK 13%
        - ABDOMEN: 18%

INDICATIONS FOR HOSPITALIZATION

- THE MORE TBSA BURNED, THE MORE SERIOUS THE INJURY.
- FULL-THICKNESS BURNS OVER 2% TBSA
- CHILD ABUSE AND NEGLECT BURNS
- HIGH VOLTAGE ELECTRICAL INJURIES, CAREFUL MONITORING IN HOSPITAL X AT LEAST 24 HOURS.
- BURNS OF FACE, HANDS, PERINEUM, FEET
- ADULTS WITH > 15% TBSA; CHILDREN WITH > 10% TBSA
- CHILDREN UNDER 2 YEARS, ADULTS OVER 60 YEARS OF AGE
- SMOKE INHALATION
- UNRELIABLE PATIENT OR LACK OF FAMILY SUPPORT SYSTEM
- PRE-EXISTING MEDICAL CONDITIONS
- INFECTED BURN WOUNDS
- DIFFICULT OUTPATIENT MANAGEMENT

SUSPECTED SMOKE INHALATION

- BURNS TO FACE AND/OR NECK
- SOOT IN THE MOUTH AND/OR NOSE
- SINGED FACIAL HAIR OR NOSE HAIR
- A DRY COUGH
- MAJOR ELECTRICAL BURNS (E.G. LIGHTNING, OR ELECTROCUTION) MAY AFFECT CARDIAC AND PULMONARY SYSTEMS.
- ALWAYS CARE FOR CARDIAC AND RESPIRATORY PROBLEMS BEFORE CARING FOR THE BURNS (SIMULTANEOUS TREATMENT).

CARE FOR BURNS—1

1. REMOVE VICTIM FROM THE SOURCE OF THE BURN AND IMMEDIATE DANGER.
2. STOP THE BURNING PROCESS QUICKLY, WITHIN 30 SECONDS IF POSSIBLE.
    - REMOVE THE HEAT SOURCE.
    - SMOTHER FLAMES.
    - DO NOT TRY TO REMOVE TAR, MELTED PLASTIC, OR OTHER MATERIAL STUCK TO THE BURN.
    - IF ELECTRICAL, TURN OFF ELECTRICITY FIRST.
    - IF DRY CHEMICAL, BRUSH OFF THE CHEMICAL OR REMOVE CONTAMINATED CLOTHING, THEN FLOOD WITH WATER. TAKE PRECAUTIONS FROM BREATHING IN DUST. MAKE SURE THE CHEMICAL IS NOT FLUSHED ONTO OTHER PARTS OF THE BODY.

CARE FOR BURNS—2

3. COOL OR FLOOD THE BURN WITH COLD WATER FOR AT LEAST 20 MINUTES.
4. MILD BURN: GENTLY WASH WITH SOAP AND WATER AND PAT DRY.
5. LEAVE BURN BLISTERS INTACT.
6. REMOVE JEWELRY FROM BURNED AREA, IF POSSIBLE, TO PREVENT COMPLICATIONS RESULTING FROM SWELLING.
7. IF NO BURN OINTMENT OR BURN DRESSINGS ARE AVAILABLE, LEAVE THE BURN ALONE. THE BURN'S SURFACE WILL DRY INTO A SCAB-LIKE COVERING THAT PROVIDES SIGNIFICANT PROTECTION.
8. COVER THE BURN WITH A GAUZE PAD OR THIN LAYER OF ROLL GAUZE OR APPLY CLEAN CLOTHING.
9. MAY USE EGG-WHITE OR FLOUR (APPARENTLY FIRE FIGHTERS USE THIS FOR MINOR BURNS SOMETIMES. CAN ALSO USE ALOE-VERA

CARE FOR BURNS—3

9. DO NOT PACK BURN WOUNDS OR THE PATIENT IN ICE.
10. ELEVATE BURNED EXTREMITIES TO MINIMIZE SWELLING.
11. HAVE THE PATIENT GENTLY AND REGULARLY MOVE BURNED AREAS AS MUCH AS POSSIBLE.
12. MANAGE THE CABDES AND PROTECT THE PATIENT FROM SHOCK AND HYPOTHERMIA.
13. KEEP THE PATIENT WELL HYDRATED AND MONITOR BURNS.
14. RE-DRESS THE BURN INJURY TWICE A DAY (REMOVE OLD DRESSINGS BY SOAKING OFF WITH CLEAN, WARM WATER IF NEEDED; RE-WASH THE WOUND GENTLY; APPLY A CLEAN COVERING.)
15. RE-DRESSING OR RE-EXAMINING A BURN FOR INFECTION IS GOING TO BE VERY PAINFUL. IF EVACUATION IS IMMINENT (WITHIN 24 HOURS)—DO NOT RE-DRESS THE WOUND.

WHEN TO CALL FOR HELP IN BURNS

- TROUBLE BREATHING
- A PARTIAL- OR FULL-THICKNESS BURN THAT COVERS 10% OF THE TBSA.
- A PARTIAL- OR FULL-THICKNESS BURN THAT IS CIRCUMFERENTIAL (WRAPPING AROUND THE BODY), COVERING THE ENTIRE HAND, FOOT, OR OTHER BODY PART.
- SERIOUS BURNS OF THE HEAD, FACE, HANDS, FEET, OR GENITALS.
- A FULL-THICKNESS BURN THAT COVERS MORE THAN 5% OF TBSA.
- BURNS CAUSED BY CHEMICALS, EXPLOSIONS, OR ELECTRICITY.
- ANY PARTIAL- OR FULL-THICKNESS BURN TO A CHILD UNDER 5 YEARS OR AN ADULT OVER 60 YEARS OF AGE.
- ANY SUSPECTED SMOKE INHALATION INJURY.

3RD INJURIES: LIGHTNING STRIKES—1

- PREVENTION: PICK CAMPSITES THAT MEET SAFETY PRECAUTIONS; CHECK WEATHER PATTERNS AND FORECASTS. PLAN TURNAROUND TIMES TO GET OUT OF DANGEROUS AREA.
- REACH SAFETY IN LIGHTNING STORM:
  - MOVE DOWNHILL.
  - DO NOT STAY IN A MEADOW OR WIDE-OPEN SPACE.
  - SEEK UNIFORM COVER (LOW ROLLING HILLS, OR SAME-SIZE TREES.
  - TAKE SHELTER IN A MOTOR VEHICLE WITH HARD TOP, KEEP WINDOWS ROLLED UP. ALSO, COULD TAKE COVER IN A STEEL-FRAMED BUILDING.

LIGHTNING STRIKES

LIGHTNING STRIKES—2

- IF YOU ARE BOATING OR SWIMMING: QUICKLY GET TO LAND AND MOVE AWAY FROM THE SHORE.
- AVOID: METAL, ANYTHING CONNECTED TO ELECTRICAL POWER, HIGH PLACES AND HIGH OBJECTS (E.G. TALL TREES), OPEN PLACES, DAMP AND SHALLOW CAVES AND TUNNELS, OVERHANGS, FLOOD ZONES, PLACES OBVIOUSLY STRUCK BY LIGHTNING IN THE PAST, LONG CONDUCTORS (E.G., FENCES)

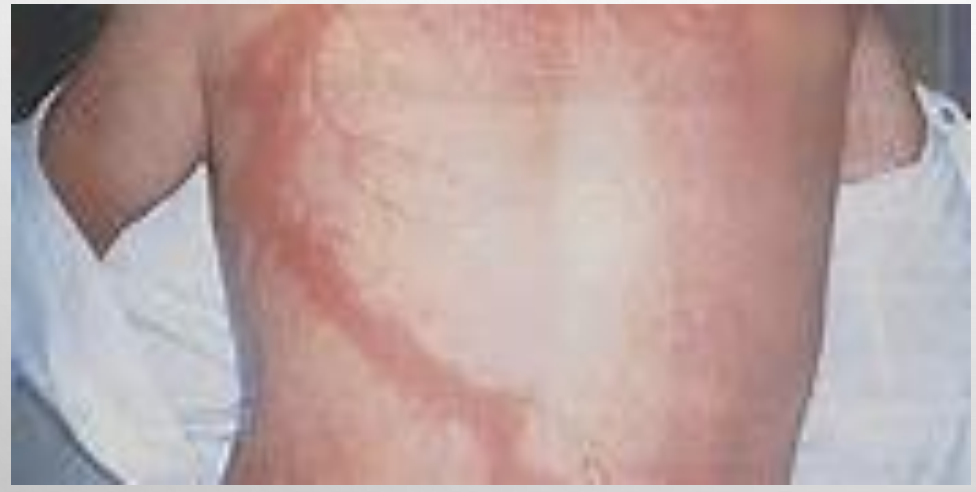
LIGHTNING STRIKES—3

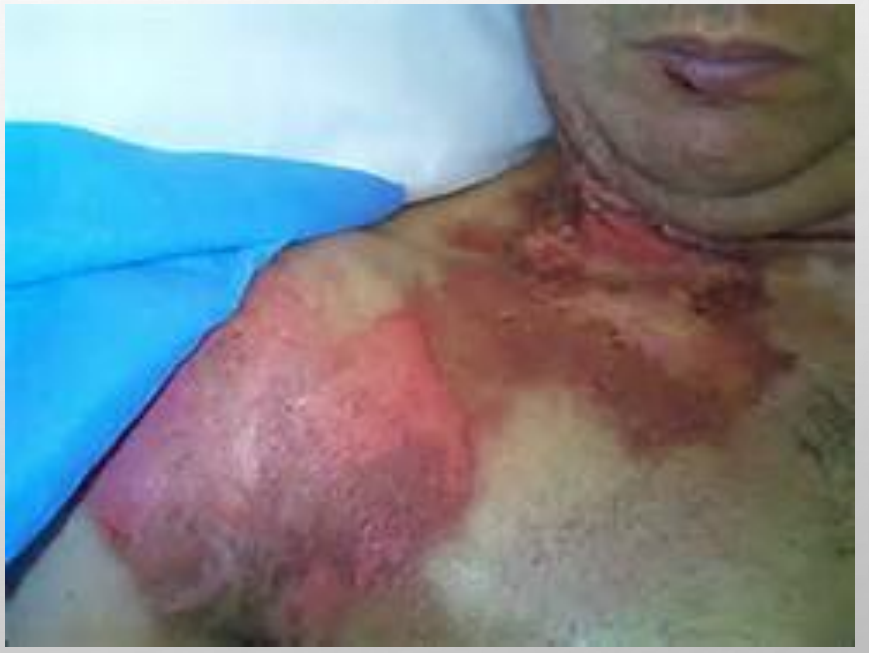
- TO ASSUME SAFE POSITION OUTDOORS:
  - SQUAT OR SIT IN A TIGHT BODY POSITION ON INSULATING MATERIAL (SLEEPING PAD, LIFE JACKET).
  - TAKE OFF ANY METAL-FRAMED PACKS AND TOSS HIKING POLES AWAY FROM THE GROUP.
  - DO NOT LIE DOWN.
  - IF YOU FEEL YOUR HAIR STAND ON END OR YOUR SKIN GET TINGLY, COVER YOUR EARS WITH YOUR HANDS AND GET YOUR HEAD CLOSE TO YOUR KNEES.
  - SPREAD GROUPS OUT WIDE WITH ABOUT 100 FEET OR MORE BETWEEN INDIVIDUALS. KEEP EVERYONE IN SIGHT IF POSSIBLE.

LIGHTNING INJURIES

- CARDIAC AND PULMONARY ARREST, NEUROLOGICAL PROBLEMS, BLINDNESS, DEAFNESS, BURNS, AND TRAUMA.
- CHECKING FOR INJURIES, LOOK, LISTEN AND FEEL FOR:
  - UNCONSCIOUSNESS
  - BURN MARKS ON THE SKIN (ENTRY AND EXIT OF CURRENT)
  - TRAUMA (E.G., FRACTURES OR DISLOCATIONS)
  - DAZED, CONFUSED BEHAVIOR
  - DIFFICULTY BREATHING
  - WEAK, IRREGULAR, OR ABSENT PULSE

LIGHTNING INJURIES





CARE OF LIGHTNING INJURIES

- BEGIN CARDIOPULMONARY RESUSCITATION (CPR) IMMEDIATELY IF NEEDED.
- TREAT ANY INJURIES AS NEEDED.
- BE READY TO TREAT SECONDARY ISSUES (E.G., HYPOTHERMIA IN A WET, INJURED PERSON, SPLINT FRACTURES.
- CALL FOR HELP!
- EVACUATE RAPIDLY ANYONE WHO HAS BEEN STRUCK BY LIGHTNING.
- SERIOUS INJURIES CAN DEVELOP, OR MAY BE MASKED AT FIRST, SO YOU MUST STILL EVACUATE RAPIDLY.

FOLLOW 30-30 RULE

- PLOT STORMS: WHEN STORM IS NO LESS THAN 6 MILES AWAY, SEEK A SAFE LOCATION, AND STAY THERE FOR 30 MINUTES AFTER THE STORM PASSES.
- FLASH TO BOOM 30 SECONDS = STORM IS 6 MILES AWAY
- FLASH TO BOOM 25 SECONDS = STORM IS 5 MILES AWAY
- FLASH TO BOOM 20 SECONDS = STORM IS 4 MILES AWAY
- FLASH TO BOOM 15 SECONDS = STORM IS 3 MILES AWAY
- FLASH TO BOOM 10 SECONDS = STORM IS 2 MILES AWAY
- FLASH TO BOOM 5 SECONDS = STORM IS 1 MILE AWAY.
- NOTE: COUNT ON FINGERS OF ONE HAND: THE FINGERS ARE 5,10, 15, 20, ETC.

4TH INJURIES:
DROWNINGS

- FIRST, MAKE SURE THE SCENE IS SAFE FOR THE RESCUER.
- THE RESPONDER CAN BE PLACED IN A VERY DANGEROUS SITUATION TRYING TO HELP A DROWNING PERSON, ESPECIALLY IF YOU ARE NOT TRAINED IN WATER RESCUE, AND IF THE AREA IS UNSAFE.
- IF YOU THINK YOU MIGHT EVER NEED TO DO A WATER RESCUE, OBTAIN TRAINING AS A LIFEGUARD FROM THE RED CROSS.
- EVEN IF YOU ARE A STRONG SWIMMER, BE EXTREMELY CAREFUL.
- THERE ARE SOME THINGS YOU CAN DO TO MINIMIZE YOUR RISK.

AVOID PANIC

- PANIC DEFINITION: "THE SUDDEN UNREASONABLE AND OVERWHELMING FEAR THAT ATTACKS PEOPLE IN REAL OR IMAGINED DANGER."
- IT IS SO STRONG AS TO DOMINATE OR PREVENT REASONABLE AND LOGICAL THINKING.
- IN DROWNING SITUATIONS, THE RESCUER MUST KEEP CALM, COOL, AND COLLECTED, WHILE EVERYONE ELSE IS PANICKED AND MAY BE OUT OF CONTROL.

DROWNING PREVENTION—1

- DON'T ALLOW YOUR GROUP TO SWIM IN UNSAFE AREAS (MURKY WATER, WATER ABOVE A WATERFALL, STRONG CURRENTS, ICE-COLD WATER, DEEP WATER WITH STEEP SHORE DROP-OFFS, ETC.)
- WEAR LIFE JACKETS, NEOPRENE WET SUITS, NEVER SWIM ALONE.
- ALL BOATERS SHOULD WEAR A U.S. COAST GUARD-APPROVED PERSONAL FLOTATION DEVICE, AND BE SKILLED IN MANAGING THEIR CRAFT IN THE LOCAL ENVIRONMENT.
- BEFORE DOING WATER ACTIVITIES, GATHER EVERYONE TOGETHER, HAVE BASIC RESCUE AIDS, AND DISCUSS WATER SAFETY AND RESCUE PROCEDURES.

DROWNING PREVENTION—2

- DON'T SWIM OR DRIVE OR RIDE IN A SMALL CRAFT WHILE UNDER THE INFLUENCE OF ALCOHOL. MOST DROWNINGS INVOLVE ALCOHOL.
- DO NOT DRIVE A SPEEDBOAT AT NIGHT.
- NEVER DIVE HEADFIRST INTO AN UNKNOWN AREA (THERE MAY BE ROCKS UNDERNEATH THE WATER, OR IT MAY BE MORE SHALLOW THAN IT APPEARS). CERVICAL SPINE (NECK) FRACTURES ARE COMMON IN THESE SITUATIONS. IF YOU HAVE TO JUMP INTO THE WATER, GO FEET FIRST. BETTER YET, CHECK THE DEPTH BEFORE DOING ANY DIVING.
- NEVER ATTEMPT A SWIMMING RESCUE IF YOU ARE NOT A TRAINED LIFEGUARD. THERE ARE OTHER MUCH SAFER WAYS TO RESCUE A DROWNING PERSON.

IDENTIFYING A DISTRESSED SWIMMER

- CAN BREATHE AND CALL FOR HELP.
- CAN FLOAT, SCULL (MOVE SLOWING WITH HANDS), OR TREAD WATER.
- BODY POSITION COULD BE HORIZONTAL, VERTICAL, OR DIAGONAL.
- MAKES LITTLE OR NO FORWARD PROGRESS; LESS AND LESS ABLE TO SUPPORT SELF.
- MAY REACH FOR RESCUE AIDS EXTENDED OR PUSHED NEARBY.

IDENTIFYING AN ACTIVE DROWNING VICTIM

- STRUGGLES TO BREATHE; CANNOT CALL OUT FOR HELP
- ARMS TO SIDES ALTERNATELY MOVING UP AND PRESSING DOWN; NO SUPPORTING KICK
- VERTICAL BODY POSITION
- NO FORWARD PROGRESS (HAS ONLY 20-60 SECONDS BEFORE GOING DOWN UNDERWATER)
- UNABLE TO REACH FOR OR MOVE EVEN A SHORT DISTANCE TO A RESCUE AID, BUT MAY BE SUPPORTED BY AN AID PLACED WITHIN HIS OR HER GRASP.

IDENTIFYING A PASSIVE DROWNING VICTIM

- NOT BREATHING
- NO ARM OR LEG ACTION
- NO FORWARD PROGRESS
- UNABLE TO GRASP A RESCUE AID; ASSIST NORMALLY REQUIRES CONTACT BY RESCUER
- HORIZONTAL OR VERTICAL BODY POSITION; COULD BE FACE-DOWN, FACE-UP, OR SUBMERGED

ASSISTING THE VICTIM IN THE WATER

- CONTINUE TO MONITOR THE SAFETY OF EVERYONE ELSE (OR HAVE SOMEONE ELSE DO SO) WHEN ATTENTION IS FOCUSED ON THE VICTIM IN TROUBLE.
- MAKE SURE ALL UNSKILLED RESCUERS STAY OUT OF THE WATER, STAY QUIET, AND BE READY TO HELP THE RESCUER.
- ALWAYS FIRST ATTEMPT AN OUT-OF-WATER ASSIST, WHENEVER POSSIBLE.
- TALK TO THE VICTIM THROUGHOUT THE RESCUE TO KEEP HIM OR HER CALM AND AWARE OF YOUR PRESENCE.
- IF CONDITIONS ARE UNSAFE AND BEYOND YOUR LEVEL OF TRAINING, STOP YOUR RESCUE EFFORTS IF THE RISK BECOMES UNACCEPTABLE. FOR EXAMPLE, YOU SHOULD NOT ATTEMPT TO RESCUE A KAYAKER PINNED IN HEAVY WHITE WATER UNLESS YOU HAVE SPECIALIZED TRAINING IN SWIFT-WATER RESCUE.

REACH, THROW, ROW, GO

1. REACH OUT TO THE VICTIM WITH A HAND, FOOT, CLOTHING, STICK, PADDLE, OR ANYTHING THAT ALLOWS YOU TO REMAIN SAFELY ON LAND OR IN A BOAT.
    - BRACE YOURSELF ON THE PIER SURFACE, SHORELINE OR ANOTHER SOLID SURFACE. EXTEND THE OBJECT TO THE VICTIM OR REACH WITH YOUR ARM AND GRASP THE VICTIM. SLOWLY AND CAREFULLY PULL HIM OR HER TO SAFETY. KEEP YOUR BODY LOW AND LEAN BACK TO AVOID BEING PULLED INTO THE WATER.
    - IF YOU ARE IN THE WATER, HOLD ON TO A PILING OR ANOTHER SECURE OBJECT WITH ONE HAND. EXTEND YOUR FREE HAND OR ONE OF YOUR LEGS TO THE VICTIM. DO NOT LET GO OF THE SECURE OBJECT OR SWIM OUT INTO THE WATER. PULL THE VICTIM TO SAFETY.
    - IF THE WATER IS SAFE AND NOT DEEPER THAN YOUR CHEST, YOU CAN WADE OUT TO REACH THE VICTIM. DO NOT ENTER THE WATER IF THERE IS A CURRENT, OF THE BOTTOM IS SOFT OR UNKNOWN. IF POSSIBLE, WEAR A LIFE JACKET AND TAKE A BUOYANT OBJECT TO EXTEND YOUR REACH. WHEN VICTIM GRASPS THE OBJECT, KEEP THE OBJECT BETWEEN YOU AND THE VICTIM TO PREVENT THE VICTIM FROM CLUTCHING AT

REACH, THROW, ROW, GO

2. THROW SOMETHING THAT FLOATS TO THE PERSON SO HE OR SHE CAN HOLD ON TO IT. YOU CAN THROW A ROPE AND TOW THE VICTIM TO SAFETY.
    - GET INTO A STRIDE POSITION (LEG OPPOSITE YOUR THROWING ARM IS FORWARD). STEP ON THE END OF THE LINE WITH YOUR FORWARD FOOT.
    - SHOUT TO GET THE VICTIM'S ATTENTION. MAKE EYE CONTACT AND SAY YOU ARE GOING TO THROW THE OBJECT, AND TO GRAB IT.
    - BEND YOUR KNEES AND THROW THE OBJECT UP-WIND OR UP-CURRENT, JUST OVER THE VICTIM'S HEAD, SO THE LINE DROPS WITHIN REACH.
    - LEAN AWAY FROM THE WATER AS YOU PULL VICTIM TO SAFETY.
    - IF THE OBJECT DOES NOT REACH THE VICTIM, QUICKLY TRY AGAIN.

REACH, THROW, ROW, GO

3 ROW TO THE VICTIM, OR GET TO THE PERSON IN SOME SORT OF WATERCRAFT, USING REACHING OR THROWING DEVICES AS APPROPRIATE, WITH SAFETY AS A TOP PRIORITY.

4 GO. THIS IS APPROPRIATE ONLY FOR GOOD SWIMMERS WITH WATER RESCUE (LIFEGUARD) TRAINING AND WHEN IT IS POSSIBLE TO SAFELY REACH THE VICTIM.

- RESCUER MAY WADE OR SWIM WITH A FLOTATION AID TOWARD A CONSCIOUS VICTIM, STOP A SAFE DISTANCE AWAY AND THEN PASS THE FLOTATION AID WITHIN THE VICTIM'S GRASP.
- IF NO FLOTATION AID IS AVAILABLE, SWIM TO WITHIN A SHORT DISTANCE AND TALK TO VICTIM, MAY APPROACH FROM UNDERNEATH OR FROM BEHIND. WHEN POSSIBLE, WAIT FOR VICTIM TO TIRE SO THAT HE OR SHE WILL BE LESS APT TO FIGHT OR GET A "DEATH GRIP" ON YOU.
- RECOVERY OF AN UNCONSCIOUS VICTIM MAY REQUIRE A SURFACE DIVE AND CONTACT TOW.

CARING FOR A DROWNED PERSON

- ONCE THE VICTIM IS REMOVED FROM THE WATER, CHECK FOR LOC, CIRCULATION, AIRWAY, BREATHING, ENVIRONMENTAL CONDITIONS.
- BEGIN CPR IF INDICATED (IF VICTIM IS NOT MOVING OR BREATHING NORMALLY).
- DO NOT ATTEMPT TO CLEAR THE VICTIM'S LUNGS OF WATER.
- BE READY TO ROLL THE VICTIM TO CLEAR THE AIRWAY IF WATER, BEER, PIZZA, OR OTHER VOMIT COMES UP.
- ALWAYS SUSPECT A HEAD OR NECK INJURY AND PROTECT THE C-SPINE (IMMOBILIZE THE SPINE IF INDICATED).
- CARE FOR SHOCK, HYPOTHERMIA, OR OTHER CONDITIONS THAT MAY HAVE CAUSED THE VICTIM'S DISTRESS IN THE WATER (E.G. DIABETIC EMERGENCY, HEART ATTACK, ETC.).
- SCUBA DIVING ACCIDENTS REQUIRE SPECIAL CARE.
- EVACUATE QUICKLY, ANYONE WHO WAS UNCONSCIOUS, NO MATTER HOW SHORT A TIME, DURING A SUBMERSION INCIDENT. THIS SITUATION CAN BECOME LIFE-THREATENING.

5TH INJURIES
BOATING ACCIDENTS

- INCLUDES PADDLE BOARDS, KAYAKS, CANOES, SMALL ROWBOATS, MOTORIZED WATERCRAFT, WAVE RUNNERS, SKI BOATS, ETC.
- BE VERY FAMILIAR WITH YOUR EQUIPMENT. CHECK IT BEFORE GOING OUT ON THE WATER: DO A THOROUGH CHECKLIST (JUST LIKE BEFORE PILOTING AN AIRPLANE, A WRITTEN LAMINATED CHECKLIST IN THE BOAT IS BEST.
- SUGGEST PURCHASING THIS BOOK ONLINE: *BOATING SKILLS AND SEAMANSHIP, UNITED STATES COAST GUARD AUXILIARY ($35.00)*

BOATING ACCIDENTS
IMPORTANT SAFETY GUIDELINES

1. WITH KAYAKS, MAKE SURE YOU KNOW HOW TO FREE YOURSELF IF YOU TIP OVER. PRACTICE AHEAD OF TIME. ALWAYS WEAR LIFE JACKET. CARRY A WHISTLE AND CELL PHONE IN PLASTIC ZIPLOCK POUCH. IF YOU'RE GOING TO DRINK ALCOHOL, WAIT UNTIL YOU GET OUT OF THE WATER AND SAFELY HOME.
2. WITH SKI BOATS: LIFE JACKETS FOR EVERYONE; NO ALCOHOL BEFORE OR WHEN YOU'RE ON THE WATER. MAKE SURE DRAIN PLUS IS SCREWED IN TIGHT, AND GAS TANK IS FULL; KNOW THE AREA WHERE YOU ARE BOATING, ESPECIALLY LOOK FOR UNDERWATER OBJECTS (LOGS, BRANCHES, SHALLOW WATER; DON'T ALLOW ANYONE TO SIT ON THE EDGE OF THE BOAT WHILE IT'S MOVING. EVERYONE SITTING DOWN INSIDE WHEN THE BOAT IS MOVING; NO RAPID OR JERKING TURNS; WHEN SKIERS ARE IN THE WATER, THE ENGINE IS TURNED OFF; NO BODY IN THE WATER CLOSE TO THE PROP; ALWAYS WATCH FOR OTHER BOATS AND PEOPLE IN THE WATER; NEVER PULL A SKIER ACROSS THE PATH OF AN ONCOMING FREIGHT BARGE; APPROACH THE SKIER OR WAKEBOARDER SLOWLY AND CAREFULLY, ALWAYS AWARE OF WHERE THE SKIER IS AND AWAY FR0M THE PROP.

6TH INJURIES
WILD ANIMAL ENCOUNTERS

- BEFORE GOING INTO A CERTAIN WILDERNESS AREA, KNOW WHICH ANIMALS YOU MIGHT EXPECT TO SEE (OR NOT SEE ALTHOUGH THEY ARE PRESENT).
- ALTHOUGH MANY PEOPLE ENJOY HIKING ALONE, YOU ARE MUCH MORE LIKELY TO ACCIDENTALLY MEET UP WITH A MOUNTAIN LION, BEAR, OR MOOSE.
- IF YOU ARE IN A GROUP OF 2 OR MORE, YOU ARE LESS LIKELY TO HAVE SUCH ENCOUNTERS.
- MAKE SURE YOU FREQUENTLY MAKE YOUR PRESENCE KNOWN IN TIGHT PLACES OR THICK COVER: YOU CAN CLAP YOUR HANDS FREQUENTLY OR CALL OUT LOUDLY (NOT NECESSARY TO GO TO EXTREMES LIKE BLASTING PORTABLE BOAT HORNS).
- THERE ARE MANY FALLACIES ABOUT WHAT TO DO OR NOT TO DO WHEN MEETING UP WITH A DANGEROUS ANIMAL. THERE ARE MANY POPULAR BELIEFS THAT ARE ERRONEOUS.

MOUNTAIN LIONS—1

- THERE HAVE BEEN 29 REPORTED CASES OF FATAL MOUNTAIN LION ATTACKS ON HUMANS IN NORTH AMERICA SINCE 1968. THERE MIGHT HAVE BEEN OTHERS NOT REPORTED. THERE HAVE BEEN OVER 130 ATTACKS ALTOGETHER (29 FATAL).
- FATAL SNAKE BITES, BEE STINGS, OR LIGHTNING STRIKES ARE MUCH MORE COMMON.
- CHILDREN ARE MORE SUSCEPTIBLE, THE MAJORITY OF FATAL ATTACKS WERE IN CHILDREN NOT ACCOMPANIED BY ADULTS.

MOUNTAIN LIONS—2

- COUGARS MAY BE PROVOKED TO ATTACK IF CORNERED, IF YOU TRY TO RUN AWAY—SIMULATING A PREY TRYING TO ESCAPE, OR IF YOU "PLAY DEAD."
- STANDING STILL MAY ALSO PROVOKE AN ATTACK, SINCE THE COUGAR MIGHT CONSIDER YOU AN EASY PREY.
- YOU MAY BE ABLE TO MAKE THE COUGAR RETREAT BY:
  - INTENSE EYE CONTACT
  - LOUD SHOUTING
  - OR BY MAKING YOURSELF LOOK BIGGER AND MORE MENACING BY WAVING YOUR ARMS

AS LAST RESORT YOU MAY FIGHT

- SOME PEOPLE HAVE BEEN ABLE TO SURVIVE BY FIGHTING OFF THE COUGAR.
- FIGHTING BACK WITH ROCKS, STICKS, TREKKING POLES, OR EVEN BARE HANDS, MAY PERSUADE THE COUGAR TO LEAVE YOU ALONE.
- IN 2024, EARLIER THIS YEAR, IN WASHINGTON STATE, A WOMAN WAS TACKLED OFF HER BIKE AND MAULED IN THE FACE BY A COUGAR. FOUR OF HER WOMEN COMPANIONS ENGAGED IN "HAND-TO-PAW" COMBAT FOR 45 MINUTES WITH THE COUGAR. THE WOMEN WERE ABLE TO PIN THE COUGAR DOWN WITH ONE OF THEIR BIKES. AT ONE POINT THE COUGAR EVEN LIFTED THE BIKE WITH THE WOMEN STANDING ON IT. A WILDLIFE OFFICER WAS CALLED TO THE SCENE AND FINALLY SHOT THE ANIMAL.

MOUNTAIN LION FACTS

- COUGARS ARE VERY SNEAKY AND MOST PEOPLE NEVER SEE THEM, EVEN THOUGH THEY MIGHT BE CLOSE BY. MOST PEOPLE ATTACKED DID NOT SEE THE ANIMAL PRIOR TO BEING ATTACKED.
- COUGARS ARE THE LARGEST “PURE” CARNIVORES IN NORTH AMERICA.
- ALTHOUGH MORE MALE COUGARS ATTACK LIFESTOCK (CATTLE, HORSES, SHEEP, ETC.), WITH HUMAN ATTACKS, MALE AND FEMALE COUGARS ARE EQUALLY REPRESENTED.
- MOST COUGAR ATTACK VICTIMS ARE 16 YEARS OLD OR YOUNGER.
- CLEARLY, HUNTING COUGARS HAS NOT DIMINISHED THEIR HUMAN ATTACKS.
- MOST ATTACKS HAVE OCCURRED IN BRITISH COLUMBIA, CANADA, ESPECIALLY ON VANCOUVER ISLAND.

MOUNTAIN LION FACTS

- THEY ARE SOLITARY ANIMALS. FEMALE LION HOME RANGES ARE OFTEN LESS THAN 40 SQUARE MILES (100 SQUARE KM). MALES' HOME RANGES ARE OFTEN SEVERAL HUNDRED SQUARE MILES, TYPICALLY THEIR RANGE OVERLAPS SEVERAL FEMALE LIONS' RANGES, BUT MINIMALLY OVERLAP OTHER MALE LIONS' RANGES.
- FEMALES MAY COME INTO BREEDING CONDITION ANY TIME OF THE YEAR, AND SO KITTENS CAN BE BORN YEAR-ROUND. THEY HAVE NO CLEAR SEASONAL REPRODUCTIVE PATTERN (AS SEEN IN THEIR PREY—DEER AND ELK)
- THE USUAL LITTER SIZE IS 2-4 KITTENS. THE FIRST LITTER IS USUALLY PRODUCED WHEN THE FEMALE IS 2 YEARS OLD. SHE CARES FOR HER KITTENS UNTIL THEY ARE 12-20 MONTHS OLD. THE YOUNG MOUNTAIN LIONS ARE QUITE LARGE AT 1 YEAR OF AGE, AND SOON LEAVE THEIR MOTHER'S CARE TO BE ON THEIR OWN.

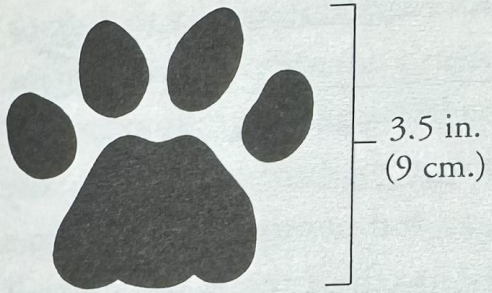
MOUNTAIN LION FACTS

- MOUTAIN LIONS USUALLY LIVE ABOUT 10 YEARS IN THE WILD, BUT MAY LIVE UP TO 20 YEARS IN CAPTIVITY.
- A MAJOR FACTOR IN THEIR SHORTER LIFE SPAN IN THE WILD, IS THAT THEY OFTEN KILL EACH OTHER. OTHER MORTALITY FACTORS ARE: HUNTING, KILLING COUGARS WHO HAVE KILLED LIFESTOCK, AND SOME ARE KILLED ON THE HIGHWAYS BY VEHICLES.
- THEY ARE LIMITED ONLY TO THE WESTERN UNITED STATES AND CANADA IN NORTH AMERICA. THERE ARE A FEW IN FLORIDA, WHERE THEY ARE CALLED PANTHERS.
- THEY KILL THEIR PREY BY BITING THE THROAT AND SUFFOCATING THE VICTIM (ANIMAL OR HUMAN).

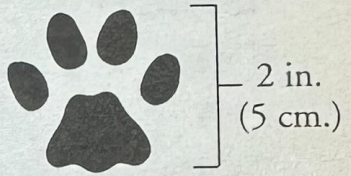
PHYSICAL FEATURES OF COUGARS

- **COLORATION:** PLAIN GRAY TO YELLOWISHG TO RED-BROWN ABOVE, WHITISH UNDERNEATH, BLACK BEHIND EARS AND IN WHISKER AREA ON MUZZLE, BLACK-TIPPED TAIL.
- **TAIL LENGTH:** LONG AND THICK, 40-100% LENGTH OF BODY; 2.5-3.5 FEET LONG.
- **TOTAL LENGTH:** TAIL AND BODY: 6-8’; BODY: 3.5’ TO 4.5’ LONG
- **WEIGHT:** 75-160 POUNDS
- **HEAD SIZE/SHAPE:** SMALL RELATIVE TO BODY, WITH ROUND SHORT MUZZLE

Mountain lion track



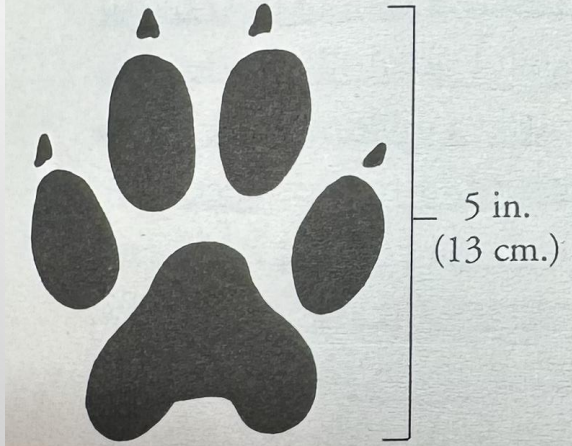
Bobcat track



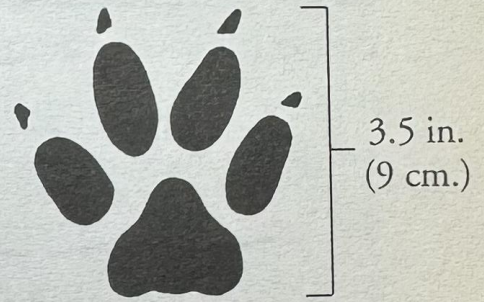
Feline tracks (forepaw illustrated).

Claws seldom show. Generally circular in shape.

Wolf track



Dog track



Canine tracks (forepaw illustrated).

Claws usually show. Length is generally greater than width.

ALL MEASUREMENTS ARE APPROXIMATE.

Bobcat

Lynx rufus

To 4 ft. (1.2 m)

Large cat has spotted red-brown coat and a short tail that is black-striped on top. Rounded tracks are about 2 in. (5 cm) across and lack claw marks.

Lynx

Lynx lynx

To 42 in. (1.06 m)

Key field marks are tufted ears and black-tipped tail. Rounded tracks are 3-4 in. (8-10 cm) across and lack claw marks. Fore print is slightly larger.

Mountain Lion

Puma concolor

To 9 ft. (2.7 m)

Large tan cat has a whitish belly and a long, black-tipped tail. Rounded tracks are 3-4 in. (8-10 cm) across and lack claws. Fore print is slightly larger.

HOW TO HANDLE A MOUNTAIN LION ENCOUNTER

- SPEND TIME SELECTING YOUR TRAVEL ROUTE
- PACK GEAR, WATER, FOOD
- CHECK THE WEATHER
- RESTOCK YOUR FIRST-AID KIT
- LET YOUR FAMILY KNOW YOUR ROUTE AND ANTICIPATED RETURN TIME
- RECOGNIZE POTENTIAL MOUNTAIN LION COUNGY

SAFETY GUIDELINES

1. TRAVEL WITH A FRIEND OR GROUP.
2. KEEP SMALL CHILDREN CLOSE.
3. DO NOT LET PETS RUN UNLEASHED.
4. TRY TO MINIMIZE YOUR RECREATION DURING DAWN AND DUSK—THE TIMES WHEN MOUNTAIN LIONS ARE MOST ACTIVE.
5. CARRY A WEAPON OR DETERRENT DEVICE, PREFERABLY 10MM PISTOL, .45—.70 GUIDE GUN (MARLIN OR HENRY)—USED IN ALASKA AND MONTANA. SPRAY IS USELESS.
6. RESPECT PARK WARNING SIGNS OR NOTICES OF MOUNTAIN LION ACTIVITY.
7. KNOW HOW TO BEHAVE IF YOU ENCOUNTER A MOUNTAIN LION.

BEHAVIOR FOR MOUNTAIN LION ENOUNTER

1. KEEP YOUR COOL. RECOGNIZE THE LION'S BEHAVIOR.
2. IF THE LION IS MORE THAN 50 YARDS AWAY, CHANGES POSITIONS, DIRECTS ATTENTION TOWARD PEOPLE, AND EXHIBITS FOLLOWING BEHAVIOR, IT MAY BE ONLY CURIOUS. THIS REPRESENTS ONLY A SLIGHT RISK FOR ADULTS, BUT A MORE SERIOUS RISK TO UNACCOMPANIED CHILDREN. AT THIS POINT, YOU SHOULD MOVE AWAY, WHILE KEEPING THE ANIMAL IN YOUR PERIPHERAL VISION. ALSO, HAVE YOUR WEAPON OUT AND READY TO USE, JUST IN CASE.
3. FOR DISTANCES LESS THAN 50 YARDS, WHERE THE ANIMAL IS STARING INTENSELY AND HIDING, IT MAY BE ASSESSING THE CHANCES OF A SUCCESSFUL ATTACK. IF INTENSE STARING AND HIDING CONTINUE, ACCOMPANIED BY CROUCHING AND CREEPING, THE RISK OF ATTACK MAY BE VERY HIGH.

BEHAVIOR FOR MOUNTAIN LION ENOUNTER

4. DO NOT APPROACH A MOUNTAIN LION; GIVE THE ANIMAL THE OPPORTUNITY TO MOVE ON. SLOWLY BACK AWAY, BUT MAINTAIN EYE CONTACT IF CLOSE. MOUNTAIN LIONS ARE NOT KNOWN TO ATTACK HUMANS TO DEFEND YOUNG OR A KILL, BUT THEY HAVE BEEN KNOWN TO "CHARGE" IN RARE INSTANCES AND MAY WANT TO STAY IN THE AREA. BEST CHOOSE ANOTHER ROUTE TO ADVENTURE THROUGH THE AREA.
5. DO NOT RUN FROM A MOUNTAIN LION. RUNNING MAY STIMULATE A PREDATORY RESPONSE.
6. BE VOCAL AND TALK OR YELL LOUDLY AND REGULARLY. TRY NOT TO PANIC: SHOUT IN A WAY THAT OTHERS IN THE AREA MAY UNDERSTAND TO MAKE THEM AWARE OF THE SITUATION.

BEHAVIOR FOR MOUNTAIN LION ENOUNTER

7. MAINTAIN EYE CONTACT, WHICH PRESENTS A CHALLENGE TO THE MOUNTAIN LION, SHOWING THAT YOU ARE AWARE OF ITS PRESENCE. EYE CONTACT ALSO HELPS YOU KNOW WHERE IT IS. HOWEVER, IF THE LION'S BEHAVIOR IS NOT THREATENING (IF IT IS, FOR EXAMPLE, GROOMING OR PERIODICALLY LOOKING AWAY), MAINTAIN VISUAL CONTACT THROUGH YOUR PERIPHERAL VISION AND MOVE AWAY.
8. APPEAR LARGER THAN YOU ARE. RAISE YOUR ARMS ABOVE YOUR HEAD AND MAKE STEADY WAVING MOTIONS. RAISE YOUR JACKET OR ANOTHER OBJECT ABOVE YOUR HEAD. DO NOT BEND OVER AS THIS WILL MAKE YOU APPEAR SMALLER AND MORE "PREY-LIKE."

BEHAVIOR FOR MOUNTAIN LION ENOUNTER

9. IF YOU ARE WITH SMALL CHILDREN, PICK THEM UP. FIRST BRING CHILDREN CLOSE TO YOU, MAINTAIN EYE CONTACT WITH THE MOUNTAIN LION, AND PULL THE CHILDREN UP WITHOUT BENDING OVER. BAND TOGETHER, IF YOU ARE WITH OTHER CHILDREN OR ADULTS.
10. BE PREPARED TO FIGHT BACK, IF ATTACKED. TRY TO REMAIN STANDING. DO NOT PRETEND YOU ARE DEAD. IF YOU HAVE A GUN, NOW IS THE TIME TO FIRE IT TO SCARE THE ANIMAL AWAY IF POSSIBLE. IF YOU DON'T HAVE A GUN, REMEMBER EVERYTHING IS A POTENTIAL WEAPON, AND PEOPLE HAVE FENDED OFF MOUNTAIN LIONS WITH BLOWS FROM ROCKS, TREE LIMBS, AND EVEN CAMERAS.
11. DEFEND YOUR FRIENDS OR CHILDREN, BUT NOT YOUR PET. IN PAST ATTACKS ON CHILDREN, ADULTS HAVE SUCCESSFULLY STOPPED ATTACKS. HOWEVER, SUCH CASES ARE VERY DANGEROUS AND RISKY, AND I DO NOT RECOMMEND PHYSICALLY DEFENDING A PET.

BEHAVIOR FOR MOUNTAIN LION ENOUNTER

12. RESPECT ANY WARNING SIGNS POSTED BY AGENCIES. IT MAY NOT BE A GOOD TIME FOR OUTDOOR ADVENTURING.
13. TEACH OTHERS IN YOUR GROUP HOW TO BEHAVE. ONE PERSON OR CHILD WHO STARTS RUNNING COULD PRECIPITATE AN ATTACK.
14. IF YOU HAVE AN ENCOUNTER WITH A MOUNTAIN LION, RECORD YOUR LOCATION AND THE DETAILS OF YOUR ENCOUNTER, AND NOTIFY THE NEAREST PARK OFFICIAL, LAND OWNER OR OTHER APPROPRIATE AGENCY.

SAFETY TIPS FOR RUNNERS, TRAIL RIDERS, AND MOUNTAIN BIKERS

1. IF YOU ARE GOING TO RUN ON TRAILS THROUGH MOUNTAIN LION HABITAT RUN WITH OTHERS! A WOMAN WAS KILLED IN CALIFORNIA IN 1994, AND A MAN WAS KILLED COLORADO IN 1990 BY MOUNTAIN LIONS. IN BOTH CASES THEY WERE ALONE.
2. HORSEBACK TRAIL RIDERS: RIDE IN A GROUP, AND AVOID THE LOW-LIGHT HOURS OF DAWN AND DUSK. BE ALERT TO ANY BEHAVIORAL CLUES THAT YOUR HORSE MIGHT EXHIBIT. YOUR HORSE WILL LIKELY SMELL THE LION BEFORE YOU DO. TRY TO KEEP YOUR HORSE CALM, BACK AWAY, AND LEAVE THE AREA. DO NOT DISMOUNT UNLESS ABSOLUTELY NECESSARY. IF YOU ARE THROWN FROM YOUR HORSE, HAVE YOUR GUN READY.

SAFETY TIPS FOR RUNNERS, TRAIL RIDERS, AND MOUNTAIN BIKERS

- MOUNTAIN LIONS HAVE ATTACKED PEOPLE ON HORSES ON TRAILS. IN 1996, A FAMILY, INCLUDING A MOTHER AND 3 CHILDREN, WAS TRAIL RIDING ON HORSEBACK IN BRITISH COLUMBIA, WHEN A MOUNTAIN LION SUDDENLY JUMPED FROM A BUSH AT THE 6-YEAR-OLD SON. THE BOY WAS THROWN FROM HIS HORSE AND WAS ATTACKED BY THE MOUNTAIN LION. THE MOTHER FOUGHT OFF THE ANIMAL COURAGEOUSLY, BUT SHE WAS FINALLY KILLED BY THE LION. SURPRISINGLY, THIS MALE MOUNTAIN LION WEIGHED ONLY 65 POUNDS.

GOOD RESOURCES

- *A FIELD GUIDE TO MAMMAL TRACKING IN WESTERN AMERICA*, BY JAMES HALFPENNY (BOULDER, COLORADO; JOHNSON BOOKS, 1986)
- *MOUNTIAN LION ALERT—THE ESSENTIAL GUIDE TO LIVING AND TRAVELING SAFELY IN MOUNTAIN LION COUNTRY*, BY STEVEN TORRES, 1997, FALCON, HELENA, MONTANA.

BLACK BEARS AND GRIZZLY BEARS

- THE BEST RESOURCE THAT I HAVE FOUND IS THE BOOK: *BACK COUNTRY BEAR BASICS—THE DEFINITIVE GUIDE TO AVOIDING UNPLEASANT ENCOUNTERS,* 2006 SECOND EDITION, BY DAVE SMITH.
- IF YOU BUY AND READ THIS BOOK, AND CARRY A HEAVY, POWERFUL GUN (.357 MAGNUM, .44, OF HIGHER PISTOL OR A .45-.70 MARLIN OR HENRY GUIDE RIFLE), AND USE COMMON SENSE, YOU SHOULD BE SAFE.
- I HAVE NOT HAD THE EXPERIENCE OR TIME TO YET STUDY THIS BOOK, SO I'M RECOMMENDING IT STRONGLY TO YOU.
- THE EVIDENCE ON BEAR SPRAY DETERRENT IS NOT CONCLUSIVE. MOST OF THESE AEROSOL CANS ONLY REACH ABOUT 25-30 FEET. A BEAR CAN OUTRUN MOST QUARTER-HORSES FOR THE FIRST 100 YARDS, SO A LITTLE CAN OF SPRAY AT A CHARGING BEAR MIGHT BE LIKE SPITTING IN THE WIND.
- PLEASE STAY SAFE, AND MAKE PLENTY OF NOISE WHEN IN BEAR COUNTRY, OBSERVE ALL WARNING SIGNS, AND BE SURE TO SAFELY STORE YOUR FOOD IN APPROPRIATE BEAR-SAFE CONTAINERS HIGH IN A TREE AWAY FROM YOUR CAMPSITE.
- ABOVE ALL, DON'T PANIC.

SUMMARY

- TODAY WE HAVE DISCUSSED SOME OF THE MOST COMMON SUMMERTIME WILDERNESS LIFE-THREATENING MEDICAL EMERGENCIES. YOU ARE NOW BETTER PREPARED PHYSICALLY TO HANDLE THESE.
- IN THE NEAR FUTURE WE MAY ALL FACE SOME VERY DIFFICULT ECONOMIC, POLITICAL, AND LIFE SITUATIONS.
- WE ALSO NEED TO BE PREPARED SPIRITUALLY. MANY OF MY PATIENTS HAVE BEEN ASKING ME LATELY, “DOC, WHAT IN THE WORLD IS HAPPENING IN THIS COUNTRY AND IN THE WORLD TODAY?”
- LOOK FOR MORE SEMINARS HERE IN THE FUTURE DEALING WITH SPIRITUAL PREPAREDNESS FOR THE DIFFICULT TIMES AHEAD.
- AN OUTLINE OF TODAY’S PRESENTATION WILL BE AVAILABLE FREE OF CHARGE BY CONTACTING THE COURSE SUPERVISOR, ROBERT MASON.

FAMILY OR GROUP FIRST AID KIT—1

1. GAUZE BANDAGE, 3” ROLLS (2)
2. SELF-ADHESIVE BANDAGE, 2” ROLL (1)
3. ADHESIVE TAPE, 1” ROLLS (2)
4. ALCOHOL PADS (12)
5. POVIDONE-IODINE PADS (BETADINE) (12)
6. ASSORTED ADHESIVE BANDAGES (1 BOX)
7. ELASTIC BANDAGES, 3” WIDE (ACE) (2)
8. STERILE GAUZE PADS 4” X 4” (12)
9. MOLESKIN, 3” X 3” (4)
10. ANTIBIOTIC OINTMENT FOR BLISTERS & BURNS (2)
11. HYDROCORTISONE CREAM 1% (1 TUBE)
12. TRIANGULAR BANDAGES (4)

FAMILY OR GROUP FIRST AID KIT—2

- SOAP (1 SMALL BAR) OR ALCOHOL-BASED HAND SANITIZING GEL (1 TRAVEL-SIZED BOTTLE)
- PARAMEDIC SHEARS OR SCISSORS (2 PAIR)
- TWEEZERS (1 PAIR)
- SAFETY PINS (12)
- LATEX-FREE MEDICAL EXAM GLOVES (6 PAIRS)
- PROTECTIVE GOGGLES/SAFETY GLASSES (1 PAIR)
- CPR BREATHING BARRIER (1)
- SMALL SPIRAL NOTEBOOK AND PEN.
- SPACE BLANKET, SAM SPLINT, INSTANT COLD COMPRESS.

FAMILY OR GROUP FIRST AID KIT—3

- IRRIGATION SYRINGE
- THERMOMETER
- COMMERCIAL TOURNIQUET
- IBUPROFEN TABLETS OR CAPSULES
- CHEWABLE ASPIRIN TABLETS (81 MG EACH)
- ACETAMINOPHEN TABLETS OR CAPSULES
- BENADRYL 25 MG CAPSULES
- DECONGESTANT NASAL SPRAY (AFRIN)
- OTC DIARRHEA MEDICATIONS (IMODIUM—LOPERAMIDE)