

91W10
Advanced Individual
Training Course



Force Health Protection
Handbook

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TERMINAL LEARNING OBJECTIVE

Given a standard fully stocked Combat Medic Vest System (CMVS) or fully stocked M5 Bag, and personal chemical protective equipment. You are tasked to inspect a company size area of occupation to ensure medical force protection measures are being carried out. Performed appropriate identification of medical force protection issues. Perform appropriate intervention for maintenance and treatment of company area of occupation.

Importance of the Field Sanitation Team

Importance of the Field Sanitation Team

- (1) Field sanitation team (FST) is responsible for preventive medicine measures (PMM) that affect units
- (2) Unit effectiveness dependent upon the health of its soldiers

The Role of the Soldier Medic

- (1) Perform and maintain field hygiene and sanitation
- (2) Promote good personal hygiene
- (3) Disinfection of water
- (4) Prevention and elimination of deficiencies in food service sanitation
- (5) Construction of garbage and soaking pits
- (6) Construction of field latrines and urinals

Medical Threat

Impact of casualties caused by Disease Non-Battle Injuries (DNBI) upon military campaigns has been a prominent and a continuous feature of military operations.

- (1) Armies have had immense problems with heat, cold, and communicable diseases
- (2) In all US conflicts, three times as many soldiers have been lost to DNBI as to enemy action
- (3) The ultimate objective of a military force, success in battle, demands that troops be maintained in a constant state of good health

There are four major components of the medical threat to field forces

- (1) Heat
 - (a) Most lethal category of all
 - (b) Example: During the 1967 Arab-Israeli conflict, the Israelis enveloped the Egyptians, severing their lines of support, the Egyptians suffered 20,000 deaths due to heat while the Israelis had no deaths and only 128 cases of heat injury
 - (c) Demonstrates that health hazards, such as heat, could be as effective as tactical weapons
 - (d) Effects of heat can be minimized by ensuring soldiers drink adequate amounts of water
- (2) Cold
 - (a) Can also be very incapacitating on the battlefield
 - (b) Example: In World War II, during the winter of 44-45 in the European theater, over 54,000 US soldiers were admitted

to hospitals with cold injuries. Over 90,000 US soldiers were admitted with cold injuries throughout the war. In the twenty-four days the British were in combat on the Falkland Islands, they sustained 777 total casualties, 109 (or 14%) were cold injuries. When the British had the Argentines surrounded at Port Stanley, they could have waited until the Argentines exhausted their food and water supplies.

- (c) Risk of cold injuries can reduce by:
 - (i) Incorporating weather data into operations planning
 - (ii) Enforcing the proper wearing of the uniform,
 - (iii) Frequent changing of wet or damp socks or gloves
 - (iv) When the tactical situation permits, providing warming areas
- (3) Arthropods that transmit diseases that seriously affect military operations (discussed in LP C191W020)
- (4) Diarrheal disease
 - (a) Can be contracted from contaminated water or food
 - (b) Can have catastrophic impact on a fighting force
 - (c) Ensure that soldiers only consume food and water from approved sources
 - (d) Waste disposal and handwashing devices are constructed
 - (e) Unit dining facilities are operated under sanitary conditions

Increased vulnerability to disease and nonbattle injury because of

- (1) Harshness of the environment
 - (a) Mosquito-infested jungles
 - (b) Sandfly-infested villages
 - (c) Hot, dusty deserts
 - (d) Cold windy plains
- (2) Disruption of the body's natural defenses
 - (a) The human body has an excellent capacity to protect itself against disease and climatic injury
 - (b) Efficiency of these mechanisms is dependent upon our overall well being, but if the following are disrupted individuals are more susceptible to illness and combat stress
 - (i) Disruption of circadian rhythms
 - (ii) Adding heat or cold stressors
 - (iii) Feeding meals at irregular hours
 - (iv) Depriving soldiers of sleep
- (3) Breakdowns in basic sanitation
 - (a) Potable water and proper waste disposal
 - (b) Using the latrine or changing your socks becomes a challenge when you are living in a muddy foxhole

The Individual in the Field Environment

In garrison

- (1) An individual follows a rather routine course after arising in the morning
- (2) Routine acts of personal hygiene are performed in a conveniently located latrine that is warm and has hot and cold water

In the field

- (1) Proper sanitation requires coping with the elements of nature, a problem arises; the soldier is suddenly faced with inconveniences
- (2) Too cold to change into clean underwear - Even in the summer, a cold-water shower is uncomfortable
- (3) The toilet in the field is not as pleasant as the one in garrison
- (4) An ordinarily well-groomed individual may become dirty and unkempt
- (5) Filth and disease go hand in hand
- (6) Dirty, sweaty socks may cause the feet to be more susceptible to disease
- (7) Dirty clothing worn for a prolonged period of time and unwashed hair are open invitations to lice
- (8) Reducing DNBI pertain
 - (a) To the existing elements of nature
 - (b) To the reactions of soldiers brought into the environment
 - (c) Inadequate individual PMM in the field is one of the most difficult problems to overcome
 - (d) It requires a sense of responsibility on the part of each individual to try to maintain his health regardless of difficulties encountered

The Role of the 91W

Verify medical records for current immunization

NOTE: Immunization involves taking substances related to the biological agent to develop resistance or antibodies in the body.

- (1) Anthrax (on hold)
- (2) Plague (if needed)
- (3) Hepatitis A
- (4) Hepatitis B
- (5) Japanese B encephalitis
- (6) Rabies
- (7) Typhoid
- (8) Yellow fever

Gather medical intelligence

- (1) Perform a medical threat assessment
- (2) Gather information on medical facilities
- (3) Assess evacuation assets

- (4) Report intelligence findings

NOTE: Medical intelligence gathering is the process for gathering essential medical information BEFORE an operation begins, that will allow unit leaders and medics to tailor operational plans. Medical intelligence should continued to be gathered during an operation, and should be followed by an assessment after an operation has ended.

Perform and maintain field hygiene and sanitation

- (1) Promote good personal hygiene
 - (a) Arrange for facilities such as handwashing and showering devices, hot water for shaving, and heated dressing area
 - (b) Assist in inspecting soldiers to ensure adequate personal hygiene measures
- (2) Verify water sanitation
 - (a) Drink approved water only
 - (b) Prevent water waste
 - (c) Protect water sources by good sanitary practices
 - (d) Identify water sources
 - (e) Treat water source
 - (i) Coagulate and sediment to remove turbidity
 - (ii) Filter to remove remaining turbidity
 - (iii) Disinfect to kill pathogenic organisms
 - (iv) Consider addition of chlorine

NOTE: Calcium hypochlorite is added to the water in amount necessary, with a chlorine demand, to destroy organisms.

NOTE: The sudden disappearance of all chlorine probably indicates recontamination.

- (v) Consider Lyster bag for disinfecting water
- (3) Verify food service sanitation
 - (a) Identify factor causing foodborne disease
 - (i) Improper refrigeration
 - (ii) Not maintaining hot foods at product temperature
 - (iii) Not protecting foods from cross-contamination
 - (iv) Improper transportation and storage practices
 - (v) Not protecting foods from contamination
 - (b) Store foods
 - (i) Upon receipt, inspect food
 - (ii) Identify if foods need refrigeration or heating
 - (iii) Transport any potentially hazardous foods in insulated food containers
 - (c) Consider personal hygiene when handling food
 - (d) Clean and sanitize utensils
 - (e) Wash, rinse, and properly store utensils
 - (f) Follow food preparation guidelines

- (i) Potentially hazardous foods should be prepared immediately before serving
- (ii) Plan meals to reduce amount of leftovers
- (iii) Thoroughly wash and rinse fruits and vegetables

NOTE: Fruits and vegetables grown in areas where human excreta is used as fertilizer must not be consumed raw except with the approval of medical authority.

- (g) Inspect food service facilities
 - (i) Identify basic defects
 - (ii) Recommend corrective measures

Identify the Hazards

- (1) Identify the elements of medical threats
 - (a) Heat
 - (i) Recognize conditions
 - * Increasing temperature
 - * Increasing humidity
 - * Direct sunlight
 - (ii) Identify strategies to protect against heat injury
 - * Drink plenty of water
 - * Enforce work-rest cycles
 - * Stay in shade
 - * Choose evening or morning for strenuous work
 - * Avoid tight, nonbreathable clothing
 - * Maintain physical fitness
 - * Avoid medications that increase heat injury risk
 - (b) Cold
 - (i) Recognize conditions
 - * Decreasing temperature
 - * Moisture
 - * Wind speed
 - (ii) Identify strategies to protect against cold injury
 - * Avoid cold, wind, and moisture
 - * Wear multiple layers of loose-fitting clothing
 - * Wear a water repellent but "breathable" shell
 - * Change socks frequently
 - * Drink plenty of fluids
 - * Get plenty of rest, and eat all meals
 - * Avoid alcohol and tobacco
 - (c) Arthropod-Borne Disease-Identify possible vectors
 - (i) Tick
 - (ii) Housefly
 - (iii) Tse tse fly
 - (d) Diarrhea (Contaminated Food & Water)

- (i) Consider food preparation and handling
 - (ii) Consider field sanitation
- (e) Communicable Diseases in AO
- (f) Toxic Industrial Materials
- (g) Noise Hazards
- (h) Animal & Plant Threats
- (i) Combat Stress Concerns - Consider normal symptoms of acute psychological stress
 - (i) Feelings of fear and anxiety
 - (ii) Rapid, pounding heartbeat
 - (iii) Sweaty palms and forehead
 - (iv) Nausea and vomiting
 - (v) Rapid, shallow breathing
 - (vi) Trembling, shaking
 - (vii) Dilated pupils
- (2) Identify operational threats
 - (a) Sleep Deprivation for Ambulance Drivers
 - (b) PMCS of medical equipment/vehicles
 - (c) Regulated/Medical Waste Management

Assess the Hazards

- (1) Assess each hazard in relation to probability of a hazardous incident
 - (a) Frequent (A)
 - (b) Likely (B)
 - (c) Occasional (C)
 - (d) Seldom (D)
 - (e) Unlikely (E)
- (2) Identify the severity of each hazard
 - (a) Catastrophic (I)
 - (b) Critical (II)
 - (c) Marginal (III)
 - (d) Negligible (IV)
- (3) Estimate level of risk for each identified hazard and an estimate of overall risk for operation
 - (a) **E - Extremely High Risk**
 - (i) Loss of ability to accomplish the mission
 - (ii) A frequent or likely probability of catastrophic loss or critical loss
 - (b) **H - High Risk**
 - (i) Significant degradation of mission capabilities in terms of required mission standard
 - (ii) Inability to accomplish all parts of mission
 - (iii) Inability to complete the mission to standard
 - (iv) Occasional to seldom probability of catastrophic loss
 - (v) Likely to occasional probability exists of a critical loss
 - (vi) Frequent probability of marginal losses

- (c) **M - Moderate Risk**
 - (i) Expected degraded mission capabilities in terms of required mission standard
 - (ii) Reduced mission capability
 - (iii) Unlikely probability of catastrophic loss
 - (iv) Probability of a critical loss is seldom
 - (v) Marginal losses occur with likely or occasional probability
 - (vi) Frequent probability of negligible losses
- (d) **L - Low Risk**
 - (i) Expected losses have little or no impact on accomplishing the mission
 - (ii) Probability of critical loss is unlikely
 - (iii) Marginal loss is seldom
 - (iv) Probability of negligible loss is likely or less

Develop Controls and Make Risk Assessment

- (1) Develop controls
 - (a) Type of controls
 - (i) Educational controls
 - * Based on knowledge and skills of units and individuals
 - * Implemented through individual and collective training
 - (ii) Physical controls
 - * May take form of barriers and guards
 - * Signs to warn individuals and units
 - * Special controller or oversight personnel responsible for locating specific hazards
 - (iii) Avoidance
 - (b) Criteria for controls
 - (i) Suitability - must remove the hazard or mitigate residual risk to acceptable level
 - (ii) Feasibility - unit must have capability to implement the control
 - (iii) Acceptability
 - * Benefit gained by implementing control
 - * Must justify the cost in resources and time
 - * Assessment of acceptability is largely subjective
- (2) Make a risk decision, determine if the risk is justified

Implement Controls

- (1) Ensure controls are integrated into SOPs, written and verbal orders, mission briefings, and staff estimated
- (2) Ensure controls are converted into clear, simple execution orders understood at all levels

Supervise and evaluate

- (1) Supervise
 - (a) Spot-checks
 - (b) Inspections
 - (c) Situation reports
 - (d) Brief-backs
 - (e) Buddy checks
 - (f) Monitor controls to ensure remain effective
 - (g) Continually assess variable hazards
- (2) Evaluate
 - (a) Determine how to ensure successes are continued
 - (b) Capture and disseminate lessons learned
 - (c) Consider effectiveness of risk assessment in identifying and accurately assessing probability and severity
 - (d) Determine whether the level of residual risk of each hazard and overall mission were accurately estimated
 - (e) Evaluate effectiveness of each control in reducing or removing risk

Preventive Medicine Measures

- (1) Provide guidance in the use of PMM to prevent cold injuries. Hypothermia or frostbite may be prevented by
 - (a) Wearing several layers of warm, loosely fitting clothing
 - (b) Protecting the face from the wind
 - (c) Exercising the face, fingers, and toes to keep them warm
- (2) Trench foot, which results from standing in cold water or slush when the temperature is between 32° and 50°F may be prevented by the use of protective footwear and dry socks
- (3) Snow blindness, which occurs when the sun shines brightly on unbroken ice or snow, can be prevented by
 - (a) Wearing sunglasses or an improvised device made of cardboard or cloth
 - (b) Blackening the areas around the eyes

TERMINAL LEARNING OBJECTIVE

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Waste Disposal in the Field

Three categories of waste disposal in the field

- (1) Human waste – feces and urine
- (2) Liquid waste – liquid kitchen and bath waste
- (3) Rubbish – combustible and non-combustible solids

NOTE: Any of these, when not properly disposed of can become a breeding ground for disease-carrying insects and animals

Human waste disposal

Human waste disposal facilities are a must

- (1) Two categories of human waste disposal facilities
 - (a) Latrines
 - (b) Urinals
- (2) Type of facility is dependent on length of time the unit will remain in one place
- (3) The longer the stay, the more sophisticated the facility
- (4) Other considerations
 - (a) Tactical situation
 - (b) Weather
 - (c) Ground conditions
 - (d) Local environmental laws

WARNING: Army units MUST follow all local, state, federal, and international environmental standards during operations. The waste disposal devices described in this lesson MUST be reviewed and authorized by Preventive Medicine personnel prior to their use. This information is presented so units can develop their own waste disposal capabilities in EMERGENCY situations.

Latrines

- (1) Unit is responsible for its construction, maintenance, and closure
- (2) Decision on the type of latrine to be used is based upon: unit situation and ground conditions
- (3) Types of Latrines
 - (a) Cat-hole latrine
 - (i) Used when the unit is on the move
 - (ii) A hole approximately one foot deep and one foot in diameter

- (iii) After use, a cat-hole it must be completely filled in and the dirt packed down
- (b) Straddle trench latrine
 - (i) Unit is remaining in one place for up to three days
 - (ii) Trench is dug one foot wide, two and one half feet deep and at least four feet long
 - (iii) Multiple trenches should be dug at least two feet apart
- (c) Deep pit latrines
 - (i) Unit is going on an extended stay, longer than three days
 - (ii) Uses a two-seat or four-seat box
 - (iii) The two-seat box is four feet long, two and one half feet wide at the base, and eighteen inches high
 - (iv) The four-seat box is two feet long
 - (v) To minimize flies entering the latrine, pack the dirt tightly around the base of the box
 - (vi) Lids that are fly-proof and self-closing should cover the seat holes
 - (vii) A metal urine deflector strip is placed inside the front of the box to prevent urine from soaking into the wood
 - (viii) The pit for the latrine is dug two feet wide and either three and one half or seven and one half feet long
 - (ix) The depth of the pit should equal one foot for each week the latrine will be used, plus one foot for the dirt cover when the latrine is closed
- (d) Burnout latrines
 - (i) Suited to jungle areas with high water tables, but can also be used when the ground is hard or rocky and digging is difficult or impossible
 - (ii) Do not use it in areas in which the air pollution regulations prohibit open fires
 - (iii) Be aware that in combat areas, burnout latrines make great targets as the smoke and fire are easily seen
 - (vi) When using this type of latrine, urine facilities should also be constructed as it takes extra fuel to burn the liquid
 - (v) A burnout latrine is in use one day and being burned out the next, so take this into consideration when planning the number required for your unit
- (e) Pail latrines
 - (i) Use the pail latrine instead of a deep pit latrine when the environmental conditions make it

- impossible to dig, in heavily populated areas, or when the tactical situation prohibits burning
 - (ii) The same seat boxes constructed for a deep pit latrine can be modified for use as a pail latrine by placing hinged doors on the rear of the box, adding a floor and placing a pail under each seat.
 - (iii) If the pail latrine is located in a building, the box should be placed to form part of an outer wall
 - (iv) The box should be placed on a floor of impervious material, such as concrete, that slopes toward the rear
 - (v) The slope allows wash water to drain rapidly
 - (vi) If possible, line the pails with plastic to reduce the risk of accidental spillage
 - (vii) Dispose of the contents by burial, burning, or other sanitary measures
 - (f) Chemical toilets
 - (i) Usually obtained where environmental laws prohibit the construction of latrines
 - (ii) Are seen quite frequently these days during training exercises
 - (iii) Chemical latrines are self-contained, having a holding tank with chemical additives to aid in waste decomposition and to control odor
 - (iv) Must be cleaned daily, but the contents are emptied based on usage
- (4) Planning considerations
 - (a) Location
 - (i) Located at least 100 yards downhill from the unit's field food service facility
 - (ii) 100 feet away from any unit ground water source
 - (iii) At least 30 yards from the edge of the unit area
 - (b) Privacy
 - (i) Place a canvas, brush screen or tent around each latrine
 - (ii) Should have a drainage ditch dug around its edges to prevent rainwater from flowing into the latrine
- NOTE:** In cold climates, you may consider heating the enclosure.
- (c) Hand-washing devices
 - (i) Hands contaminated with fecal matter are the most common means of disease transmission
 - (ii) Hand-washing devices are absolutely necessary
 - (iii) Simple hand-washing device should be installed outside of each latrine

- (iv) Device should be easy to operate and must be kept constantly supplied with soap and water
- (d) Cleanliness
 - (i) Keep the latrines clean
 - (ii) Latrines should be policed daily to ensure they are being properly maintained
 - (iii) Clean and sanitize every day to reduce germs and odor
- (e) Quantity
 - (i) Construct enough latrines to handle the unit population
 - (ii) Enough latrines to accommodate four percent of the unit's male soldiers and six percent of the unit's female soldiers at any one time
- (f) Closure
 - (i) When a latrine pit is filled to within one foot of the top, or when it is to be abandoned, remove the latrine box and spray the contents of the pit, the side walls and the ground within two feet with an approved insecticide
 - (ii) Fill the pit to ground level, packing the dirt after every three inches of dirt added
 - (iii) Then mound the latrine with twelve inches of soil to prevent flies from entering or exiting the pit
 - (iv) Place a sign on the pit that states the type of latrine, the date it was closed, and the unit designation

NOTE: Unit designations should only be included on the closure sign in non-operational areas.

Field Urinals

- (1) Proper disposal of urine is as important as the disposal of any other type of waste
- (2) Urine disposal devices are always used in conjunction with a urine soakage pit
- (3) General guidelines for the urine soakage pit
 - (a) Inform soldiers that they should not urinate on the surface of the pit; it defeats the sanitary purpose
 - (b) Food service personnel should not use the pit for liquid waste disposal as grease and oils from kitchen waste will clog the pit
 - (c) Closed or abandoned pits should be sprayed with a residual insecticide and covered with a two-foot mound of compacted dirt

NOTE: If the latrine is located some distance from the sleeping area, a large can or pail may be placed at a convenient spot to be used as a urinal during the night. In the morning, empty the can into the urine

disposal facility and wash it with soap and water before re-using it.

- (4) Urine soakage pit construction
 - (a) Four by four foot hole, dug four feet deep then filled with rocks, flattened cans, broken bottles or other similar non-porous rubble
 - (b) Ventilation shafts
 - (c) Can be inserted in the pit extending from within six inches of the bottom to about seven inches above the surface
 - (d) Be sure to top the ventilation shafts with screens to prevent flies from entering the pit
- (5) Pipe urinals
 - (a) Pipe urinals are simply pipes
 - (b) At least one inch in diameter
 - (c) Placed at an angle at each corner of the soakage pit
 - (d) Additional pipes can be placed on the sides, halfway between the corners to accommodate up to eight soldiers at a time
 - (e) Enough pipes should be available to accommodate five percent of the male soldiers in your unit at any given time
 - (f) The pipes should extend at least eight inches into the pit and about twenty-eight inches above the surface
 - (g) Place a funnel made of tarpaper or sheet metal at the top of each pipe and cover it with a screen
- (6) Urine troughs
 - (a) Used when the unit is going to be in one area for a long period of time
 - (b) When more permanent facilities are desired
 - (c) Need to accommodate five percent of the soldiers at any given time
 - (d) Build two feet of trough per soldier
 - (e) The trough may be U or V shaped and built of sheet metal or wood
 - (f) Wooden troughs should be lined with heavy tarpaper
 - (g) The legs on one end of the trough should be slightly shorter
 - (h) A pipe is then connected to this end to carry the urine to the urine soakage pit

Liquid waste disposal

- NOTE:** In the field, liquid waste refers to: Wash, bath, and liquid kitchen waste. Liquid waste from food service operations contains particles of food, grease, and soap.
- (1) Liquid waste from food service operations requires treatment before it can be disposed of
 - (2) Liquid kitchen waste accumulates at the rate of one to five gallons per soldier per day

- (3) There are three basic devices used to dispose of liquid waste in the field
 - (a) Soakage pit
 - (b) Soakage trench
 - (c) Evaporation bed
- (4) All three devices have one element in common - the grease trap
- (5) All liquids from food service operations must have the food, grease, and soap removed to avoid clogging the disposal device

Two main types of grease traps

- (1) Baffle grease trap
 - (a) The most effective way to remove grease from kitchen waste
 - (b) Construction of Baffle Grease Trap
 - (i) Constructed from a barrel or a watertight box
 - (ii) Inside the barrel or box is a wooden baffle that divides it into two chambers
 - (iii) The baffle should run from the top of the barrel or box to within one inch of the bottom of it
 - (iv) Above the entrance chamber, insert a strainer into the lid
 - (v) The strainer can be made from a small-perforated box filled with straw, hay or burlap
 - (vi) On the side of the exit chamber, closest to the pit, insert one end of a pipe about three to six inches below the top of the barrel or box
 - (vii) This is the outlet, which will allow the liquid waste to pass into the pit or trench
 - (viii) Once the grease trap is in place, the other end of the pipe should be inserted into the center of the pit or trench at least one foot deep
 - (ix) When the baffle grease trap is properly positioned and the pipe is inserted into the pit, it is ready for use
- (2) Barrel filter grease trap
 - (a) Construction of Barrel Filter Grease Trap
 - (i) Constructed using a thirty to fifty gallon barrel or drum
 - (ii) Remove the top of the drum and bore several holes into the bottom
 - (iii) Put eight inches of gravel or small stones in the bottom of the barrel
 - (iv) Cover these with twelve to eighteen inches of wood ashes or sand
 - (v) Fasten a piece of burlap over the top of the barrel to serve as a course strainer
 - (b) The barrel filter grease trap must be positioned in one of two ways for it to be effective
 - (i) Place trap directly over the soakage pit or

- (ii) Place the barrel on a platform with a trough that leads to the pit
- (c) Requires some maintenance to operate efficiently
 - (i) Every two days empty and wash the trap
 - (ii) Refill it with fresh ashes or sand
 - (iii) Wash or replace the burlap strainer daily
 - (iv) Burn or bury the ash or sand to prevent infestations from pest or insects

Soakage pits

- (a) Four square feet and four feet deep
- (b) Bottom of the pit should be covered with non-porous rubble, such as rocks, broken bottles or cans
- (c) One soakage pit is adequate for smaller units located in an area for a brief period
- (d) Units with 200 or more soldiers it is recommended that you have two soakage pits
- (e) To close a soakage pit
 - (i) Mound pit over with one foot of compacted soil
 - (ii) The compacted soil will keep insects and vermin from entering and exiting the pit
 - (iii) Post a sign on the mound that states the type of pit and the date it was closed

Soakage trenches

- (a) If digging is difficult due to rocky terrain or the water table is high
- (b) The soakage trench can be used to dispose of liquid waste
- (c) Construction
 - (i) Dig a pit two feet square and one foot deep
 - (ii) One-foot wide trenches are then dug, radiating outward from the pit in each direction
 - (iii) These trenches vary in depth from one foot at the pit to one and a half feet at the outer edges
 - (iv) Line the bottom with the same non-porous material as the soakage pit

Evaporation beds

- (a) Used in hot, dry climates where the soil is heavy clay
- (b) Heavy clay prevents the use of soakage pits and trenches since it is basically non-absorbent
- (c) Built in eight foot by ten-foot rectangles
- (d) Three square feet per soldier per day for kitchen waste and two square feet per soldier per day for wash and bath waste
- (e) Seldom used, but important to be familiar with their construction
- (f) Construction
 - (i) Scrape the topsoil from the area and mound it around to form the outside edges of the bed

- (ii) Using a spade, turn the dirt over within the bed to a depth of between 10 and fifteen inches
 - (iii) Using a rake, mound the loosened dirt into a series of horizontal or vertical ridges that are approximately six inches high
- Ridges will help to distribute the water evenly within the bed

Garbage and Rubbish Disposal

Garbage

- (1) Food waste that occurs during food preparation, cooking and serving
- (2) Classified as either dry or wet

Rubbish

- (1) Non-food waste that usually comes from kitchens
- (2) Classified as either combustible or non-combustible

Garbage and rubbish are disposed of in one of two ways: burial or incineration

- (1) Tactical situation will dictate which method is most appropriate
- (2) Burial method
 - (a) Two techniques used to bury garbage and rubbish: Pit or trench
 - (b) Tactical situation will assist you in selecting the most appropriate technique
 - (c) Length of the mission is usually the primary factor in deciding whether to use a pit or a trench

NOTE: When using either method, be sure to compact the rubbish before disposing of it. Doing so will help to prevent infestation by insects and rodents.

Burial pits

- (1) Preferred for overnight halts
- (2) Four feet by four feet and four feet deep
- (3) Suitable for one day for one hundred soldiers
- (4) Operational considerations
 - (i) After depositing rubbish and garbage in the pit, cover it to keep pests away
 - (ii) At the end of the day, or when the pit is filled to within one foot of the ground's surface, fill it in with earth
 - (iii) Once it is filled in, mound it over with an additional one foot of compacted earth
 - (iv) Mark the pit

NOTE: Compacting the earth is very important. Doing so prevents flies and rodents from entering or exiting the pit.

- (5) Placement of the pit

- (i) Proximity to the foodservice area and the water supply are important
- (ii) Minimum of thirty feet and a maximum of thirty yards from the food service area
- (iii) At least one hundred yards downstream from any source of water that is in use, for either cooking or drinking

Continuous trenches

- (1) For stays of two days or more a continuous trench two feet wide and four feet deep should be used
- (2) Overall length of the trench will vary depending upon the length of time the trench will be in use
- (3) Operational considerations
 - (i) To operate the trench, remove dirt to extend the length of the trench
 - (ii) Use the dirt you remove to cover the garbage that has been added during the day
- (4) Placement of the trench
 - (i) Same considerations for pit placement should be made when locating the continuous trench
 - (ii) Locate the trench a minimum of thirty feet and a maximum of thirty yards from the food service area
 - (iii) located at least one hundred yards downstream from any source of water that is in use, for either cooking or drinking

Incineration method

- (1) Your tactical situation must be taken into account in order to choose the incinerator that is best fitted to the needs of your unit
- (2) Located at least 50 yards downwind from camp (the further, the better)
- (3) Several types of incinerators

NOTE: Although a significant amount of time is spent discussing incineration and the various types of incinerators, students should be aware that burial is almost always the best method for disposing of garbage and rubbish. Therefore, burial should be used whenever possible.

Rodent Control

Rodent Characteristics

- (1) Rodents are a large group of mammals that include a wide variety of animals such as squirrels, chipmunks, prairie dogs, rats, and mice
- (2) Two characteristics set rodents apart from other mammals
- (3) Two sets of chisel-like incisor teeth
- (4) The absence of canine teeth
- (5) These are the species we will discuss:
 - (a) Norway rat
 - (b) Roof rat
 - (c) House mouse

Diseases carried by rodents

- (1) Rats and mice transmit to humans both through:
 - (a) Direct contact
 - (b) Contact with their feces and urine
- (2) Leptospirosis
 - (a) Humans are infected when their broken skin or mucous membranes come in direct contact with the urine or tissue of an infected animal, contaminated water or moist infected soil
 - (b) Humans can also contract the disease if they eat food that has been 'marked' with the animal's urine or feces
- (3) Salmonellosis
 - (a) Spread through urine or feces
 - (b) Infections most commonly occur when humans eat food that is contaminated or food that is prepared on a contaminated surface
- (4) Hanta virus
 - (a) Transmitted through dried rodent urine and feces
 - (b) Infection occurs when the dried fecal and urine particles are inhaled
- (5) Rat bite fever: Caused by the bite of the rat

Rodent management

- (1) Rodents can be a problem in any area where soldiers live
 - (a) Where there is food, water, and shelter there is the possibility of rodent infestation
 - (b) The earlier a rodent problem is detected, the easier it is to control or eliminate
- (2) Rodent survey
 - (a) Must be ongoing to be effective
 - (b) Looks for signs of rodents such as live rodents, dead rodents, droppings and smudge marks, rodent tracks and trails, gnaw marks, burrows, and rodent sounds and odors
- (3) Eliminating food sources
- (4) Eliminate access to garbage by using tight-fitting lids and disposing of garbage regularly in approved sites
- (5) Store all food in a tightly covered, metal, rodent-proof container
- (6) Clean up any food spills that may occur
- (7) Eliminating water sources
 - (a) Like the food sources, anytime you can reduce the rodents' access to a water supply you will greatly reduce the likelihood that they will stay in the area.
 - (b) Drain run-off puddles
 - (c) Remove any items that may hold water, such as old tires and cans
 - (d) Keep stored water in bottles or five-gallon cans that close tightly
 - (e) Store cases of bottled water off the ground on pallets

- (f) In areas with indoor plumbing, check to ensure that there are no leaky pipes. Repair any leaks found as soon as possible.
- (8) Eliminating shelter
 - (a) Rodents rely on concealment when traveling, feeding, and resting.
 - (b) Keep the unit area free of unnecessary debris, building material, and trash
 - (c) Minimize the amount of vegetation around buildings
 - (d) Keep living areas free from clutter

Safety measures to protect yourself from the parasites that may still be living on the dead rodent

- (1) Do not assume that because the rodent is dead that all the parasites have left its body
- (2) Spread insect repellent on your hands, sleeves, and the front of your uniform (This will help to protect you from any remaining parasites)
- (3) Use long-handled tongs or a shovel to pick up the dead animal
- (4) Place the carcass in a plastic bag or in a metal container with a tight-fitting lid
- (4) Burn or bury the remains IAW your unit's tactical situation and local environmental restrictions

TERMINAL LEARNING OBJECTIVE

Given a standard fully stocked Combat Medic Vest System (CMVS) or fully stocked M5 Bag, and personal chemical protective equipment. You are tasked to inspect a company size area of occupation to ensure medical force protection measures are being carried out. Performed appropriate identification of medical force protection issues. Performed appropriate intervention for maintenance and treatment of company area of occupation.

Arthropods important to military operations

Mosquitoes

- (1) The most important arthropod for a number of reasons
 - (a) Can find them practically everywhere
 - (b) Found in usually in high numbers
 - (c) Capable of transmitting a large number of diseases
 - (i) Some of which are war-stoppers
 - (ii) During WWII, Korea, and Viet Nam entire units were rendered combat ineffective by malaria
- (2) Life cycle
 - (a) Live short lives – about one month
 - (b) Four life stages
- (3) Habitat
 - (a) Mosquito larvae inhabit areas with standing water such as ponds, puddles, and ditches
 - (b) Anything that can hold water provides a habitat for mosquito larvae
 - (c) Things like discarded cans, tires, and tree holes
 - (d) Adult mosquitoes continue to inhabit their larval habitats without venturing too far away

Filth flies

- (1) Filth fly transmits many diseases
 - (a) There have been situations in which filth flies have been allowed to breed unhampered
 - (b) Resulting fly-borne disease outbreaks made hundreds of soldiers sick within a few days
- (2) Life cycle
 - (a) Live short lives – usually about six weeks
 - (b) Four life stages
 - (c) Filth flies mature in about two weeks, then live as adults for an additional three or four
- (3) Habitat
 - (a) Live in or near animal or human waste, garbage, decomposing plants and animals, or in mud with high organic content
 - (b) A large population of flies is usually a good indicator of unsanitary conditions

Fleas

- (1) Adult fleas are not only persistent and painful biters, but are efficient vectors of a number of diseases

- (2) Life cycle
 - (a) Four life stages
 - (b) The flea matures in about one month and the adult flea can live for as long as one year
- (3) Habitat
 - (a) Often associated with animals, although many humans are carriers
 - (b) Large populations of fleas can usually be found around animal beds, burrows, and nests

Lice

- (1) Head and body lice are considered external parasites of man
 - (a) They live outside the human body and obtain nutrients from it
 - (b) Both species bite causing an itching inflammation of the skin
 - (c) Only the body louse is a disease vector
- (2) Life cycle
 - (a) Life cycle has only three stages
 - (b) Matures from egg to adult in about sixteen days
 - (c) Will live as an adult for another nine days, or so
- (3) Habitat
 - (a) Normally inhabit the hairy parts of the body, along with clothing
 - (b) Often prevalent in crowded or unsanitary conditions
 - (c) Soldiers who do not practice good personal hygiene can become infested with lice and pass them on to other soldiers when they come in contact with their hair, clothing, sleeping bags, or other linens

Cockroaches

- (1) Cockroaches can carry a variety of disease-causing pathogens
- (2) Life cycle
 - (a) Life cycle has only three stages
 - (b) They mature in about three months and live for adults for up to two hundred days
- (3) Habitat
 - (a) Cockroaches prefer habitats with three criteria:
 - (i) Water
 - (ii) Shelter- such as cracks or crevices
 - (iii) Food, such as garbage or spillage
 - (b) Anytime these three conditions exist, you should look for the existence of cockroaches
 - (c) These three criteria usually exist together in kitchens and bath areas, especially when conditions are less than sanitary

Ticks and mites

- (1) These two arthropods are very similar in biology, so are considered together

- (a) Ticks are the most efficient arthropod when it comes to disease transmission
- (b) This is because the female tick can pass the pathogen to the egg so that when the larva hatches it is already able to pass on the disease upon eating its first meal
- (2) Life cycle
 - (a) Four life stages
 - (b) They live as adults for anywhere from one month to two years
- (3) Habitat
 - (a) Ticks and mites are generally found in areas of tall grass or underbrush in close proximity to mammal resting places and watering holes

Arthropods affect on human health

Direct injury - Results when the arthropod, itself, causes the disease or discomfort

- (1) Bites
 - (a) Most obvious mechanism for direct injury
 - (b) Annoying, painful, and can decrease a soldier's productivity level
 - (c) In northern latitudes bite counts of pests can reach twenty bites per minute
- (2) Envenomization
 - (a) Direct injection of venom into the body through a bite or sting
 - (b) The damaging results of a bite or sting can range from
 - (c) Dermatitis, or inflammation of the skin (as seen with flea bites)
 - (d) To actual tissue damage (the result of the bite of the brown recluse spider)
- (3) Entomophobia - This condition is the irrational fear of real or imaginary insects

NOTE: While this condition is not usually prevalent among soldiers, it can occur so it needs to be mentioned.

Direct Injury - Accidental Injury to Sensory Organs

- (1) Insects can cause accidental injury to our sensory organs
- (2) Any insect that enters the ear, nose, or eye can cause severe irritation
- (3) Myiasis
 - (a) A condition in which fly larvae invade a human host
 - (b) Occurs in one of two ways:
 - (i) A fly lays its eggs on an open wound, when the eggs hatch the larvae begin to feed on human tissue
 - (ii) A person may eat fly larvae on contaminated food. However, when this happens, the food is usually passed through the digestive tract

without damage or illness. The process of myiasis may also be used as a medical treatment. In such cases, fly larvae are intentionally placed on wounds. The larvae feed on the dead tissue, which in turn promotes the growth of living tissue.

- (4) Allergies
 - (a) Potent allergens
 - (i) Cockroach feces and the skins they shed when molting
 - (ii) Dust mites that are found in many buildings and in bedding materials such as mattresses and pillows
 - (iii) Allergies to the venom of some biting and stinging arthropods are also prevalent
 - (iv) While not often considered deadly, the nuisance caused by allergic reactions can, itself, be enough to reduce a soldier's productivity and effectiveness

Spread of disease

Passive transmission (also called Mechanical Transmission)

- (1) This method of transmission occurs when the arthropod carries the pathogen from one host to another
- (2) During this transmission, the pathogen does nothing during the transfer except 'go along for the ride'
 - (a) Filth flies carry bacteria or other disease-causing organisms on their mouthparts and feet from infected human feces. If soldiers eat food that has been contaminated by a fly landing on it and depositing these pathogens, dysentery or other diarrheal disease may occur.
 - (b) Cockroaches provide a similar 'taxi service' by carrying disease organisms on their legs, feet, and mouthparts. These pathogens can cause diarrheal diseases such as cholera.

Active transmission (also called biological transmission)

- (1) In this method of transmission the disease-causing agent undergoes some change in the body of the arthropod
- (2) The pathogen may multiply or simply develop into an infectious form
- (3) There are several ways a pathogen can be passed to humans via active transmission
 - (a) Inoculation
 - (i) A vector injects the pathogen into the host with its saliva while it feeds on the host
 - (ii) Mosquitoes transmit malaria by inoculation.
 - (b) Regurgitation
 - (i) The vector vomits the pathogen into the host while it feeds on the host

- (ii) Fleas transmit bubonic plague by regurgitation

NOTE: The bacteria that causes bubonic plague multiplies rapidly in the flea's gut and blocks it like stopping up a drain. When the flea attempts to eat, it can not ingest the host's blood due to the blockage. The flea ends up regurgitating the bacteria into the host.

- (c) Fecal contamination
- (i) The vector defecates into a wound on the host
 - (ii) As the wound itches, scratching and rubbing by the host causes the pathogen to enter the host's body
 - (iii) Chagas' disease, also known as North American Sleeping Sickness, is transmitted in this way by the kissing bug

NOTE: The kissing bug bites the host causing a wound. It then takes a few steps forward and defecates into the wound.

- (d) Crushing the vector
- (i) The vector is smashed onto the skin of the host
 - (ii) When the host wipes off the dead bug, the pathogen is rubbed into the skin
 - (iii) The body louse transmits epidemic typhus in this manner

NOTE: The bacteria that cause epidemic typhus live and multiply in the body of the body louse.

Arthropod-borne diseases and their vectors

Several arthropod-borne illnesses that are significant to military operations

- (1) Malaria
 - (a) Most important disease to the military
 - (b) The Anopheles mosquito transmits this disease
 - (c) Malaria is responsible for the death of over three million people each year
- (2) Yellow fever
 - (a) The Aedes mosquito transmits this viral disease
 - (b) No longer considered a real threat to soldiers in the army since soldiers are now inoculated against this disease
- (3) Dengue fever
 - (a) The Aedes mosquito transmits this disease
 - (b) It is most prevalent in the tropical and sub-tropical areas of Asia, Africa, and Central and South America
 - (c) No vaccine has been developed for this disease

NOTE: This disease is characterized by fever, headache, extreme pain in the joints and muscles, and a rash.

- (4) Encephalitis
 - (a) The Aedes and Culex mosquitoes carry several forms of this disease
 - (i) St. Louis encephalitis
 - (ii) Japanese B encephalitis
 - (iii) California encephalitis
 - (b) Ticks carry another form of this disease known as Russian spring/summer encephalitis

NOTE: Symptoms of this disease may include headache, fever, and extreme drowsiness. The disease may leave lasting effects such as deafness, epilepsy, or an altered mental capacity, known as dementia.

Diseases and Their Vectors – Others

- (1) Sand fly fever
 - (a) Also known as phlebotomus fever
 - (b) This viral disease is carried by the phlebotomine sand fly
- (2) Leishmaniasis
 - (a) The sand fly transmits this disease
 - (b) Transmitted to humans by the transfer of a single-celled animal known as a protozoa
- (3) Epidemic typhus
 - (a) The body louse is the vector for this disease
 - (b) Has occurred in widespread epidemics during wartime or other periods when sanitation has not been strictly observed
 - (c) Occurs in primarily temperate areas
 - (d) During WWI, one hundred fifty thousand soldiers died of this disease
- (4) Bubonic plague
 - (a) Any one of the arthropods that are parasitic on rodents may transmit this disease
 - (b) Most important of these is the rat flea
 - (c) During the Middle Ages, bubonic plague occurred in huge outbreaks known as pandemics
 - (d) These pandemics were known to wipe out the entire population of many cities

Pesticide

Sanitation practices

- (1) The best way to control bugs is to first follow proper sanitation practices, then augment with chemicals
- (2) Improper sanitation practices: Consider a pile of opened garbage. You can spray and spray, but unless you eliminate this breeding ground for flies, you're still going to have a problem
- (3) Eliminate arthropod habitats
 - (a) The safest way to control most arthropods is to eliminate their living and breeding areas
 - (b) Control rodents in the unit area
 - (c) Use proper waste disposal procedures

- (d) Avoid animal nesting areas

Chemical practices

- (1) Even the best sanitation efforts fall short of controlling arthropods, when this is the case, augment efforts with the use of pesticides. (AUGMENT is the operative word here – chemicals are not meant to take the place of the individual or unit-level preventive medicine measures)
- (2) Properties of pesticides
- (a) Pesticides are toxic, or poisonous, substances designed to kill pests such as mosquitoes, ticks, and rodents
- (b) Pesticides and solvents
- (i) The toxic ingredients in pesticides are often mixed with solvents such as kerosene or fuel oil
- (ii) The presence of these solvents makes them more hazardous to humans.
- (c) Pesticide absorption into the skin
- (i) The toxic chemicals in pesticides are often mixed with an oil-based solution
- (ii) Human skin repels water but absorbs oil. Therefore, the pesticide is absorbed into the skin along with the oil.
- (iii) protective clothing is required when working with pesticides

WARNING: Because of their toxic properties, all pesticides should be considered potentially hazardous. You can find the hazard and risk information on the pesticide label. Always refer to the label instructions for use, protective clothing requirements, and safety precautions prior to using a pesticide. In all cases, THE LABEL IS THE LAW.

- (3) Estimating the hazard potential for any pesticide is important prior to using it
- (a) Several factors to consider when determining the hazards associated with chemical use
- (b) Determine the hazard posed by a particular chemical by asking yourself these questions:
- (i) What are the toxic effects if the pesticide is accidentally inhaled or ingested?
- (ii) What is the concentration of the toxic substance I will be handling while mixing the pesticide? While applying it?
- (iii) How much pesticide needs to be applied in order to achieve the desired results?
- (iv) How often do I need to apply the pesticide?
- (v) What environmental conditions exist at the time of application?
- (vi) Am I indoors or outdoors? Is there proper ventilation?

- (vii) Is there a breeze?
- (viii) What temperature is best and safest for the application of this chemical?

NOTE: It is important to remember that the hazard for any pesticide is negligible, as long as you use it correctly.

Safety precautions

- (1) Consult the label instructions for additional safety precautions that are unique to the chemical that you plan to use
- (2) Pesticides should not be stored or used near an open flame.
- (3) Do not mix pesticides. Mixing pesticides can render them ineffective or, worse, can create an even more toxic substance.
- (4) Dispose of any unused pesticide properly
- (5) When a pesticide can not be used for its intended purpose or when a pesticide is no longer authorized for use, any unused quantity should be returned to the manufacturer through the Defense Marketing and Utilization Office (DRMO)
- (6) Dispose of the empty pesticide container properly
 - (a) Triple-rinse the container to ensure that the container is free of chemicals prior to disposal
 - (i) First, fill the pesticide container with water
 - (ii) Pour the rinse water into the 2-gallon sprayer along with the water used to dilute the pesticide being applied.
 - (iii) Repeat steps 1 and 2 two more times
 - (b) Then crush or puncture the container prior to disposal to render the container unusable

TERMINAL LEARNING OBJECTIVE

Given a combat stress casualty who is displaying potentially violent behaviors and might harm his/herself or others. Using patient restraint set (Contained in the Medical Equipment Set) or improvised patient restraint techniques (Sandwiching a patient between two litters) restrain the patient without causing harm to the patient or health care providers.

Agitated and violent patients

Agitated and Violent Patients: Differential Diagnosis

- NOTE:** Definition of Agitated-(often from other medical providers)-upset, anxious, loud, uncooperative, threatening, aggressive, assaultive and/or violent
- (1) When first called to evaluate an agitated patient, one might be inclined to begin immediately to control the patient with medication or by physical restraint. This may be necessary if the patient is dangerous to him/herself or others at that time
 - (2) If you are not pressed to immediately intervene, it is often better to allow some time for observation, physical examination and mental status examination
 - (3) You will also want to review any medical records available

There are many etiologies for agitation.

A well thought out differential diagnosis will allow you to select treatments resulting in the highest chances for success

There are three general areas within the differential diagnosis: Organic, Psychiatric and Character (or Personality).

Ask yourself, "Is this agitation due to an organic, psychiatric or personality problem?"

- (1) Organic Etiologies - Organic refers to a condition caused by a known medical condition
 - (a) Signs and symptoms suggestive of an organic cause of agitation include:
 - (i) Serious medical illness with propensity to effect brain function, particularly the elderly
 - (ii) Use of medications with propensity to effect brain function, particularly the elderly
 - (iii) History of substance abuse
 - (iv) Sudden onset
 - (v) No previous history of such episodes
 - (vi) Disorientation
 - (vii) Variable attention and alertness
 - (viii) Poor memory for immediate / recent events

- (ix) Uncommon hallucinations (visual) Insight about hallucinations or delusions (I know this doesn't make sense)
- (b) Differential Diagnosis for Organic cause to Agitation
Mnemonic:
 - (i) Infectious, HIV, Meningitis, Syphilis, Encephalitis
 - (ii) Withdrawal Alcohol, Benzodiazepines, Opioids
 - (iii) Acute Metabolic Liver / Renal failure, Ca++ Na+ disturbance, Porphyria
 - (iv) Trauma: Head Injury, Heat Stroke, Burns, Postoperative States
 - (v) CNS Disease Stroke, Tumor, Hemorrhage, Multiple Sclerosis, Seizure, Dementia- Alzheimer's, Multi-Infarct, Normal pressure hydrocephalus, Hypothyroid. Parkinson's Disease, Wilson's Disease. Hypoxia Anemia, Cardiac / Pulmonary Failure, Carbon Monoxide. Deficiencies B12, Folate, Thiamine, Niacin
 - (vi) Endocrinopathies Hyper and hypoadrenalism, Hypo and hyperthyroidism, Hyper and hypoglycemia, hyper and hypoparathyroidism
 - (vii) Acute Vascular Hypertensive Encephalopathy, Vasculitis, Shock
 - (viii) Toxins Medications, Solvents, Pesticides. Heavy Metals Arsenic, Lead, Manganese, Mercury, Thallium. Substance Abuse Cocaine, Amphetamine, PCP, LSD, Inhalants
- (2) Psychiatric Etiologies- (The organic etiologies described above would include conditions that would be described as Delirium, Dementia and Organic Mental Syndromes). Traditional psychiatric illnesses must also be considered when evaluating patients for agitation
 - (a) Signs and symptoms suggestive of psychiatric causes of agitation:
 - (i) History of psychiatric illness
 - (ii) History of previous episodes of agitation related to decompensation due to psychiatric illness
 - (iii) History of poor compliance with psychiatric treatment
 - (iv) Traditional psychotic symptoms due to psychiatric illness, e.g. auditory hallucinations, paranoid delusions, poor insight into psychotic symptoms
 - (b) Differential Diagnosis for Psychiatric causes of agitation:
 - (i) Schizophrenia-particularly agitated catatonia, paranoid and disorganized types
 - (ii) Schizoaffective Disorder Brief Reactive Psychosis Bipolar Affective Disorder-manic and mixed Adult Autism, Acute Stress Disorder Post Traumatic Stress Disorder Dissociative Identity

- Disorder Intermittent Explosive Disorder
Adjustment D/O with mixed emotional features
- (3) Personality Etiologies - Patients with certain personality styles tend to become agitated when under emotional stress. These tend to be the more "primitive" of the personality disorders.
- (a) Differential Diagnosis for Personality causes of agitation:
Antisocial, Borderline, Narcissistic, Histrionic, Paranoid

Treatment options for the agitated patient

Treatment Options for the Agitated Patient:

- (1) Specific treatments for agitated patients depend on the underlying etiology
- (2) Treatment of the underlying medical condition causing the agitation is key in delirium/organic mental syndrome
- (3) Medication may be needed for the agitation
- (4) Thoughtful bedside manner and a non-stimulating environment will also be helpful
- (5) Dim lights are helpful
- (6) Maintain orientation as much as possible with unit, mission, position and contact with member's of his company
- (7) In primary psychiatric conditions, anti-psychotic and/or anti-anxiety medication is most effective individually
- (8) Again, a non-stimulating environment is helpful
- (9) Basic supportive psychotherapy and, if indicated, psychoeducation may reduce agitation

Personality disorders require a combination of supportive and basic cognitive psychotherapies and firm limit setting

- (1) Law enforcement involvement may be necessary if the patient will not comply with your interventions
- (2) Medication is much less likely to be indicated, and may be contra-indicated because of suicidal or substance abuse history

Maintaining a low profile

Do not challenge the patient as this will most likely enrage the patient further.

- (1) Tell the patient who and what you are
- (2) Speak clearly
- (3) Avoid prolonged eye contact
- (4) Maintain a medium distance from the patient
- (5) Empathize with the patient if they are clearly upset over a certain issue

Your interview may be brief due to the agitation. Get as much information as possible, as quickly as possible.

- (1) Open ended questions may be an inefficient method for information gathering here
- (2) Build trust with the patient
- (3) In the appropriate setting offering food or beverage may quickly turn a belligerent patient into a cooperative one

- (4) When possible give the patient choices in the course of their evaluation and treatment. This will give them a greater sense of control.
- (5) Maintain a sense of time
- (6) If the patient is cooperative enough to allow for a blood draw, make sure that a PA/MD order all the tests you think you may want on this one blood draw
- (7) You must also keep in mind that with Urine Drug Screens, it may be now or never

Prediction of Violence

Prediction of Violence:

- (1) Mental health professionals are often asked to predict violence
- (2) This is a very difficult task because an episode of violence is a relatively rare event
- (3) There are no clear and definite predictors for who will and who will not be violent
- (4) Any evaluation that asks for a prediction of violence should comment on the low reliability of mental health professionals predicting violence
- (5) Your task is simply to comment on the risk factors for potential violence, and to take protective action when the risk factors are numerous and/or severe

General Risk Factors for Violent Behavior:

- (1) In general, patients with a serious psychiatric disorder (Axis I) are three times as likely as the general population to commit an act of violence
- (2) Nevertheless, the overwhelming majority of violent acts are committed by individuals who:
 - (a) Do not have a major psychotic diagnosis. A past history of violence or impulsivity, Alcohol and Drug use
 - (b) Organic Mental Disorders-Organic Personality, Delirium, Paranoid delusions Psychosis-particularly Schizophrenia, Bipolar Affective D/O in manic state
 - (c) Antisocial Personality, Borderline Personality
Demographics-young, male, live in poverty, live in environment of decreased social control (live in environment where violence is part of everyday life)
 - (d) Weapons- knowledge, skill and access
 - (e) Other means available to inflict injury
 - (f) Recent humiliating life event
 - (g) Recent sense of being unfairly treated
- (3) Predictors of Impending Violent Behavior:
 - (a) Brooding over an event where individual was unfairly treated
 - (b) Recent threats to act out violently
 - (c) Evidence of making plans to act out violently
 - (d) Threatening and/or loud speech

- (e) Hypervigilance
- (f) Staring
- (4) Signs of agitation:
 - (a) Tremors
 - (b) Sweating
 - (c) Pacing
 - (d) Clenching of fists, teeth and hands

Personal Safety and Take Down Interventions

It may become necessary to physically restrain an agitated person.

The following represent options that may be taken and the order that they may be taken in to handle agitated casualties:

- (1) Level I Non-violent Interventions:
 - (a) Separate patient from other people if possible
 - (b) Remove any type of weapons or objects which could serve as weapons
 - (c) Make sure that you have a way out of the room if the situation escalates
 - (d) Present a calm, supportive appearance
 - (e) Speak clearly
 - (f) Show respect, remain nonjudgmental
 - (g) Avoid staring and give some distance
 - (h) Ask why they are upset and what could be done about it. (How can we help you?)
- (2) Level II If Violence Appears Imminent:
 - (a) If verbal interventions fail then you need to move to a higher level of intervention called the Show of Force
 - (b) A "Take Down" Team is composed of 5 people as a minimum, one person to control the head and one person for each extremity
 - (c) Designate one person as the leader and four followers
 - (d) To begin, gather around the leader with an image of confidence
 - (e) The leader states "come calmly or you will go in restraints"
 - (f) The leader states the reason why restraints are needed
 - (g) Give the patient a few seconds to back down
- (3) Level III The Take Down:
 - (a) At the signal of the leader, each team member controls his/her designated extremity and one staff member holds the head
 - (b) The patient is brought to the ground/floor in a backward motion and then rolled over on his/her abdomen
 - (c) Restraints are then applied and the patient is brought to an appropriate area
 - (d) After the take-down is over and the patient is safely admitted, the team and other staff should discuss the events leading to a take down and the take down itself

- (e) After several hours or whenever the patient is calm and cooperative, the admitting staff member who ordered the take down should discuss it with the staff

Restraints

Restraints used to subdue a patient may vary from one unit to the next.

It is important that all personnel be familiar with their specific use and application.

It is also noteworthy that each soldier medic should be familiar with their unit SOP's regarding the use and application of restraints

Restraint devices that the soldier medic will most likely see and employ

- (1) Leather restraint system
 - Included in the Medical Equipment Set
 - This set includes 2 adjustable wrist and 2 adjustable ankle cuffs and an adjustable and lockable securing strap for each cuff
- (2) Improvised litter restraint method
 - This is an improvised method of restraining a patient in which two litters are employed
 - The patient is secured between two litters using patient securing straps

CAUTION: Since restraints can cause bodily harm and in extreme cases death, it is critical that they be used only as a last resort and only by qualified personnel

TERMINAL LEARNING OBJECTIVE

Given a standard fully stocked Combat Medic Vest System (CMVS) or fully stocked M5 Bag, IV administration equipment and fluids, selected medication, restraints and documentation forms. Given the equipment and supplies at Echelon 2 and below. You encounter a casualty who displays symptoms of battle fatigue to include hyperalertness, anxiety, disordered thinking, and inability to carry on a coherent conversation. The casualty may or may not demonstrate violence directed at others or self. No other injury (ies) is/are identified. Triage the battle fatigue casualty and perform basic intervention using battle fatigue treatment principles.

Combat stress

Definition of Stress

- (1) Stress is the body's and mind's process for dealing with uncertain change and danger
- (2) Elimination of stress is both impossible and undesirable
- (3) Stress can have positive and negative effects on functioning

NOTE: The positive effects of stress can enhance performance whereas the negative effects of stress can impair overall functioning.

- (4) Excessive stress may lead to dysfunctional combat behaviors
- (5) Controlling stress is key to controlling these resultant behaviors

Types of Combat Stress

- (1) Physical (environmental and physiological)
 - (a) Examples of environmental stressors
 - (i) Heat, cold, or wetness
 - (ii) Difficult terrain
 - (iii) Hypoxia, fumes, poisons, chemicals
 - (iv) Ionizing radiation
 - (v) Physical work
 - (vi) Noise, vibration
 - (vii) Visibility
 - (viii) Infectious agents/disease
 - (b) Examples of physiological stressors
 - (i) Sleep debt
 - (ii) Dehydration
 - (iii) Poor hygiene
 - (iv) Physical fatigue
 - (v) Illness and injury
 - (vi) Malnutrition
- (2) Mental (cognitive and emotional)
 - (a) Examples of cognitive stressors
 - (i) Too much or too little information
 - (ii) Sensory overload versus deprivation
 - (iii) Ambiguity, uncertainty, isolation
 - (iv) Time pressure versus waiting

- (v) Unpredictability
- (vi) Rules of engagement
- (vii) Organizational dynamics
- (viii) Hard choices versus no choices
- (b) Examples of emotional stressors
 - (i) Threats to safety
 - (ii) Loss, bereavement
 - (iii) Anger, resentment, frustration
 - (iv) Boredom, inactivity
 - (v) Home front worries
 - (vi) Loss of faith
 - (vii) Interpersonal conflict

Combat stress behaviors

Adaptive behaviors

- (1) Unit cohesion
- (2) Sense of eliteness
- (3) Alertness and vigilance
- (4) Increased strength and endurance
- (5) Tolerance for hardship, pain, discomfort
- (6) Heroic acts and self-sacrifice

Dysfunctional behaviors

- (1) Misconduct stress behaviors
 - (a) Mutilating dead
 - (b) Killing enemy prisoners and noncombatants
 - (c) Torture, brutality
 - (d) Recklessness
 - (e) Alcohol and drug abuse
 - (f) Looting and rape
 - (g) "Fragging"
 - (h) Desertion
 - (i) Abuse of sick call
- (2) Battle Fatigue
 - (a) Hyperalertness
 - (b) Fear, anxiety
 - (c) Anger, rage
 - (d) Somatic complaints
 - (e) Depression, indecision
 - (f) Exhaustion, apathy
 - (g) Poorer performance

Triage

DUTY category

- (1) Used for soldiers who show mild battle fatigue and are expected to quickly recover
- (2) The soldier must be capable of self-care and have the ability to respond if the unit comes under attack
- (3) Recovery may include:
 - (a) Food and nourishment
 - (b) Fluid to drink
 - (c) A quiet place to nap
 - (d) Reassurance to the soldier
 - (e) The opportunity to talk about experience

REST category

- (1) Used for soldiers having moderate to severe BF symptoms, or having no treatment response
- (2) Requires 1-2 days of duty in the soldier's own battalion/ battery HHC

NOTE: These soldiers may be held in the BSA under the control of the FSMC or Brigade Adjutant.

- (3) Monitored by the brigade CSC team (directly or supervisor's reports).
- (4) If symptoms persist or worsen, category is elevated to HOLD.

HOLD category

- (1) Used for soldiers who require medical observation and restoration treatment at the FSMC's patient holding area
- (2) Treatment is provided for 1 day (or up to 3 days if return to duty is anticipated)
- (3) Soldiers must be told that they are not patients

REFER category

- (1) Used for BF and NP cases which cannot be safely held or treated in the FSMC and require evacuation to a higher echelon of care
- (2) These cases may be initially triaged into this category, or may have demonstrated no treatment response
- (3) Any REFER cases with good potential for RTD within 72 hours are held for treatment in the MSMC patient holding section
- (4) Evacuation should only occur in nonmedical vehicles when safely possible
- (5) Physical and/or medication restraints are used when necessary

Principles of combat psychiatry

Maximize combat stress prevention

- (1) Primary prevention - decreases the occurrence of dysfunctional combat stress behaviors through control of known contributing stressors
 - (a) First time in combat
 - (b) Home front worries
 - (c) Intense battle with many KIA/WIA
 - (d) Insufficient tough/realistic training
 - (e) Poor unit cohesion
 - (f) Sleep/food deprivation
 - (g) Inadequate information or no clear sense of purpose
- (2) Secondary prevention - minimizes dysfunctional combat stress behaviors when they first occur. Do this by training and assisting unit leaders, chaplains, and medical personnel to:
 - (a) Identify warning signs and symptoms.
 - (b) Intervene immediately.
 - (c) Prevent spread of dysfunctional behavior through segregation and treatment.
 - (d) Reintegrate recovered battle fatigue soldiers into their units.
 - (e) Taking appropriate disciplinary action for criminal conduct.
- (3) Tertiary prevention - minimizes long term dysfunctional combat stress behaviors and post-traumatic stress disorders. Do this by assisting unit leaders, chaplains, and medical personnel in:
 - (a) Critical event debriefings
 - (b) End of tour debriefings
 - (c) Continued monitoring for delayed Posttraumatic Stress Disorder (PTSD) symptoms

Treat battle fatigue

- (1) Proximity - treat a soldier as close to their unit and battle as possible
- (2) Immediacy - treat as soon as possible
- (3) Expectancy - give the soldier expectations for full recovery and RTD
- (4) Simplicity - Use brief, straightforward methods to restore physical well-being and self-confidence

Defer psychiatric diagnosis

- (1) Triage emergency medical/surgical conditions and then treat
- (2) Treat others for battle fatigue using the PIES plan
 - (a) Proximity - treat soldiers as close as possible to their units and battle
 - (b) Immediacy - identify need for care early and treat immediately
 - (c) Expectancy - provide positive outlook to combat fatigue casualty. Casualty should expect full recovery and early

- return to duty (RTD). The most important principle in treatment.
- (d) Simplicity - use simple, brief straightforward methods to restore physical well being and self confidence using non-medical terminology and techniques
- (3) Non-responders should be evacuated to a higher level of care. Final diagnosis is determined at this level.

Other battle fatigue treatment principles

Initial Assessment

- (1) Brief medical and mental status examination.
- (2) Must differentiate between battle fatigue and more emergent illnesses.
- (3) Treat battle fatigue while covertly observing for other serious conditions.

Reassure

- (1) Tell the soldier that he has battle fatigue and that it is a temporary condition.
- (2) Explain that battle fatigue is a normal reaction to severe conditions.
- (3) Give expectations that he/she will return to duty after a short period of rest.
- (4) Keep the soldier active.

Separate

- (1) Keep battle fatigue soldiers separated from patients with serious medical surgical and psychiatric illnesses.

NOTE: Association with severely ill will worsen BF soldier's symptoms (called *contagion*).

- (2) Convalescent soldiers and battle fatigue soldiers may be treated together after the contagious stage is over and return to duty is imminent.

Simple Treatment

- (1) Keep treatment as simple as possible using the PIES treatment plan.
- (2) Provide relief from danger but maintain a tactical atmosphere, which is not too comfortable.

Restore Confidence

- (1) Keep soldiers active through structured military work details, physical exercise, and recreation.
- (2) Get soldiers to talk about their experiences that led to battle fatigue.
- (3) Provide a supportive environment for self expression.
- (4) Reinforce the soldier's identity as a soldier, not as a patient.

Avoid Sedatives and Tranquilizers

- (1) The battle fatigue soldier needs to maintain a normal state of alertness, coordination and understanding.
- (2) Sedating medications may be used if sleeplessness or agitation cannot be otherwise managed.

NOTE: Remember that the soldier will think that medications are used by patients.

Evacuation and Hospitalization

- (1) Evacuate and hospitalize BF soldiers only when absolutely necessary.
- (2) Evacuation and hospitalization may significantly worsen initial symptoms and delay recovery.
- (3) Evacuate by general-purpose vehicles not ambulances.

Unresponsive and Unmanageable Cases

- (1) A soldier whose battle fatigue or neuropsychiatric symptoms do not improve or make him too disruptive to manage may be evacuated to the next echelon of care.
- (2) Prior to evacuation, give the soldier a clear expectation that he will improve.

NOTE: Be careful not to let these cases become an escape route from combat.

Hospitalization

- (1) Use when the battle fatigue soldier's safety is uncertain.
- (2) Non-hospital environments are preferable to hospitalization.
- (3) If a soldier is inappropriately hospitalized, inform him that he only has battle fatigue and that he will be returned to a forward area for treatment.

TERMINAL LEARNING OBJECTIVE

Given a standard fully stocked Combat Medic Vest System (CMVS) or fully stocked M5 Bag, IV administration equipment and fluids, selected medication, restraints and documentation forms. Given the equipment and supplies at Echelon 2 and below. You encounter a casualty who displays symptoms of battle fatigue to include hyperalertness, anxiety, disordered thinking, and inability to carry on a coherent conversation. The casualty may or may not demonstrate violence directed at others or self. No other injury(ies) is/are identified. Triage the battle fatigue casualty and perform basic intervention using battle fatigue treatment principles.

Degrees of Battle Fatigue

- (1) Mild
 - (a) Soldier communicates feelings of fear/anxiety in battlefield environment but there are no signs of anxiety present
 - (b) This level does not require removing soldier from combat
- (2) Moderate
 - (a) Soldier displays tears, gross trembling, or difficulty in concentrating
 - (b) This level may/may not require evacuation of soldier. The evacuation decision is based on mission, the soldier's effectiveness and the severity of presenting symptoms
- (3) Severe
 - (a) Soldier can no longer relate to his environment and can suffer from hysterical blindness and paralysis
 - (b) Requires immediate evacuation. Symptoms are too disruptive to unit's mission to remain or soldier needs observation to rule out medical or surgical condition

WARNING: Any soldier has the potential to become a battle fatigue casualty.

Battle Fatigue Reactions, Symptoms and Treatment

Battle Fatigue reactions and Symptoms

- (1) Manageable reactions-"combat stress"
 - (a) Muscular tension--headaches, inability to relax, cramps
 - (b) Shaking and tremors
 - (i) Mild shaking--may appear when undergoing shelling or bombing. Appears and disappears rapidly and is a normal reaction to dangerous conditions.
 - (ii) Marked or violent shaking, sometimes incapacitating; may also persist after the cause has ceased.
 - (c) Perspiration--it is normal to experience either mild or heavy sweating or chills under combat stress

- (d) Digestive and urinary system reactions
 - (i) Nausea and vomiting which may occur during or immediately after a fire fight, shelling or intensive battle conditions
 - (ii) Loss of appetite
 - (iii) Acute abdominal pain which may occur during battle
 - (iv) Urinary frequency, particularly at night, or urinary incontinence during actual battle
 - (v) Inability to control bowel functions may occur under catastrophic combat stress
- (e) Circulatory and respiratory system reactions
 - (i) Heart palpitations
 - (ii) Elevated blood pressure and increased pulse rate
 - (iii) Chest pains or pressure
 - (iv) Hyperventilation (rapid respirations), shortness of breath, dizziness, and/or choking sensation
 - (v) Sensations of faintness or giddiness combined with decreased muscle strength and energy
- (f) Sleep disturbances
 - (i) Difficulty in falling asleep or inability to sleep when the tactical situation permits
 - (ii) Nightmares, terror dreams, or battle dreams
 - (iii) Sleep disturbances in the form of dreams are part of the normal psychological healing
 - (iv) This process of "working through" combat experiences is a way to increase tolerance
- (g) Hyper alertness--frequent startle reactions-(jumping, crying, jerking or other forms of involuntary self-protective motor responses to sudden noises)
- (h) Irritability
 - (i) Verbal flare-up, and tears are common overreactions to normal, everyday comments or incidents
 - (ii) Sporadic and unpredictable explosions of aggressive behavior with little or no provocation. The stimulus may be a noise, an accidental bumping or a normal conversation.
- (i) Short attention span
- (j) Depression
 - (i) Low energy level
 - (ii) Social withdrawal
 - (iii) Poor personal hygiene
- (k) Substance abuse
- (2) Disruptive reactions.
 - (a) Soldier or supervisor states that the soldier cannot function on the job

- (b) Soldier or supervisor states that the soldier may compromise their own safety and the safety of others
- (c) Soldier exhibits panic (rushing about without any self-control)
- (d) Soldier may have visual and/or hearing problems (perceived by the individual) and partial paralysis. Paralysis is usually confined to one arm or leg
- (e) Soldier may utter incoherent language. Soldier may babble, be unable to speak logically, and have a bewildered appearance.
- (f) Soldier or soldiers' supervisor states loss of appetite, which resulted in loss of 5 pounds per week or more
- (g) Soldier complains of persistent and severe abdominal pain
- (h) Soldier has inability to control bowel function after stress stimulus (combat) has ended

Principles of Battle Fatigue Treatment--(PIES)

CAUTION: Failing to follow the principles of treatment could result in the soldier not recovering from battle fatigue and may set him up for a lifetime of problems with a chronic psychiatric disability.

Proximity--treat soldiers as close as possible to their units and battle. Prevent over evacuation.

Immediacy--identify need for care early and treat immediately

Expectancy--provide positive outlook to combat fatigue casualty. Casualty should expect full recovery and early return to duty (RTD). The most important principle of treatment.

Simplicity--use simple, brief straightforward methods to restore physical well being and self-confidence using non-medical terminology and techniques.

Battle Fatigue Treatment Steps and Evacuation Guidelines

CAUTION: DO NOT refer to the soldier as a "patient", because calling him a patient reinforces to him that he is sick.

- (1) Treatment steps
 - (a) Obtain brief medical/mental status exam and rule out serious medical/mental illness or injury
 - (b) Provide a place for the soldier to rest. At least 4 hours rest should be provided in a quiet, secure area
 - (c) Provide food, when available
 - (d) Provide an opportunity for the soldier to discuss his feelings
- (2) Evacuation guidelines

- (a) Evacuate the soldier if he shows signs of disruptive battle fatigue reactions. Soldiers who have undergone 48 hours of treatment without resolution of symptoms should be evacuated for definitive psychiatric care. Carefully apply physical restraints if soldier is at risk of hurting self or others.
- (b) Return the soldier to duty if he is able to function on the job. Returning him to his original unit (and to his original job) is the best mental health assistance that can be provided and is the "treatment of choice"

Administrative Classifications

- (1) Duty--soldier needs brief time to recuperate in local area (up to 6 hours)
- (2) Rest--soldier needs temporary removal from maneuvering unit for a few days (1 or 2 days)
- (3) Hold--soldier needs medical observation and assistance
- (4) Refer--soldier cannot be safely held or treated at Forward Support Medical Company (FSMC). Normally sent to Division Support Area (DSA) for evaluation and disposition.

Depression and Manic Depression

Symptoms of Depressive Illness

- (1) Loss of energy and interest
- (2) Diminished ability to enjoy oneself
- (3) Decreased -- or increased -- sleeping or appetite
- (4) Difficulty in concentrating; indecisiveness; slowed or fuzzy thinking
- (5) Exaggerated feelings of sadness, hopelessness, or anxiety
- (6) Feelings of worthlessness
- (7) Recurring thoughts about death and suicide

Manic-depressive Illness

Manic Depression causes mood swings creating periods with the following symptoms:

- (a) A high energy level with decreased need for sleep
- (b) Unwarranted or exaggerated belief in one's own ability
- (c) Extreme irritability
- (d) Rapid, unpredictable emotional change
- (e) Impulsive, thoughtless activity, with a high risk of damaging consequences (i.e., stock speculations, sudden love affairs, etc.)

TERMINAL LEARNING OBJECTIVE:

Identify requirements and responsibilities for a suicide prevention and awareness program.

Conditions: You are simulating serving as a unit leader who is responsible for implementing a suicide prevention program and for referring a possible suicidal individual for professional help. Necessary equipment and materials: Student Handout HO081-P-9028.

Standards: Identify the responsibilities and requirements of a suicide prevention awareness program to include: three warning signs of suicide, ten possible characteristics of suicide or suicidal behavior, seven steps to prevent a possible suicide, and referral agencies to support a suicidal individual.

Statistics

There are 30,000 suicides per year in the U.S. or about one every 20 minutes for a total of 75 per day. That averages about 12.5 per 100,000. Suicide is ranked the eighth overall cause of death in the United States after heart disease, cancer, stroke, accidents, pneumonia, diabetes, and cirrhosis

The rate per 100,000 soldiers varies with the lowest rate in 1987 and the highest rate in 1993. 75 percent of the suicides were by self-inflicted gunshot and 17 percent were by hanging. The "typical" Army suicide in 1995 was a white male between the ages of 20 and 25 years of age.

Resources and Responsibilities:

Suicide prevention is everyone's responsibility. The Army has developed a policy for implementation of a prevention program. Commanders and their staff have certain obligations toward suicide prevention.

Policy

- (1) Commanders are required to establish a suicide prevention program at every Army installation or community and separate activity in accordance with AR 600-63.
- (2) An education awareness program for both military and civilian leaders, managers, and supervisors, as well as family members include:
 - (a) Suicide risk identification.
 - (b) Procedures for crisis intervention.
- (3) Training will be integrated into every Army leadership development course conducted by the Army school system.
 - (a) NCOES.
 - (b) Officer leadership courses.
 - (c) Unit level officer and NCO professional development courses.

- (d) Installation level course for civilian supervisors and designated civilian personnel office personnel.
- (4) Chaplains (Unit Ministry Teams (UMTs)) will provide suicide prevention/education awareness training to:
 - (a) Active duty soldiers.
 - (b) Civilian personnel.
 - (c) Family members.
- (5) Mental health officers will:
 - (a) "Train the trainers".
 - (b) Provide technical expertise for all suicide prevention/education awareness training.
- (6) Mental health officers and UMT resources will:
 - (a) Provide assistance to organizations and their members following the suicide of a soldier or army civilian.
 - (b) Provide assistance for families who have experienced the loss of a family member to suicide.
- (7) Psychological Autopsy required by AR 600-63 paragraph 5-8.
 - (a) The purpose of a psychological autopsy is to provide the victims commander with information about the death and to enable the unit and the Army to determine further prevention programs and lessons learned so that soldiers and family members are better served.
 - (b) Psychological autopsies are a thorough, retrospective investigation of the intention of the victim relating to his or her being dead. The information for the autopsy is obtained by interviewing individuals who knew the victims actions, behavior, and character well enough to report on them.
 - (c) Conducted by a mental health officer.
 - (d) For an active component soldier, or reserve component soldier on active duty or active duty for training.
 - (e) When death is a result of suspected suicide, an accident involving unusual circumstances or cannot be established as natural, accidental or homicide.
 - (f) The reports are prepared IAW DA PAM 600-24.

Warning Signs of Suicide

Suicide is not a bizarre and incomprehensible act of self-destruction. Suicidal people use a particular logic, a style of thinking that brings them to the conclusion that death is the only solution to their problems. Eight of ten persons who eventually kill themselves give warnings of their intent. Fifty percent say openly that they want to die.

Warning signs include suicide threats, precipitating events, and emotional disturbance which usually precede either suicide or a suicide attempt.

- (1) Warning signs of suicide could include any of the following suicide threats:
 - (a) "I can't take it."

- (b) "You won't have to worry about me."
 - (c) "I want to go to sleep and never wake up."
 - (d) "I won't be a problem to you anymore."
 - (e) "Everyone would be better off if I was dead."
 - (f) "They'll be sorry when I'm gone"
 - (g) "I don't want to live anymore."
 - (h) "Soon this pain will be over."
 - (i) "I'm going to kill myself."
- (2) Events which may precede suicide or a suicide attempt are the following:
- (a) Illness.
 - (b) Economic distress.
 - (c) Employment difficulties.
 - (d) Death of a loved one.
 - (e) Domestic difficulties.
 - (f) Divorce.
- (3) Indicators of emotional disturbance, include:
- (a) A loss of appetite or sudden overeating, insomnia, or excessive sleeping over a period lasting at least several days.
 - (b) Frequent complaints about physical symptoms that are often related to emotions (such as stomachaches, headaches, constant fatigue, frequent drowsiness).
 - (c) Unusual neglect of personal appearance.
 - (d) Prolonged boredom in their surroundings and with activities that had previously been enjoyed.
 - (e) Withdrawal and isolation from friends and family, becoming loners who are unable to give of themselves or to make a real commitment to a relationship.
 - (f) Difficulty in concentration with a decline in the quality of work.
 - (g) Preoccupation with themes of death.
 - (h) A lack of planning for the future. Making comments similar to the following: "Why worry about me? I could be dead tomorrow."
 - (i) Abrupt outbursts of anger, "jumping" at little things. Instead of controlling their moods, their moods control them.

Characteristics of Suicide

In addition to the warning signs common to suicidal behavior, there are several characteristics which are associated with suicide that can be used to help identify soldiers who might be contemplating suicide. The characteristics provide some understanding of the emotional state of a suicidal person and offer insight into what might motivate someone to harm him or herself.

Characteristics of suicide or suicidal behavior that can be related to specific situations are the following:

- (1) Unbearable emotional pain.
- (2) Frustrated emotional needs. Everyone has needs for security, achievement, trust, and friendship. Frustration in meeting those needs results in emotional pain.

- (3) The search for a solution. Suicide is not random; it is never done pointlessly or without purpose. It is a perceived way out of a problem, a crisis, or an unbearable situation. It seems to be the only available answer.
- (4) An attempt to end consciousness. Suicide is both a movement away from pain and a movement to unconsciousness. The aim of suicide is to stop awareness of a painful existence.
- (5) Shame, guilt, frustration, anger and other feelings have all been proposed as "real" causes of suicide. However, underlying all of these is a sense of powerlessness.
- (6) Constriction of options. Suicidal individuals think of only two alternatives: a total solution or a total end.
- (7) Ambivalence. Some ambivalence is normal; but for a suicidal person, ambivalence is a matter of life and death.
- (8) Communication of intent. About 80 percent of suicidal people give clues about their intention to kill themselves.
- (9) Departure. Running away from home, quitting a job, and abandoning a spouse are all departures; but suicide is the ultimate escape.
- (10) Look at previous episodes of disturbance, and the person's history of handling emotional pain.

Steps to assist in the prevention of suicide

As an Army leader you should become familiar with the steps which could assist in the prevention of suicide. Suicidal thoughts and behavior are often cries for help.

Steps which could assist in the prevention of suicide are the following:

- (1) Ask if anything is wrong. Suicidal thoughts and behavior are often cries for help. Most suicidal people will open up during this time of need.
- (2) Take threats seriously. The warning signs given by many people are very subtle; trust your suspicions. Once you are alerted to the clues that may support a cry for help, you can help in several ways. Do not ignore the issue.
- (3) Confront the problem. If you suspect that a person is suicidal, begin by asking non-judgmental questions such as "Are you feeling depressed?" or "How long have you felt this way?" These questions give the person a chance to vent feelings. Don't be afraid to ask the person if he or she is thinking about committing suicide. Asking about suicide won't put the idea into someone's head. Getting people to talk about wanting to kill themselves is a positive step.
- (4) Offer support. Persons who attempt suicide most often feel alone, worthless, and unloved. You can help by letting them know that they are not alone, that you are there for them to talk to and others do care about them. Don't make moral judgments, act shocked, or make light of the situation. Don't tell people they have everything to live for because that may deepen the sense of guilt which they probably already feel. Don't tell them to snap out of it; that's like telling someone with two broken legs to get up and walk. The most useful thing you can do is encourage the suicidal person to get professional counseling and consider a referral.
- (5) Don't leave them alone. Avoid leaving anyone alone if you believe the risk of suicide is probable.

- (6) Remove suicidal person from lethal weapons. A suicidal soldier may also surrender weapon(s)
- (7) Get professional help. The most useful thing that you can do is to get suicidal persons professional help. Don't assume anyone isn't the suicidal "type." Don't keep a deadly secret, tell someone what you suspect.

Referral and Support Agencies

Once you have identified someone who might be at risk for suicide, there are a number of agencies which can assist you in getting help for the individual. In fact, all psychiatric emergencies, including self-harming behavior, should be automatically referred for professional intervention.

Support agencies which will assist in preventing a soldier from committing suicide are the following:

- (1) Division Mental Health Service.
- (2) Community Mental Health Service.
- (3) Hospital emergency room.
- (4) Chaplains.
- (5) Social Work Service.
- (6) Army Community Services .

Emergency Referrals. Commanders consider a soldier in an emergency status when:

- (1) There appears to be an immediate threat to life or limb of the service member.
- (2) The intent for suicide is sincere and the lethality of the method under consideration is high (for example, firearms, hanging).
- (3) For an emergency referral contact a mental health professional for a phone consultation and/or escort the soldier (by a unit member or a Military Policeman) to a mental health professional for an evaluation or escort the soldier immediately to the emergency room. Required form can be completed retroactively if not before.

Non-emergency referrals

- (1) Commanders (acting Commanders) shall consult with a mental health professional before referring a service member for a non-emergency evaluation on an outpatient basis.
- (2) The service member will be counseled and provided a copy of the referral that includes information in accordance with Department of Defense (DOD) Directive 6490.1" or (time and date of appointment, name of the professional consulted and a description of behaviors or statements resulting in the referral and other information as required.
- (3) The service member has certain rights when referred for a mental health evaluation. For example he or she may request a DOD Attorney, they may get a second evaluation with a professional of their choice and exercise other administrative options, Commanders will be familiar with these rights.

TERMINAL LEARNING OBJECTIVE

Given a prepackaged needle, syringe, and medication. Performed basic nursing care for casualty without causing further injury or illness.

Parts of a Needle and Syringe

Needle

- (1) Parts
 - (a) Lumen - hollow cavity inside of needle
 - (b) Bevel - cutting edge of needle
 - (c) Hub - point of attachment to syringe
 - (d) Cannula (shaft) - needle length
 - (e) Protective cover
- (2) Needle characteristics
 - (a) Stainless steel, sharp and shiny
 - (b) Standard lengths are from 1/4 inch to 3 inches
 - (c) Length is determined from the tip of the point to the junction of the shaft and hub

Syringe

- (1) Barrel - clear plastic or glass that has calibrated scales on it. The inside of barrel is sterile
- (2) Plunger - movable portion inside of barrel. The rubber portion and the shaft are sterile
- (3) Needle adapter - portion of syringe where needle attaches, this part is also sterile
- (4) Calibrated scales - markings vary from .01 ml on 1 cc syringes to 0.2 ml on 3-5 cc and 05 ml on 10 cc and larger syringes, always check the calibrated markings

Inspecting Equipment for Contamination and/or Deterioration

Paper wrappers

Checked for tears, water spots, and signs of deterioration or contamination
If any of these signs are present, discard, and replace
Plastic caps on needles and syringes should NOT have been opened prior to use.
If needle or syringe covers appear to be loose, discard and replace

Equipment

- (1) Sterile syringe(s)
- (2) Appropriate size needles, to include extra needles
- (3) Alcohol sponge (alcohol prep pad)
- (4) Proper container for disposal of needle/syringe (sharps container)
- (5) Correct medication, ampule or vial

Assembling needle and syringe

- (1) Remove syringe from package without contaminating sterile parts (needle adapter or plunger)

- (a) If the syringe is packaged in a flexible wrapper, peel the sides of the wrapper apart to expose the rear end of the syringe barrel
- (b) If the syringe is packaged in a hard plastic container, press down and twist the cap until a distinct "pop" is heard
- (c) If the "pop" is not heard, the seal has been previously broken, and the equipment must be discarded
- (2) Ensure plunger of syringe moves freely by grasping the flared end of the syringe and pulling the plunger back and forth. If the syringe does not move freely, replace it with another sterile syringe

CAUTION: The shaft of the plunger is sterile. Contamination could cause infection in the patient. Touch only the end of the plunger when testing for free movement.

- (3) Remove needle from package without contaminating sterile parts (needle hub or shaft)
 - (a) If the needle is packaged in a flexible wrapper, peel the sides of the wrapper apart to expose the needle hub
 - (b) If the needle is packaged in a hard plastic container, twist the cap until a "pop" is heard. Remove the cap to expose the needle hub
 - (c) If the "pop" is not heard, the seal has been previously broken, and the equipment must be discarded

CAUTION: All parts of the needle are sterile. Be careful not to touch the hub to prevent contamination. Only the outside of the needle cover may be touched.

- (4) Join needle and syringe by inserting needle adapter of the syringe into the needle hub, without contaminating either part. Tighten the needle by turning one fourth of a turn to ensure that it is securely attached. If the syringe has threads, you may need to turn more than the quarter turn.
- (5) Hold the needle and syringe upright and remove the protective cover from the needle by pulling it straight off

CAUTION: Do not twist the protective cover because it may pull the needle off the hub.

- (a) Visually inspect the needle for burrs, barbs, damage, and contamination
- (b) If the needle has any defects or damage, replace the needle with another sterile needle
- (6) Place the protective cover back on the needle being careful not to stick yourself or to contaminate the needle. Place the assembled needle and syringe on the work surface

- (7) When you assemble a needle and syringe, you are responsible for maintaining sterility and security of the equipment

Steps to Utilized Prior to Drawing up Medications

Compare drug name on the container with the doctor's orders

Compare drug concentration with the doctor's orders

Check expiration date on medication container

The medication label must be verified three times

- (1) When obtaining medicine container from place of storage
- (2) When withdrawing medication from the container
- (3) When returning the medication container to storage

If any of the following defects are noted on a vial, follow directions IAW local SOP or return to pharmacy

- (1) Examine the rubber stopper for defects, such as small holes resulting from wear and tear
- (2) Hold the vial to the light to check for foreign particles and changes in color and consistency of medication to be drawn
- (3) Check expiration date and date medication was opened on a multidose vial

WARNING: Refer to manufacturer's instructions for expiration of medication prior to and after opening vial. Follow local SOP if discrepancies are noted between SOP and manufacturer's instructions. If in doubt, consult supervisor, nurse on duty, or pharmacy.

- (4) Determine whether the medication is stored properly, e.g., shelf or room temperature vs. refrigeration
- (5) Refer to manufacturer's instructions for proper storage of medication

Prepare and draw medication

- (1) Select the appropriate needle
 - (a) Length will depend on the following factors
 - (i) Type of injection to be given (intramuscular, subcutaneous, intradermal)
 - (ii) The size of the patient (thin, obese)
 - (iii) The site of injection
 - (b) Choice of needle gauge depends upon the viscosity (thickness) of the medication
- (2) The gauge of the needle is indicated by the numbers 14 through 28. The higher the number, the smaller the diameter (bore) of the needle
 - (a) Small-bore needles are indicated for thin medications (watery medications)
 - (b) Large bore needles are indicated for thick medication

Drawing Medication from an Ampule

- (1) Lightly tap the upright ampule to force any trapped medication from the ampule neck and top
- (2) Clean neck of ampule with alcohol sponge (prep pad)
- (3) Wrap neck of ampule with same sponge (prep pad)
- (4) Grasp ampule with both hands and snap the neck by bending it away from the break line (the narrowest portion of ampule neck is the weakest point and breaks easily); **DIRECT BREAKING AMPULE AWAY FROM SELF AND OTHERS**
- (5) Hold ampule to light - inspect for minute glass particles. If glass is present, discard and replace
- (6) Pick up assembled needle and syringe in dominant hand and remove protective cover with free hand

CAUTION: Filter needles are used when drawing this type of medication. Follow local protocol.

- (7) Hold ampule vertically with non dominant hand or place the ampule upright on a flat surface. Insert the needle and withdraw the medication
- (8) Withdraw the prescribed medication, being careful not to touch the outside edge or bottom of the ampule with the needle
- (9) Withdraw the needle and verify the correct dosage
- (10) Expel any air bubbles present in the syringe
- (11) Hold the syringe with the needle pointing up and pull back on the plunger slightly to clear all the medication from the needle shaft
- (12) Tap the barrel lightly to force bubbles to the top of the barrel
- (13) Pull the plunger back slightly and push it forward until the solution is in the needle hub, clearing it of bubbles
- (14) Verify the correct dosage
- (15) Recap the needle without contaminating it or sticking yourself with it
- (16) Recheck ampule label and physician's orders to verify that the correct medication and dosage is drawn

WARNING: Anyone accidentally stuck with a needle must follow infection control protocol for needle sticks immediately!

Drawing Medication from a Stoppered Vial Which Contains a Prepared Solution

- (1) Remove protective metal cap
- (2) If this is a multidose vial, the metal cap may have already been removed
- (3) Cleanse the rubber stopper with an alcohol sponge (alcohol prep pad)

CAUTION: Premixed medications may have to be shaken or "rolled" in your hands to ensure that the medication is re-

suspended in the solution. Check medication label for instructions.

- (4) Pick up the assembled needle and syringe with dominant hand and remove the protective cover with nondominant hand
- (5) Slowly draw plunger to the prescribed cc mark of medication
- (6) Pick up the vial with free hand and insert the needle into rubber stopper. Ensure the needle tip passes completely through

CAUTION: A filter needle may be used for this procedure. Follow local protocol.

- (7) Push the plunger fully into barrel to inject air from syringe into vial
- (8) Invert the vial keeping the needle and syringe inserted
- (9) Pull the plunger back to the desired cc mark, withdrawing the prescribed medication
- (10) Withdraw needle from vial
- (11) Expel any air that may be in syringe
- (12) Verify correct dosage against the doctor's orders
- (13) Hold syringe at eye level
- (14) Ensure forward edge of plunger is exactly on the prescribed cc mark
- (15) Recap needle carefully or change needle if necessary
- (16) Return vial to proper area
 - (a) Storage if it is a multi dose vial. Ensure date and time vial opened is recorded on the vial label
 - (b) Dispose of single dose vial or if vial is empty IAW local SOP

Reconstitution of Powdered Medication

Receive doctor's orders (medication, route, dosage)

Select correct medication and correct diluent from storage area

- (1) Normally, the powdered medication is packaged with its diluent in the same box. If no diluent is present, check the powdered medication label for diluent to be used
- (2) Remove protective metal cap on stoppered vials (medication and reconstitution fluid)
- (3) Clean the stoppers on both vials with alcohol sponges

Withdraw correct amount of diluent required to reconstitute medication

CAUTION: If the vial with powdered medication contains air, the diluent may be difficult to inject. Air may have to be withdrawn to allow the diluent to be injected.

Reconstitute medication

- (1) Hold powdered medication vial horizontally, insert the needle through the stopper, and inject the diluent

- (2) Withdraw needle from stopper
- (3) Gently invert the vial several times until all the powder is dissolved

CAUTION: Check the medication vial label or package insert. Some medications can only be inverted gently, some require vigorous mixing.

Check medication for abnormalities that may be present.

- (1) Refer to enclosed manufacturer's insert for acceptable variations in medication.
- (2) If insert is unavailable or if you have any questions, check with supervisor or nurse on duty prior to injecting patient with medication.

Change the needle (or needle and syringe) to the appropriate size for route of administration and withdraw reconstituted solution from vial

- (1) Pull the plunger back to the predetermined medication amount
- (2) Insert needle into reconstituted solution
- (3) Inject the air in the syringe into the vial
- (4) Withdraw the prescribed amount of medication; keep needle immersed in solution when drawing medication into barrel of syringe
- (5) Withdraw the needle from the vial
- (6) Verify the correct dosage

Check syringe for air bubbles

TERMINAL LEARNING OBJECTIVE

Give the necessary medical equipment in a holding or ward setting. You are providing casualty care as part of an integrated team in a Minimal Care Ward. Performed basic nursing care for casualty without causing further injury or illness.

Purpose, Needle Characteristics, and Sites for Intra-muscular (IM) Injections

Purpose

- (1) Utilized when rapid absorption/rate of onset (10-20 minutes) and long duration (hours to weeks) are desired
- (2) Used when administering viscous or irritating medications
- (3) Used when a large volume of medication is needed for a stronger effect

WARNING: Absorption of medications administered by the intramuscular route relies on adequate blood flow to the muscles, IM injections should not be used in individuals with poor circulation or symptoms of shock.

Needle characteristics

- (1) Not less than one inch for an adult. You may use a smaller size if the patient is thin
- (2) May need up to a 2 inch needle for obese patients

CAUTION: Selection of a needle long enough to reach the muscle is essential. Using a needle, which is too short, will cause the medication to be injected into subcutaneous tissue, potentially reducing absorption and effectiveness.

- (3) Gauge (diameter) range, 20-22

Primary IM injection sites

- (1) Deltoid muscle
 - (a) Used for medication volumes up to 2 ml. in an adult
 - (b) Faster absorption than other IM sites
 - (c) Muscle is located in the outer one-third of arm between the shoulder bone (acromion process) and axilla
 - (d) Injection site is approximately three finger-widths below the shoulder bone, in the middle of the deltoid muscle mass
- (2) Gluteus maximus
 - (a) Used for larger medication volumes, up to 5 ml.
 - (b) May require a long needle (two inches or longer in large adults)
 - (c) Located by dividing one buttock into four imaginary quadrants - injection area is in upper, outer quadrant

CAUTION: An injection given in an area outside this site could cause damage to the sciatic nerve or puncture the superior gluteal artery, causing

either paralysis or severe bleeding. Use extreme care when identifying the gluteal site!

- (3) Vastus lateralis
 - (a) One of the safest sites due to absence of major nerves and blood vessels
 - (b) May be more painful due to number of small nerve endings
 - (c) Medication volume up to 5 ml. in adults
 - (d) Muscle mass is on lateral thigh
 - (e) Injection site extends from the middle of the anterior thigh to the middle of the lateral thigh, and from one hand's width below the hip joint to one hand's width above the knee

NOTE: Length and gauge selected will vary depending on the amount of muscle mass, age, size, and condition of patient

Purpose, Needle Characteristics, and Site for Subcutaneous (SQ) Injections

Purposes

- (1) Utilized when absorption rate desired is slower than IM route. Absorption rate for SQ injection is 15-30 minutes. Duration is comparable to IM route - hours to weeks.
- (2) Used for small amounts of watery and nonirritating medications

Needle characteristics

- (1) Length ½" to 1"
- (2) Gauge (diameter) range, 23 to 25
- (3) Selection of needle length and gauge will vary depending on the amount of subcutaneous tissue, age, size, and condition of patient.

Sites

- (1) Upper arm
 - (a) Rear lateral aspect
 - (b) Injection area is approximately one-hand width down from the shoulder and one-third of the way around laterally.
 - (c) Medication volume - not to exceed 0.5 ml
- (2) Vastus lateralis
 - (a) Injection site extends from the middle of the anterior thigh to the middle of the lateral thigh, and from one hand's width below the hip joint to one hand's width above the knee.
 - (b) Medication volume - not to exceed 2 ml
- (3) Abdomen
 - (a) Medications such as insulin and heparin are administered in the subcutaneous tissue of the abdomen.
 - (b) The amount of medication given will vary according to the needs of the patient
 - (c) A physician will prescribe the dosage to be given in the abdomen

Preparation and Administration of Intra-muscular and Subcutaneous Injections

Preparation

- (1) Identify the patient
- (2) Verify the required injection(s)
 - (a) Check the physician's order
 - (b) Review the patient's medical record to identify allergies and previous reactions to medications
 - (c) If immunizations are to be given, carefully screen the immunization record (SF 601), located inside the medical record) and/or international shot record (PHS 731), for dates of previous immunizations/boosters.
- (3) Verify compatibility of medications if multiple injections are ordered
- (4) Ensure emergency equipment and personnel are available

WARNING: Have an emergency tray available for the immediate treatment of serious reactions. Include a constricting band and syringe containing a 1:1000 solution of epinephrine.

- (5) Wash hands
- (6) Identify route of delivery and select the injection site
 - (a) Route of delivery for medication will be indicated in the order and/or the medication container
 - (b) Be sure to select the appropriate site for the medication ordered to assure rate of onset and duration are as intended by the provider
- (7) Gather equipment (appropriate size needle, syringe, and type of medication) and prepare medication
- (8) Don gloves
- (9) Position patient with selected injection site exposed

CAUTION: All injection sites must be completely exposed prior to injection. Clothing which prevents access to injection site for visualization, cleaning, and administration of injection will be removed, and patient privacy assured by using a sheet, towel, or pad to cover exposed areas/or using privacy screens.

- (a) Upper arm - standing or sitting with arm at side, muscles relaxed and area completely exposed
- (b) Gluteus maximus - lying face down or leaning forward and supported by a stable object with the weight shifted to the leg that will not be injected. The area is completely exposed
- (c) Vastus lateralis - lying supine or seated. Injection area completely exposed

CAUTION: It is permissible to use a standing position for injections. However, some patients even young, healthy soldiers may experience a vasovagal response to an injection and become dizzy or lose

consciousness. The seated or lying positions are therefore preferable.

- (10) Cleanse the injection site with an alcohol prep pad, beginning in the center of the site and with a circular motion, clean outward approximately 3 inches
- (11) Place alcohol prep pad between ring and little finger of non-dominant hand for use after the injection

Administration

- (1) Pull needle cover/cap straight off and dispose of it in a waste receptacle
- (2) Isolate the injection site
 - (a) IM Injections - grasp the muscle mass with thumb and fingers of the non-dominant hand and hold it firmly in place.
 - (b) SQ injections - gently pinch the skin with the thumb and fingers of the non-dominant hand and hold it firmly in place.
- (3) Hold syringe in the dominant hand between the thumb and index finger, and position the needle bevel up and about ½ inch from the skin surface
- (4) Inject medication
 - (a) IM injections - hold syringe at a 90-degree angle to the site and plunge the needle straight into the muscle to the depth of the needle. Hand position will be similar to holding a dart
 - (b) SQ injections - hold syringe at a 45-degree angle. Hand position will be similar to holding a pool cue
- (5) Release hold on the skin with the non-dominant hand

WARNING: Failure to aspirate may cause the medication to be injected directly into the bloodstream.

- (6) Aspirate by pulling back slightly on the plunger of the syringe
 - (a) If blood appears, stop the procedure. Dispose of the needle and syringe in a sharps container, prepare a new set, select a different injection site, and begin again
 - (b) If no blood appears, continue the procedure
- (7) Using a slow, continuous movement, completely depress the plunger, injecting the medication
- (8) Place either an alcohol pad or sterile gauze pad lightly over the injection site and withdraw the needle at the same angle in which it was inserted
- (9) Gently massage the site, unless this is contraindicated for the type of medication that has been injected. Place an adhesive bandage over the injection site
- (10) DO NOT RECAP THE NEEDLE; drop the used needle and syringe into the sharps container

- (11) Record the administration of the injection on the appropriate documents
- (12) Either have the patient wait for at least 20 minutes or IAW local SOP and monitor for adverse reactions

Intra-dermal (ID) Injections

Purpose

- (1) Testing sensitivity (allergy testing) to environmental allergens, medications
- (2) Testing for exposure to diseases (e.g., tuberculosis, mumps)
- (3) Evaluation of the immune system (e.g., AIDS and cancer patients)

Equipment

- (1) Needle
 - (a) Needle length - ¼" to ½"
 - (b) Gauge diameter range - 25 to 27
- (2) Tuberculin or other 1.0 ml syringe

Sites

- (1) Free of hair, tattoos and scars
- (2) NOT over a vein or bony area
- (3) Inner forearm - inner, flat portion (Primary injection site for ID)

NOTE: This is the preferred site for tuberculin testing and most other ID injections routinely given by the soldier medic.

- (4) Back of upper arm
- (5) On the back below the shoulder blades

Procedure for intra-dermal injection

- (1) Preparation
 - (a) Identify patient
 - (b) Verify injection
 - (c) Verify compatibility of medications if multiple injections are ordered
 - (d) Assure availability of emergency equipment and personnel
 - (e) Wash hands
 - (f) Select injection site
 - (g) Gather equipment and prepare medication
 - (h) Don gloves
 - (i) Clean the area with an alcohol prep pad or acetone in a spiral motion, clean outward 3 inches
 - (j) Position patient with injection site exposed
 - (i) Inner forearm - standing, sitting, or supine.
Palm up with the arm relaxed and supported

- (ii) Back of upper arm - standing or sitting
 - (iii) On the back - prone or seated and leaning forward with body supported by a stable object
- (k) Pull needle cover/cap straight off and dispose of it in a waste receptacle
- (l) Using the thumb of the non-dominant hand, pull the skin below the injection site downward and hold it taut
- (2) Administration
 - (a) Position the syringe with the needle bevel up, at a 15-20 degree angle to the skin surface
 - (b) Insert the needle just until the bevel is under the skin surface
 - (c) Gently release the skin tension held by the non-dominant hand
 - (d) Do not aspirate. Push the plunger slowly forward until all medication has been injected and a wheal (a round or elongated elevation of the skin caused by the injection of fluid under the dermis) appears at the site of the injection.
 - (e) The appearance of a wheal indicates that the medication has entered the area between the intra-dermal tissues.
 - (i) If a wheal does not appear, withdraw the needle completely from the arm at the angle of insertion, dispose of the needle and syringe in a sharps container, prepare a new set, and repeat the procedure in another site.
 - (ii) If a wheal does appear, continue the procedure
 - (f) Quickly withdraw the needle at the same angle that it was inserted
 - (g) Without applying pressure to the skin surface, cover the injection site with dry sterile gauze
 - (h) Instruct the patient not to scratch, rub, or wash the injection site
 - (i) If appropriate, instruct the patient when and where to have the test read IAW local SOP
 - (j) Discard the needle and syringe into the sharps container without recapping needle
 - (k) Check the site for bleeding and observe the patient for allergic reactions
 - (l) Record the procedure on the appropriate form

CAUTION: If this injection was given to determine sensitivity (PPD), follow local SOP for patient care and instructions for reading of the results in 48-72 hours.

***Force Health Protection
Assemble a Needle and Syringe and Draw
Medication
Appendix A
Competency Skill Sheets***

Needle and Syringe

Soldiers Name: _____ SSN: _____ CO: _____ TM: _____

Start: _____ Stop: _____ Initial Evaluator: _____

Start: _____ Stop: _____ Retest Evaluator: _____

Start: _____ Stop: _____ Final Evaluator: _____

	1st	2nd	3rd
a. Washed hand.	P / F	P / F	P / F
b. Gathered equipment.	P / F	P / F	P / F
c. Identified patient and asked about allergies/drug reaction and explained procedure.	P / F	P / F	P / F
d. Donned gloves.	P / F	P / F	P / F
e. Selected and prepped injection site. Cleaned in a circular motion outward to center.	P / F	P / F	P / F
f. Exposed needle without contaminating shaft and hub.	P / F	P / F	P / F
g. Gently pinched skin around injection site with non-dominant hand.	P / F	P / F	P / F
h. With dominant hand, inserted needle (bevel up) into injection site at approximately 45 degree angle. Inserted to depth of the needle and released pinched skin.	P / F	P / F	P / F
i. Aspirated syringe with hand used to firm tissue. If blood appeared, student withdrew needle and waits instruction from the instructor)	P / F	P / F	P / F
j. Injected medication into the injection site but pushing plunger (with non-dominant hand) using slow, continuous motion until all medication was expelled.	P / F	P / F	P / F
k. Placed an antiseptic pad just above the injection site with non-dominant hand and withdrew needle from the injection site with dominant hand with a quick movement at the same angle of insertion.	P / F	P / F	P / F
l. Placed an adhesive dressing over the injection site.	P / F	P / F	P / F
m. Disposed of equipment in designated area (needles in sharps container).	P / F	P / F	P / F
n. Verbalized recording injection administration and observed the patient for any reactions.	P / F	P / F	P / F

Instructor Comments:

Draw Medication

Soldiers Name: _____ SSN: _____ CO: _____ TM: _____

Start: _____ Stop: _____ Initial Evaluator: _____

Start: _____ Stop: _____ Retest Evaluator: _____

Start: _____ Stop: _____ Final Evaluator: _____

	1st	2nd	3rd
a. Washed hand.	P / F	P / F	P / F
b. Compared drug name on container with MD/PA order.	P / F	P / F	P / F
c. Compared drug concentration with MD/PA order.	P / F	P / F	P / F
d. Checked expiration date on medication container.	P / F	P / F	P / F
e. Examined drug container for defects (plugs torn from stopper, foreign particles and color changes)	P / F	P / F	P / F
f. Removed protective metal cap	P / F	P / F	P / F
g. Cleaned stopper and neck of vial with alcohol prep pad	P / F	P / F	P / F
h. Picked up assembled needle and syringe with dominant hand and removed protective cover with non-dominant hand.	P / F	P / F	P / F
i. Slowly drew plunger to the prescribed cc mark of medication	P / F	P / F	P / F
j. Picked up vial with free hand and inserted needle into rubber stopper. Ensured that needle tip passes completely through the cap.	P / F	P / F	P / F
k. Inverted the vial keeping the needle and syringe inserted.	P / F	P / F	P / F
l. Pulled plunger back to nearest cc mark, withdrawing prescribed medication.	P / F	P / F	P / F
m. Withdrew needle from vial.	P / F	P / F	P / F
n. Expelled any air that may be in the syringe.	P / F	P / F	P / F
o. Verified correct dosage against MD/PA orders. Held syringe at eye level.	P / F	P / F	P / F
p. Recapped needle.	P / F	P / F	P / F
q. Returned vial (if multi-dose) or disposed of vial (single dose) IAW SOP.	P / F	P / F	P / F

Instructor Comments:

Drug Reconstitution

Soldiers Name: _____ SSN: _____ CO: _____ TM: _____

Start: _____ Stop: _____ Initial Evaluator: _____

Start: _____ Stop: _____ Retest Evaluator: _____

Start: _____ Stop: _____ Final Evaluator: _____

		1st	2nd	3rd
a.	Received doctor's order (medication, route, dosage).	P / F	P / F	P / F
b.	Selected correct medication and correct diluent from storage area.	P / F	P / F	P / F
c.	Removed protective cap on stoppered vials.	P / F	P / F	P / F
d.	Cleaned the stoppers on both vials with an alcohol sponge.	P / F	P / F	P / F
e.	Withdrew correct amount of diluent required to reconstitute medication.	P / F	P / F	P / F
f.	Reconstituted medication. (1) Held powdered medication vial horizontally, inserted the needle through the stopper and injects diluent. (2) Withdrew needle from the stopper. (3) Gently inverts the vial several time until all powder is dissolved.	P / F	P / F	P / F
g.	Checked medication for abnormalities that may be present.	P / F	P / F	P / F
h.	Changed the needle to the appropriate size for route of administration and withdrew reconstituted solution from the vial. (1) Pulled the plunger back to the predetermined medication amount. (2) Inserted needle into reconstituted solution. (3) Injected air in the syringe into the vial. (4) Withdrew prescribed amount of medication; keeping needle immersed in solution when drawing medication into the syringe. (5) Withdrew needle from the vial. (6) Verified correct dosage.	P / F	P / F	P / F
i.	Checked syringe for air bubbles.	P / F	P / F	P / F

Instructor Comments:

***Force Health Protection
Administer Intramuscular, Subcutaneous, and
Intradermal Injections
Appendix B
Competency Skill Sheets***

Intramuscular Injection

Soldiers Name: _____ SSN: _____ CO: _____ TM: _____
Start: _____ Stop: _____ Initial Evaluator: _____
Start: _____ Stop: _____ Retest Evaluator: _____
Start: _____ Stop: _____ Final Evaluator: _____

	1st	2nd	3rd
a. Washed hand.	P / F	P / F	P / F
b. Gathered equipment.	P / F	P / F	P / F
c. Identified patient and asked about allergies/drug reaction and explained procedure.	P / F	P / F	P / F
d. Donned gloves.	P / F	P / F	P / F
e. Selected and prepped injection site. Cleaned in a circular motion outward to center.	P / F	P / F	P / F
f. Exposed needle without contaminating shaft and hub.	P / F	P / F	P / F
g. Grasped deltoid muscle with index finger and thumb of non-dominant hand (around the injection site)	P / F	P / F	P / F
h. Positioned the needle (bevel up) at approximately 90 degree angle to the skin surface. Plunged the needle firmly and quickly in the muscle to the depth of the needle and released firm tissue.	P / F	P / F	P / F
i. Aspirated syringe with hand used to firm tissue. If blood appeared, student withdrew needle and waits instruction from the instructor)	P / F	P / F	P / F
j. Injected medication into the injection site but pushing plunger (with non-dominant hand) using slow, continuous forward movement as far as plunger will go.	P / F	P / F	P / F
k. Placed an antiseptic pad just above the injection site with non-dominant hand and withdrew needle from the injection site with dominant hand with a quick movement at the same angle of insertion.	P / F	P / F	P / F
l. Massaged injection site with an antiseptic pad.	P / F	P / F	P / F
m. Placed an adhesive dressing over the site.	P / F	P / F	P / F
n. Disposed of equipment in designated area (needles in sharps container).	P / F	P / F	P / F
o. Verbalized recording injection administration and observed the patient for any reactions.	P / F	P / F	P / F

Instructor Comments:

Subcutaneous

Soldiers Name: _____ SSN: _____ CO: _____ TM: _____
Start: _____ Stop: _____ Initial Evaluator: _____
Start: _____ Stop: _____ Retest Evaluator: _____
Start: _____ Stop: _____ Final Evaluator: _____

	1st	2nd	3rd
a. Washed hand.	P / F	P / F	P / F
b. Gathered equipment.	P / F	P / F	P / F
c. Identified patient and asked about allergies/drug reaction and explained procedure.	P / F	P / F	P / F
d. Donned gloves.	P / F	P / F	P / F
e. Selected and prepped injection site. Cleaned in a circular motion outward to center.	P / F	P / F	P / F
f. Exposed needle without contaminating shaft and hub.	P / F	P / F	P / F
g. Gently pinched skin around injection site with non-dominant hand.	P / F	P / F	P / F
h. With dominant hand, inserted needle (bevel up) into injection site at approximately 45 degree angle. Inserted to depth of the needle and released pinched skin.	P / F	P / F	P / F
i. Aspirated syringe with hand used to firm tissue. If blood appeared, student withdrew needle and waits instruction from the instructor)	P / F	P / F	P / F
j. Injected medication into the injection site but pushing plunger (with non-dominant hand) using slow, continuous motion until all medication was expelled.	P / F	P / F	P / F
k. Placed an antiseptic pad just above the injection site with non-dominant hand and withdrew needle from the injection site with dominant hand with a quick movement at the same angle of insertion.	P / F	P / F	P / F
l. Placed an adhesive dressing over the injection site.	P / F	P / F	P / F
m. Disposed of equipment in designated area (needles in sharps container).	P / F	P / F	P / F
n. Verbalized recording injection administration and observed the patient for any reactions.	P / F	P / F	P / F

Instructor Comments:

Intradermal Injection

Soldiers Name: _____ SSN: _____ CO: _____ TM: _____
Start: _____ Stop: _____ Initial Evaluator: _____
Start: _____ Stop: _____ Retest Evaluator: _____
Start: _____ Stop: _____ Final Evaluator: _____

	1st	2nd	3rd
a. Washed hand.	P / F	P / F	P / F
b. Gathered equipment.	P / F	P / F	P / F
c. Identified patient and asked about allergies/drug reaction and explained procedure.	P / F	P / F	P / F
d. Donned gloves.	P / F	P / F	P / F
e. Selected and prepped injection site. Cleaned in a circular motion outward to center.	P / F	P / F	P / F
f. Exposed needle without contaminating shaft and hub.	P / F	P / F	P / F
g. Gently pinched skin around injection site with non-dominant hand.	P / F	P / F	P / F
h. With dominant hand, inserted needle (bevel up) into injection site at approximately 45 degree angle. Inserted to depth of the needle and released pinched skin.	P / F	P / F	P / F
i. Aspirated syringe with hand used to firm tissue. If blood appeared, student withdrew needle and waits instruction from the instructor)	P / F	P / F	P / F
j. Injected medication into the injection site but pushing plunger (with non-dominant hand) using slow, continuous motion until all medication was expelled.	P / F	P / F	P / F
k. Placed an antiseptic pad just above the injection site with non-dominant hand and withdrew needle from the injection site with dominant hand with a quick movement at the same angle of insertion.	P / F	P / F	P / F
l. Placed an adhesive dressing over the injection site.	P / F	P / F	P / F
m. Disposed of equipment in designated area (needles in sharps container).	P / F	P / F	P / F
n. Verbalized recording injection administration and observed the patient for any reactions.	P / F	P / F	P / F

Instructor Comments: