Space Shuttle Program
FLIGHT DATA FILE

JSC-48031

Medical Checklist

Mission Operations Directorate
Operations Division

Generic, Rev K
May 12, 2006

NOTE
For STS-121 and subsequent flights

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas

United Space Alliance

Verify this is the correct version for the pending operation (training, simulation or flight).
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MEDICAL CHECKLIST	GENERIC, REV K (May 12, 2006)

PCN-4 (Feb 10, 2008) Sheet 1 of 1

List of Implemented Change Requests (482s):

MED-330A
MED-331
MED-332

NOTE
For STS-123 and subsequent flights

Incorporate the following:

1. Replace iii thru vi
2. Replace 1-13 thru 1-16, 1-23 and 1-24, 1-29 thru 1-34, 1-37 and 1-38, 1-41 thru 1-44
3. Replace 2-3 and 2-4
4. Replace 3-3 and 3-4, 3-11 thru 3-14, 3-21 thru 3-24
5. Replace 4-11 and 4-12, 4-17 thru 4-20, 4-29 and 4-30, 4-39 thru 4-42
6. Replace 5-3 and 5-4, 5-9 thru 5-16, 5-23 thru 5-26
7. Replace 6-1 thru 6-12
8. Replace Section 8 (26 pages)

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Encl: 98 pages

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MEDICAL CHECKLIST	GENERIC, REV K (May 12, 2006)

PCN-3 (July 6, 2007) Sheet 1 of 1

List of Implemented Change Requests (482s):

MED-326
MED-327
MED-328
MED-329

NOTE
For STS-118 and subsequent flights

Incorporate the following:

1. Replace iii thru vi, ix thru xii
2. Replace Section 5 (26 pages)

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MEDICAL CHECKLIST	GENERIC, REV K (May 12, 2006)

PCN-2 (Feb 2, 2007) Sheet 1 of 1

List of Implemented Change Requests (482s):

MED-320
MED-321
MED-322
MED-323
MED-324

NOTE
For STS-117 and subsequent flights

Incorporate the following:

1. Replace iii thru viii
2. Replace 1-1 and 1-2, 1-7 and 1-8, 1-11 thru 1-20, 1-25 and 1-26, 1-31 and 1-32, 1-35 and 1-36, 1-39 and 1-40, 1-43 and 1-44
3. Replace 4-3 and 4-4
4. Replace 7-7 and 7-8
5. Replace 8-1 thru 8-4, 8-9 thru 8-12, 8-19 and 8-20, 8-23 and 8-24
6. Replace section 9 (8 pages)

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Encl: 54 pages

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MEDICAL CHECKLIST	GENERIC, REV K (May 12, 2006)

PCN-1 (Nov 10, 2006) Sheet 1 of 1

List of Implemented Change Requests (482s):

MED-317
MED-318
MED-319

NOTE
For STS-116 and subsequent flights

Incorporate the following:

1. Replace iii thru vi
2. Replace 1-7 and 1-8
3. Replace 2-3 and 2-4
4. Replace 3-3 and 3-4, 3-11 and 3-12
5. Replace 5-5 and 5-6
6. Replace 6-5 and 6-6, 6-11 and 6-12
7. Replace 8-5 thru 8-12, 8-15 and 8-16, 8-19 and 8-20

Prepared by: Jerry D. Toolard
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Encl: 30 pages

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JSC-48031

MISSION OPERATIONS DIRECTORATE

MEDICAL CHECKLIST

GENERIC, REVISION K
May 12, 2006

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Incorporates the following:		
482#:	MED-0304	MED-0313
	MED-0306A	MED-0314
	MED-0310	MED-0315
	MED-0311	MED-0316
	MED-0312	

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This Medical Checklist (Med C/L, JSC-48031) now supports all missions including Extended Duration Orbiter (EDO). The EDO Medical Checklist (EDO Med C/L, JSC-48092) information has been incorporated and is no longer printed separately.

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IMMEDIATE LIFE SUPPORT

BREATHING DIFFICULTY

If difficulty develops during eating and person can talk/cough/whisper:

1. No action but continue to monitor

If difficulty develops during eating and person unable to breathe:

2. Go to CHOKING, 1-4 >>

If difficulty develops after exposure to dust/chemicals and person has wheezing/shortness of breath:

3. Remove from exposure to chemical/irritant
4. Protect others from exposure
5. Contact Surgeon

Med Locker

6. Using stethoscope (Airway Subpack-9), listen to breath sounds for wheezing, crackles, or decreased breath sounds

If wheezing, crackles, or decreased breath sounds present:

7. *****<u>Proventil Inhaler (Drug Subpack-11)</u>
   Dose: 2 puffs initially. May repeat in 1-2 hr if necessary, then 2 puffs every 4 to 6 hr as needed for continued wheezing

8. Don QDM for 100% O2 until MCC Surgeon advises otherwise

CHOKING

OBSTRUCTED AIRWAY – CONSCIOUS ADULT

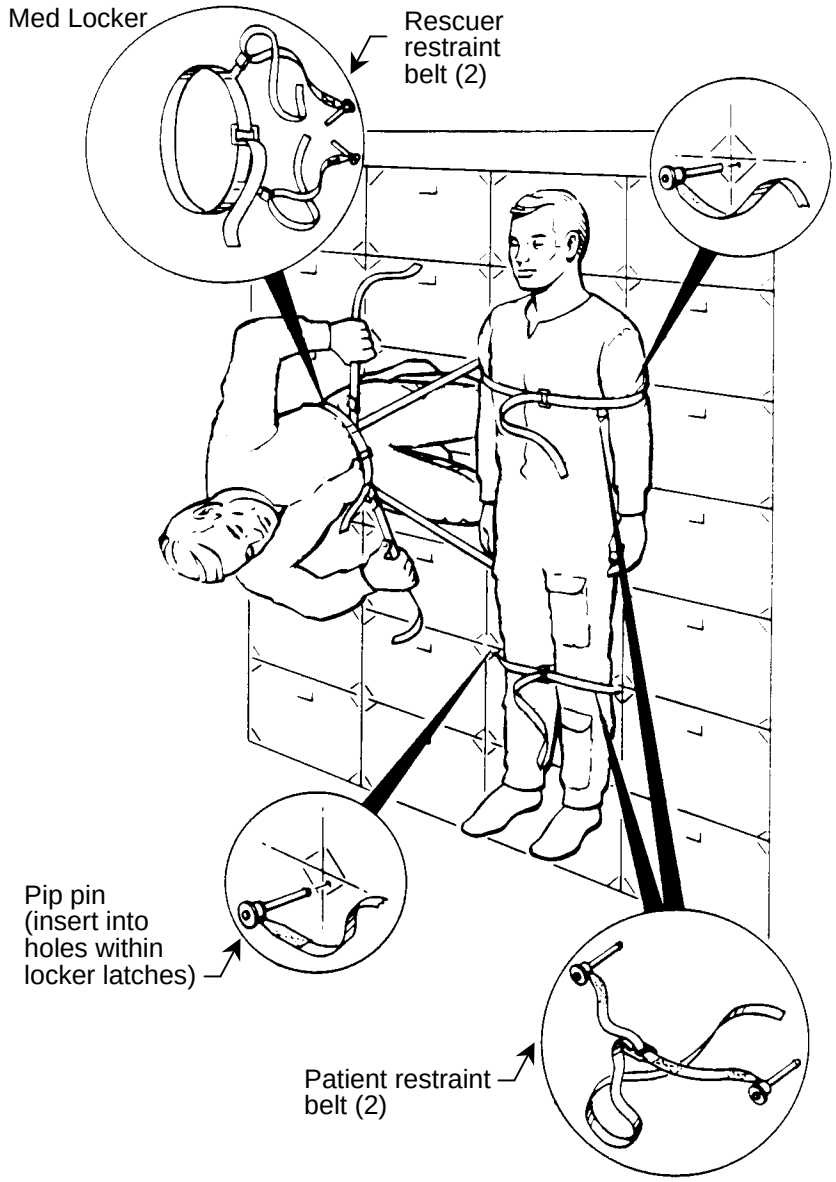
	Step Activity
	1. "Are you choking?" Victim may be using "Universal Distress Signal" of choking: clutching neck between thumb, index finger
 Abdominal Thrust	Perform Heimlich Maneuver: 2. Deliver 6-10 abdominal thrusts 3. Repeat thrusts until either foreign body expelled or victim becomes unconscious (see below)
Adult W/Obstructed Airway Becomes Unconscious	
	4. Perform finger sweep
	5. Open airway – head-tilt/chin lift Attempt to ventilate by mouth-to-mouth resuscitation – Two Breaths
	6. Perform 6-10 abdominal thrusts If unsuccessful: 7. Repeat steps 4-6 Two Times If unable to ventilate: 8. Go to CPR (CARDIOPULMONARY RESUSCITATION), 1-6; prepare for CRICOTHYROTOMY, 1-19

OBSTRUCTED AIRWAY – UNCONSCIOUS ADULT

	Step Activity
	1. Open airway – head-tilt/chin lift
	2. Attempt to ventilate/mouth-to-mouth 3. Airway remains obstructed, reattempt ventilation
	4. Perform 6-10 abdominal thrusts
	5. Perform finger sweep
	6. Attempt to ventilate If unsuccessful: 7. Repeat steps 4-6 Two Times If unable to ventilate: 8. Go to CPR (CARDIOPULMONARY RESUSCITATION), 1-6. For several failed attempts to intubate and unable to mask ventilate, contact Surgeon for possible cricothyrotomy (CRICOTHYROTOMY, 1-19)

CPR (CARDIOPULMONARY RESUSCITATION)

PATIENT RESTRAINT



NOTE

A second rescuer restraint belt may be used to position an additional rescuer to assist w/CPR

Figure 1-1.- Restraints.

CPR (CARDIOPULMONARY RESUSCITATION) (Cont)

	Step Activity
	1. Open airway Look, feel, listen 2. If blockage suspected, refer to CHOKING; OBSTRUCTED AIRWAY, 1-4 3. If not breathing, insert oral airway (see 1-11)
 	4. Unstow AMBU Bag and follow AMBU Bag reference card procedures 5. Ventilate twice per AMBU Bag reference card procedure, or perform mouth-to-mouth resuscitation 6. Observe chest rise
	7. Check for circulation by feeling for carotid pulse
 	Begin compression/ventilation cycles: 8. 30 compressions/2 ventilations for one (1) person CPR 9. 30 compressions/2 ventilations for two (2) person CPR 10. Rate of compression is 80-100 per min 11. Feel for pulse after 1 min, then every 2 min 12. Contact Surgeon

CARDIAC MONITORING

Donning

1. Unstow Operational Bioinstrumentation System (OBS) (see fig 1-2):

Med Locker

OBS Belt w/Signal Conditioner
Sternal Harness
IVA Cable
Biomed Cable, if needed
Electrode Attachment Kit
Alcohol Pads (**Electrode Attachment Kit**, Airway Subpack-10, IV Admin-18, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)

OBS, EAK, Biomed Cable

Figure 1-2.- Medical locker.

2. Swab electrode sites w/Alcohol Pads; let dry
3. Connect: IVA Cable to side of Signal Conditioner, silver end of Sternal Harness to top of Signal Conditioner (see fig 1-3)
4. Don OBS Belt w/Signal Conditioner
5. Apply small amount of electrode gel to electrodes
6. Remove stomaseal protective coverings from electrodes
7. Attach electrodes to chest; secure w/tape

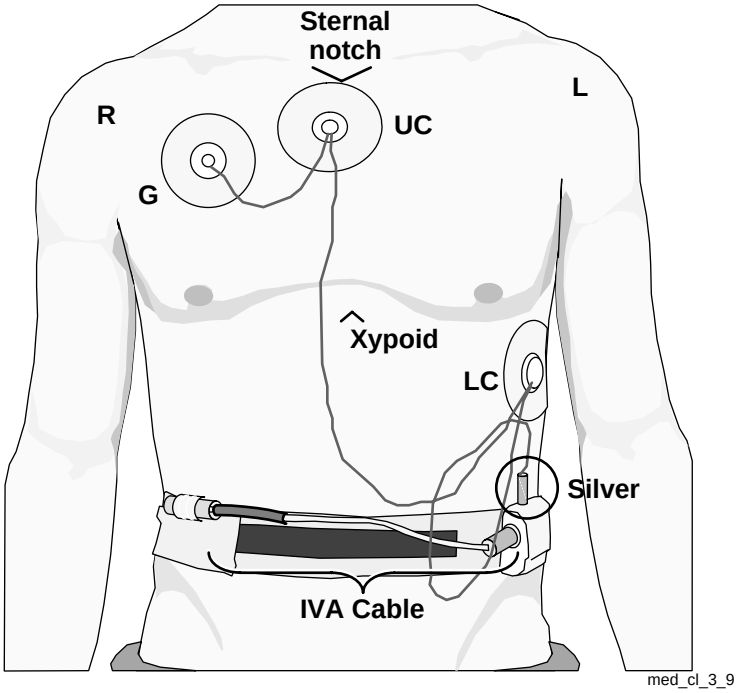


Figure 1-3.- Electrodes.

Operation

R10 BIOMED CH 1(2):

1. PS (for CDR, MS2 seats; connect Biomed Cable to A15)
2. MS (for PLT, MS1 seats; connect Biomed Cable to A11)
3. MIDDECK L (for middeck port seat S7; connect Biomed Cable to MO62M; LEFT)
4. MIDDECK CTR (for middeck center seat S5; connect Biomed Cable to MO62M; CENTER)
5. MIDDECK R (for middeck stbd seat S6; connect Biomed Cable to MO62M; RIGHT)

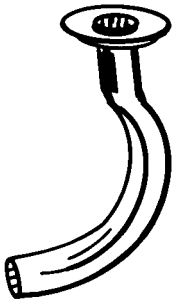
6. Connect IVA Cable to Biomed Cable

Doffing and Stowage

1. Remove electrodes, doff belt, discard stomaseals (3)
2. Disconnect IVA Cable from Signal Conditioner, Biomed Cable
3. Using Alcohol Pads, clean electrodes, air dry, or wipe dry
4. Apply new stomaseals to electrodes (3)
5. Stow OBS:

Med Locker
- OBS Belt w/Signal Conditioner
- Sternal Harness
- IVA Cable
- Biomed Cable
- Electrode Attachment Kit

ORAL AIRWAY



Oral Airway (Airway Subpack-3)

1. Insert oral airway while pointing it toward head (as shown)

2. Rotate oral airway 180 deg so it points toward feet

3. Final position

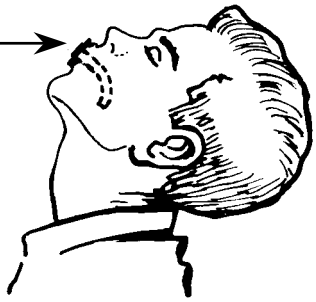


Figure 1-4.- Oral airway insertion
(for unconscious, breathing patient).

OXYGEN – SUPPLEMENTAL

* Use Quick Don Mask (QDM) for oxygen *
* delivery to crewmember who is awake, *
* breathing but needs protection of airway *
* from toxins, smoke, or DCS (bends) *

NOTE

Use AMBU Bag for unconscious patient

INTUBATION (ILMA)

See cover of Airway Subpack or AMBU Bag reference card

AMBU BAG

See inside cover of Medical Accessory Kit or AMBU Bag reference card

INTUBATION, ENDOTRACHEAL

Indications: Inability of rescuer to ventilate patient who is not breathing w/conventional methods (mouth-to-mouth, mouth-to-mask); inability of patient to protect her(his) own airway (coma, loss of gag reflex, or cardiac arrest); need for prolonged artificial ventilation

1. Unstow:

Med Locker	Tracheal Tube	(Airway Subpack-20)
	Stylet	(Airway Subpack-6)
	Syringe (10 cc)	(**Airway Subpack-15**, Trauma Subpack-22, EENT Subpack-20)
	Lubricant (water-soluble)	(**Airway Subpack-13**, Trauma Subpack-9)
	Laryngoscope Handle w/med Blade	(Airway Subpack-5)
	End-Tidal CO2 Detector	(Airway Subpack-7)
	Toomey Syringe suction device	(Airway Subpack-4)
	Ziplock Bag (12 in X 12 in)	(**Airway Subpack-4**, IV Admin-1, CCK)
	Stethoscope	(Airway Subpack-12)
	AMBU Bag	
	Restraints: Patient	
Misc Stowage	Gray Tape	
	Towels	

Contact Surgeon while proceeding w/following:

2. Restrain crewmember w/CPR patient restraints (see fig 1-5, Restraints)

> CAUTION
> If any suspicion of neck trauma, crew-member's head will require continuous immobilization. One crewmember should use both hands to stabilize patient's head. Continue with step 5

3. If no neck trauma suspected, place rolled towel(s) under crewmember's hyperextended neck

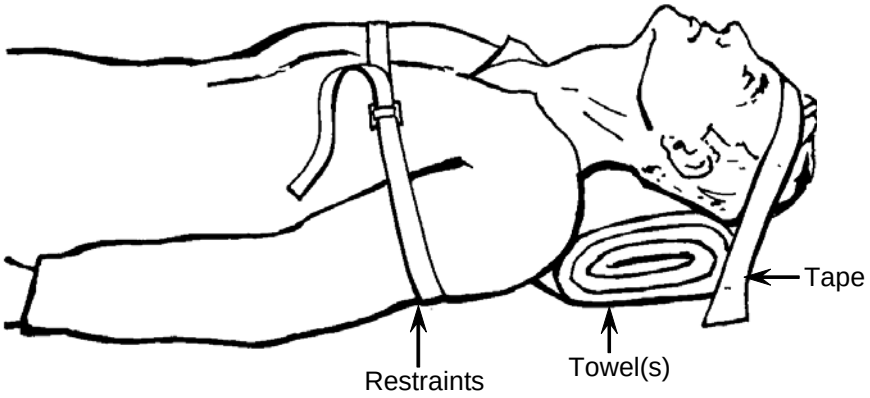


Figure 1-5.- Patient restrained.

4. Place Gray Tape over crewmember's forehead to immobilize head against middeck locker
5. Continue to ventilate/oxygenate patient (see AMBU BAG. See inside cover of Medical Accessory Kit or AMBU Bag reference card) while preparing for intubation
6. Remove Tracheal Tube from pkg; leave stylet in place and unfold tube; lubricate cuffed end of Tracheal Tube w/water soluble lubricant

7. Firmly insert syringe, filled w/6-mL air, into one-way valve/pilot balloon on Tracheal Tube; leave connected
8. Do not inflate balloon

Assemble, if necessary:

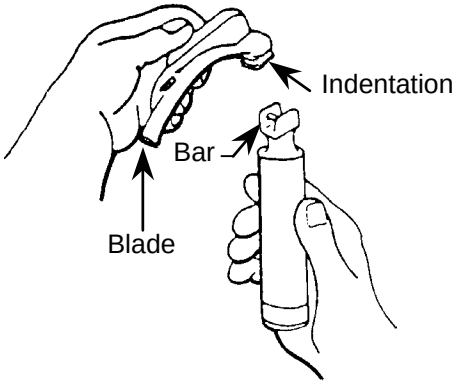


Figure 1-6.- Laryngoscope.

9. Extend Laryngoscope blade to 90 deg position
√Laryngoscope light
10. Open mouth w/fingers of right hand

WARNING Avoid pressure on lips, teeth

11. Suction fluid from mouth,throat w/Toomey Syringe suction device; discharge syringe into Ziplock Bag or towel
12. Hold Laryngoscope in left hand
Insert blade in right side of mouth displacing tongue to left

13. Advance blade into space between base of tongue, epiglottis (vallecula)

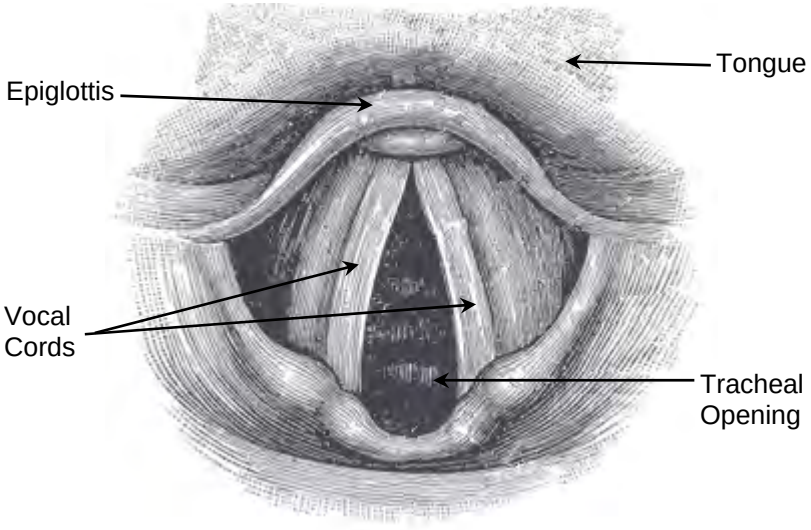


Figure 1-7.- Vocal cord anatomy.

14. Lift tongue w/Laryngoscope blade tip to expose vocal cords

```
* If unable to see vocal cords due to fluid,  *
*   remove laryngoscope then use Toomey       *
*   Syringe suction device (Airway            *
*   Subpack-4) to remove fluid.   Ventilate   *
*   patient w/AMBU Bag for another 1-2        *
*   minutes (about once every 3-4 sec)        *
*   before again attempting intubation.       *
*   Re-insert Laryngoscope and again          *
*   attempt intubation                        *
```

Whenever needed:

15. Suction fluid from back of throat w/Toomey Syringe suction device; discharge syringe into Ziplock Bag or towel

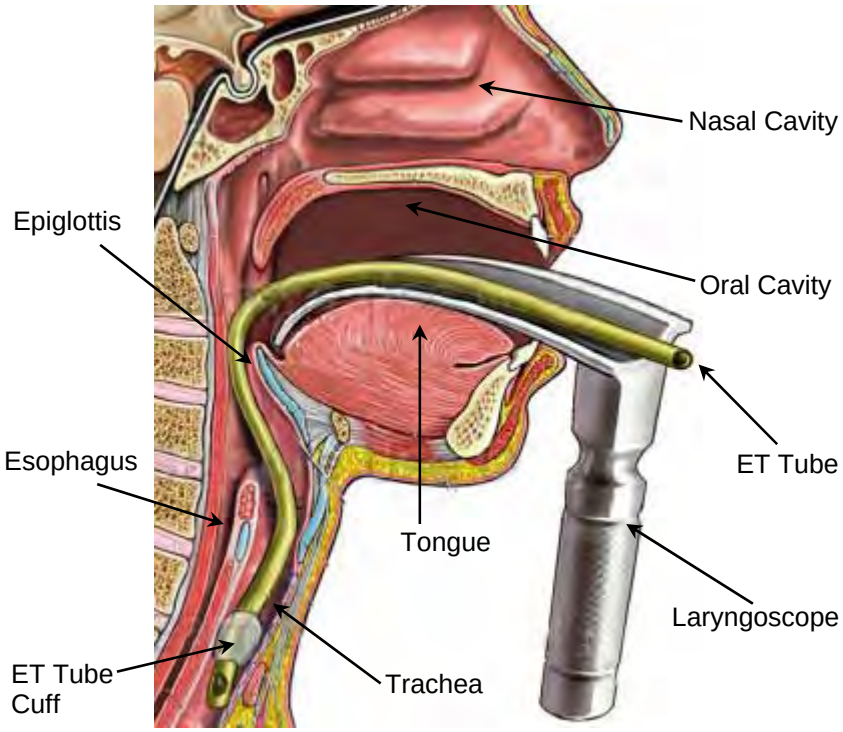


Figure 1-8.- Upper airway anatomy.

16. While watching, advance cuffed end of Tracheal Tube along right side of mouth into trachea until entire cuff is about 1 cm below vocal cords

> WARNING
> Hold Tracheal Tube FIRMLY in place, until proper placement confirmed, tube secured

17. Inflate Tracheal Tube cuff w/air (8-10 mL) from syringe. Remove syringe, remove stylet from tube
18. Remove mask from AMBU Bag
19. Connect AMBU Bag to Tracheal Tube

Ventilate/oxygenate lungs:

20. Squeeze AMBU Bag until chest rises (no more than 1-2 sec)
21. Release AMBU Bag to allow passive exhalation
22. Repeat every 4-5 sec

WARNING Do not interrupt ventilation for > 15 sec

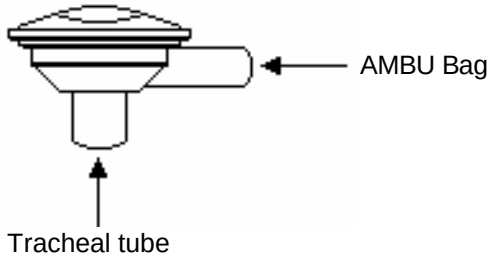


Figure 1-9.- CO2 detector.

23. Connect End-Tidal CO2 Detector between Tracheal Tube and AMBU Bag

24. √End-Tidal CO2 Detector color changes from purple to yellow w/each breath

    * If no color change, deflate cuff w/syringe; *
    * remove tube. Ventilate/oxygenate *
    * w/AMBU Bag/mask for 1-2 minutes. *
    * Reattempt intubation from step 5 *

25. If reqd, continue ventilation
26. W/stethoscope, listen to chest for equal breath sounds on both sides

If breath sounds not equal:

27. Withdraw 0.5 in; recheck breath sounds

28. If reqd, continue ventilation
29. Secure tube to face using Tape

30. Unstow:
    Blood Pressure Cuff (IV Admin-1)
    Thermometer (EENT Subpack-3)

31. Obtain vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

32. Apply ECG electrodes (see CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, 1-8)
33. Continue resuscitation as indicated

Reference Card 1 2

Ambu Bag (Bag-Valve-Mask) Reference Card

1. Unstow Ambu Bag (Bag-Valve-Mask)
2. Attach Mask to Ambu Bag
3. Firmly place Ambu Mask on mouth and nose, ensuring good seal (Refer to diagram for placement)
4. Squeeze Ambu Bag (two hands may be required) until chest rises. Allow passive exhalation
5. Repeat every 5 seconds until breathing resumes

Placement Diagram

Figure 1-9a.- AMBU Bag (Bag-Valve-Mask) Reference Card

CRICOTHYROTOMY

(for victim w/obstructed airway or failed intubation attempts)

Indications: Obstruction of upper airway that cannot be cleared by CPR techniques; inability to obtain/maintain open airway w/tracheal intubation

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

1. Unstow:

Med Locker	End-Tidal CO2 Detector	(Airway Subpack-7)
	Alcohol Pads	(**Airway Subpack-10**, IV Admin-18, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
	^Povidone-Iodine Swab	(Airway Subpack-10)
	Gauze Pads (sterile)	(Airway Subpack-11)
	Toomey Syringe suction device	(Airway Subpack-4)
	Tape	(**Airway Subpack-9,** IV Admin-13, Trauma Subpack-34, EENT Subpack-9)
	Gloves	(**Airway Subpack-8,** IV Admin-14, CCK, EENT Subpack-7)
	Lubricant (water-soluble)	(**Airway Subpack-13**, Trauma Subpack-9)
	Tracheostomy Items:	
	Alcohol Pads	(Airway Subpack-10)
	Scissors, Straight	(Airway Subpack-2)
	Forceps, Curved	(Airway Subpack-19)
	Tracheal Hook	(Airway Subpack-2)
	Silk Sutures (2-3)	(Airway Subpack-11)
	Tracheostomy Tube	(Airway Subpack-1)
	Tracheostomy Tube holder	(Airway Subpack-1)
	Scalpel	(Airway Subpack-2)
	Stethoscope	(Airway Subpack-12)
	AMBU Bag	
	Restraints:	
	Patient (2 belts)	
	Rescuer (2 belts, if needed)	
Misc Stowage	Gray Tape	
	Towels	

Contact Surgeon while proceeding w/following:

2. Restrain crewmember w/CPR patient restraints (fig 1-10)

CAUTION
If any suspicion of neck trauma, crew-member's head will require continuous immobilization. One crewmember should use both hands to stabilize patient's head. Continue with step 5

3. If no neck trauma suspected, position the patient: Flex the neck and extend the chin
4. Place Gray Tape over crewmember's forehead to immobilize head against middeck locker

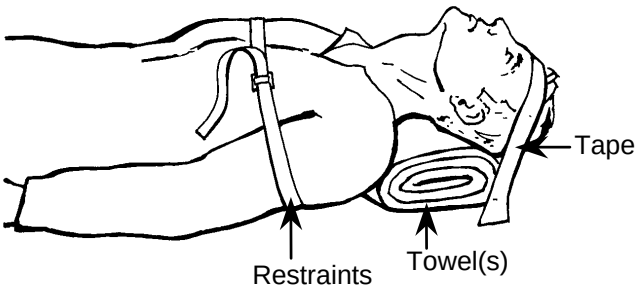


Figure 1-10.- Patient restrained.

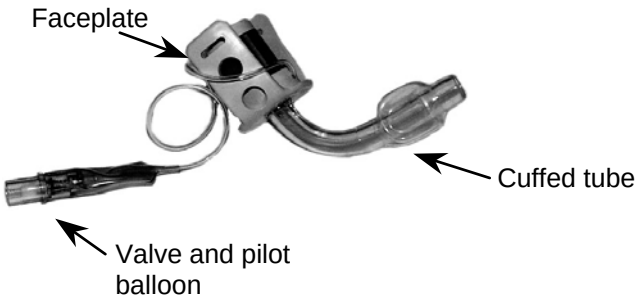


Figure 1-11.- Tracheostomy tube.

5. Lubricate cuffed Tracheostomy Tube w/water-soluble lubricant

Locate Cricothyroid membrane (fig 1-12):

6. Don Gloves. Use index finger to locate Adam's Apple (thyroid cartilage)
7. Slide down, feel for next ridge (cricoid cartilage)

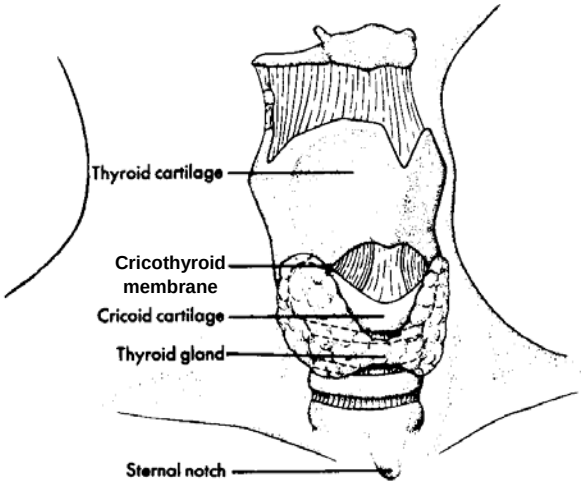


Figure 1-12.- Airway anatomy.

8. Feel for small triangular soft spot above this ridge. This is the Cricothyroid membrane

9. Cleanse neck w/^Povidone-Iodine Swab. Cleanse neck w/Alcohol Pads

10. If right-handed, grasp trachea w/left hand and hold between middle finger and thumb until procedure is finished (see figure 1-13). Use Scalpel to make 1-cm long midline vertical incision in skin over Cricothyroid membrane

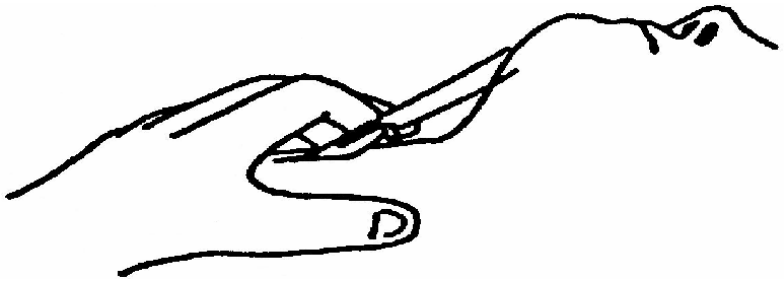


Figure 1-13.- Trachea restraint.

11. Insert left index finger and feel cricoid cartilage and larynx
12. Insert sharp end of Tracheal Hook into Cricothyroid membrane (fig 1-15). Use blunt end to elevate and retract trachea. The trachea should become superficial

Figure 1-14.- Tracheal hook.

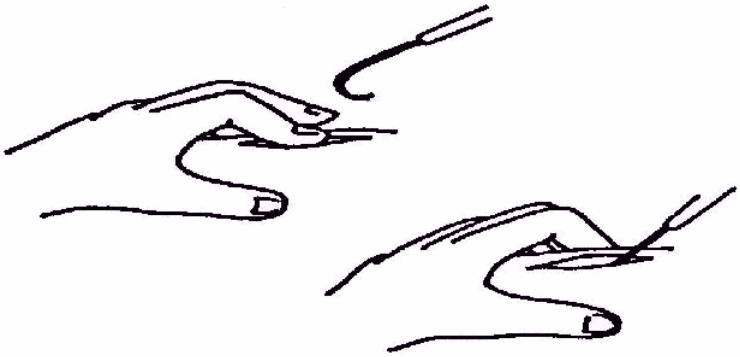


Figure 1-15.- Tracheal hook insertion.

13. Place blade of Scalpel next to Tracheal Hook. Make 1-cm long horizontal incision into membrane. Air should bubble out of trachea (see figure 1-16)

> WARNING
> Briskly bleeding blood vessels may be clamped w/forceps

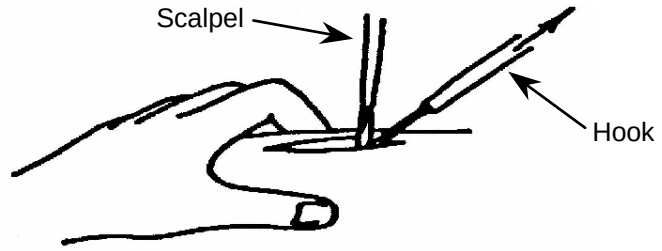


Figure 1-16.- Incision placement.

14. Enlarge incision opening by spreading the Straight Scissors or Curved Forceps

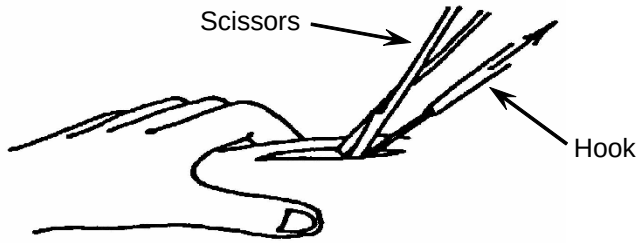


Figure 1-17.- Opening enlargement.

15. Insert Tracheostomy Tube sideways until tip is in trachea
16. Turn tube so that it moves down the trachea toward the feet
17. To advance tube into trachea, gently push until faceplate rests against skin

18. Leave tube in position in trachea
    Remove dilator (fig 1-18)

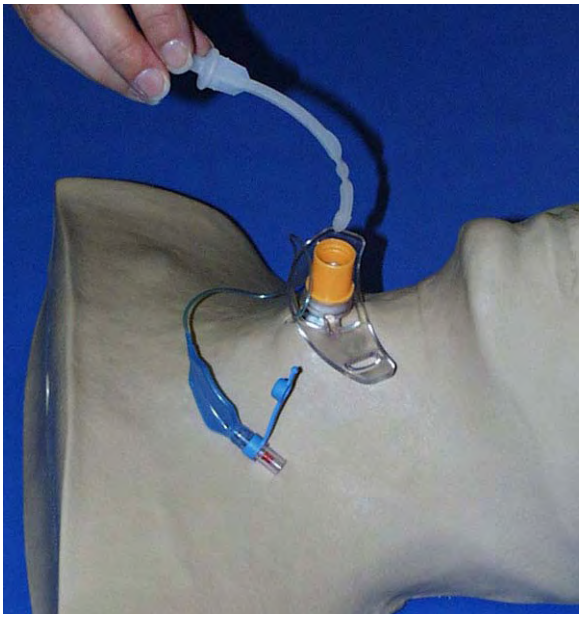


Figure 1-18.- Removal of dilator.

19. Do not let go of Tracheostomy Tube until it is securely tied around patient's neck (fig 1-19)

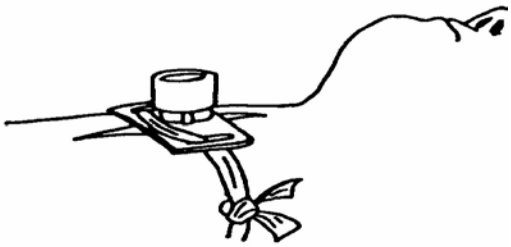


Figure 1-19.- Tracheostomy tube secure position.

20. Fill syringe w/3-mL air and connect to one-way valve/pilot balloon on Tracheostomy Tube. Inflate the cuff balloon

WARNING
Do not remove hook until cricothyrotomy airway is functioning well

21. Remove mask from AMBU Bag. Connect AMBU Bag directly to end of the Tracheostomy Tube
22. Check for proper tube placement by ventilating the lungs. Squeeze AMBU Bag for 1-2 sec, and release. Look for the symmetric rise and fall of the chest
23. Once proper tube placement has been verified, connect End-Tidal CO2 Detector between Tracheostomy Tube and AMBU BAG (fig 1-20)

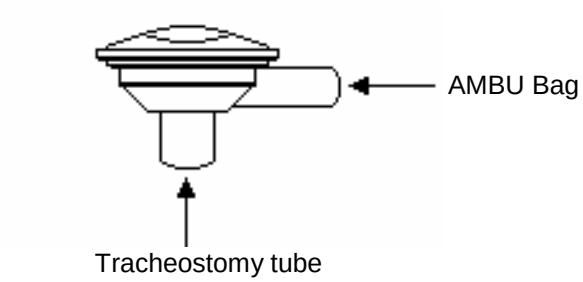


Figure 1-20.- CO2 detector.

NOTE
End-Tidal CO2 Detector color changes from purple to yellow w/each breath. No color change may indicate improper placement of the tube

WARNING
If no color change, verify chest movement w/respirations. If no chest movement, contact surgeon IMMEDIATELY (if surgeon directs removal of tube, deflate cuff)

24. Manually ventilate crewmember with AMBU Bag for 1-2 sec and then releasing to allow passive exhalation. Repeat every 4-5 sec

NOTE

If vomiting occurs, clear mouth w/Toomey Syringe suction device. Expel vomitus into Ziplock Bag

25. W/stethoscope, listen to chest for equal breath sounds on both sides

26. Continue ventilation; ensure tube securely in place

27. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Thermometer	(EENT Subpack-3)

28. Obtain vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

29. Continue resuscitation as indicated. Apply ECG electrodes (see fig 1-2, Electrodes, 1-8)

OTHER EMERGENCIES

ABDOMINAL INJURY

```
* If no pulse or respiration, perform *
*   CPR using patient/rescuer         *
*   restraints (see CPR               *
*   (CARDIOPULMONARY                  *
*   RESUSCITATION), 1-6)              *
*                                     *
* If inadequate respiration, provide  *
*   supplemental O2 (see CPR          *
*   (CARDIOPULMONARY                  *
*   RESUSCITATION), OXYGEN –          *
*   SUPPLEMENTAL, 1-12)               *
```

1. Control bleeding w/direct pressure, Gauze Pads (Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)

2. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

3. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

4. Bandage with:

Kling	(Trauma Subpack-12)
Kerlix	(Trauma Subpack-2)
Tape	(**Trauma Subpack-34**, IV Admin-13, Airway Subpack-9, EENT Subpack-9)

WARNING
Do not replace protruding intestines

If intestines protruding:

5. Cover w/Kerlix, tape in place, moisten w/Saline (IV Admin-1, Saline Supply Bag, Middeck Locker, EENT Subpack-1), bandage

WARNING
Any abdominal trauma may cause internal bleeding which can produce abdominal rigidity. Continue to monitor vital signs, assess for developing shock (refer to SHOCK, 1-44) or abdominal rigidity

6. Perform abdominal exam

Visual inspection (bruises, swelling): _____

Bowel sounds (type, frequency): _____

Palpation (rigid, pain): _____

If vomiting:

7. Inspect for blood (black/red coffee grounds); keep airway clear

8. Contact Surgeon

9. Start I.V. line (see INJECTIONS, INTRAVENOUS (I.V.), Intravenous Fluid Infusion w/Y-Type Catheter Extension and Administration Set, 4-11)

ALLERGIC REACTION

SEVERE REACTION

NOTE
Institute rapid treatment if pallor, sweating, or breathing difficulty occur

Symptoms: Difficulty breathing

Signs: Pallor, sweating, difficulty breathing, low blood pressure, rapid pulse, wheezing

WARNING
Symptoms may follow exposure to any substance to which an individual has become allergic, including substances to which he has never had previous reaction. Severe reaction w/development of shock possible (see SHOCK, 1-44)

1. Provide supplemental O2 (see CPR (CARDIOPULMONARY RESUSCITATION), OXYGEN – SUPPLEMENTAL, 1-12)

2. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Epi Pen Injector	(Drug Subpack-9)

3. Remove Epi Pen from plastic yellow vial. Remove gray safety cap and discard cap in trash. Simultaneously provide O2

4. Place black tip on outer thigh

NOTE
Do not put thumb over end of unit. Epi Pen may NOT be used through clothing

5. Using quick motion, press firmly and hold in place for 10 sec

6. Remove Epi Pen injector from patient and restow used unit, needle end first, into plastic yellow vial. Place white cap back on yellow vial and mark as "USED"

7. Restow yellow vial in Drug Subpack-9

8. Monitor pulse, respiration, blood pressure

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____

9. Contact Surgeon

10. While waiting for Epinephrine to take effect, unstow Tubex Injector (Drug Subpack-19) and Injectable Epinephrine (Drug Subpack-5) and temp stow. If time allows, review INJECTIONS, TUBEX INJECTOR TECHNIQUE (4-28) and SUBCUTANEOUS (4-26)

11. If no improvement in breathing or blood pressure has occurred within 5 min from first injection, give additional Epinephrine as follows: Load Tubex Injector w/injectable medication (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28)
    *****<u>Epinephrine (Drug Subpack-5)</u>
    Dose: Inject 0.3 to 0.5-mL subcutaneously (see INJECTIONS, SUBCUTANEOUS, 4-26)

12. Reload Tubex Injector w/injectable medication:
    *****<u>Benadryl (Injectable) (Drug Subpack-13)</u>
    (see general WARNING, 6-2)
    Dose: Inject 1 ampule intramuscularly (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28 and INTRAMUSCULAR, 4-24)

13. Reload Tubex Injector w/injectable medication:
    *****Dexamethasone (Drug Subpack-28)
    Dose: Inject 1 mL (10 mg/mL) intramuscularly (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28 and INTRAMUSCULAR, 4-24)

14. If blood pressure and pulse are stable and wheezing persists, use *****Proventil Inhaler (Drug Subpack-11). Inhaler should be discharged (puffed) during inhalation

NOTE

Shake inhaler gently back and forth a few times

Before putting inhaler into mouth, take one deep breath and exhale normally. Next, slowly take another deep breath and, about halfway into this, seal mouth around Inhaler Tube and squeeze to discharge while inhaling. At this point, hold the breath for several seconds, then exhale normally. Repeat for the second puff

Dose: 2 puffs initially. May repeat in 1 hr, then 2 puffs every 4 hr

Possible side effects: Tremor, palpitations, fast heart rate, nausea, increased blood pressure

BURNS – MAJOR

NOTE

Electrical burns may cause severe internal injury in spite of minimal skin damage. May also produce irregular heart rhythm including cardiac arrest

```
*  If unable to detect pulse and/or      *
*    respiration, perform CPR using      *
*    patient/rescuer restraints (see CPR *
*    (CARDIOPULMONARY                    *
*    RESUSCITATION), 1-6)                *
*                                        *
*  If unconscious and patient cannot     *
*    maintain airway, insert oral airway *
*    (see CPR (CARDIOPULMONARY           *
*    RESUSCITATION), ORAL AIRWAY,        *
*    1-11, or INTUBATION,                *
*    ENDOTRACHEAL, 1-12) and provide     *
*    manual ventilation using AMBU Bag   *
*    (see inside cover of Medical        *
*    Accessory Kit or AMBU Bag reference *
*    card)                               *
*                                        *
*  If conscious, provide supplemental O2 *
*    with QDM                            *
```

1. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

2. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

3. Estimate degree of burn:
   First degree – superficial reddening of skin, pain (like a sunburn)
   Second degree – blisters, red skin, swelling, pain
   Third degree – pain often minimal, skin may appear white, charred, may resemble second degree burn

   NOTE
   Area of palm of hand equals approx 1% (for estimation)

4. Estimate area of burn:

Head	– 9%
Chest, Abdomen	– 18%
Back	– 18%
Arms (each)	– 9%
Legs (each)	– 18%

5. Contact Surgeon for further treatment options. Those options may include the following steps

   WARNING
   ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

6. Apply thin layer of ^Silvadene Cream (Trauma Subpack-20) to burn using tongue depressor (EENT Subpack-34)

7. Unstow:

Med Locker	Sterile Drapes	(Trauma Subpack-24)
	Saline	(**Saline Supply Bag**, EENT Subpack-1, IV Admin-1, Middeck Locker)
	Kling	(Trauma Subpack-12)
	Tape	(**Trauma Subpack-34**, IV Admin-13, Airway Subpack-9, EENT Subpack-9)
Misc Stowage	Towel	

8. Cover burn w/clean Sterile Drapes moistened w/Saline

9. Wrap area loosely w/Kling bandage and tape

NOTE

Will need to give a volume of I.V. fluids equal to 2mL/kg/% surface area of burn (if second or third degree) over 8-hr period

10. Increase fluid intake. Consult Surgeon whether to establish I.V. or not (see INJECTIONS, INTRAVENOUS (I.V.), 4-11)

11. For pain relief, see PAIN RELIEF, 5-3

CHEST INJURY

```
* If no pulse or respiration, perform CPR *
*   using patient/rescuer restraints (see *
*   CPR (CARDIOPULMONARY                  *
*   RESUSCITATION), 1-6)                  *
*                                         *
* If unconscious and patient cannot       *
*   maintain airway, insert oral airway   *
*   (see CPR (CARDIOPULMONARY             *
*   RESUSCITATION) ORAL AIRWAY,           *
*   1-11, or INTUBATION,                  *
*   ENDOTRACHEAL, 1-12); provide          *
*   manual ventilation using AMBU Bag     *
*   (see inside cover of Medical          *
*   Accessory Kit or AMBU Bag reference   *
*   card)                                 *
*                                         *
* If conscious, provide supplemental O2   *
*   with QDM                              *
```

1. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

2. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

WARNING
Do not remove an impaled object from chest. Bandage around object using Xeroform gauze (Trauma Subpack-11)

3. Cover any puncture wound to chest w/Xeroform Gauze (Trauma Subpack-11)
4. Control bleeding, provide airtight bandage w/following:

Gauze Pads	(**Trauma Subpack-14**, IV Admin-14, Airway Subpack-11, EENT Subpack-2)
Kling	(Trauma Subpack-12)
Kerlix	(Trauma Subpack-2)
Ace Bandages	(Trauma Subpack-3,13)
Telfa Pads	(EENT Subpack-22)

5. Use stethoscope (Airway Subpack-12) to listen to lungs. Note absence or decrease in breath sounds (may indicate lung collapse)
6. Contact Surgeon

CHEST PAIN

```
*  If no pulse or respiration, perform CPR  *
*    using patient/rescuer restraints (see  *
*    CPR (CARDIOPULMONARY                   *
*    RESUSCITATION)), 1-6)                  *
*                                           *
*  If unconscious and patient cannot        *
*    maintain airway, insert oral airway    *
*    (see CPR (CARDIOPULMONARY              *
*    RESUSCITATION), ORAL AIRWAY,           *
*    1-11, or INTUBATION,                   *
*    ENDOTRACHEAL, 1-12); provide           *
*    manual ventilation using AMBU Bag      *
*    (see inside cover of Medical           *
*    Accessory Kit or AMBU Bag reference    *
*    card)                                  *
*                                           *
*  If conscious, provide supplemental O2    *
*    with QDM                               *
```

1. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

2. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

3. Chest Examination

Heart Sounds:

Regular/Irregular	_____	_____	_____

Breath Sounds:

Increased	_____	_____	_____
Decreased	_____	_____	_____
Absent	_____	_____	_____
Crackles	_____	_____	_____
Wheezes	_____	_____	_____
Chest Wall Motion symmetrical/ asymmetrical	_____	_____	_____
Skin Color (bluish, grayish, pale)	_____	_____	_____

4. Attach ECG leads (see CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, 1-8)
5. Aspirin (Drug Subpack-Spine)
   (see WARNING, 6-3)
   Dose: 1 tab

6. Contact Surgeon

EYE – PENETRATING OBJECT

> WARNING
> Do not remove object penetrating eyeball. Do not remove any tissue extruding from eyeball

1. Unstow:

Med Locker	Eye Pads (2)	(EENT Subpack-4)
	Eye Shield	(EENT Subpack-4)
	Tape	(**Trauma Subpack-34**, IV Admin-13, Airway Subpack-9, EENT Subpack-9)

2. Place single eye patch lightly over injured eye w/eyelid closed, if possible. Tape metal Eye Shield over eye patch
3. Close unaffected eye w/eye patch also. Tape in place firmly enough so that patient cannot blink
4. Contact Surgeon

HEAD OR NECK INJURY

> WARNING
> W/trauma to neck, possibility of fracture and/or spinal cord damage must be considered. Never move victim's neck

```
* If no pulse or respiration, perform CPR *
*   using patient/rescuer restraints (see *
*   CPR (CARDIOPULMONARY                  *
*   RESUSCITATION), 1-6)                  *
*                                         *
* If unconscious and patient cannot       *
*   maintain airway, insert oral airway   *
*   (see CPR (CARDIOPULMONARY             *
*   RESUSCITATION), ORAL AIRWAY,          *
*   1-11, or INTUBATION,                  *
*   ENDOTRACHEAL, 1-12); provide          *
*   manual ventilation using AMBU Bag     *
*   (see inside cover of Medical          *
*   Accessory Kit or AMBU Bag reference   *
*   card)                                 *
*                                         *
* If conscious, provide supplemental O2   *
*   with QDM                              *
```

1. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

2. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

3. If bleeding, control w/pressure, Gauze Pads (IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2) or Telfa Pads (EENT Subpack-22)

4. Bandage with:

Kling	(Trauma Subpack-12)
Kerlix	(Trauma Subpack-2)
Ace Bandages	(Trauma Subpack-3,13)

If neck injury suspected:

5. Immobilize head, neck using:

Med Locker	Kling	(Trauma Subpack-12)
	Kerlix	(Trauma Subpack-2)
	Ace Bandages	(Trauma Subpack-3,13)
Misc Stowage	Gray Tape	
	Towels	

6. Quantify level of consciousness:

Eye Opening (E)	Verbal Response (V)	Motor Response (M)
4 = Spontaneous	5 = Normal conversation	6 = Normal
3 = To voice	4 = Disoriented conversation	5 = Localizes to pain
2 = To pain	3 = Words, but not coherent	4 = Withdraws to pain
1 = None	2 = No words, only sounds	3 = Elbows flexed (Decorticate posture)
	1 = None	2 = Elbows extended (Decerebrate posture)
		1 = None
		Total = E + V + M

Record Total (E + V + M) every 15 min if total less than 15:

MET: _____ _____ _____ _____ _____ _____
Total: _____ _____ _____ _____ _____ _____

7. Examine eyes

Pupil size:

Pinpoint _____ Normal _____ Dilated _____

Difference in pupil size:

R > L _____ R = L _____ R < L _____

Med Locker

Reaction to light (Otoscope, head removed, EENT Subpack-32):

Present _____ Absent _____

8. Examine ears w/Otoscope, nose for blood or clear fluid
9. Contact Surgeon
10. Watch for vomiting; keep airway clear

SEIZURES

Med Locker 1. *Valium Injection (Drug Subpack-22)
Dose: 2-mL intramuscularly ASAP

* If patient conscious, provide supplemental *
* O2 (see CPR (CARDIOPULMONARY *
* RESUSCITATION), OXYGEN – *
* SUPPLEMENTAL, 1-12) *

2. Determine whether to give the injection in the thigh or buttocks. The outer middle of the thigh is the preferred injection site

> WARNING
> If patient has a thin lateral thigh muscle, injection must be administered in the upper outer quadrant of the buttocks

3. Carefully pull the tubex straight out from the injection site. Massage the injection site if time permits

> WARNING
> DO NOT inject into areas close to the hip, knee, or thigh bone. For buttocks injections, inject the Valium only into the upper outer portion of the buttocks

> WARNING
> DO NOT use a jabbing motion when injecting. It may result in injury to the crewmember

Med Locker 4. If seizure is continuing 5 min after first Valium injection, give additional Valium as follows:
*Valium (Injectable) (Drug Subpack-22)
Dose: SLOWLY 2 mL intravenously (over 1-2 min) (see INJECTIONS, PREFILLED SYRINGE TECHNIQUE, 4-27, and Medication Administration thru Y-Type Catheter Extension Set, 4-18)

5. Unstow patient/rescuer restraints (Med Locker)
6. Secure patient to middeck lockers w/restraints (see CPR (CARDIOPULMONARY RESUSCITATION), 1-6)
7. Start I.V. (see INJECTIONS, INTRAVENOUS (I.V.), 4-11)
8. Contact Surgeon
9. If seizure stops, it can recur. Have *****Valium Injection (Drug Subpack-22) ready
10. Attach ECG leads (see CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, 1-8)

SHOCK

NOTE

Most critical step is identifying/treating underlying cause.

Basic causes of shock are:

- Heart damage
- Loss of circulating blood volume (bleeding, burns, dehydration)
- Blood pooling (allergy, pain, drugs, heat stroke, infection)

Signs:

Pulse	– rapid, weak, thready
Respiration	– shallow, irregular, labored
Blood Pressure	– low, falling
Mental State	– confused, sluggish, anxious
Eyes	– pupils dilated
Skin	– cold, clammy, sweating

* If no pulse or respiration, perform CPR using patient/rescuer restraints (see CPR (CARDIOPULMONARY RESUSCITATION), 1-6) *

* If unconscious and patient cannot maintain airway, insert oral airway (see CPR (CARDIOPULMONARY RESUSCITATION), ORAL AIRWAY, 1-11, or INTUBATION, ENDOTRACHEAL, 1-12); provide manual ventilation using AMBU Bag (see inside cover of Medical Accessory Kit or AMBU Bag reference card) *

* If conscious, provide supplemental O2 with QDM *

1. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

2. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

If bleeding:

3. Apply pressure w/Gauze Pads (Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)

4. Prevent loss of body heat
5. Start I.V. (see INJECTIONS, INTRAVENOUS (I.V.), 4-11). Begin infusing 1 L of normal Saline (IV Admin-1, Saline Supply Bag, EENT Subpack-1)
6. Attach ECG leads (see CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, 1-8)
7. Contact Surgeon

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SECTION 2

A THRU B

ABDOMINAL INJURY (see EMERGENCY, 1-27)
ABDOMINAL PAIN 2-2
ALLERGIC REACTION 2-3
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BURNS – MINOR 2-8

ABDOMINAL PAIN

1. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)

2. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

3. Perform abdominal exam, evaluate all 4 quadrants

Visual inspection (bruises, swelling):	_____
Bowel sounds (presence or absence, type, frequency):	_____
Palpation (rigid, pain, rebound tenderness):	_____

Prior to treatment:

4. Contact Surgeon

If urinary symptoms (burning, frequency, pain, discomfort):

5. Go to BLADDER INFECTION, 2-5

If unable to urinate:

6. Go to URINARY RETENTION, 5-18

ALLERGIC REACTION

MILD-TO-MODERATE REACTION

Symptoms: Eyes may itch, burn, water. Nose may be congested. Throat, lungs may feel ‘‘tight’’

Signs: Red, watery eyes. Clear discharge from nose. Rash/hives may be present on chest, back, abdomen, arms, or legs

Med Locker

1. Refresh Plus (artificial tears, eye drops) (EENT Subpack-16) as needed for dry, itchy eyes

Antihistamines:

2. Benadryl (oral) (Drug Subpack-42) for relief of itching (see general WARNING, 6-2)
   Dose: 1-2 cap every 4-6 hr as needed

   -OR-

   *Claritin (Drug Subpack-43) antihistamine, anti-allergy (see general WARNING, 6-2)
   Dose: 1 cap once daily

Decongestants:

3. Sudafed (Drug Subpack-Spine) for relief of congestion (see WARNING, 6-12)
   Dose: 2 tabs every 6 hr as needed

   -OR-

   Mucinex D (Drug Subpack-44)
   Dose: 1-2 tab every 12 hr as needed

   -OR-

   Afrin (EENT Subpack-19)
   Dose: 1-2 sprays every 12 hr as needed

ALTITUDE SICKNESS

NOTE

Symptoms of altitude sickness may be result of planned or unplanned cabin depressurization or PPO_2 reduction that results in pressure altitude equivalent ≥ 8000 ft

Symptoms: Headache, nausea, vomiting, shortness of breath, cough, difficulty sleeping, lethargy, weakness

1. *Diamox (Drug Subpack-43)
   (see WARNING, 6-5)
   Dose: 1/2-1 tab every 24 hr for total of 3 doses

2. Contact Surgeon

BACK PAIN

1. Knee to chest position

Pain relief:

Med Locker

2. Aspirin (Drug Subpack-Spine)
   (see WARNING, 6-3)
   Dose: 1-2 tabs every 4-6 hr as needed

   -OR-

   Tylenol (Drug Subpack-Spine)
   Dose: 1-2 tabs every 4-6 hr as needed

   -OR-

   Motrin (Drug Subpack-Spine)
   (see WARNING, 6-9)
   Dose: 1 tab every 4-6 hr as needed w/food and drink

   * If unsuccessful, see *
   * PAIN RELIEF, 5-3 *

Muscle relaxant:

3. *Valium (oral) (Drug Subpack-20)
   (see WARNING, 6-2, 6-13)
   Dose: 1/2-1 tab every 6-8 hr as needed for severe spasm/pain

BLADDER INFECTION

Symptoms: Pain, spasms, feeling of ‘‘heaviness’’ in groin; fever may or may not be present

Signs: Frequent, small volume, painful urination, cloudy or bloody urine

Med Locker
1. Don non-sterile Gloves (IV Admin-12, Airway Subpack-8, EENT Subpack-7, CCK)
2. Check urine w/Chemstrip 10 SG (Trauma Subpack-15):
3. Hold two Cotton Swabs (EENT Subpack-34) together under urine stream to saturate
4. Pass two Cotton Swabs over Chemstrip, compare w/color chart

Wet Trash
5. Dispose of Cotton Swabs, Chemstrip

6. Record Chemstrip results in following table:

Chemstrip #	#1	#2	#3	#4	#5	#6	#7
	Name	Name	Name	Name	Name	Name	Name
	Date	Date	Date	Date	Date	Date	Date
	Flight Day	Flight Day	Flight Day	Flight Day	Flight Day	Flight Day	Flight Day
Specific Gravity							
pH							
Leukocytes (neg, trace, pos)							
Nitrate (neg, pos)							
Protein (mg/dL)							
Glucose (mg/dL)							
Ketones (neg, +, ++, +++)							
Urobilinogen (mg/dL)							
Bilirubin (neg, pos)							
Hgb (ery/μL)							

Table cont next page

Chemstrip #	#8	#9	#10	#11	#12	#13
	Name	Name	Name	Name	Name	Name
	Date	Date	Date	Date	Date	Date
	Flight Day	Flight Day	Flight Day	Flight Day	Flight Day	Flight Day
Specific Gravity						
pH						
Leukocytes (neg, trace, pos)						
Nitrate (neg, pos)						
Protein (mg/dL)						
Glucose (mg/dL)						
Ketones (neg, +, ++, +++)						
Urobilinogen (mg/dL)						
Bilirubin (neg, pos)						
Hgb (ery/μL)						

7. Increase daily fluid intake, take antibiotic

Antibiotics:

Med Locker

8. ***Bactrim DS (Drug Subpack-38)**
   (see WARNING, 6-3)
   Dose: 1 tab 2X/day for 3 days
   -OR-
   ***Cipro (Drug Subpack-40)**
   Dose: 1 tab 2X/day for 3 days
   -OR-
   ***Duricef (Drug Subpack-40)**
   (see WARNING, 6-6)
   Dose: 1 cap 2X/day for 3 days
   -OR-
   ***Augmentin (Drug Subpack-37)**
   Dose: 1 tab 2X/day for 7 days

Pain/spasm relief:

9. Pyridium (Drug Subpack-17)
   Dose: 1 tab 3X/day as needed for pain
   (may color urine orange)

   * If no improvement in 24 hr, *
   * contact Surgeon *

BRONCHITIS (COUGH)

Symptoms: Lung congestion, ‘‘tightness’’ in chest, fatigue, fever, productive cough (w/mucus)

Med Locker

1. Cough Lozenges (Drug Subpack-45)
   Dose: As needed

Antibiotics:

2. *Zithromax (Drug Subpack-36)
   Dose: 2 tabs initial dose, then 1 tab/day for 5 days

   -OR-

   *Cipro (Drug Subpack-40)
   Dose: 1 tab 2X/day for 10 days

   -OR-

   *Duricef (Drug Subpack-40)
   (see WARNING, 6-6)
   Dose: 1 cap 2X/day for 10 days

   -OR-

   *Augmentin (Drug Subpack-37)
   Dose: 1 tab 3X/day for 10 days

BURNS – MINOR

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

Med Locker

1. Cool first, second degree burns w/Gauze Pads (IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2) moistened w/CHILLED water
2. Clean skin around burn w/^Povidone-Iodine Swabs (IV Admin-19, Airway Subpack-10, Trauma Subpack-7)
3. Apply ^Silvadene Cream (Trauma Subpack-20) to burn
4. Bandage with:

Adaptic Bandages or Gauze Pads	(Trauma Subpack-14, IV Admin-14, Airway Subpack-11, Trauma Subpack-5, EENT Subpack-2)
Kling	(Trauma Subpack-12)
Kerlix	(Trauma Subpack-2)
Tape	(Trauma Subpack-34, IV Admin-13, Airway Subpack-9, EENT Subpack-9)
Telfa Pads	(EENT Subpack-22)

5. For pain relief, see PAIN RELIEF, 5-3
6. Contact Surgeon

SECTION 3

C THRU E

CARDIAC MONITORING (see CPR (CARDIOPULMONARY RESUSCITATION), 1-8)
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C THRU E

CONGESTION, NASAL

Decongestants:

Med Locker

Sudafed (Drug Subpack-Spine)
(see WARNING, 6-12)
Dose: 2 tabs every 6 hr as needed

-OR-

Mucinex D (Drug Subpack-44)
Dose: 1-2 tab every 12 hr as needed

-OR-

Afrin (EENT Subpack-19)
Dose: 1-2 sprays every 12 hr as needed

CONSTIPATION

1. Increase fluid intake; exercise

Med Locker

2. Dulcolax (oral) (Drug Subpack-30)
   Dose: 1-2 tabs as needed for constipation

   -OR-

   Dulcolax (suppository) (Drug Subpack-39)
   Dose: One suppository as needed for constipation

DCS – DECOMPRESSION SICKNESS (BENDS)

NOTE

Symptoms of DCS may be result of:

- Inadequate or interrupted prebreathe time
- Inadequate nitrogen purge from EMU
- Strenuous, prolonged EVA
- Severe dehydration during EVA
- Loss of cabin or suit pressure.

Primary treatment principles consist of repressurization and 100% O2 over time

1. Determine if following symptoms present:

   CUFF CLASS

   1: Mild pain, at single or multiple sites and/or single extremity paresthesia. Difficult to distinguish from suit pressure points. **Symptoms do not interfere with performance**

   2: Moderate CUFF 1 symptoms that **interfere with performance or symptoms that resolve upon repress**

   3: **Severe CUFF 1 symptoms** or migratory, truncal or multiple site paresthesia, unusual headache

   4: Serious symptoms – Central neurological (spotted vision, slurred speech, coordination difficulty, loss of sensation, headache, seizures, unconsciousness), cardiopulmonary (chest pain, cough, shortness of breath)

2. If symptoms present, go to 19.1 DCS TREATMENT (EVA, EMER PROCS)

EVA DCS EXAMINATION SCORECARD

IN-SUIT EXAM (Questions 1-20 only); OUT-OF-SUIT EXAM (Questions 1-27)

Instructions:

1) To be performed at periodic intervals throughout DCS treatment procedure
2) Mark the MET time of examination in the top row
3) Circle any abnormal finding in the appropriate item row for the correct exam time column (AB = abnormal, NL = normal, Y = yes, N = no)
4) Report any abnormal findings during PMC
5) Questions 21 through 27 included only in DCS Out-of-Suit examinations
6) Questions in bold should be asked verbatim

IN-SUIT EXAM

Item #	Examination Question/ Challenge	MET time of examination										
Level of Consciousness												
1	**Level of Consciousness:** Crewmember is awake, alert and responsive		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
2	**Orientation: "What Flight Day or day of the week is it? What are the names and positions of your fellow Crewmembers?"** (Crewmember answers all correctly)		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
Verbal Function												
3	**Object Naming:** Crewmember correctly names three readily identifiable objects (Can be chosen at random from available objects)		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
4	**Reading, Speech:** Crewmember correctly reads from EVA checklist without difficulty and without speech changes or difficulties		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
Emotional Status												
5	The Crewmember's emotional display is normal and appropriate		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL

IN-SUIT EXAM (Cont)

Item #	Examination Question/ Challenge	MET time of examination										
Symptoms (Crewmember answers the following questions)												
6	**"Do you have any chest pain?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
7	**"Do you have any difficulty breathing?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
8	**"Do you have any coughing, or pain with deep breathing?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
9	**"Are you experiencing fatigue beyond what you would expect from the EVA?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
10	**"Do you feel lightheaded or dizzy?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
11	**"Do you have moderate to severe headache?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
12	**"Do you have any pain beyond what you would expect from post-EVA suit discomfort?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
13	**"Do you feel any tingling or numbness?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
14	**"Do you have any trouble moving or weakness in your arms or legs?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
15	**"Do you have any double vision, loss of vision, or distortion of vision?"**		Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
Facial Nerves												
16	**Facial Muscles:** Crewmember raises eyebrows, squeezes eyes shut, and puffs up cheeks without difficulty		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
Strength												
17	**Arm Bending Strength:** Crewmember bends elbow, with palm toward face and holds for two seconds against examiner resistance. Repeat both sides		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
18	**Leg Bending Strength:** Crewmember bends knee and holds for two seconds against examiner resistance. Repeat both sides		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL

IN-SUIT EXAM (Cont)

Item #	Examination Question/ Challenge	MET time of examination										
Coordination Functions												
19	**Finger-to-Finger:** Starting with hands wide apart, Crewmember easily and accurately touches fingertips together with eyes closed		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
Sensory Function												
20	**Gross Sensation:** Examiner squeezes Crewmember's forearms, feet, and knees through suit. Crewmember should feel squeezing of the forearms, feet, and knees		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL

OUT-OF-SUIT EXAM (Includes questions 21-27)

21	**Blood Pressure:** Record systolic and diastolic blood pressure using blood pressure cuff, stethoscope											
22	**Pulse:** Record pulse in beats/minute											
23	**Temperature:** Record temperature											
24	**Breath Sounds:** Breath sounds should be equal and symmetric on both sides, without crackles or wheezes		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
25	**Skin examination:** Skin should be normal in appearance without areas of abnormal paleness, redness, or marbling		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
26	**Fine Sensation:** Crewmember uses own hands to identify any areas of altered sensation. No abnormal areas should be identified (If any, mark boundaries with pen)		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL
27	**Hearing:** Crewmember identifies and touches snapping fingers without difficulty with eyes closed		AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL	AB NL

DCS TREATMENT (POST SUIT DOFFING)

NOTE

If patient experiencing difficulty breathing, chest discomfort, or is otherwise in distress, go to CPR (CARDIOPULMONARY RESUSCITATION), 1-6

1. Perform DCS OUT-OF-SUIT EXAM, 3-7

AFTERCARE

NOTE

Expect possible 'S66 CABIN PPO2' msg

1. Apply QDM and deliver oxygen for a total of 2 hours
C7 2. √LEH O2 SPLY 1,2 (two) – OP
C6, 3. √LEH O2 vlv – OP
MO32M,
MO69M
4. Minimize physical activity
5. Hydrate w/ 1 liter/hour for 2 hours orally or by Saline I.V. if unable to drink. (Breaking QDM seal to hydrate is allowed) (Refer to INJECTIONS, INTRAVENOUS (I.V.), 4-11)
6. Contact Surgeon (consider medications)
7. Perform BENDS TREATMENT ADAPTER (BTA) INSTALLATION; BTA PREP (EVA, EMU CONT PROCS) for possible RECURRENT DCS symptoms

LATE DCS SYMPTOMS

Definition: First presentation of symptoms occurs Post-EVA after recompression and EMU doffing

A. CUFF CLASS 1,2,3

NOTE

If symptoms worsen or do not improve after 20 minutes of treatment, increase cabin pressure to 14.7 psi.

Expect possible 'S66 CABIN PPO2' msg

1. Apply QDM and deliver oxygen for a total of 2 hours
C7 2. √LEH O2 SPLY 1,2 (two) – OP
C6, 3. √LEH O2 vlv – OP
MO32M,
MO69M

4. Perform DCS OUT-OF-SUIT EXAM (3-7) every 15-30 minutes and report changes to Surgeon
5. Minimize physical activity
6. Hydrate w/ 1 liter/hour for 2 hours orally or by Saline I.V. if unable to drink. (Breaking QDM seal to hydrate is allowed) (Refer to INJECTIONS, INTRAVENOUS (I.V.), 4-11)
7. Perform BENDS TREATMENT ADAPTER (BTA) INSTALLATION; BTA PREP (EVA, EMU CONT PROCS) for DCS symptoms refractory to oxygen/ hydration therapy
8. Contact Surgeon (consider medications and BTA Ops)

B. CUFF 4 (Cardiopulmonary and CNS symptoms)

NOTE

If patient experiencing difficulty breathing, chest discomfort, or is otherwise in distress, go to CPR (CARDIOPULMONARY RESUSCITATION), 1-6.

Expect possible 'S66 CABIN PPO2' msg

1. Apply QDM and deliver oxygen
C7 2. √LEH O2 SPLY 1,2 (two) – OP
C6, MO32M, MO69M 3. √LEH O2 vlv – OP

If docked to ISS and hatches open:

4. Remove ODS air duct extension from vestibule, stow
5. Close ODS Hatch per decal
6. √Equal vlv (two) – OFF, capped

NOTE

Expect possible 'S66 CABIN P', 'S66 CABIN PPO2' msgs

7. Increase cabin pressure to 15.56 psi
C5 DIRECT O2 vlv – OP
When CABIN P = 15.56 psia,
DIRECT O2 vlv – CL
8. Perform DCS OUT-OF-SUIT EXAM (3-7) every 15-30 minutes and report changes to Surgeon
9. Perform BENDS TREATMENT ADAPTER (BTA) INSTALLATION; BTA PREP (EVA, EMU CONT PROCS). Continue w/subsequent steps concurrently until ready to initiate BTA treatment in EMU

10. Minimize physical activity
11. Hydrate w/ 1 liter/hour for 2 hours orally or by Saline I.V. if unable to drink. (Breaking QDM seal to hydrate is allowed) (Refer to INJECTIONS, INTRAVENOUS (I.V.), 4-11)
12. Contact Surgeon (consider medications and BTA Ops)
13. Check MCC for DEORBIT PREP

RECURRENT DCS

Definition: Reappearance of symptoms after initial treatment completed

FOR ALL CUFF SYMPTOMS: Go to LATE DCS SYMPTOMS CUFF 4 (3-9) treatment procedure

DCS – OTHER DECOMPRESSION PROBLEMS (BAROTRAUMA)

NOTE

Symptoms result from reduction in barometric pressure and expansion of trapped gas. Symptoms may occur during decompression preceding EVA or following loss of cabin pressure

Symptoms: Abdominal distention, ear pain, inability to clear ear, loss of hearing acuity, sinus pain, toothache, jaw pain

If progressive pain:

1. REPRESS (DEPRESS/REPRESS Cue Card) thru AIRLOCK REPRESS
2. Go to PAIN RELIEF, 5-3

DIARRHEA

1. Increase fluid intake
2. Avoid solid foods, milk products for 24 hr

If fever present:

3. Contact Surgeon

Antidiarrheal medication:

Med Locker

4. Pepto-Bismol (Drug Subpack-31)
   Dose: 2 tabs every 30-60 min as needed to maximum of 16 tabs/day

   -OR-

   NOTE

   Use only if symptoms severe w/very frequent stools

   Imodium (Drug Subpack-30)
   Dose: 2 caps initially, then 1 cap after each unformed stool to maximum of 8 caps/day

5. Contact Surgeon

EAR EXAMINATION

Med Locker

1. Unstow Otoscope (EENT Subpack-32)

2. Evaluate eardrum (see fig 3-1). Determine presence of Congestion, Internal Infection, Ruptured Eardrum, or Ear Canal Infection and see appropriate procedure for treatment

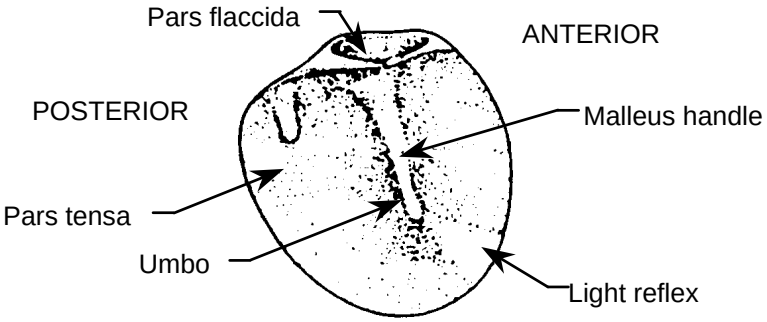

Figure 3-1.- Right eardrum.

EAR PROBLEMS

CONGESTION (SEROUS OTITIS MEDIA)

Symptoms: Decreased hearing, feeling of fullness in ear, possible pain, inability to clear ear

Signs: Dull/retracted eardrum, bubbles behind eardrum

Decongestants:

Med Locker

1. Sudafed (Drug Subpack-Spine)
   (see WARNING, 6-12)
   Dose: 2 tabs every 6 hr as needed

   -OR-

   Mucinex D (Drug Subpack-44)
   Dose: 1-2 tab every 12 hr as needed

   -OR-

   Afrin (EENT Subpack-19)
   Dose: 1-2 sprays in each nostril every 12 hr as needed

INTERNAL INFECTION (OTITIS MEDIA)

Symptoms: Pain, sensation of warmth, decreased hearing in affected ear

Signs: Red, bulging eardrum, no normal landmarks on exam (see illustration)

1. Contact Surgeon

Antibiotics:

Med Locker

2. *Augmentin (Drug Subpack-37)
   Dose: 1 cap every 8 hr for 10 days

   -OR-

   *Bactrim DS (Drug Subpack-38)
   (see WARNING, 6-3)
   Dose: 1 tab every 12 hr for 10 days

Decongestants:

3. Sudafed (Drug Subpack-Spine)
   (see WARNING, 6-12)
   Dose: 2 tabs every 6 hr as needed

   -OR-

   Mucinex D (Drug Subpack-44)
   Dose: 1-2 tab every 12 hr as needed

Pain medications:

4. Aspirin (Drug Subpack-Spine)
   (see WARNING, 6-3)
   Dose: 1-2 tabs every 4 hr as needed

   -OR-

   Tylenol (Drug Subpack-Spine)
   Dose: 1-2 tabs every 4 hr as needed

EAR CANAL INFECTION (EXTERNAL OTITIS)

Symptoms: Pain, decreased hearing in affected ear

Signs: Redness, debris, pus in external ear canal, pain w/movement of ear

> WARNING
> Do not proceed w/steps 1 or 2 if ruptured eardrum suspected. Refer to RUPTURED EARDRUM, 3-14

Med Locker

1. Pope Otowick (EENT Subpack-27):
   Insert Pope Otowick in affected ear canal w/tweezers (EENT Subpack-34)

Eardrops:

2. Tobradex (EENT Subpack-28)
   Note: Tobradex is a dual-purpose ophthalmic and ear medication
   Dose: Saturate Pope Otowick w/drops until fully expanded in ear canal. Repeat saturation 4X/day

Pain medications:

3. Aspirin (Drug Subpack-Spine)
   (see WARNING, 6-3)
   Dose: 1-2 tabs every 4 hr as needed

   -OR-

   Tylenol (Drug Subpack-Spine)
   Dose: 1-2 tabs every 4 hr as needed

   -OR-

   *Vicodin (Drug Subpack-21)
   (see WARNING, 6-2, 6-13)
   Dose: 1-2 tabs every 4-6 hr as needed

RUPTURED EARDRUM

Symptoms: Pain, difficulty hearing

Signs: Perforated eardrum, blood on eardrum

1. Contact Surgeon

Antibiotics:

Med Locker

2. *Augmentin (Drug Subpack-37)
   (see WARNING, 6-3)
   Dose: 1 cap every 8 hr for 10 days

-OR-

*Bactrim DS (Drug Subpack-38)
   (see WARNING, 6-3)
   Dose: 1 tab every 12 hr for 10 days

Pain medications:

3. Aspirin (Drug Subpack-Spine)
   (see WARNING, 6-3)
   Dose: 1-2 tabs every 4 hr as needed

-OR-

Tylenol (Drug Subpack-Spine)
   Dose: 1-2 tabs every 4 hr as needed

EAR/SINUS BLOCK

NOTE

Symptoms may occur during recompression from EVA

Symptoms: Ear pain, inability to clear middle ear, loss of hearing acuity, sinus pain, facial pain

1. Stop recompression; gently attempt equalization of pressure in middle ear

If unsuccessful or sinus pain present:

2. If possible, depressurize airlock until symptoms relieved
3. Slowly resume recompression

4. Contact Surgeon

EYE EXAMINATION

> WARNING
> For chemical burn or penetrating object, immediately refer to appropriate procedure (EYE – PENETRATING OBJECT, 1-38, or CHEMICAL BURN, 3-17)

1. Unstow:

Med Locker	Otoscope	(EENT Subpack-32)
	Ophthalmoscope Head	(EENT Subpack-5)
	Fluorescein Strips	(EENT Subpack-6)
	Cotton Swabs	(EENT Subpack-34)
	Gauze Pads	(EENT Subpack-2, IV Admin-14, Airway Subpack-11, Trauma Subpack-14)
	Alcaine	(EENT Subpack-12)
	Refresh Plus (artificial tears, eye drops) or	(EENT Subpack-16)
	Magnifying Glasses	(EENT Subpack-17)
	Magnifying Glasses Strap	(EENT Subpack-1)

2. Remove Otoscope head; remove light source; attach Ophthalmoscope head

Appearance:

3. Observe lids, lashes, conjunctiva, sclera; note any matted material, redness, swelling of lids, excess tearing, etc
4. Note size of pupils, particularly any size difference of two pupils. Shine light into each eye, one at a time; note change in pupil size

Check for redness:

5. Observe white of eye for redness; note what quadrant(s) of eye is(are) red
6. Determine if one or both eyes affected

If in addition to redness there is blurred vision, pain, abnormal sensitivity to light, or matted material (pus) in eye:

7. Contact Surgeon

√For foreign body:

8. Observe upper and lower lids, cornea for foreign body
9. √Lower lid. Have patient look up, pull down on lid
10. √Upper lid. Have patient look down; place cotton swab at top of upper lid; grasp upper lashes. Pull out and up on lashes; fold lid over swab, which can then be removed (fig 3-2)
11. √Eyeball. Have patient look in all six directions of gaze (fig 3-3)
12. Return eyelid to its normal position by having patient blink or look up

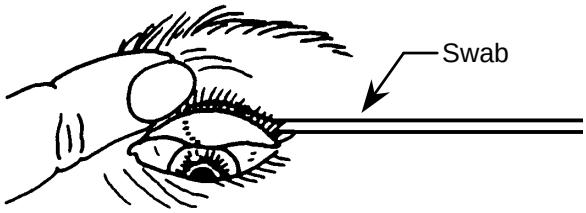

Figure 3-2.- Eyelid eversion.

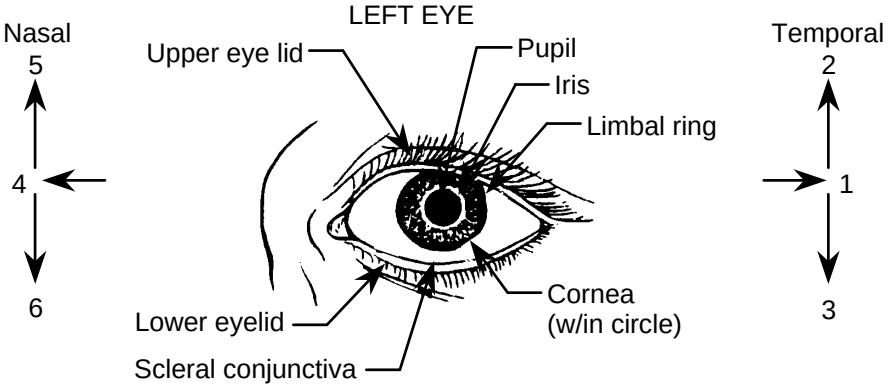

Figure 3-3.- Eye landmarks; 6 directions of gaze.

Fluorescein stain (check for corneal abrasion):

> WARNING
> Do not use more than two drops Alcaine per treatment as corneal damage may occur. Do not rub eyes for 30 min following anesthetic administration

13. *****Alcaine (EENT Subpack-12)
    Dose: 1-2 drops in affected eye

> WARNING
> Do NOT repeat Alcaine dose w/o contacting Surgeon

14. Place 1-2 drops of Refresh Plus artificial tears on Fluorescein strip. Touch strip to lower, inner eyelid until yellow-green film covers eye
15. Use blue light setting on Ophthalmoscope; shine light on cornea, sclera
16. Area of more intense staining, which does not clear w/blinking, may be abrasion
17. Rinse twice w/Refresh Plus artificial tears

EYE PROBLEMS

CHEMICAL BURN (SHUTTLE EMERGENCY EYEWASH (SEE) GOGGLES)

1. Unstow:

Food Lockers	Drinking water container, straw
CCK	SEE (goggles, tubing, connectors), pH strip
Misc Stowage	Towels

2. Prior to SEE configuration, use drinking water container, straw for eye irrigation. Use towels to prevent water from escaping
3. Remove PHS hose QD from Galley auxiliary port, making sure orange stopcock is perpendicular to direction of flow; replace w/SEE QD
4. Turn Galley knob MV2 cw until it stops (ambient)

5. Twist lock SEE-WCS connector to Waste Collection System (WCS) urinal hose

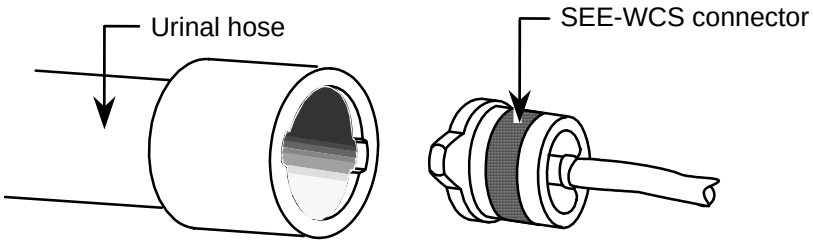

Figure 3-4.- SEE-WCS connection.

6. Don SEE goggles (place outflow side of goggles on affected eye)
7. Configure WCS for urine collection
8. Activate water flow by turning orange stopcock parallel to direction of flow
9. Flush eyes – keep eyes open

If unable to keep affected eye open due to pain, apply:

Med Locker

10. ***Alcaine (EENT Subpack-12)**
    Dose: 1-2 drops in affected eye

WARNING
Do NOT repeat Alcaine dose w/o contacting Surgeon

11. Continue flushing for at least 10 min. Contact Surgeon
12. During (after) SEE use, absorb excess water w/towels

If obstruction exists in WCS urine hose:

13. Hose filter may need to be cleaned/replaced

14. Touch sclera w/pH strip to wet

    If pH neutral, go to step 15

    If pH not neutral, continue flushing w/SEE until pH neutral

15. Perform EYE EXAMINATION, Fluorescein stain, steps 13 thru 17, 3-17, for affected eye(s)

WARNING
^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

If corneal staining is seen w/Fluorescein stain:

16. If available, use Video Camera for photo-documentation (closeup and macroviews)

Med Locker

17. *Cyclogyl (EENT Subpack-11)
    Dose: 1 drop in affected eye
18. *^Ciloxan Ointment (EENT Subpack-15)
    Dose: Apply 1/2-inch ribbon of ointment in lower lid 3X/day
19. Repeat Fluorescein stain every 12 hr until staining no longer seen

For pain:

Med Locker

20. *Vicodin (Drug Subpack-21)
    (see WARNING, 6-2, 6-13)
    Dose: 1-2 tabs every 4-6 hr as needed

21. Restain eye in approx 12 hr
    Contact Surgeon w/results

If no corneal staining seen w/Fluorescein stain:

Med Locker

22. *^Ciloxan Ointment (EENT Subpack-15)
    Dose: Apply 1/2-inch ribbon of ointment in lower lid 3X/day
23. Restain eye in 6-12 hr
    Contact Surgeon w/results

FOREIGN BODY/ABRASION

Symptoms: ‘‘Grain of sand’’ feeling under eyelid, pain, sensitivity to light, blurred vision

Signs: Red eye, excess tears, may see foreign body; area of intense staining on Fluorescein examination, usually irregular in shape (see EYE EXAMINATION, 3-11)

1. Contact Surgeon

> WARNING
> Do not use more than two drops Alcaine per treatment as corneal damage may occur. Do not rub eyes for 30 min following anesthetic administration

Pain relief:

Med Locker

2. *****Alcaine (EENT Subpack-12)
   Dose: 1-2 drops in affected eye

> WARNING
> Do NOT repeat Alcaine dose w/o contacting Surgeon

Mechanical removal:

If foreign body seen:

3. Try to remove by flushing eye w/Refresh Plus artificial tears (EENT Subpack-16). Blot excess fluid

If unsuccessful:

Med Locker

4. Moisten Cotton Swab (EENT Subpack-34); try to gently dislodge foreign body by rotating swab
5. If everted, return eyelid to its normal position by having patient blink
6. Stain eye w/Fluorescein strip (EENT Subpack-6), using blue light examination (see EYE EXAMINATION, steps 14-15, 3-17)

If unsuccessful in removing foreign body:

7. Contact Surgeon

WARNING
^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

If cornea shows scratch highlighted by fluorscein:

Med Locker

8. *^Ciloxan Ointment (EENT Subpack-15)
   Dose: Apply 1/2-inch ribbon of ointment in lower lid 3X/day

   -OR-

   *Gentak Ophthalmic Ointment (EENT Subpack-14)
   Dose: Apply small amount to eye prior to patching
9. *Cyclogyl (EENT Subpack-11)
   Dose: 1 drop in affected eye

WARNING
Do not patch if signs of infection present, patient wears contact lens, or corneal ulcer suspected

Patch eye if needed for relief of discomfort:

10. Unstow:

Med Locker

Eye Pads (2)	(EENT Subpack-4)
Tape	(EENT Subpack-9, IV Admin-13, Airway Subpack-9, Trauma Subpack-34)

11. Fold one Eye Pad in half; place over closed eyelid; cover w/second unfolded pad
12. Tape in place firmly enough so that patient cannot blink eyelid
13. Remove patch after 24 hr; repeat Fluorescein eye exam

CORNEAL ULCER

Symptoms: Marked eye discomfort, pain, moderate-to-significant sensitivity to light, blurred vision

NOTE

Overnight wear of contact lenses can result in corneal ulcer

Signs: Marked redness of eye, eye examination shows white lesion on cornea, and Fluorescein examination shows intensely staining well-circumscribed round lesion on cornea (see EYE EXAMINATION, Fluorescein stain, steps 13 thru 17, 3-17)

WARNING

^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

1. Contact Surgeon

WARNING

Do not patch eye

Antibiotics:

Med Locker

2. *^Ciloxan Ointment (EENT Subpack-15)
   Dose: Apply 1/2-inch ribbon of ointment in lower lid 3X/day

Pain relief:

3. *Vicodin (EENT Subpack-21)
   (see WARNING, 6-2, 6-13)
   Dose: 1-2 tabs every 4-6 hr as needed for pain

4. Do not use contact lenses if ulcer suspected

HERPETIC VIRAL OCULAR INFECTION

Symptoms: Tearing, photophobia, pain

Signs: Red eye, corneal ulcers showing branch-like pattern when Fluorescein-stained

1. Contact Surgeon
2. Perform EYE EXAMINATION, Fluorescein stain, steps 13 thru 17, 3-17

WARNING
^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

If Fluorescein stain suggestive of herpetic keratitis:

Med Locker

3. *****Viroptic (Drug Subpack-1)
   Dose: 1 drop every 3 hr; max 9 drops/day
4. ***^**Ciloxan Ointment (EENT Subpack-15)
   Dose: Apply 1/2-inch ribbon of ointment in lower lid 3X/day

IRRITATION/INFECTION

Symptoms: Mild discomfort (if any), burning, itching, blurred vision

Signs: Red eye, ‘‘matted’’ material in lids and at corners of eye, swelling around eye

1. Contact Surgeon

Antibiotics:

Med Locker

2. *****Gentak Ophthalmic Ointment (EENT Subpack-14)
   Dose: Apply small amount to eye 2X/day

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SECTION 4

F THRU N

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FRACTURE/DISLOCATION

```
* If no pulse or respiration, perform CPR  *
*   using patient/rescuer restraints (see  *
*   CPR (CARDIOPULMONARY                   *
*   RESUSCITATION), 1-6)                   *
*                                          *
* If unconscious and patient cannot        *
*   maintain airway, insert oral airway (see*
*   CPR (CARDIOPULMONARY                   *
*   RESUSCITATION), ORAL AIRWAY,           *
*   1-11), or INTUBATION,                  *
*   ENDOTRACHEAL, 1-12); provide           *
*   manual ventilation using AMBU Bag      *
*   (see inside cover of Medical Accessory*
*   Kit or AMBU Bag reference card)        *
*                                          *
* If conscious, provide supplemental O2    *
*   with QDM                               *
```

1. Control bleeding w/direct pressure, Gauze Pads (Trauma Subpack-14)

2. Unstow:

Med Locker	Blood Pressure Cuff	(IV Admin-1)
	Stethoscope	(Airway Subpack-12)
	Thermometer	(EENT Subpack-3)
	Gauze Pads	(Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)

3. Evaluate vital signs

MET:	_____	_____	_____
Blood Pressure:	_____	_____	_____
Pulse:	_____	_____	_____
Respiratory Rate:	_____	_____	_____
Temperature:	_____	_____	_____

4. Bandage with:

Med Locker	Kling	(Trauma Subpack-12)
	Kerlix	(Trauma Subpack-2)
	Ace Bandages	(Trauma Subpack-3,13)
	Telfa Pads	EENT Subpack-22)

> WARNING
> Fractures of pelvis, upper leg can result in large blood loss and shock. Dislocations treated as fractures

If fracture open (bone protruding thru skin or caused by projectile):

5. Bandage with:

Med Locker	Gauze Pads	(Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)
	Kerlix	(Trauma Subpack-2)
	Kling	(Trauma Subpack-12)
	Ace Bandages	(Trauma Subpack-3,13)

6. √Pulse distal to fracture location

If no pulse or if joint dislocated:

7. Contact Surgeon immediately for instructions to set fracture

If pulse intact:

8. Splint fracture

9. Splint w/Kerlix, Kling, Ace, any available rigid materials such as FDF Cover, rolled checklist, IFM tools, etc.

10. If finger fracture suspected, splint finger w/Finger Splint (Trauma Subpack-23)

11. Contact Surgeon

HEMORRHOID

Signs: Anal pain or itching

Med Locker

1. Anusol HC Suppositories (Drug Subpack-41)
   Dose: 1 suppository every 12 hr as needed

2. Drink plenty of fluids to prevent constipation

HOT CABIN (Total loss thermal cntl – TIG > 2.5 hr)

1. Wear minimal clothing; limit physical activity

Med Locker

2. Unstow Skin Temp Monitors (EENT Subpack-23). Temp which appears in green is actual temp to be recorded

3. After drying skin, apply Skin Temp Monitors to forehead or trunk

4. Record pulse rate and skin temp every hr

5. All crewmembers immediately begin drinking 8-oz chilled water every 15 min. Consume one Salt Tab (Drug Subpack-Spine) w/every other container of water

INDIGESTION (UPSET STOMACH)

WARNING
Refer to CHEST PAIN, 1-36, for any associated chest pain, pressure or sweating or difficulty breathing or arm pain

Med Locker

1. Pepto-Bismol (Drug Subpack-31)
   Dose: 2 tabs every 30-60 min as needed to maximum of 16 tabs/day

-OR-

Antacid:

2. Mylanta (Drug Subpack-35)
   Dose: 2-4 tabs well chewed between meals and at bedtime. May take 2 tabs between this schedule as needed to maximum of 12 tabs/day

INJECTIONS

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

INTRAVENOUS (I.V.)

- Butterfly Needle (one-time dose only)
- Intravenous Fluid Infusion w/Y-Type Catheter Extension and Administration Set
- Medication Administration w/Existing I.V. Flow
- Removal of IV Administration Set/Intracatheter w/Y-Type Catheter Extension Set left in place
- Medication Administration thru Y-Type Catheter Extension Set
- Y-Type Catheter Extension Maintenance Flush

If necessary:

1. Perform CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, Donning, 1-8, then:
2. Contact Flight Surgeon before giving any I.V. medication

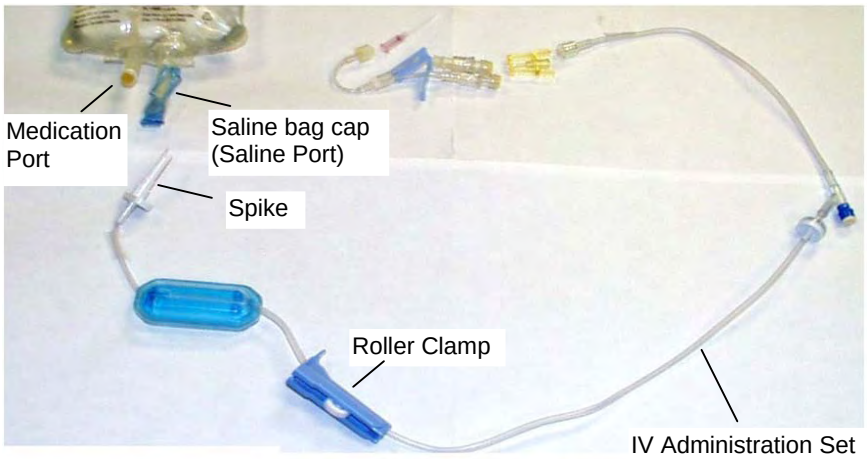


Figure 4-1.- Existing I.V. flow.

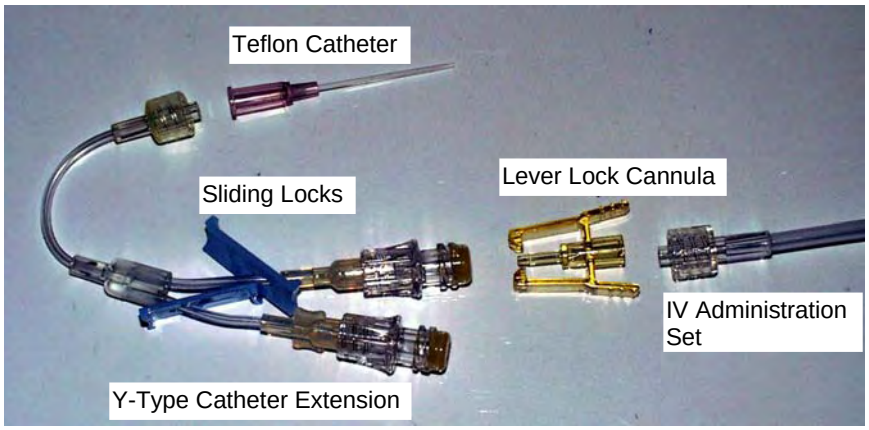


Figure 4-2.- I.V. assembly with Y-type Catheter Extension.

<u>Butterfly Needle Procedure</u> (one-time dose only)
DO NOT leave in vein

Misc Stowage	1.	Prepare Gray Tape to secure supplies	
	2.	Unstow:	
Med Locker		Tubex Injector	(Drug Subpack-19, Drug Subpack-Spine, Trauma Subpack-31)
		Injectable Medication (Contact Surgeon for appropriate medication)	(Drug Subpack, Trauma Subpack, EENT Subpack)
		Gloves, non-sterile	(IV Admin-12, Airway Subpack-8, EENT Subpack-7, CCK)
		^Povidone-Iodine Swab	(IV Admin-19, Airway Subpack-10, Trauma Subpack-7)
		Alcohol Pads	(IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
		Butterfly Needle, 21ga	(IV Admin-17)
		Penrose Tubing (tourniquet)	(IV Admin-16)

Gauze Pads	(IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2)
Bandaid	(IV Admin-20, Drug Subpack-Spine, Drug Subpack-12, Trauma Subpack-11)
Sharps Container	

3. Open Butterfly Needle, temp stow package
4. Load Tubex Injector w/desired medication and unsheathe needle (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28)

Unstow Butterfly Needle (IV Admin-17)

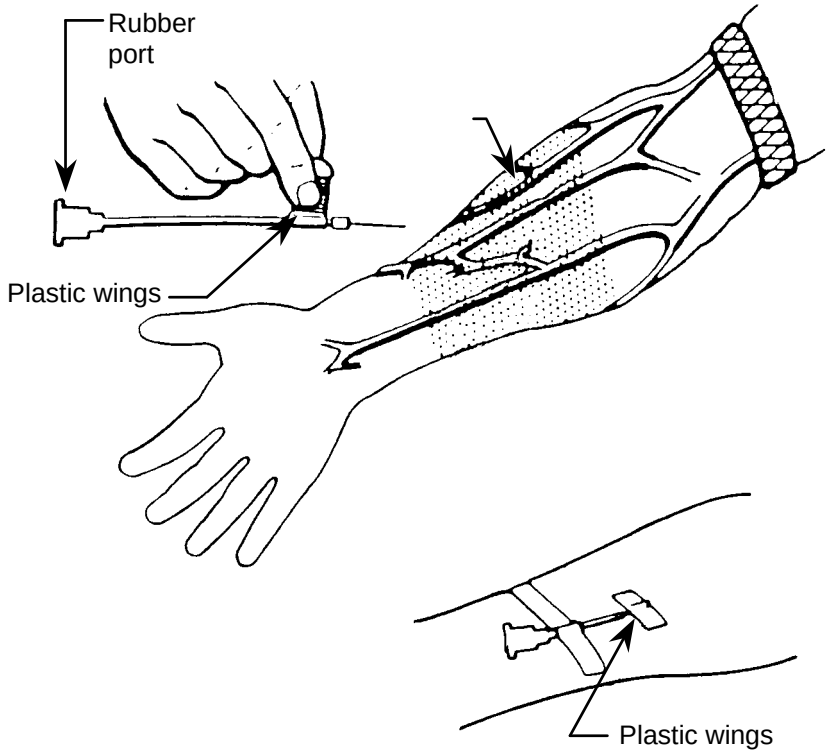


Figure 4-3.- Medication administration technique.

5. Insert needle of Medication Tubex Injector into rubber port of Butterfly Needle
6. Remove air bubbles from tubing by expelling 1-2 drops of medication. Temp stow assembly
7. Tighten tourniquet around upper arm. Don Gloves
8. Select site. Cleanse site w/^Povidone-Iodine Swab; fan to dry. Repeat w/Alcohol Pad; fan to dry
9. Unsheathe Butterfly Needle. Capture vein w/thumb and index finger of non-dominant hand. W/needle bevel up, while holding plastic wings, puncture skin over vein
10. Pull back Medication Tubex Injector plunger, check for blood return

NOTE

If no blood visible, gentle traction may be used on needle to establish flow. Procedure may need to be repeated

11. REMOVE TOURNIQUET. Inject medication. Retrieve Gauze Pads, remove Butterfly Needle quickly, apply pressure w/Gauze Pads
12. Withdraw Medication Tubex Injector from Butterfly port. Carefully remove medication cartridge and place in Sharps container. Return Tubex Injector to Drug Subpack
13. Return Butterfly Needle to package, wrap securely w/Gray Tape and ensure it is returned to IV Admin Kit. Do not put needles in Wet Trash

Intravenous Fluid Infusion w/Y-Type Catheter Extension and Administration Set

Equipment setup:

Misc Stowage

1. Prepare Gray Tape to secure supplies
2. Consult Flight Surgeon for appropriate saline quantity
3. Unstow:

Med Locker	Saline, 500 mL Bag OR	(IV Admin-1, Saline Supply Bag)
	250 mL Bag	(Middeck Locker)
	I.V. Administration Set (Transfer Set)	(IV Admin-17)
	Blood Pressure Cuff	(IV Admin-1)
	Gauze Pads	(IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2)
	Lever Lock Cannula	(IV Admin-17)
	Y-Type Catheter Extension Set	(IV Admin-17)
	Gloves, non-sterile	(IV Admin-12, Airway Subpack-8, CCK, EENT Subpack-7)
	^Povidone-Iodine Swab	(IV Admin-19, Airway Subpack-10, Trauma Subpack-7)
	Alcohol Pads	(IV Admin-18, Airway Subpack-10, Drug Subpack-Spine, Drug Subpack-16, Trauma Subpack-6)
	I.V. Intracatheter:	
	18ga OR	(IV Admin-8,9)
	20ga	(IV Admin-10,11)
	Penrose Tubing (tourniquet)	(IV Admin-16)
	Op Site (transparent dressing)	(IV Admin-14,
	Tape (Four 4-inch strips)	(IV Admin-13, Airway Subpack-9, Trauma Subpack-34, EENT Subpack-9)

4. Remove from packages:
   Saline Bag
   I.V. Administration Set (Transfer Set)
   Y-Type Catheter Extension Set

   NOTE
   Make sure roller clamp on I.V. Administration Set is CLOSED (roller is snug at narrow end)

5. Remove saline bag cap (blue) from Saline bag. Remove cap from spike on I.V. Administration Set (Transfer Set). Plug spike into Saline port (see fig 4-1)
6. Relocate and open Lever Lock Cannula package. ONLY TOUCH EDGES OF CANNULA
7. Remove cap on free end of I.V. Administration Set and connect to uncovered end of Lever Lock Cannula (tighten w/clockwise rotation)
8. Clean one access port on Y-Type Catheter Extension Set w/Alcohol Pad
9. Remove cap on Lever Lock Cannula and insert into access port on Y-Type Catheter Extension Set

   NOTE
   Do NOT remove cap on Y-Type Catheter Extension

10. Open Gauze Pad package. Open roller clamp; squeeze Saline bag to prime I.V. line and purge air; absorb Saline w/ Gauze Pad. Close roller clamp
11. Wrap Blood Pressure Cuff tightly around bag; inflate to 100 mmHg

    NOTE
    Blood Pressure Cuff can be removed later for patient use by clamping I.V. line shut. Roller clamp can be left CLOSED while patient's blood pressure being taken. When roller clamp is OPEN, bag can be manually squeezed to infuse Saline

Patient preparation:

12. Place tourniquet around upper arm (see fig 4-4). Don Gloves. Relocate open Gauze. Relocate Sharps Container

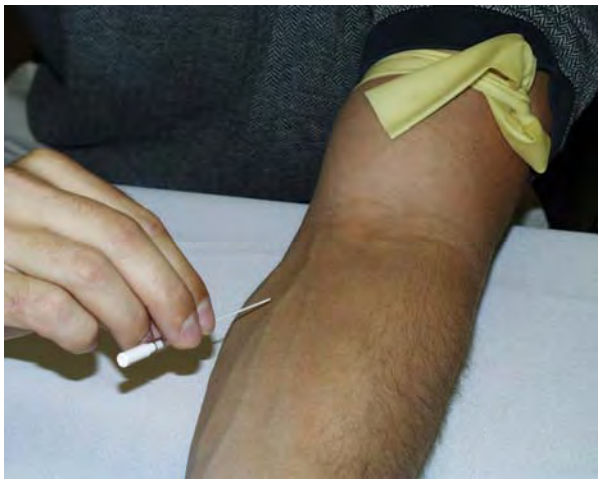


Figure 4-4.- Tourniquet placement.

13. Select site. Cleanse site w/^Povidone-Iodine Swab; fan to dry. Repeat w/Alcohol Pad; fan to dry
14. Remove I.V. Intracatheter from package.
15. Rotate Teflon catheter 360 deg in its sheath to loosen catheter
16. Capture vein w/thumb and index finger of non-dominant hand. W/needle bevel up, puncture skin over vein. Observe for blood return in casing

NOTE

If no blood visible, gentle traction may be used on needle to establish flow.
Procedure may need to be repeated

17. Drop angle of needle and advance 1-2 mm more to ensure catheter properly placed in vein
18. Advance/slide Teflon catheter off needle into vein while holding needle stationary

NOTE

If resistence met, DO NOT FORCE catheter into vein. If unable to establish flow, dispose of catheter and repeat procedure at a new site w/new equipment

19. While holding needle in place, REMOVE TOURNIQUET FROM UPPER ARM
20. Remove cap from free end of Y-Type Catheter Extension Set
21. Occlude vein by applying pressure above catheter tip w/finger
22. Remove I.V. needle leaving catheter in vein and quickly attach Y-Type Catheter Extension Set. Stop Occlusion (see fig 4-5)

Figure 4-5.- Removal of I.V. needle.

23. Discard I.V. Needle into Sharps container. Clean excess blood at site w/Gauze
24. Secure Catheter Assembly to skin w/Opsite (transparent dressing) or a tape “chevron”
25. Secure excess I.V. tubing by looping from site to wrist area and back to site w/tape “chevrons”
26. OPEN roller clamp. Adjust rate per Surgeon consultation
27. Refer to INJECTIONS, CATHETER DRESSING CHANGES (DAILY), 4-22

28. For removal procedures, refer to INJECTIONS, REMOVAL OF Y-TYPE CATHETER EXTENSION, 4-23

NOTE

If NO flow established, gently manipulate catheter to re-establish flow. If swelling around site is visible or if unable to re-establish flow, remove catheter, dispose of set and repeat procedure at a new site

Medication Administration with Existing I.V. Flow

Misc Stowage

1. Prepare Gray Tape to secure supplies
2. Contact Flight Surgeon before giving any I.V. medication

3. Unstow:

Med Locker

Gloves, non-sterile	(IV Admin-12, Airway Subpack-8, CCK, EENT Subpack-7)
Alcohol Pads	(IV Admin-18, Airway Subpack-10, Drug Subpack-Spine, Drug Subpack-16, Trauma Subpack-6)
Tubex Injector	(Drug Subpack-19, Drug Subpack-Spine, Trauma Subpack-31)
Injectable Medication or Prefilled Syringe (Contact Surgeon for appropriate medication)	(Drug Subpack, Trauma Subpack, EENT Subpack)
Sharps Container	

4. Don Gloves
5. Load Tubex Injector w/desired medication cartridge or attach plunger to prefilled syringe (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28, or PREFILLED SYRINGE TECHNIQUE, 4-27)

6. Stop flow to I.V. Assembly, CLOSE roller clamp on I.V. tubing (see fig 4-1)
7. Clean free access port on Y-type Catheter Extension OR I.V. Administration Set w/Alcohol Pad
8. Unsheathe Medication Tubex Injector Needle and insert into I.V. port
9. Inject medication. Withdraw Medication Tubex Injector from I.V. port. Open roller clamp to resume flow. Carefully remove medication cartridge or prefilled syringe and place in Sharps container
10. Return Tubex Injector to Drug Subpack

Removal of I.V. Administration Set/Intracatheter w/Y-Type Catheter Extension Set left in place

Misc Stowage

1. Prepare Gray Tape to secure supplies
2. Contact Flight Surgeon before removing I.V. Administration Set
3. Unstow:

Med Locker	Gloves, non-sterile	(IV Admin-12, Airway Subpack-8, CCK, EENT Subpack-7)
	Gauze Pads	(IV Admin-14, Airway Subpack 11, Trauma Subpack 14, EENT Subpack-2)

4. Stop flow to I.V. Assembly, CLOSE roller clamp on I.V. tubing (see fig 4-1)
5. Close clamps on Y-Type Extension Set by sliding clamp over tubing to lock
6. Untape I.V. Administration tubing from arm, leaving Intracatheter w/Y-Type Catheter Extension Set secure
7. Don Gloves
8. Remove Lever Lock Cannula and I.V. Administration Set from Y-Type Catheter Extension Set port by disconnecting Lever Lock Cannula and Y-Type Catheter Extension Set
9. Wrap empty Saline bag and I.V. Administration Set w/Gray Tape and discard

NOTE

Y-Type Catheter Extension Set must be flushed w/Saline every 8 hr. Medication administration can be substituted as a flushing procedure

Medication Administration thru Y-Type Catheter Extension Set

Misc Stowage

1. Prepare Gray Tape to secure supplies
2. Contact Flight Surgeon before giving any I.V. medication
3. Unstow:

Med Locker

Syringe (3 cc)		(IV Admin-2,3,4,5,6,7)
Saline, 500 mL Bag	OR	(IV Admin-1, Saline Supply Bag)
250 mL Bag		(Middeck Locker)
Tubex Injector		(Drug Subpack-19, Drug Subpack-Spine, Trauma Subpack-31)
Injectable Medication or Prefilled Syringe (Contact Surgeon for appropriate medication)		(Drug Subpack, Trauma Subpack, EENT Subpack)
Alcohol Pads		(IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
Sharps Container		

4. Load Tubex Injector w/desired medication cartridge or attach plunger to prefilled syringe (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28, or PREFILLED SYRINGE TECHNIQUE, 4-27)
5. Clean rubber medication port of Saline bag w/Alcohol Pad. Uncap 3-cc syringe, temp stow cap on Gray Tape
6. Fill 3-cc syringe w/saline from Saline bag and recap syringe needle by spearing cap; temp stow
7. Clean free access port on Y-Type Catheter Extension Set w/Alcohol Pad
8. Unsheathe Medication Tubex Injector Needle and insert into Y-Type Catheter Extension Set port
9. Unclamp tubing w/sliding lock; inject medication from Medication Tubex Injector

NOTE

If NO flow established, gently manipulate catheter to re-establish flow. If swelling around site visible or if unable to re-establish flow, remove catheter, dispose of set and repeat procedure at new site

10. Reclamp tubing and withdraw needle. Re-sheathe needle by spearing cap on Gray Tape; temp stow
11. Uncap 3-cc syringe; insert into Y-Type Catheter Extension Set port and unclamp tubing w/sliding lock
12. OPEN roller clamp. Inject entire amount saline from 3-cc syringe. Reclamp tubing and remove 3-cc syringe. Discard syringe with needle in Sharps container
13. Carefully disassemble Medication Tubex Injector. Remove medication cartridge w/needle or prefilled syringe and place in Sharps container
14. Return Tubex Injector to Drug Subpack

Y-Type Catheter Extension Maintenance Flush

NOTE

Y-Type Catheter Extension device must be flushed w/Saline every 8 hr. Medication administration can be substituted as a flushing procedure

Misc Stowage

1. Prepare Gray Tape to secure supplies

2. Unstow:

Med Locker	Syringe (3 cc)		(IV Admin-2,3,4,5,6,7)
	Saline, 500 mL Bag	OR	(IV Admin-1, Saline Supply Bag)
	250 mL Bag		(Middeck Locker)
	Alcohol Pads		(IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
	Sharps Container		

3. Clean rubber medication port of Saline bag w/Alcohol Pad. Uncap 3-cc syringe, temp stow cap on Gray Tape
4. Fill 3-cc syringe w/saline from Saline bag and recap syringe needle by spearing cap; temp stow
5. Clean access port on Y-Type Catheter Extension Set w/Alcohol Pad
6. Uncap 3-cc syringe; insert into Y-Type Catheter Extension Set port and unclamp tubing w/sliding lock
7. Inject saline from 3-cc syringe until NO BLOOD is visible in tubing

NOTE

If NO flow established, gently manipulate catheter to re-establish flow. If swelling around site visible or if unable to re-establish flow, remove catheter, dispose of set and repeat procedure at new site

8. Reclamp tubing w/sliding lock and remove 3-cc syringe
9. If blood visible in second access port, repeat 3-cc syringe flush on second port
10. Discard syringe(s) in Sharps container

NOTE

A small amount of blood may remain in tubing close to insertion site

CATHETER DRESSING CHANGES (DAILY)

1. Unstow:

Med Locker	Gauze Pads	(IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2)
	Tape	(IV Admin-13, Airway Subpack-9, Trauma Subpack-34, EENT Subpack-9)
	Gloves, non-sterile	(IV Admin-12, Airway Subpack-8, CCK, EENT Subpack-7)

NOTE

W/routine flushing, saline lock (Y-type Catheter Extension) is normally kept in place for 3 days, or until evidence of infection

2. Don Gloves
3. Remove existing gauze dressing
4. Examine site for evidence of infection. Consult Flight Surgeon
5. Tape new folded Gauze Pad in place
6. Use Coban (IV Admin-1) over dressing for stability, if desired

REMOVAL OF Y-TYPE CATHETER EXTENSION

1. Unstow:

Med Locker	Gauze Pads	(IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2)
	Gloves, non-sterile	(IV Admin-13, Airway Subpack-9, Trauma Subpack-34, EENT Subpack-9)
	Ziplock Bag	(IV Admin-1, Airway Subpack-4, CCK)

2. Don Gloves
3. Remove transparent dressing and tape from catheter site
4. As catheter is removed from vein, apply pressure to site w/Gauze Pad

CCK

5. Place catheter in Ziplock Bag, label as bio-hazardous, and discard

INTRAMUSCULAR

1. Unstow:

Med Locker	Tubex Injector	(Drug Subpack-19, Drug Subpack-Spine, Trauma Subpack-31)
	Injectable Medication	(Drug Subpack, Trauma Subpack, EENT Subpack)
	Alcohol Pads	(IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
	Gauze Pads	(IV Admin-14, Airway Subpack 11, Trauma Subpack 14, EENT Subpack-2)

2. Recommended site is upper outer quadrant of buttocks (see fig 4-6, Surface anatomy, 4-25); shoulder may also be used w/nonirritating medication. Consult w/Surgeon for nonirritating medications
3. Load Tubex Injector w/desired medication (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28)
4. Clean wide area w/Alcohol Pad
5. Insert needle w/quick thrust (perpendicular to muscle) to 3/4 of needle length
6. √For blood return

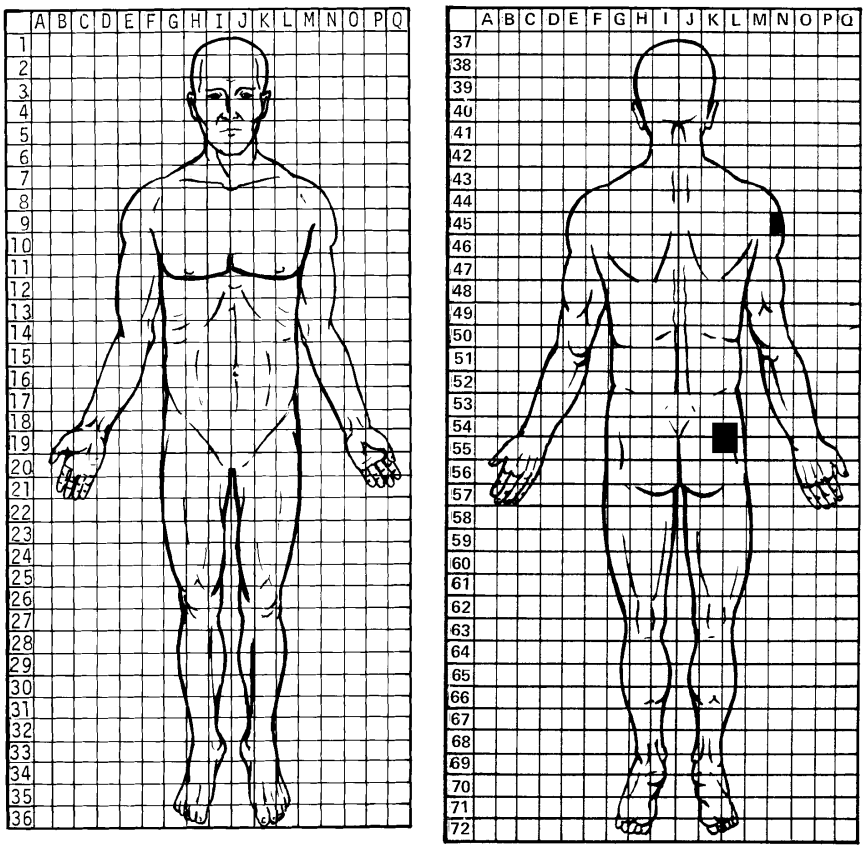
If blood return:

7. Withdraw needle; expel blood onto Gauze Pad; reinsert needle

If no blood return:

8. Inject medication over several sec

9. Quickly remove needle
10. Apply pressure to injection site (2-3 min) w/Alcohol Pad or Gauze Pad
11. Carefully remove medication cartridge from Tubex Injector
12. Dispose of medication cartridge in Sharps container (Med Locker). Restow Tubex Injector to original location



N-45 = Shoulder (deltoid) injection site
K-54 = Buttocks injection site

Figure 4-6.- Surface anatomy.

SUBCUTANEOUS

1. Unstow:

Med Locker	Tubex Injector	(Drug Subpack-19, Drug Subpack-Spine, Trauma Subpack-31)
	Injectable Medication	(Drug Subpack, Trauma Subpack, EENT Subpack)
	Alcohol Pads	(IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
	Gauze Pads	(IV Admin-14, Airway Subpack 11, Trauma Subpack 14, EENT Subpack-2)

2. Load Tubex Injector w/desired medication (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28)
3. Clean shoulder area w/Alcohol Pad (see fig 4-6, Surface anatomy, 4-25)
4. Remove cap from needle. Pinch skin between thumb, fingers of free hand
5. Insert needle w/quick thrust to 1/2 needle length at shallow (no more than 30 deg) angle to skin
6. √For blood return

If blood return:

7. Withdraw needle; expel blood onto Gauze Pad; insert needle again

If no blood return:

8. Inject medication over several sec. Should produce bump under skin
9. Carefully remove medication cartridge from Tubex Injector
10. Dispose of medication cartridge in Sharps container (Med Locker). Restow Tubex Injector to original location

PREFILLED SYRINGE TECHNIQUE

1. Unstow:

Med Locker — Syringe, Plunger — (Drug Subpack)

2. Screw plunger on syringe
3. Express air from syringe

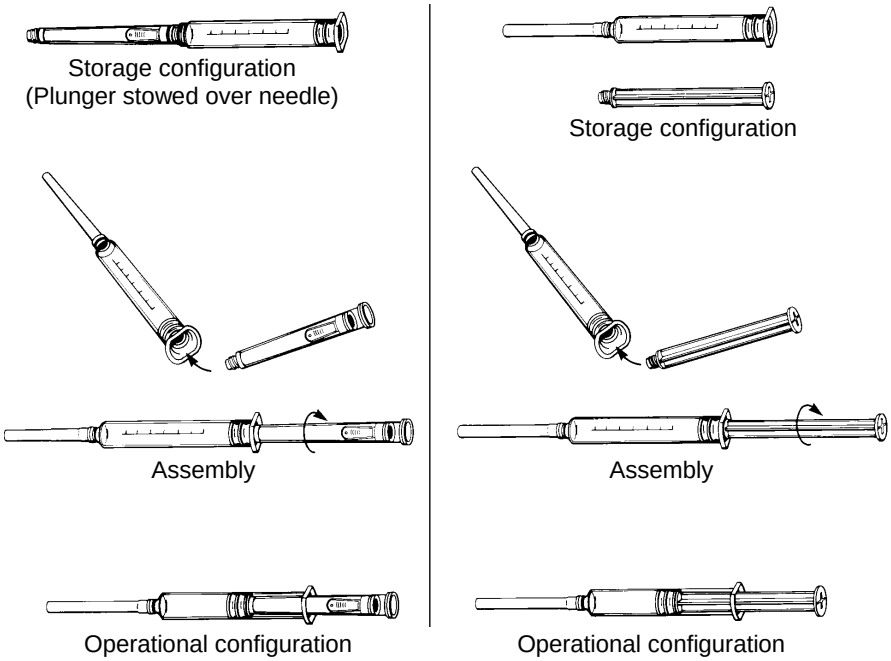


Figure 4-7.- Prefilled syringe.

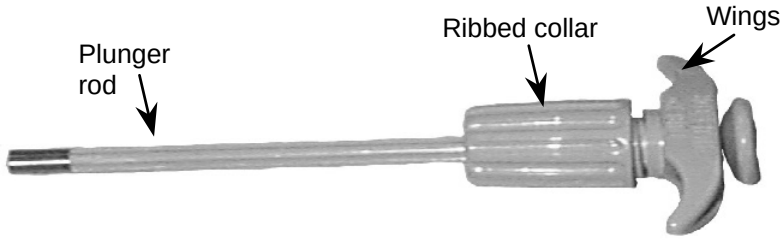
TUBEX INJECTOR TECHNIQUE

1. Unstow:

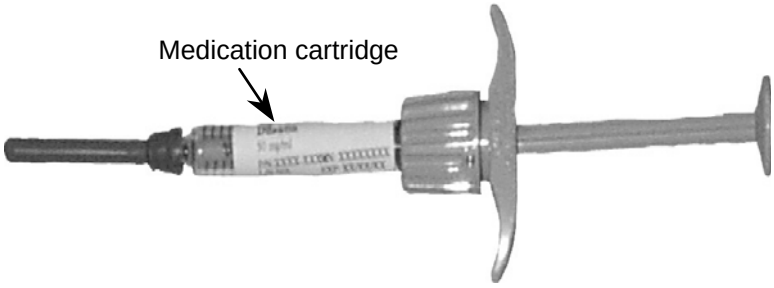
Med Locker	Tubex Injector	(Drug Subpack-Spine, Drug Subpack-19, Trauma Subpack-31)
	Injectable Medication	(Drug Subpack, Trauma Subpack, EENT Subpack)

2. Screw Tubex Injector plunger rod into plunger of medication until resistance is felt
3. Place fingers on wings and with other hand loosen ribbed collar to OPEN position (labeled on collar)
4. Slide ribbed collar + wings over medication cartridge
5. Holding wings, tighten ribbed collar onto medication cartridge
6. To inject medication, see appropriate drug administration technique (INTRAVENOUS (I.V.), 4-7, INTRAMUSCULAR, 4-24, or SUBCUTANEOUS, 4-26)
7. Once used, hold wings with one hand and unscrew ribbed collar with other hand. Slide wings + ribbed collar back toward plunger. Unscrew entire Tubex Injector from medication cartridge
8. Dispose of medication cartridge w/needle in Sharps container (Med Locker)
9. Restow Tubex Injector in original location

Tubex Injector
(Drug Subpack-Spine,
Drug subpack-19,
Trauma Subpack-31)



Tubex Injector (Stowage Configuration)



Tubex Injector (Operational Configuration)

Figure 4-8.- Tubex injector.

LACERATIONS

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

MAJOR LACERATIONS

1. Don non-sterile Gloves (IV Admin-12, Airway Subpack-8, EENT Subpack-7)

Med Locker

2. Control bleeding by applying pressure over wound w/Gauze Pads (Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)
3. Unstow:

^Povidone-Iodine Swabs	(Trauma Subpack-7, IV Admin-19, Airway Subpack-10)
Saline, 100 mL	(EENT Subpack-1)
Gloves, Sterile	(Trauma Subpack-24)
Drape, Sterile	(Trauma Subpack-24)
Tubex Injector	(Trauma Subpack-31, Drug Subpack-19, Drug Subpack-Spine)
Surgical Instrument Assembly	(Trauma Subpack-33)
Needle, 18ga	(Trauma Subpack-29, EENT Subpack-18)
Syringe (10 cc)	(Airway Subpack-15, EENT Subpack-20)
Alcohol Pads	(Trauma Subpack-6, IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine)
Suture (Surgeon will advise)	(Trauma Subpack-17,18)
*Xylocaine, 2%	(Trauma Subpack-30)
Gauze Pads	(Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)
Kling	(Trauma Subpack-12)
Tegaderm transparent dressing	(Trauma Subpack-4)
^Bactroban Ointment	(Trauma Subpack-19)

4. Contact Surgeon and photodocument the wound. Continue to photodocument the wound every 24 hrs

5. Gently cleanse wound edge w/^Povidone-Iodine Swab
6. Insert Xylocaine, 2% (see WARNING, 6-14) into Tubex Injector (see INJECTIONS, TUBEX INJECTOR TECHNIQUE, 4-28)
7. Insert needle into wound edge
8. √For blood return

If blood return:

9. Withdraw needle
10. Expel blood onto Gauze Pad
11. Repeat steps 7, 8

If no blood return:

12. Inject enough Xylocaine to raise small bump under skin. Advance needle parallel to wound edge
13. Repeat process to anesthetize wound edge
14. Repeat process on opposite side

Wound cleansing/preparation; clean all wounds before repairing:

15. Twist and lock 18ga Needle onto 10 cc Syringe
16. Clean rubber port on Saline bag w/Alcohol Pad
17. Remove cap and insert needle into rubber port on Saline bag; fill syringe w/saline
18. Carefully recap needle and remove from syringe
19. Flush laceration and adjacent skin w/saline; use Gauze Pads to assist cleaning as needed
20. Repeat until wound is thoroughly flushed (10 times is recommended)
21. Clean w/^Povidone-Iodine Swabs. Clean skin several inches beyond wound edge
22. Irrigate wound w/remaining saline. Blot dry w/sterile Gauze Pads

Cont next page

23. Don sterile Gloves w/o touching outer Glove surface
24. Obtain sterile drape and remove protective covering over adhesive. Place center hole in drape over wound; tape drape edges to patient
25. Inspect wound closely for foreign bodies. Remove any foreign bodies found and irrigate again
26. Consult Surgeon for appropriate suture technique (sutures, tissue adhesive, staples)

Laceration Closure Using Sutures

Med Locker

1. Unstow suture material (see list, 4-30)
2. Have assistant secure Surgical Instrument Assembly on lockers w/Velcro
3. Set needle in needle holder. Place small point blunt forceps in nondominant hand; gently pick up skin edge; place first suture at midpoint of laceration, 2-3 mm from wound edge
4. Reset Needle w/needle holders. Pick up opposite skin edge w/Forceps, repeat process from ‘‘inside out’’ (i.e., from wound edge to skin). (Needle should enter, exit skin at points equally distant from both wound edges)
5. Pull suture together until skin edges are approximated (do not pull tight); secure suture w/instrument tie. Trim sutures, leaving 1 cm for suture removal
6. Place additional sutures at midpoint of each wound section; sutures should be spaced 4-5 mm apart (fig 4-9)

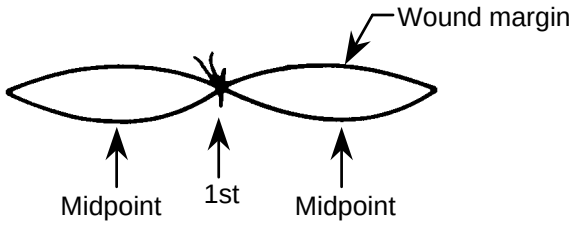


Figure 4-9.- Suture placement.

Wound dressing:

7. Clean suture line gently w/Saline solution on Gauze Pads; apply ^Bactroban Ointment
8. Photodocument the laceration every 24 hrs
9. Apply Tegaderm transparent dressing to wound; cover w/Gauze Pads; secure w/Tape or Kling roll bandage
10. Reapply ointment once per day for 4-5 days; keep wound clean, dry, covered
11. Consult Surgeon for suture removal schedule (see Suture and Staple Removal, 4-35)

Laceration Closure Using Skin Stapler

Med Locker

1. Don sterile Gloves (Trauma Subpack-24) without touching outer Glove surface
2. Remove Skin Stapler from packaging (Trauma Subpack-21) and handle as sterile item
3. Approximate and evert skin surfaces w/fingers or Forceps (Trauma Subpack-25)
4. Position Skin Stapler on midpoint of wound
5. Squeeze Skin Stapler actuating lever while maintaining pressure on wound

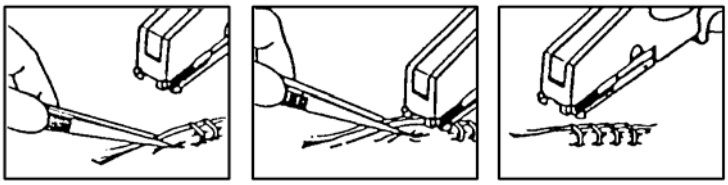


Figure 4-10.- Laceration closure using skin stapler.

6. Place additional staples at midpoint of each wound section; should be 1 cm apart when complete
7. If staple placed abnormally across wound, complete laceration repair if possible, then refer to Suture and Staple Removal, 4-35
8. When repair complete, restow Skin Stapler in pack
9. Consult Surgeon on staple removal schedule (see Suture and Staple Removal, 4-35)

Laceration Closure Using Tissue Adhesive

Use for small wounds of face, trunk, and proximal extremities

Do not use on the following:
- Wounds crossing a joint
- Dirty/contaminated wounds
- Wounds w/jagged edges
- Wounds that require deep sutures
- Non-superficial wounds on hands/feet

Med Locker

1. Unstow:
   ^Dermabond (Trauma Subpack-27)

> WARNING
> Wear Goggles (CCK) and Gloves (CCK) while applying ^Dermabond

2. Dry wound edges and skin
3. Approximate wound edges with gloved fingers or Forceps (Trauma Subpack-25), maintaining proper eversion of skin
4. Remove applicator. Apply pressure at applicator midpoint, crushing internal glass ampule
5. Gently squeeze applicator to express the liquid

> NOTE
> ^Dermabond must be used immediately before polymerization

6. Use gentle brushing strokes to apply a thin film of liquid to the wound edge

> NOTE
> Avoid seepage into wound as it may delay healing

7. Adhesive should extend at least 1/2 cm on each side of apposed wound edges
8. Build up 3-4 layers of adhesive

NOTE

Wound can open if it gets wet

9. Maintain approximation of the wound edges until adhesive sets and forms a flexible film (should occur 1 min after last application)

NOTE

DO NOT apply ointment or medication on top of adhesive.

Avoid getting adhesive wet

10. Apply a dry adhesive using Tegaderm (Trauma Subpack-4) or Bandaid (Trauma Subpack-11) over wound, but NOT Steri-Strips

11. Adhesive will slough off in 5-10 days

Suture and Staple Removal

NOTE

Remove suture on face in 4 days. Remove sutures from other parts of the body in 5-7 days. Sutures across a joint or sutures in the scalp may be left in place for 8-10 days

Suture Removal:

Med Locker

1. Unstow:
   - Surgical Instrument Assembly (Trauma Subpack-33)
   - Ziplock Bag (IV Admin-1, Airway Subpack-4, CCK)
   - Forceps (Trauma Subpack-25)

2. Carefully remove wound dressing

WARNING
DO NOT cut both sides of suture; a small portion of suture will be left under skin

3. Using Forceps, gently lift suture knot away from skin and cut one side of suture

4. Slowly pull to remove entire suture, discard in Ziplock Bag

5. Continue until all sutures are removed

6. Contact Surgeon w/description of laceration following suture removal and for advice on wound dressing

Staple Removal:

Med Locker

1. Unstow:
   Skin Staple Remover (Trauma Subpack-21)
   Ziplock Bag (IV Admin-1, Airway Subpack-4, CCK)

2. Remove Skin Staple Remover from packaging

3. Carefully remove dressing from stapled wound

4. Insert teeth of Skin Staple Remover between staple and skin

5. Squeeze levers of Skin Staple Remover together (see fig 4-11)

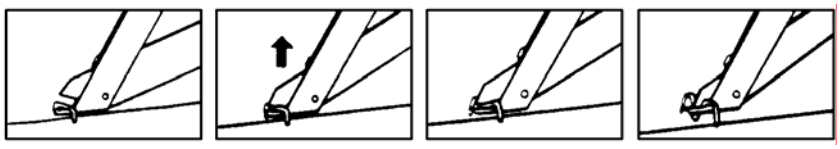


Figure 4-11.- Skin staple remover.

6. Place removed staple in Ziplock Bag

7. Continue until all staples removed

NOTE

If Skin Staple Remover required to remove abnormally placed staple during repair, wipe thoroughly w/Alcohol Pad (IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)

Med Locker

8. Place new dressing using ^Bactroban Ointment (Trauma Subpack-19), Gauze Pads (IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2) and Kling (Trauma Subpack-12)

MINOR LACERATIONS

Med Locker

1. Stop bleeding by applying pressure over wound w/Gauze Pads (IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2)

If bleeding uncontrolled:

2. Apply pressure bandage over cut
3. Go to MAJOR LACERATIONS, 4-30

4. After bleeding controlled, cleanse skin adjacent to wound w/^Povidone-Iodine Swabs (IV Admin-19, Airway Subpack-10, Trauma Subpack-7) or Alcohol Pads (IV Admin-18, Airway Subpack-10, Drug Subpack-16, Drug Subpack-Spine, Trauma Subpack-6)
5. Photodocument the laceration now and every 24 hrs
6. Use Steri-Strips (Trauma Subpack-16), ^Benzoin swabs (Trauma Subpack-8) to close cut

7. Contact Surgeon for healing timeline

8. Dress wound with:

^Bactroban Ointment	(Trauma Subpack-19)
Adaptic Bandages	(Trauma Subpack-5)
or Gauze Pads	(Trauma Subpack-14, IV Admin-14, Airway Subpack-11, EENT Subpack-2)
or Bandaids	(Trauma Subpack-11, IV Admin-20, Drug Subpack-8, Drug Subpack-12, Drug Subpack-Spine)
Kling	(Trauma Subpack-12)
Kerlix	(Trauma Subpack-2)
Ace Bandage	(Trauma Subpack-3,13)
Telfa Pads	(EENT Subpack-22)

9. Contact Surgeon

MOTION SICKNESS (also see VOMITING, 5-20)

Symptoms: Headache, sleepiness, lethargy, stomach awareness, decreased appetite, flushed feeling, ‘‘tumbling gyros’’ w/head movements, excess salivation, nausea, vomiting

Countermeasures:

1. Rest
2. Extra fluids, bland diet as able
3. Move slowly; avoid head movements

MILD MOTION SICKNESS

No vomiting, mild nausea; give antinausea, antivomiting drugs:

Med Locker

*****Phenergan (suppository) (Drug Subpack-10)
(see WARNING, 6-2, 6-10)
Dose: 1 every 6 hr as needed

-OR-

*****Phenergan (oral) (Drug Subpack-15)
(see WARNING, 6-2, 6-10)
Dose: 1-2 tabs every 4-6 hr as needed

MODERATE-TO-SEVERE MOTION SICKNESS

Nausea, vomiting, fatigue, inability to eat; give antinausea, antivomiting drugs:

Med Locker

*Phenergan (Injectable) (Drug Subpack-Spine)
(see WARNING, 6-2, 6-10)
Dose: Inject 1/2 to 1 mL intramuscularly every 6 hr (see INJECTIONS, INTRAMUSCULAR, 4-24)

-OR-

*Phenergan (suppository) (Drug Subpack-10)
(see WARNING, 6-2, 6-10)
Dose: 1 every 6 hr as needed

MUSCLE SPASM (DRUG SIDE EFFECT)

Signs: Muscles tight, contracted; eyes may be ‘‘rolled up’’ into head (rare reaction to medication such as Phenergan)

1. Contact Surgeon

Med Locker

2. *Benadryl (Injectable) (Drug Subpack-13):
(see general WARNING, 6-2)
Dose: 1 mL IM (see INJECTIONS, INTRAMUSCULAR, 4-24, and TUBEX INJECTOR TECHNIQUE, 4-28)

NAUSEA/VOMITING

Med Locker

*Phenergan (oral) (Drug Subpack-15)
(see WARNING, 6-2, 6-10)
Dose: 1-2 tabs every 4-6 hr as needed

-OR-

*Phenergan (suppository) (Drug Subpack-10)
(see WARNING, 6-2, 6-10)
Dose: 1 every 6 hr as needed

-OR-

*Phenergan (Injectable) (SMS Kit, Drug Subpack-Spine)
(see WARNING, 6-2, 6-10)
Dose: Inject 1/2 mL intramuscularly every 6 hr as needed (see INJECTIONS, INTRAMUSCULAR, 4-24)

NOSEBLEED

> WARNING
> Do not administer Aspirin or Motrin. Use Tylenol for pain. If both nasal cavities are packed, patient may require supplemental oxygen

1. Pinch nose just below nasal bone applying direct, uninterrupted pressure for 10 min

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

If bleeding continues:

Med Locker

2. Unstow:

Cotton Balls	(EENT Subpack-22)
Nasal speculum	(EENT Subpack-26)
Forceps, Blunt	(Trauma Subpack-25)
Afrin	(EENT Subpack-19)
Silver Nitrate Stick	(EENT Subpack-34)
^Bactroban Ointment	(Trauma Subpack-19)

3. Spray Afrin on Cotton Balls. Using Forceps, pack nose, apply pressure for 10-15 min
4. Remove Cotton Balls; check nose for bleeding site w/nasal speculum (fig 4-12)

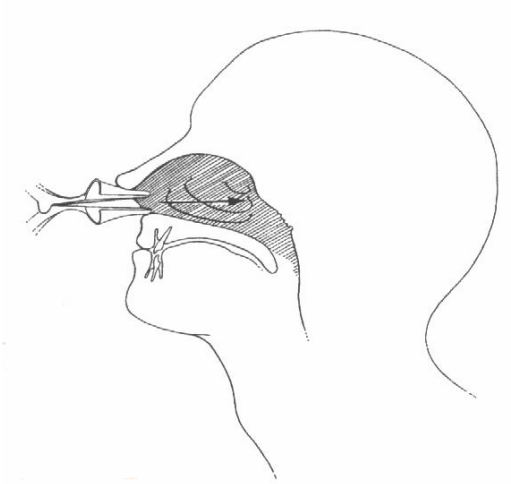


Figure 4-12.- Nasal speculum.

If bleeding site located:

5. Touch area 3-4 times w/Silver Nitrate stick

6. Apply ^Bactroban Ointment to affected area using clean cotton ball

If bleeding site not located or bleeding continues:

7. Contact Surgeon
8. Unstow:

Med Locker	Saline, 100 mL	(EENT Subpack-1)
	Needle, 18ga	(EENT Subpack-18, Trauma Subpack-29)
	Syringe (10 cc)	(EENT Subpack-20, Airway Subpack-15, Trauma Subpack-22)
	Tape	(EENT Subpack-9, IV Admin-13, Airway Subpack-9, Trauma Subpack-34)
	^Neosporin Plus	(EENT Subpack-25)
	Nasal Packing	(EENT Subpack-21)

> CAUTION
> Do not insert cotton balls beyond point of visibility, where they can be easily removed

9. Pack the bleeding nostril with cotton balls that have been pre-lubricated by applying a small amount of ^Neosporin Plus to the entire surface of each cotton ball prior to insertion. May use forceps to assist in nasal packing
10. Apply pressure for 5 min; remove cotton balls
11. Grasp drawstring end of packing; quickly insert along floor of nasal cavity until drawstring reaches anterior nasal opening (see fig 4-13)

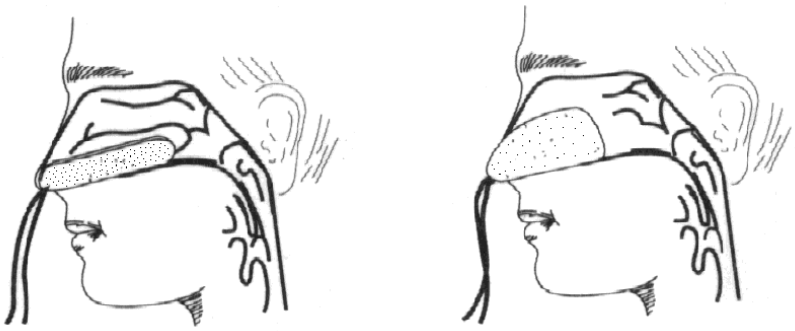
If packing not fully expanded 30 sec after placement:

12. Place 18ga Needle on end of Syringe
13. Insert into port on bag of Saline
14. Fill Syringe w/Saline
15. Remove Needle from Syringe
16. Irrigate Nasal Packing w/Saline

17. Tape drawstring over end of nose, trim excess
18. Nasal Packing may be left in place up to 48 hr

Med Locker 19. *****<u>Augmentin (Drug Subpack-37)</u>
Dose: 1 tab 3X/day

20. Contact Surgeon before removing packing



a. insertion b. expansion

Figure 4-13.- Nasal packing.

If bleeding continues:
21. Contact Surgeon
22. Unstow:

Med Locker Nasal Catheter (EENT Subpack-21)

Test Nasal Catheter prior to insertion:
23. Inject 10 mL saline into valve on Nasal Catheter
24. Inspect balloon for integrity
25. Withdraw saline from catheter w/syringe
26. Apply ^Neosporin Plus to Nasal Catheter device to lubricate for insertion
27. Remove nasal packing from nose and replace w/Nasal Catheter; quickly insert along floor of nasal cavity until sponge fully inserted (fig 4-14)
28. Gently inject 10 mL saline into valve on Nasal Catheter

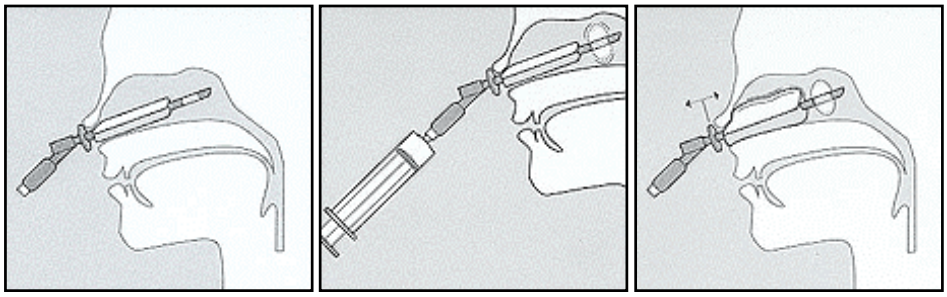


Figure 4-14.- Nasal catheter insertion.

If sponge on Nasal Catheter device not fully expanded 30 sec after placement:

29. Irrigate sponge w/saline using syringe
30. Adjust retaining ring on Nasal Catheter until it gently rests against the nose
31. Nasal Catheter may be left in place up to 48 hrs

Med Locker

32. ***Augmentin (Drug Subpack-37)**
    Dose: 1 tab 3X/day
33. Contact Surgeon before removing catheter

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SECTION 5

O THRU Z

OBSTRUCTED AIRWAY – CONSCIOUS ADULT (see CHOKING, 1-4)
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O THRU Z

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PAIN RELIEF (IN INCREASING ORDER OF STRENGTH)

Med Locker

Aspirin (Drug Subpack-Spine)
(see WARNING, 6-3)
Dose: 1-2 tabs every 4-6 hr as needed

-OR-

Tylenol (Drug Subpack-Spine)
Dose: 1-2 tabs every 4-6 hr as needed

-OR-

Motrin (Drug Subpack-Spine)
(see WARNING, 6-9)
Dose: 1 tab every 4-6 hr as needed w/food and drink

-OR-

*Vicodin (Drug Subpack-21)
(see WARNING, 6-2, 6-13)
Dose: 1-2 tabs every 4-6 hr

-OR-

NOTE

For Demerol and Morphine Sulfate, see INJECTIONS, INTRAMUSCULAR (4-24) and TUBEX INJECTOR TECHNIQUE (4-28)

*Demerol (Drug Subpack-25)
(see WARNING, 6-2, 6-5)
Dose: Inject 1 mL intramuscularly every 3-4 hr as needed

-OR-

*Morphine Sulfate (Drug Subpack-23,24)
(see general WARNING, 6-2)
Dose: Inject 1/2 mL intramuscularly every 3-4 hr as needed

-OR-

NOTE

Handle Duragesic Patch using non-sterile Gloves (IV Admin-12, Airway Subpack-8, EENT Subpack-7, CCK). Pain relief w/patch does not occur rapidly

WARNING

If contact w/gel is made by other crew-members, wash contaminated area w/generous amounts of water

*Duragesic Patch (Drug Subpack-8)
(see general WARNING, 6-2, 6-6)
Dose: 1 patch. Apply to shoulder, upper arm, abdomen, flank, chest, or back. Remove after 72 hr

RADIATION

HIGH RATE DOSIMETER – DOSE MEASUREMENT

PARTS:

Passive Dosimetry Kit
High Rate Dosimeter (two)

1. Unstow one of the High Rate Dosimeters

NOTE

Dose Rate scale will be displayed in 0.001 to 999 cGy/hr or Gy/hr.
The display has three indicators, ALARM, AUD, and VIS. Any or all of these indicators may or may not be displayed depending on previous use

Figure 5-1a.- High Rate Dosimeter (OFF).

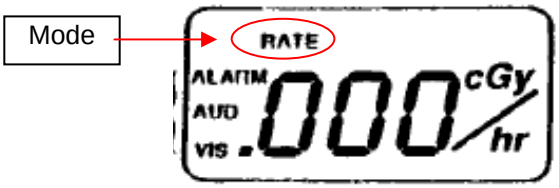


Figure 5-1b.- Default High Rate Dosimeter Display Mode.

2. Press and hold ON/OFF button for 3 seconds
   Verify High Rate Dosimeter – ON
   Verify mode on display is RATE
   Refer to figure 5-1b for nominal ON screen

```
* If the display does not activate within 5      *
*   seconds, or if the letter "b" is displayed   *
*       To replace the Batteries, perform        *
*         HIGH RATE DOSIMETER –                  *
*         BATTERY CHANGEOUT,                     *
*         steps 2 to 4a, then:                   *
```

3. Record DOSE value in High Rate Dosimeter Dose Rate/Dose Measurements Table

NOTE

After pressing the DOSE button, there is an initial screen that will be displayed for a few seconds, after which, the Dose Value will be displayed.
The display will automatically return to the RATE Mode within 10 seconds.
Dose scale will be displayed in 0 to 999 cGy or Gy

4. Press and release the DOSE button
   Verify mode on display is DOSE
   Refer to figures 5-2a and 5-2b

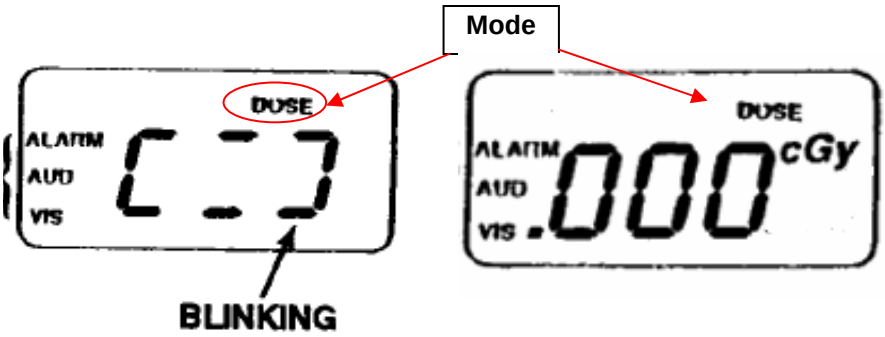


Figure 5-2a.- Initial Display in DOSE Mode.

Figure 5-2b.- DOSE Mode Display.

5. Record DOSE value in High Rate Dosimeter Dose Rate/Dose Measurements Table
   If the display transitions to RATE Mode before measurement can be recorded, repeat step 4

6. Press and hold ON/OFF button for approximately 3 seconds
   Observe "---" on display
   Verify High Rate Dosimeter – OFF (display blank)

7. Stow High Rate Dosimeter in Passive Dosimetry Kit

8. Unstow second High Rate Dosimeter and repeat steps 2 to 7

9. Call down readings to MCC-H

10. If further measurements over time are required by MCC-H
    Temporarily stow Passive Dosimetry Kit
    If no further measurements are required
    Stow Passive Dosimetry Kit

High Rate Dosimeter Dose Rate/Dose Measurements Table

GMT	High Rate Dosimeter - 1		High Rate Dosimeter - 2	
	Dose Rate	Dose	Dose Rate	Dose

HIGH RATE DOSIMETER – BATTERY CHANGEOUT

NOTE

New batteries should have >1 year shelf life from time of installation

1. Unstow one of the two High Rate Dosimeters

2. √High Rate Dosimeter – OFF (display blank)

   If High Rate Dosimeter is ON (display active)
   Press and hold ON/OFF button for 3 seconds
   Observe "---" on display
   Verify High Rate Dosimeter – OFF (display blank)

Figure 5-3.- High Rate Dosimeter (OFF).

3. <u>Changing out Batteries</u>
   a. Lift D-Ring and turn 1/4 turn counterclockwise
      Refer to figure 5-4

   b. Swing Battery door open, remove old Batteries,
      and discard

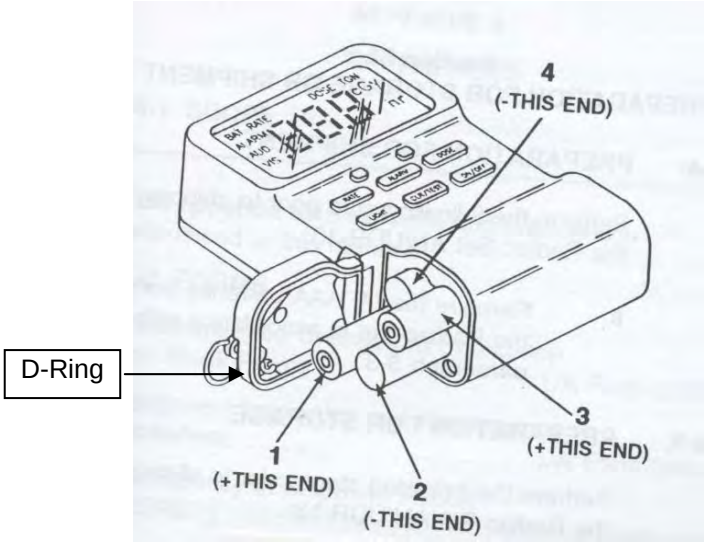


Figure 5-4.- Battery Installation Polarity.

NOTE

Polarity markings “+” and “-” are visable on the black seal around the Battery wells

c. Insert four new AAA Batteries as shown in figure 5-4

d. Close Battery door
   Turn fastener clockwise until hardstop (1/4 turn)
   Push D-Ring down flat

4. Verifying function

NOTE

The display has three indicators, ALARM, AUD, and VIS. Any or all of these indicators may or may not be displayed depending on previous use

a. Press and hold ON/OFF button for 3 seconds
   Verify High Rate Dosimeter – ON
   Refer to figure 5-5 for nominal ON screen

Display Indicators

Figure 5-5.- Nominal ON Screen.

b. Press and hold ON/OFF button for approximately 3 seconds
   Observe "---" on display
   Verify High Rate Dosimeter – OFF (display blank)

c. Stow High Rate Dosimeter in Passive Dosimetry Kit

d. Repeat steps 2 to 4c for second High Rate Dosimeter

5. Stow Passive Dosimetry Kit

SINUS PROBLEMS

Symptoms: Facial pain, ear pain, tooth pain, congestion

Med Locker

1. Unstow:
   Thermometer (EENT Subpack-3)

   Temperature: _____

Decongestants:

2. <u>Sudafed (Drug Subpack-Spine)</u>
   (see WARNING, 6-12)
   Dose: 2 tabs every 6 hr as needed
   -OR-
   <u>Mucinex D (Drug Subpack-44)</u>
   Dose: 1-2 tab every 12 hr as needed
   -OR-
   <u>Afrin (EENT Subpack-19)</u>
   Dose: 1-2 sprays every 12 hr as needed

If fever:
Antibiotics:

3. *****<u>Augmentin (Drug Subpack-37)</u>
   Dose: 1 cap 2X/day for 10-14 days
   -OR-

*Bactrim DS (Drug Subpack-38)
(see WARNING, 6-3)
Dose: 1 tab 2X/day for 10-14 days
-OR-
*Duricef (Drug Subpack-40)
(see WARNING, 6-6)
Dose: 1 cap every 12 hr for 10-14 days

Pain medication:

4. Aspirin (Drug Subpack-Spine)
   Dose: 1-2 tabs every 4-6 hr as needed
   -OR-
   Tylenol (Drug Subpack-Spine)
   Dose: 1-2 tabs every 4-6 hr as needed

5. Contact Surgeon

SKIN INFECTION

Signs: Skin is red, warm, tender; pus may be seen coming out of localized point

1. Contact Surgeon. Place Ruler (Trauma Subpack-26) in proximity of infection and photodocument the infection every 24 hrs

Antibiotics:

Med Locker

2. *Augmentin (Drug Subpack-37)
   Dose: 1 tab 2X/day for 5 days
   -OR-
   *Cipro (Drug Subpack-40)
   Dose: 1 tab 2X/day for 10 days
   -OR-
   *Duricef (Drug Subpack-40)
   (see WARNING, 6-6)
   Dose: 1 cap every 12 hr for 10 days
   -OR-
   *Zithromax (Drug Subpack-36)
   Dose: 2 tabs initial dose, then 1 tab/day for 5 days

SKIN – MINOR ABRASIONS

1. Clean affected area thoroughly w/Saline (IV Admin-1, EENT Subpack-1, Saline Supply Bag, Middeck Locker); blot dry gently w/Gauze Pads (IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2)
2. Place Ruler (Trauma Subpack-26) in proximity of the wound and photodocument the wound every 24 hrs

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

3. Dress wound w/^Bactroban Ointment (Trauma Subpack-19). Cover w/Bandaid (IV Admin-20, Drug Subpack-12, Drug Subpack-Spine, Trauma Subpack-11) or w/Gauze Pads for large abrasions. Wrap Gauze Pads w/Kerlix, Kling (Trauma Subpack-2,12) to hold in place
4. Repeat above procedure and inspect abrasion once daily or at any time wound becomes wet or contaminated
5. Notify Surgeon at next routine Private Medical Conference (PMC)

SKIN RASH

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

ALLERGIC RASH

Signs: Skin is red, warm; may have hives or blisters

Med Locker

1. ^Topicort (EENT Subpack-28)
   Dose: Apply thin layer 2X/day until rash resolved (rub in well, avoid contact w/eyes)

Antihistamines for relief of itching:

2. Benadryl (oral) (Drug Subpack-42)
   (see general WARNING, 6-2)
   Dose: 1 cap every 6 hr as needed

-OR-

*Claritin (Drug Subpack-43)
(see general WARNING, 6-2)
Dose: 10 mg once daily

3. Contact Surgeon for further dosing. Place Ruler (Trauma Subpack-26) in proximity of rash and photodocument the rash every 24 hrs

FUNGAL RASH

Signs: Skin is red, scaly; oval/round patches w/central scales may be present

Med Locker 1. ^Lotrimin AF Cream (Trauma Subpack-26)
Dose: Apply thin layer 2X/day for duration of flight (rub in well; avoid contact w/eyes)

2. Contact Surgeon for further dosing. Place Ruler (Trauma Subpack-26) in proximity of rash and photodocument the rash every 24 hrs

SLEEPING PROBLEMS (INSOMNIA)

WARNING
Both PLT and CDR
-OR-
Both CMOs
may not use sedatives/hypnotics simo

NOTE
Prepare for bed before taking Restoril or Ambien. DO NOT continue work after taking medication

Med Locker *Ambien (Drug Subpack-Spine)
(see general WARNING, 6-2)
Dose: 1 tab 30 min prior to sleep period
-OR-
*Restoril (Drug Subpack-Spine)
(see general WARNING, 6-2)
Dose: 1 or 2 caps 30 min prior to sleep period

SORE THROAT

Signs: Red throat, swollen glands in neck, pus on tonsils

Antibiotics:

Med Locker

*Zithromax (Drug Subpack-36)
Dose: 2 tabs initial dose, then 1 tab/day for 5 days

-OR-

*Duricef (Drug Subpack-40)
Dose: 1 cap 2X/day for 10 days

-OR-

*Augmentin (Drug Subpack-37)
Dose: 1 cap every 12 hr for 10 days

SPACE MOTION SICKNESS (see MOTION SICKNESS)

STRAINS/SPRAINS

Misc Stowage

1. Wet towel w/CHILLED water; apply to injury for 10 min. Repeat 3 times

Med Locker

2. Immobilize tendon sprain w/figure-eight Ace bandage (Trauma Subpack-3,13)

Pain relief:

3. Aspirin (Drug Subpack-Spine)
(see WARNING, 6-3)
Dose: 1-2 tabs every 4-6 hr as needed

-OR-

Tylenol (Drug Subpack-Spine)
Dose: 1-2 tabs every 4-6 hr as needed

-OR-

Motrin (Drug Subpack-Spine)
(see WARNING, 6-9)
Dose: 1 tab every 4-6 hr as needed w/food and drink

-OR-

*Vicodin (Drug Subpack-21)
(see WARNING, 6-2, 6-13) if pain is severe
Dose: 1-2 tabs every 4-6 hr

4. For finger sprains:
Unless there is a deep laceration to palm side of finger, apply Finger Splint (Trauma Subpack-23) to the finger (foam side to the palm side of finger) and keep in place w/Kerlix (Trauma Subpack-2)

TOOTHACHE

Infection, signs/symptoms: Swelling, fever, tender/raised lymph nodes under lower jaw, redness around affected tooth, dull ache when biting, usually no pain w/hot or cold, but may be present w/multi-rooted teeth

Treatment: Antibiotics, avoidance of tooth, and pain medication

Cracked Tooth, signs/symptoms: Sharp stabbing pain when biting down or upon release, unusual cold sensitivity. May or may not be visible signs of a crack

Treatment: Avoidance of tooth, and pain medication

Pulpitis, signs/symptoms: Painful stimulus to either heat and/or cold, may have pain to bite pressure, spontaneous pain w/o provocation

Treatment: Avoidance of tooth, and pain medication

1. Contact Surgeon

Antibiotics:

Med Locker

2. *****Augmentin (Drug Subpack-37)
   Dose: 1 tab 2X/day for 10 days w/food and drink

Pain relief, mild to moderate:

Med Locker

3. Eugenol (contained in 3 needleless Tubex syringes - 1 mL) (Toothache Kit, EENT Subpack-35)
   Unstow Tubex Injector (Trauma Subpack-31, Drug Subpack-Spine, Drug Subpack-19)
   (see Tubex Injector Technique, 4-28)
   Apply drop of Eugenol directly on affected tooth or apply using cotton pellet and tweezers
4. Aspirin (Drug Subpack-Spine)
   (see WARNING, 6-3)
   Dose: 2 tabs every 4-6 hr as needed
   -OR-
   Tylenol (Drug Subpack-Spine)
   Dose: 2 tabs every 4-6 hr as needed
   -OR-
   Motrin (Drug Subpack-Spine)
   (see WARNING, 6-9)
   Dose: 1 tab every 4-6 hr as needed w/food and drink

Pain relief, severe:

5. *Vicodin (Drug Subpack-21)
   (see WARNING, 6-2, 6-13)
   Dose: 1-2 tabs every 4-6 hr as needed

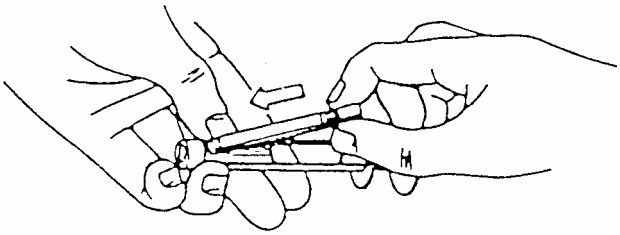
   -OR-

   *Xylocaine w/Epinephrine (Injectable)
   (EENT Subpack-30) (see WARNING, 6-14)
   (see DENTAL INJECTION TECHNIQUE, step 6)

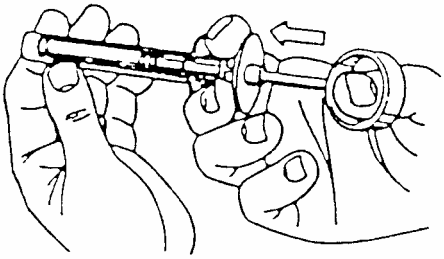
DENTAL INJECTION TECHNIQUE

1. Unstow:
   Dental Syringe (EENT Subpack-33)
   *Xylocaine w/Epinephrine (anesthetic) (EENT Subpack-30)
   Needle, Short (upper injection) (EENT Subpack-36)
   Needle, Long (lower injection) (EENT Subpack-29)

2. Load dental syringe:
   Withdraw plunger; insert metal end of dental carpule into syringe body by sliding toward threaded end; snap into place

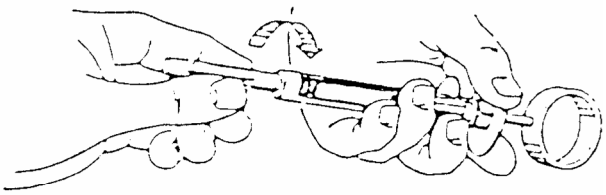


3. Push plunger arrow into dental carpule; ensure head of arrow firmly seated



4. Open needle by twisting off clear cap

NOTE
For upper injections use short needle;
For lower injections use long needle



5. Screw needle cartridge into syringe by turning cw until firmly seated

6. To inject, remove yellow needle cap. For upper injections, see figure 5-6. For lower injections, see figures 5-7a and 5-7b

WARNING
Draw back gently on syringe before injection. Reposition needle if blood is seen

7. Upper Dental Anesthesia:
   Place needle at height of moveable membrane (mucobuccal fold) above fixed gum tissue. Insert needle; direct needle to root apex of tooth to be anesthetized. Draw back gently on syringe to ensure no blood

8. Inject 1/2 carpule of dental anesthetic directly over root apex. Wait 5 min; pain should subside

9. Lower (mandibuler) Anesthesia:
   Place thumb in deepest portion of coronoid notch of mandibular ramus and use center of thumb as guide for needle height (see figs 5-7a and 5-7b)

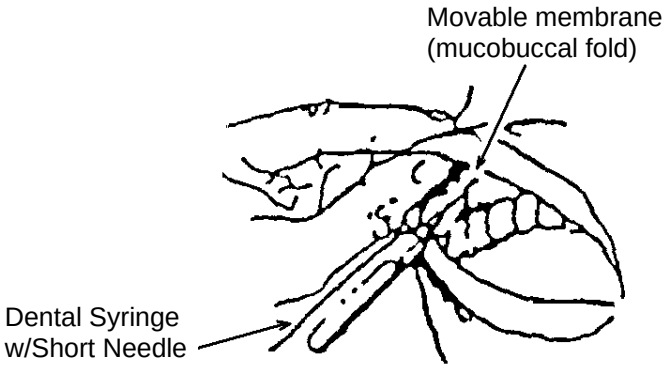


Figure 5-6.- Upper molar anesthesia.

10. Insert needle at point where seam between the cheek and throat turns upward (fig 5-7a)

11. Barrel of syringe is kept over the third and fourth teeth on opposite side of the injection (fig 5-7b). Insert needle until bone is contacted and only 5 to 10 mm of needle remains exposed
    If bone not contacted:
    12. Withdraw needle 5-10 mm; reinsert needle w/syringe barrel over teeth 4 and 5
    If bone contacted and more than 5-10 mm of needle remains exposed:
    13. Withdraw needle 5-10 mm; reinsert needle w/syringe barrel over teeth 2 and 3. Draw back gently on syringe to ensure no blood

14. Inject slowly, over 1 min, the entire contents of syringe; remove needle

15. Wait 5 min; pain should subside

16. Contact Surgeon and re-inject if necessary

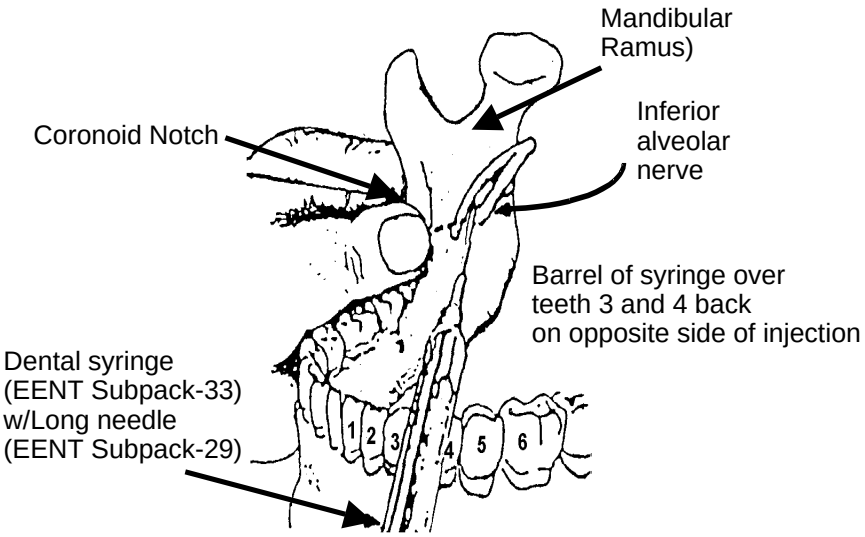


Figure 5-7a.- Lower (mandibular) molar anesthesia #1.

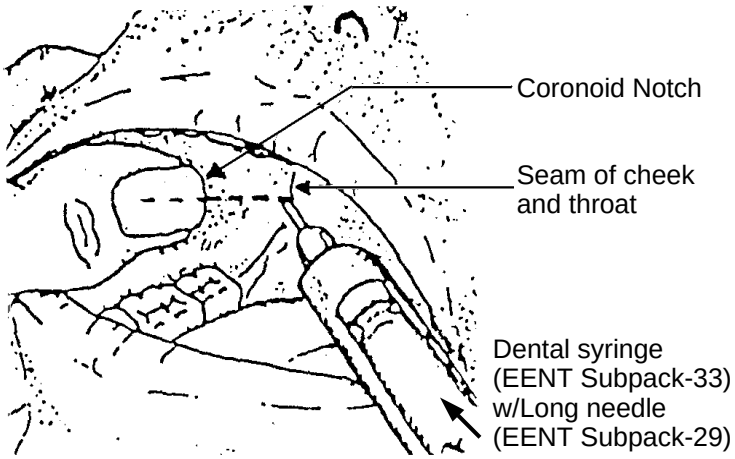


Figure 5-7b.- Lower (mandibular) molar anesthesia #2.

TEMPORARY FILLING

> WARNING
> Use only if missing portion of filling or tooth does not include an exposed pulp. If dental pulp exposed, see EXPOSED PULP

1. Unstow:

Med Locker	Gauze Pads	(EENT Subpack-2)
	Temporary filling	(EENT Subpack-24)
	Dental carver	(EENT Subpack-26)

2. Squeeze filling material onto finger
3. Place in tooth, wipe off excess w/Gauze Pad (EENT Subpack-2)
4. Bite and rub teeth together, then open mouth and adjust filling slightly out of bite using Gauze Pad (EENT Subpack-2) and/or dental carver (EENT Subpack-26)
5. Allow 5 min for initial set; be careful with filling for at least 24 hr

EXPOSED PULP

NOTE

Don non-sterile Gloves (CCK) and Goggles (CCK) to apply Eugenol. Consider use of Dental Injection if painful prior to exposure of pulp

1. Unstow:

Med Locker	Tubex Injector	(Trauma Subpack-31, Drug Subpack-Spine, Drug Subpack-19)
	Toothache Kit (tweezers, cotton pellets, Tubex Syringes)	(EENT Subpack-35)
	Gauze Pads	(EENT Subpack-2)
	Dental Explorer Probe	(EENT Subpack-26)

2. Assemble Tubex Injector (see Tubex Injector Technique, 4-28)

3. Remove 1 cotton pellet from box with supplied tweezers (EENT Subpack-35), resizing cotton pellet as necessary to fit opening of pulp
4. Remove red cap from Tubex Injector and apply enough Eugenol to cotton pellet to lightly moisten it. Remove excess Eugenol by squeezing out excess w/Gauze Pad (EENT Subpack-2)
5. Place lightly moistened cotton pellet into exposed pulp area of tooth, using tweezers and Dental Explorer Probe (EENT Subpack-26) to push pellet into the 'hole'
6. Keep pellet in place for remainder of mission. Check daily and replace if covered w/food debris. Replace w/new pellet and Eugenol if persistent pain

WARNING
Do not place filling in tooth w/ exposed pulp

REPLACING CROWN w/TEMPORARY CEMENT

NOTE
If no pain, especially when eating or drinking, stow crown in secure location; can safely be replaced upon return to Earth

1. Unstow:

Cotton Swabs	(EENT Subpack-34)
Dental carver	(EENT Subpack-26)
Dycal Base	(EENT Subpack-1)
Dycal Catalyst	(EENT Subpack-1)
Dental Explorer Probe	(EENT Subpack-26)
Dental floss	(Personal Hygiene Kits)
Tongue depressor	(EENT Subpack-34)
Gauze Pads (4)	(EENT Subpack-2)

2. Remove residual cement from crown and tooth, utilizing dental carver (EENT Subpack-26)
3. Carefully check fit of crown by replacing on tooth and biting down. Remove and dry crown. Dry and isolate tooth as well as possible w/rolled Gauze Pad (EENT Subpack-2)

4. Place a 1/2-inch line of both Dycal Base and Dycal Catalyst (EENT Subpack-1) on one end of Tongue Depressor (EENT Subpack-34) and mix well using stick end of cotton swab (EENT Subpack-34)
5. Place small portion of Dycal mixture around inside walls of crown; seat crown on tooth using a positive rocking force. Place cotton tip end of swab over crown and have patient bite down for 3 sec. Remove cotton swab and have patient bite down to determine if crown is fully seated

   If crown not fully seated:

   6. Carefully remove crown by prying up at different locations on crown margin w/dental carver (EENT Subpack-26) until crown is loose. Remove crown; return to step 2

   If crown fully seated:

   7. Replace cotton swab over crown and have patient continue biting on swab w/moderate pressure for 5 min
   8. Gently clean remaining cement from around gum w/Dental Explorer Probe (EENT Subpack-26) and dental floss (Personal Hygiene Kits). (Place a knot in center of 18-inch piece of dental floss; glide it back and forth gently between the crown and the adjacent teeth to clean cement from between the teeth)

URINARY RETENTION

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

1. Unstow:

Med Locker	Gloves, sterile	(Trauma Subpack-24)
	Urine Chemstrips 10 SG	(Trauma Subpack-15)
	^Povidone-Iodine Swabs	(Trauma Subpack-7, IV Admin-19, Airway Subpack-10)
	Cotton Swabs	(EENT Subpack-34)
	Catheter, Foley OR Catheter, Straight	(Trauma Subpack-10)
	Lubricant (water soluble)	(Trauma Subpack-9, Airway Subpack-13)
	Ambulatory Leg-Bag	(Trauma Subpack-1)
	Syringes (10 cc)	(Airway Subpack-15, Trauma Subpack-22, EENT Subpack-20)
	Saline	(IV Admin-1, Saline Supply Bag, Middeck Locker, EENT Subpack-1)
	Needle, 22ga	(Trauma Subpack-22)

2. Consult Surgeon for catheter type. Surgeon will provide use and resterilization techniques for Straight Catheter
3. Expose patient
4. Don sterile Gloves
5. Clean catheter insertion site on patient w/^Povidone-Iodine Swabs

For males:

6. Cleanse tip of penis w/^Povidone-Iodine Swab from urethra outward

For females:

7. Cleanse area of urethra w/^Povidone-Iodine Swab, cleansing from urethra towards vagina only (front to back)

8. Connect catheter to Ambulatory Leg-Bag

9. Cover tip of catheter w/Water Soluble Lubricant

10. Insert catheter w/firm pressure until urine flows.
    Continue inserting to approx 2 cm depth (fig 5-8)

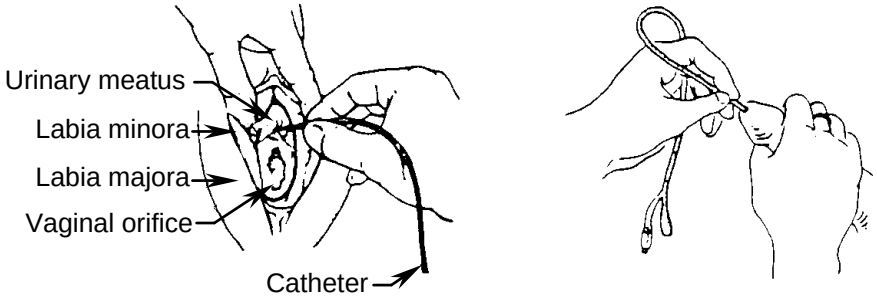


Figure 5-8.- Catheter insertion.

11. Maintain catheter in place until urine flow ceases

To determine if catheter should be removed:

12. Contact Surgeon

WARNING Do not pull on catheter while balloon is inflated

If catheter to remain inserted:

13. Inflate balloon w/syringe using 5-mL saline

14. Release small amount of urine from Leg Bag
15. Perform urine Chemstrip 10 SG testing
16. Go to BLADDER INFECTION, 2-5

VOMITING (also see MOTION SICKNESS, 4-38)

1. Avoid solid foods, milk products for 24 hr
2. Maintain fluid intake

After vomiting:

3. Wait 20 min prior to drinking frequent small amounts of fluid

If abdominal pain present, or blood noted in vomitus:

4. Contact Surgeon, see ABDOMINAL PAIN, 2-2

Anti-Vomiting Medication:

Med Locker

5. *****Phenergan (oral) (Drug Subpack-15)
   Dose: 1-2 tabs every 4-6 hr as needed

   -OR-

   *****Phenergan (suppository) (Drug Subpack-10)
   Dose: 1 every 6 hr as needed

   -OR-

   *****Phenergan (Injectable) (Drug Subpack-Spine)
   Dose: Inject 1/2 to 1 mL intramuscularly every 6 hr (see INJECTIONS, INTRAMUSCULAR, 4-24)

YEAST INFECTION

Symptoms: Vaginal itching/burning
White vaginal discharge

Signs: White vaginal discharge
Vaginal redness

Treatment:

Med Locker

1. *****Diflucan (Drug Subpack-18)
   Dose: 1 tab by mouth

   Possible side effects: Headache, nausea, abdominal pain, diarrhea. Symptoms are usually transient

2. Contact Surgeon if not resolved in 2-3 days

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SECTION 6

MEDICATION SIDE EFFECTS

MEDICATION SIDE EFFECTS 6-2

MEDICATION SIDE EFFECTS

*****Contact Surgeon before giving any medication marked w/asterisk. In emergency or when orbiter LOS, begin appropriate treatment; call Surgeon as soon as possible

> WARNING
> ^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

> WARNING
> Following drugs should not be used together as they may cause excessive drowsiness in combination: Ambien, Benadryl, Claritin, Demerol, Duragesic Patch (Fentanyl), Morphine Sulfate, Phenergan, Restoril, Valium, Vicodin

acetaminophen – See TYLENOL

*****acetazolamide – See DIAMOX

AFRIN – Long-acting topical nasal decongestant
Possible side effects: Burning, stinging, sneezing, or increased nasal discharge. Usage more frequently than directed can produce chronic nasal congestion

*****albuterol – See PROVENTIL INHALER

*****ALCAINE (proparacaine) – Anesthetic eye drops for eye exams

***** Do NOT repeat Alcaine dose *****
***** w/o contacting Surgeon *****

*****AMBIEN (zolpidem) – Used to induce sleep
Possible side effects: Anxiety, fatigue, headache, irritability, nausea, vomiting, abdominal pain, tremors, double vision (see general WARNING, 6-2)

*****amikacin – See AMIKIN

*****AMIKIN (amikacin) – I.V. antibiotic

*****amoxicillin/clavulanate – See AUGMENTIN

ANUSOL HC – Suppository for relief of pain/itching from hemorrhoids or other rectal problems
Possible side effects: Discontinue if anal irritation develops/worsens

Artificial Tears – See REFRESH PLUS

WARNING
Do not use Aspirin in patients w/asthma, history of aspirin allergy, or GI or other bleeding problems

ASCRIPTIN (aspirin) – Pain reliever, anti-inflammatory
Possible side effects: Upset stomach, ringing in ears

aspirin – See ASCRIPTIN

*ATROPINE – Given I.V. only
Use only in cardiopulmonary arrest. Contact Surgeon

*AUGMENTIN (amoxicillin/clavulanate) – Antibiotic
Possible side effects: Nausea, diarrhea, rash

AYR SALINE MIST – Used to treat congestion and nasal dryness
Possible side effects: Nasal irritation

*azithromycin - See ZITHROMAX

WARNING
Do not use Bactrim DS if allergy to sulfa or trimethoprim exists. Give w/caution to patients w/severe allergy or asthma

*BACTRIM DS (trimethoprim/sulfamethoxazole) – Antibiotic
Possible side effects: Skin rash, headache, stomach upset

^BACTROBAN OINTMENT (mupirocin) – Topical antibiotic

BENADRYL (diphenhydramine) – (oral and *****injectable) – Antihistamine; used for allergic reactions or for drug-induced muscle spasms

Possible side effects: Drowsiness, inability to concentrate, dry mouth, blurred vision, rash, sensitivity to light, headache, rapid heart rate, dizziness, fatigue (see general WARNING, 6-2)

bisacodyl – See DULCOLAX

*****bupivacaine plain – See MARCAINE PLAIN

*****cefadroxil – See DURICEF

*****cilastin/imipenem – See Primaxin IV

*****^CILOXAN OINTMENT (ciprofloxacin) – Antimicrobial eye ointment

Possible side effects: Local burning or discomfort; use may result in overgrowth of nonsusceptible organisms

*****CIPRO (ciprofloxacin) – Antibiotic

Possible side effects: Nausea, diarrhea, vomiting, abdominal pain/discomfort, headache, restlessness

*****^ciprofloxacin – See ^CILOXAN OINTMENT, CIPRO

*****CLARITIN (loratadine) – Antihistamine, anti-allergy

Possible side effects: Headache, sleepiness/drowsiness, fatigue, dry mouth (see general WARNING, 6-2)

^clotrimazole cream – See ^LOTRIMIN AF CREAM

COUGH LOZENGES – For cough suppression

*CYCLOGYL (cyclopentolate) – Eye drops for pupil dilation
Possible side effects: Transient burning, blurred vision due to pupil dilation, sensitivity to light

*cyclopentolate – See CYCLOGYL

deltasone – See PREDNISONE

WARNING
Sedation w/Demerol may be additive if given w/ other drugs that depress central nervous system (see general WARNING, 6-2); may cause low blood pressure, reduced breathing rate

*DEMEROL (meperidine) – Narcotic pain reliever
Possible side effects: Dizziness, lightheadedness, sedation, nausea, vomiting, sweating, dry mouth, blurred vision, constipation

^desoximetasone – See ^TOPICORT

*dexamethasone – Injectable steroid for treatment of increased intracranial pressure, severe allergic reactions

WARNING
Do not use Dexedrine in patient w/high blood pressure; may impair ability to concentrate

*DEXEDRINE (dextroamphetamine) – For motion sickness
Possible side effects: Dizziness, rapid heart rate, restlessness, tremor, headache, loss of appetite

*dextroamphetamine – See DEXEDRINE

*DIAMOX (acetazolamide) – For altitude sickness
Possible side effects: Minimal w/short-term therapy – tingling sensation in extremities, loss of appetite, increased urine output, occasional drowsiness, confusion

*diazepam – See VALIUM

*DIFLUCAN (fluconazole) – Oral antifungal medication for vaginal yeast infections
Possible side effects: Headache, nausea, abdominal pain, diarrhea. Symptoms are usually transient

diphenhydramine – See BENADRYL

DULCOLAX (bisacodyl) – Tablets or suppositories; for constipation
Possible side effects: Abdominal cramps

*DURAGESIC PATCH (fentanyl) – Use only for severe pain. (see general WARNING, 6-2)
Possible side effects: Respiratory depression, low blood pressure. Other crewmembers should avoid contact w/skin

WARNING
Do not use Duricef if there is history of Penicillin or Cephalosporin allergy

*DURICEF (cefadroxil) – Antibiotic
Possible side effects: Diarrhea, nausea, vomiting, abdominal pain, rash

DYCAL (base and catalyst) – Used for crown replacement
Possible side effects: Skin and eye irritant

*EPINEPHRINE (Injectable) – Use only in cardiopulmonary arrest or severe allergic reaction. Contact Surgeon

EUGENOL – Local antiseptic and analgesic
Possible side effects: Skin and eye irritant

*fentanyl – See DURAGESIC PATCH

*FLAGYL (metronidazole) – Antibiotic
Possible side effects: Nausea, headache, vomiting, diarrhea, loss of appetite, metallic taste, rash

*fluconazole – See DIFLUCAN

*GENTAK OPHTHALMIC OINTMENT (gentamicin) – Antibiotic eye ointment
Possible side effects: Occasional burning or stinging of eye

*gentamicin – See GENTAK OPHTHALMIC OINTMENT

guaifenesin/pseudophedrine – See Mucinex D

*HALDOL (haloperidol) – Injectable major tranquilizer. Use only after contact w/Surgeon

*haloperidol – See HALDOL

*hydrocodone/acetaminophen – See VICODIN

ibuprofen – See MOTRIN

WARNING
Do not use Imipenem if there is history of Penicillin or Cephalosporin allergy

IMODIUM (loperamide HCl) – Used to stop diarrhea
Possible side effects: Abdominal discomfort, nausea, vomiting, constipation, drowsiness, dizziness, dry mouth

*INDERAL (propranolol hydrochloride) – Oral medication that decreases heart rate and blood pressure, decreases heart workload; used for high blood pressure, chest pain

*ISOPTIN (verapamil) – Given I.V. only; use only for very rapid heart rates that do not resolve w/other therapy. Contact Surgeon

KENALOG IN ORABASE (triamcinolone acetonide) – Topical steroid for treatment of mouth ulcers and fever blisters

*lidocaine plain – See XYLOCAINE PLAIN

*lidocaine w/epinephrine – See XYLOCAINE W/EPINEPHRINE

*lidocaine/cardiac – See XYLOCAINE/CARDIAC

loperamide HCl – See IMODIUM

*loratadine – See CLARITIN

^LOTRIMIN AF CREAM (clotrimazole cream) – Antifungal skin medication

WARNING
Low blood pressure, heart block, seizures may occur w/overdose of Marcaine Plain. Do not inject intravenously; give smallest amount possible subcutaneously

WARNING
Do not use lidocaine with epinephrine for anesthesia on fingers, toes, earlobes, or nose where constriction of blood vesels may lead to tissue death

*MARCAINE PLAIN (bupivacaine plain) – Local anesthetic used prior to laceration repair

*meperidine – See DEMEROL

*metronidazole – See FLAGYL

*MORPHINE SULFATE – Use only for severe pain. Contact Surgeon (see general WARNING, 6-2)
Possible side effects: Respiratory depression, low blood pressure

WARNING
Do not take Motrin if allergic to aspirin

MOTRIN (ibuprofen) – Intermediate-strength pain reliever, anti-inflammatory agent
Possible side effects: Upset stomach, diarrhea; if possible, take w/food and drink

Mucinex D (guaifenesin/pseudophedrine) – Decongestant
Possible side effects: Headache, nervousness, nausea, vomiting

^mupirocin – See ^BACTROBAN OINTMENT

MYLANTA – Antacid/antiflatulent

*naloxone – See NARCAN

*NARCAN (naloxone) – Intravenous narcotic antagonist. Use only under Surgeon's direction

^NEOSPORIN PLUS – Aids in prevention of infection and provides temporary pain relief in minor cuts, scrapes, burns

NITROGLYCERIN – patch and tablets – Used in treatment of angina
Possible side effects: Headache, postural hypotension, dizziness

*NITROSTAT – nitroglycerin tabs – Used only for treatment of heart attacks, other cardiac emergencies. Contact Surgeon

*norgestrel/ethinyl estradiol – See OGESTREL

*OGESTREL (norgestrel/ethinyl estradiol) – Female hormone mixture for controlling abnormal menstrual bleeding
Possible side effects: Nausea, increased blood pressure, fluid retention

PEPTO-BISMOL – Bismuth compound used to treat nausea, indigestion, diarrhea
Possible side effects: May turn tongue, stool black

phenazopyridine – See PYRIDIUM

WARNING
Phenergan may have an additive sedative effect w/other central nervous system depressants (see general WARNING, 6-2). Spasms of head, neck muscles may occur w/intramuscular injection. Do not exceed 100 mg in a 24-hr period

*PHENERGAN (promethazine) (oral, suppository, and injectable) – Antinausea, antihistamine
Possible side effects: Sedation, inability to concentrate, drowsiness, dizziness, blurred or double vision, nausea, rash

PREDNISONE (deltasone) – Steroid for treatment of severe allergic reactions
Possible side effects: High blood pressure, salt and water retention, mood changes, increased sweating, headache, vertigo

*Primaxin IV – Antibiotic
Possible side effects: Nausea, diarrhea, vomiting, rash, possible pain at injection site
Note: Mix powder w/100 mL normal Saline and shake to obtain a clear solution. Administer intravenously. Give slowly over 20-30 min period

*promethazine – See PHENERGAN

WARNING
Do not use more than two drops of Proparacaine eye drops per treatment as corneal damage may occur. Do not rub eyes for 30 min following anesthetic administration

*****proparacaine eye drops – See ALCAINE

*****propranolol hydrochloride – See INDERAL

*****PROVENTIL INHALER (albuterol) – (Bronchodilator) Given for shortness of breath due to wheezing
Possible side effects: Palpitations, tachycardia, increase blood pressure, tremor, nausea

pseudoephedrine – See SUDAFED

PYRIDIUM (phenazopyridine) – Relieves pain from bladder infection; compatible w/antibacterial treatment
Possible side effects: Colors urine orange, occasional stomach or intestinal upset

REFRESH PLUS (Artificial Tears) – Saline eye drops for dryness, irritation

*****RESTORIL (temazepam) – Benzodiazepine used to treat insomnia
Possible side effects: Residual drowsiness, dizziness, lethargy (see general WARNING, 6-2)

^SILVADENE CREAM (silver sulfadiazine) – Topical burn therapy
Possible side effects: Burning on application, potential allergic reaction. Avoid if allergic to sulfa drugs

^silver sulfadiazine – See ^SILVADENE CREAM

WARNING
Do not use Sudafed in a patient w/high blood pressure. Can cause high blood pressure, rapid heart rate

SUDAFED (pseudoephedrine) – Decongestant

*temazepam – See RESTORIL

TOBRADEX (tobramycin and dexamethasone) – Used in external eye infection with inflammatory conditions
Possible side effects: Delayed wound healing, lacrimation, itching eyes, edema of the eyelid, allergic contact dermatitis, increased intraocular pressure, glaucoma and cataract formation

tobramycin and dexamethasone – See TOBRADEX

^TOPICORT (desoximetasone) – Cream for skin rashes

triamcinolone acetonide – See KENALOG IN ORABASE

*trifluridine – See VIROPTIC

*trimethoprim/sulfamethoxazole – See BACTRIM DS

TYLENOL (acetaminophen) – Aspirin-free pain reliever
Possible side effects: Overdose could cause sedation

*valacyclovir – See VALTREX

WARNING
Valium may cause low blood pressure, reduced breathing rate, sedation when given I.V. Additive sedative effects may occur w/other central nervous system depressants (see general WARNING, 6-2)

*****VALIUM (diazepam) – (Injectable, oral, Autoinjectable) sedative, anticonvulsant (antiseizure drug)
Possible side effects: Drowsiness, fatigue, nausea, slow heart rate, blurred vision

*****VALTREX (valacyclovir) – (Oral) Antiviral tablets
Possible side effects: Headache, dizziness, depression, nausea, diarrhea, constipation, abdominal pain, anorexia, vomiting, neuromuscular weakness

*****verapamil – See ISOPTIN

WARNING
Vicodin may seriously impair concentration and cause drowsiness/sedation (see general WARNING, 6-2)

*****VICODIN (hydrocodone/acetaminophen) – Narcotic pain reliever
Possible side effects: Lightheadedness, dizziness, nausea, vomiting, constipation

*****VIROPTIC (trifluridine) – Antiviral eyedrops
Possible side effects: Mild transient burning or stinging upon instillation, eyelid swelling, swelling of the eye, irritation, dry eyes, redness of the eyes, increased intraoccular pressure

WARNING
Rapid heart rate, seizures may occur w/overdose Xylocaine Plain. Do not inject intravenously; give smallest amount possible subcutaneously

*****XYLOCAINE PLAIN (lidocaine plain) – Injectable used for laceration repair and as dental anesthetic

WARNING

Do not use Xylocaine w/Epinephrine for anesthesia on fingers, toes, earlobes, or nose where constriction of blood vessels may lead to tissue death. Other warnings apply as for Xylocaine above

*****XYLOCAINE W/EPINEPHRINE (lidocaine w/Epinephrine) – Injectable local anesthetic used prior to selected laceration repair

*****XYLOCAINE/CARDIAC (lidocaine/cardiac) – Use only in cardiopulmonary arrest or w/serious heart rhythm abnormalities. Contact Surgeon

*****ZITHROMAX (azithromycin) – Antibiotic
Possible side effects: Diarrhea, nausea, abdominal pain

*****zolpidem – See AMBIEN

SECTION 7

TOXICOLOGY

HAZARDOUS SPILL LEVEL DEFINITIONS TABLE..... 7-2
CONTAMINANT CLEANUP PROCEDURES..... 7-5
EYE EXPOSURE TOXICOLOGY TREATMENT 7-6
SKIN EXPOSURE TOXICOLOGY TREATMENT 7-6
INHALATION EXPOSURE TOXICOLOGY TREATMENT
(INCLUDES CARDIOVASCULAR AND CENTRAL
NERVOUS SYSTEM) 7-7

HAZARDOUS SPILL LEVEL DEFINITIONS TABLE

COLOR/ LEVEL	STATE	SYSTEMIC/ INTERNAL OR DAMAGE	FLAMMABILITY	IRRITANCY	SUMM OF HAZARD LEVEL	PROTECTIVE EQUIPMENT
RED 4	Gas, volatile liquid, fumes Not containable ARS used to decontaminate	Appreciable effects: Coord, perception, memory, etc Potential for long-term or delayed serious injury (e.g., cancer) or may result in internal tissue damage	Can produce flammable vapors/fine mist Sufficient qty to produce hazard	Mod-to-severe Potential for long-term performance decrement Eye hazards: Risk of permanent eye damage Therapy reqd	Catastrophic: Can cause disabling injury Potential for systemic tox Mod-to-severe tissue damage e.g., Metal vapor like Mercuric Iodide	All crew-members don, activate: QDMs or SEBS
ORANGE 3	Solid or non-volatile liquid Containable	Appreciable effects: Coord, perception, memory, etc Potential for long-term or delayed serious injury (e.g., cancer) or may result in internal tissue damage	Can produce flammable vapors/fine mist Sufficient qty to produce hazard	Possible irritation accompanies systemic tox concerns Irritancy alone would not drive to Level 3 Therapy reqd	Catastrophic: Can cause disabling injury or systemic tox, internal tissue damage e.g., Acetonitryle	All crew-members don, activate: QDMs or SEBS, Silver Shield gloves

HAZARDOUS SPILL LEVEL DEFINITIONS TABLE (Cont)

COLOR/ LEVEL	STATE	SYSTEMIC/ INTERNAL OR DAMAGE	FLAMMABILITY	IRRITANCY	SUMM OF HAZARD LEVEL	PROTECTIVE EQUIPMENT
YELLOW 2	Solid or non-volatile liquid Containable	None	Can produce flammable solids/liquids, but not vapors Sufficient qty to produce hazard	Mod-to-severe Lasts > 30 min Potential for long-term performance decrements Eye hazards: May risk permanent damage, can affect visual acuity > 30 min Therapy reqd	Catastrophic: Can cause disabling injury No systemic tox concerns e.g., Sodium Hydroxide w/very high pH (>12)	All crew-members in vicinity*: Don goggles, surgical masks, Silver Shield gloves

*In vicinity: Crewmembers in cabin or module w/spill

HAZARDOUS SPILL LEVEL DEFINITIONS TABLE (Concluded)

COLOR/ LEVEL	STATE	SYSTEMIC/ INTERNAL OR DAMAGE	FLAMMABILITY	IRRITANCY	SUMM OF HAZARD LEVEL	PROTECTIVE EQUIPMENT
BLUE 1	Gas, solid, liquid May or may not be containable	Minimal effects No potential for lasting internal tissue damage	Low flammability High flash point Low vapor pressure	Slight-to-mod Lasts > 30 min Eye only: can affect visual acuity > 30 min May/May not req therapy	Critical: Can cause nondisabling injury e.g., 15% Sodium Chloride	All crew-members in vicinity*: Don goggles, surgical masks Cleanup crew also don surgical gloves
GREEN 0	Gas, solid, liquid May or may not be containable	None	None	Slight Lasts < 30 min All effects resolved w/in 30 min No therapy reqd	Nonhazard: Neither health nor fire. If not containable, √MCC e.g., Silicone oil or weak hypertonic solutions	None

*In vicinity: Crewmembers in cabin or module w/spill

CONTAMINANT CLEANUP PROCEDURES

1. Remove individual from further exposure

2. Don reqd protective equipment:
   - Tox Level 4: Not containable by cleanup crew. Don QDM or SEBS
   - CCK Tox Level 3: QDM or SEBS, Silver Shield Gloves
   - Tox Level 2: Surgical masks, goggles, Silver Shield Gloves
   - Tox Level 1: Surgical masks, goggles, Surgical gloves
   - Tox Level 0: No protective equipment reqd

3. Follow Toxicology Treatment Protocols, section 7

4. Perform cleanup utilizing CCK contents

<u>If Chemical Spill</u>:

1. Don Silver Shield Gloves
2. Don Yellow Mess-Up Mitt over gloves
3. Clean up spill
4. Turn Mitt inside out and seal w/adhesive strip
5. Place Mitt and gloves in Chemical Resistant Bag(s)
6. Seal Bag(s) w/double stick tape on bag
7. Identify hazard level w/appropriate Toxicology Identification decal
8. Once closed, dispose of Chemical Resistant Bag(s) in Wet Trash

<u>If Biological/Medical Event</u>:

CCK

1. Don non-sterile Surgical gloves
2. Don Red Bio-Wipe Bag over gloves
3. Clean up biological waste
4. Turn Red Bio-Wipe Bag inside out and seal with adhesive strip
5. Place gloves and Red Bio-Wipe Bag in large Ziplock Containment Bag(s)
6. Identify hazard level w/appropriate Biohazard Identification decal
7. Once closed, dispose of Ziplock Containment Bag(s) in Wet Trash

EYE EXPOSURE TOXICOLOGY TREATMENT

1. Remove individual from further exposure

If reqd:

2. Don Quick Don Mask (QDM) to protect against further exposure
3. Perform EYE PROBLEMS, CHEMICAL BURN, 3-17

Galley

4. Immediately activate Shuttle Emergency Eyewash (SEE)
5. Perform EYE EXAMINATION, 3-15; evaluate for EYE PROBLEMS, FOREIGN BODY/ABRASION, 3-20

6. Contact Surgeon

SKIN EXPOSURE TOXICOLOGY TREATMENT

1. Remove individual from further exposure

If reqd:

2. Don Quick Don Mask (QDM) to protect against further exposure

3. Use Contaminant Cleanup Kit (CCK)

4. Remove contaminated clothing

5. Remove remaining toxic material from skin

6. Irrigate affected area w/copious amounts of water

If unable to flush:

Med Locker

7. Use Gauze Pads (IV Admin-14, Airway Subpack-11, Trauma Subpack-14, EENT Subpack-2) wetted w/cold water

As reqd:

8. Perform MAJOR BURNS (1-32) or MINOR BURNS (2-8)

9. Contact Surgeon

INHALATION EXPOSURE TOXICOLOGY TREATMENT (INCLUDES CARDIOVASCULAR AND CENTRAL NERVOUS SYSTEM)

1. Remove individual from further exposure

2. Don Quick Don Mask (QDM) to protect against further exposure

> WARNING
> Signs of toxicity may be delayed.
> If in doubt about situation, maintain crewmember on QDM until Surgeon contacted

If respiratory distress:

3. √Respiratory rate, record _____

Symptoms	√	Signs	√
Shortness of breath		Pale	
Difficulty breathing		Sweating	
Anxious		Retractions	
Fatigue		Wheezing	
		Coarse breath sounds	
		Changes in mental status	

If conscious, breathing on own:

4. Continue to use QDM

> WARNING
> Do not administer Epinephrine if exposed to Halogenated Hydrocarbons (i.e., Freon Halon 1301)

5. As reqd, perform ALLERGIC REACTION – SEVERE REACTION, 1-29, then:
6. Contact Surgeon for drug administration

~

If unconscious, not breathing:

7. As reqd, perform CPR (CARDIOPULMONARY RESUSCITATION), ORAL AIRWAY, 1-11, or INTUBATION, ENDOTRACHEAL, 1-12, then:
8. As reqd, perform AMBU Bag procedures (see inside cover of Medical Accessory Kit or AMBU Bag reference card), then:
9. Contact Surgeon for drug administration

10. √Pulse rate, record _____

If pulse present:

11. Continue w/oxygen
12. As reqd, perform CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, 1-8, then:
13. Contact Surgeon for drug administration

If no pulse:

14. Continue w/oxygen
15. As reqd, perform CPR (CARDIOPULMONARY RESUSCITATION), 1-6, steps 8-11 (compression/ventilation cycles), then:
16. As reqd, perform INJECTIONS, INTRAVENOUS (I.V.), INTRAVENOUS FLUID INFUSION, 4-11, then:
17. As reqd, perform CPR (CARDIOPULMONARY RESUSCITATION), CARDIAC MONITORING, 1-8, then:
18. Contact Surgeon for drug administration

NOTE

Blood pressure will be present only when crewmember has pulse

19. √Blood Pressure (BP); record _____

20. Contact Surgeon for drug administration

21. As reqd, perform SEIZURES, 1-42, then:

22. Contact Surgeon for drug administration

SECTION 8

SOMS STOWAGE AND USAGE

ALPHABETICAL LIST 8-2
USAGE LIST 8-15

ALPHABETICAL LIST

WARNING
* Indicates item to be used only after Surgeon approval or as directed in C/L

^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

Name	Location	Description	Amount
Absorbant Wipes	CCK		72
Ace Bandage	Trauma Subpack-3 Trauma Subpack-13	4 in wide 6 in wide	1 1
acetaminophen (Tylenol)	Drug Subpack-Spine	325 mg	60 tabs
*acetazolamide (Diamox)	Drug Subpack-43	250 mg	30 tabs
Adaptic Bandages	Trauma Subpack-5	3-in X 3-in	3
Afrin (nasal spray)	EENT Subpack-19	3-mL bottles	6
Air temp monitors	EENT Subpack-10	90-120 degF 58-88 degF	2 2
Airway	Airway Subpack-3	oral	1
*albuterol (Proventil Inhaler)	Drug Subpack-11	6.7-gm container	1
*Alcaine (proparacaine) (eye drops)	EENT Subpack-12	0.5%, 15-mL bottle	1
Alcohol Pads	Electrode Attachment Kit IV Admin-18 Airway Subpack-10 Drug Subpack-16 Drug Subpack-Spine Trauma Subpack-6		8 6 10 15 10 10
*Ambien (zolpidem)	Drug Subpack-Spine	10 mg	75 tabs
AMBU Bag (Bag-Valve Mask)	Trauma Subpack-1	600-mL bag	1
*amikacin (Amikin)	Drug Subpack-29	250 mg/mL, 2-mL unit	1
*Amikin (amikacin)	Drug Subpack-29	250 mg/mL, 2-mL unit	1
*amoxicillin/clavulanate (Augmentin)	Drug Subpack-37	875/125 mg	20 tabs
Anusol HC suppositories	Drug Subpack-41	25 mg	6
artificial tears (eye drops) Refresh Plus	EENT Subpack-16	0.5% 0.4 mL	12
Ascriptin (aspirin)	Drug Subpack-Spine	325-mg aspirin w/Maalox	25 tabs
aspirin (Ascriptin)	Drug Subpack-Spine	325-mg aspirin w/Maalox	25 tabs
*Atropine	Drug Subpack-4	1 mg/mL, 2-mL unit	2
*Augmentin (amoxicillin/clavulanate)	Drug Subpack-37	875/125 mg	20 tabs
*azithromycin (Zithromax)	Drug Subpack-36	250 mg	18 tabs

ALPHABETICAL LIST

WARNING
* Indicates item to be used only after Surgeon approval or as directed in C/L

^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

Name	Location	Description	Amount
*Bactrim DS (trimethoprim/ sulfamethoxazole)	Drug Subpack-38	800 mg/160 mg	28 tabs
^Bactroban Ointment (mupirocin)	Trauma Subpack-19	2%, 22 gm	1
Bags			
Chemical Resistant	CCK	16 in X 12 in Double Stick Tape closure	8
Containment, Ziplock	CCK	12 in X 12 in Ziplock closure	7
Mess-Up Mitts, Yellow	CCK	Chemical Absorbent Mitt Tape closure	2
Red Bio-Wipe	CCK	Biological Absorbent Mitt Tape closure	2
Ziplock	IV Admin-1 Airway Subpack-4	12 in X 12 in	1 1
Bandaids	Trauma Subpack-11 Drug Subpack-12 Drug Subpack-8 Drug Subpack-Spine (SMS Kit) IV Admin-20	1 in X 3 in Sheer Spot 1 in X 3 in 1 in X 3 in Sheer Spot Sheer Spot	10 10 10 10 10 6
Batteries	Airway Subpack-5 EENT Subpack-32	AA size AA size	2 2
*Benadryl, injectable (diphenhydramine)	Drug Subpack-13	50 mg/mL, 1-mL unit	2
Benadryl, oral (diphenhydramine)	Drug Subpack-42	25 mg	20 caps
^Benzoin swabs	Trauma Subpack-8	Sepp applicators	5
Biohazard Identification Labels	CCK		20
bisacodyl (Dulcolax)	Drug Subpack-30 Drug Subpack-39	oral, 5 mg suppository, 10 mg	30 tabs 6
Blistex lip balm	EENT Subpack-24		1
Blood pressure cuff	IV Admin-1	w/aneroid sphyg	1
*bupivacaine (Marcaine)	Trauma Subpack-30	0.5% plain, 2 mL	1
Butterfly Needle	IV Admin-18	21 ga	2

ALPHABETICAL LIST

WARNING
* Indicates item to be used only after Surgeon approval or as directed in C/L

^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

Name	Location	Description	Amount
Catheter, Foley	Trauma Subpack-10	16 Fr, 30-mL balloon, silastic	1
Straight	Trauma Subpack-10 Trauma Subpack-24	16 French, Red Rubber 14 French, Female	1 5
*cefadroxil (Duricef)	Drug Subpack-40	500 mg	20 caps
Chemstrip 10 SG	Trauma Subpack-15		13
*cilastin/imipenem (Primaxin IV)	Drug Subpack-34	500 mg, powder form	2 vials
*^Ciloxan (ciprofloxacin) ointment	EENT Subpack-15	0.3%, 3.5-gm tube	3
*Cipro (ciprofloxacin)	Drug Subpack-40 Drug Subpack-22	500 mg	25 tabs 25 tabs
*ciprofloxacin (Cipro)	Drug Subpack-40 Drug Subpack-22	500 mg	25 tabs 25 tabs
*^ciprofloxacin ointment (Ciloxan)	EENT Subpack-15	0.3%, 3.5-gm tube	3
*Claritin (loratadine)	Drug Subpack-43	10 mg	20 tabs
^clotrimazole cream (Lotrimin AF)	Trauma Subpack-26	1%, 24-gm tube	1
Coban	IV Admin-1	5 in X 5 yard self-adherent wrap	1
Cotton balls	EENT Subpack-22		10
Cotton swabs	EENT Subpack-34		6
Cough lozenges	Drug Subpack-45	5 mg dextromethorphan	15 tabs
*Cyclogyl (cyclopentolate)	EENT Subpack-11	1%, 15-mL bottle	1
*cyclopentolate (Cyclogyl)	EENT Subpack-11	1%, 15-mL bottle	1
deltasone (Prednisone)	Drug Subpack-33	20 mg	30 tabs
*Demerol (meperidine)	Drug Subpack-25	50 mg/mL, 1-mL unit	2
Dental Items	EENT Subpack		
Carver/File	EENT Subpack-26		1
Explorer Probe	EENT Subpack-26		1
Kenalog in Orabase (triamcinolone acetonide)	EENT Subpack-24	5-gm tube	1
Mirror	EENT Subpack-26		1
Needles	EENT Subpack-29	long: 27 ga, 1.25 in	6
	EENT Subpack-36	short: 27 ga, 0.75 in	6
Orangewood Sticks	EENT Subpack-26		2
Syringe	EENT Subpack-33		1

WARNING
* Indicates item to be used only after Surgeon approval or as directed in C/L

^ Do not allow this item to come in contact with EMU. EV and IV crewmembers must contact Surgeon prior to use

Name	Location	Description	Amount
Dental Items (Cont)			
Temporary Filling	EENT Subpack-24		1
Toothache Kit	EENT Subpack-35		1
Eugenol dental anesthetic drops		1 mL tubex	3
Tweezers			
Cotton Pellets			
*Xylocaine (lidocaine)	EENT Subpack-30	2% w/Epinephrine 1:100,000, 2% Plain	3 dental carpules 3 dental carpules
Dycal (Base)	EENT Subpack-1	13-gm tube	1
Dycal (Catalyst)	EENT Subpack-1	11-gm tube	1
^Dermabond	Trauma Subpack-27	skin adhesive	1
^desoximetasone (Topicort)	Trauma Subpack-28	0.25% cream 15-gm tube	1
*dexamethasone	Drug Subpack-28	10 mg/mL, 1-mL unit	2
*Dexedrine (dextroamphetamine)	Drug Subpack-14	5 mg	30 tabs
*dextroamphetamine (Dexedrine)	Drug Subpack-14	5 mg	30 tabs
*Diamox (acetazolamide)	Drug Subpack-43	250 mg	30 tabs
*diazepam, injectable (Valium)	Drug Subpack-22	5 mg/mL, 2-mL unit	2
*diazepam, oral (Valium)	Drug Subpack-20	5 mg	30 tabs
*Diflucan (fluconazole)	Drug Subpack-18	150 mg	6 tabs
*diphenhydramine, injectable (Benadryl)	Drug Subpack-13	50 mg/mL, 1-mL unit	1
diphenhydramine, oral (Benadryl)	Drug Subpack-42	25 mg	20 caps
Drape, sterile	Trauma Subpack-24		1
Dulcolax (bisacodyl)	Drug Subpack-30 Drug Subpack-39	oral, 5 mg suppository, 10 mg	30 tabs 6
*Duragesic Patch (fentanyl)	Drug Subpack-8	25 mcg	1
*Duricef (cefadroxil)	Drug Subpack-40	500 mg	20 caps
Dycal (Base)	EENT Subpack-1	13-gm tube	1
Dycal (Catalyst)	EENT Subpack-1	11-gm tube	1

ALPHABETICAL LIST

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Name	Location	Description	Amount
Ear viewer (Otoscope) + Specula	EENT Subpack-31,32		1 each
Electrode Attachment Kit	Med Locker		
End-Tidal CO2 Detector	Airway Subpack-7		1
*Epinephrine	Drug Subpack-5	1:1000, 1-mL unit	3
Epi Pen w/Injectable Epinephrine	Drug Subpack-9	0.3 mL, 1:1000	2
Eugenol dental anesthetic drops	EENT Subpack-35	1 mL tubex	3
Eye drops (artificial tears) Refresh Plus	EENT Subpack-16	0.5%, 0.4 mL	12
Eye pads	EENT Subpack-4		2
Eye Shield	EENT Subpack-4	metallic eyepatch	1
Eye viewer (ophthalmoscope head)	EENT Subpack-5,32		1
*fentanyl (Duragesic Patch)	Drug Subpack-8	25 mcg patch	1
Finger splint	Trauma Subpack-23		1
*Flagyl (metronidazole)	Drug Subpack-36	250 mg	28 tabs
*fluconazole (Diflucan)	Drug Subpack-18	150 mg	6 tabs
Fluorescein strips	EENT Subpack-6	0.6 mg	8
Foley catheter	Trauma Subpack-10	16 Fr, 30-mL balloon, silastic	1
Forceps	Trauma Subpack-25	Blunt	1
Magill	Airway Subpack-19	curved	1
Gauze Pads	Trauma Subpack-14 IV Admin-14 Airway Subpack-11 EENT Subpack-2	4 in X 4 in 2 in X 2 in 4 in X 4 in 4 in X 4 in	5 6 5 5
*Gentak Ophthalmic Ointment (gentamicin)	EENT Subpack-14	0.3%, 3.5-gm tube	1
*gentamicin (Gentak Ophthalmic Ointment)	EENT Subpack-14	0.3%, 3.5-gm tube	1
Gloves, Silver Shield	CCK	chemical resistant	7 pair

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Name	Location	Description	Amount
Gloves	IV Admin-12 Airway Subpack-8 EENT Subpack-7 CCK	nonsterile, surgical	4 pair 2 pair 2 pair 7 pair
Gloves	Trauma Subpack-24	sterile, surgical	2 pair
Goggles	CCK	eye protection	7
Guaifenesin/pseudophedrine (Mucinex D)	Drug Subpack-44	600-mg guaifenesin, 60-mg pseudophedrine	40 tabs
*Haldol (haloperidol)	Drug Subpack-26	5mg/mL, 1-mL unit	2
*haloperidol (Haldol)	Drug Subpack-26	5mg/mL, 1-mL unit	2
Hazard Identification Labels	CCK	decals yellow,green,blue, orange,red Biohazard IDs	6 each 20
Hemostat	Trauma Subpack-32 Trauma Subpack-33 Airway Subpack-2	small small curved	1 1 1
*hydrocodone/acetaminophen (Vicodin HP)	Drug Subpack-21	10 mg/660 mg	20
ibuprofen (Motrin)	Drug Subpack-Spine	400 mg	30 tabs
ILMA (Intubating Laryngeal Mask Airway)	Airway Subpack-17 Airway Subpack-18	small large	1 1
Imodium (loperamide HCl)	Drug Subpack-30	2 mg	32 caps
*Inderal (propanolol hydrochloride)	Drug Subpack-7	40 mg	24 tabs
Injector (Tubex)	Drug Subpack-Spine Drug Subpack-19 Trauma Subpack-31		1 1 1
Intubating Laryngeal Mask Airway (ILMA)	Airway Subpack-17 Airway Subpack-18	small large	1 1
*Isoptin (verapamil)	Drug Subpack-3,19	2.5 mg/mL, 2-mL unit	2
I.V. Administration Set	IV Admin-17		2
I.V. Intracatheter	Airway Subpack-11 Trauma Subpack-29 IV Admin-8,9 IV Admin-10,11	14 ga 18 ga 18 ga 20 ga	2 1 2 2
Kenalog in Orabase (triamcinolone acetonide)	EENT Subpack-24	5-gm tube	1
Kerlix	Trauma Subpack-2	4.5 in wide	1 roll
Kling	Trauma Subpack-12	3 in wide gauze dressing	2 rolls
Laryngoscope	Airway Subpack-5	Handle w/ Macintosh 3 blade	1

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Name	Location	Description	Amount
Lever Lock Cannula	IV Admin-17		4
*Lidocaine (Xylocaine)	EENT Subpack-30	2% w/Epinephrine 1:100,000, 1.8-mL unit	3
*Lidocaine (Xylocaine) Plain	EENT Subpack-30 Trauma Subpack-30	2% w/o Epinephrine, 1.8-mL unit 2% w/o Epinephrine, 2-mL unit	3 2
*Lidocaine/cardiac	Drug Subpack-1,2	20 mg/mL, 5-mL unit	2
Lidocaine/cardiac plunger	Drug Subpack-1,2		2
loperamide HCl (Imodium)	Drug Subpack-30	2 mg	32 caps
*loratadine (Claritin)	Drug Subpack-43	10 mg	20 tabs
^Lotrimin AF Cream (clotrimazole)	Trauma Subpack-26	1%, 24-gm tube	1
Lubricant (water-soluble)	Trauma Subpack-9 Airway Subpack-13	3 gm use w/Foley catheter	10 5
Magill Forceps	Airway Subpack-19	curved	1
Magnifying glasses and strap	EENT Subpack-1,17	10X magnification	1
*Marcaine (bupivacaine) Plain	Trauma Subpack-30	0.5% plain, 2 mL	1
Masks, surgical	CCK		7
Medical Data Logs	Drug Subpack-Cover	crew size + generic	variable
*meperidine (Demerol)	Drug Subpack-25	50 mg/mL, 1-mL unit	2
*metronidazole (Flagyl)	Drug Subpack-36	250 mg	28 tabs
*Morphine Sulfate	Drug Subpack-23,24	10 mg/mL, 1-mL unit	5
Motrin (ibuprofen)	Drug Subpack-Spine	400 mg	30 tabs
Mucinex D (guaifenesin/ pseudophedrine)	Drug Subpack-44	600-mg guaifenesin, 60-mg pseudophedrine	40 tabs
^mupirocin (Bactroban Ointment)	Trauma Subpack-19	2%, 22 gm	1
Mylanta (calcium carbonate/ magnesium hydroxide)	Drug Subpack-35	700 mg/300 mg	24 tabs
*naloxone (Narcan)	Drug Subpack-27	0.4 mg/mL, 1-mL unit	2
*Narcan (naloxone)	Drug Subpack-27	0.4 mg/mL, 1-mL unit	2
nasal catheter	EENT Subpack-21		1
nasal packing, posterior	EENT Subpack-21	10 cm 5.5 cm	1 1
nasal speculum	EENT Subpack-26		1

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Name	Location	Description	Amount
nasal spray (Afrin)	EENT Subpack-19	3-mL bottles	6
Needles	Trauma Subpack-22	22 ga, 1.5 in	2
	EENT Subpack-18	18 ga, 1.5 in	1
	Trauma Subpack-29	18 ga, 1.5 in	1
Butterfly	IV Admin-18	21 ga, 0.75 in	1
^Neosporin Plus	EENT Subpack-25	0.5-oz tube	1
*nitroglycerin patch	Drug Subpack-8	15 mg	1
*nitroglycerin tabs (Nitrostat)	Drug Subpack-6	0.4 mg (1/150)	25
*Nitrostat (nitroglycerin tabs)	Drug Subpack-6	0.4 mg (1/150)	25
*norgestrel/ethinyl estradiol (Ogestrel)	Drug Subpack-17	0.5 mg/0.05 mg	21 tabs
*Ogestrel (norgestrel/ethinyl estradiol)	Drug Subpack-17	0.5 mg/0.05 mg	21 tabs
Op Site (transparent dressing)	IV Admin-14	transparent dressing	6
Operational Bioinstrumentation System (OBS)	Med Locker		
Electrode Attachment Kit (EAK)			1
OBS Belt w/Signal Conditioner			1 ea
Sternal Harness			1
IVA Cable			1
Biomed Cable			2
Ophthalmoscope head	EENT Subpack-5		1
Ophthalmoscope, spare bulb	EENT Subpack-8		1
Oral airway	Airway Subpack-3		1
Otoscope	EENT Subpack-32		1
Otoscope, spare bulb	EENT Subpack-8		1
Patient/Rescuer Restraints	Med Locker		2 sets
Penrose Tubing (tourniquet)	IV Admin-16	1 in X 18 in	1
Pepto-Bismol	Drug Subpack-31		24 tabs
pH Strips	CCK		10 strips
phenazopyridine (Pyridium)	Drug Subpack-17	200 mg	20 tabs
*Phenergan (promethazine) injectable	Drug Subpack-Spine	50 mg/mL, 1-mL unit	10

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Name	Location	Description	Amount
*Phenergan (promethazine)	Drug Subpack-15 Drug Subpack-10	oral, 25 mg suppository, 25 mg	30 tabs 14
Pope Otowicks	EENT Subpack-27		6
Posterior Nasal Packing	EENT Subpack-21	10 cm, 5.5 cm	2
^Povidone-Iodine swabs	Trauma Subpack-7 Airway Subpack-10 IV Admin-19		10 4 6
Prednisone (deltasone)	Drug Subpack-33	20 mg	30 tabs
*Primaxin IV (cilastin/imipenem)	Drug Subpack-34	500 mg, powder form	2 vials
*promethazine (Phenergan) injectable	Drug Subpack-Spine	50 mg/mL, 1-mL unit	10
*promethazine (Phenergan)	Drug Subpack-15 Drug Subpack-10	oral, 25 mg suppository, 25 mg	30 tabs 14
*proparacaine (Alcaine) (eye drops)	EENT Subpack-12	15-mL bottle	1
*propranolol hydrochloride (Inderal)	Drug Subpack-7	40 mg	24 tabs
*Proventil Inhaler (albuterol)	Drug Subpack-11	6.7-gm container	1
pseudoephedrine (Sudafed)	Drug Subpack-Spine	30 mg	100 tabs
Pyridium (phenazopyridine)	Drug Subpack-17	200 mg	20 tabs
Radiation dosimeters	Med Locker		
Refresh Plus (artificial tears, eye drops)	EENT Subpack-16	0.5%, 0.4 mL	12
*Restoril (temazepam)	Drug Subpack-Spine	15 mg	40 caps
Restraints Patient Rescuer	Med Locker		 2 belts 2 belts
Resuscitator	Med Locker		1
Ruler	Trauma Subpack-26		1
Saline	EENT Subpack-1 Middeck Locker IV Admin-1 Saline Supply Bag	100 mL 250 mL 500 mL 500 mL All are 0.9% sodium chloride (NaCl) Purpose: I.V. and irrigation, including eyes	1 2 1 4
Salt tablets	Drug Subpack-Spine	1-gm NaCl	128 tabs

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Name	Location	Description	Amount
Scalpels No. 10, 11 No. 10	Trauma Subpack-25 Airway Subpack-2		1 ea 1
Scissors, curved straight	Trauma Subpack-33 Airway Subpack-2	Surgical instrument assembly	1 pair 1 pair
Sharps Container	Med Locker		1
Shuttle Emergency Eyewash (SEE) System	CCK	Irrigation goggles	1
Silk Sutures	Airway Subpack-11	4-0 Ethicon, Silk	1
^Silvadene Cream (silver sulfadiazine)	Trauma Subpack-20	20-gm tube	1
Silver Nitrate Sticks	EENT Subpack-34		5
Silver Shield, Gloves	CCK	chemical resistant	7 pair
^silver sulfadiazine (Silvadene Cream)	Trauma Subpack-20	20-gm tube	1
Skin Stapler	Trauma Subpack-21	15-shot stapler	1
Skin Staple Remover	Trauma Subpack-21		1
Skin temp monitors	EENT Subpack-23	84-106 degF	15
Space Motion Sickness (SMS) Kit Alcohol Pads (10) Bandaids (10) *Phenergan Injectables (10) Tubex injector (1)	Drug Subpack-Spine	for SMS treatment Sheer Spot	1
Splint	Trauma Subpack-23	finger	1
Stabilizer Rod	Airway Subpack-15		1
Steri-Strip skin closures	Trauma Subpack-16		3
Sterile Drapes	Trauma Subpack-24		1
Sterile Gloves	Trauma Subpack-24		2 pair
Stethoscope	Airway Subpack-12		1
Straight Catheter	Trauma Subpack-10 Trauma Subpack-24	16 French, Red Rubber 14 French, Female	1 5
Stylet	Airway Subpack-6		1
Suction device	Airway Subpack-4	Toomey Syringe	1
Sudafed (pseudoephedrine)	Drug Subpack-Spine	30 mg	100 tabs

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Name	Location	Description	Amount
Surgical Instrument Assembly Forceps, small point Hemostat, small Needle Holder Scissors, curved Tweezers, fine point	Trauma Subpack-33		1 ea
Suture	Trauma Subpack-18 Trauma Subpack-17 Trauma Subpack-17 Trauma Subpack-17 Trauma Subpack-18 Airway Subpack-11	4-0 Dexon, w/needle 5-0 Ethilon, w/needle 4-0 Ethilon, w/needle 3-0 Ethilon, w/needle 2-0 Vicryl w/CT-1 needle 4-0 Ethilon, silk	1 1 2 2 1 1
Syringes	Airway Subpack-16 Airway Subpack-15 Trauma Subpack-22 EENT Subpack-20 IV Admin-2,3,4,5,6,7	35 mL 10 mL 3 mL	1 1 1 1 1 in ea
Tape	IV Admin-13 Airway Subpack-9 Trauma Subpack-34 EENT Subpack-9	0.5 in wide 1 in wide 1 in wide 0.5 in wide	1 roll 1 roll 1 roll 1 roll
Tegaderm (transparent dressing)	Trauma Subpack-4	transparent dressing	5
Telfa pads	EENT Subpack-22	3-in X 4-in nonstick bandages	2
*temazepam (Restoril)	Drug Subpack-Spine	15 mg	40 caps
Thermometers, air temp	EENT Subpack-10 EENT Subpack-10	90-120 degF 58-88 degF	2 2
Thermometers, oral	EENT Subpack-3	96-104 degF	18
Thermometers, skin temp	EENT Subpack-23	84-106 degF	15
Tobradex (tobramycin and dexamethasone)	EENT Subpack-28	0.3%/0.1% ophthalmic suspension 5 mL	1
tobramycin and dexamethasone (Tobradex)	EENT Subpack-28	0.3%/0.1% ophthalmic suspension 5 mL	1
Tongue depressors	EENT Subpack-34		5
Toomey Syringe suction device	Airway Subpack-4		1

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Name	Location	Description	Amount
Toothache Kit	EENT Subpack-35		1
Eugenol dental anesthetic drops		1 mL tubex	3
Tweezers			
Cotton pellets			
^Topicort (desoximetasone)	Trauma Subpack-28	0.25% cream 15-gm tube	1
Tourniquet (Penrose Tubing)	IV Admin-16	1 in x 18 in	1
Towels	Misc Stowage		
Tracheal Tube (ET Tube)	Airway Subpack-20	w/stylet	1
Tracheostomy Items	Airway Subpack		1
Alcohol Pads	Airway Subpack-10		
Straight scissors	Airway Subpack-2		
Curved forceps	Airway Subpack-19		
Tracheal hook	Airway Subpack-2		
Tracheostomy tube	Airway Subpack-1		
Tracheostomy tube holder	Airway Subpack-1		
Scalpel	Airway Subpack-2	No. 10	
Povidone-Iodine swabs	Airway Subpack-10		4
Silk Sutures	Airway Subpack-11	4-0 Ethicon, Silk	1
transparent dressing (Tegaderm)	Trauma Subpack-4	Tegaderm	5
	IV Admin-14	Op Site	6
triamcinolone acetonide (Kenalog in Orabase)	EENT Subpack-24	5-gm tube	1
*trifluridine (Viroptic)	Drug Subpack-1	1%, 7.5 mL	1
*trimethoprim/sulfamethoxazole (Bactrim DS)	Drug Subpack-38	800 mg/160 mg	28 tabs
Tubex Injector	Drug Subpack-Spine Drug Subpack-19 Trauma Subpack-31		1 1 1
tweezers	EENT Subpack-34	4.5-in blunt, use w/Otowicks	1
Tylenol (acetaminophen)	Drug Subpack-Spine	325 mg	60 tabs
Urine Test Package	Trauma Subpack-15		1
Chemstrip 10 SG			13 strips
Color Chart			

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Name	Location	Description	Amount
*valacyclovir (Valtrex)	Drug Subpack-32	500 mg	21 tabs
*Valium, injectable (diazepam)	Drug Subpack-22	5 mg/mL, 2-mL unit	2
*Valium, oral (diazepam)	Drug Subpack-20	5 mg	30 tabs
*Valtrex (valacyclovir)	Drug Subpack-32	500 mg	21 tabs
*verapamil (Isoptin)	Drug Subpack-3,19	2.5 mg/mL, 2-mL unit	2
*Vicodin HP (hydrocodone/ acetaminophen)	Drug Subpack-21	10 mg/660 mg	20
*Viroptic (trifluridine)	Drug Subpack-1	1%, 7.5 mL	1
Xeroform Gauze	Trauma Subpack-11	5 in X 9 in	1
*Xylocaine (Lidocaine)	EENT Subpack-30	2% w/Epinephrine, 1:100,000, 1.8-mL unit	3
*Xylocaine (Lidocaine) Plain	EENT Subpack-30 Trauma Subpack-30	2% w/o Epinephrine, 1.8-mL unit 2% w/o Epinephrine, 2-mL unit	3 2
Y-Type Catheter Extension	IV Admin-17		3
Ziplock Bags	IV Admin-1 Airway Subpack-4 CCK	12 in X 12 in	1 1 7
*Zithromax (azithromycin)	Drug Subpack-36	250 mg	18 tabs
*zolpidem (Ambien)	Drug Subpack-Spine	10 mg	75 tabs

USAGE LIST

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Name	Location	Description
Abdominal Injury	Go to 1-27	
Abdominal Pain	Go to 2-2	
Airway	Go to 1-11	
Oral airway	Airway Subpack-3	
ILMA (Intubating Laryngeal Mask Airway)	Airway Subpack-17 Airway Subpack-18	small large
Stabilizer Rod	Airway Subpack-15	
Syringe	Airway Subpack-16	35 mL
Tracheal tube	Airway Subpack-20	
Stylet	Airway Subpack-6	
Laryngoscope	Airway Subpack-5	
Tracheostomy Items	Airway Subpack	
Alcohol Pads	Airway Subpack-10	
Straight scissors	Airway Subpack-2	
Curved forceps	Airway Subpack-19	
Tracheal hook	Airway Subpack-2	
Tracheostomy tube	Airway Subpack-1	
Tracheostomy tube holder	Airway Subpack-1	
Scalpel	Airway Subpack-2	No. 10
^Povidone-Iodine swabs	Airway Subpack-10	
Silk Sutures	Airway Subpack-11	4-0 Ethicon, Silk
Toomey Syringe	Airway Subpack-4	suction device
Tubing	Airway Subpack-6	use w/Toomey Syringe
Allergic Reaction	Go to 1-29,2-3	
*Benadryl, injectable (diphenhydramine)	Drug Subpack-13	50 mg/mL
Benadryl, oral (diphenhydramine)	Drug Subpack-42	25 mg caps
*Claritin (loratadine)	Drug Subpack-43	10 mg
*dexamethasone	Drug Subpack-28	10 mg/mL
*Epinephrine	Drug Subpack-5	
Epi Pen Injector	Drug Subpack-9	0.3 mL, 1:1000
Mucinex D (guaifenesin/ pseudophedrine	Drug Subpack-44	40 tabs
Prednisone (deltasone)	Drug Subpack-33	20-mg tabs
*Proventil Inhaler (albuterol)	Drug Subpack-11	6.7-gm container
Sudafed (pseudoephedrine)	Drug Subpack-Spine	30 mg pseudoephedrine
Altitude Sickness	Go to 2-4	
*Diamox tablets (acetazolamide)	Drug Subpack-43	250 mg

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Name	Location	Description
Anesthetic – local injection		
*Marcaine (bupivacaine) Plain	Trauma Subpack-30	0.5% plain
*Xylocaine (Lidocaine)	EENT Subpack-30	2% w/Epinephrine
*Xylocaine (Lidocaine) Plain	EENT Subpack-30	2% w/o Epinephrine 1.8-mL unit
	Trauma Subpack-30	2% w/o Epinephrine 2-mL unit
Antacids		
Mylanta (calcium carbonate/ magnesium hydroxide	Drug Subpack-35	700 mg/300 mg tab
Antibiotics		
*Amikin (amikacin)	Drug Subpack-29	250 mg/mL
*Augmentin (amoxicillin/clavulanate)	Drug Subpack-37	875/125 mg
*Bactrim DS (trimethoprim/ sulfamethoxazole)	Drug Subpack-38	800 mg/160 mg
^Bactroban Ointment (mupirocin)	Trauma Subpack-19	2%, 22 gm
*^Ciloxan Ointment (ciprofloxacin)	EENT Subpack-15	3.5-gm tube
*Cipro (ciprofloxacin)	Drug Subpack-40 Drug Subpack-22	500 mg 500 mg
*Duricef (cefadroxil)	Drug Subpack-40	500 mg
*Flagyl (metronidazole)	Drug Subpack-36	250 mg
*Gentak Ophthalmic Ointment (gentamicin)	EENT Subpack-14	0.3%, 3.5-gm tube
*Primaxin IV (cilastin/imipenem)	Drug Subpack-34	500 mg, powder form
^Neosporin Plus	EENT Subpack-25	0.5 oz tube
*Viroptic (trifluridine), Ophthalmic Drops	Drug Subpack-1	1%, 7.5 mL
*Zithromax (azithromycin)	Drug Subpack-36	250 mg
Antiseptics		
Alcohol Pads	Electrode Attachment Kit IV Admin-18 Airway Subpack-10 Drug Subpack-16 Drug Subpack-Spine Trauma Subpack-6	
^Povidone-Iodine swabs	Trauma Subpack-7 Airway Subpack-10 IV Admin-19	

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Name	Location	Description
Back Pain	Go to 2-4	
Bandages		
Ace Bandage	Trauma Subpack-3 Trauma Subpack-13	4 in 6 in
Adaptic Bandages	Trauma Subpack-5	3 in X 3 in
Bandaids	Drug Subpack-Spine Drug Subpack-8 Trauma Subpack-11 Drug Subpack-Spine Drug Subpack-12 IV Admin-20	1 in X 3 in 1 in X 3 in 1 in X 3 in Sheer Spot Sheer Spot Sheer Spot
Gauze Pads	Airway Subpack-11 EENT Subpack-2 IV Admin-14 Trauma Subpack-14	4 in X 4 in 4 in X 4 in 2 in X 2 in 4 in X 4 in
Kerlix	Trauma Subpack-2	4.5 in
Kling	Trauma Subpack-12	3 in
Op Site (transparent dressing)	IV Admin-14	
Tegaderm, transparent dressing	Trauma Subpack-4	
Telfa pads	EENT Subpack-22	3 in X 4 in
Bends (DCS)	Go to 3-4	
Bladder Infection	Go to 2-5	
*Augmentin (amoxicillin/clavulanate)	Drug Subpack-37	875/125 mg
*Bactrim DS (trimethoprim/sulfamethoxazole)	Drug Subpack-38	
Chemstrip 10 SG	Trauma Subpack-15	
*Cipro (ciprofloxacin)	Drug Subpack-22 Drug Subpack-40	500 mg 500 mg
Color chart	Trauma Subpack-15	
*Duricef (cefadroxil)	Drug Subpack-40	500 mg
Pyridium (phenazopyridine)	Drug Subpack-17	200 mg
Breathing Difficulty	Go to 1-3	
Stethoscope	Airway Subpack-12	
*Proventil Inhaler	Drug Subpack-11	
Bronchitis	Go to 2-7	
Burns	Go to 1-32,2-8	
^Silvadene Cream (silver sulfadiazine)	Trauma Subpack-20	20-gm tube

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Name	Location	Description
Cardiac Medications		
*Atropine	Drug Subpack-4	1 mg/mL, 2-mL unit
*Epinephrine	Drug Subpack-5	1:1000, 1-mL unit
*Isoptin (verapamil)	Drug Subpack-3,19	2.5 mg/mL, 2-mL unit
*Lidocaine	Drug Subpack-1,2	20 mg/mL, 5-mL unit
Lidocaine plunger	Drug Subpack-1,2	
*Nitroglycerin patch	Drug Subpack-8	15 mg/24 hr (0.6 mg/hr)
*Nitrostat tabs (nitroglycerin)	Drug Subpack-6	0.4 mg (1/150)
Cardiac Monitoring	Go to 1-8	for ECG Downlink
Alcohol Pads	Electrode Attachment Kit	
Electrode Attachment Kit (EAK)	Med Locker	
OBS Belt w/Signal Conditioner		
Sternal Harness		
IVA Cable		
Biomed Cable		
Chest Injury	Go to 1-35	
Chest Pain	Go to 1-36	
Choking	Go to 1-4	
Cleanup Supplies SEE, masks, Red Bio-Wipe Bags, Yellow Mess-Up Mitts, Hazard Identification labels, chemical resistant gloves, surgical gloves, goggles, chemical resistant bags (16 in H X 12 in W), Ziplock Bags (12 in X 12 in) pH Strips Absorbent Wipes	CCK	for contaminant cleanup
Congestion	Go to 3-3	
Afrin (nasal spray)	EENT Subpack-19	3-mL bottles
Mucinex D (quaifenesin/pseudoephedrine)	Drug Subpack-44	40 tabs
Sudafed (pseudophedrine)	Drug Subpack-Spine	30 mg
Constipation	Go to 3-3	
Dulcolax (bisacodyl), oral	Drug Subpack-30	5 mg tabs
Dulcolax (bisacodyl), suppositories	Drug Subpack-39	10 mg

USAGE LIST

WARNING
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Name	Location	Description
Cough	Go to 2-7	
cough lozenges	Drug Subpack-45	5-mg dextromethorphan
CPR (Cardiopulmonary Resuscitation)	Go to 1-6	
AMBU Bag & Patient/Rescuer Restraints	Med Locker MAK	
Cricothyrotomy	Go to 1-19	
Alcohol Pads	Airway Subpack-10	
Curved forceps	Airway Subpack-19	
Scalpel	Airway Subpack-2	
Silk Sutures	Airway Subpack-11	
Straight scissors	Airway Subpack-2	
Tracheal hook	Airway Subpack-2	
Tracheostomy tube	Airway Subpack-1	
Tracheostomy tube holder	Airway Subpack-1	
Decompression Sickness (DCS)	Go to 3-4	
Decongestants		
Afrin (nasal spray)	EENT Subpack-19	3-mL bottles
Mucinex D (guaifenesin/ pseudophedrine	Drug Subpack-44	600-mg guaifenesin, 60-mg pseudophedrine
Sudafed (pseudoephedrine)	Drug Subpack-Spine	30 mg
Dental Equipment	EENT Subpack	
Carver/File	EENT Subpack-26	
Explorer Probe	EENT Subpack-26	
Kenalog in Orabase (triamcinolone acetonide)	EENT Subpack-24	5-gm tube
Mirror	EENT Subpack-26	
Needles	EENT Subpack-29 EENT Subpack-36	long: 27 ga, 1.25 in short: 27 ga, 0.75 in
Orangewood sticks	EENT Subpack-26	
Syringe	EENT Subpack-33	
Temporary Filling	EENT Subpack-24	
Toothache Kit Eugenol dental anesthetic drops Tweezers Cotton Pellets	EENT Subpack-35	1 mL tubex
*Xylocaine (lidocaine)	EENT Subpack-30	2% w/Epinephrine 1:100,000 2% Plain

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Name	Location	Description
Dental Equipment (Cont)	EENT Subpack	
Dycal (Base)	EENT Subpack-1	13-gm tube
Dycal (Catalyst)	EENT Subpack-1	11-gm tube
Diagnostic Equipment		
Blood pressure cuff	IV Admin-1	
Magnifying glasses and strap	EENT Subpack-1,17	
Ophthalmoscope head	EENT Subpack-5	
Otoscope	EENT Subpack-32	
Stethoscope	Airway Subpack-12	
Thermometers, oral	EENT Subpack-3	Tempadot
Tongue depressors	EENT Subpack-34	
Urine Test Package	Trauma Subpack-15	
Chemstrip 10 SG		
Color Chart		
Diarrhea	Go to 3-11	
Imodium (loperamide HCl)	Drug Subpack-30	2 mg
Pepto-Bismol	Drug Subpack-31	chewable tablets
Difficulty Breathing	Go to 1-3	
*Proventil Inhaler	Drug Subpack-11	6.7-gm containers, 90-mcg albuterol per actuation
Dysbarism	Go to 3-4	see DCS
Ear Drops		
Tobradex Ophthalmic Drops (tobramycin and dexamethasone)	EENT Subpack-28	0.3%/0.1% solution; 5 mL
Ear Problems	Go to 3-12	
Otoscope	EENT Subpack-32	
Pope Otowicks	EENT Subpack-27	
Tweezers	EENT Subpack-34	4.5-in blunt
Eye Treatment	Go to 1-38,3-17	
*^Ciloxan (ciprofloxacin), Ophthalmic Ointment	EENT Subpack-15	0.3%, 5-mL bottle
*Cyclogyl (cyclopentolate)	EENT Subpack-11	1%, 15-mL bottle
Eye pads	EENT Subpack-4	
Eye Shield	EENT Subpack-4	
Fluorescein strips	EENT Subpack-6	

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Name	Location	Description
Eye Treatment (Cont)	Go to 1-38,3-17	
*Gentak Ophthalmic Ointment (gentamicin)	EENT Subpack-14	0.3%, 3.5-gm tube
Ophthalmoscope head	EENT Subpack-5	
Otoscope	EENT Subpack-32	
pH Strips	CCK	
*proparacaine (Alcaine) eye drops	EENT Subpack-12	15-mL bottle
Refresh Plus (artificial tears, eye drops)	EENT Subpack-16	0.5%, 0.4 mL
Saline, irrigation solution	EENT Subpack-1	100 mL, 0.9% sodium chloride (NaCl)
Irrigation – SEE goggles	CCK	Irrigation goggles
*Viroptic (trifluridine), ophthalmic drops	Drug Subpack-1	1%, 7.5 mL
Fever		
Thermometers, oral	EENT Subpack-3	Tempadot
Thermometers, temp	EENT Subpack-23	
Fever Blister		
*Valtrex (valacyclovir)	Drug Subpack-32	1 g
Fluid Loading Salt Tablets (Sodium chloride)	Drug Subpack-Spine	1 g
Fracture/Dislocation	Go to 4-3	
Head Injury	Go to 1-39	
Headache	Go to 5-3	see PAIN RELIEF
Heart Medications		
*Atropine	Drug Subpack-4	1 mg/mL, 2-mL unit
*Epinephrine	Drug Subpack-5	1:1000, 1-mL unit
*Isoptin (verapamil)	Drug Subpack-3,19	2.5 mg/mL, 2-mL unit
*Lidocaine/cardiac	Drug Subpack-1,2	20 mg/mL, 5-mL unit
Lidocaine/cardiac plunger	Drug Subpack-1,2	
*Nitroglycerin patch	Drug Subpack-8	15 mg/24 hr (0.6 mg/hr)
*Nitrostat tabs (Nitroglycerin)	Drug Subpack-6	0.4 mg (1/150)
Hemorrhoids		
Anusol HC suppositories	Drug Subpack-41	25 mg
Hot Cabin	Go to 4-5	
Air temp monitors	EENT Subpack-10	90-120 degF
Skin temp monitors	EENT Subpack-23	84-106 degF

USAGE LIST

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Name	Location	Description
Injection Equipment		
22 Gauge Hypodermic Needle	Trauma Subpack-22	
18 Gauge Hypodermic Needle	EENT Subpack-18 Trauma Subpack-29	
21 Gauge Butterfly Needle	IV Admin-18	
Coban	IV Admin-1	5 in X 5 yard self-adherent wrap
Cotton Balls	EENT Subpack-22	
Gloves, non-sterile	IV Admin-12 Airway Subpack-8 EENT Subpack-7 CCK	
I.V. Intracatheter	IV Admin-10,11 IV Admin-8,9 Trauma Subpack-29 Airway Subpack-11	20 ga 18 ga 18 ga 14 ga
Y-type catheter extension	IV Admin-17	
I.V. Administration Set	IV Admin-17	
Lever Lock cannula	IV Admin-17	
Penrose Tubing (Tourniquet)	IV Admin-16	
Syringes	Airway Subpack-16 Airway Subpack-15 EENT Subpack-20 Trauma Subpack-22 IV Admin-2,3,4,5,6,7	35 mL 10 mL 3 mL
Tubex Injector	Drug Subpack-Spine Drug Subpack-19 Trauma Subpack-31	
Irrigation Equipment		
I.V. Intracatheter	IV Admin-10,11 IV Admin-8,9	20 ga 18 ga
Needle	Trauma Subpack-22	22 ga

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Name	Location	Description
Irrigation Equipment (Cont)		
Saline	IV Admin-1	500 mL, 0.9% sodium chloride (NaCl)
	EENT Subpack-1	100 mL, 0.9% sodium chloride (NaCl)
	Middeck Locker	250 mL, 0.9% sodium chloride (NaCl)
	Saline Supply Bag	500 mL, 0.9% sodium chloride (NaCl)
Syringes	Airway Subpack-16 Airway Subpack-15 EENT Subpack-20 Trauma Subpack-22	35 mL 10 mL
Lacerations	Go to 4-30	
Lips – Cracked, Chapped, Dry		
Blistex lip balm	EENT Subpack-24	
Motion Sickness	Go to 4-38	
*Dexedrine (dextroamphetamine)	Drug Subpack-14	5 mg
*Phenergan, injectable (promethazine)	Drug Subpack-Spine	1-mL unit, 50 mg/mL
*Phenergan, oral (promethazine)	Drug Subpack-15	25 mg
*Phenergan, suppository (promethazine)	Drug Subpack-10	25 mg
Space Motion Sickness (SMS) Kit	Drug Subpack-Spine	for SMS treatment
Alcohol Pads (10)		
Bandaids (10)		Sheer Spot
*Phenergan Injectables (10)		
Tubex Injector (1)		
Muscle Relaxants		
*Valium, injectable (diazepam)	Drug Subpack-22	5 mg/mL, 2-mL unit
*Valium, oral (diazepam)	Drug Subpack-20	5 mg
Neck Injury	Go to 1-39	
Nosebleed	Go to 4-40	
Afrin, nasal spray	EENT Subpack-19	3-mL bottles
Foley Catheter	Trauma Subpack-10	
Nasal Catheter	EENT Subpack-21	
Nasal speculum	EENT Subpack-26	
Posterior Nasal Packing	EENT Subpack-21	10 cm, 5.5 cm
Silver Nitrate Stick	EENT Subpack-34	

USAGE LIST

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Name	Location	Description
Pain Medications		
Aspirin (Ascriptin)	Drug Subpack-Spine	325-mg aspirin w/Maalox
*Demerol (meperidine)	Drug Subpack-25	50 mg/mL, 1-mL unit
*Duragesic Patch (fentanyl)	Drug Subpack-8	25 mcg
*Morphine Sulfate	Drug Subpack-23,24	10 mg/mL, 1-mL unit
Motrin (ibuprofen)	Drug Subpack-Spine	400 mg
Tylenol (acetaminophen)	Drug Subpack-Spine	325 mg
*Vicodin HP (hydrocodone/acetaminophen)	Drug Subpack-21	10 mg/660 mg
Radiation	Go to 5-4	
Dosimeters	Med Locker	
Resuscitation		
AMBU Bag	Med Locker	
Seizures	Go to 1-42	
*Valium, injectable (diazepam)	Drug Subpack-22	5 mg/mL, 2-mL unit
Shock	Go to 1-44	
Skin Rash and Itching (for allergic rash, see ALLERGIC REACTION)	Go to 5-7	
Benadryl, oral (diphenhydramine)	Drug Subpack-42	25 mg
*Claritin (loratadine)	Drug Subpack-43	10 mg
^Lotrimin AF Cream (clotrimazole)	Drug Subpack-26	1%, 24-gm tube
Ruler	Drug Subpack-26	photodocumentation
^Topicort (desoximetasone)	Drug Subpack-28	0.25% cream, 15-gm tube
Sleeping Pills		
*Ambien (zolpidem)	Drug Subpack-Spine	10 mg
*Restoril (temazepam)	Drug Subpack-Spine	15 mg
Space Motion Sickness (SMS) Kit	Drug Subpack-Spine	for SMS treatment
Alcohol Pads (10)		
Bandaids (10)		Sheer Spot
*Phenergan Injectables (10)		
Tubex Injector (1)		
Splints		
Finger	Trauma Subpack-23	

USAGE LIST

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Name	Location	Description
Stimulants		
*Dexedrine (dextroamphetamine)	Drug Subpack-14	5 mg
Strains/Sprains	Go to 5-9	
Surgical Equipment		
^Benzoin swabs	Trauma Subpack-8	
^Dermabond	Trauma Subpack-27	skin adhesive
Drape, sterile	Trauma Subpack-24	
Forceps, blunt	Trauma Subpack-25	
Gloves, sterile	Trauma Subpack-24	
Scalpels, No. 10	Airway Subpack-2	
No. 10, 11	Trauma Subpack-25	
Scissors, curved	Trauma Subpack-33	
straight	Airway Subpack-2	
Skin Stapler	Trauma Subpack-21	
Skin Staple Remover	Trauma Subpack-21	
Steri-Strip skin closures	Trauma Subpack-16	
Surgical Instrument Assembly (SIA) Forceps, small point Hemostat, small Needle Holder Scissors, curved Tweezers, fine point	Trauma Subpack-33	five instruments
Sutures w/needle	Trauma Subpack-17,18	
Syringes, 10 mL	Airway Subpack-15 Trauma Subpack-22 EENT Subpack-20	
Tape	Trauma Subpack-34 IV Admin-13 Airway Subpack-9 EENT Subpack-9	1 in wide, 1 roll 0.5 in wide, 1 roll 1 in wide, 1 roll 0.5 in wide, 1 roll
Temperature		
Thermometers, air temp	EENT Subpack-10 EENT Subpack-10	90-120 degF 58-88 degF
Thermometers, oral	EENT Subpack-3	Tempadot
Thermometers, skin temp	EENT Subpack-23	84-106 degF

USAGE LIST

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Name	Location	Description
Toothache	Go to 5-10	
Toothache Kit	EENT Subpack-35	
Eugenol dental anesthetic drops		1 mL tubex
Tweezers		
Cotton pellets		
*Xylocaine (Lidocaine)	EENT Subpack-30	2% w/Epinephrine 2% Plain
Dycal (Base + Catalyst)	EENT Subpack-1	
Upset Stomach	Go to 4-6	
Pepto-Bismol	Drug Subpack-31	chewable tablets
Mylanta (calcium hydroxate/ magnesim hydroxide)	Drug Subpack-35	700 mg/300 mg tab
Urinary Retention	Go to 5-18	
Catheter, Foley	Trauma Subpack-10	16 Fr, 30-mL balloon, silastic
Catheter, Straight	Trauma Subpack-10	16 French, Red Rubber
	Trauma Subpack-24	14 French, Female
Lubricant, water-soluble	Trauma Subpack-9 Airway Subpack-13	
Ambulatory leg-bag	Trauma Subpack-1	600-mL bag
Chemstrip 10 SG	Trauma Subpack-15	
Color Chart	Trauma Subpack-15	
Vomiting	Go to 5-20	
*Phenergan, injectable (promethazine)	Drug Subpack-Spine	50 mg/mL, 1-mL unit
*Phenergan, oral (promethazine)	Drug Subpack-15	25 mg
*Phenergan, suppository (promethazine)	Drug Subpack-10	25 mg
Yeast Infection (Vaginitis)		
*Diflucan (fluconazole)	Drug Subpack-18	oral, 150 mg tablets

SECTION 9

CUE CARD CONFIGURATION

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TOP
NOTE: FABRICATE ON K-10 PAPER CUT ALONG OUTSIDE TABLE BORDER

MEDICATION DATA LOG

CREW	MEDICATION	QTY	MET	SYMPTOMS/SIDE EFFECTS
				MED-1a/O/C **STS-_____**

NOTE: This Cue Card is provided to SD/Space Medicine and Health Care Systems Office
This card is flown in the SOMS Kits only.

(reduced copy)

CC 9-3 MED/ALL/GEN K,2

TOP
BACK OF 'MEDICATION DATA LOG'

MEDICATION DATA LOG

CREW	MEDICATION	QTY	MET	SYMPTOMS/SIDE EFFECTS
				MED-1b/O/C **STS-_____**

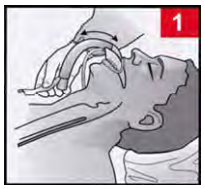
NOTE: This Cue Card is provided to SD/Space Medicine and Health Care Systems Office
This card is flown in the SOMS Kits only.

(reduced copy)

AIRWAY (ILMA)

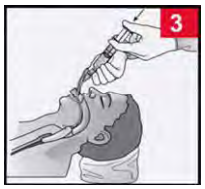
1. Unstow from Med Locker:
   Airway Subpack-17,18

2. Check integrity of
   ILMA cuff
   Inject 8 cc air;
   confirm inflation;
   deflate cuff
   Cuff tip must be in shape above.
   Apply Surgilube to bottom of cuff
3. Insert cuff in mouth and rub Surgilube
   on roof of mouth



4. While maintaining contact with roof of
   mouth, hug chin while inserting ILMA

5. Inflate mask w/o holding tube or handle:
   sm = 30 cc; lg = 40 cc



6. Provide ventilation using AMBU Bag
7. Contact Surgeon prior to Endotracheal
   ET tube insert
8. Lubricate ET tube w/ Surgilube. Hold tube with black
   line facing ILMA handle
9. Holding ILMA handle, gently insert ET tube into metal
   shaft

10. Advance ET tube (24 cm for small; 26 cm for large)
11. Inflate ET tube cuff (8-10 cc); confirm placement w/
    Stethoscope

12. Remove all air from ILMA cuff. Remove tracheal tube
    connecter and ease ILMA out by gently rotating
    towards neck
13. Use stabilizing rod to keep ET tube in place; remove
    ILMA until ET tube can be grasped above the teeth

14. Remove stabilizing rod and gently unthread cuff valve
    of ET tube
15. Replace ET tube connector

16. Attach AMBU Bag to ET tube and give patient two
    breaths
17. Check for breath sounds in both lungs; reposition ET
    tube until breath sounds confirmed
18. If successful, tape ET tube securely in place

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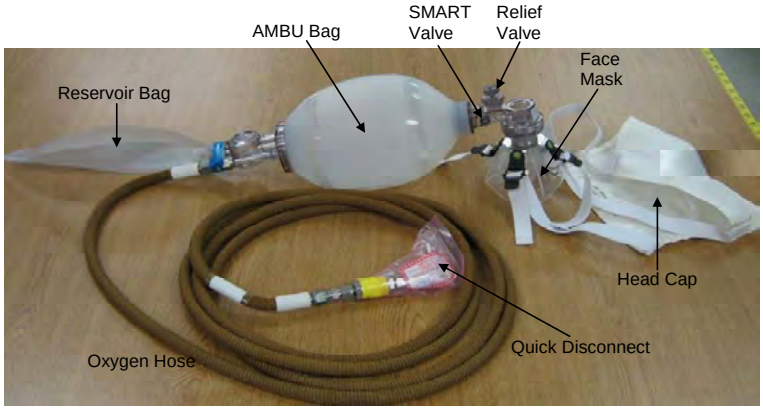
TOP

HOOK VELCRO

RESUSCITATOR



1. Deploy SOMS Resuscitator if not already instructed by the Medical Checklist

2. Verify SMART Valve is in ENABLE position (see Figure 1)
   Do not disable unless given direction from the flight surgeon

   * If SMART Valve is not in ENABLE position, rotate the bar so that it points forward towards the patient valve *

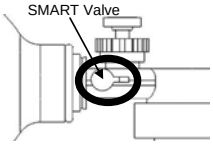


Figure 1.- SMART Valve ENABLE position

3. Verify Relief Valve is in UNLOCK position (see Figure 2)
   Do not lock unless given direction from the flight surgeon

   * If Relief Valve is not in UNLOCK position, rotate the top Relief Valve knob so that the Lock arrow points at the patient valve DO NOT unscrew knurled knob *

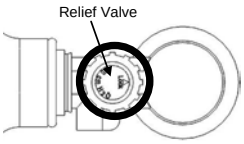


Figure 2.- Relief Valve UNLOCK position

4. Remove clean bag covering the Quick Disconnect

(Continue on BACK)

HOOK VELCRO

MED-4a/O/A

(reduced copy)

CC 9-7 MED/ALL/GEN K,2

TOP, BACK OF 'RESUSCITATOR'

HOOK VELCRO

5. If SOMS Resuscitator is to be used with oxygen, connect Quick Disconnect with Shuttle oxygen port LEH O_2 8 on Middeck panel MO69M. Turn oxygen switch to OPEN at LEH O_2 8

NOTE

LEH O_2 ports located on panels MO32M and C6 may be used if panel MO69M is not available

6. Interface SOMS Resuscitator with patient based on if Face Mask (see Figure 3), Intubating Laryngeal Mask Airway (ILMA) (see Figure 4), or endotracheal tube (ETT) (see Figure 5) is used

Figure 3.- Face Mask

Figure 4.- ILMA

Figure 5.- ETT

7. Squeeze SOMS Resuscitator until chest rises. Allow patient to passively exhale

* If the AMBU bag becomes difficult to squeeze *
* or the chest fails to rise, check position of *
* ILMA or endotracheal tube using CO_2 *
* detector and listening for breath sounds *
* Refer to INTUBATION, ENDOTRACHEAL *
* procedure in SOMS Medical Checklist *

8. Release SOMS Resuscitator to allow AMBU Bag to refill

9. Repeat every 5 seconds (approximately 12 breaths per minute) until spontaneous breathing resumes

NOTE

If oxygen is used with the SOMS Resuscitator, as patient care is stabilized, the Oxygen Hose should be tethered to the Middeck with Velcro straps

MED-4b/O/A

HOOK VELCRO

Space Shuttle Program
FLIGHT DATA FILE

JSC-48031
GENERIC, REV K

SPACE SHUTTLE

MEDICAL CHECKLIST

STS

ALL

Flight Cover (trim bottom to expose tabs)