

# PERFORM FIELD SANITATION and PREVENTIVE MEDICINE FIELDCRAFT Training Support Package



# DISEASE AND NON-BATTLE INJURY (DNBI)



# CONDITIONS THAT MAKE Soldiers VULNERABLE TO DISEASE



HARSH ENVIRONMENT



REDUCED DEFENSES



BREAKDOWN  
IN SANITATION



# PERSONAL PROTECTION ITEMS

- Issued at reception battalion or at training unit (TRADOC Reg 350-6)
- Protect yourself against infectious illnesses and environmental injuries
- Develop personal hygiene habits that will protect you against significant illnesses and injuries in a deployed environment

- Items:

- ✓ Lip balm
- ✓ Sunscreen
- ✓ Foot Powder
- ✓ Hand sanitizing gel
- ✓ Insect repellent

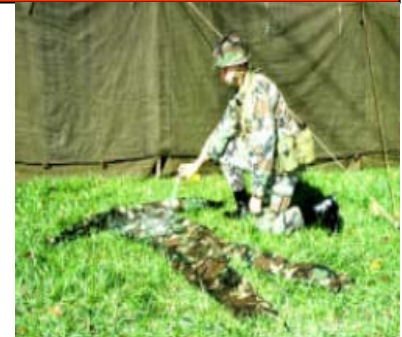


# PROTECT AGAINST INSECTS

- KEEP SLEEVES DOWN AND TROUSER LEGS TUCKED INTO BOOTS TO PROTECT FROM BITING INSECTS
- APPLY INSECT REPELLENT TO EXPOSED SKIN, YOUR ANKLES, AND YOUR WAISTLINE
- APPLY INSECT REPELLENT TO YOUR UNIFORM
- CHECK YOURSELF/ BUDDY FOR TICKS TWICE A DAY



**THREAT—WEST NILE VIRUS  
AND LYME DISEASE**



**PROTECTION—INSECT  
REPELLENT**





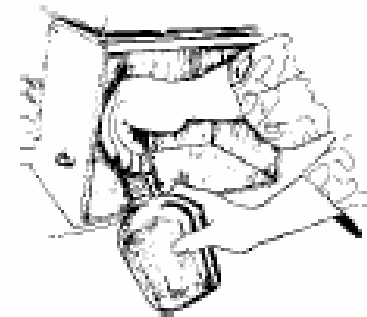
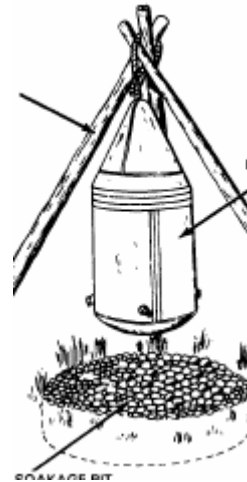
# POISONOUS ANIMALS AND PLANTS

- LOOK INSIDE SLEEPING BAG BEFORE GETTING IN
- DO NOT PLAY WITH SNAKES
- KEEP SLEEVES DOWN AND TROUSER LEGS TUCKED INTO BOOTS TO PROTECT FROM POISONOUS PLANTS
- LOOK INSIDE BOOTS BEFORE PUTTING THEM ON



# PROTECT AGAINST DISEASES FROM CONTAMINATED FOOD AND WATER

**DRINK WATER FROM  
APPROVED SOURCES  
ONLY**



**EAT FROM APPROVED  
SOURCES ONLY**

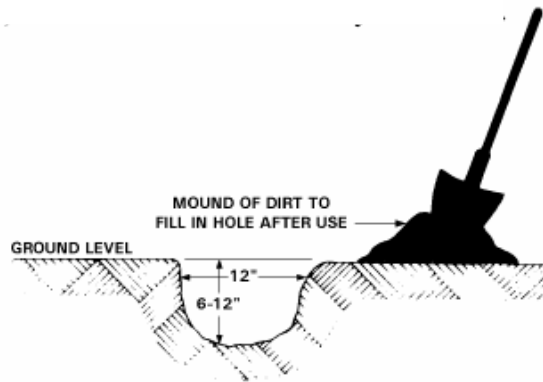


# PROTECT AGAINST DISEASES FROM CONTAMINATED FOOD AND WATER

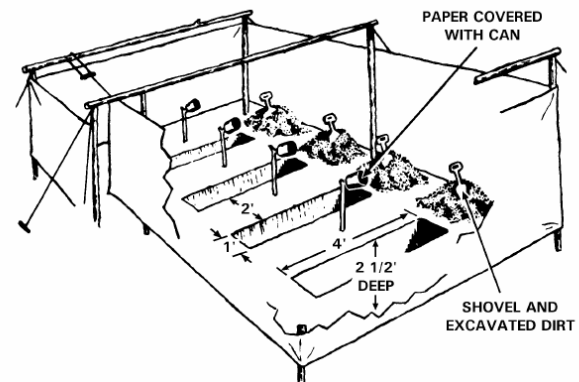




# PROTECT AGAINST DISEASES FROM HUMAN WASTE



Cat-hole



Straddle trench

Temporary Latrine Facilities

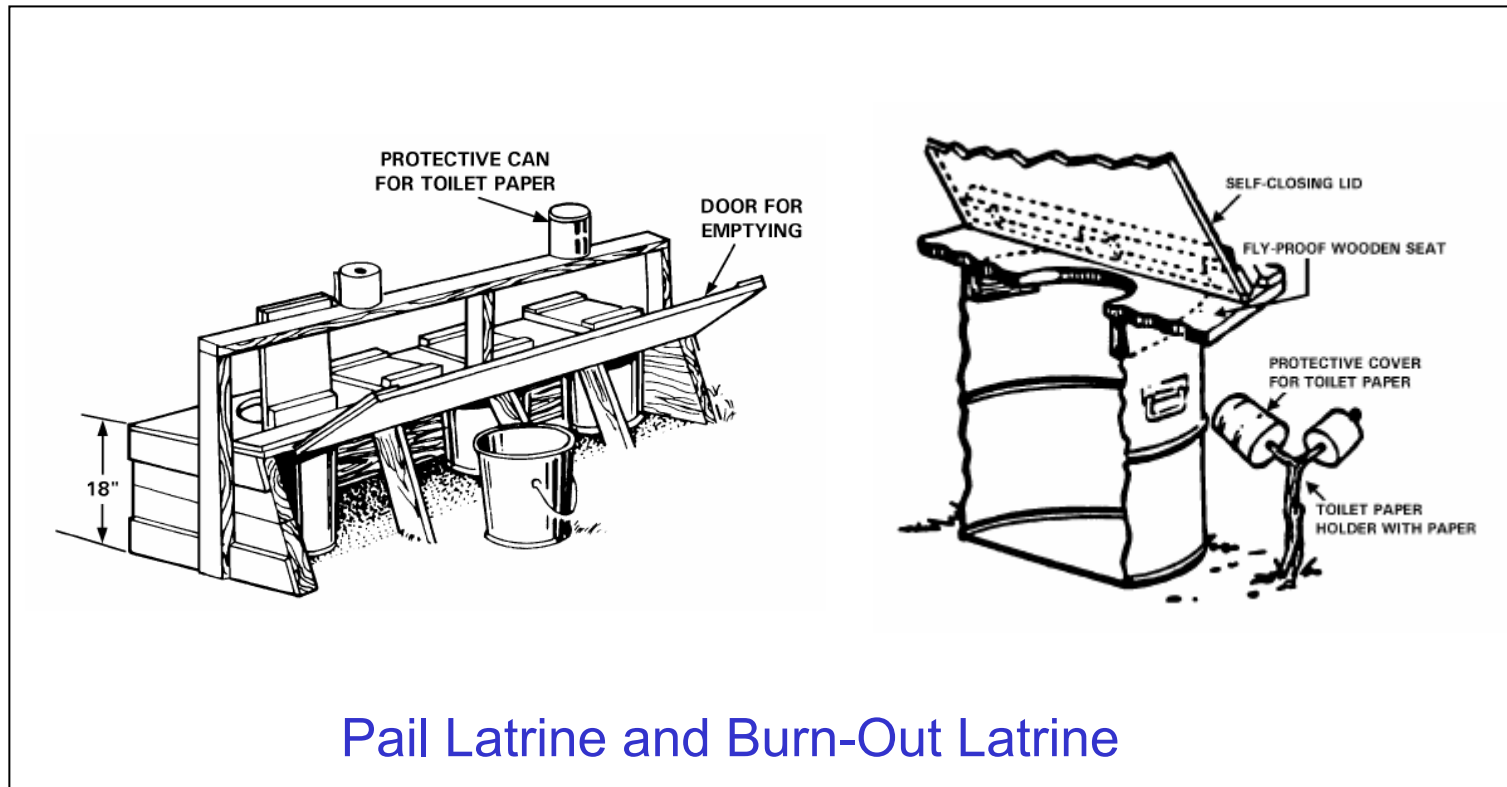
**DISPOSE OF WASTE PROPERLY**

# PROTECT AGAINST DISEASES FROM HUMAN WASTE



**DISPOSE OF WASTE PROPERLY ON CONVOYS**

# PROTECT AGAINST DISEASES FROM HUMAN WASTE



Pail Latrine and Burn-Out Latrine

## MAINTAIN LATRINE FACILITIES

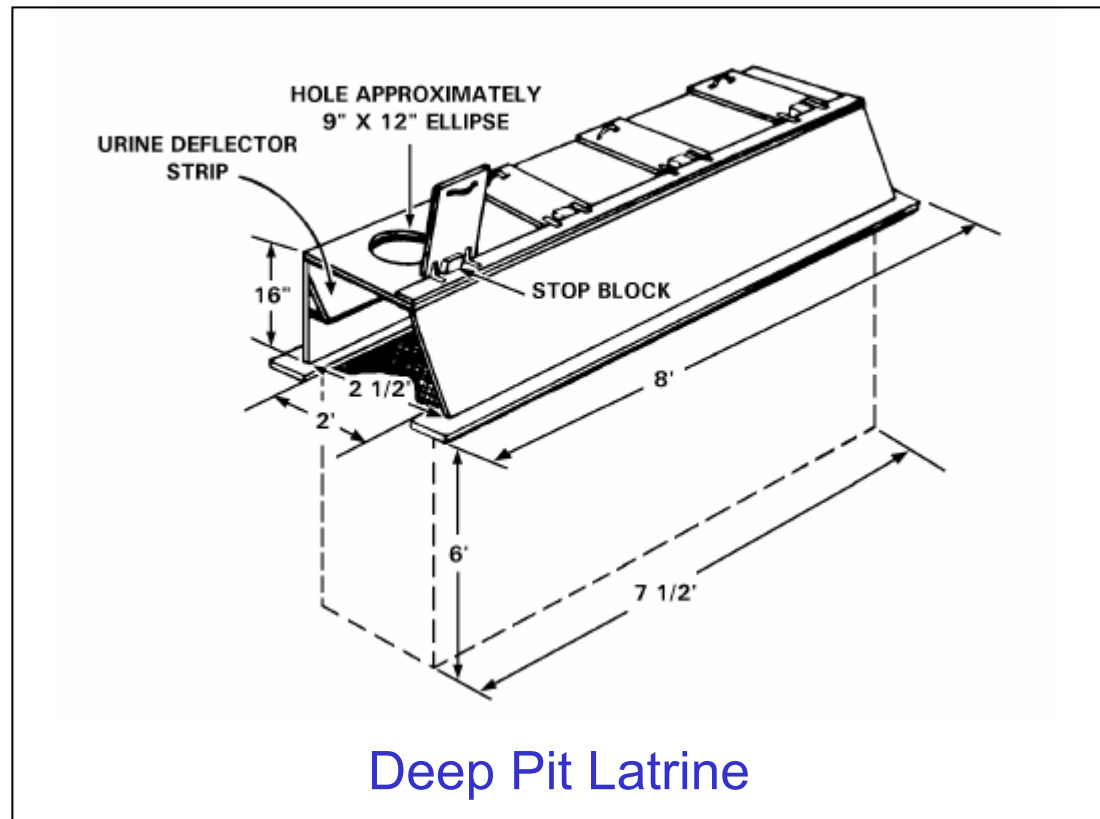
# PROTECT AGAINST DISEASES FROM HUMAN WASTE



**MAINTAIN LATRINE FACILITIES**



# PROTECT AGAINST DISEASES FROM HUMAN WASTE



**MAINTAIN LATRINE FACILITIES**

# PROTECT AGAINST DISEASES FROM SOIL AND COMMON OBJECTS



Field hand washing devices



Hand-sanitizing gel or foam

# PERSONAL HYGIENE ON THE MOVE



Always carry these items with you

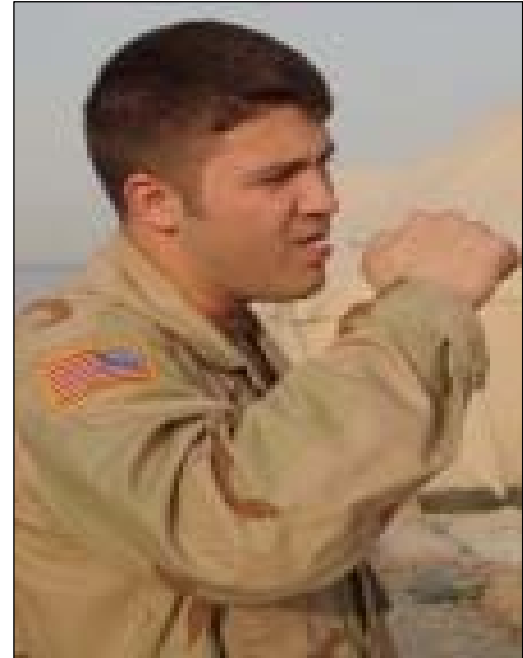


Wash bins or other containers can be used to bathe or wash clothing if you have an adequate water supply

# PERSONAL HYGIENE ON THE MOVE



Change socks and use foot powder



Brush your teeth



Use boot/sock liners for road marches greater than 3.1 miles (5 kilometers)



# MAINTAIN YOUR LEVEL OF NUTRITION



# TAKE MEASURES TO RESIST STRESS



# ADVERSE EFFECTS OF TOBACCO PRODUCTS

- The enemy can find you!
- 20-25% decrease in night vision
- Watering eyes
- Runny nose
- Cough
- Loss of smell and taste
- Increase in heart rate (up to 30%)
- More easily fatigued
- Elevation in blood pressure (up to 15%)
- Decreased appetite
- Diarrhea, constipation, or both
- Reduced stamina
- Decreased ability to recover from illness and injury
- Decrease in blood circulation to the brain



**Don't let tobacco products cause you to be ineffective!!!**

# PROTECT AGAINST HEAT INJURY

**HEAT STROKE CAN KILL!!!**



**HEAT LOAD**



# PROTECT AGAINST HEAT INJURY

## HEAT STROKE IS PREVENTABLE!!!



## HEAT RELIEF

# PROTECT AGAINST HEAT INJURY

**DRINK SUFFICIENT AMOUNTS OF WATER**



# PROTECT AGAINST HEAT INJURY

## DRINK SUFFICIENT AMOUNTS OF WATER

- Drink at least  
½ quart per hour
- Drink at least  
5 quarts per day
- Drink no more than  
1 1/2 quart per hour
- Drink no more than  
12 quarts per day

FLUID REPLACEMENT AND WORK/REST GUIDE						
	Easy Work		Moderate Work		Hard Work	
Heat	Work/rest	Water intake	Work/rest	Water intake	Work/rest	Water intake
Category	(minutes)	(Quarts per hour)	(minutes)	(Quarts per hour)	(minutes)	(Quarts per hour)
1	No Limit	1/2	No Limit	3/4	40/20	3/4
2	No Limit	1/2	50/10	3/4	30/30	1
3	No Limit	3/4	40/20	3/4	30/30	1
4	No Limit	3/4	30/30	3/4	20/40	1
5	50/10	1	20/40	1	10/50	1

# PROTECT AGAINST HEAT INJURY

## REST WHENEVER POSSIBLE

- Take rest breaks in the shade as the tactical situation permits
- Use rest breaks to drink water and to cool off
- Leaders will determine appropriate work/rest cycles



## TAKE A COOL SHOWER

- unclothed at the end of the day and/or at the end of vigorous work to reduce the heat load





# PROTECT AGAINST HEAT INJURY

## EAT MEALS AND DO NOT TAKE SUPPLEMENTS



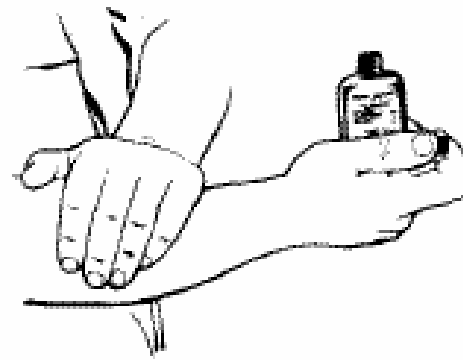
- Eat regular meals daily to replace salt and nutrients
- Military rations contain all the salt you need
- Do not take supplements, especially ephedra (contained in *ma huang* and Ripped Fuel®)

# PROTECT AGAINST HEAT INJURY

## PROTECT YOUR SKIN



- Wear your uniform correctly



- Apply sunscreen

# TREAT A CASUALTY FOR HEAT INJURY

## HEAT CRAMPS

### Signs and symptoms

- Muscle cramps of the arms, legs, and/or abdomen
- Excessive sweating

### First aid measures

- Move the casualty to a cool shaded area, if possible.
- Loosen the casualty's clothing and boots unless he or she is in a chemical environment.
- Have the casualty slowly drink at least one canteen of cool water.
- Seek medical assistance if the cramps continue after treatment.
- Check the casualty for signs and symptoms of heat exhaustion.

# TREAT A CASUALTY FOR HEAT INJURY

## HEAT EXHAUSTION

If untreated, heat exhaustion can lead to heat stroke.

### Signs and symptoms

- Excessive sweating with pale, moist, cool skin
- Headache
- Weakness
- Dizziness/Light Headedness
- Loss of appetite
- Cramping
- Nausea (with or without vomiting).
- Urge to defecate
- Chills (gooseflesh)
- Rapid breathing
- Tingling of hands and/or feet
- Confusion

### First aid measures

- Move the casualty to a cool, shady area or improvise shade if none is available.
- Loosen or remove his clothing and boots (unless in a chemical environment)
- Pour water on him and fan him. Use iced sheets if available.
- Have him slowly drink at least one canteen of water.
- Elevate his legs.
- Monitor the casualty until the symptoms are gone, or medical assistance arrives.
- Seek medical assistance unless casualty rapidly returns to normal.
- Check the casualty for signs and symptoms of heat stroke.



# TREAT A CASUALTY FOR HEAT INJURY

## HEAT STROKE

Heat stroke is frequently preceded by signs and symptoms of heat exhaustion.

### Signs and symptoms

- Skin is red (flushed), hot, and dry
- Weakness, dizziness, lightheadedness, confusion, headaches, seizures, nausea, stomach pains or cramps
- Respiration and pulse may be rapid and weak
- Unconsciousness and collapse may occur suddenly

### First aid measures

- **Conscious casualty:**
  - Remove the casualty's outer garments and/or protective clothing, if possible.
  - Keep the casualty out of the direct sun, if possible.
  - Lay the casualty down and elevate his or her legs.
  - Use iced sheets if available, or
  - Pour or spray cool water onto the casualty; fan him/her to increase cooling
  - Massage the arms and legs
  - Have the casualty slowly drink at least one canteen of water, if conscious.
  - Evacuate the casualty for medical treatment.
- **Unconscious casualty** or one who is vomiting or unable to retain oral fluids:
  - Cool the casualty as above; give nothing by mouth.
  - Evacuate the casualty.

# PROTECT AGAINST COLD INJURY



# PROTECT AGAINST COLD INJURY





# PROTECT AGAINST COLD INJURY

WEAR CLOTHING LOOSELY IN LAYERS



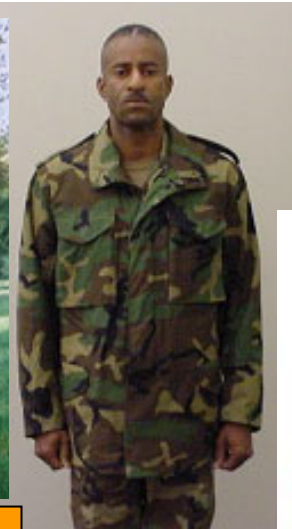
Polypropylene underwear (worn next to skin)



Sweater



Field jacket liner



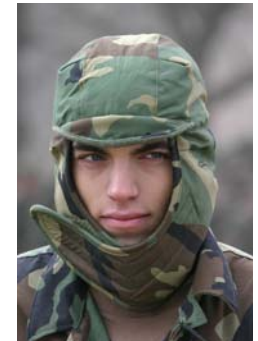
Field jacket



Cold weather trousers



Mitten shells and inserts



Pile cap

Items issued in Initial Entry Training, depending on location



# PROTECT AGAINST COLD INJURY

## Exercise to increase blood circulation

- Tighten and relax your arm and leg muscles
- Tighten and relax your fingers and toes
- Use your hands to massage and warm the face
- Avoid smoking because smoking decreases blood flow to the skin



## Change socks

- Put on dry socks during rest breaks
- Keep socks clean and dry.
- Place damp socks inside your shirt so they will dry out



-- Wet feet/socks increase the chance of cold injury!

# PROTECT AGAINST COLD INJURY

## Prevent dehydration

- Drink fluids such as potable water, juices, and warm, nonalcoholic beverages
- Drinking enough fluids in cold weather is as important as it is in hot weather
- In cold weather, you do not realize that your body is losing fluids and salt



## Rest when possible

- Working while bundled in several layers of clothing is extremely exhausting - leaders will determine appropriate work/rest cycles



# TREAT A CASUALTY FOR COLD INJURY

## CHILBLAIN

### Signs and symptoms

- Caused by repeated prolonged exposure of bare skin to low temperatures (from 60° F down to 32° F)
- Acutely red, swollen, hot, tender, and/or itching skin
- Surface sores with shedding of dead tissue, or bleeding with prolonged exposure

### First aid measures

- Apply local warming within minutes.
- Protect sores (if present) with dry, clean clothing.
- CAUTION: Do not treat with ointments.

# FROSTBITE

## Signs and symptoms

- Caused by exposure of the skin to cold temperatures that are usually below 32° F
- A sudden blanching of the skin of the nose, ears, cheeks, fingers, or toes followed by a momentary tingling sensation is usually the first indication.
- Mild
  - Redness of the skin in light-skinned individuals and grayish coloring of the skin in dark-skinned individuals, followed by a flaky sloughing of the skin
- Deep
  - Loss of feeling
  - Pale, yellow, waxy look if the affected area is unthawed
  - Solid feel of the frozen tissue
  - Blister formation indicates more significant injury
  - Appearance of red-violet discoloration 1 to 5 days after the injury

## First aid measures

- Apply local warming using body heat.

**CAUTION:** Avoid thawing the affected area if it is possible that the injury may refreeze before reaching the treatment center.

- Loosen or remove constricting clothing and remove jewelry.

**CAUTION:** Do not massage the skin or rub anything on the frozen parts.

- Move the casualty to a sheltered area, if possible.
- Protect the affected area from further cold or trauma.
- Evacuate the casualty to the nearest aid station or hospital.

**NOTE:** For frostbite of a lower extremity, evacuate the casualty by litter, if possible.

**CAUTION:** Do not allow the casualty to use tobacco or alcohol.



# HYPOTHERMIA

## Signs and symptoms

- Caused by prolonged exposure to low temperatures, especially with wind and wet conditions
- May be caused by immersion in cold water.

**CAUTION:** With generalized hypothermia, the entire body has cooled to dangerous levels. This is a medical emergency.

- Moderate hypothermia
  - Conscious, but may be slow to respond.
  - Shivering, with pale, cold skin, slurred speech, poor muscle coordination, and faint pulse.
- Severe hypothermia
  - Unconscious or drowsy
  - Ice cold skin
  - Slow, irregular pulse

## First aid measures

- Moderate
  - Remove the casualty from the cold environment.
  - Replace wet clothing with dry clothing.
  - Cover the casualty with insulating material or blankets
  - If available, slowly give sweet warm fluids.

**CAUTION:** Do not give the casualty alcohol. Evacuate the casualty lying down.

- Severe
  - CAUTION:** Handle the casualty very gently.
  - Cut away wet clothing and replace it with dry clothing.
  - Maintain the airway.

**NOTE:** Warming a casualty with severe hypothermia is critical to saving his or her life. Place the casualty in a sleeping bag with another individual to provide an external heat source. Evacuate the casualty promptly to a medical treatment facility.

# IMMERSION SYNDROME

## (Immersion Foot, Trench Foot)

### Signs and symptoms

- Caused by fairly long (hours to days) exposure of the feet or hands to wet conditions at temperatures from about 50° F down to 32° F.
- First phase - (numb)
  - There is no pain sensation, but the affected area feels cold.
  - The pulse is weak at the affected area.
- Second phase - limbs feel hot and/or burning and have shooting pains.
- Third phase
  - Affected area is pale.
  - Weak pulses over affected area.
- Check for blisters, swelling, redness, heat, bleeding, or infection.

### First aid measures

- Re-warm the injured part gradually by exposing it to warm air.
- Protect it from trauma and secondary infections. Dry, loose clothing or several layers of warm coverings are preferable to extreme heat.
- Under no circumstances should the injured part be exposed to an open fire.
- Elevate the injured part to relieve the swelling.
- Transport the casualty to an MTF as soon as possible.
- When the part is re-warmed, the casualty often feels a burning sensation and pain.
- Symptoms may persist for days or weeks even after re-warming.

# SUMMARY

