

Cold Stress From Cold Conditions

Identifying And
Responding To Cold
Exposure Hazards



COLD STRESS FACTORS



- *Temperature Of The Air Surrounding The Body.*
- *Body Temperature.*
- *Air Movement Around The Body.*
- *Body Movement.*
- *Length Of Exposure.*

Cold Environment



- Normal Body Temperature 98.6° F.
- Body Temperature Drops Below 86°, Control System Becomes Ineffective.
- Below 59°, Body Begins To Experience Impairment Of Many Functions.
- Most Hypothermia Results When Ambient Temperature Is Between 30° And 40° F.

Cold Environment



- Increased Heat Loss To The Environment
- Muscle Hypertonus, Resulting In Shivering, Is Body's Attempt To Maintain Body Temperature.

HYPOTHERMIA



- Prolonged Exposure To Cold Causes The Body To Lose Energy Faster Than It Is Produced.
- Body Temperature Drops To Lower Than Normal.
- Can Happen When Temperatures Are Above Freezing.

CONDITIONS AFFECTING HYPOTHERMIA



- Aging, Allergies, Poor Circulation, & Illness.
- Self-Imposed Conditions, Such As Drinking, Smoking, & Taking Sedatives Also Increase Risks.
- Wet Clothing, Windy Conditions, & Poor Physical Condition.

HYPOTHERMIA

SYMPTOMS



- Numbness, Stiffness, Drowsiness, Poor Coordination.
- Slow Or Irregular Breathing And Heart Rate.
- Slurred Speech.
- Cool Skin, And Puffiness In The Face Are Common.

HYPOTHERMIA SYMPTOMS



- May Seem Apathetic About Getting Out Of Cold.
- Shivering And Teeth Chattering Is A Sure Sign That Body Temperature Is Too Low .
- Victim First Feels Cold Then May Feel Mild Pain In Extremities.

HYPOTHERMIA SYMPTOMS



- Victim May Seem Confused & Disoriented; Memory Lapses.
- Worst-Case Results Can Cause Death.

SAFETY

PROCEDURES



- Get Victim To Where It Is Warm.
- Get Them Out Of Wet, Frozen, Or Tight Clothing; Keep Victim Dry.
- Get Them Into Loose Warm Clothes Or Blankets.
- Give Warm (Room Temperature) Liquids.

SAFETY PROCEDURES



- Do Not Give Alcohol Or Substances Containing Caffeine.
- Warm Center Of Body First.
- If Necessary, Seek Medical Assistance & Give CPR.

FROSTBITE



- Most Serious, And Second Most Common, Cold Exposure Hazard.
- Nose, Ears, Cheeks, Fingers, & Toes Most Often Affected.
- Affected Area Doesn't Get Enough Heat & Freezes.

FROSTBITE



- Freezing Causes Blood Vessel Constriction.
- Results In Lack Of Oxygen, Excess Fluid Buildup, Blistering, And Tissue Death.
- May Not Be Aware Anything Bad Is Happening.

FROSTBITE



- Recognized By Distinct Pallor Of The Exposed Skin.
- Skin Goes From White Or Grayish Yellow, To Reddish Violet, To Black.
- Usual Feeling Of Being Really Cold, Then Numb.
- May Get A Tingling Or Aching Feeling Or Brief Pain.

FROSTBITE



- Damage To Skin Sometimes Causes Blisters.
- Constricted Blood Vessels Impair Blood Flow.
- Can Cause Permanent Tissue Damage.

FROSTBITE



- Victim Can Become Unconscious.
- Death May Result From Heart Failure.
- If Necessary, Seek Medical Assistance & Give CPR.

CARE OF FROSTBITE



- Don't Rub Affected Part.
- Don't Use Hot Baths, Or Heat Producing Devices.
- Don't Break Blisters.

CARE OF FROSTBITE



- Warm The Frozen Part With Clothing, Blankets, Or With Room Temperature Water.
- Once Warm, Exercise The Part.
- Exception: Do Not Walk On Frostbitten Feet.

DRIVING EMERGENCY PREPAREDNESS



- Serviceable Clothing (Sweatshirt, Jeans, Coveralls, Coat).
- Distilled Water And Anti Freeze.
- Easily Stored Food (Chips, Candy Bars, Cookies, Some Canned Foods, Etc.)

DRIVING EMERGENCY PREPAREDNESS




- Matches, In A Waterproof Container.
- Large Candles.
- Tool Kit (Pliers, Screwdrivers, Crescent Wrench, Jumper Cables, Duct Tape Electrician's Tape, Etc.)

DRIVING EMERGENCY PREPAREDNESS



- A Couple Quarts Of Motor Oil And Multipurpose Lubricant, Such As WD 40.
- Ice Scraper, Sand or Kitty Litter, Traction Mat, Shovel.

DRIVING EMERGENCY PREPAREDNESS



- Road Atlas.
- Reflective Triangles Or Flares.
- Couple Blankets Or Comforters.

BE PREPARED FOR A DRIVING EMERGENCY



- THE TWO MOST IMPORTANT ITEMS:
- A HEALTHY RESPECT FOR YOUR SAFETY IN
COLD WEATHER !!
AND
- A CELLULAR PHONE!!

PROTECTION



- Prevention Is The Best Way To Deal With Cold Stress.
- Don't Drink Alcohol, Bathe, Smoke, Or Take Drugs Before Being Exposed To Cold.
- Dress In Loose Layers Of Dry Clothing.

PROTECTION



- Cover Hands, Feet, Face, & Head.
- In Cold Environment, Keep Moving.
- Take Regular Breaks In Warm Places.