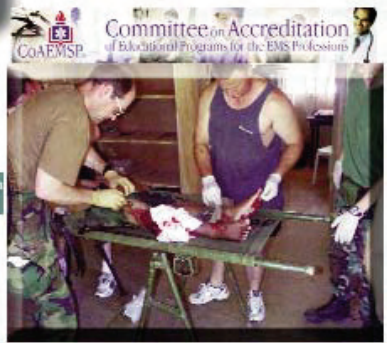
Training Supplement

Spring 08

Journal of Special Operations Medicine

A Peer Reviewed Journal for SOF Medical Professionals

USSOCOM MEDIC CERTIFICATION PROGRAM



Spring 2008 Supplement to the Journal of Special Operations Medicine

This supplement features:

- Updated U.S. Special Operations Command's Tactical Medical Emergency Protocols For Special Operations -- Advanced Tactical Practitioners (ATPs)
- Updated Joint Special Operation's Tactical Medical Emergency Protocol Drug List

Contents

Spring 08 Training Supplement

Introduction

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USSOCOM Medical Training and Education

This supplement brings many new and improved additions to the TMEPs and Recommended Drug List. Both references resulted from many hours of analysis, research, and discussion among the USSOCOM Curriculum Evaluation Board (CEB). The unpaid volunteers on this board worked extremely hard to bring these quality products to SOF Medics saving lives today.

These protocols and medicines are guidelines for the SOF Medic in the austere environment when the PA or Doc are not available. They are not meant to replace the orders, standing orders, or SOPs of your unit medical direction.

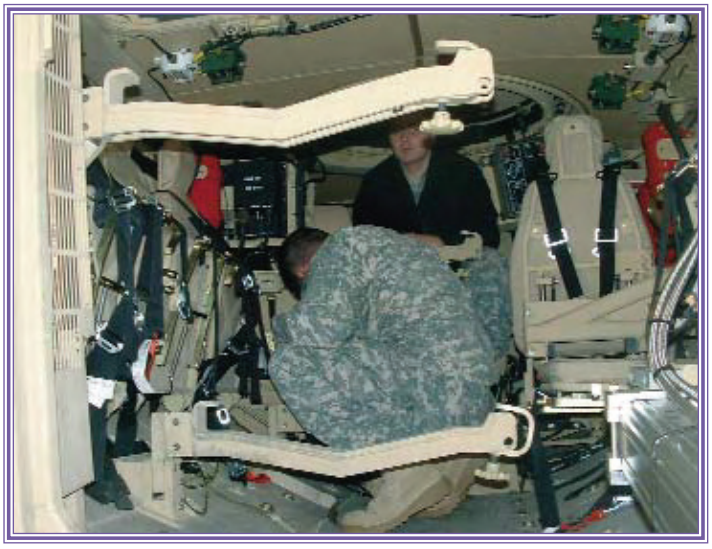
We went back and forth on what to call the recommended drug list. At first we called it a formulary. Some asked "if it's a formulary, then that's all I can use – right" Webster defines a formulary as a book listing medicinal substances and formulas. It's not mentioned anywhere that it is a requirement. We also realized that some of the medications are not what you would usually use first line to treat some of the conditions in the TMEPs. The CEB chose the medications for the drug list that are most common on the UALs and AMALs that SOF Medics use today.

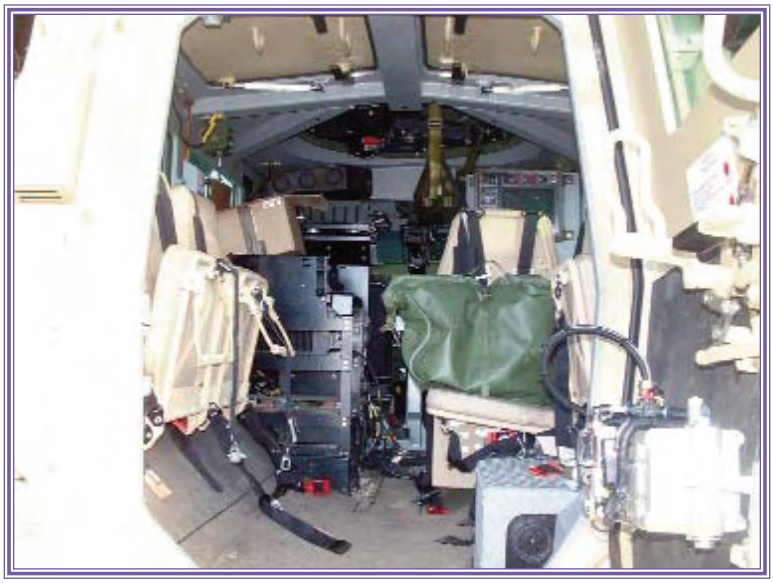
Some of the lessons learned this year spoke of difficulty loading and unloading vehicles and aircraft. The new RG-33 and RG-31s are examples of vehicles that require practice in loading and unloading. They are about five feet off the ground with not a lot of door clearance. Those that have been using these vehicles understand how crowded it can become inside when it comes time to transport a patient. Practice, Practice, Practice! The litter racks inside of the RG-33 make for a crowded trip and can be difficult to land in the dark.

The RG-31 is even smaller and comes with no litter rack. Designation of certain vehicles prior to departure for a mission will make it easier to prepare and place equipment appropriately in your CASEVAC vehicle. You can get a patient on the floor and then with some creative positioning should be able to provide care.

As we all know, even though we have what are designated combat vehicles, people get hurt and will need transport to a surgeon. Anything and everything can be a CASEVAC platform.

Please cut out the TMEP and Drug cards for use in the field. If you have any questions, please call the office or send us an email. MEDICS – Please send your article submissions! If you have a pile of ideas and need help putting them together, call or email and I will help you put them together and get you published in the JSOM. **The junior Medics need your experience and lessons learned.** We can take whatever you have and work it into a submission. Contact me below if you have any questions or comments, or need help with a possible submission.





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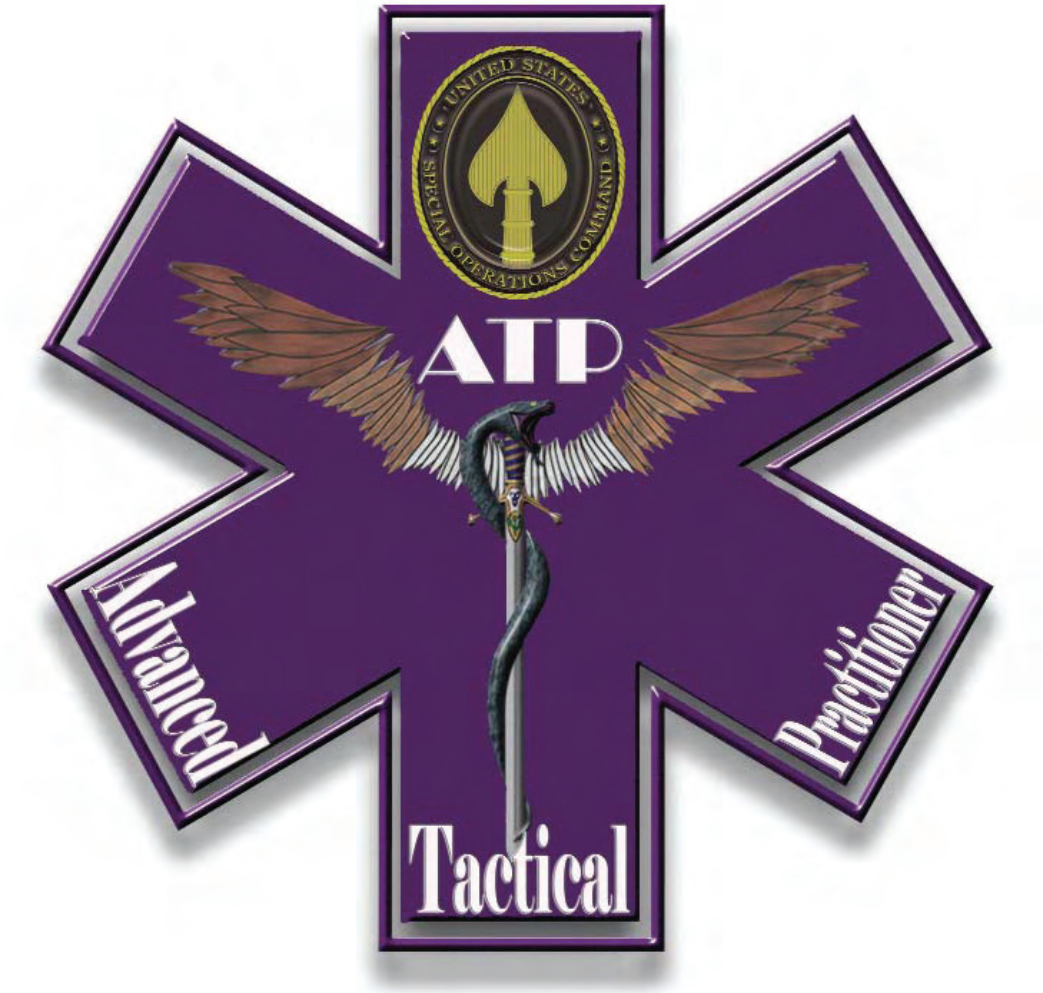
U.S. SPECIAL OPERATIONS COMMAND

Updated TACTICAL MEDICAL EMERGENCY PROTOCOLS

For SPECIAL OPERATIONS ADVANCED TACTICAL PRACTITIONERS (ATPs)



Updated February 1, 2008

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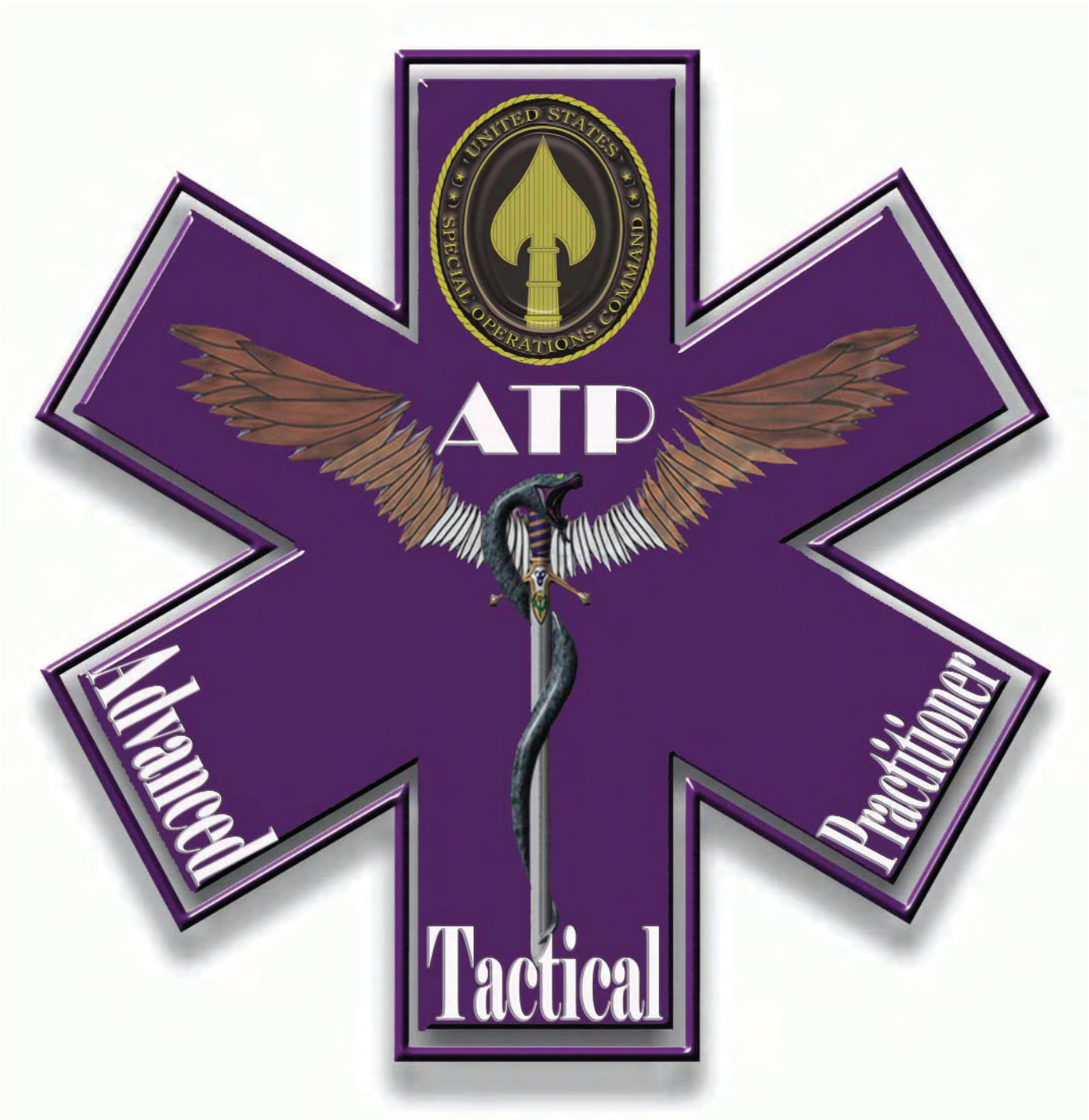
Spring 2008 Supplement


UNITED STATES
SPECIAL OPERATIONS COMMAND
ATP
Advanced
Tactical
Practitioner

PREFACE

Management of medical emergencies is best accomplished by appropriately trained physicians in an Emergency Department setting. Special Operations Combat Medics (SOCMs); however, may often find themselves in austere tactical environments where evacuation of a teammate to an MTF for a medical emergency would entail either significant delays to treatment or compromise the unit's mission. Although SOCM-trained Medics are not routinely authorized by the services to treat non-traumatic emergencies, in many SOF situations, training SOCMs to treat at least some medical emergencies may result in both improved outcome for the individual and an improved probability of mission success. The disorders chosen have one of the following properties in common: they are relatively common; they are acute in onset; the SOCM is able to provide at least initial therapy that may favorably alter the eventual outcome; and the condition is either life-threatening or could adversely affect the mission readiness of the SOF operator.

The Protocols outlined in the following pages carry the following assumptions:

The SOCM Medic is in an austere environment where a medical treatment facility or a unit sick call capability is not available. If a medical treatment facility or a medic authorized to treat patients independently is available, then the patient should be seen in those settings rather than by a SOCM medic. Immediate evacuation may not be possible and, even if it is, may still entail significant delays to definitive treatment. The medical problem may worsen significantly if treatment is delayed.

- The SOCM will contact a consulting physician as soon as feasible.
- SOCM treatment will be done under the appropriate Protocol.
- **Medication regimens are designed to minimize the number of medications the SOCMs are required to learn and carry. Medications have been used for multiple conditions when feasible without compromising care.**
- Appropriate documentation of diagnosis and treatment rendered in the patient's medical record will be accomplished when the unit returns to forward operating base.
- Note these Protocols are not designed to allow SOCM Medics to conduct Medical/ Civic Action (MEDCAP) missions independently.
- Evacuation recommendations are based on the appropriate therapy per Protocol being initiated on diagnosis.
- The definitions of Urgent, Priority, and Routine evacuations are based on the times found in Joint Publication 4-02.2 of 2, 4, and 24 hours respectively.
- The changes in the combat pill pack (Moxifloxacin (Avelox) and meloxicam), as recommended by the Committee on Tactical Combat Casualty Care (CoTCCC), have been changed in the TME Protocols. (2007)
- The Fentanyl oral dosage of 800 mcg, as recommended by the CoTCCC has been incorporated into the Pain Protocol. (2007)
- The change in the IV antibiotics has also been changed to reflect medication availability.
- When possible, alternate antibiotics or anti-emetics have been listed.
- For any infection, limit contact and use universal precautions.

CHANGES FOR 2008:

- The Cellulitis and Cutaneous Abscess Protocols were combined.
- An Altitude Illness Protocol was created, combining AMS, HACE, and HAPE.
- The Chest Pain was expanded to provide more guidance.
- The following new protocols were added: Determination of Death and Envenomation.
- The following medication changes were made: the use of Zithromax was decreased; Keflex, Quinine, Doxycycline and Corticosporin Otic were removed.
- The following medications were added: Amoxicillin/Clavulanic Acid (Augmentin), Rabeprazole (Aciphex), Septra DS, Salmeterol (Serevent), Rifampin, Toradol, and Benadryl Quikstrips.
- The Meningitis Disposition typo error from 2007 was corrected.
- Modifications were made to most of the TMEPS with respect to further refinement in recommendations.
- The "Clinical Pearls" section was added.

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Don't Forget…
(Clinical Pearls)

- When IV route is recommended, but not obtainable, consider IO, IM, or PO unless contraindicated.
- Currently available SL medication formulations include: Benadryl Quikstrips, Sudafed PE SL, Zofran ODT.
- If crystalloids (Normal Saline or Lactated Ringer's) are recommended but not available, substitute Hextend or Hespan if available.
- **DO NOT** give Epinephrine IV.
- All IV medications may be given slow IV push with the exception of antibiotics which should be in a drip.
- Remember to document dose and time of all medications so the receiving facility may be informed.
- Do not use local anesthetic with epinephrine on the fingers, toes or penis.
- When oxygen is called for in the Protocols, the authors realize that it is recommended, but may not be avail able.
- Due to the high level of physical fitness of SOF personnel, there may be a prolonged period of mental lucidity and apparent stable vital signs despite a severe injury. Treat the injury, not the operator!
- Medical Documentation (SOAP note): In order to ensure proper care and medical information transfer during patient treatment a standardize format for medical documentation is required. The standard format is the SOAP note (Subjective, Objective, Assessment, and Plan).

  Subjective: In the patient's own words, describe the chief complaint. At a minimum you need to include the OPQRST (Onset, Provocation, Quality, Radiation, Severity, and Time line of symptoms). AMPLE (Allergies, Medication, Past Medical and Surgical history, Last meal, and Events leading up to this condition) history is also included in this section

  Objective: vital signs and physical examination findings. At a minimum you need to document pertinent positives and negatives, and measurements of injuries or lesions. Be as detailed as possible.

  Assessment: a brief summary of your medical decision making to include what you think it is and what it is not. Include your differential diagnosis list in this section.

  Plan: your course of treatment to include any medications, additional studies, consultation, rehabilitation, evacuation category and disposition of the patient.

Abdominal Pain

SPECIAL CONSIDERATIONS:
1. Common causes in young healthy adults include appendicitis, cholecystitis, pancreatitis, perforated ulcer, and diverticulitis.
2. Consider constipation/ fecal impaction as a potential cause of abdominal pain.

SIGNS AND SYMPTOMS SUGGESTIVE FOR CONTINUED OBSERVATION:
1. Epigastric burning pain
2. Present bowel sounds
3. Nausea and/ or vomiting
4. Absence of rebound tenderness
5. If diarrhea is present, treat per *Gastroenteritis Protocol*

MANAGEMENT:

1.  Antacid of choice
2.  Ranitidine (Zantac) 150 mg PO bid **OR** Rabeprazole (Aciphex) 20 mg PO qd **OR** Proton Pump Inhibitor of choice
3. PO hydration

DISPOSITION:
1. Observation and re-evaluation.
2. *Priority* evacuation if symptoms not controlled by this management within 12 hours.

SIGNS AND SYMPTOMS SUGGESTIVE FOR URGENT EVACUATION:
1. Severe, persistent or worsening abdominal pain is the key sign
2. Rigid abdomen
3. Rebound abdominal tenderness
4. Fever
5. Absence of bowel sounds
6. Focal percussive tenderness
7. Uncontrollable vomiting
8. Presence of bloody vomitus or stools
9. Presence of black tarry stools
10. Presence of coffee ground vomitus

MANAGEMENT:
1. Start IV with normal saline (NS), 1 liter bolus, followed by NS 150 cc/hr. Keep NPO except for medications or PO hydration.
2.  Ertapenem (Invanz) 1 gm IV qd
3.  **OR** Ceftriaxone (Rocephin) 1 gm IV qd. plus Metronidazole (Flagyl) 500 mg PO q 8 h
4. Treat per *Pain Protocol*
5. Treat per *Nausea and Vomiting Protocol*

DISPOSITION:
Urgent evacuation to a surgical facility.

Allergic Rhinitis/ Hay Fever/ Cold-Like Symptoms

1.

SIGNS AND SYMPTOMS:

1. Clear nasal drainage
2. Pale, boggy or inflamed nasal mucosa
3. With or without complaints of nasal congestion
4. Watery or red eyes
5. Sneezing
6. Normal temperature

MANAGEMENT:

1.  Pseudoephedrine (Sudafed) 60 mg PO q 4 – 6 h.
2.  **OR** Diphenhydramine (Benadryl) 25 - 50 mg PO q 6 h if tactically feasible. (Drowsiness is a side effect.)
3. Increase oral fluid intake.

DISPOSITION:
None applicable

ALTITUDE ILLNESS

SPECIAL CONSIDERATIONS

ACUTE MOUNTAIN SICKNESS (AMS)

1. Usually occurs at altitudes of 8,000 ft. and higher.
2. Consider pretreatment with Acetazolamide (Diamox) 250 mg bid, when rapid ascent to altitudes above 8,000 ft. may occur.
3. Symptoms may occur as quickly as 3 hours after ascent.
4. Can avoid onset by limiting initial ascent to no higher than 8,000 ft., then 1,000 ft. per day thereafter. The key to prevention is slow, gradual ascent.

HIGH ALTITUDE CEREBRAL EDEMA (HACE)

1. Rare below 11,500 ft.
2. Headache is common at altitude. Ataxia and altered mental status at altitude are HACE until proven otherwise.

HIGH ALTITUDE PULMONARY EDEMA (HAPE)

1. Caused by the hypoxia of altitude, HAPE is the most common cause of death from altitude illness.
2. Usually occurs above 8,000 ft. Respiratory distress at high altitude is HAPE until proven otherwise.
3. Nifedipine (Procardia), Acetazolamide (Diamox), Sildenafil (Viagra), and Salmeterol (Serevent) may be used (individually or in combination) prophylactically in personnel who have a history of previous HAPE and are required to operate at altitude.

HACE AND HAPE MAY COEXIST IN THE SAME PATIENT!

****Note: A specific treatment Protocol for any of these diseases may already exist at your location**

SIGNS AND SYMPTOMS:

1. AMS is generally benign and self-limiting, but symptoms may become debilitating. Worsening condition should prompt consideration of a more life-threatening condition (HAPE or HACE).
   A. AMS: Diagnosis is made in presence of headache **AND** one or more of the following: anorexia, nausea, vomiting, insomnia, dizziness, lassitude, or fatigue.
   B. No correlation with fitness level (likely genetic predisposition)
2. HACE: Unsteady, wide, and unbalanced (ataxic) gait and altered mental status are hallmark signs.
3. HAPE: Dyspnea at rest is the hallmark signs. Other symptoms may include cough, crackles upon auscultation, tachypnea, tachycardia, fever, central cyanosis, or low oxygen saturation disproportionate to the elevation level.

MANAGEMENT:

1. Halt ascent. Immediately descend at least 1,500 ft for HACE, HAPE, or refractory AMS if tactically feasible.

2. **IF AMS SYMPTOMS PRESENT**

   A.  Acetazolamide (Diamox) 250 mg PO bid **UNLESS PATIENT IS ALLERGIC TO SULFA** or is already taking as prophylaxis.

   B.  Dexamethasone (Decadron) 4 mg PO q 6 h if patient is allergic to sulfa.

   

   If Dexamethasone (Decadron) is administered, no further ascent until asymptomatic for 24 hours after last Dexamethasone dose.

3. **IF HACE SYMPTOMS PRESENT: ATAXIA OR ALTERED MENTAL STATUS**

   A.  Dexamethasone (Decadron) 10 mg IV/ IM STAT, then 4 mg IV/ IM q 6 h.

   B.  Individuals with HACE should not be left alone and especially not be allowed to descend alone.

   C. Administer supplemental oxygen, if available.

4. **IF HAPE SYMPTOMS PRESENT: SHORTNESS OF BREATH AT REST**

   A.  Nifedipine (Procardia) 10 mg PO/ SL STAT; then 20 mg q 6 h if blood pressure is stable.

   B.  Do not use in HACE; the drop in blood pressure will worsen the symptoms of this disease.

   C. Administer supplemental oxygen, if available.

   D.  Consider Salmeterol (Serevent) 2 inhalations q 12 h.

   E.  Minimize patient exertion during descent for HAPE since this will exacerbate symptoms.

5. Treat per *Pain Management Protocol,* but avoid the use of narcotics since they may depress respiratory drive and worsen high altitude illness.

6. Treat per *Nausea and Vomiting Protocol*

7. For signs or symptoms of either HAPE or HACE, if immediate descent is not tactically feasible and a GAMOW bag is available, use a GAMOW bag in 1 hour treatment sessions with bag inflated to a pressure of 2 psi (approximately 100mm Hg) above ambient pressure. Four or five sessions are typical for effective treatment. GAMOW BAG **TREATMENT IS NOT A SUBSTITUTE FOR DESCENT.**

8. Treat per *Dehydration Protocol*.

DISPOSITION:

1. Most cases of AMS are relatively mild, resolve in 2 - 3 days, and do not require evacuation...
2. Avoid vigorous activity for 3 - 5 days.
3. *Priority* evacuation for AMS patients that worsen despite therapy.
4. *Urgent* evacuation for patients with suspected HACE or HAPE.
5. Individuals who have recovered from HACE or HAPE should not re-ascend without medical officer clearance.

Anaphylactic Reaction

SPECIAL CONSIDERATIONS:

1. Acute, widely distributed form of shock which occurs within minutes of exposure to an allergen.
2. Primary causes include insect envenomation, medications, and food allergies.
3. Death can result from airway compromise, inability to ventilate, or cardiovascular collapse.
4. The medic's responsibility is to know if members in the unit have such a condition. Moreover, the medic must also ensure that the member has some sort of anaphylaxis kit and is trained to use it.
5. Consider localized allergic reaction. Anaphylaxis is a life-threatening emergency.

SIGNS AND SYMPTOMS:

1. Wheezing (bronchospasm)
2. Dyspnea
3. Stridor (laryngeal edema)
4. Angioedema
5. Urticaria (Hives)
6. Hypotension
7. Tachycardia

MANAGEMENT:

FOR PATIENTS WITH SIGNS AND SYMPTOMS OF AIRWAY INVOLVEMENT AND/ OR CIRCULATORY COLLAPSE:

1.  Epinephrine is the mainstay of therapy.
   A. Administer Epi-Pen
   B. **OR** Epinephrine 0.5 mg (0.5 ml of 1:1000 IM). **DO NOT USE INTRAVENOUSLY.**
   C. Repeat epinephrine q 5 minutes prn.
2.  Diphenhydramine (Benadryl) 50 mg IV/ IM/ PO/ SL.
3. IV Normal Saline TKO (saline lock).
4.  Dexamethasone (Decadron) 10 mg IV/ IM.
5. Oxygen
6. Pulse oximetry monitoring.
7.  Ranitidine (Zantac) 150 mg PO bid.
8. 

If severe respiratory distress exists, aggressive airway management with bag-valve-mask and airway adjuncts (oral and nasopharyngeal airways). Intubate early if no response to epinephrine.
9. Administer 1 - 2 liters Normal Saline bolus for hypotension; then titrate to establish systolic blood pressure > 90 mm Hg or palpable radial pulse if BP cuff not available.

DISPOSITION:

1. *Urgent* evacuation.

Asthma (Reactive Airway Disease)

SPECIAL CONSIDERATIONS:
Other disorders to consider: anaphylactic reaction, spontaneous pneumothorax, HAPE, and pulmonary embolism.

SIGNS AND SYMPTOMS:
1. Wheezing
2. Dyspnea
3. Difficulty with speaking in full sentences.

MANAGEMENT:
1.  Albuterol (Ventolin) (metered dose inhaler – works best when used with spacer), 2 - 3 puffs q 5 min, repeat up to 3 times.
2.  **IF THERE IS NO RESPONSE TO ALBUTEROL** (Ventolin)**,** Epinephrine 0.5 mg (0.5 ml of 1:1000 solution) IM **(DO NOT INJECT INTRAVENOUSLY)**. May repeat one dose in 5 - 10 min.
3. IV access with saline lock.
4.  Dexamethasone (Decadron) 10 mg IV/ IM.
5. Oxygen.
6. Pulse oximetry monitoring.
7. If there is fever, pleuritic chest pain and productive cough, treat per *Bronchitis/Pneumonia* Protocol.

DISPOSITION:
1. *Urgent* evacuation if no response to treatment.
2. If the patient responds to management, observe for 4 hours.
   A. Return To Duty if there is no wheezing or dyspnea and normal oxygen saturation. Continue Albuterol (Ventolin) (2 puffs q 6 h) and re-evaluate in 24 hours. Continue Decadron 10 mg IM qd for 4 days.
   B. *Urgent* evacuation if symptoms persist.

Back Pain

SPECIAL CONSIDERATIONS:
Motor weakness, saddle anesthesia, sensory loss, loss of bowel or bladder control in the setting of back pain is a neurological emergency requiring *Urgent* evacuation.

SIGNS AND SYMPTOMS:
1. Pain may worsen with movement.
2. Pain may radiate into legs.

MANAGEMENT:
1.  Treat per *Pain Management Protocol.*
2. Apply cold compress to painful area for 20 - 25 min tid.
3.  Trigger point injections with local anesthestic (**if trained**). Lidocaine 1 - 2 cc per trigger point. May repeat qd for 2 days.
4.  Consider Diazepam (Valium) 5 - 10 mg IM/ IV/ PO. Repeat once in 6 - 8 h prn.
5. Minimize activity initially, but encourage gradual stretching and return to full mobility as soon as tolerated.
6. If back pain is accompanied by fever and/ or urinary symptoms, treat per *Flank Pain Protocol*.

DISPOSITION:
1. Evacuation is often not required if the back pain responds to therapy.
2. *Routine* evacuation for severe cases not responding to therapy.
3. *Urgent* evacuation for patients with neurological involvement (other than pain) such as:
   A. Weakness
   B. Bowel or bladder dysfunction
   C. Saddle anesthesia

Barotrauma

SPECIAL CONSIDERATIONS:

1. Pulmonary Over-Inflation Syndrome (POIS) may occur from ascent from depth if compressed air was used or exposure to blast overpressure.
2. The most commonly affected site is the middle ear and tympanic membrane, but paranasal sinuses and teeth may be affected.
3. Pulmonary barotrauma occurs when compressed air is breathed at depth followed by ascending with a closed airway (i.e. breath-holding), and can cause pneumothorax or arterial gas embolism.

SIGNS AND SYMPTOMS:

1. Pain in the ear(s), sinuses, teeth.
2. Pulmonary Over-inflation Syndrome may present with chest pain, dyspnea, mediastinal emphysema, subcutaneous emphysema, pneumothorax and arterial gas embolism (AGE).

MANAGEMENT:

1. Middle ear

   A. If a tympanic membrane rupture is present or suspected, protect the ear from water or further trauma.

   B.  Moxifloxacin (Avelox) 400 mg PO qd if contamination is suspected.

   C.  Pseudoephedrine (Sudafed) 60 mg PO q 4 - 6 h prn

   D. **DO NOT** use ear drops.

   E. Refer to higher level of care when feasible.

2. Paranasal Sinus barotraumas.

    Pseudoephedrine (Sudafed) 60 mg PO q 4 - 6 h prn

3. Pulmonary barotraumas to include subcutaneous emphysema:

   A. If no respiratory distress, monitor patient closely. Use pulse oximetry if available

   B. If respiratory distress occurs – Treat per *Spontaneous Pneumothorax Protocol*.

4.  If arterial gas embolus is suspected, administer 100% oxygen and 1 liter Normal Saline IV 150 cc/ hour. *Urgent* evacuation to recompression chamber. If an unpressurized airframe is used, avoid altitude exposure greater than 1000 ft.

5. Treat per *Pain Management Protocol*. (Avoid narcotics if recompression is anticipated.)

DISPOSITION.

1. *Urgent* Evacuation for cerebral arterial gas embolus or pneumothorax with respiratory distress,
2. Mild to moderate middle ear, sinus, or pulmonary barotraumas without respiratory distress, observation and *Routine* evacuation.
3. *Routine* evacuation for consultation for Tympanic Membrane rupture.

Behavioral Changes
(Includes Psychosis, Depression and Suicidal Impulses)

SPECIAL CONSIDERATIONS:

1. In a tactical setting consider sleep deprivation as a cause.
2. Etiologies are numerous and will often dictate the management; thus mental status changes could be caused by head trauma, metabolic and endocrine disease processes, environmental toxins, infections, combat stress disorder, hypoxia, hyperthermia, hypothermia, pharmaceutical agent use (i.e. mefloquine) or withdrawal.
3. Consider diabetic hypoglycemia as a cause of altered mental status.

SIGNS AND SYMPTOMS:

1. Acute behavioral changes include withdrawal, depression, aggression, confusion, or other behavioral patterns atypical for the individual.
2. Psychosis is an acute change in mental status characterized by altered sensory perceptions that are not congruent with reality:
   A. Auditory and/ or visual hallucinations
   B. May include violent or paranoid behavior
   C. Disorganized speech patterns are common
   D. May include severe withdrawal from associates

MANAGEMENT:

1. Remove all weapons or potential weapons from patient AND treating medic.
2. Check pulse oximetry.
3. Place patient in safe environment under continuous surveillance
4. Give contents of 1 sugar packet sublingually to treat for possible hypoglycemia.
5. Take Temperature
   A. If Temperature is below 95 degrees, treat per *Hypothermia Protocol*
   B. If Temperature is above 101 degrees, treat per *Meningitis Protocol*
   C. If Temperature is above 103 degrees, treat per *Hyperthermia Protocol*

IF MENINGITIS IS SUSPECTED OR IF THERE IS A DECREASE IN MENTAL STATUS, USE VALIUM WITH CAUTION, DUE TO POSSIBLE RESPIRATORY DEPRESSION, HYPOTENSION, AND MASKING OF PROGRESSION OF DISEASE RELATED ALTERED MENTAL STATUS.

6. 

For acute agitation, combativeness, or violent behavior, restrain patient with at least four individuals and give diazepam (Valium) 10 mg IM. Repeat after 30 minutes prn.

7. 

If sedated or restrained, maintain constant vigilance for a change in the hemodynamic status or loss of airway reflexes.

DISPOSITION:
Urgent Evacuation

Bronchitis/ Pneumonia

SPECIAL CONSIDERATIONS:
1. Consider high altitude pulmonary edema (HAPE) at high altitudes.
2. Consider pulmonary embolism (PE) and pneumothorax (fever and productive cough are atypical for these).

SIGNS AND SYMPTOMS:
1. Fever
2. Productive cough, especially with dark yellow, red tinged, or greenish sputum
3. Chest pain
4. Rales may be present and breath sounds may be decreased over the affected lung.
5. Dyspnea may be present in severe cases.

MANAGEMENT:

1.  Azithromycin (Zithromax) 500 mg PO first dose then 250 mg qd for 4 days **OR** Moxifloxacin (Avelox) 400 mg PO qd for 7 days.
2.  If unable to tolerate PO intake, Ertapenem (Invanz) 1 gm IV/ IM **OR** Ceftriaxone (Rocephin) 1 gm IV qd.
3.  Albuterol (Ventolin) by metered dose inhaler 2 to 4 puffs q 4 – 6 h.
4. Treat per *Pain Management Protocol.*
5. Pulse oximetry monitoring.
6. Oxygen prn.
7. If at high altitude, see *Altitude Illness Protocol* and treat for HAPE.

DISPOSITION:
1. *Urgent* evacuation for severe dyspnea.
2. *Priority* evacuation otherwise.

Cellulitis/Cutaneous Abscess

SPECIAL CONSIDERATIONS:
1. Superficial bacterial skin infection
2. Generally begins about 24 hours following a break in the skin, but more serious types of cellulitis may be seen as early as 6 - 8 hours following animal or human bites.
3. If abscess formation occurs, only attempt I&D in the tactical setting IF:
   a. The abscess is clearly well demarcated and superficial.
   b. Local anesthesia is available.

SIGNS AND SYMPTOMS:
1. Painful, erythematous, swollen, tender area.
2. Fever may or may not be present.
3. Typically, erythema spreads without treatment.
4. Rapidly spreading and very painful infections suggest the possibility of necrotizing fasciitis, a life-threatening infection of the deeper tissues that should be treated per *Sepsis/ Septic Shock Protocol*.
5. Fluctuant, tender, well-defined mass indicates abscess formation.

MANAGEMENT:

1.  Moxifloxacin (Avelox) 400 mg PO qd for 10 days **OR** Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid
2.  **PLUS EITHER** Septra DS 1 tab PO bid **OR** Rifampin 600 mg PO bid for 10 days.
3. Clean and dress wound and surrounding area.
4. Use a pen to mark the demarcation border of the infection and re-evaluate in 24 hours.
5. Limit activity until infection resolves.
6.  Add Ertapenem (Invanz) 1 gm IV/ IM qd if worsening at 24 hours or no improvement at 48 hours of treatment.
7. **IF ABSCESS IS PRESENT:**
   A. Incise and drain (I&D) if discomfort is severe:
      1) Establish sterile incision site with Betadine.
      2)  Local anesthesia using Lidocaine.
      3) Incise the length of the abscess cavity, but no further.
      4) Incision should be parallel to skin tension lines if possible.
      5) On initial treatment, leave wound open and pack with iodoform or dampened gauze, if available. On subsequent dressings, wick the wound. **DO NOT SUTURE THE SITE**.

   B. Bandage site and perform wound checks daily.
8. Treat per *Pain Management Protocol*.

DISPOSITION:
1. Re-evaluate daily and watch for progression of erythema while on antibiotics.
2. Cellulitis in critical areas (head, neck, hand, joint involvement, perineal) requires *Priority* evacuation.
3. Use of IV antibiotics requires *Priority* evacuation.

Chest Pain

SPECIAL CONSIDERATIONS:
1. This Protocol assumes no access to ACLS medications or monitoring/ defibrillation equipment.
2. Since the ATP does not have access in the field to tests required to accurately determine the etiology of chest pain, early and rapid evacuation should be considered if tactically feasible. High risk etiologies include myocardial infarction (MI), unstable angina, pulmonary embolus, pericarditis, spontaneous pneumothorax, and esophageal rupture.

SIGNS AND SYMPTOMS - CARDIAC:
1. The presence of one or more of the following risk factors increases the likelihood of coronary artery disease: smoking, diabetes, hypertension, elevated cholesterol, obesity, family history of MI at a young age, and patient age over 40.
2. The following are signs and symptoms suspicious for myocardial infarction as the etiology for chest pain:
   A. Substernal chest pain that may radiate to the left arm, neck, or jaw.
   B. Pain described as pressure or squeezing.
   C. Pain exacerbated with exertion and relieved with rest.
   D. Associated dyspnea, diaphoresis (sweating), nausea, lightheadedness, or syncope.
   E. Tachycardia, irregular heart rhythm, or severe bradycardia.
   F. Bilateral rales/ crackles in the lungs on auscultation.
   G. Significant hypertension or hypotension.

MANAGEMENT:

1. Aspirin (ASA) 325 mg PO (non-enteric coated) – chew to speed absorption.

2. IV access with saline lock. Administer 250 - 500 cc Normal Saline boluses as needed to correct hypotension with frequent reassessment.

3. Morphine sulfate 5 mg IV initially, then 2 mg q 5 - 15 min prn for pain unless hypotension is present.

4. Oxygen.

5. Pulse oximetry monitoring.

6. Avoid all exertion. Allow the patient to rest in a position of comfort. Frequently reassess the patient including hemodynamic status.

OTHER ETIOLOGIES OF CHEST PAIN:
1. The following signs and symptoms **MAY** suggest a GI etiology such as gastroesophageal reflux disease (GERD): dyspepsia, dysphagia, burning quality to chest pain, exacerbated by laying flat, foul or brackish taste in mouth. A trial of antacids or Ranitidine (Zantac) 150 mg PO bid may be useful if evacuation will be delayed.

2. Severe chest pain following forceful vomiting may indicate esophageal rupture. Administer IV Normal Saline 150 cc/hr and Ertapenem (Invanz) 1gm IV and evacuate as *Urgent*.

3. Sudden onset of pleuritic chest pain with dyspnea may indicate pulmonary embolus or spontaneous pneumothorax. Auscultate the lungs; unilaterally diminished breath sounds suggests pneumothorax which may require decompression. Administer oxygen, establish IV access, administer Aspirin 325 mg PO for suspected PE, and evacuate as *Urgent*.

4. The following signs and symptoms **MAY** suggest a musculoskeletal etiology: pain isolated to a specific muscle or costochondral joint pain exacerbated with certain types of movements, non-central chest pain reproduced upon palpation. A trial of NSAIDs such as Ibuprofen (Motrin) 800 mg PO tid may be useful if evacuation will be delayed.

5. Chest pain with gradual onset and exacerbated by deep inspiration and accompanied by fever and productive cough **MAY** indicate lower respiratory tract infection. Consider treatment per *Bronchitis/ Pneumonia Protocol*.

DISPOSITION:

1. *Urgent* evacuation.
2. Evacuation platform should included ACLS certified medical personnel and the equipment, supplies, and medications necessary for ACLS care.
3. Do not delay evacuation if unsure of chest pain etiology. Strongly consider early contact with a medical officer or medical treatment facility for consultation. Frequently reassess the patient suspected of a non-cardiac etiology to ensure stability and accuracy of the diagnosis.

Constipation/ Fecal Impaction

SPECIAL CONSIDERATIONS:
1. Differential diagnosis include acute appendicitis, volvulus, ruptured diverticulum, bowel obstruction, pancreatitis or parasitic infections..
2. Acute onset, severe pain, point tenderness, and fever indicate etiologies other than constipation or fecal impaction.

SIGNS AND SYMPTOMS:
1. Recent history of infrequent passage of hard, dry stools or straining during defecation.
2. Abdominal pain, which is typically poorly localized with cramping.
3. If pain becomes severe and is associated with nausea/ vomiting and complete lack of flatus or stools, consider a bowel obstruction.

MANAGEMENT:
1.  Bisacodyl (Dulcolax) 10 mg PO tid prn.
2. Treat per *Pain Protocol* (***no narcotics – they cause constipation***).
3. For impacted stool or no relief with above measures, give Normal Saline enema 500 ml via lubricated IV tubing. (Pt should retain solution for two minutes before evacuating contents)
4. If above measures fail, perform digital rectal examination to check for fecal impaction. If fecal impaction is present, perform digital disimpaction, if trained.
5. Increase PO fluid intake.
6. Increase fiber (fruits, bran, and vegetables) in diet if possible.
7. If severe pain, rigid board-like abdomen, fever, and/ or rebound tenderness develop, or moderate to large amounts of blood are present in the stool, then treat per *Abdominal Pain Protocol*.

DISPOSITION:
1. Evacuation is usually not required for this condition.
2. *Routine* evacuation if no response to therapy.

Contact Dermatitis

SPECIAL CONSIDERATIONS:

1. Insect bite(s) as a differential diagnosis - also accompanied by itching, but with discrete red papular lesions(s).
2. Cellulitis as a differential diagnosis - bright red, painful, non-pruritic, and typically becomes steadily worse without antibiotics.
3. Fungal infection as a differential diagnosis – not always pruritic; infection site(s) slowly enlarge without therapy.
4. Effects are particularly dangerous if contact in or around the eyes.

SIGNS AND SYMPTOMS:

1. Acute onset
2. Skin erythema
3. Intense itching (pruritis)
4. Edema, papules, vesicles, bullae, discharge, and/ or crusting may be visible.

Management:

1. Change clothes when possible and bag original clothes until they can be machine washed.
2. Wash area with mild soap and water.
3. Apply cold wet compress to affected area to help decrease itching.
4.  If available, apply 1% hydrocortisone cream to the affected area and cover with a dry dressing to help prevent spread to other parts of the body or clothing.
5.  In severe cases, Dexamethasone (Decadron) 10 mg IM qd for 5 days.
6.  Give Diphenhydramine (Benadryl) 25 - 50 mg PO / SL q 6 h prn itching, if tactically feasible. (Sedation may occur.)

DISPOSITION:

1. Evacuation not needed for mild cases.
2. *Priority* evacuation for severe symptoms: intra-oral or eye involvement, or >50% body surface area (BSA) involvement.
3. Monitor for secondary infection; treat per C*ellulitis Protocol* if suspected on the basis of increasing pain, redness, or purulent crusting.

Corneal Abrasions/ Corneal Ulcers/ Conjunctivitis

SPECIAL CONSIDERATIONS:
1. Contact lens corneal abrasions are at a high risk for development of a corneal ulcer. They should not be patched and require more intensive antibiotic therapy.
2. Consider LASIK Flap dislocation for anyone that sustains eye trauma after LASIK surgery.

SIGNS AND SYMPTOMS:
1. History of eye trauma or contact lens wear
2. Eye pain – typically becoming worse over several days
3. Eye redness
4. Tearing
5. Blurred vision
6. Light sensitivity
7. Fluorescein stain positive
8. White or gray spot on cornea for corneal ulcer (usually need tangential penlight exam to see)
9. For sudden onset of eye pain after trauma in a patient with LASIK surgery, consider LASIK flap dislocation

MANAGEMENT:
1. Remove contact lens if worn.
2.  Tetracaine 0.5%, 2 drop in the affected eye for pain relief. Do not dispense to patient.
3. Check for foreign body to include eyelid eversion. Irrigate with Normal Saline prn.
4.  Gatifloxacin (Zymar) 0.3% drops – 1 drop in the affected eye qid while awake.
5. Treat per *Pain Management Protocol.*
6. Reduce light exposure, stay indoors if possible - sunglasses if not possible.
7. For corneal abrasions: monitor daily for worsening signs and symptoms of a corneal ulcer (increasing pain and development of a white or grey spot at abrasion site). **DO NOT PATCH.**
8. Assess using fluorescein drops daily—abrasions should get progressively smaller. Continue antibiotic drops until 24 hours after cornea becomes fluorescein negative (no bright yellow spot).
9. **IF CORNEAL ULCER PRESENT**: Increase Gatifloxacin (Zymar) drops to q 2 h and *Priority* evacuation.

DISPOSITION:
1. Evacuation may not be needed for corneal abrasion if improving with treatment.
2. *Priority* evacuation for Corneal Ulcer
3. *Urgent* evacuation for LASIK flap dislocation.

Cough

SPECIAL CONSIDERATIONS:
Usually viral etiology, but may also occur with high altitude pulmonary edema (HAPE) and pneumonia.

SIGNS AND SYMPTOMS:
1. Cough with or without scant sputum production.
2. Often accompanied by other signs and symptoms of upper respiratory tract infection (i.e. sore throat and rhinorrhea).

MANAGEMENT:
1. Treat symptomatically (using Cepacol lozenges or other appropriate medications) when the findings on history and physical do not suggest pneumonia.
2.  Albuterol (Ventolin) Metered Dose Inhaler 3-4 puffs q 4 h may also help control coughing.
3. Encourage PO hydration.
4. Avoid respiratory irritants (smoke, aerosols, etc).
5. If associated with URI symptoms, treat per *Allergic Rhinitis Protocol*.
6. If at altitude, pull balaclava over nose and breathe through it for warm humidified air.

DISPOSITION:
1. Evacuation is usually not required.
2. If accompanied by fever, chest pain, dyspnea, and/ or colored sputum (green, dark yellow or red-tinged), treat per *Bronchitis/ Pneumonia Protocol*.

Deep Venous Thrombosis (DVT)

SPECIAL CONSIDERATIONS:

2. Risk factors include trauma, long airplane rides, high altitude exposure, and genetic predisposition.
3. May be confused with a ruptured Baker's cyst in a tactical setting.

SIGNS AND SYMPTOMS:

1. Asymmetric pain and swelling in a lower extremity (often the calf muscles).
2. Warmth over affected area.
3. Increased pain in the affected calf muscles with dorsiflexion of the foot.

MANAGEMENT:

1. Monitor patient with pulse oximetry (sudden decrease in oxygen saturation suggests a pulmonary embolism.)
2.  ASA 325 mg PO.
3. For associated respiratory distress consider Pulmonary Embolus and treat per *Chest Pain Protocol*.
4. Immobilize the affected extremity.

DISPOSITION:

1. *Priority* evacuation if no respiratory distress or chest pain.
2. *Urgent* evacuation If respiratory distress or chest pain are present

Dehydration

SPECIAL CONSIDERATIONS:
1. Troops in the field are often chronically dehydrated.
2. Prolonged missions, acute diarrhea (gastroenteritis), viral/ bacterial infections, and environmental factors (heat stress or strenuous activity) all may exacerbate dehydration.
3. May also occur in cold or high altitude environments.

SIGNS AND SYMPTOMS:
1. Lightheadedness (worse with sudden standing)
2. Mild headache (especially in the morning)
3. Dry mucosa
4. Decreased urinary frequency and volume
5. Dark urine
6. Degradation in performance

MANAGEMENT:
1. Increase oral fluids if tolerated.
   A. If available, use carbohydrate/ electrolyte drink mixes for fluid replacement diluted to a 1:4 solution.
   B. Avoid fluids containing caffeine

2. If unable to tolerate PO fluids, use an initial bolus of 1 liter Normal Saline IV, followed by repeat attempt at PO hydration. If still unable to tolerate PO hydration, repeat 1 liter bolus of Normal Saline IV. If Normal Saline is not available, use available IV fluids,

DISPOSITION:
1. Monitor closely for recurrence of dehydration.
2. *Priority* evacuation if dehydration persists after treatment.

Dental Pain

SPECIAL CONSIDERATIONS:
Most common causes are deep decay, fractures of tooth crown/root, acute periapical (root end) abscesses, or pericornitis (pain associated with an impacted wisdom tooth).

SIGNS AND SYMPTOMS:
1. Intermittent or continuous pain (usually intense), heat or cold sensitivity
2. Visibly broken/ cracked tooth
3. Severe pain on percussion
4. Intraoral swelling/ abscess
5. Partially erupted wisdom tooth

MANAGEMENT:
1. Treat per *Pain Management Protocol.*
2.  If signs and symptoms of infection are present, administer Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid for 7 days **OR** Ceftriaxone (Rocephin) 1 gm IV/ IM qd x 7 days.
3. If gums appear swollen and red, encourage increased oral hygiene and warm saline rinses bid.

DISPOSITION
1. Evacuation usually not necessary
2. *Routine* evacuation if not responding to therapy or requiring IV antibiotics

Determination of Death / Discontinuing Resuscitation

SPECIAL CONSIDERATIONS:

1. Immediate determination of death is appropriate in a trauma patient without pulse or respirations in the setting of multiple casualties when resuscitative efforts would hinder the care of more viable patients.
2. Patients that are struck by lightening, have hypothermia, cold-water drowning, or intermittent pulses may require extended cardiopulmonary resuscitation
3. It is assumed that personnel do not have access to ECG, or other monitoring equipment to evaluate heart rhythm, or deliver countershocks.

SIGNS AND SYMPTOMS:

1. Obvious Death - Persons who, in addition to absence of respiration, cardiac activity and neurologic reflexes have one or more of the following:
   A. Decapitation.
   B. Massive crushing and/or penetrating injury with evisceration of the heart, lung or brain.
   C. Incineration.
   D. Decomposition of body tissue.
   E. Rigor mortis or post-mortem lividity.

MANAGEMENT:

1. In the setting of obvious death, resuscitative efforts should not be initiated.
2. If resuscitative efforts have been initiated, discontinuation should be considered
   A. After 15 minutes (if the cause is unknown or due to trauma) or after 30 minutes (when the cause is due to hypothermia, electrical injury, lightning strike, cold water drowning, or other cause known to require a prolonged resuscitative effort) when:
      1) There is persistent absence of pulse and respirations despite assuring airway and ventilation as well as administration of resuscitative fluids and medications.
      2) Pupils are fixed and dilated.
      3) No response to deep pain above or below the clavicles
      4) Absence of end-tidal CO2, (either colormetric or wave form) from a correctly placed endotracheal tube or alternative airway.
3. If there is any question as to the discontinuation of resuscitative efforts, then a medical officer should be contacted for guidance.

DISPOSITION.

1. Evacuation of the remains when tactically feasible.
2. In the event of return of spontaneous circulation, *Urgent* Evacuation.

Ear Infection (Includes Otitis Media and Otitis Externa)

SPECIAL CONSIDERATIONS:
1. Infection of the middle or external ear may be viral or bacterial in etiology.
2. Increased pressure in the middle ear may cause intense pain and may result in rupture of the tympanic membrane (characterized by sudden decrease in pain and drainage from ear canal.)

SIGNS AND SYMPTOMS:
1. Ear pain

MANAGEMENT:

1.  Moxifloxacin (Avelox) 400 mg PO qd for 10 days **OR** Azithromycin. (Z-pac) 500 mg po initially followed by 250 mg po qd x 4 days.

2. Treat per *Pain Management Protocol.*

3.  If external canal exudate is present, Gatifloxacin (Zymar) drops, 5 drops tid - qid until symptoms remain resolved for 48 hours.

4. 

If water immersion is anticipated, use ear plugs to prevent cold water entry which will cause vertigo.

DISPOSITION:
1. For uncomplicated cases, no evacuation is necessary.
2. *Routine* evacuation for complicated cases not responding to therapy

Envenomation

SPECIAL CONSIDERATIONS:
1. Toxic envenomations from a variety of sources, including bees/ wasps, scorpions, jellyfish or snakes, are all capable of causing life-threatening anaphylaxis.
2. Only a minority of snakebites from toxic snakes involve severe, life-threatening envenomations.
3. Incision, excision, electrical shock, tourniquet, oral suction and cryotherapy should **NOT** be performed to treat snakebites.
4. Suction device is not effective for removing snake venom from a wound; if previously placed it should be left in place until patient reaches higher level of care.

SIGNS AND SYMPTOMS:

General:
1. Pain
2. Swelling/ edema
3. Puncture site(s) from stinger or fangs.

Hemotoxins:
1. Sudden pain
2. Erythema
3. Ecchymosis
4. Hemorrhagic bullae
5. Bleeding from site
6. Metallic taste
7. Hypotension/ shock

Neurotoxins:
1. Cranial Nerve dysfunction (i.e. ptosis)
2. Paresthesias
3. Fasciculations
4. Weakness
5. Altered mental status

MANAGEMENT:
1. If signs and symptoms of anaphylaxis present, treat per *Anaphylaxis Protocol*
2.  Diphenhydramine (Benadryl) 25 mg PO / SL / IV.
3. Apply cold packs topically.
4. Treat per *Pain Management Protocol*
5. If toxic snakebite suspected (significant pain, edema, evidence of coagulopathy or neurologic signs/symptoms):
   A. Minimize activity and place on a litter
   B. Remove all constricting clothing and jewelry
   C. Start IV in unaffected extremity
   D. Monitor and record vital signs and extent of edema every 15 - 30 minutes
   E. Immobilize affected limb in neutral position and wrap affected extremity in an elastic bandage beginning proximally and progressing distally, or in an air splint.

DISPOSITION:
1. *Urgent* evacuation if treated for anaphylaxis.
2. *Urgent* evacuation if evidence of severe envenomation (systemic signs and symptoms, edema reaching root of limb).
3. Evacuation not required if signs and symptoms do not indicate anaphylaxis or severe envenomation after four hours of observation.

Epistaxis

SPECIAL CONSIDERATIONS:
1. Common at high altitude and in desert environments due to mucosal drying.
2. May be anterior or posterior
3. posterior epistaxis may be difficult to stop and may cause respiratory distress due to blood flowing into the airway. This type of epistaxis is uncommon in young healthy adults. It is more commonly seen in older, hypertensive patients.

SIGNS AND SYMPTOMS:
1. Nosebleed
2. Often previous history of nosebleeds

MANAGEMENT:

1.  Oxymetazoline (Afrin) nasal spray 2 squirts in each nostril then pinch anterior area of nose firmly for full 10 minutes **WITHOUT RELEASING PRESSURE**.
2.  If bleeding continues, insert Afrin-soaked nasal sponge bilaterally along floor of nasal cavity. Continue pinching the nose just below the nasal bridge, for 10 minutes.
3.  Once bleeding has stopped (after 30 minutes), remove the Afrin nasal sponge and apply Bactroban to the affected nostril bid - tid.
4. Clear clots and other material from airway (if required) by having patient sit up, lean forward, and blow his/her nose.
5. Normal Saline IV TKO prn (based upon severity of nose bleed)
6. **IF BLEEDING CONTINUES**
   A. Prepare 14 French Foley catheter. (Tip is cut to minimize distal irritation.)
   B. Advance catheter along floor of nose (straight in) until visible in mouth.
   C. Fill balloon with 5 cc of normal saline.
   D. Retract catheter until well opposed to posterior nasopharynx.
   E. Add an additional 5 cc of Normal Saline to balloon.
   F. Clamp in place without using excessive anterior pressure.
   G.  Moxifloxacin (Avelox) 400 mg PO qd until packing is removed.
   H. **LEAVE BALLOON AND PACKING IN PLACE FOR 72 HOURS.**

DISPOSITION:
1. Evacuation may not be required if epistaxis is mild, anterior, and resolves with treatment.
2. *Priority* evacuation for severe epistaxis not responding to therapy or if Foley catheter is used.

Flank Pain (Includes Renal Colic, Pyelonephritis, Kidney Stones)

SPECIAL CONSIDERATIONS:
1. May proceed to life-threatening systemic infection.
2. May be associated with testicular torsion. Ensure normal external GU exam first.

SIGNS AND SYMPTOMS:
1. Urinary Tract Infection
   A. Dysuria
   B. Polyuria
2. Back pain
3. Flank pain
4. Nausea/ vomiting
5. Costovertebral angle tenderness
6. Fever
7. Hematuria

MANAGEMENT:
1. Treat per *Pain Management Protocol*.
2. Treat per *Nausea and Vomiting Protocol*.
3. Treat per *Dehydration Protocol*.
4. If fever present:
   A.  Moxifloxacin (Avelox) 400 mg PO qd **OR** Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid
   B.  Ertapenem (Invanz) 1 gm IV/ IM **OR** Ceftriaxone (Rocephin) 1 gm bid IV/ IM if unable to tolerate PO or unresponsive to oral treatment.

DISPOSITION:
Priority evacuation

Fungal Skin Infection

SPECIAL CONSIDERATIONS:

1. Insect bite(s), eczema, and contact dermatitis as differential diagnosis - are also accompanied by itching, but have discrete red papular lesion(s).
2. Cellulitis as a differential diagnosis - is bright red, painful, not pruritic, and typically becomes steadily worse without antibiotics.
3. Acute contact dermatitis as a differential diagnosis - is diagnosed by intense itching, skin erythema and a history of environmental exposure.

SIGNS AND SYMPTOMS:

1. Skin erythema
2. Pruritis is variable
3. Slow spreading
4. Borders of the erythematous plaques are generally irregular and/ or circumferential.
5. Often initially diagnosed as contact dermatitis but gets worse with use of steroids (those without antifungal agent added).
6. Most common sites of infection are feet. ("athlete's foot" or tinea pedis), groin ("jock itch" or tinea cruris), scalp (tinea capitus), and torso or extremities ("ring worm" or tinea corporis).

MANAGEMENT:

1.  Use fluconazole (Diflucan) 150 mg PO once per week for four weeks (total of four doses in the absence of a cure, or 1 dose after clinically clear). If not resolved after 4 weeks, refer to Physician.

2. Clean rigorously with mild soap without injuring the skin.

DISPOSITION

Evacuation is usually not required for this condition.

Gastroenteritis

SPECIAL CONSIDERATIONS:

1. Etiology of acute diarrhea is often viral, but bacterial or parasitic infections are common in the deployed environment.
2. Emerging fluoroquinolone resistance among enteropathogenic E. Coli and Campylobacter makes azithromycin the new primary agent for therapy.
3. Consider antibiotic-related diarrhea if on antibiotics at onset.
4. Consider parasitic infection if symptoms persist for 3 or more days.
5. Must rule out malaria if fever and GI symptoms exist in a malarious area.

SIGNS AND SYMPTOMS:

1. Acute onset of nausea, vomiting, and diarrhea
2. Fever may or may not be present.

MANAGEMENT:

1.  Loperamide (Imodium) 4 mg PO initially, then 2 mg PO after every loose bowel movement with a maximum dose of 16 mg per day.
2.  Do not use loperamide in the presence of fever or bloody stools.
3.  Azithromycin (Zithromax) 500 mg PO qd for 3 days or Moxifloxacin (Avelox) 400 mg PO qd for 3 days.
4. Treat per *Nausea and Vomiting Protocol*.
5. Treat per *Dehydration Protocol*.
6.  If diarrhea persists after 3 days of therapy, give Metronidazole (Flagyl) 500 mg PO tid for 10 days.

DISPOSITION:

1. *Urgent* evacuation if grossly bloody stools or circulatory compromise
2. *Priority* evacuation if dehydration occurs despite above therapy.
3. *Routine* evacuation if diarrhea persists after 3 days of therapy,

Headache

SPECIAL CONSIDERATIONS:

1. The number differential diagnosis for the acute headache is large and includes disorders that encompass the spectrum of minor to severe underlying disorders.
2. Consider altitude sickness, intracranial bleeds, meningitis and carbon monoxide poisoning.

SIGNS AND SYMPTOMS:

1. If the headache is atypical for the patient, check elevated blood pressure (if possible), fever, neck rigidity, visual symptoms, mental status changes, neurological weakness, and hydration.

MANAGEMENT:

1. If the patient has fever, nuchal rigidity, photophobia, petechial rash, or nausea and vomiting, treat per *Meningitis Protocol*.
2. Treat per *Pain Management Protocol*.
3. If headache is accompanied by nausea and/ or vomiting, treat per *Nausea and Vomiting Protocol*.
4. Oxygen if other therapies are ineffective.
5. If dehydration is suspected, treat per *Dehydration Protocol*.
6. If at altitude, treat per *Altitude Illness Protocol*.

DISPOSITION:

1. Evacuation is usually not required if the headache responds to therapy.
2. Acute headache in the presence of fever, severe nausea and vomiting, mental status changes, focal neurological signs, or preceding seizures, loss of consciousness, or a history of "it's the worst headache in my life" constitutes a true emergency and requires *Urgent* evacuation. Also consider *Urgent* evacuation for anyone without a prior history of headaches if their pain is severe.

Head and Neck Infection
(Includes Epiglottitis and Peritonsillar Abscess)

SPECIAL CONSIDERATIONS:
1. Most common causes in young healthy patients include odontogenic (dental origin) cutaneous sources or post-injury (wound or fracture) infections.
2. These infections may progress rapidly from minor to airway/life-threatening.

SIGNS AND SYMPTOMS:
1. Pain, fever and malaise
2. Intra/extra oral swelling
3. Difficulty opening mouth
4. Pus
5. Difficulty swallowing
6. Airway compromise

MANAGEMENT:

1. Manage airway and breathing first!
2. Place patient in position of comfort
3. Monitor pulse oximetry
4. Oxygen prn
5. IV access
6.  Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid for 7 days **OR** Rocephin 1 gm IV/ IM qd for 7 days.
7. Treat per *Pain Management Protocol*.
8.  Consider Dexamethasone (Decadron) 10 mg IV for any airway involvement,
9. **Avoid airway manipulation unless absolutely necessary**.
10. If airway intervention is indicated, make a single attempt at intubation if feasible. (The epiglottis is not swollen to the extent that visualization of cords is not possible.)
11. If intubation is attempted, do not make any repeat attempts. If intubation has failed, the next step is a cricothyroidotomy (using lidocaine if conscious).
12. 

Have cricothyroidotomy kit available BEFORE ATTEMPTING INTUBATION.

DISPOSITION
1. ***Urgent* evacuation if any airway compromise is present-.**
2. *Routine* evacuation if no airway compromise and the infection is not widespread.

HIV Post Exposure Prophylaxis

SPECIAL CONSIDERATIONS:

1. Initiation of the highly active antiretroviral therapy (HAART) must occur ASAP! Ideally, this is less than 2 hours after exposure, but still has some effect up to 72 hours after exposure.
2. Antiretrovirals have a significant side effect profile, including nausea, vomiting and diarrhea.
3. Obtain a sample of the source's blood for HIV testing, if applicable.

HIGH RISK EXPOSURES

1. Percutaneous injury (Needlestick or other contaminated penetrating injury).
2. Contact between body fluids and mucous membranes or non-intact skin.
3. Prolonged contact between body fluids and intact skin.
4. Unprotected sexual intercourse with a high risk individual.

MANAGEMENT:

1. Wash area with soap and water to clean area and minimize exposure.
2.  Initiate antiretroviral triple therapy (recommend Combivir® [Lamivudine and Zidovudine] 1 tablet PO bid **AND** Viracept® [Nelfinavir] 1250 mg PO bid) ASAP!
3.  Do not use alcoholic beverages after Combivir administration.
4. Treat per *Nausea and Vomiting Protocol*
5. Maintain hydration and nutrition status.

DISPOSITION:

1. *Urgent* evacuation if a significant exposure occurs and HAART is not available.
2. *Routine* evacuation if HAART is available.

Hyperthermia

SPECIAL CONSIDERATIONS:
1. Heat stroke is a life-threatening effect of hyperthermia and characterized by altered mental status and elevated core temperature.
2. Mild and moderate hyperthermia can often be treated and the casualty returned to duty.
3. Dehydration often accompanies hyperthermia.
4. Suggest that colloids (Hextend) be avoided in favor of crystalloids.

SIGNS AND SYMPTOMS:
1. Altered mental status
2. Increased core temperature

MANAGEMENT:
1. Place in cool area and remove clothing, spray with water, fan patient. Place ice packs on sides of neck, in armpits, and in groin area. If available, place hands and feet into buckets of ice water. Apply external ice until core temperature reaches 39 degrees C (101 degrees F). **AVOID SHIVERING WHICH WILL RAISE THE PATIENT'S CORE BODY TEMPERATURE!!**
2.  Give 1 tube of Glucose
3. Treat per *Dehydration Protocol*.
4. Treat per *Nausea and Vomiting Protocol*.
5.  If unable to control shivering, give diazepam (Valium) 5 mg IV/ IM.

DISPOSITION:
1. Mild to moderate cases can be treated and not evacuated.
2. *Routine* evacuation for heat stroke casualties.
3. *Priority* evacuation for severe hyperthermia.

Hypothermia

SPECIAL CONSIDERATIONS:
1. Cardiac resuscitation should only be attempted during active rewarming. Follow ACLS Hypothermia Protocols.
2. It is not uncommon for core temperature to continue to drop after removal from cold environment.

SIGNS AND SYMPTOMS:
1. Altered mental status
2. Pale, cool skin
3. Weak pulses
4. Irregular heartbeat

MANAGEMENT:
1. Move to warm environment, remove any wet clothing and begin rewarming (Blizzard Blanket, Ranger Rescue Wrap, etc.)
2. If unconscious, avoid sudden movements and rough handling.
3. If responsive, administer warm fluids by mouth.
4. If IV fluids are indicated, administer IV fluids warmed to 40 degrees C (101.6 degrees F)

DISPOSITION:
1. Mild to moderate cases can be treated and not evacuated.
2. *Urgent* evacuation for severe hypothermia cases a facility capable of active rewarming and resuscitation.
3. *Priority* evacuation for cases of frostbite.

Ingrown Toenail

SPECIAL CONSIDERATIONS:
1. Consider toenail removal only if close follow-up is possible.
2. **DO NOT USE** local anesthetic with epinephrine.
3. If complete nail removal is indicated, evacuate patient.

SIGNS AND SYMPTOMS:
1. Pressure over the nail margins increases the pain.
2. Inflammatory or infectious responses are generally localized.
3. Partial or complete nail removal is typically indicated in chronic inflammation/ infection, with severe pain of both medial and lateral nail folds, especially if the condition has lasted one month or greater.

MANAGEMENT:

1. Partial/complete toenail removal:
   A. Clean the site with soap, water, and betadine.
   B.  Perform a digital block at the base of the toe using lidocaine 1% **WITHOUT EPINEPHRINE.**
   C. Apply constricting band to base of toe.
   D. Remove the lateral quarter of the nail toward the cuticle (or whole nail), using a sharp scissors with upward pressure.
   E. Bluntly dissect the nail from the underlying matrix with a flat object, elevate the nail and grasp it with a hemostat or forceps, removing the piece.
   F. Clean the nail grooves to remove any debris.
   G. Remove constricting band.
   H. Control bleeding with direct pressure and dry the underlying nail bed.
2.  Mupirocin (Bactroban) 2% ointment to exposed nail bed.
3. Dress with a non-adherent dressing and dry bandage.
4. Instruct the patient to wash the area daily.
5. Recheck wound and change dressing daily.
6. Instruct patient to wear less constricting shoes and to trim their nails straight across. Optimal care is to limit walking and marching for 3 - 5 days.
7. Treat per *Pain Management Protocol.*
8.  Systemic antibiotics are typically not needed in these procedures; however consider using Moxifloxacin (Avelox) 400 mg PO qd for 10 days, **OR** Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid for 10 days if an infection is suspected (increasing pain, redness, and swelling).

DISPOSITION:
1. Evacuation is usually not required if the condition responds to therapy.
2. The nail bed may have serous drainage for several weeks, but will usually heal within 2 - 4 weeks.

Joint Infection

SPECIAL CONSIDERATIONS:
1. May result from penetrating trauma (especially animal or human bites), gonorrhea, or iatrogenic causes (i.e. attempted aspiration of joint effusion).
2. Consider also an acute joint effusion due to blunt trauma or overuse (usually less red and no fever).

SIGNS AND SYMPTOMS:
1. History of adjacent penetrating trauma or infection
2. Single red, swollen joint
3. Fever
4. Pain

MANAGEMENT:
1. IV access.
2.  Ertapenem (Invanz) 1 gm IV/ IM qd **OR** Ceftriaxone (Rocephin) 2 gm IV/ IM bid.
3. Treat per *Pain Management Protocol.*
4. **IMMOBILIZE THE JOINT.**

DISPOSITION:
Priority evacuation

Loss of Consciousness (without Seizures)

SPECIAL CONSIDERATIONS:
1. The most common cause of loss of consciousness in healthy adults is orthostatic hypotension (associated with sudden standing) or vasovagal syncope (associated with sudden adverse stimulus – injections are a common cause).
2. Also consider hypoglycemia, anaphylactic reaction, medication, recreational drug use, head trauma, hyperthermia, hypothermia, myocardial infarction, lightning strikes, and intracranial bleeding.

SIGNS AND SYMPTOMS:
Unconsciousness

MANAGEMENT:
1. If no respirations or pulse, follow BLS guidelines.

2. Management of orthostatic hypotension and vasovagal syncope is accomplished by placing the patient in a supine position, ensuring the airway is open. Patients experiencing these two disorders should regain consciousness within a few seconds. If they don't, consider other etiologies and proceed to the steps below.

3.  Place either 1 tube Glutose (oral glucose gel) or contents of one packet of sugar in buccal mucosal region.

4. IV access.

5.  Naloxone (Narcan) 0.8 mg IV/ IM. Repeat q 2 – 3 min prn to max dose of 10 mg.

6. If no response treat per appropriate Protocol per Special Considerations #2.

7. Pulse oximetry monitoring.

8. Oxygen.

DISPOSITION:
1. *Urgent* evacuation, unless loss of consciousness due to orthostatic hypotension or vasovagal hypotension.
2. The evacuation package should include personnel certified in Advanced Cardiac Life Support (ACLS), with equipment, supplies and medications necessary for ACLS care.

Malaria

SPECIAL CONSIDERATIONS:

1. Malaria MUST be considered in all febrile patients currently in, or recently in, a malarious area.
2. It is not uncommon for malaria to present like pneumonia or gastroenteritis (with vomiting and diarrhea).
3. It is appropriate to treat suspected malaria cases empirically if diagnostic tests (blood smears or rapid test) are not available. However, the Binax Rapid Diagnostic Test is now FDA approved and should be used, if available, to guide treatment selection.
4. The use of chemoprophylaxis does not rule out malaria.
5. Consider bacterial meningitis in evaluating the patient – treat for both disorders if meningitis is suspected.
6. Patients who cannot tolerate PO meds must be evacuated.
7. **IF SPECIES IS UNKNOWN, TREAT FOR P. FALCIPARIUM**.

SIGNS AND SYMPTOMS:

1. Prodrome of malaise, fatigue, and myalgia may precede febrile paroxysm by several days.
2. Paroxysm characterized by abrupt onset of fever, chills, rigors, profuse sweats, headache, backache, myalgia, abdominal pain, nausea, vomiting, and diarrhea (may be watery and profuse) in *P. falciparum*.
3. Intermittent fever to >40C (105F) OR fever may be near continuous in P. falciparum malaria; classic "periodicity" is usually absent. Profuse sweating between febrile paroxysms.
4. Tachycardia, orthostatic hypotension, tender hepatomegaly, and delirium (Cerebral malaria).

MANAGEMENT: *P. FALCIPARUM* MALARIA

1. Malarone (atovaquone 250 mg/proguanil 100 mg) 4 tabs qd for 3 days with food **OR** give Mefloquine 750 mg followed by 500 mg 12 hours later.

2. Acetaminophen (Tylenol) 1000 mg PO q 6 h prn for fever.

MANAGEMENT: NON - *P. FALCIPARUM* MALARIA

1. Chloroquine 1 gm PO one time, then 500 mg qd for 3 days starting 6 hours after 1st dose **PLUS** primaquine 30 mg qd for 14 days **(MUST** rule out G6PD deficiency before giving primaquine).

2. Acetaminophen (Tylenol) 1000 mg PO q 6 h prn for fever.

DISPOSITION:

1. *Urgent* treatment and evacuation for complicated malaria (cerebral, pulmonary, unstable vital signs) these indicate a medical emergency.
2. *Routine* evacuation for uncomplicated cases (normal vital signs, normal mental status, no nausea and vomiting, no cough/ shortness of breath).

Meningitis

SPECIAL CONSIDERATIONS:
1. May be bacterial, viral, or fungal. The bacterial type may cause death in hours, even in previously healthy young adults, if not treated aggressively with appropriate antibiotics.
2. Consider malaria as a differential diagnosis. Treat for both if malaria cannot be ruled out.

SIGNS AND SYMPTOMS:
1. Classic features include:
   A. Severe headache
   B. High fever
   C. Pain with any neck movement, particularly forward flexion
   D. Altered mental status
2. May also include:
   A. Photophobia
   B. Nausea and vomiting
   C. Malaise
   D. Seizures
3. Positive Brudzinski (pain on head and neck flexion) and Kernig's (neck pain with hip and knee flexion) signs

MANAGEMENT:
1. If meningitis is suspected, treatment should be initiated immediately.
2. IV access.
3.  Dexamethasone (Decadron) 10 mg IV/ IM q 6 h .
4.  Ceftriaxone (Rocephin) 2 gm IV q 12 h (IM route possible alternative but prefer IV route). **OR** Ertapenem (Invanz) 1 gm IV/ IM qd.
5. Treat per *Pain Management Protocol*.
6. Treat per *Nausea and Vomiting Protocol*.
7. If seizures occur, treat per *Seizure Protocol*.
8.  Moxifloxacin (Avelox) 400 mg PO once **OR** Ceftriaxone (Rocephin) 250 mg IM for prophylaxis of close contacts.

DISPOSITION:
1. Urgent evacuation.

Nausea and Vomiting

SPECIAL CONSIDERATIONS:
1. Avoid rapid IV administration of promethazine (Phenergan)
2. **DO NOT** give subcutaneous promethazine (Phenergan)
3. Diphenhydramine (Benadryl) and promethazine (Phenergan) may cause drowsiness.

SIGNS AND SYMPTOMS:
Nausea and Vomiting

MANAGEMENT:

1.  Ondansetron (Zofran) 4 – 8 mg IV/ IM bid or 8 mg PO q 8 h prn.
2.  **OR** Promethazine (Phenergan) 25 mg IV/ IM/ PO q 6 h prn.
3.  **OR** Diphenhydramine (Benadryl) 25 - 50 mg IV/ IM / PO q 6 h prn.
4. Treat per *Dehydration Protocol.*

DISPOSITION:
Evacuate per Protocol for underlying condition.

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Pain Management

SPECIAL CONSIDERATIONS:
1. Any use of narcotic medications will be sedating and degrade the mission performance of patients
2. Avoid IM or SQ injections of narcotic medications due to the potential for delayed absorption.

SIGNS AND SYMPTOMS:
Pain

MANAGEMENT:
1. Start in sequential manner to maximize pain control with mission performance.

A. Acetaminophen (Tylenol) 1000 mg PO q 6 h.

B. Non Steroidal Anti-inflammatory drugs

1) Meloxicam (Mobic) 15 mg PO qd prn

2) **OR** Ibuprofen (Motrin) 800 mg PO q 8 h prn

3) **OR** Ketorolac (Toradol) 30 mg IV/ IM q 6 h prn. .

C. Narcotic Medications

1) Oral Transmucosal Fentanyl Citrate 800 mcg PO over 15 minutes (may repeat dose once).

Life-threatening hypoventilation/ respiratory arrest could occur at any dose of fentanyl, particularly in patients not taking chronic narcotics. Therefore, closely monitor for respiratory depression.

2) Morphine sulfate 5 mg IV initial dose then 5 mg IV q 10 min for max dose of 30 mg

2. Treat per *Nausea and Vomiting Protocol*.

DISPOSITION:
Priority evacuation for any patients with narcotic use.

Seizure

SPECIAL CONSIDERATIONS:

1. May be caused by injury, infection, high fever, alcohol withdrawal, drug use, toxins, and structural abnormalities of the central nervous system (CNS).

SIGNS AND SYMPTOMS:

1. Generalized seizure
2. Possible history of previous seizures
3. Possible history of recent head trauma
4. Possible history of CNS infection
5. Possible history of headaches

MANAGEMENT:

1. Avoid trauma to patient during the seizure, but do not restrain patient.
2.  Diazepam (Valium) 10 mg IV/ IM/ IO for ongoing seizures. May repeat 10 mg prn q 15 min for continuing seizures for max dose 30 mg.
3. Do not attempt to force an object into the mouth to open airway.
4. Support and maintain airway and ventilation as needed to include SPO2.
5. If seizures are accompanied by fever,
   A. Consider meningitis and treat per *Meningitis Protocol*.
   B. Consider malaria if in malaria endemic area and treat per *Malaria Protocol*
6.  Place either 1 tube Glutose (oral glucose gel) or contents of 1 sugar packet in buccal mucosa to treat possible hypoglycemia.

DISPOSITION: *Urgent* evacuation

Sepsis/ Septic Shock

SPECIAL CONSIDERATIONS:
1. Sepsis is a severe, life-threatening bacterial blood infection.
2. Rapid onset - death may occur within 4-6 hours without antibiotic therapy.

SIGNS AND SYMPTOMS:
1. Hypotension
2. Fever
3. Tachycardia
4. Altered mental status
5. Dyspnea
6. May see skin rash (purpura)

MANAGEMENT:
1. Obtain IV/ IO access.
2.  Ertapenem (Invanz) 1 gm IV/ IO qd **OR** Ceftriaxone (Rocephin) 2 gm IV/ IO.
3. If patient is hypotensive, give 1 liter Normal Saline or Ringer's Lactate fluid bolus. Consider additional fluids if still hypotensive, then an additional liter titrated to maintain systolic blood pressure >90 mm Hg or palpable radial pulse.
4.  Epinephrine 0.5 mg (0.5ml of 1:1,000 solution) IM **(DO NOT GIVE IV)** for persistent hypotension after fluid bolus.
5.  Dexamethasone (Decadron) 10 mg IV if persistent hypotension after fluid bolus and Epinephrine.
6. Monitor for decreased mental status and be prepared to manage airway.

DISPOSITION:
Urgent evacuation

Smoke Inhalation

SPECIAL CONSIDERATIONS:
1. Consider possible carbon monoxide (CO) poisoning and need for hyperbaric oxygen in all significant cases of smoke inhalation.
2. Normal oxygen saturation by pulse oximetry DOES NOT rule out the possibility of CO poisoning.

SIGNS AND SYMPTOMS:
1. History of smoke exposure
2. Burns
3. Coughing
4. Respiratory distress (may be delayed in onset)

MANAGEMENT:
1. Administer oxygen.
2. Consider the use of early intubation or cricothyroidotomy if airway burns/ edema or singed nasal hair, facial burns are present/ suspected.
3.  Albuterol (Ventolin) by metered dose inhaler 2 to 4 puffs q 4 – 6 h.
4.  Dexamethasone (Decadron) 10 mg IV/ IM qd.
5. Limit patient exertion if possible.

DISPOSITION:
1. *Urgent* evacuation for respiratory distress, suspected inhalation burns.
2. *Priority* evacuation if not in distress but significant inhalation suspected.

Spontaneous Pneumothorax

SPECIAL CONSIDERATIONS:
1. Consider also: anaphylaxis, pulmonary embolism, high altitude pulmonary edema (HAPE), asthma, myocardial infarction and pneumonia.
2. More common in tall, thin individuals and smokers.

SIGNS AND SYMPTOMS:
1. Spontaneous unilateral chest pain
2. Dyspnea – typically mild
3. No wheezing
4. Decreased or absent breath sounds on affected side

MANAGEMENT:
1. Pulse oximetry monitoring.
2. Oxygen (use oxygen for all suspected spontaneous pneumothoraces)
3. Consider needle decompression for suspected tension pneumothorax.
4. If needle decompression allows for patient improvement, followed by worsening of condition, consider repeat needle decompression.
5. If at altitude, descend as far as tactically feasible.
6. If evacuation will occur in an unpressurized aircraft, consider decompression for high altitude evacuation.
7. Treat per *Pain Management Protocol*.

DISPOSITION:
1. *Urgent* evacuation for significant respiratory distress despite therapy.
2. *Priority* evacuation for patients whose respiratory status is stable.

Subungual Hematoma

SPECIAL CONSIDERATIONS:
None

SIGNS AND SYMPTOMS:
1. Pain from the affected nail
2. Purplish-black discoloration under the nail.

MANAGEMENT:
1. Decompress the nail with a large gauge needle by rotating needle through the nail directly over the discolored area until the underlying blood has been released and the pressure is relieved. Make sure that it is introduced into the affected nail with a gentle but sustained rotating motion.

2. Gentle pressure on the affected nail may help to evacuate more blood.

3. Treat per *Pain Management Protocol*.

4. If a fracture is suspected, tape the injured finger or toe to an adjacent digit.

5.  If fracture is suspected in a setting of a subungual hematoma, give Moxifloxacin (Avelox) 400 mg PO qd for 7 days.

DISPOSITION:
Evacuation should not be required for this injury if the subungal hematoma is successfully treated.

Testicular Pain

SPECIAL CONSIDERATIONS:
1. The primary concern in testicular pain is differentiating testicular torsion from other causes of testicular pain
2. Testicular torsion is an medical emergency requiring urgent correction to prevent loss of the affected testicle
3. Other common causes of testicular pain include epididymitis and orchitis, infections commonly caused by STDs, as well as hernias and testicular masses

SIGNS AND SYMPTOMS:
1. Testicular Torsion:
   A. Sudden onset testicular pain
   B. Usually associated with activity
   C. Associated testicular swelling
   D. Abnormal position of the affected testicle
   E. Symptoms may be increased by testicular elevation
   F. Usually associated with pain induced nausea and vomiting
   G. Loss of cremasteric reflex is the best diagnostic indicator for testicular torsion.

2. Epididymitis:
   A. Gradual onset of worsening pain
   B. May have fever and/or dysuria
   C. Can also be traumatic
   D. Symptoms may be relieved with elevation.
   E. Significant swelling may be present

MANAGEMENT:
1. If pain is sudden onset and the testicle is lying abnormally in the scrotum, an attempt to manual detorse the testicle is warranted.
   A. A single attempt to rotate the testicle outward (like opening the pages of a book) should be made.
   B. If pain increases, 1 attempt to rotate the opposite direction should be made.
   C. Successful detorsion will result in relief of pain.

2. Gradual onset pain with a normal lying testicle should be treated per *Urinary Tract Infection Protocol*.

3. Treat pain per *Pain Management Protocol*.

4. Treat per *Nausea and Vomiting Protocol*

DISPOSITION:
1. *Urgent* evacuation for testicular torsion
2. For other causes of testicular pain, treat cause and consider evacuation if symptoms persist more than 3 days

Urinary Tract Infection

SPECIAL CONSIDERATIONS:
1. More common after instrumentation, in females, or in tactical settings with dehydration and/ or kidney stones.
2. Symptoms may be confused with a sexually transmitted disease (STD).

SIGNS AND SYMPTOMS:
1. Dysuria
2. Urinary urgency and frequency
3. Cloudy, malodorous, or dark urine may be present
4. Suprapubic discomfort

MANAGEMENT:

1.  Moxifloxacin (Avelox) 400 mg PO qd for 3 days **OR** Septra DS 1 PO bid for 3 days
2. **AND**  Azithromycin 1 gm PO once.
3. Treat per *Pain Management Protocol.*
4. If fever, back pain, flank pain, and/ or costovertebral angle tenderness develop, suspect kidney infection and treat per *Flank Pain Protocol.*
5. Encourage PO hydration.

DISPOSITION:
1. Usually responds to therapy and evacuation not required if it does.
2. *Routine* evacuation for worsening signs and symptoms
3. *Priority* evacuation for pyelonephritis. See *Flank Pain Protocol*

2008 Tactical Medical Emergency Protocol
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JOINT SPECIAL OPERATIONS
Updated TACTICAL MEDICAL EMERGENCY PROTOCOL DRUG LIST

Updated December 10, 2007

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PREFACE

- The following is a list of medications mentioned in the Tactical Medical Emergency Protocols. However, most of the TMEPs have a preferred medication recommendation and then an alternate one. All of these recommendations are listed here.
- The CEB and RB recognize that a "one size fits all" approach to a strict Drug List is unrealistic due to medication availability, mission requirements, etc. The list of medications is designed to guide the ATP in medication selection.
- For specific order of the recommended medications and specific TMEP application of the medications, **CHECK the specific TME Protocol**.
- Antibiotics: Always check potential drug allergies. If allergic to one class of medications, use alternate class of medications (Cephalosporins/Penicillins, Tetracyclines, Quinolones, Macrolides).
- **Unless specifically noted, the drug dosages listed are for an adult.**

Acetaminophen (Tylenol)

- Description: Nonnarcotic analgesic and antipyretic. Blocks generation of pain impulses in the CNS by preventing sensitization of pain receptors.
- Indications: Mild Pain or fever
- **Contraindications:**
  - Individuals with hypersensitivity to drug.
  - Cautious use in history of excess alcohol use
  - Chronic Liver Damage
- Dose:
  - 325-650mg PO every 4-6 hours; or 1gm PO every 6-8 hours
- Side-effects:
  - Rash
  - Urticaria,
- Adverse Reactions:
  - Hemolytic anemia
  - Liver damage
- TMEP Use
  - Malaria Protocol
  - Pain Management Protocol

Acetazolamide (Diamox)

- Description: Non-diuretic antihypertensive (carbonic anhydrase inhibitor)
- Indications: Prevention and/or amelioration of symptoms associated with acute mountain sickness in climbers attempting rapid ascent and/or in those who are very susceptible to acute mountain sickness despite gradual ascent. For maximum benefit begin regimen 7 days prior to ascent. Of minimal benefit in Rx of AMS, HACE, or HAPE
- Dose:
  - 125-250mg bid, 24 hours prior to ascent, continuing for 48 hours after ascent. Prevention and/or amelioration benefits are nominal once ascent has commenced.
  - If the 500mg sustained release tablet is used, dose is 500mg every 24 hours.
- **Contraindications:** Sulfa allergy.
- Side-effects:
  - Paresthesia in extremities
  - Hearing dysfunction/tinnitus
  - Loss of appetite
  - Taste alterations
  - Nausea
  - Vomiting

- Diarrhea
- Polyuria
- Drowsiness
- Confusion.

- **Warning**
  - NOTE: Use of Diamox results in a significant alteration in taste. Carbonated beverages will have seriously altered taste, and may be undrinkable.
  - Increased fluid intake is required with use of Diamox: Although Diamox is not in the general drug class of "diuretics", it has diuretic effects and can result in serious dehydration unless great care is taken to maintain proper hydration.
- Adverse Reactions:
  - Transient myopia (usually resolves w/ DC of drug)
  - Urticaria
  - Melena
  - Hematuria
  - Flaccid paralysis
  - Photosensitivity
  - Convulsions
- TMEP Use
  - Altitude Illness Protocol

Aciphex – See Rabeprazole

Actiq Lozenge – See Oral Fentanyl

Adrenalin – See Epinephrine

Afrin Nasal Spray – See Oxymetazline HCl

Albuterol Inhaler (Ventolin, Proventil)

- Description: Inhaled beta-adrenergic agonist; relaxes bronchial smooth muscle
- Indications:
  - Relief of bronchospasm
  - Prevention/ treatment of exercise-induced bronchospasm
- Adult Dosage:
  - 2 inhalations every 4-6 hours
  - Spray 4 times into the air if using for the first time or after more than 4 weeks of storage
- *Pediatric Dosage:*
  - *If greater than 4yrs old, 1 inhalation every 4-6 hours may be sufficient*
- **Contraindications:**
  - Known hypersensitivity to Albuterol
  - Pregnancy
- Side-effects:
  - Similar in nature to reaction to other sympathomimetic agents
    - Tremor
    - Nausea
    - Nervousness
    - Palpitations
    -

- Adverse Reactions:
  - Hypertension
  - Angina
  - Vertigo
  - CNS stimulation
  - Sleeplessness
- TMEP Use
  - Asthma (Reactive Airway Disease) Protocol
  - Bronchitis/Pneumonia Protocol
  - Cough Protocol
  - Smoke Inhalation Protocol

Amoxicillin/Clavunlic Acid (Augmentin)

- Description: oral antibacterial combination consisting of the semisynthetic antibiotic amoxicillin and the β-lactamase inhibitor, clavulanate potassium (the potassium salt of clavulanic acid).
- Indications:
  - Lower Respiratory Tract Infections
  - Otitis Media
  - Sinusitis
  - Skin and Skin Structure Infections
  - Urinary Tract Infections
- Adult Dosage: The usual adult dose is one 500mg tablet every 12 hours. For more severe infections and infections of the respiratory tract, the dose should be one 875mg tablet every 12 hours, or one 500mg tablet every 8 hours.
- *Pediatric Dosage:*
  - 30mg/kg/day in divided doses (every 8-12 hours) produces less nausea and diarrhea and is effective for most infections
  - Pediatric patients weighing 40kg or more should be dosed according to the adult recommendations.
- **Contraindications:**
  - 

SERIOUS AND OCCASIONALLY FATAL HYPERSENSITIVITY (ANAPHYLACTIC) REACTIONS CAN OCCUR IN INDIVIDUALS WITH A HISTORY OF PENICILLIN HYPERSENSITIVITY
  - Do not use in patients with a history of liver failure
- Side-effects: The majority of side-effects observed in clinical trials were of a mild and transient nature but can include:
  - diarrhea/loose stools
  - nausea
  - skin rashes and urticaria
  - vomiting
  - vaginitis
- Adverse Reactions:
  - Hypersensitivity reactions
  - Hepatic dysfunction
  - Blood and lymphatic dysfunction (likely hypersensitivity-related)
- TMEP Use
  - Cellulitis/Cutaneous Abscess Protocol
  - Dental Pain Protocol
  - Flank Pain Protocol
  - Head and Neck Infection Protocol
  - Ingrown Toenail Protocol

ASA – See Aspirin

Aspirin (ASA)

- Description: Analgesic, antipyretic, anti-inflammatory, anti-platelet effect
- Indications:
  - For the temporary relief of:
    - Mild to moderate pain
    - Fever.
  - MI Prophylaxis: Reduces the risk of death and/or nonfatal myocardial infarction in patients with a previous infarction or unstable angina pectoris.
  - Transient Ischemic Attacks: Reducing the risk of recurrent transient ischemic attacks (TIAs) or stroke in patients who have transient ischemia of the brain due to fibrin emboli.
- Usual Adult Dose:
  - Adults: 325mg. One or two tablets/caplets with water. May be repeated every four hours as necessary up to 12 tablets/caplets a day or as directed by a doctor.
- *Pediatric Dosage*
  - *Greater than 12 years and over: 1 or 2 tablets/caplets with water. May be repeated every 4 hours as necessary up to 12 tablets/caplets a day or as directed by a doctor*
  - *Less than 12 years old: Do not give to children under 12 unless directed by a doctor.*
- **Contraindications**:
  - Hypersensitivity to aspirin
  - Hypersensitivity to nonsteroidal anti-inflammatory agents (NSAID)
  - History of gastrointestinal bleeding
  - Patients with bleeding disorders (e.g., hemophilia).
  - Patient age less than 12 years old
- Side-effects:
  - Gastrointestinal symptoms
  - Gastrointestinal bleeding
  - Stomach pain
  - Heartburn
  - Nausea
  - Vomiting
- Adverse Reactions:
  - Interacts with NSAIDs, Coumadin, Heparin
- TMEP Use
  - Chest Pain Protocol
  - Deep Venous Thrombosis Protocol

Atovaquone 250mg/ Proguanil 100mg (Malarone®)

- Description: Antimalarial
- Indications
  - Prophylaxis and treatment of *Plasmodium falciparum malaria*
- Adult dose
  - 

There are pediatric tablets as well as adult tablets
  - Prophylaxis
    - Start treatment 1 or 2 days prior to entering malaria endemic area and continue daily during the stay and for 7 days after return
    - 1 tablet (adult strength) daily

- Treatment
  - 4 tablets (adult strength; total daily dose atovaquone 1gm/ 400mg proguanil) as a single daily dose for 3 consecutive days

- *Pediatric dosage*

  - *There are pediatric tablets as well as adult tablets*
  - *Tablets may be crushed and mixed with condensed milk just prior to administration for those having difficulty in swallowing tablets*
  - *Prophylaxis dosing based on body weight*
    - *Safety and efficacy for prophylaxis have been established for children greater than11kg*

Dosage of atovaquone/proguanil in prevention of malaria in pediatric patients		
Weight (kg)	***Atovaquone/proguanil total daily dose***	***Dosage regimen***
11 to 20	*62.5mg / 25mg*	*1 pediatric tablet daily*
21 to 30	*125mg / 50mg*	*2 pediatric tablets as a single daily dose*
31 to 40	*187.5mg / 75mg*	*3 pediatric tablets as a single daily dose*
greater than 40	*250mg / 100mg*	*1 tablet (adult strength) as a single daily dose*

  - *Treatment dosing based on body weight*
    - *Safety and efficacy for treatment have been established for children greater than 5kg*

Dosage of atovaquone/proguanil in treatment of malaria in pediatric patients		
Weight (kg)	***Atovaquone/proguanil total daily dose***	***Dosage regimen***
5 to 8	*125mg / 5 mg*	*2 tablets (pediatric strength) daily for 3 consecutive days*
9 to 10	*187.5mg / 75mg*	*3 tablets (pediatric strength) daily for 3 consecutive days*
11 to 20	*250mg / 100mg*	*1 tablet (adult strength) daily for 3 consecutive days*
21 to 30	*500mg / 200mg*	*2 tablets (adult strength) as single daily dose for 3 consecutive days*
31 to 40	*750mg / 300mg*	*3 tablets (adult strength) as single daily dose for 3 consecutive days*
greater than 40	*1gm / 400mg*	*4 tablets (adult strength) as single daily dose for 3 consecutive days*

- **Contraindications**
  - Hypersensitivity to atovaquone, proguanil
  - Prophylaxis in patients with severe renal impairment (Cr CL less than 30ml/min) unless potential benefits outweigh risks of non-treatment (progaunil accumulates in severe renal failure)
- Side-effects
  - Headache
  - Abdominal pain
  - Nausea/ vomiting/diarrhea
  - Dizziness
  - Cough (pediatrics)
- Adverse Reactions
  - Liver transaminase elevations
  - Possible association with seizures and psychotic events (e.g. hallucinations)
  - Cutaneous reactions, including photosensitivity, erythema multiforme and Stevens-Johnson syndrome

- Preparation procedure/ Other notes
  - Take daily dose at the same time every day with food or milk
  - If vomiting occurs within 1hr of dosing, repeat the dose
  - Treatment has not been evaluated for treatment of cerebral malaria or other severe manifestations of complicated malaria
  - Absorption may be reduced in patients with diarrhea or vomiting. May need to add antiemetic to prevent vomiting.
  - Include protective clothing, insect repellants, bed nets as important components of malaria prophylaxis
  - If a dose is skipped, take it as soon as possible, and then return to normal schedule. Do not double the next dose.
- TMEP Use
  - Malaria Protocol

Augmentin – See Amoxicillin/Clavunlic Acid

Avelox – See Moxafloxacin

Azithromycin (Zithromax, Z-Pak®)

- Description: Macrolide antibiotic
- Indications:
  - Acute bacterial sinusitis
  - Mild community acquired pneumonia
  - Chancroid (Genital ulcer disease)
  - Pharyngitis/tonsillitis as alternative drug choice to first line therapy
  - Uncomplicated skin infections
  - Urethritis
- Adult dose
  - For most bacterial infections: 500mg as single dose on day 1, then 250mg daily on days 2 through 5.
  - For gonorrhea: 2gm PO as a single dose
- *Pediatric dose (6 months of age or older)*
  - *Z-pac is not indicated for children. The oral suspension is the only dose approved for use in children, and is dosed on a mg/kg basis*
    - *10mg/kg up to 500mg the first day; then 5mg/kg up to 250mg for the next 4 days*
- **Contraindications**
  - Known allergy to Azithromycin
  - Pregnancy
  - Z-pac in children
  - Patients receiving
    - Astemizole (Hismanal – antihistamine taken off of the U.S. market)
    - Cisapride (Propulsid – GI medication)
- Side-effects
  - Generally mild and reversible upon discontinuation of therapy
  - Nausea, vomiting, diarrhea, abdominal pain
- Adverse Reactions
  - Rare:
    - Angioedema (swelling of the larynx)
    - Cholestatic jaundice
  - Hypersensitivity
- Preparation procedure/ Other notes
  - Can be taken with or without food
  - Continue regimen for duration of prescription

- TMEP Use
  - Bronchitis/Pneumonia Protocol
  - Ear Infection Protocol
  - Gastroenteritis Protocol
  - Urinary Tract Infection Protocol

Bactrim – See Trimethoprim-Sulfamethoxazole

Bactroban – See Mupirocin Ointment 2%

Benadryl – See Diphenhydramine HCl

Bisacodyl (Dulcolax)

- Description: Stimulant laxative
- Indications: Used to treat constipation or to clean out the intestinal tract before bowel examinations or bowel surgery.
- Adult Dosage: Swallow the tablets whole with a full glass of water or juice. Do not crush or chew the tablets. The tablets should work within 6-10 hours.
  - 5-15mg.
- *Pediatric Dose:*
  - *6-12 years: 5mg, taken at bedtime or in the morning before breakfast to produce evacuation approximately 8 hours later.*
- **Contraindications**:
  - Ileus
  - Intestinal obstruction
  - Acute surgical abdominal conditions like acute appendicitis, acute inflammatory bowel diseases
  - Severe dehydration.
  - Known hypersensitivity to substances of the triarylmethane group.
- Adverse Reactions: Rarely, abdominal discomfort and diarrhea have been reported.
- Preparation Procedure/Other Notes
  - Tablets have a special coating and therefore should not be taken together with milk or antacids. Tablets should be swallowed whole with adequate fluid.
- TMEP Use
  - Constipation/Fecal Impaction Protocol

Ceftriaxone Sodium (Rocephin)

- Description: 3rd generation cephalosporin
- Broad spectrum bactericidal antibiotic for IV/IM use.
- Indications: Serious infections of the lower respiratory tract (i.e. pneumonia); urinary tract; skin infections; intra-abdominal infections (especially penetrating abdominal trauma); penetrating trauma to the extremities; & CNS infections
- **Contraindications:**
  - Use caution in patients with a history of
    - Penicillin allergy
    - Hepatic dysfunction
    - Liver dysfunction
- Adult Dose:
  - 1-2gm IM/IV daily or in divided doses bid; Max dose 4gm/day
- *Pediatric Dose:*
  - *50-75mg/kg given in divided doses q12 hours, max dose 2gm/day.*

- Side-effects:
  - Headaches
  - Dizziness
  - Nausea
  - Vomiting
  - Diarrhea
  - Abdominal cramps
  - Urticaria
  - ↑ temperature
- Adverse Reactions:
  - Eosinophilia
  - Thrombocytosis
  - Leukopenia
  - Injection Site
    - Pain
    - Induration
    - Sterile abscess
    - Tissue sloughing
    - Phlebitis
  - Thrombophlebitis with IV use
- Preparation procedure:
  - Withdraw 10cc NaCl from a 100cc bag. Inject 10cc NaCl into 1gm Rocephin vial. Mix.
  - Withdraw entire contents of vial and inject into original 100cc NaCl IV bag. Mix.
  - Piggyback with running IV.
  - 

If giving IM, reconstitute with 1% lidocaine **WITHOUT** epinephrine.
- TMEP Use
  - Abdominal Pain Protocol
  - Bronchitis/Pneumonia Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Dental Pain Protocol
  - Flank Pain (Renal Colic, Pyelonephritis, Kidney Stones) Protocol
  - Head and Neck Infection Protocol
  - Joint Infection Protocol
  - Meningitis Protocol
  - Sepsis/Septic Shock Protocol

Cephalosporins – General Antimicrobial Spectrum

- 1st Generation: Gram positive (including Staph aureus); basic gram negative coverage.
  - *Examples: cefazolin, cephalexin, cefadroxil*
- 2nd Generation: Diminished Staph aureus, improved gram negative coverage compared to 1st generation; some with anaerobic coverage.
  - *Examples: cefotetan, cefoxitin, cefuroxime*
- 3rd Generation: Further diminished Staph aureus; further improved gram negative coverage compared to 1st and 2nd generation; some with Pseudomonas coverage and diminished gram positive coverage.
  - *Examples: ceftriaxone **(see Rocephin)**, cefotaxime, cefpodoxime, cefixime, cefoperazone.*
- 4th Generation: Same as 3rd generation plus coverage against Pseudomonas.
  - Example: cefepime

Chloroquine Phosphate

- Indications:
  - Malaria due to *P. vivax, P. malariae, P. ovale*, and susceptible strains of *P. falciparum.*
- Dose
  - The dosage of chloroquine phosphate is often expressed in terms of equivalent chloroquine base. Each 500 mg tablet of chloroquine phosphate contains the equivalent of 300mg chloroquine base.
- Adult Dose:
    - Prophylaxis: 500mg (= 300mg base) on the same day of each week Initiate therapy 1-2 weeks prior to departure to endemic area
    - Dose must be administered on same day of week
    - Continue prophylaxis for 4 additional weeks upon return from endemic area
    - Treatment: 1gm PO x1 then 500mg PO daily x 3 days starting 6 hours after first dose
- *Pediatric Dose: The weekly suppressive dosage is 5mg calculated as base, per kg of body weight, but should not exceed the adult dose regardless of weight.*

- Precautions: Liver disease, blood disorders, psoriasis, a certain metabolic disease (glucose-6-phosphate dehydrogenase-G6PD deficiency), hearing problems, seizures.
- Side-effects
  - Nausea
  - Vomiting
  - Stomach upset
  - Cramps
  - Loss of appetite
  - Diarrhea
  - Blurred vision
  - Trouble seeing at night or problems focusing clearly
  - Easy bleeding or bruising.

- Warnings:
  - It has been found that certain strains of *P. falciparum* have become resistant to chloroquine and hydroxychloroquine. Chloroquine resistance is widespread and, at present, is particularly prominent in various parts of the world including sub-Saharan Africa, Southeast Asia, the Indian subcontinent, and over large portions of South America, including the Amazon basin[1].
  - Before using chloroquine for prophylaxis, it should be ascertained whether chloroquine is appropriate for use in the region to be visited by the traveler. Chloroquine should not be used for treatment of P. *falciparum* infections acquired in areas of Chloroquine resistance or malaria occurring in patients where Chloroquine prophylaxis has failed. Patients infected with a resistant strain of plasmodia, as shown by the fact that normally adequate doses have failed to prevent or cure clinical malaria or parasitemia, should be treated with another form of antimalarial therapy.
- Drug Interactions
  - Ampicillin
  - Antacids
  - Cimeticine
  - Cyclosporine
  - Kaolin
  - Magnesium trisilicate.
- TMEP Use
    - Malaria Protocol

Combivir

- TMEP Use
  - HIV Post Exposure Prophylaxis Protocol

Decadron – See Dexamethasone

Dexamethasone (Decadron)

- Description: Parenteral steroid (glucocorticoid)
- Indications:
  - Emergency treatment of AMS, HACE, HAPE, when tactical conditions preclude descent or acclimatization.
  - Use of Decadron ↓symptoms of AMS, but does not speed acclimatization.
  - Use of Decadron does not preclude the need for an emergency descent. (Administer Decadron every 6 hours until descent is accomplished)
  - Inflammatory conditions
  - Allergic Conditions
- Dosage: 4mg IV / IM / PO every 6 hours
- **Contraindications:**
  - Use caution in patients with a history of:
    - Diabetes
    - Hypertension
    - Ulcers
- Side-effects:
  - Delayed wound healing
  - Acne
  - Various skin eruptions
  - Edema
- Adverse Effects Usually dose related.
  - Psychotic behavior
  - Congestive Heart Failure
  - Hypertension
  - Cataracts
  - Glaucoma
  - Hypokalemia
  - Hyperglycemia
  - Carbohydrate intolerance
- TMEP Use
  - Altitude Illness Protocol
  - Anaphylactic Reaction Protocol
  - Asthma (Reactive Airway Disease) Protocol
  - Contact Dermatitis Protocol
  - Head and Neck Infection, Including Epiglottitis, Protocol
  - Meningitis Protocol
  - Sepsis/Septic Shock Protocol
  - Smoke Inhalation Protocol

Dextrose – See Glutose

Diamox - See Acetazolamide

Diazepam (Valium)

- Description: General CNS depressant (Anticonvulsant/sedative). Benzodiazepine Class.
- Indications:
  - Acute anxiety
  - Seizures
  - Status epilepticus
  - Relaxation of skeletal muscle
  - Drug of choice for treatment of convulsions associated with chemical agents or organophosphates. NOTE: Successful treatment of convulsions from organophosphate or chemical exposure may require mass quantities and repeated administration of Diazepam (Valium).
  - Has **NO** analgesic or anesthetic properties.
  - Overdose may be reversed w/ Romazicon (Flumazenil)
- Dose:
  - Status Epilepticus: 5-10mg IV slow push
  - Acute anxiety: 5-15mg IV slow push
  - Relaxation of skeletal muscle: 5-15mg IV slow push
  - Chemical Warfare: 10-15mg IV slow push
    - Auto injection Diazepam should be used for seizures induced by chemicals
- **Contraindications:**
  - Head injury
  - ↓ BP
  - Acute narrow angle glaucoma
  - 

Has additive effect with other respiratory depressants (morphine, phenergan and alcohol). Be prepared to perform BLS.
- Side-effects:
  - ↓ BP
  - ↓ Respirations
  - Drowsiness
  - Venous irritation
  - Pain at injection site
  - N & V
- Adverse Reactions:
  - Bradycardia
  - CV collapse
  - Amnesia
  - Abdominal discomfort
- TMEP Use
  - Back Pain Protocol
  - Behavioral Changes Protocol
  - Hyperthermia Protocol
  - Seizure Protocol

Diflucan – See Fluconazole

Diphenhydramine HCl (Benadryl)

- Description: Antihistamine. Prevents (but does not reverse) histamine-mediated responses. H1 blocker.
- Indications:
  - Mild to moderate allergic symptoms and/or allergic reactions
  - Dystonic reaction
- Adult Dose:
  - 25-50mg IM / IV / PO qid. Max dose 400mg/day.
- *Pediatric Dose:*
  - *(Children less than 12 years): 5 mg/Kg/day in divided doses qid. May be given PO, IM or IV*
- **Contraindications:**
  - Asthma
  - Pregnant or lactating females
- Side-effects:
  - Sedation
  - Blurred vision
  - Nausea
  - Vomiting
  - Diarrhea
  - Headache
- Adverse Reactions:
  - Insomnia
  - Vertigo
  - Palpitations
  - Dry mouth
  - Constipation
  - Dysuria
  - Urine retention
- TMEP Use
  - Allergic Rhinitis/Hay Fever/Cold Like Symptoms Protocol
  - Anaphylactic Reaction Protocol
  - Contact Dermatitis Protocol
  - Envenomation Protocol
  - Nausea and Vomiting Protocol

Dulcolax - See Bisacodyl

Epinephrine (Adrenaline)

- Description: Alpha and beta adrenergic sympathomimetic.
  - First-line drug for anaphylaxis (See ACLS drugs for cardiac therapy)
  - Causes bronchodilatation, vasoconstriction, increases blood pressure.
  - Decreases edema/swelling due to allergic reactions.
    - NOTE:
      - 1:1,000 dilution epinephrine (1mg in 1cc) is standard pararescue issue.
      - 1:10,000 dilution (1mg in 10cc) is the standard 'Cardiac' dosage form for IV use.
      - 1:1,000 epinephrine can be diluted to the 1:10,000 form by putting 1cc of 1:1,000 epinephrine (1mg epinephrine) in 9cc's of normal saline (total volume of 10cc).
- Indications: Anaphylaxis
  - Allergic reactions (mild/moderate/severe)
  - Asthma
- Adult Dose (Epinephrine):
  - Anaphylaxis: 0.3-0.5mg (3-5cc of 1:10,000 dilution) IV or 0.3-0.5mg (0.3-0.5cc of 1:1,000 dilution) IM

- Allergic reaction: 0.3-0.5mg (0.3-0.5cc of 1:1,000 dilution) SubQ or IM
- Asthma: 0.3-0.5 mg (0.3-0.5 cc of 1:1,000 dilution) SubQ or IM

- *Pediatric Dose: 0.01mg/kg SubQ or IM. Not to exceed 0.5mg*
- **Contraindications:**
  - **1:1,000 Epinephrine is NOT given IV.**
  - Use caution in patients with a history of heart disease or over the age of 40.
  - Do not inject Epinephrine (or solutions containing Epi) into/near the fingers, toes, nose, ears or penis. Intense vasoconstriction may cause necrosis.
- Side-effects:
  - Cardiac arrhythmias
  - Ventricular Tachycardia
  - Ventricular Fibrillation
  - Angina
  - Hypertension
  - ↑BP
  - Nausea
  - Vomiting
  - Vasoconstriction
- Adverse Reactions
  - Uncontrolled effects on myocardium & arterial system
- TMEP Use
  - Anaphylactic Reaction Protocol
  - Asthma (Reactive Airway Disease) Protocol
  - Sepsis/Septic Shock Protocol

Ertapenem IV (Invanz®)

- Description: Carbapenem antibiotic
- Indications
  - Complicated intra-abdominal infections
  - Complicated skin infections
  - Pneumonia
  - Complicated UTI, including pyelonephritis
  - Acute pelvic infections
  - **Drug of choice for penetrating battlefield trauma**
- Adult dose
  - 1gm daily
  - May be administered IV up to 14 days or IM injection for up to 7 days
  - For IV administration, infuse over 30 minutes
- *Pediatric dose*
  - *Not approved in patients less than 18 yrs*
- **Contraindications**
  - Hypersensitivity to ertapenem
  - Penicillin allergy with documented severe reaction to PCN
  - Hypersensitivity to other carbapenem antibiotics
  - Anaphylactic reactions to other beta-lactam antibiotics
  - IM: hypersensivity to lidocaine or other anesthetics of amide-type
- Side-effects
  - Diarrhea
  - Infused vein phlebitis/thrombophlebitis
  - Nausea/ vomiting
  - Headache
  - Vaginitis
- Adverse Reactions
  - Seizures

- Preparation procedure/ Other notes
  - Visually inspect any solution of ertapenem for particulate matter and discoloration prior to use when possible. Solutions range in color from colorless to pale yellow. Variations in color do not affect potency of the drug.
  - IV administration- must be reconstituted prior to administration
    - Do not mix or co-infuse with other medications
    - Do not use diluents containing dextrose
    - Reconstitute the contents of a 1gm vial of ertapenem with 10ml of 0.9% NaCl, or bacteriostatic water for injection
    - Shake well to dissolve, and immediately transfer contents to 50ml of 0.9% NaCl
    - Complete infusion within 6 hrs of reconstitution
  - IM administration - must be reconstituted prior to administration
    - Reconstitute the contents of a 1gm vial of ertapenem with 3.2ml of 1% lidocaine HCl injection (without epinephrine). Shake vial thoroughly to form solution
    - Immediately withdraw the contents of the vial, and administer by deep IM injection into a large muscle mass (such as the gluteal muscles or lateral part of the thigh)
    - Use the reconstituted IM solution within 1 hr after preparation. **DO NOT ADMINISTER THE RECONSTITUTED IM SOLUTION IV.**
- TMEP Use
  - Abdominal Pain Protocol
  - Bronchitis/Pneumonia Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Chest Pain Protocol (Other Etiologies)
  - Flank Pain (Renal Colic, Pyelonephritis, Kidney Stone) Protocol
  - Joint Infection Protocol
  - Meningitis Protocol
  - Sepsis/Septic Shock Protocol

Fentanyl – See Oral Fentanyl

Flagyl – See Metronidazole

Fluroquinolones – See Quinolones, Moxafloxacin, Gatifloxacin, Levofloxacin

Fluconazole (Diflucan)

- Description: Synthetic triazole antifungal agent
- Indications:
  - Vaginal Candidiasis (vaginal yeast infections due to *Candida*).
  - Oropharyngeal and esophageal candidiasis.
  - Fungal skin infections
- Adult Dosage:
  - Skin Infection: 150mg, 1 pill per week x 4 weeks
  - Single Dose: Vaginal candidiasis: The recommended dosage of fluconazole for vaginal candidiasis is 150mg as a single oral dose.
  - Oropharyngeal Candidiasis: The recommended dosage of fluconazole for oropharyngeal candidiasis is 200mg on the first day, followed by 100mg once daily. Clinical evidence of oropharyngeal candidiasis generally resolves within several days, but treatment should be continued for at least 2 weeks to decrease the likelihood of relapse.
- **Contraindications:**
  - Hypersensitivity to fluconazole.

- Side-effects/Adverse Reactions:
  - *Dermatologic:*
    - Exfoliative skin disorders including Stevens-Johnson Syndrome and toxic epidermal necrosis.
- TMEP Use
  - Fungal Skin Infection Protocol

Gatifloxacin 0.3% Ophthalmic Liquid (Zymar®)

- Description: Ocular fluoroquinolone
- Indications
- Adult dose
  - Days 1 and 2: instill 1 drop in affected eye(s) every 2 hrs while awake, up to 8 times/day
  - Days 3 to 7: Instill 1 drop in affected eye(s) up to 4 times/day while awake
- *Pediatric dose*
  - *Safety and efficacy in infants less than 1 year not established*
  - *Pediatric dosing like adult dosing*
- **Contraindications**
  - Hypersensitivity to any component of product
- Side-effects
  - Upon instillation, may cause temporary blurring of vision or stinging
  - If stinging, burning, or itching becomes pronounced, or redness, irritation, swelling, decreasing vision or pain persists or worsens, discontinue and consider alternative therapy
  - Lid margin crusting, white crystalline precipitates and foreign body sensation in the eye have been reported
  - Bad/bitter taste in mouth
  - Nausea
- Adverse Reactions
  - Discontinue at first sign of skin rash or other allergic reaction
  - Corneal staining
  - Tearing and photophobia
- Preparation procedure/ Other notes
  - To instill in eye, tilt head back, place medication in conjunctival sac and close eye(s).
  - Apply light finger pressure on lacrimal sac for 1 minute following instillation
  - To avoid bottle contamination, do not touch tip of container to any surface. Replace cap after use.
  - In general, contact lenses should not be worn during therapy
- TMEP Use
  - Corneal Abrasion, Corneal Ulcer, Conjunctivitis Protocol
  - Ear Infection Protocol

Glucose – See Glutose

Glutose (Dextrose, Glucose)

- Description: Carbohydrate
- Route: Oral
- Indications: Altered mental status caused by hypoglycemia defined as;
  - Adults:
    - Diabetics = fingerstick blood glucose analysis less than 110mg/dL
    - Non-diabetics = fingerstick blood glucose analysis less than 80mg/dL
  - Children:
    - Diabetics = fingerstick blood glucose analysis less than 90mg/dL
    - Non-diabetics = fingerstick blood glucose analysis less than 60mg/dL
- Adult Dose
  - Full tube given in small doses (25-50gm) - standing order

- *Pediatric Dose:*
  - *0.5gm/kg in small doses - standing order*
- Drug Action: Increases blood glucose level
- Onset:1 minute
- Duration: Depends on the degree of hypoglycemia
- Precautions: Assure gag reflex is present
- Side-effects:
  - Aspiration
- **Contraindications:**
  - Absent gag reflex
  - Patients who are unable to protect their own airway
  - Patients who are unable to swallow
- TMEP Use
  - Behavioral Changes Protocol
  - Hyperthermia Protocol
  - Loss of Consciousness (without seizures) Protocol
  - Seizure Protocol

Hespan (Hetastarch in NaCl) Plasma Volume Expander (Artificial Colloid)
Hextend (Hetastarch in Lactated Electrolyte Solution)

- Description: Plasma Volume Expander (Artificial Colloid)
- Both Hespan and the newer product Hextend are artificial colloids and are used to expand the plasma volume. The major advantage over crystalloids is that these products give more volume expansion for a longer period of time for the same infused volume. These products are not blood or plasma replacements, they have no oxygen carrying capacity, and they have no coagulation properties. **These products should not be the primary fluid used to treat dehydrated patients.**
- Indications: Treatment of shock secondary to hemorrhage.
- Dose:
  - Patient in shock, bleeding not controlled: hold fluid and control bleeding.
  - Patient in shock, bleeding controlled: start 500cc of Hespan/Hextend IV, check for improvement in BP (titrate to SBP of 85) or improved mentation. Hold further fluid when either improvement point is met.
  - Patient still in shock after first 500cc of Hespan/Hextend: start second 500cc bag and titrate to improvement.
  - Do not give more than 1 liter (1000cc) of Hespan or Hextend to any casualty.
- **Contraindications:**
  - Known bleeding disorders or uncontrolled hemorrhage
  - CHF
  - Renal impairment
  - Not for use in children under 12 years
  - Use with caution in pregnancy.
- Side-effects:
  - Nausea/vomiting
  - Peripheral and facial edema
  - Urticaria
  - Flushing chills
- Adverse Reactions:
  - Severe anaphylaxis (rare)

Ketorolac (Toradol)

- Description: Analgesic, non-steroidal anti-inflammatory (NSAID). Inhibits platelet function.
- Indications:
  - For the temporary relief of:
    - Mild to moderate pain
    - Fever (if ASA or Acetaminoiphen are not available).
- Usual Adult Dose:
  - Adults: 30mg IV/IM. May be repeated every 6 hours. ***Do not use more than 5 consecutive days.***
- *Pediatric Dosage*
  - *Adolescents 13-16 years and children 2-12 years: 1mg/kg IM to a maximum of 30mg or 0.5mg/kg IV to a maximum of 15mg*
- **Contraindications**:
  - Hypersensitivity to nonsteroidal anti-inflammatory agents (NSAID)
  - History of gastrointestinal bleeding
  - Patients with bleeding disorders (e.g., hemophilia).
  - Suspected or confirmed
    - Cerebrovascular bleeding
    - Hemorrhagic diathesis
    - Incomplete hemostasis
    - High risk of bleeding
  - Prior to major surgery
  - Exercise extreme caution in patients with a history of
    - Hypertension or hypertension and congestive heart failure.
    - Cardiovascular disease
    - Peripheral vascular disease
    - Cerebrovascular disease (e.g., stroke, transient ischemic attack)
  - Advanced renal impairment
  - Patients at risk for renal failure due to volume depletion
- Side-effects:
  - Gastrointestinal symptoms
  - Gastrointestinal bleeding
  - Stomach pain
  - Heartburn
- TMEP Use
  - Pain Management Protocol

Ibuprofen (Motrin)

- Description: NSAID, analgesic, antipyretic. Cox-1 inhibitor.
- Indications:
  - Mild to moderate pain
  - Arthritis
- Dose:
  - 200-800mg PO tid or qid. Not to exceed 2400mg/day (800mg tid)
- **Contraindications:**
  - NOTE: Should not be given to pts with a history of aspirin sensitivity or severe asthma
  - Penetrating trauma
  - Suspected internal bleeding
  - Suspected intracranial bleeding
  - Pregnancy
  - Nursing mothers.

- Side-effects:
  - Nausea
  - Vomiting
  - Headache
  - Dizziness
  - Drowsiness
- Adverse Reactions:
  - Prolonged bleeding time
  - Tinnitus
  - Edema
  - Peptic ulcer
- TMEP Use
  - Chest Pain Protocol (Other Etiologies)
  - Pain Management Protocol

Imodium – See Loperamide HCl

Invanz® - See Ertapenem IV

Larium – See Mefloquine

Lidocaine HCL (Xylocaine)

- Description: Local anesthestic, See ACLS drugs for cardiac therapy.
- 

CAUTION: Some lidocaine solutions contain 1:10,000 epinephrine. This causes intense vasoconstriction, and prolongs the duration of the anesthesia. These solutions are identified by a red label or red lettering on the label. **DO NOT use solutions containing epinephrine on or near the fingers, toes, nose, ears or penis.**
- Indications:
  - Local anesthetic: Suturing, debridement, nerve blocks, thoracostomy or other similar procedures. Duration of anesthesia is 30-60 minutes.
  - Cardiac Use: Use ACLS Protocols
- Dose (Local anesthesia): To desired effect. Maximum single adult dose is 4.5 mg/kg or 300mg (15 cc's of the 2% solution contains 300mg lidocaine).
    - NOTE 1: This is a different max dose than with IV lidocaine for ACLS use.
    - NOTE 2: 2% lidocaine contains 20mg of lidocaine per cc. Diluting 2% lidocaine 1:1 with normal saline gives a 1% solution (10mg/cc) that is just as effective as the 2% solution.
- **Contraindications:**
  - 2nd degree, 3rd degree AV block
  - Hypotension
  - Stokes-Adams Syndrome
- Side-effects:
  - Slurred speech
  - Altered mental status
  - Tinnitus
  - Edema
- Adverse Reactions:
  - Dermatologic reactions
  - Status asthmaticus
  - Anaphylaxis
  - Seizures

- TMEP Use
  - Back Pain Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Ingrown Toenail Protocol

Loperamide HCl (Imodium)

- Description: Antidiarrheal (opioid)
- Indications: Treatment of acute diarrhea. For use in acute, non-invasive diarrhea only.
  - Refer to medical emergencies if blood and/or mucus are present in stool, or diarrhea is associated with fever (infectious diarrhea).
- Dose: 2 capsules (4mg) first dose, then 1 capsule (2mg) after every unformed stool, not to exceed 10mg (5 capsules) in 24 hours. Use only if control of diarrhea is critical for continued operations.
- **Contraindications:**
  - Acute dysentery.
  - Not for use in children less than 12 years old.
- Side-effects:
  - Abdominal pain/distention
  - Nausea
  - Vomiting
  - Severe constipation
  - Drowsiness
  - Dizziness.
- Adverse Reactions: Hypersensitivity

- TMEP Use
  - Gastroenteritis Protocol

Macrolide Class of Antibiotics – See Azithromycin (Z-Pak®)

Malarone - See Atovaquone 250mg/ proguanil 100mg

Mefloquine (Larium®)

- Description: antimalarial agent
- Indications
  - Prevention of mild to moderate malaria caused by *Plasmodium falciparum* (including chloroquine-resistant strains) and *P. vivax*
  - Treatment of mild to moderate malaria caused by Mefloquine-susceptible strains of *P. falciparum* (both chloroquine-susceptible and resistant strains) and *P. vivax*
- Adult dose
  - Prophylaxis: 250mg once weekly
    - Initiate therapy 1-2 weeks prior to departure to endemic area
    - Dose must be administered on same day of week
    - Continue prophylaxis for 4 additional weeks upon return from endemic area
  - Treatment: 5 tablets (1250mg) given as a split dose taken 6-8 hours apart.
  - Do not take on empty stomach
  - Take with at least 240ml (8oz) glass water

- *Pediatric dose*
  - *Prophylaxis:*
    - *Children greater than 45kg: one 250mg tablet should be taken in children*
    - *Children less than45kg: weekly dose decreases in proportion to body weight (3 to 5mg/kg once weekly):*
      - *30-45kg: ¾ tablet*
      - *greater than20-30kg: ½ tablet*
      - *Up to 20kg: ¼ tablet*
      - *Experience with Mefloquine in infants less than 3 months or weighing less than 5mg is limited*
    - *Initiate therapy 1 week prior to departure to endemic area*
    - *Dose must be administered on same day of week*
    - *Continue prophylaxis for 4 additional weeks upon return from endemic area*
  - *Treatment: 20-25mg/kg for nonimmune patients*
    - *Splitting the dose into 2 doses taken 6-8 hrs apart may reduce adverse effects*
    - *Treatment in children has been associated with early vomiting; if patient vomits within 30 minutes of dose and a significant loss of drug is suspected by inspection of emesis, re-dose patient with full dose; if vomiting occurs within 30-60 minutes, administer ½ the full dose.*
    - *Do not administer on an empty stomach and give with ample water*
    - *For very young patients, dose may be crushed, mixed with water or sugar water and may be administered via oral syringe*
    - *Experience in infants less than 3 months or less than 5kg is limited*
- **Contraindications**
  - Hypersensitivity to related compounds (e.g. quinine, quinidine)
  - Patients with:
    - Active depression
    - Recent history of depression
    - Generalized anxiety disorder
    - Psychosis
    - Schizophrenia or other major psych disorders
    - History of convulsions
- Side-effects
  - Cardiac rhythm disturbances
  - Exercise caution when performing activities requiring alertness and fine motor coordination such as driving, piloting, operating heavy machinery as dizziness, loss of balance have occurred with Mefloquine during and following its use
- Adverse Reactions:
  - Reactions (symptoms) attributable to Mefloquine cannot be distinguished from symptoms of malaria. Due to long half-life of the drug, symptoms could persist for several weeks following the last dose.
  - Prophylaxis
    - Vomiting (3%)
    - Dizziness
    - Syncope (fainting)
    - Extrasystoles (skipped hearbeats; less than1%)
  - Treatment
    - Dizziness, headache
    - Myalgia (muscle aches)
    - Nausea, vomiting
    - Fever, chills
    - Diarrhea
    - Skin rash
    - Abdominal pain
    - Fatigue
    - Loss of appetite
    - Tinnitus (ringing in the ears)

- Preparation procedure/ Other notes
  - Patients given Mefloquine for *P. vivax* are at high risk for relapse and should subsequently receive Primaquine.
  - There is insufficient clinical data to document Mefloquine's effect on malaria caused by *P. ovale* or *P. malariae*
  - Liver impairment can prolong the elimination of Mefloquine
  - When Mefloquine is taken concurrently with oral live typhoid vaccines, attenuation of immunization cannot be excluded. Therefore, complete attenuated oral live vaccinations at least 3 days before starting Mefloquine
  - Anticonvulsant blood levels (e.g. phenytoin [Dilantin®], valproic acid [Depakote®], carbamazepine [Tegretol®], and phenobarbital) may be reduced by Mefloquine and therefore risk for convulsions may increase in patients with history of epilepsy. Mefloquine itself has also been associated with convulsions in the absence of anticonvulsant treatment
- TMEP Use
  - Malaria Protocol

Meloxicam (Mobic)

- Description: NSAID
- Indications:
  - Relief of the signs and symptoms of osteoarthritis and rheumatoid arthritis. .
  - Mild to moderate pain relief
- Dosage:
  - 7.5mg or 15mg daily. The maximum recommended daily oral dose is 15mg.
- **Contraindications**:
  - Allergy to NSAID class of drugs, Aspirin.
- Side-effects:
  - Allergic reaction
  - Anaphylactoid reactions including shock
  - Face edema
  - Fatigue
  - Fever
  - Hot flushes
  - Malaise
  - Syncope
  - Weight decrease
  - Weight increase
  - Dyspepsia
- TMEP Use
  - Pain Management Protocol

Metronidazole (Flagyl)

- Description: Nitroimidazole antibiotic
- Indications
  - Gastroenteritis presumed due to Giardia
- Adult dose
  - Amebic Dysentery – 750mg PO tid x 5-10 days
  - Trichomoniasis – 2 grams PO x 1 dose; OR 250mg PO tid x 7 days
  - Giardia – 250mg PO tid x 5 -7 days
  - Severe anaerobic infections – 1gm IV, the 500mg IV q6h
- *Pediatric dose*
  - Safety and efficacy have not been established, except for amebiasis. 35-50mg/kg tid for 10 days. Newborns exhibit a reduced capacity to eliminate the drug.

- **Contraindications**
  - Hypersensivity to any component of product, or other nitroimidazole derivatives
  - Pregnancy (first trimester in patients with Trichomoniasis)
  - Administer with caution to patients with CNS diseases
  - Use with caution in patients with history of blood dyscrasias
- Side-effects
  - Disulfiram-like reaction including flushing, palpitations, tachycardia, nausea, vomiting may occur with concomitant ethanol ingestion. Refrain from ethanol during therapy and ≥1 to 3 days afterward.
- Adverse Reactions
  - Seizures
  - Peripheral neuropathy (numbness or parethesia of extremity)
  - Patients with undiagnosed candidiasis may present more prominent symptoms during therapy; treat with cardicidal agent
- TMEP Use
  - Abdominal Pain Protocol
  - Gastroenteritis Protocol

Mobic – See Meloxicam

Motrin – See Ibuprofen

Morphine Sulfate (Opiod)

- Description: Narcotic analgesic Alters perception of pain and emotional response to pain.
- 

  - Have Narcan available when using Morphine.
  - Alters perception & emotional response to pain
- Indications:
  - Severe pain
  - Pain from cardiac ischemia
- **Contraindications:**
  - Respiratory depression
  - Hypotension
  - Head injury
- Adult Dose: 4-15mg IV/IM slow push. Titrate to response.
- *Pediatric Dose: 0.1-0.2mg/kg IM / IV. Do not exceed 15mg.*
- Side-effects:
  - ↓ RR
  - Hypotension
  - Bradycardia
  - Nausea
  - Vomiting
  - Dizziness
  - Pruritus
  - Skin flushing
- Adverse Reactions:
  - Seizures with large doses
  - Constipation
  - Ileus
  - Urinary retention
  -

- TMEP Use
  - Chest Pain Protocol
  - Pain Management Protocol

Moxifloxacin (Avelox)

- Description: 4th generation quinolone
- Broad spectrum antibiotic with broad anaerobic coverage for PO/IV administration). Inhibits DNA preventing cellular replication and division
- Indications:
  - Community-acquired pneumonia (CAP), including CAP caused by multi-drug resistant *Streptococcus pneumoniae**
  - Complicated skin and skin structure infections, including diabetic foot infections
  - Complicated intra-abdominal infections, including polymicrobial infections such as abscesses
- Dose: 400mg/day PO/IV
  - IV infusion should be over 60 minutes
  - Avoid use with antacids;
  - Decrease dose in renal impairment
  - Avoid using with antiarrhythmics - May cause prolonged QT interval
- **Contraindications:**
  - Hypersensitivity to fluroquinolones
  - Patients less than 18 years old
  - Pregnancy and lactation
  - Uncorrected hypokalemia
- Side-effects:
  - Headache
  - Nausea
  - Diarrhea
  - Photosensitivity
  - Insomnia
  - Vertigo,
- Adverse Reactions:
  - Tendon rupture
  - Use cautiously with NSAIDs due to increased CNS stimulation
  - Prolonged QT interval
  - Abnormal dreams
  - Pseudomembranosus colitis
- Preparation procedure/ Other notes
  - 

Oral antacids decrease absorption of the Moxafloxacin when taken orally
  - Visually inspect any solution of Moxafloxacin for particulate matter and discoloration prior to use. Solution must be clear.
  - IV administration- must be reconstituted prior to administration
    - Do not mix or co-infuse with other medications
    - At cool temperatures precipitation may occur, which will re-dissolve at room temperature.
- TMEP Use
  - Barotrauma Protocol
  - Bronchitis/Pneumonia Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Ear Infection Protocol
  - Epistaxis Protocol
  - Flank Pain (Renal Colic, Pyelonephritis, Kidney Stone) Protocol
  - Gastroenteritis Protocol
  - Ingrown Toenail Protocol

- Meningitis Protocol (Prophylaxis)
- Pain Management Protocol
- Subungual Hematoma Protocol
- Urinary Tract Infection Protocol

Mupirocin Ointment 2% (Bactroban)

- Description: Topical antibacterial
- Indications
  - Impetigo
  - Topical Skin Infection
- Adult dose
  - Clean affected area
  - Apply small amount of antibiotic on the area 1-3 times/day
  - The affected area may be covered by gauze or a sterile bandage
- *Pediatric dose:*
  - *Safety in children has been established in ages 2-16 yrs*
  - *Pediatric dosing like adult dosing*
- **Contraindications**
  - Should not be used with open wounds
- Side-effects
  - Burning, stinging, pain, itching at application site
  - Adverse reactions
  - Nausea
- Adverse Reactions
  - Dry skin
  - Tenderness
  - Swelling
  - Contact dermatitis
  - Increased exudate (rare)
  - Systemic reactions (rare)
- Preparation procedure/ Other notes
  - For external use only
  - Avoid eyes and mucosal membranes
  - If no improvement in 3-5 days, consider alternative therapy
- TMEP Use
  - Epistaxis Protocol
  - Ingrown Toenail Protocol

Narcan – See Naloxone HCl

Naloxone HCl (Narcan)

- Description: Narcotic antagonist.
- Indications: Known or suspected narcotic induced respiratory depression.
  - 

Have available when using morphine.
- Adult Dose: 0.4-2mg IV. Repeat q2-3min/prn.
  - Duration is 20-40 minutes (less than duration of action of morphine). Repeat doses of may be necessary after 20-30 minutes.
- *Pediatric Dose: 0.01mg/kg dose IM / IV / SQ q2-3min.*
  - *If initial dose does not result in clinical response, increase dose up to 0.1mg/kg*
  - *If no response after 10mg has been administered, diagnosis of narcotic induced toxicity should be questioned.*

- Side-effects:
  - In narcotic dependent patient, withdrawal symptoms may be precipitated.
- Adverse Reactions: With higher than recommended doses:
  - Nausea
  - Vomiting
  - Tachycardia
  - Hypertension
  - Tremors
- TMEP Use
  - Loss of Consciousness (without seizures) Protocol

Nelfinavir (Viracept)

- Description: Anti-retroviral agent, protease inhibitor
- Indications: HIV Post Exposure Prophylaxis
- Adult Dose: 750mg three times a day, or 1250mg two times a day if taken with food.
- *Pediatric Dose: Children 2-13 years old: 45-55mg/kg bid, or 25-35mg/kg tid.*
  - *If tablets are unable to be taken may use powder form mixed with water, milk, formula, or dietary supplement. Do not use acidic juices. Once mixed, do not store for more than 6 hours.*
- **Contraindications:**
  - Hypersensitivity to Nelfinavir
  - Concurrent therapy with amiodarone, ergot derivatives, midazolam, pimozide, quinidine, triazolam
- Adverse Reactions:
  - Diarrhea (14-20% of adults, 39-47% of children)
  - Nausea
  - Flatulence
  - Rash
  - Decreased Lymphocytes
  - Decreased Neutrophils
  - Decreased Hemoglobin
  - Increased Creatine Kinase
  - Increased Transaminases
  - Abdominal Pain
  - Weakness
  - Other reactions occur at a rate of less than 2%
- Other Notes:
  - Has high potential for interactions with other drugs.
  - Not recommended for use with rifampin, St John's wort, lovastatin, simvastatin, or proton pump inhibitors. Serum levels will be significantly reduced.
  - Should be taken with meals to increase plasma concentration.
  - If mixed with acidic food or juice (orange juice, apple juice, apple sauce) it may have a bitter taste.
- TMEP Use
  - HIV Post Exposure Prophylaxis Protocol

Nifedipine (Procardia)

- Description: An antianginal drug belonging to a class of pharmacological agents, the calcium channel blockers. It works by relaxing blood vessels so blood can flow more easily.
- Indications
  - Certain types of chest pain (angina). It may help to increase exercise tolerance and decrease the frequency of angina attacks. Use other medications (e.g., sublingual nitroglycerin) to relieve attacks of chest pain.
- Dose
  - 10mg PO, then 20mg PO qh.

- Side-effects: Primarily vasodilatory in nature (hypotension, peripheral edema)
- 

Warning:
  - Although, in most patients, the hypotensive effect of nifedipine is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension.
- TMEP use
  - Altitude Illness Protocol

Ondansetron (Zofran)

- Description: antiemetic
- Indications
  - Prevention of nausea and vomiting
- Adult dose:
  - Oral Dose: 4-8mg PO tid up to 48 hours
  - IV / IM Dose : 4mg IV over 2-5 minutes or 4mg IM injection, tid
- *Pediatric dose*
  - *Oral Dose:*
    - *Little information available on dosing in children less than 3 yrs*
    - *4–11 years of age: 4mg tid up to 48 hours*
    - *Greater than 12 years of age: 4-8mg PO bid up to 48 hours*
  - *IV Dose:*
    - *Little information available on dosing in children less than 2 yrs*
    - *2-12 years old and less than 40kg: single .1mg/kg IV dose over 2-5 minutes*
    - *2-12 years and greater than 40kg: 4mg IV over 2-5 minutes*
- **Contraindications**
  - Hypersensitivity to any component of product
- Side-effects
  - Anxiety
  - Dizziness
  - Sedation/drowsiness
  - Headache
  - Malaise/fatigue
  - Chills/shivering
  - Constipation or diarrhea
  - Fever
  - Pruritis
  - Urinary retention
  - Musculoskeletal pain
  - Extrapyramidal symptoms
  - Arrhythmias
  - Hypotension
  - Chest pain
- Adverse Reactions
  - Elevated liver transaminases
  - Rare cases of hypersensitivity, sometimes severe (anaphylaxis) have been reported
  - Syncope (rare)
  - Grand mal seizures (rare)
  - Bronchospasm (rare)
  - Transient blurred vision (rare)
  - Hypokalemia (rare)
  - Rifampin may decrease ondansetron levels
- TMEP Use
  - Nausea and Vomiting Protocol

Oral Fentanyl (Actiq Lozenge)

- Description: Opioid. Oral transmucosal fentanyl citrate.
- Indications: Severe battlefield related trauma pain
- Dosage: 400-800mcg.
  - The blister package should be opened with scissors immediately prior to product use. The patient should place the ACTIQ unit in his or her mouth between the cheek and lower gum, occasionally moving the drug matrix from one side to the other using the handle. The ACTIQ unit should be sucked, not chewed. A unit dose of ACTIQ, if chewed and swallowed, might result in lower peak concentrations and lower bioavailability than when consumed as directed.
  - The ACTIQ unit should be consumed over a 15-minute period. Longer or shorter consumption times may produce less efficacy than reported in ACTIQ clinical trials. If signs of excessive opioid effects appear before the unit is consumed, the drug matrix should be removed from the patient's mouth immediately and future doses should be decreased.
- **Treatment of Overdose**:
  - Ventilatory support
  - Intravenous access
  - Narcan (naloxone) or another opioid antagonist may be warranted in some instances, but it is associated with the risk of precipitating an acute withdrawal syndrome.
- Side-effects: The most serious adverse effects associated with all opioids are:
  - Respiratory depression (potentially leading to apnea or respiratory arrest)
  - Circulatory depression
  - Hypotension
  - Shock
  - All patients should be followed for symptoms of respiratory depression.
- TMEP Use
  - Pain Management Protocol

Oxymetazline HCl (Afrin Nasal Spray)

- Description: Vasoconstrictor (decongestant)
- Indications: Use as an adjunct to Valsalva maneuver to clear ears and sinuses during compression and decompression.
- Dose: Spray into each nostril 2 times, twice daily. Not to exceed three consecutive days due to rebound congestion
  - NOTE: Do not tilt head backwards while spraying.
- **Contraindications:**
  - Severe damage to tympanic membrane/sinuses from barotrauma.
- Side-effects:
  - Burning
  - Sneezing and stinging of nasal mucosa
- Adverse Reactions:
  - Rhinitis
  - Rebound Congestion
- TMEP Use
  - Epistaxis Protocol

Phenergan - See Promethazine HCl

Primaquine

- Description: Antimalarial
- Indications: Used to prevent relapse of P. vivax and P. ovale malarias and to prevent attacks after departure from areas where P. vivax and P.ovale malarias are endemic. Used

- Dose: 30mg PO daily x 14 days beginning immediately after leaving the malarious area
  - Screen for G6PD deficiency prior to dispensing.
  - Give with food to prevent gastric irritation.
- **Contraindications:**
  - G6PD deficiency
  - Rheumatoid Arthritis
  - SLE
  - Pregnancy
- Side-effects:
  - Darkening of urine
  - Fevers
  - Chills
  - Cyanosis
  - Nausea
  - Vomiting
  - Abdominal cramps
- Adverse Reactions:
  - Visual disturbances
  - Hypertension
  - Anemia/leukopenia
  - Methemoglobinemia
- TMEP Use
  - Malaria Protocol

Procardia – See Nifedipine

Promethazine HCl (Phenergan)

- Description: Phenothiazine class. An H_1 receptor blocking agent. Antihistamine, sedative, antimotion-sickness, antiemetic, and anticholinergic effects. The duration of action is generally from 4-6 hours. The major side reaction of this drug is sedation.
- Indications:
  - Antihistamine for allergies
  - Anaphylactic reactions in addition to epinephrine.
  - Nausea
  - Vomiting
  - Motion sickness.
  - Antiemetic therapy
- Adult Dose
  - Oral Dose
    - Nausea / Vomiting: The average adult dose is 25mg q4h.
    - Motion Sickness: The average adult dose is 25mg bid. The initial dose should be taken one-half to one hour before anticipated travel and be repeated 8-12 hours later, if necessary. On succeeding days of travel, it is recommended that 25mg be given on arising and again before the evening meal.
  - Parenteral: Administered by deep IM injection
    - Nausea / Vomiting: 12.5mg to 25mg q4-6h PRN. If taking narcotics or barbiturates, it may be necessary to reduce doses of those medications to prevent excess somnolence.
    - Motion Sickness: 12.5mg to 25mg; repeat PRN up to 4 times/day
- *Pediatric Dose:*
  - *Oral Dose:*
    - *Nausea / Vomiting*
      - *2-12 years old; 1.1mg/kg of body weight. Do not exceed half of the suggested adult dose.*

        - *Children less than 2 years old: Contraindicated*
    - *Motion Sickness: Contraindicated in children*
  - *Parenteral: Administered by deep IM injection*
    - *Nausea / Vomiting :*
      - *2- 12 years old: 12.5mg to 25mg q4-6h PRN. If taking narcotics or barbiturates, reduce the dose to 1.1mg/kg.*
    - *Motion Sickness: Contraindicated in children*
- **Contraindications**
  - Subcutaneous injection may result in tissue necrosis
  - Children less than 2 years old
  - Comatose states
  - Antiemetics should not be used in vomiting of unknown etiology in children.
  - Asthma
- Side-effects
  - Drowsiness, sedation, sleepiness
  - Anticholinergic effects – dry mouth, urinary retention, dry eyes, constipation
  - Photosensitivity
  - Bradycardia.
  - Urticaria,
  - Sedation
  - Respiratory Depression
  - Hypotension
  - Chest pain
- Adverse Reactions
  - Lowers seizure threshold
  - Extrapyramidal symptoms, dystonia
  - May exacerbate glaucoma
  - May exacerbate hypertension
  - Cholestatic jaundice
  - Arrhythmias
- 

Warning
  - Intra-arterial injection may result in gangrene of the affected extremity
  - Because of the potential for Phenergan to reverse epinephrine's vasopressors effect, epinephrine should **NOT** be used to treat hypotension associated with Phenergan overdose.
- Preparation procedure/Other Notes
  - Store at room temperature, between 15°-25° C (59°-77° F).
  - Protect from light.
  - Use carton to protect contents from light.
  - Do not use if solution is discolored or contains a precipitate.
  - IV administration may be hazardous and is **NOT** recommended
- TMEP Use
  - Nausea and/or Vomiting Protocol

Proventil – See Albuterol Inhaler

Pseudoephedrine (Sudafed)

- Description: Adrenergic class. Primary activity though α-effects on respiratory mucosal membranes reducing congestion, hyperemia, edema, and minimal bronchodilation secondary to β-effects.
- Indications:
  - Nasal decongestant
  - Adjunct in otitis media with antihistamines

- Adult Dose:
  - 30-60mg q4-6h PO
- *Pediatric Dose:*
  - *6-12 years old: 30mg/dose PO q4-6h*
  - *2-5 years old: 15mg/dose PO q4-6h*
- **Contraindications**
  - Hypersensitivity
  - Narrow angle glaucoma
- Precautions:
  - Pregnancy
  - Cardiac disorders
  - Hyperthyroidism
  - Diabetes mellitus
  - Prostatic hypertrophy
  - Lactation
  - Hypertension
- Side-effects
  - CNS: Tremors, anxiety, insomnia, headache, dizziness, hallucinations, seizures
  - CV: Palpitations, Tachycardia, Hypertension, Chest Pain, Dysrrhythmias
  - EENT: Dry nose, Irritation of nose and throat
  - GI: Nausea, vomiting, anorexia, dry mouth
  - GU: dysuria
- Other Notes
  - Do not use continuously, or more than recommended dose.
  - Rebound congestion may occur.
  - Avoid taking at bedtime, stimulation may occur.
- TMEP Use
  - Allergic Rhinitis/Hay Fever/ Cold Like Symptoms
  - Barotrauma Protocol

Quinolones – General Antimicrobial Spectrum

- 1st Generation: Gram negative (excluding Pseudomonas), urinary tract only.
  - *Example nalidixic acid*
- 2nd Generation: Gram negative (including Pseudomonas); Staph aureus but not Pneumococcus; some atypicals.
  - *Examples: ciprofloxacin, norfloxacin, ofloxacin*
- 3rd Generation: Gram negative (including Pseudomonas); gram positive (including Staph aureus and Pneumococcus); expanded atypical coverage.
  - *Example: levofloxacin*
- 4th Generation: Same as 3rd generation: plus broad anaerobic coverage.
  - *Examples: gatfloxacin, moxifloxacin, trovafloxacin*

Rabeprazole (Aciphex)

- Description: GI Agent – Proton Pump Inhibitor (PPI)
- Gastric PPI that specifically suppresses gastric acid secretion by inhibiting the acid secretion in the cells of the stomach. Does not have H2 histamine receptor blocking properties.
- Indications: For healing and maintenance of erosive or ulcerative gastroesophageal reflux disease (GERD), duodenal ulcers and hypersecretory conditions.
- **Contraindications:**
  - PPI Hypersensitivity
  - Pregnancy
- Adult Dose:
  - 20mg PO qd

- *Pediatric Dose:*
  - *Contraindicated.*
- Side-effects:
  - Headaches
  - Nausea
  - Vomiting
  - Diarrhea
  - Abdominal cramps
  - ↑ temperature
- Adverse Reactions:
  - Stevens-Johnson Syndrome
  - Toxic Epidermal Necrolysis (Fatalities have been reported.)
- Other Notes
  - This medication should be swallowed whole. It should not be crushed or chewed.
- TMEP Use
  - Abdominal Pain Protocol

Ranitidine (Zantac)

- Description: H-2 blocker; ↓ secretion of stomach acid
- 

NOTE: Drug Interactions: ↓absorption of oral diazepam.
- Indications:
  - Gastric and/or peptic ulcers
  - Upper GI bleeds
  - Prevention of stress ulcers in burn victims or patients on steroid treatment.
  - Drug of choice for treatment of gastric or peptic ulcers.
  - Adjunct in treatment of urticaria and anaphylaxis.
- Adult Dosage:
  - 50mg IV or IM q6-8 hours for ulcers, burns, steroid use, upper GI bleeds, urticaria or anaphylaxis.
  - Oral dose: 150mg bid for ulcer, urticaria.
- *Pediatric Dose: 1.5mg/kg IV x 1, then 0.75mg/kg IV every 12 hours*
- **Contraindications:** Known/suspected liver disease
- Side-effects:
  - Headache
  - Diarrhea
  - Constipation
  - Muscle aches
  - Vertigo
  - Malaise
  - Dry mouth
  - Nausea
  - Vomiting
- Adverse Reactions:
  - Thrombocytopenia
  - Liver toxicity
- TMEP Use
  - Abdominal Pain Protocol
  - Anaphylactic Reaction Protocol
  - Chest Pain Protocol (Other Etiologies)

Rocephin (Ceftriaxone Sodium)

Salmetrol (Serevent)

- Description: Long acting inhaled beta-2 adrenergic agonist; relaxes bronchial smooth muscle (bronchodilator)
- Indications:
  - Relief of asthma
  - Prevention/treatment of exercise-induced bronchospasm
  - Treatment for Chronic Obstructive Pulmonary Disease (COPD)
  - Nocturnal Asthma
- Adult Dosage:
  - 1 inhalation every 12 hours (twice daily)
- Pediatric Dosage
  - If more than 4 years of age, same as adult dose
- **Contraindications:**
  - Hypersensitivity to salmeterol or other beta-2 agonists
- Side-effects:
  - Dry mouth/throat (sugarless hard candy or ice chips will often relieve symptoms)
- Adverse Reactions:
  - Cardiovascular: Tachyarrythmias
  - Neurologic: Dizzyness, Headache, Tremor
  - Respiratory: Throat Irritation, also Exacerbation of asthma (Severe)
- Caution:
  - This medication **DOES NOT** give immediate relief in the event of asthma attack or bronchospasm
  - This medication **SHOULD NOT** be used in combination with other long-acting inhaled beta-agonists (e.g. formoterol, salmeterol/fluticasone)
  - Milk allergy; milk protein in the inhalation powder formulation
- TMEP Use
  - Altitude Illness Protocol

Septra – See Trimethoprim-Sulfamethoxazole

Serevent – See Salmeterol

Sudafed - See Pseudoephedrine

Tequin – Gatifloxacin **(No longer used)**

Tetracaine .5% Drops

- Description: Local anesthetic
- Indications: As a topical optic anesthetic (may aid in ocular exam to relieve blepharospasm); removal of foreign bodies
- Dose:
  - 1 or 2 drops 2 to 3 minutes before procedure
  - See appropriate TMEP
- **Contraindications:**
  - Not for prolonged use
- Side-effects:
  - Stinging
  - Tearing
  - Swelling
  - Sensitivity to light

- Adverse Reactions:
  - Conjunctival redness
  - Transient eye pain
  - Hypersensitivity reactions
- TMEP Use
  - Corneal Abrasion, Corneal Ulcer, Conjunctivitis Protocol

Toradol – See Ketorolac

Trimethoprim-Sulfamethoxazole (TMP-SMZ, Bactrim, Septra)

- Description: Antimicrobial – antibacterial, sulfonamide
- Fixed combination of TMP and SMZ, synthetic folate antagonists and enzyme inhibitors that prevent bacterial synthesis of essential nucleic acids and proteins; effective against Pneumocystis carinii pneumonitis, Shigellosis enteritis, most strains of Enterobacteriaceae, Nocardia, Legionella micdadei, and Legionella pneumophila, and Haemophilus ducreyi
- Indications:
  - Cellulitis
  - Enteritis
  - Urinary Tract Infections
- Adult Dose: 160mg TMP/800mg SMZ (DS) PO bid
- **Contraindications:**
  - TMP, SMZ, sulfonamide, or bisulfite hypersensitivity
  - Group A beta-hemolytic streptococcal Pharyngitis
  - Use caution with severe allergy or bronchial asthma
  - G6PD deficiency
  - Pregnancy
- **Side-effect:**
  - Rash
  - Toxic Epidermal Necrolysis
  - Nausea and Vomiting
  - Diarrhea
  - Pseudomembranous enterocolitis
  - Abdominal Pain
- TMEP Use
  - Cellulitis/Cutaneous Abscess Protocol
  - Urinary Tract Infection Protocol

Toradol – See Ketorolac

Tylenol – See Acetaminophen

Valium - See Diazepam

Ventolin – See Albuterol Inhaler

Viracept – See Nelfinavir

Xylocaine – See Lidocaine HCL

Z- Pak - See Azithromycin

Zantac – See Ranitidine

Zithromax – See Azithromycin

Zofran –See Ondansetron

Zymar – See Gatifloxacin 0.3% Ophthalmic Liquid

NOTES:

Common Name	Nomenclature	AHFS Category	NSN	Recommended NDC	Controlled	JDF status
ACETAMINOPHEN 325MG (TYLENOL) TABLET 100S	ACETAMINOPHEN 325MG TABLET 100S	ANALGESICS AND ANTIPYRETICS, MISC	6505015302679	51111048878	No	Yes
ACETAMINOPHEN (TYLENOL) 500MG TABLETS USP 100S	ACETAMINOPHEN TABLETS USP 500MG 100S	ANALGESICS AND ANTIPYRETICS, MISC	6505014367129	51079039620	No	Yes
ACETAZOLAMIDE TABLETS (DIAMOX) 250MG 100 TABLETS PER BOTTLE	ACETAZOLAMIDE TABLETS USP 250MG 100 TABLETS PER BOTTLE	CARBONIC ANHYDRASE INHIBITORS	6505006640857	51672402301	No	Yes
ALBUTEROL SULFATE (CFC-F) INHALATION 90MCG AER W/ADAP 6.7 GM 200 ACTUATIONS	ALBUTEROL SULFATE (CFC-F) INHALATION 90MCG AER W/ADAP 6.7GM 200 ACTUATIONS	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505015382871	00085113201	No	Yes
ASPIRIN (ST JOSHEPH'S CHILDREN'S ASPIRIN) 81MG TAB CHEW 36S	ASPIRIN 81MG TAB CHEW 36S	SALICYLATES	6505010339866	00904404073	No	Yes
ASPIRIN TABLETS USP 0.324GM 100S	ASPIRIN TABLETS USP 0.324GM 100S	SALICYLATES	6505001009985	00904200960	No	Yes
ATOVAQUONE 250MG & PROGUANIL 100MG TABLETS (MALARONE) 100S	ATOVAQUONE 250MG & PROGUANIL 100MG TABLETS (MALARONE) 100S	ANTIPROTOZOALS, MISC	6505014919430	00173067501	No	Yes
AZITHROMYCIN TABLETS 250MG 18S (3 Z-PAKS 6S)	AZITHROMYCIN TABLETS 250MG 18S (3 Z-PAKS 6S)	OTHER MACROLIDES	6505014491618	00781149668	No	Yes
BISACODYL (DULCOLAX) TABLETS USP 5MG FILM ENTERIC I.S. 100S	BISACODYL TABLETS USP 5MG FILM ENTERIC I.S. 100S	CATHARTICS AND LAXATIVES	6505001182759	00574000411	No	Yes
CEFTRIAXONE SODIUM (ROCEPHIN) 1GM VIAL 10S	CEFTRIAXONE SODIUM 1GM VIAL 10S	THIRD GENERATION CEPHALOSPORINS	6505012192760	00004196401	No	Yes
CEFTRIAXONE SODIUM STERILE USP 2GM VIAL 10 VIALS PER PACKAGE	CEFTRIAXONE SODIUM STERILE USP 2GM VIAL 10 VIALS PER PACKAGE	CEPHALOSPORINS	6505012293149	00781320995	No	Yes
CEPHALEXIN (KEFLEX) 250MG CAPSULES 100S	CEPHALEXIN 250MG CAPSULES 100S	FIRST GENERATION CEPHALOSPORINS	6505001656545	00093314501	No	Yes
CHLOROQUINE PHOSPHATE TABLETS USP 500MG 25 TABLETS PER BOTTLE	CHLOROQUINE PHOSPHATE TABLETS USP 500MG 25 TABLETS PER BOTTLE	ANTIMALARIALS	6505012679662	00143212522	No	Yes

CIPROFLOXACIN (CIPRO) 400MG IN 200ML D5W PIGGYBACK BAGS 24S	CIPROFLOXACIN 400MG IN 200ML D5W PIGGYBACK BAGS 24S	QUINOLONES	6505013366179	00085174102	No	Yes
CIPROFLOXACIN CONCENTRATE (CIPRO) FOR INJECTION 10MG/ML, 40ML VI	CIPROFLOXACIN CONCENTRATE FOR INJECTION 10MG/ML, 40ML VIAL 10S	QUINOLONES	6505014866591	00085173101	No	Yes
CIPROFLOXACIN (CIPRO) TABLETS USP 500MG I.S. 100S	CIPROFLOXACIN TABLETS USP 500MG I.S. 100S	QUINOLONES	6505012738650	00172531210	No	Yes
CIPROFLOXACIN (CIPRO) TABLETS USP 500MG I.S. 30 TABLETS PER PACK	CIPROFLOXACIN TABLETS USP 500MG I.S. 30 TABLETS PER PACKAGE	QUINOLONES	6505014912834		No	Yes
DEXAMETHASONE SODIUM PHOSPHATE INJECTION 4MG/ML 30ML	DEXAMETHASONE SODIUM PHOSPHATE INJECTION 4MG/ML 30ML	ADRENALS	6505015225164	63323016530	No	Yes
DEXTROSE TABLETS 45 GRAMS MULTI-USE SQUEEZE TUBE 12 TABLETS	DEXTROSE TABLETS 45 GRAMS MULTI-USE SQUEEZE TUBE 12 TABLETS	CALORIC AGENTS	6505014253165	08290328230	No	No
DIAZEPAM 5MG TABLETS I.S. 100S	DIAZEPAM 5MG TABLETS I.S. 100S	BENZODIAZEPINES	6505010985802	51079028521	Yes	Yes
DIAZEPAM 5MG/ML, 2ML AUTOINJECTOR (CANA)	DIAZEPAM 5MG/ML, 2ML AUTOINJECTOR (CANA)	BENZODIAZEPINES	6505012740951		Yes	Yes
DIAZEPAM (VALIUM) INJ 5MG/ML MDV 5S	DIAZEPAM INJECTION 5MG/ML MDV 5S	BENZODIAZEPINES	6505015138434	00409321302	Yes	Yes
DIAZEPAM (VALIUM) INJECTION 5MG/ML 2ML SYRINGE LUER LOCK, W/O NE	DIAZEPAM INJECTION USP 5MG/ML 2 ML UNIT 10 PER PACKAGE	BENZODIAZEPINES	6505015053476	00409127332	Yes	Yes
DIPHENHYDRAMINE HYDROCHLORIDE (BENADRYL) CAPSULES USP 50MG 100S	DIPHENHYDRAMINE HYDROCHLORIDE CAPSULES USP 50MG 100S	ETHANOLAMINE DERIVATIVES	6505001168350	00555005902	No	Yes
DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML CARPUJECT 10S	DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML CARPUJECT 10S	ETHANOLAMINE DERIVATIVES	6505015182962	00409229031	No	Yes

DIPHENHYDRAMINE HYDROCHLORIDE (BENADRYL) INJ USP 50MG/ML 1ML VI	DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML VIAL 25S	ETHANOLAMINE DERIVATIVES	6505010917538	00641037625	No	Yes
DOXYCYCLINE HYCLATE (VIBRATABS) TABLETS USP 100MG I.S. 30 TABLE	DOXYCYCLINE HYCLATE TABLETS USP 100MG I.S. 30 TABLETS/PACKAGE	TETRACYCLINES	6505014915506		No	Yes
DOXYCYCLINE HYCLATE (VIBRATABS) TABLETS USP 100MG 500S	DOXYCYCLINE HYCLATE TABLETS USP 100MG 500S	TETRACYCLINES	6505011534335	00172362670	No	Yes
DOXYCYCLINE HYCLATE (VIBRATABS) TABLETS USP 100MG, I.S., 100S	DOXYCYCLINE HYCLATE TABLETS USP 100MG, I.S., 100S	TETRACYCLINES	6505015050146	00182153589	No	Yes
EPINEPHRINE INJECTION USP 0.1MG/ML 10ML LIFESHIELD SYRINGE 10S	EPINEPHRINE INJECTION USP 0.1 MG/ML 10ML LIFESHIELD SYRINGE 10S	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505015273957	00074492134	No	Yes
EPINEPHRINE INJECTION USP0.1MG PER ML SYRINGE-NEEDLE UNIT10ML10S	EPINEPHRINE INJECTION USP0.1MG PER ML SYRINGE-NEEDLE UNIT10ML10S	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505010932384	00074490118	No	Yes
ERTAPENEM SODIUM (INVANZ) 1GM VIAL 10S	ERTAPENEM SODIUM 1GM VIAL 10S	CARBAPENEMS	6505015035374	00006384371	No	Yes
FLUCONAZOLE (DIFLUCAN) TABLETS 100MG 100 TABLETS PER PACKAGE	FLUCONAZOLE TABLETS 100MG 100 TABLETS PER PACKAGE	AZOLES	6505013198233	00049342041	No	No
FLUCONAZOLE TABLETS (DIFLUCAN)100MG 30 TABLETS PER BOTTLE	FLUCONAZOLE TABLETS 100MG 30 TABLETS PER BOTTLE	AZOLES	6505013198248	00049342030	No	No
GATIFLOXACIN (ZYMAR) OPHTHALMIC SOLUTION 0.3% 2.5ML	GATIFLOXACIN OPHTHALMIC SOLUTION 0.3% 2.5ML	ANTIBACTERIALS	6505015090735	00023921803	No	No
HETASTARCH 6% IN LACTATED ELECTROLYTES 500ML PLASTIC BAG (HEXTEN	HETASTARCH 6% IN LACTATED ELECTROLYTES 500ML PLASTIC BAG (HEXTEND) 12S	REPLACEMENT PREPARATIONS	6505014988636	00409155554	No	Yes

HETASTARCH 6% IN SODIUM CHLORIDE 500ML PLASTIC BAG (HESPAN) 12S	HETASTARCH 6% IN SODIUM CHLORIDE 500ML PLASTIC BAG (HESPAN) 12S	REPLACEMENT PREPARATIONS	6505012811247	00264196510	No	Yes
IBUPROFEN TABLETS (MOTRIN) USP 400MG 500S	IBUPROFEN TABLETS USP 400MG 500S	OTHER NONSTEROIDAL ANTIINFLAMMATORY AGENTS	6505001288035	53746013105	No	Yes
IBUPROFEN TABLETS (MOTRIN) USP 800MG 500 TABLETS PER BOTTLE	IBUPROFEN TABLETS USP 800MG 500 TABLETS PER BOTTLE	OTHER NONSTEROIDAL ANTIINFLAMMATORY AGENTS	6505012149062	53746013705	No	Yes
LAMIVUDINE 150MG & ZIDOVUDINE 300MG (COMBIVIR) CAPSULES 60S	LAMIVUDINE 150MG & ZIDOVUDINE 300MG (COMBIVIR) CAPSULES 60S	NUCLEOSIDE AND NUCLEOTIDE REVERSE TRANSCRIPTASE INHIBITORS	6505014629945	00173059500	No	Yes
LEVOFLOXACIN IN DEXTROSE 5MG/ML 100ML	LEVOFLOXACIN IN DEXTROSE 5MG/ML 100ML	QUINOLONES	6505014974346	00045006801	No	Yes
LEVOFLOXACIN (LEVAQUIN) INJECTION 25MG/ML, 20ML SINGLE DOSE VIAL	LEVOFLOXACIN INJECTION 25MG/ML, 20ML SINGLE DOSE VIAL	QUINOLONES	6505014448356	00045006951	No	Yes
LEVOFLOXACIN (LEVAQUIN) TABLETS 500MG I.S. 100S	LEVOFLOXACIN TABLETS 500MG I.S. 100S	QUINOLONES	6505014446635	00045152510	No	Yes
LIDOCAINE HYDROCHLORIDE 2% INJECTION USP 20ML VIAL	LIDOCAINE HYDROCHLORIDE 2% INJECTION USP 20ML VIAL	LOCAL ANESTHETICS	6505005986117	00186012001	No	Yes
LOPERAMIDE HYDROCHLORIDE (IMODIUM) CAPSULES 2MG I.S. 100 CAPSULE	LOPERAMIDE HYDROCHLORIDE CAPSULES 2MG I.S. 100 CAPSULES/PACKAGE	ANTIDIARRHEA AGENTS	6505012385632	51079069020	No	Yes
MEFLOQUINE HYDROCHLORIDE (LARIAM) TABLETS 250MG I.S. 25S	MEFLOQUINE HYDROCHLORIDE TABLETS 250MG I.S. 25S	ANTIMALARIALS	6505013151275	00004017202	no	Yes
MELOXICAM 15MG TABLETS 100S	MELOXICAM 15MG TABLETS 100S	NONSTEROIDAL ANTI-INFLAMMATORY AGENTS	6505015413243	00597003001	No	Yes
METRONIDAZOLE HCL (FLAGYL IV RTU) 500MG IN 100ML SODIUM CHLORIDE	METRONIDAZOLE HCL 500MG IN 100ML SODIUM CHLORIDE PIGGYBACK BAGS	ANTIPROTOZOALS, MISC	6505014626450	00338105548	No	Yes

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METRONIDAZOLE (FLAGYL) TABLETS USP 250MG I.S. 100S	METRONIDAZOLE TABLETS USP 250MG I.S. 100S	ANTIPROTOZOALS, MISC	6505011424914	00182133089	No	Yes
MORPHINE SULFATE 15MG/ML INJECTION 20ML	MORPHINE SULFATE 15MG/ML INJECTION 20ML	OPIATE AGONISTS	6505011533284	10019017963	Yes	Yes
MORPHINE SULFATE INJECTION 10MG AUTOMATIC INJECTOR	MORPHINE SULFATE INJECTION 10MG AUTOMATIC INJECTOR	OPIATE AGONISTS	6505013025530		Yes	Yes
MORPHINE SULFATE INJECTION 10MG/ML 1ML VIAL 25 PER PACKAGE	MORPHINE SULFATE INJECTION 10MG/ML 1ML VIAL 25 PER PACKAGE	OPIATE AGONISTS	6505014830274	10019017844	Yes	Yes
MORPHINE SULFATE INJECTION 10MG/ML, 1ML CARTRIDGE UNIT, LUER LOC	MORPHINE SULFATE INJECTION 10MG/ML, 1ML CARTRIDGE UNIT, LUER LOCK, NEEDLELESS, 10S	OPIATE AGONISTS	6505015055813	00409126130	Yes	Yes
MOXIFLOXACIN (AVELOX) HYDROCHLORIDE	MOXIFLOXACIN HYDROCHLORIDE	QUINOLONES	6505015034772	00026858169	No	No
MOXIFLOXACIN (AVELOX) HYDROCHLORIDE TABLETS 50S	MOXIFLOXACIN HYDROCHLORIDE TABLETS 50S	QUINOLONES	6505015163194	00026858188	No	No
MOXIFLOXACIN (AVELOX)HYDROCHLORIDE TABLETS 5S	MOXIFLOXACIN HYDROCHLORIDE TABLETS 5S	QUINOLONES	6505015163201	00026858141	No	No
MUPIROCIN (BACTROBAN) 2% OINTMENT 22GM	MUPIROCIN 2% OINTMENT 22GM	ANTIBACTERIALS	6505014805678	00029152544	No	Yes
NALOXONE ()NARCAN HCL 1MG/ML INJECTION 2ML SYRINGE 10S	NALOXONE HCL 1MG/ML INJECTION 2ML SYRINGE 10S	OPIATE ANTAGONISTS	6505014070213	00548146900	No	Yes
NALOXONE HCL INJ (NARCAN) 0.4MG/ML 1ML VIAL 10S	NALOXONE HYDROCHLORIDE INJ 0.4 MG/ML 1ML VIAL 10S	OPIATE ANTAGONISTS	6505015334126	00409121501	No	Yes
NALOXONE HYDROCHLORIDE (NARCAN) INJECTION USP 0.4MG/ML 1ML AMPUL	NALOXONE HYDROCHLORIDE INJECTION USP 0.4MG/ML 1ML AMPUL 10/BX	OPIATE ANTAGONISTS	6505000797867	63481035810	No	Yes

NELFINAVIR (VIRACEPT) MESYLATE TABLETS 300 TABLETS PER BOTTLE	NELFINAVIR MESYLATE TABLETS 300 TABLETS PER BOTTLE	ANTIVIRALS	6505014876694	63010001030	No	No
NEOMYCIN, POLYMYXIN B SULFATE, & HYDROCORTISONE (CORTISPORIN) OT	NEOMYCIN, POLYMYXIN B SULFATE, & HYDROCORTISONE OTIC SUSP USP 10ML	ANTIBACTERIALS	6505010430230	24208063562	No	Yes
NIFEDIPINE CAPSULES USP 10MG 100 CAPSULES PER BOTTLE	NIFEDIPINE CAPSULES USP 10MG 100 CAPSULES PER BOTTLE	DIHYDROPYRIDINES	6505011263842	00069260066	No	No
NORFLOXACIN TABLETS 400MG 100 TABLETS PER BOTTLE	NORFLOXACIN TABLETS 400MG 100 TABLETS PER BOTTLE	QUINOLONES	6505012589542	00006070568	No	No
OFLOXACIN IN DEXTROSE INJECTION 4MG/ML 100ML BOTTLE 12/PACKAGE	OFLOXACIN IN DEXTROSE INJECTION 4MG/ML 100ML BOTTLE 12/PACKAGE	QUINOLONES	6505013644123	00062155201	No	No
OFLOXACIN OTIC SOLUION 0.3% 0.25ML SINGLE DOSE DROPPERETTE 20S	OFLOXACIN OTIC SOLUION 0.3% 0.25ML SINGLE DOSE DROPPERETTE 20S	ANTIBIOTICS	6505015424952	63395010111	No	No
OFLOXACIN TABLETS 200MG 50 TABLETS PER BOTTLE	OFLOXACIN TABLETS 200MG 50 TABLETS PER BOTTLE	QUINOLONES	6505013464882	00062154002	No	No
OFLOXACIN TABLETS 200MG I.S. 100 TABLETS PER PACKAGE	OFLOXACIN TABLETS 200MG I.S. 100 TABLETS PER PACKAGE	QUINOLONES	6505013462056	00062154005	No	No
OFLOXACIN TABLETS 300MG 50 TABLETS PER BOTTLE	OFLOXACIN TABLETS 300MG 50 TABLETS PER BOTTLE	QUINOLONES	6505013462053	00062154102	No	No
ONDANSETRON HYDROCHLORIDE (ZOFRAN) INJECTION 2MG/ML 20ML VIAL	ONDANSETRON HYDROCHLORIDE INJECTION 2MG/ML 20ML VIAL	5-HT3 RECEPTOR ANTOGONISTS	6505013366184	00173044200	No	Yes

ONDANSETRON (ZOFRAN) HYDROCHLORIDE INJECTION 2MG/ML 2ML VIAL 5/PACKAGE	ONDANSETRON HYDROCHLORIDE INJECTION 2MG/ML 2ML VIAL 5/PACKAGE	5-HT3 RECEPTOR ANTOGONISTS	6505013945963	00173044202	No	Yes
OXYMETAZOLINE HYDROCHLORIDE (AFRIN) NASAL SOLUTION 15ML SPRAY	OXYMETAZOLINE HYDROCHLORIDE NASAL SOLUTION 15ML SPRAY	VASOCONSTRICTORS	6505008694177	00182144464	No	Yes
PRIMAQUINE PHOSPHATE TABLETS USP 15MG 100S	PRIMAQUINE PHOSPHATE TABLETS USP 15MG 100S	ANTIMALARIALS	6505013482465	00024159601	No	Yes
PROMETHAZINE HYDROCHLORIDE INJECTION USP 25MG/ML 10ML	PROMETHAZINE HYDROCHLORIDE INJECTION USP 25MG/ML 10ML MDV 10S	ANTIHISTAMINE DRUGS	6505015401933	66758060119	No	Yes
PROMETHAZINE HYDROCHLORIDE (PHENERGAN) TABLETS USP 25MG 100S	PROMETHAZINE HYDROCHLORIDE TABLETS USP 25MG 100S	PHENOTHIAZINE DERIVATIVES	6505013648557	00591530701	No	Yes
PSEUDOEPHEDRINE HYDROCHLORIDE (SUDAFED) TABLETS USP 30MG 24S	PSEUDOEPHEDRINE HYDROCHLORIDE TABLETS USP 30MG 24S	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505001490098	00904505324	Yes	Yes
QUININE SULFATE CAPSULES USP 325MG 100 CAPSULES PER BOTTLE	QUININE SULFATE CAPSULES USP 325MG 100 CAPSULES PER BOTTLE	ANTIMALARIALS	6505009579532	00172417260	No	No
QUININE SULFATE CAPSULES USP 325MG 1000 CAPSULES PER BOTTLE	QUININE SULFATE CAPSULES USP 325MG 1000 CAPSULES PER BOTTLE	ANTIMALARIALS	6505010428040	52544071610	No	No
QUININE SULFATE TABLETS 260MG 100 TABLETS PER BOTTLE	QUININE SULFATE TABLETS 260MG 100 TABLETS PER BOTTLE	ANTIMALARIALS	6505011137514	00172300160	No	No
QUININE SULFATE TABLETS USP 260MG I.S. 100 TABLETS PER PACKAGE	QUININE SULFATE TABLETS USP 260MG I.S. 100 TABLETS PER PACKAGE	ANTIMALARIALS	6505012399803	47679050735	No	No

RANITIDINE (ZANTAC) INJECTION USP 25MG/ML 2ML SINGLE DOSE VIAL 1	RANITIDINE INJECTION USP 25MG/ML 2ML SINGLE DOSE VIAL 10/PACKAGE	HISTAMINE H2-ANTAGONISTS	6505012085955	00173036238	No	Yes
RANITIDINE (ZANTAC) TABLETS USP 150MG 60 TABLETS PER BOTTLE	RANITIDINE TABLETS USP 150MG 60 TABLETS PER BOTTLE	HISTAMINE H2-ANTAGONISTS	6505011607702	00781188360	No	Yes
TETRACAINE HYDROCHLORIDE (PONTOCAINE) OPHTHALMIC SOLUTION 0.5% 15ML	TETRACAINE HYDROCHLORIDE OPHTHALMIC SOLUTION 0.5% 15ML	LOCAL ANESTHETICS	6505005824737	24208092064	No	Yes
TRANSMUCOSAL FENTANYL (ACTIQ) 400MCG, 30'S	TRANSMUCOSAL FENTANYL 400MCG, 30'S	OPIATE AGONISTS	6505NCM060544	63459050430	Yes	No

2006 Joint Drug List Authors

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The following pages are the updated TMEP and Drug List pages in pocket-sized booklet for you to cut out and carrying with you.

U.S. SPECIAL OPERATIONS COMMAND

TACTICAL MEDICAL EMERGENCY PROTOCOLS

For SPECIAL OPERATIONS ADVANCED TACTICAL PRACTITIONERS (ATPs)

February 1, 2008

USSOCOM OFFICE OF THE COMMAND SURGEON
DEPARTMENT OF EMERGENCY MEDICAL SERVICES AND PUBLIC HEALTH
7701 Tampa Point Boulevard
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Abdominal Pain

SPECIAL CONSIDERATIONS:
1. Common causes in young healthy adults include appendicitis cholecystitis, pancreatitis, perforated ulcer, and diverticulitis
2. Consider constipation/ fecal impaction as a potential cause of abdominal pain.

SIGNS AND SYMPTOMS SUGGESTIVE FOR CONTINUED OBSERVATION:
1. Epigastric burning pain
2. Present bowel sounds
3. Nausea and/ or vomiting
4. Absence of rebound tenderness
5. If diarrhea is present, treat per *Gastroenteritis Protocol*

MANAGEMENT:
1. Rx Antacid of choice
2. Rx Ranitidine (Zantac) 150 mg PO bid **OR** Rabeprazole (Aciphex) 20 mg PO qd **OR** Proton Pump Inhibitor of choice
3. PO hydration

DISPOSITION:
1. Observation and re-evaluation.
2. *Priority* evacuation if symptoms not controlled by this management within 12 hours.

SIGNS AND SYMPTOMS SUGGESTIVE FOR URGENT EVACUATION:
1. Severe, persistent or worsening abdominal pain is the key sign
2. Rigid abdomen
3. Rebound abdominal tenderness
4. Fever
5. Absence of bowel sounds
6. Focal percussive tenderness
7. Uncontrollable vomiting
8. Presence of bloody vomitus or stools
9. Presence of black tarry stools
10. Presence of coffee ground vomitus

MANAGEMENT:
1. Start IV with normal saline (NS), 1 liter bolus, followed by NS 150 cc/hr. Keep NPO except for medications or PO hydration.
2. Rx Ertapenem (Invanz) 1 gm IV qd
3. Rx **OR** Ceftriaxone (Rocephin) 1 gm IV qd. plus Metronidazole (Flagyl) 500 mg PO q 8 h
4. Treat per *Pain Protocol*
5. Treat per *Nausea and Vomiting Protocol*

DISPOSITION:
Urgent evacuation to a surgical facility.

ALTITUDE ILLNESS

SPECIAL CONSIDERATIONS

ACUTE MOUNTAIN SICKNESS (AMS)
1. Usually occurs at altitudes of 8,000 ft. and higher.
2. Consider pretreatment with Acetazolamide (Diamox) 250 mg bid, when rapid ascent to altitudes above 8,000 ft. may occur.
3. Symptoms may occur as quickly as 3 hours after ascent.
4. Can avoid onset by limiting initial ascent to no higher than 8,000 ft., then 1,000 ft. per day thereafter. The key to prevention is slow, gradual ascent.

HIGH ALTITUDE CEREBRAL EDEMA (HACE)
1. Rare below 11,500 ft.
2. Headache is common at altitude. Ataxia and altered mental status at altitude are HACE until proven otherwise.

HIGH ALTITUDE PULMONARY EDEMA (HAPE)
1. Caused by the hypoxia of altitude, HAPE is the most common cause of death from altitude illness.
2. Usually occurs above 8,000 ft. Respiratory distress at high altitude is HAPE until proven otherwise.
3. Nifedpine (Procardia), Acetazolamide (Diamox), Sildenafil (Viagra), and Salmeterol (Serevent) may be used (individually or in combination) prophylactically in personnel who have a history of previous HAPE and are required to operate at altitude.

HACE AND HAPE MAY COEXIST IN THE SAME PATIENT!
****Note: A specific treatment Protocol for any of these diseases may already exist at your location**

SIGNS AND SYMPTOMS:
1. AMS is generally benign and self-limiting, but symptoms may become debilitating. Worsening condition should prompt consideration of a more life-threatening condition (HAPE or HACE).
   A. AMS: Diagnosis is made in presence of headache **AND** one or more of the following: anorexia, nausea, vomiting, insomnia, dizziness, lassitude, or fatigue.
   B. No correlation with fitness level (likely genetic predisposition)
2. HACE: Unsteady, wide, and unbalanced (ataxic) gait and altered mental status are hallmark signs.
3. HAPE: Dyspnea at rest is the hallmark signs. Other symptoms may include cough, crackles upon auscultation, tachypnea, tachycardia, fever, central cyanosis, or low oxygen saturation disproportionate to the elevation level.

MANAGEMENT:
1. Halt ascent. Immediately descend at least 1,500 ft for HACE, HAPE, or refractory AMS if tactically feasible.
2. **IF AMS SYMPTOMS PRESENT**
   A. Rx Acetazolamide (Diamox) 250 mg PO bid **UNLESS PATIENT IS ALLERGIC TO SULFA** or is already taking as prophylaxis.
   B. Rx Dexamethasone (Decadron) 4 mg PO q 6 h if patient is allergic to sulfa.
   Reminder If Dexamethasone (Decadron) is administered, no further ascent until asymptomatic for 24 hours after last Dexamethasone dose.

Don't Forget...
(Clinical Pearls)

When IV route is recommended, but not obtainable, consider IO, IM, or PO unless contraindicated.

Currently available SL medication formulations include: Benadryl Quikstrips, Sudafed PE SL, Zofran ODT.

If crystalloids (Normal Saline or Lactated Ringer's) are recommended but not available, substitute Hextend or Hespan if available.

DO NOT give Epinephrine IV.

All IV medications may be given slow IV push with the exception of antibiotics which should be in a drip.

Remember to document dose and time of all medications so the receiving facility may be informed.

Do not use local anesthetic with epinephrine on the fingers, toes or penis.

When oxygen is called for in the Protocols, the authors realize that it is recommended, but may not be available.

Due to the high level of physical fitness of SOF personnel, there may be a prolonged period of mental lucidity and apparent stable vital signs despite a severe injury. Treat the injury, not the operator!

Medical Documentation (SOAP note): In order to ensure proper care and medical information transfer during patient treatment a standardize format for medical documentation is required. The standard format is the SOAP note (Subjective, Objective, Assessment, and Plan).

Subjective: In the patient's own words, describe the chief complaint. At a minimum you need to include the OPQRST (Onset, Provocation, Quality, Radiation, Severity, and Time line of symptoms). AMPLE (Allergies Medication, Past Medical and Surgical history, Last meal, and Events leading up to this condition) history is also included in this section

Objective: vital signs and physical examination findings. At a minimum you need to document pertinent positives and negatives, and measurements of injuries or lesions. Be as detailed as possible.

Assessment: a brief summary of your medical decision making to include what you think it is and what it is not. Include your differential diagnosis list in this section.

Plan: your course of treatment to include any medications, additional studies, consultation, rehabilitation, evacuation category and disposition of the patient.

PREFACE

Management of medical emergencies is best accomplished by appropriately trained physicians in an Emergency Department setting. Special Operations Combat Medics (SOCMs), however, may often find themselves in austere tactical environments where evacuation of a teammate to an MTF for a medical emergency would entail either significant delays to treatment or compromise the unit's mission. Although SOCM-trained medics are not routinely authorized by the services to treat non-traumatic emergencies, in many SOF situations, training SOCMs to treat at least some medical emergencies may result in both improved outcome for the individual and an improved probability of mission success. The disorders chosen have one of the following properties in common: they are relatively common; they are acute in onset; the SOCM is able to provide at least initial therapy that may favorably alter the eventual outcome; and the condition is either life-threatening or could adversely affect the mission readiness of the SOF operator.

The Protocols outlined in the following pages carry the following assumptions:

A. **The SOCM medic is in an austere environment where a medical treatment facility or a unit sick call capability is not available. If a medical treatment facility or a medic authorized to treat patients independently is available, then the patient should be seen in those settings rather than by a SOCM medic.**
B. Immediate evacuation may not be possible and, even if it is, may still entail significant delays to definitive treatment. The medical problem may worsen significantly if treatment is delayed.
C. The SOCM will contact a consulting physician as soon as feasible.
D. SOCM treatment will be done under the appropriate Protocol.
E. **Medication regimens are designed to minimize the number of medications the SOCMs are required to learn and carry. Medications have been used for multiple conditions when feasible without compromising care.**
F. Appropriate documentation of diagnosis and treatment rendered in the patient's medical record will be accomplished when the unit returns to forward operating base.
G. Note these Protocols are not designed to allow SOCM medics to conduct Medical/ Civic Action (MEDCAP) missions independently.
H. Evacuation recommendations are based on the appropriate therapy per Protocol being initiated on diagnosis.
I. The definitions of Urgent, Priority, and Routine evacuations are based on the times found in Joint Publication 4-02.2 of 2, 4, and 24 hours respectively.
J. The changes in the combat pill pack (Moxifloxacin (Avelox) and meloxicam), as recommended by the Committee on Tactical Combat Casualty Care (CoTCCC), have been changed in the TME Protocols. (2007)
K. The Fentanyl oral dosage of 800 mcg, as recommended by the CoTCCC has been incorporated into the Pain Protocol. (2007)
L. The change in the IV antibiotics has also been changed to reflect medication availability.
M. When possible, alternate antibiotics or anti-emetics have been listed.
N. For any infection, limit contact and use universal precautions.

Changes for 2008:
A. The Cellulitis and Cutaneous Abscess Protocols were combined.
B. An Altitude Illness Protocol was created, combining AMS, HACE, and HAPE.
C. The Chest Pain was expanded to provide more guidance.
D. The following new protocols were added: Determination of Death and Envenomation.
E. The following medication changes were made: the use of Zithromax was decreased; Keflex, Quinine, Doxycycline and Corticosporin Otic were removed.
F. The following medications were added: Amoxicillin/Clavulanic Acid (Augmentin), Rabeprazole (Aciphex), Septra DS, Salmeterol (Serevent), Rifampin, Toradol, and Benadryl Quikstrips.
G. The Meningitis Disposition typo error from 2007 was corrected.
H. Modifications were made to most of the TMEPS with respect to further refinement in recommendations.
I. The "Clinical Pearls" section was added.

3. **IF HACE SYMPTOMS PRESENT: ATAXIA OR ALTERED MENTAL STATUS**
   A. Dexamethasone (Decadron) 10 mg IV/ IM STAT, then 4 mg IV/ IM q 6 h.
   B. WARNING Individuals with HACE should not be left alone and especially not be allowed to descend alone.
   C. Administer supplemental oxygen, if available.
4. **IF HAPE SYMPTOMS PRESENT: SHORTNESS OF BREATH AT REST**
   A. Nifedipine (Procardia) 10 mg PO/ SL STAT; then 20 mg q 6 h if blood pressure is stable.
   B. WARNING Do not use in HACE; the drop in blood pressure will worsen the symptoms of this disease.
   C. Administer supplemental oxygen, if available.
   D. Consider Salmeterol (Serevent) 2 inhalations q 12 h.
   E. WARNING Minimize patient exertion during descent for HAPE since this will exacerbate symptoms.
5. Treat per *Pain Management Protocol*, but avoid the use of narcotics since they may depress respiratory drive and worsen high altitude illness.
6. Treat per *Nausea and Vomiting Protocol*
7. For signs or symptoms of either HAPE or HACE, if immediate descent is not tactically feasible and a GAMOW bag is available, use a GAMOW bag in 1 hour treatment sessions with bag inflated to a pressure of 2 psi (approximately 100mm Hg) above ambient pressure. Four or five sessions are typical for effective treatment. GAMOW BAG **TREATMENT IS NOT A SUBSTITUTE FOR DESCENT.**
8. Treat per *Dehydration Protocol*.

DISPOSITION:
1. Most cases of AMS are relatively mild, resolve in 2 - 3 days, and do not require evacuation...
2. Avoid vigorous activity for 3 - 5 days.
3. *Priority* evacuation for AMS patients that worsen despite therapy.
4. *Urgent* evacuation for patients with suspected HACE or HAPE.
5. Individuals who have recovered from HACE or HAPE should not re-ascend without medical officer clearance.

Allergic Rhinitis/ Hay Fever/ Cold-Like Symptoms

1.

SIGNS AND SYMPTOMS:
1. Clear nasal drainage
2. Pale, boggy or inflamed nasal mucosa
3. With or without complaints of nasal congestion
4. Watery or red eyes
5. Sneezing
6. Normal temperature

MANAGEMENT:
1. Pseudoephedrine (Sudafed) 60 mg PO q 4 – 6 h.
2. **OR** Diphenhydramine (Benadryl) 25 - 50 mg PO q 6 h if tactically feasible. (Drowsiness is a side effect.)
3. Increase oral fluid intake.

DISPOSITION:
None applicable

Anaphylactic Reaction

SPECIAL CONSIDERATIONS:
1. Acute, widely distributed form of shock which occurs within minutes of exposure to an allergen.
2. Primary causes include insect envenomation, medications, and food allergies.
3. Death can result from airway compromise, inability to ventilate, or cardiovascular collapse.
4. The medic's responsibility is to know if members in the unit have such a condition. Moreover, the medic must also ensure that the member has some sort of anaphylaxis kit and is trained to use it.
5. Consider localized allergic reaction. Anaphylaxis is a life-threatening emergency.

SIGNS AND SYMPTOMS:
1. Wheezing (bronchospasm)
2. Dyspnea
3. Stridor (laryngeal edema)
4. Angioedema
5. Urticaria (Hives)
6. Hypotension
7. Tachycardia

MANAGEMENT:
FOR PATIENTS WITH SIGNS AND SYMPTOMS OF AIRWAY INVOLVEMENT AND/ OR CIRCULATORY COLLAPSE:

1. Epinephrine is the mainstay of therapy.
   A. Administer Epi-Pen
   B. **OR** Epinephrine 0.5 mg (0.5 ml of 1:1000 IM). **DO NOT USE INTRAVENOUSLY.**
   C. Repeat epinephrine q 5 minutes prn.
2. Diphenhydramine (Benadryl) 50 mg IV/ IM/ PO/ SL.
3. IV Normal Saline TKO (saline lock)
4. Dexamethasone (Decadron) 10 mg IV/ IM.
5. Oxygen
6. Pulse oximetry monitoring.
7. Ranitidine (Zantac) 150 mg PO bid.
8. If severe respiratory distress exists, aggressive airway management with bag-valve-mask and airway adjuncts (oral and nasopharyngeal airways). Intubate early if no response to epinephrine.
9. Administer 1 - 2 liters Normal Saline bolus for hypotension; then titrate to establish systolic blood pressure > 90 mm Hg or palpable radial pulse if BP cuff not available.

DISPOSITION:
1. *Urgent* evacuation.

Back Pain

SPECIAL CONSIDERATIONS:
Motor weakness, saddle anesthesia, sensory loss, loss of bowel or bladder control in the setting of back pain is a neurological emergency requiring *Urgent* evacuation.

SIGNS AND SYMPTOMS:
1. Pain may worsen with movement.
2. Pain may radiate into legs.

MANAGEMENT:
1. Treat per *Pain Management Protocol.*
2. Apply cold compress to painful area for 20 - 25 min tid.
3. Trigger point injections with local anesthestic (**if trained**). Lidocaine 1 - 2 cc per trigger point. May repeat qd for 2 days.
4. Consider Diazepam (Valium) 5 - 10 mg IM/ IV/ PO. Repeat once in 6 - 8 h prn.
5. Minimize activity initially, but encourage gradual stretching and return to full mobility as soon as tolerated.
6. If back pain is accompanied by fever and/ or urinary symptoms, treat per *Flank Pain Protocol.*

DISPOSITION:
1. Evacuation is often not required if the back pain responds to therapy.
2. *Routine* evacuation for severe cases not responding to therapy.
3. *Urgent* evacuation for patients with neurological involvement (other than pain) such as:
   A. Weakness
   B. Bowel or bladder dysfunction
   C. Saddle anesthesia

Behavioral Changes
(Includes Psychosis, Depression and Suicidal Impulses)

SPECIAL CONSIDERATIONS:
1. In a tactical setting consider sleep deprivation as a cause.
2. Etiologies are numerous and will often dictate the management; thus mental status changes could be caused by head trauma, metabolic and endocrine disease processes, environmental toxins, infections, combat stress disorder, hypoxia, hyperthermia, hypothermia, pharmaceutical agent use (i.e. mefloquine) or withdrawal.
3. Consider diabetic hypoglycemia as a cause of altered mental status.

SIGNS AND SYMPTOMS:
1. Acute behavioral changes include withdrawal, depression, aggression, confusion, or other behavioral patterns atypical for the individual.
2. Psychosis is an acute change in mental status characterized by altered sensory perceptions that are not congruent with reality:
   A. Auditory and/ or visual hallucinations
   B. May include violent or paranoic behavior
   C. Disorganized speech patterns are common
   D. May include severe withdrawal from associates

MANAGEMENT:
1. Remove all weapons or potential weapons from patient AND treating medic.
2. Check pulse oximetry.
3. Place patient in safe environment under continuous surveillance
4. Give contents of 1 sugar packet sublingually to treat for possible hypoglycemia.
5. Take Temperature
   A. If Temperature is below 95 degrees, treat per *Hypothermia Protocol*
   B. If Temperature is above 101 degrees, treat per *Meningitis Protocol*
   C. If Temperature is above 103 degrees, treat per *Hyperthermia Protocol*

IF MENINGITIS IS SUSPECTED OR IF THERE IS A DECREASE IN MENTAL STATUS, USE VALIUM WITH CAUTION, DUE TO POSSIBLE RESPIRATORY DEPRESSION, HYPOTENSION, AND MASKING OF PROGRESSION OF DISEASE RELATED ALTERED MENTAL STATUS.

6. For acute agitation, combativeness, or violent behavior, restrain patient with at least four individuals and give diazepam (Valium) 10 mg IM. Repeat after 30 minutes prn.
7. If sedated or restrained, maintain constant vigilance for a change in the hemodynamic status or loss of airway reflexes.

DISPOSITION:
Urgent Evacuation

Cellulitis/Cutaneous Abscess

SPECIAL CONSIDERATIONS:
1. Superficial bacterial skin infection
2. Generally begins about 24 hours following a break in the skin, but more serious types of cellulitis may be seen as early as 6 - 8 hours following animal or human bites.
3. If abscess formation occurs, only attempt I&D in the tactical setting IF:
   a The abscess is clearly well demarcated and superficial.
   b Local anesthesia is available.

SIGNS AND SYMPTOMS:
1. Painful erythematous, swollen, tender area.
2. Fever may or may not be present.
3. Typically, erythema spreads without treatment.
4. Rapidly spreading and very painful infections suggest the possibility of necrotizing fasciitis, a life-threatening infection of the deeper tissues that should be treated per *Sepsis/ Septic Shock Protocol.*
5. Fluctuant, tender, well-defined mass indicates abscess formation.

MANAGEMENT:
1. Moxifloxacin (Avelox) 400 mg PO qd for 10 days **OR** Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid
2. **PLUS EITHER** Septra DS 1 tab PO bid **OR** Rifampin 600 mg PO bid for 10 days.
3. Clean and dress wound and surrounding area.
4. Use a pen to mark the demarcation border of the infection and re-evaluate in 24 hours.
5. Limit activity until infection resolves.
6. Add Ertapenem (Invanz) 1 gm IV/ IM qd if worsening at 24 hours or no improvement at 48 hours of treatment.
7. **IF ABSCESS IS PRESENT:**
   A. Incise and drain (I&D) if discomfort is severe:
      1) Establish sterile incision site with Betadine.
      2) Local anesthesia using Lidocaine.
      3) Incise the length of the abscess cavity, but no further.
      4) Incision should be parallel to skin tension lines if possible.
      5) On initial treatment, leave wound open and pack with iodoform or dampened gauze, if available. On subsequent dressings, wick the wound. **DO NOT SUTURE THE SITE.**
   B. Bandage site and perform wound checks daily.
8. Treat per *Pain Management Protocol.*

DISPOSITION:
1. Re-evaluate daily and watch for progression of erythema while on antibiotics.
2. Cellulitis in critical areas (head, neck, hand, joint involvement, perineal) requires *Priority* evacuation.
3. Use of IV antibiotics requires *Priority* evacuation.

Barotrauma

SPECIAL CONSIDERATIONS:
1. Pulmonary Over-Inflation Syndrome (POIS) may occur from ascent from depth if compressed air was used or exposure to blast overpressure.
2. The most commonly affected site is the middle ear and tympanic membrane, but paranasal sinuses and teeth may be affected.
3. Pulmonary barotrauma occurs when compressed air is breathed at depth followed by ascending with a closed airway (i.e. breath-holding), and can cause pneumothorax or arterial gas embolism.

SIGNS AND SYMPTOMS:
1. Pain in the ear(s), sinuses, teeth.
2. Pulmonary Over-inflation Syndrome may present with chest pain, dyspnea, mediastinal emphysema, subcutaneous emphysema, pneumothorax and arterial gas emoolism (AGE).

MANAGEMENT:
1. Middle ear
   A. If a tympanic membrane rupture is present or suspected, protect the ear from water or further trauma.
   B. Rx Moxifloxacin (Avelox) 400 mg PO qd if contamination is suspected.
   C. Rx Pseudoephedrine (Sudafed) 60 mg PO q 4 - 6 h prn
   D. **DO NOT** use ear drops.
   E. Refer to higher level of care when feasible.
2. Paranasal Sinus barotraumas.
   Rx Pseudoephedrine (Sudafed) 60 mg PO q 4 - 6 h prn
3. Pulmonary barotraumas to include subcutaneous emphysema:
   A. If no respiratory distress, monitor patient closely. Use pulse oximetry if available
   B. If respiratory distress occurs – Treat per *Spontaneous Pneumothorax Protocol.*
4. Oxygen. If arterial gas embolus is suspected, administer 100% oxygen and 1 liter Normal Saline IV 150 cc/ hour. *Urgent* evacuation to recompression chamber. If an unpressurized airframe is used, avoid altitude exposure greater than 1000 ft.
5. Treat per *Pain Management Protocol.* (Avoid narcotics if recompression is anticipated.)

DISPOSITION
1. *Urgent* Evacuation for cerebral arterial gas embolus or pneumothorax with respiratory disiress,
2. Mild to moderate middle ear, sinus, or pulmonary barotraumas without respiratory distress, observation and *Routine* evacuation.
3. *Routine* evacuation for consultation for Tympanic Membrane rupture.

Asthma (Reactive Airway Disease)

SPECIAL CONSIDERATIONS:
Other disorders to consider: anaphylactic reaction, spontaneous pneumothorax, HAPE, and pulmonary embolism.

SIGNS AND SYMPTOMS:
1. Wheezing
2. Dyspnea
3. Difficulty with speaking in full sentences.

MANAGEMENT:
1. Rx Albuterol (Ventolin) (metered dose inhaler – works best when used with spacer), 2 - 3 puffs q 5 min, repeat up to 3 times.
2. Rx **IF THERE IS NO RESPONSE TO ALBUTEROL** (Ventolin), Epinephrine 0.5 mg (0.5 ml of 1:1000 solution) IM **(DO NOT INJECT INTRAVENOUSLY)**. May repeat one dose in 5 - 10 min.
3. IV access with saline lock.
4. Rx Dexamethasone (Decadron) 10 mg IV/ IM.
5. Oxygen.
6. Pulse oximetry monitoring.
7. If there is fever, pleuritic chest pain and productive cough, treat per *Bronchitis/Pneumonia* Protocol.

DISPOSITION:
1. *Urgent* evacuation if no response to treatment.
2. If the patient responds to management, observe for 4 hours.
   A. Return To Duty if there is no wheezing or dyspnea and normal oxygen saturation. Continue Albuterol (Ventolin) (2 puffs q 6 h) and re-evaluate in 24 hours. Continue Decadron 10 mg IM qd for 4 days.
   B. *Urgent* evacuation if symptoms persist.

Chest Pain

SPECIAL CONSIDERATIONS:
1. This Protocol assumes no access to ACLS medications or monitoring/ defibrillation equipment.
2. Since the ATP does not have access in the field to tests required to accurately determine the etiology of chest pain, early and rapid evacuation should be considered if tactically feasible. High risk etiologies include myocardial infarction (MI), unstable angina, pulmonary embolus, pericarditis, spontaneous pneumothorax, and esophageal rupture.

SIGNS AND SYMPTOMS - CARDIAC:
1. The presence of one or more of the following risk factors increases the likelihood of coronary artery disease: smoking, diabetes, hypertension, elevated cholesterol, obesity, family history of MI at a young age, and patient age over 40.
2. The following are signs and symptoms suspicious for myocardial infarction as the etiology for chest pain:
   A. Substernal chest pain that may radiate to the left arm, neck, or jaw.
   B. Pain described as pressure or squeezing.
   C. Pain exacerbated with exertion and relieved with rest.
   D. Associated dyspnea, diaphoresis (sweating), nausea, lightheadedness, or syncope.
   E. Tachycardia, irregular heart rhythm, or severe bradycardia.
   F. Bilateral rales/ crackles in the lungs on auscultation.
   G. Significant hypertension or hypotension.

MANAGEMENT:
1. Rx Aspirin (ASA) 325 mg PO (non-enteric coated) – chew to speed absorption.
2. IV access with saline lock. Administer 250 - 500 cc Normal Saline boluses as needed to correct hypotension with frequent reassessmeet.
3. Rx Morphine sulfate 5 mg IV initially, then 2 mg q 5 - 15 mn prn for pain unless hypotension is present.
4. Oxygen.
5. Pulse oximetry monitoring.
6. Avoid all exertion. Allow the patient to rest in a position of comfort. Frequently reassess the patient including hemodynamic status.

OTHER ETIOLOGIES OF CHEST PAIN:
1. The following signs and symptoms **MAY** suggest a GI etiology such as gastroesophageal reflux disease (GERD): dyspepsia, dysphagia, burning quality to chest pain, exacerbated by laying flat, foul or brackish taste in mouth. A trial of antacids or Ranitidine (Zantac) 150 mg PO bid may be useful if evacuation will be delayed.
2. Rx Severe chest pain following forceful vomiting may indicate esophageal rupture. Administer IV Normal Saline 150 cc/hr and Ertapenem (Invanz) 1gm IV and evacuate as *Urgent.*
3. Rx Sudden onset of pleuritic chest pain with dyspnea may indicate pulmonary embolus or spontaneous pneumothorax. Auscultate the lungs; unilaterally diminished breath sounds suggests pneumothorax which may require decompression. Administer oxygen, establish IV access, administer Aspirin 325 mg PO for suspected PE, and evacuate as *Urgent.*

Bronchitis/ Pneumonia

SPECIAL CONSIDERATIONS:
1. Consider high altitude pulmonary edema (HAPE) at high altitudes.
2. Consider pulmonary embolism (PE) and pneumothorax (fever and productive cough are atypical for these).

SIGNS AND SYMPTOMS:
1. Fever
2. Productive cough, especially with dark yellow, red tinged, or greenish sputum
3. Chest pain
4. Rales may be present and breath sounds may be decreased over the affected lung.
5. Dyspnea may be present in severe cases.

MANAGEMENT:
1. Rx Azithromycin (Zithromax) 500 mg PO first dose then 250 mg qd for 4 days **OR** Moxifloxacin (Avelox) 400 mg PO qd for 7 days.
2. Rx If unable to tolerate PO intake, Ertapenem (Invanz) 1 gm IV/ IM **OR** Ceftriaxone (Rocephin) 1 gm IV qd.
3. Rx Albuterol (Ventolin) by metered dose inhaler 2 to 4 puffs q 4 – 6 h.
4. Treat per *Pain Management Protocol.*
5. Pulse oximetry monitoring.
6. Oxygen prn.
7. If at high altitude, see *Altitude Illness Protocol* and treat for HAPE.

DISPOSITION:
1. *Urgent* evacuation for severe dysonea.
2. *Priority* evacuation otherwise.

4. ℞ The following signs and symptoms **MAY** suggest a musculoskeletal etiology: pain isolated to a specific muscle or costochondral joint pain exacerbated with certain types of movements, non-central chest pain reproduced upon palpation. A trial of NSAIDs such as Ibuprofen (Motrin) 800 mg PO tid may be useful if evacuation will be delayed.

5. Chest pain with gradual onset and exacerbated by deep inspiration and accompanied by fever and productive cough **MAY** indicate lower respiratory tract infection. Consider treatment per *Bronchitis/ Pneumonia Protocol.*

DISPOSITION:
1. *Urgent* evacuation.
2. Evacuation platform should included ACLS certified medical personnel and the equipment, supplies, and medications necessary for ACLS care.
3. Do not delay evacuation if unsure of chest pain etiology. Strongly consider early contact with a medical officer or medical treatment facility for consultation. Frequently reassess the patient suspected of a non-cardiac etiology to ensure stability and accuracy of the diagnosis.

Contact Dermatitis

SPECIAL CONSIDERATIONS:
1. Insect bite(s) as a differential diagnosis - also accompanied by itching, but with discrete red papular lesions(s).
2. Cellulitis as a differential diagnosis - bright red, painful, non-pruritic, and typically becomes steadily worse without antibiotics.
3. Fungal infection as a differential diagnosis – not always pruritic; infection site(s) slowly enlarge without therapy.
4. Effects are particularly dangerous if contact in or around the eyes.

SIGNS AND SYMPTOMS:
1. Acute onset
2. Skin erythema
3. Intense itching (pruritis)
4. Edema, papules, vesicles, bullae, discharge, and/ or crusting may be visible.

Management:
1. Change clothes when possible and bag original clothes until they can be machine washed.
2. Wash area with mild soap and water.
3. Apply cold wet compress to affected area to help decrease itching.
4. ℞ If available, apply 1% hydrocortisone cream to the affected area and cover with a dry dressing to help prevent spread to other parts of the body or clothing.
5. ℞ In severe cases, Dexamethasone (Decadron) 10 mg IM qd for 5 days.
6. ℞ Give Diphenhydramine (Benadryl) 25 - 50 mg PO / SL q 6 h prn itching, if tactically feasible. (Sedation may occur.)

DISPOSITION:
1. Evacuation not needed for mild cases.
2. *Priority* evacuation for severe symptoms: intra-oral or eye involvement, or >50% body surface area (BSA) involvement.
3. Monitor for secondary infection; treat per *Cellulitis Protocol* if suspected on the basis of increasing pain, redness, or purulent crusting.

Cough

SPECIAL CONSIDERATIONS:
Usually viral etiology, but may also occur with high altitude pulmonary edema (HAPE) and pneumonia.

SIGNS AND SYMPTOMS:
1. Cough with or without scant sputum production.
2. Often accompanied by other signs and symptoms of upper respiratory tract infection (i.e. sore throat and rhinorrhea).

MANAGEMENT
1. Treat symptomatically (using Cepacol lozenges or other appropriate medications) when the findings on history and physical do not suggest pneumonia.
2. ℞ Albuterol (Ventolin) Metered Dose Inhaler 3-4 puffs q 4 h may also help control coughing.
3. Encourage PO hydration.
4. Avoid respiratory irritants (smoke, aerosols, etc).
5. If associated with URI symptoms, treat per *Allergic Rhinitis Protocol.*
6. If at altitude, pull balaclava over nose and breathe through it for warm humidified air.

DISPOSITION:
1. Evacuation is usually not required.
2. If accompanied by fever, chest pain, dyspnea, and/ or colored sputum (green, dark yellow or red-tinged), treat per *Bronchitis/ Pneumonia Protocol.*

Dehydration

SPECIAL CONSIDERATIONS:
1. Troops in the field are often chronically dehydrated.
2. Prolonged missions, acute diarrhea (gastroenteritis), viral/ bacterial infections, and environmental factors (heat stress or strenuous activity) all may exacerbate dehydration.
3. May also occur in cold or high altitude environments.

SIGNS AND SYMPTOMS:
1. Lightheadedness (worse with sudden standing)
2. Mild headache (especially in the morning)
3. Dry mucosa
4. Decreased urinary frequency and volume
5. Dark urine
6. Degradation in performance

MANAGEMENT:
1. Increase oral fluids if tolerated.
   A. If available, use carbohydrate/ electrolyte drink mixes for fluid replacement diluted to a 1:4 solution.
   B. Avoid fluids containing caffeine

2. If unable to tolerate PO fluids, use an initial bolus of 1 liter Normal Saline IV, followed by repeat attempt at PO hydration. If still unable to tolerate PO hydration, repeat 1 liter bolus of Normal Saline IV. If Normal Saline is not available, use available IV fluids.

DISPOSITION:
1. Monitor closely for recurrence of dehydration.
2. *Priority* evacuation if dehydration persists after treatment.

Corneal Abrasions/ Corneal Ulcers/ Conjunctivitis

SPECIAL CONSIDERATIONS:
1. Contact lens corneal abrasions are at a high risk for development of a corneal ulcer. They should not be patched and require more intensive antibiotic therapy.
2. Consider LASIK Flap dislocation for anyone that sustains eye trauma after LASIK surgery.

SIGNS AND SYMPTOMS:
1. History of eye trauma or contact lens wear
2. Eye pain – typically becoming worse over several days
3. Eye redness
4. Tearing
5. Blurred vision
6. Light sensitivity
7. Fluorescein stain positive
8. White or gray spot on cornea for corneal ulcer (usually need tangential penlight exam to see)
9. For sudden onset of eye pain after trauma in a patient with LASIK surgery, consider LASIK flap dislocation

MANAGEMENT:
1. Remove contact lens if worn.
2. ℞ Tetracaine 0.5%, 2 drop in the affected eye for pain relief. Do not dispense to patient.
3. Check for foreign body to include eyelid eversion. Irrigate with Normal Saline prn.
4. ℞ Gatifloxacin (Zymar) 0.3% drops – 1 drop in the affected eye qid while awake.
5. Treat per *Pain Management Protocol.*
6. Reduce light exposure, stay indoors if possible - sunglasses if not possible.
7. For corneal abrasions: monitor daily for worsening signs and symptoms of a corneal ulcer (increasing pain and development of a white or grey spot at abrasion site). **DO NOT PATCH.**
8. Assess using fluorescein drops daily—abrasions should get progressively smaller. Continue antibiotic drops until 24 hours after cornea becomes fluorescein negative (no bright yellow spot).
9. **IF CORNEAL ULCER PRESENT**: Increase Gatifloxacin (Zymar) drops to q 2 h and *Priority* evacuation.

DISPOSITION:
1. Evacuation may not be needed for corneal abrasion if improving with treatment.
2. *Priority* evacuation for Corneal Ulcer
3. *Urgent* evacuation for LASIK flap dislocation.

Constipation/ Fecal Impaction

SPECIAL CONSIDERATIONS:
1. Differential diagnosis include acute appendicitis, volvulus, ruptured diverticulum, bowel obstruction, pancreatitis or parasitic infections..
2. Acute onset, severe pain, point tenderness, and fever indicate etiologies other than constpation or fecal impaction.

SIGNS AND SYMPTOMS:
1. Recent history of infrequent passage of hard, dry stools or straining during defecation.
2. Abdominal pain, which is typically poorly localized with cramping.
3. If pain becomes severe and is associated with nausea/ vomiting and complete lack of flatus or stools, consider a bowel obstruction.

MANAGEMENT:
1. ℞ Bisacodyl (Dulcolax) 10 mg PO tid prn.
2. Treat per *Pain Protocol* (***no narcotics – they cause constipation***).
3. For impacted stool or no relief with above measures, give Normal Saline enema 500 ml via lubricated IV tubing. (Pt should retain solution for two minutes before evacuating contents)
4. If above measures fail, perform digital rectal examination to check for fecal impaction. If fecal impaction is present, perform digital disimpaction, if trained.
5. Increase PO fluid intake.
6. Increase fiber (fruits, bran, and vegetables) in diet if possible.
7. If severe pain, rigid board-like abdomen, fever, and/ or rebound tenderness develop, or moderate to large amounts of blood are present in the stool, then treat per *Abdominal Pain Protocol.*

DISPOSITION:
1. Evacuation is usually not required for this condition.
2. *Routine* evacuation if no response to therapy.

Dental Pain

SPECIAL CONSIDERATIONS:
Most common causes are deep decay, fractures of tooth crown/root, acute periapical (root end) abscesses, or pericornitis (pain associated with an impacted wisdom tooth).

SIGNS AND SYMPTOMS:
1. Intermittent or continuous pain (usually intense), heat or cold sensitivity
2. Visibly broken/ cracked tooth
3. Severe pain on percussion
4. Intraoral swelling/ abscess
5. Partially erupted wisdom tooth

MANAGEMENT:
1. Treat per *Pain Management Protocol.*
2. ℞ If signs and symptoms of infection are present, administer Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid for 7 days **OR** Ceftriaxone (Rocephin) 1 gm IV/ IM qd x 7 days.
3. If gums appear swollen and red, encourage increased oral hygiene and warm saline rinses bid.

DISPOSITION
1. Evacuation usually not necessary
2. *Routine* evacuation if not responding to therapy or requiring IV antibiotics

Deep Venous Thrombosis (DVT)

SPECIAL CONSIDERATIONS:
2. Risk factors include trauma, long airplane rides, high altitude exposure, and genetic predisposition.
3. May be confused with a ruptured Baker's cyst in a tactical setting.

SIGNS AND SYMPTOMS:
1. Asymmetric pain and swelling in a lower extremity (often the calf muscles).
2. Warmth over affected area.
3. Increased pain in the affected calf muscles with dorsiflexion of the foot.

MANAGEMENT:
1. Monitor patient with pulse oximetry (sudden decrease in oxygen saturation suggests a pulmonary embolism.)
2. ℞ ASA 325 mg PO.
3. For associated respiratory distress consider Pulmonary Embolus and treat per *Chest Pain Protocol.*
4. Immobilize the affected extremity.

DISPOSITION:
1. *Priority* evacuation if no respiratory distress or chest pain.
2. *Urgent* evacuation if respiratory distress or chest pain are present

Determination of Death / Discontinuing Resuscitation

SPECIAL CONSIDERATIONS:
1. Immediate determination of death is appropriate in a trauma patient without pulse or respirations in the setting of multiple casualties when resuscitative efforts would hinder the care of more viable patients.
2. Patients that are struck by lightening, have hypothermia, cold-water drowning, or intermittent pulses may require extended cardiopulmonary resuscitation
3. It is assumed that personnel do not have access to ECG, or other monitoring equipment to evaluate heart rhythm, or deliver countershocks.

SIGNS AND SYMPTOMS:
1. Obvious Death - Persons who, in addition to absence of respiration, cardiac activity and neurologic reflexes have one or more of the following:
   A. Decapitation.
   B. Massive crushing and/or penetrating injury with evisceration of the heart, lung or brain
   C. Incineration.
   D. Decomposition of body tissue.
   E. Rigor mortis or post-mortem lividity.

MANAGEMENT:
1. In the setting of obvious death, resuscitative efforts should not be initiated.
2. If resuscitative efforts have been initiated, discontinuation should be considered
   A. After 15 minutes (if the cause is unknown or due to trauma) or after 30 minutes (when the cause is due to hypothermia, electrical injury, lightning strike, cold water drowning, or other cause known to require a prolonged resuscitative effort) when:
      1) There is persistent absence of pulse and respirations despite assuring airway and ventilation as well as administration of resuscitative fluids and medications.
      2) Pupils are fixed and dilated.
      3) No response to deep pain above or below the clavicles
      4) Absence of end-tidal CO2, (either colormetric or wave form) from a correctly placed endotracheal tube or alternative airway.
3. If there is any question as to the discontinuation of resuscitative efforts, then a medical officer should be contacted for guidance.

DISPOSITION
1. Evacuation of the remains when tactically feasible.
2. In the event of return of spontaneous circulation, *Urgent* Evacuation.

Envenomation

SPECIAL CONSIDERATIONS:
1. Toxic envenomations from a variety of sources, including bees/ wasps, scorpions, jellyfish or snakes, are all capable of causing life-threatening anaphylaxis.
2. Only a minority of snakebites from toxic snakes involve severe, life-threatening envenomations.
3. Incision, excision, electrical shock, tourniquet, oral suction and cryotherapy should **NOT** be performed to treat snakebites.
4. Suction device is not effective for removing snake venom from a wound; if previously placed it should be left in place until patient reaches higher level of care.

SIGNS AND SYMPTOMS:
General:
1. Pain
2. Swelling/ edema
3. Puncture site(s) from stinger or fangs.

Hemotoxins:
1. Sudden pain
2. Erythema
3. Ecchymosis
4. Hemorrhagic bullae
5. Bleeding from site
6. Metallic taste
7. Hypotension/ shock

Neurotoxins:
1. Cranial Nerve dysfunction (i.e. ptosis)
2. Paresthesias
3. Fasciculations
4. Weakness
5. Altered mental status

MANAGEMENT:
1. If signs and symptoms of anaphylaxis present, treat per *Anaphylaxis Protocol*
2. Diphenhydramine (Benadry) 25 mg PO / SL / IV.
3. Apply cold packs topically.
4. Treat per *Pain Management Protocol*
5. If toxic snakebite suspected (significant pain, edema, evidence of coagulopathy or neurologic signs/symptoms):
   A. Minimize activity and place on a litter
   B. Remove all constricting clothing and jewelry
   C. Start IV in unaffected extremity
   D. Monitor and record vital signs and extent of edema every 15 - 30 minutes
   E. Immobilize affected limb in neutral position and wrap affected extremity in an elastic bandage beginning proximally and progressing distally, or in an air splint.

DISPOSITION:
1. *Urgent* evacuation if treated for anaphylaxis.
2. *Urgent* evacuation if evidence of severe envenomation (systemic signs and symptoms, edema reaching root of limb).
3. Evacuation not required if signs and symptoms do not indicate anaphylaxis or severe envenomation after four hours of observation.

Flank Pain (Includes Renal Colic, Pyelonephritis, Kidney Stones)

SPECIAL CONSIDERATIONS:
1. May proceed to life-threatening systemic infection.
2. May be associated with testicular torsion. Ensure normal external GU exam first.

SIGNS AND SYMPTOMS:
1. Urinary Tract Infection
   A. Dysuria
   B. Polyuria
2. Back pain
3. Flank pain
4. Nausea/ vomiting
5. Costovertebral angle tenderness
6. Fever
7. Hematuria

MANAGEMENT:
1. Treat per *Pain Management Protocol.*
2. Treat per *Nausea and Vomiting Protocol.*
3. Treat per *Dehydration Protocol.*
4. If fever present:
   A. Moxifloxacin (Avelox) 400 mg PO qd **OR** Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid
   B. Ertapenem (Invanz) 1 gm IV/ IM **OR** Ceftriaxone (Rocephin) 1 gm bid IV/ IM if unable to tolerate PO or unresponsive to oral treatment.

DISPOSITION:
Priority evacuation

Gastroenteritis

SPECIAL CONSIDERATIONS:
1. Etiology of acute diarrhea is often viral, but bacterial or parasitic infections are common in the deployed environment.
2. Emerging fluoroquinolone resistance among enteropathogenic E. Coli and Campylobacter makes azithromycin the new primary agent for therapy.
3. Consider antibiotic-related diarrhea if on antibiotics at onset.
4. Consider parasitic infection if symptoms persist for 3 or more days.
5. Must rule out malaria if fever and GI symptoms exist in a malarious area.

SIGNS AND SYMPTOMS:
1. Acute onset of nausea, vomiting, and diarrhea
2. Fever may or may not be present.

MANAGEMENT:
1. Loperamide (Imodium) 4 mg PO initially, then 2 mg PO after every loose bowel movement with a maximum dose of 16 mg per day.
2. Do not use loperamide in the presence of fever or bloody stools.
3. Azithromycin (Zithromax) 500 mg PO qd for 3 days or Moxifloxacin (Avelox) 400 mg PO qd for 3 days.
4. Treat per *Nausea and Vomiting Protocol.*
5. Treat per *Dehydration Protocol.*
6. If diarrhea persists after 3 days of therapy, give Metronidazole (Flagyl) 500 mg PO tid for 10 days.

DISPOSITION:
1. *Urgent* evacuation if grossly bloody stools or circulatory compromise
2. *Priority* evacuation if dehydration occurs despite above therapy.
3. *Routine* evacuation if diarrhea persists after 3 days of therapy,

Epistaxis

SPECIAL CONSIDERATIONS:
1. Common at high altitude and in desert environments due to mucosal drying.
2. May be anterior or posterior
3. posterior epistaxis may be difficult to stop and may cause respiratory distress due to blood flowing into the airway. This type of epistaxis is uncommon in young healthy adults. It is more commonly seen in older, hypertensive patients.

SIGNS AND SYMPTOMS:
1. Nosebleed
2. Often previous history of nosebleeds

MANAGEMENT:

1. Rx Oxymetazoline (Afrin) nasal spray 2 squirts in each nostril then pinch anterior area of nose firmly for full 10 minutes **WITHOUT RELEASING PRESSURE**.
2. Rx If bleeding continues, insert Afrin-soaked nasal sponge bilaterally along floor of nasal cavity. Continue pinching the nose just below the nasal bridge, for 10 minutes.
3. Rx Once bleeding has stopped (after 30 minutes), remove the Afrin nasal sponge and apply Bactroban to the affected nostril bid - tid.
4. Clear clots and other material from airway (if required) by having patient sit up, lean forward, and blow his/her nose.
5. Normal Saline IV TKO prn (based upon severity of nose bleed)
6. **IF BLEEDING CONTINUES**
   A. Prepare 14 French Foley catheter. (Tip is cut to minimize distal irritation.)
   B. Advance catheter along floor of nose (straight in) until visible in mouth.
   C. Fill balloon with 5 cc of normal saline.
   D. Retract catheter until well opposed to posterior nasopharynx.
   E. Add an additional 5 cc of Normal Saline to balloon.
   F. Clamp in place without using excessive anterior pressure.
   G. Rx Moxifloxacin (Avelox) 400 mg PO qd until packing is removed.
   H. **LEAVE BALLOON AND PACKING IN PLACE FOR 72 HOURS.**

DISPOSITION:
1. Evacuation may not be required if epistaxis is mild, anterior, and resolves with treatment.
2. *Priority* evacuation for severe epistaxis not responding to therapy or if Foley catheter is used.

Ear Infection (Includes Otitis Media and Otitis Externa)

SPECIAL CONSIDERATIONS:
1. Infection of the middle or external ear may be viral or bacterial in etiology.
2. Increased pressure in the middle ear may cause intense pain and may result in rupture of the tympanic membrane (characterized by sudden decrease in pain and drainage from ear canal.)

SIGNS AND SYMPTOMS:
1. Ear pain

MANAGEMENT:

1. Rx Moxifloxacin (Avelox) 400 mg PO qd for 10 days **OR** Azithromycin. (Z-pac) 500 mg po initially followed by 250 mg po qd x 4 days
2. Treat per *Pain Management Protocol.*
3. Rx If external canal exudate is present, Gatifloxacin (Zymar) drops, 5 drops tid - qid until symptoms remain resolved for 48 hours.
4. If water immersion is anticipated, use ear plugs to prevent cold water entry which will cause vertigo.

DISPOSITION:
1. For uncomplicated cases, no evacuation is necessary.
2. *Routine* evacuation for complicated cases not responding to therapy

Headache

SPECIAL CONSIDERATIONS:
1. The number differential diagnosis for the acute headache is large and includes disorders hat encompass the spectrum of minor to severe underlying disorders.
2. Consider altitude sickness, intracranial bleeds, meningitis anc carbon monoxide poisoning.

SIGNS AND SYMPTOMS:
1. If the headache is atypical for the patient, check elevated blood pressure (if possible), fever, neck rigidity, visual symptoms, mental status changes, neurological weakness, and hydration.

MANAGEMENT:
1. If the patient has fever, nuchal rigidity, photophobia, petechial rash, or nausea and vomiting, treat per *Meningitis Protocol.*
2. Treat per *Pain Management Protocol.*
3. If headache is accompanied by nausea and/ or vomiting, treat per *Nausea and Vomiting Protocol.*
4. Oxygen if other therapies are ineffective.
5. If dehydration is suspected, treat per *Dehydration Protocol.*
6. If at altitude, treat per *Altitude Illness Protocol.*

DISPOSITION:
1. Evacuation is usually not required if the headache responds to therapy.
2. Acute headache in the presence of fever, severe nausea and vomiting, mental status changes, focal neurological signs, or preceding seizures, loss of consciousness, or a history of "it's the worst headache in my life" constitutes a true emergency and requires *Urgent* evacuation. Also consider *Urgent* evacuation for anyone without a prior history of headaches if their pain is severe.

Fungal Skin Infection

SPECIAL CONSIDERATIONS:
1. Insect bite(s), eczema, and contact dermatitis as differential diagnosis - are also accompanied by itching, but have discrete red papular lesion(s).
2. Cellulitis as a differential diagnosis - is bright red, painful, not pruritic, and typically becomes steadily worse without antibiotics.
3. Acute contact dermatitis as a differential diagnosis - is diagnosed by intense itching, skin erythema and a history of environmental exposure.

SIGNS AND SYMPTOMS:
1. Skin erythema
2. Pruritis is variable
3. Slow spreading
4. Borders of the erythematous plaques are generally irregular and/ or circumferential.
5. Often initially diagnosed as contact dermatitis but gets worse with use of steroids (those without antifungal agent added).
6. Most common sites of infection are feet. ("athlete's foot" or tinea pedis), groin ("jock itch" or tinea cruris), scalp (tinea capitus), and torso or extremities ("ring worm" or tinea corporis).

MANAGEMENT:

1. Rx Use fluconazole (Diflucan) 150 mg PO once per week for four weeks (total of four doses in the absence of a cure, or 1 dose after clinically clear). If not resolved after 4 weeks, refer to Physician.
2. Clean rigorously with mild soap without injuring the skin.

DISPOSITION
Evacuation is usually not required for this condition.

Head and Neck Infection
(Includes Epiglottitis and Peritonsillar Abscess)

SPECIAL CONSIDERATIONS:
1. Most common causes in young healthy patients include odontogenic (dental origin) cutaneous sources or post-injury (wound or fracture) infections.
2. These infections may progress rapidly from minor to airway/life-threatening.

SIGNS AND SYMPTOMS:
1. Pain, fever and malaise
2. Intra/extra oral swelling
3. Difficulty opening mouth
4. Pus
5. Difficulty swallowing
6. Airway compromise

MANAGEMENT:

1. Manage airway and breathing first!
2. Place patient in position of comfort
3. Monitor pulse oximetry
4. Oxygen prn
5. IV access
6. Rx Amoxicillin/Clavulanic Acid (Augmentin) 875 mg PO bid for 7 days **OR** Rocephin 1 gm IV/ IM qd for 7 days.
7. Treat per *Pain Management Protocol.*
8. Rx Consider Dexamethasone (Decadron) 10 mg IV for any airway involvement.
9. **Avoid airway manipulation unless absolutely necessary.**
10. If airway intervention is indicated, make a single attempt at intubation if feasible. (The epiglottis is not swollen to the extent that visualizaton of cords is not possible.)
11. If intubation is attempted, do not make any repeat attempts. If intubation has failed, the next step is a cricothyroidotomy (using lidocaine if conscious).
12. [redacted] Have cricothyroidotomy kit available BEFORE ATTEMPTING INTUBATION.

DISPOSITION
1. ***Urgent* evacuation if any airway compromise is present-.**
2. *Routine* evacuation if no airway compromise and the infection is not widespread.

Hyperthermia

SPECIAL CONSIDERATIONS:
1. Heat stroke is a life-threatening effect of hyperthermia and characterized by altered mental status and elevated core temperature.
2. Mild and moderate hyperthermia can often be treated and the casualty returned to duty.
3. Dehydration often accompanies hyperthermia.
4. Suggest that colloids (Hextend) be avoided in favor of crystalloids.

SIGNS AND SYMPTOMS:
1. Altered mental status
2. Increased core temperature

MANAGEMENT:
1. Place in cool area and remove clothing, spray with water, fan patient. Place ice packs on sides of neck, in armpits, and in groin area. If available, place hands and feet into buckets of ice water. Apply external ice until core temperature reaches 39 degrees C (101 degrees F). **AVOID SHIVERING WHICH WILL RAISE THE PATIENT'S CORE BODY TEMPERATURE!!**
2. Rx Give 1 tube of Glucose
3. Treat per *Dehydration Protocol.*
4. Treat per *Nausea and Vomiting Protocol.*
5. Rx If unable to control shivering, give diazepam (Valium) 5 mg IV/ IM.

DISPOSITION:
1. Mild to moderate cases can be treated and not evacuated.
2. *Routine* evacuation for heat stroke casualties.
3. *Priority* evacuation for severe hyperthermia.

Ingrown Toenail

SPECIAL CONSIDERATIONS:
1. Consider toenail removal only if cose follow-up is possible.
2. **DO NOT USE** local anesthetic wih epinephrine.
3. If complete nail removal is indicatid, evacuate patient.

SIGNS AND SYMPTOMS:
1. Pressure over the nail margins incnases the pain.
2. Inflamnatory or infectious responses are generally localized.
3. Partial or complete nail removal is tpically indicated in chronic nflammation/ infection, with severe pain of both medial and lateral nail folds, especially if the condition has lasted one month or greater.

MANAGEMENT:

1. Partial/complete toenail removal:
   A. Clean the site with soap, water and betadine.
   B. Rx Perform a digital block at the base of the toe using lidocaine 1% **WITHOUT EPINEPHRINE.**
   C. Apply constricting band to base of toe.
   D. Remove the lateral quarter of the nail toward the cuticle (orwhole nail), using a sharp scissors with upward pressure.
   E. Bluntly dissect the nail from the underlying matrix with a fla object, elevate the nail and grasp it with a hemostat or forceps, renoving the piece.
   F. Clean the nail grooves to remore any debris.
   G. Remove constricting band.
   H. Coetrol bleeding with direct pressure and dry the underlying nail bed.
2. Rx Mupirocin (Bactroban) 2% iintment to exposed nail bed.
3. Dress with a non-adherent dressing and dry bandage.
4. Instruct the patient to wash the area daily.
5. Recheck wound and change dressing daily.
6. Instruct patient to wear less constricting shoes and to trim theirnails straight across. Optimal care is to limit walking and marching for 3 - 5 days.
7. Treat per *Pain Management Protocol.*
8. Rx Systemic antibiotics are typically not needed in these procedures; however consider using Moxifloxacin (Avelox) 400 mg PO qd for 10 days, **OR** Amoxicilin/Clavulanic Acid (Augmentin) 875 mg PO bid for 10 days if an infection is suspected (increasing pain, redness, and swelling).

DISPOSITION:
1. Evacuation is usually not required f the condition responds to herapy.
2. The nail bed may have serous dranage for several weeks, butwill usually heal within 2 - 4 weeks.

Loss of Consciousness (without Seizures)

SPECIAL CONSIDERATIONS:
1. The most common cause of loss of consciousness in healthy adults is orthostatic hypotension (associated with sudden standing) or vasovagal syncope (associated with sudden adverse stimulus – injections are a common cause).
2. Also consider hypoglycemia, anaphylactic reaction, medication, recreational drug use, head trauma, hyperthermia, hypothermia, myocardial infarction, lightning strikes, and intracranial bleeding.

SIGNS AND SYMPTOMS:
Unconsciousness

MANAGEMENT:
1. If no respirations or pulse, follow BLS guidelines.
2. Management of orthostatic hypotension and vasovagal syncope is accomplished by placing the patient in a supine position, ensuring the airway is open. Patients experiencing these two disorders should regain consciousness within a few seconds. If they don't, consider other etiologies and proceed to the steps below.
3. Rx Place either 1 tube Glutose (oral glucose gel) or contents of one packet of sugar in buccal mucosal region.
4. IV access.
5. Rx Naloxone (Narcan) 0.8 mg IV/ IM. Repeat q 2 – 3 min prn to max dose of 10 mg.
6. If no response treat per appropriate Protocol per Special Considerations #2.
7. Pulse oximetry monitoring.
8. Oxygen.

DISPOSITION:
1. *Urgent* evacuation, unless loss of consciousness due to orthostatic hypotension or vasovagal hypotension.
2. The evacuation package should include personnel certified in Advanced Cardiac Life Support (ACLS), with equipment, supplies and medications necessary for ACLS care.

Hypothermia

SPECIAL CONSIDERATIONS:
1. Cardiac resuscitation should only be attempted during active rewarming. Follow ACLS Hypothermia Protocols.
2. It is not uncommon for core temperature to continue to drop after removal from cold environment.

SIGNS AND SYMPTOMS:
1. Altered mental status
2. Pale, cool skin
3. Weak pulses
4. Irregular heartbeat

MANAGEMENT:
1. Move to warm environment, remove any wet clothing and begin rewarming (Blizzard Blanket, Ranger Rescue Wrap, etc.)
2. If unconscious, avoid sudden movements and rough handling.
3. If responsive, administer warm fluids by mouth.
4. If IV fluids are indicated, administer IV fluids warmed to 40 degrees C (101.6 degrees F)

DISPOSITION:
1. Mild to moderate cases can be treated and not evacuated.
2. *Urgent* evacuation for severe hypothermia cases a facility capable of active rewarming and resuscitation.
3. *Priority* evacuation for cases of frostbite.

HIV Post Exposure Prophylaxis

SPECIAL CONSIDERATIONS:
1. Initiaton of the highly active antiretroviral therapy (HAART) must occur ASAP! Ideally, this is less than 2 hours after exposure, but still has some effect up to 72 hours after exposure.
2. Antiretrovirals have a significant side effect profile, including nausea, vomiting and diarrhea.
3. Obtain a sample of the source's blood for HIV testing, if applicable.

HIGH RISK EXPOSURES
1. Percutaneous injury (Needlestick or other contaminated penetrating injury).
2. Contact between body fluids and mucous membranes or non-intact skin.
3. Prolonged contact between body fluids and intact skin.
4. Unprotected sexual intercourse with a high risk individual.

MANAGEMENT:
1. Wash area with soap and water to clean area and minimize exposure.
2. Rx initiate antiretroviral triple therapy (recommend Combivir® [Lamivudine and Zidovudine] 1 tablet PO bid **AND** Viracept® [Nelfinavir] 1250 mg PO bid) ASAP!
3. Do not use alcoholic beverages after Combivir administration.
4. Treat per *Nausea and Vomiting Protocol*
5. Maintain hydration and nutrition status.

DISPOSITION:
1. *Urgent* evacuation if a significant exposure occurs and HAART is not available.
2. *Routine* evacuation if HAART is available.

Malaria

SPECIAL CONSIDERATIONS:
1. Malaria MUST be considered in all febrile patients currently in, or recently in, a malarious area.
2. It is not uncommon for malaria to present like pneumonia or gastroenteritis (with vomiting and diarrhea).
3. It is appropriate to treat suspected malaria cases empirically if diagnostic tests (blood smears or rapid test) are not available. However, the Binax Rapid Diagnostic Test is now FDA approved and should be used, if available, to guide treatment selection.
4. The use of chemoprophylaxis does not rule out malaria.
5. Consider bacterial meningitis in evaluating the patient – treat for both disorders if meningitis is suspected.
6. Patients who cannot tolerate PO meds must be evacuated.
7. **IF SPECIES IS UNKNOWN, TREAT FOR P. FALCIPARIUM**

SIGNS AND SYMPTOMS:
1. Prodrome of malaise, fatigue, and myalgia may precede febrile paroxysm by several days.
2. Paroxysm characterized by abrupt onset of fever, chills, rigors, profuse sweats, headache, backache, myalgia, abdominal pain, nausea, vomiting, and diarrhea (may be watery and profuse) in *P falciparum*.
3. Intermittent fever to >40C (105F) OR fever may be near continuous in P. falciparum malaria; classic "periodcity" is usually absent. Profuse sweating between febrile paroxysms.
4. Tachycardia, orthostatic hypotension, tender hepatomegaly, and delirium (Cerebral malaria).

MANAGEMENT: *P. FALCIPARUM* MALARIA

1. Rx Malarone (atovaquone 250 mg/proguanil 100 mg) 4 tabs qd for 3 days with food **OR** give Mefloquine 750 mg followed by 500 mg 12 hours later.
2. Rx Acetaminophen (Tylenol) 1000 mg PO q 6 h prn for fever.

MANAGEMENT: NON - *P. FALCIPARUM* MALARIA

1. Rx Chloroquine 1 gm PO one time, then 500 mg qd for 3 days starting 6 hours after 1st dose **PLUS** primaquine 30 mg qd for 14 days **(MUST** rule out G6PD deficiency before giving primaquine)
2. Rx Acetaminophen (Tylenol) 1000 mg PO q 6 h prn for fever.

DISPOSITION:
1. *Urgent* treatment and evacuation for complicated malaria (cerebral, pulmonary, unstable vital signs; these indicate a medical emergency.
2. *Routine* evacuation for uncomplicated cases (normal vital signs, normal mental status, no nausea and vomiting, no cough/ shortness of breath).

Joint Infection

SPECIAL CONSIDERATIONS:
1. May result from penetrating trauma (especially animal or human bites), gonorrhea, or iatrogenic causes (i.e. attempted aspiration of joint effusion).
2. Consider also an acute joint effusion due to blunt trauma or overuse (usually less red and no fever).

SIGNS AND SYMPTOMS:
1. History of adjacent penetrating trauma or infection
2. Single red, swollen joint
3. Fever
4. Pain

MANAGEMENT:
1. IV access.
2. Rx Ertapenem (Invanz) 1 gm IV/ IM qd **OR** Ceftriaxone (Rocephin) 2 gm IV/ IM bid.
3. Treat per *Pain Management Protocol*.
4. **IMMOBILIZE THE JOINT.**

DISPOSITION:
Priority evacuation

Meningitis

SPECIAL CONSIDERATIONS:
1. May be bacterial, viral, or fungal. The bacterial type may cause death in hours, even in previously healthy young adults, if not treated aggressively with appropriate antibiotics.
2. Consider malaria as a differential diagnosis. Treat for both if malaria cannot be ruled out.

SIGNS AND SYMPTOMS:
1. Classic features include:
   A. Severe headache
   B. High fever
   C. Pain with any neck movement, particularly forward flexion
   D. Altered mental status
2. May also include:
   A. Photophobia
   B. Nausea and vomiting
   C. Malaise
   D. Seizures
3. Positive Brudzinski (pain on head and neck flexion) and Kernigs (neck pain with hip and knee flexion) signs

MANAGEMENT:
1. If meningitis is suspected, treatment should be initiated immediately.
2. IV access.
3. Dexamethasone (Decadron) 10 mg IV/ IM q 6 h .
4. Ceftriaxone (Rocephin) 2 gm IV q 12 h (IM route possible alternative but prefer IV route). **OR** Ertapenem (Invanz) 1 gm IV/ IM qd.
5. Treat per *Pain Management Protocol.*
6. Treat per *Nausea and Vomiting Protocol.*
7. If seizures occur, treat per *Seizure Protocol.*
8. Moxifloxacin (Avelox) 400 mg PO once **OR** Ceftriaxone (Rocephin) 250 mg IM for prophylaxis of close contacts.

DISPOSITION:
1. Urgent evacuation.

Pain Management

SPECIAL CONSIDERATIONS:
1. Any use of narcotic medications will be sedating and degrade the mission performance of patients
2. Avoid IM or SQ injections of narcotic medications due to the potential for delayed absorption.

SIGNS AND SYMPTOMS:
Pain

MANAGEMENT:
1. Start in sequential manner to maximize pain control with mission performance.
   A. Acetaminophen (Tylenol) 1000 mg PO q 6 h.
   B. Non Steroidal Anti-inflammatory drugs
      1) Meloxicam (Mobic) 15 mg PO qd prn
      2) **OR** Ibuprofen (Motrin) 800 mg PO q 8 h prn
      3) **OR** Ketorolac (Toradol) 30 mg IV/ IM q 6 h prn. .
   C. Narcotic Medications
      1) Oral Transmucosal Fentanyl Citrate 800 mcg PO over 15 minutes (may repeat dose once).

      WARNING **Life-threatening hypoventilation/ respiratory arrest could occur at any dose of fentanyl, particularly in patients not taking chronic narcotics. Therefore, closely monitor for respiratory depression.**
      2) Morphine sulfate 5 mg IV initial dose then 5 mg IV q 10 min for max dose of 30 mg
2. Treat per *Nausea and Vomiting Protocol.*

DISPOSITION:
Priority evacuation for any patients with narcotic use.

Sepsis/ Septic Shock

SPECIAL CONSIDERATIONS:
1. Sepsis is a severe, life-threatening bacterial blood infection.
2. Rapid onset - death may occur within 4-6 hours without antibiotic therapy.

SIGNS AND SYMPTOMS:
1. Hypotension
2. Fever
3. Tachycardia
4. Altered mental status
5. Dyspnea
6. May see skin rash (purpura)

MANAGEMENT:
1. Obtain IV/ IO access.
2. Ertapenem (Invanz) 1 gm IV/ IO qd **OR** Ceftriaxone (Rocephin) 2 gm IV/ IO.
3. If patient is hypotensive, give 1 liter Normal Saline or Ringer's Lactate fluid bolus. Consider additional fluids if still hypotensive, then an additional liter titrated to maintain systolic blood pressure >90 mm Hg or palpable radial pulse.
4. Epinephrine 0.5 mg (0.5ml of 1:1,000 solution) IM **(DO NOT GIVE IV)** for persistent hypotension after fluid bolus.
5. Dexamethasone (Decadron) 10 mg IV if persistent hypotension after fluid bolus and Epinephrine.
6. Monitor for decreased mental status and be prepared to manage airway.

DISPOSITION:
Urgent evacuation

Spontaneous Pneumothorax

SPECIAL CONSIDERATIONS:
1. Consider also: anaphylaxis, pulmonary embolism, high altitude pulmonary edema (HAPE), asthma, myocardial infarction and pneumonia.
2. More common in tall, thin individuals and smokers.

SIGNS AND SYMPTOMS:
1. Spontaneous unilateral chest pain
2. Dyspnea – typically mild
3. No wheezing
4. Decreased or absent breath sounds on affected side

MANAGEMENT:
1. Pulse oximetry monitoring.
2. Oxygen (use oxygen for all suspected spontaneous pneumothoraces)
3. Consider needle decompression for suspected tension pneumothorax.
4. If needle decompression allows for patient improvement, followed by worsening of condition, consider repeat needle decompression.
5. If at altitude, descend as far as tactically feasible.
6. If evacuation will occur in an unpressurized aircraft, consider decompression for high altitude evacuation.
7. Treat per *Pain Management Protocol.*

DISPOSITION:
1. *Urgent* evacuation for significant respiratory distress despite therapy.
2. *Priority* evacuation for patients whose respiratory status is stable.

Seizure

SPECIAL CONSIDERATIONS:
1. May be caused by injury, infection, high fever, alcohol withdrawal, drug use, toxins, and structural abnormalities of the central nervous system (CNS).

SIGNS AND SYMPTOMS:
1. Generalized seizure
2. Possible history of previous seizures
3. Possible history of recent head trauma
4. Possible history of CNS infection
5. Possible history of headaches

MANAGEMENT:
1. Avoid trauma to patient during the seizure, but do not restrain patient.
2. Rx Diazepam (Valium) 10 mg IV/ IM/ IO for ongoing seizures. May repeat 10 mg prn q 15 min for continuing seizures for max dose 30 mg.
3. Do not attempt to force an object into the mouth to open airway.
4. Support and maintain airway and ventilation as needed to include SPO2.
5. If seizures are accompanied by fever,
   A. Consider meningitis and treat per *Meningitis Protocol.*
   B. Consider malaria if in malaria endemic area and treat per *Malaria Protocol*
6. Rx Place either 1 tube Glutose (oral glucose gel) or contents of 1 sugar packet in buccal mucosa to treat possible hypoglycemia.

DISPOSITION: *Urgent* evacuation

Nausea and Vomiting

SPECIAL CONSIDERATIONS:
1. Avoid rapid IV administration of promethazine (Phenergan)
2. **DO NOT** give subcutaneous promethazine (Phenergan)
3. Diphenhydramine (Benadryl) and promethazine (Phenergan) may cause drowsiness.

SIGNS AND SYMPTOMS:
Nausea and Vomiting

MANAGEMENT:
1. Rx Ondansetron (Zofran) 4 – 8 mg IV/ IM bid or 8 mg PO q 8 h prn.
2. Rx **OR** Promethazine (Phenergan) 25 mg IV/ IM/ PO q 6 h prn.
3. Rx **OR** Diphenhydramine (Benadryl) 25 - 50 mg IV/ IM / PO q 6 h prn.
4. Treat per *Dehydration Protocol.*

DISPOSITION:
Evacuate per Protocol for underlying condition.

Subungual Hematoma

SPECIAL CONSIDERATIONS:
None

SIGNS AND SYMPTOMS:
1. Pain from the affected nail
2. Purplish-black discoloration under the nail.

MANAGEMENT:
1. Decompress the nail with a large gauge needle by rotating needle through the nail directly over the discolored area until the underlying blood has been released and the pressure is relieved. Make sure that it is introduced into the affected nail with a gentle but sustained rotating motion.
2. Gentle pressure on the affected nail may help to evacuate more blood.
3. Treat per *Pain Management Protocol.*
4. If a fracture is suspected, tape the injured finger or toe to an adjacent digit.
5. Rx If fracture is suspected in a setting of a subungual hematoma, give Moxifloxacin (Avelox) 400 mg PO qd for 7 days.

DISPOSITION:
Evacuation should not be required for this injury if the subungal hematoma is successfully treated.

Smoke Inhalation

SPECIAL CONSIDERATIONS:
1. Consider possible carbon monoxide (CO) poisoning and need for hyperbaric oxygen in all significant cases of smoke inhalation.
2. Normal oxygen saturation by pulse oximetry DOES NOT rule out the possibility of CO poisoning.

SIGNS AND SYMPTOMS:
1. History of smoke exposure
2. Burns
3. Coughing
4. Respiratory distress (may be delayed in onset)

MANAGEMENT:
1. Administer oxygen.
2. Consider the use of early intubation or cricothyroidotomy if airway burns/ edema or singed nasal hair, facial burns are present/ suspected.
3. Rx Albuterol (Ventolin) by metered dose inhaler 2 to 4 puffs q 4 – 6 h.
4. Rx Dexamethasone (Decadron) 10 mg IV/ IM qd.
5. Limit patient exertion if possible.

DISPOSITION:
1. *Urgent* evacuation for respiratory distress, suspected inhalation burns.
2. *Priority* evacuation if not in distress but significant inhalation suspected.

Testicular Pain

SPECIAL CONSIDERATIONS:
1. The primary concern in testicular pain is differentiating testicular torsion from other causes of testicular pain
2. Testicular torsion is an medical emergency requiring urgent correction to prevent loss of the affected testicle
3. Other common causes of testicular pain include epididymitis and orchitis, infections commonly caused by STDs, as well as hernias and testicular masses

SIGNS AND SYMPTOMS:
1. Testicular Torsion:
   A. Sudden onset testicular pain
   B. Usually associated with activity
   C. Associated testicular swelling
   D. Abnormal position of the affected testicle
   E. Symptoms may be increased by testicular elevation
   F. Usually associated with pain induced nausea and vomiting
   G. Loss of cremasteric reflex is the best diagnostic indicator for testicular torsion.
2. Epididymitis:
   A. Gradual onset of worsening pain
   B. May have fever and/or dysuria
   C. Can also be traumatic
   D. Symptoms may be relieved with elevation.
   E. Significant swelling may be present

MANAGEMENT:
1. If pain is sudden onset and the testicle is lying abnormally in the scrotum, an attempt to manual detorse the testicle is warranted.
   A. A single attempt to rotate the testicle outward (like opening the pages of a book) should be made.
   B. If pain increases, 1 attempt to rotate the opposite direction should be made.
   C. Successful detorsion will result in relief of pain.
2. Gradual onset pain with a normal lying testicle should be treated per *Urinary Tract Infection Protocol.*
3. Treat pain per *Pain Management Protocol.*
4. Treat per *Nausea and Vomiting Protocol*

DISPOSITION:
1. *Urgent* evacuation for testicular torsion
2. For other causes of testicular pain, treat cause and consider evacuation if symptoms persist more than 3 days

2008 Tactical Medical Emergency Protocol
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December 10, 2007
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Urinary Tract Infection

SPECIAL CONSIDERATIONS:
1. More common after instrumentation, in females, or in tactical settings with dehydration and/ or kidney stones.
2. Symptoms may be confused with a sexually transmitted disease (STD).

SIGNS AND SYMPTOMS:
1. Dysuria
2. Urinary urgency and frequency
3. Cloudy, malodorous, or dark urine may be present
4. Suprapubic discomfort

MANAGEMENT:
1. Moxifloxacin (Avelox) 400 mg PO qd for 3 days **OR** Septra DS 1 PO bid for 3 days
2. **AND** Azithromycin 1 gm PO once.
3. Treat per *Pain Management Protocol.*
4. If fever, back pain, flank pain, and/ or costovertebral angle tenderness develop, suspect kidney infection and treat per *Flank Pain Protocol.*
5. Encourage PO hydration.

DISPOSITION:
1. Usually responds to therapy and evacuation not required if it does.
2. *Routine* evacuation for worsening signs and symptoms
3. *Priority* evacuation for pyelonephritis. See *Flank Pain Protocol*

PREFACE

- The following is a list of medications mentioned in the Tactical Medcal Emergency Protocols. However, most of the TMEPs have a preferred medication recommendation and then an alternate one. All of these recommencations are listed here.
- The CEB and RB recognize that a "one size fits all" approach to a strict Drug List is unrealistic due to medication availability, mission requirements, etc. The list of medications is designed to guide the ATP in medication selection.
- For specific order of the recommended medications and specific TMEP application of the medications, **CHECK the specific TME Protocol.**
- Antibiotics: Always check potential drug allergies. If allergic to one class of medications, use alternate class of medications (Cephalosporins/Penicillins, Tetracyclines, Quinolones, Macrolides).
- **Unless specifically noted, the drug dosages listed are for an adult.**

Acetaminophen (Tylenol)

- Description: Nonnarcotic analgesic and antipyretic. Blocks generation of pain impulses in the CNS by preventing sensitization of pain receptors.
- Indications: Mild Pain or fever
- **Contraindications:**
  - Individuals with hypersensitivity to drug.
  - Cautious use in history of excess alcohol use
  - Chronic Liver Damage
- Dose:
  - 325-650mg PO every 4-6 hours; or 1gm PO every 6-8 hous
- Side-effects:
  - Rash
  - Urticaria,
- Adverse Reactions:
  - Hemolytic anemia
  - Liver damage
- TMEP Use
  - Malaria Protocol
  - Pain Management Protocol

Acetazolamide (Diamox)

- Description: Non-diuretic antihypertensive (carbonic anhydrase inhibitor)
- Indications: Prevention and/or amelioration of symptoms associated with acute mountain sickness in climbers attempting rapid ascent and/or in those who are very susceptible to acute mountain sickness despite gradual ascent. For maximum benefit begin regimen 7 days prior to ascent. Of minimal benefit in Rx of AMS, HACE, or HAPE
- Dose:
  - 125-250mg bid, 24 hours prior to ascent, continuing for 48 hours after ascent. Prevention and/or amelioration benefits are nominal once ascent has commenced.
  - If the 500mg sustained release tablet is used, dose is 500ng every 24 hours.
- **Contraindications:** Sulfa allergy.
- Side-effects:
  - Paresthesia in extremities
  - Hearing dysfunction/tinnitus
  - Loss of appetite
  - Taste alterations
  - Nausea
  - Vomiting

- Diarrhea
- Polyuria
- Drowsiness
- Confusion.

- **Warning**
  - NOTE: Use of Diamox results in a significant alteration in taste. Carbonated beverages will have seriously altered taste, and may be undrinkable.
  - Increased fluid intake is required with use of Diamox: Although Diamox is not in the general drug class of "diuretics", it has diuretic effects and can result in serious dehydration unless great care is taken to maintain proper hydration.
- Adverse Reactions:
  - Transient myopia (usually resolves w/ DC of drug)
  - Urticaria
  - Melena
  - Hematuria
  - Flaccid paralysis
  - Photosensitivity
  - Convulsions
- TMEP Use
  - Altitude Illness Protocol

Aciphex – See Rabeprazole

Actiq Lozenge – See Oral Fentanyl

Adrenalin – See Epinephrine

Afrin Nasal Spray – See Oxymetazoline HCl

Albuterol Inhaler (Ventolin, Proventil)

- Description: Inhaled beta-adrenergic agonist; relaxes bronchial smooth muscle
- Indications:
  - Relief of bronchospasm
  - Prevention/ treatment of exercise-induced bronchospasm
- Adult Dosage:
  - 2 inhalations every 4-6 hours
  - Spray 4 times into the air if using for the first time or after more than 4 weeks of storage
- *Pediatric Dosage:*
  - *If greater than 4yrs old, 1 inhalation every 4-6 hours may be sufficient*
- **Contraindications:**
  - Known hypersensitivity to Albuterol
  - Pregnancy
- Side-effects:
  - Similar in nature to reaction to other sympathomimetic agents
    - Tremor
    - Nausea
    - Nervousness
    - Palpitations

ASA – See Aspirin

Aspirin (ASA)

- Description: Analgesic, antipyretic, anti-inflammatory, anti-platelet effect
- Indications:
  - For the temporary relief of:
    - Mild to moderate pain
    - Fever.
  - MI Prophylaxis: Reduces the risk of death and/or nonfatal myocardial infarction in patients with a previous infarction or unstable angina pectoris.
  - Transient Ischemic Attacks: Reducing the risk of recurrent transient ischemic attacks (TIAs) or stroke in patients who have transient ischemia of the brain due to fibrin emboli.
- Usual Adult Dose:
  - Adults: 325mg. One or two tablets/caplets with water. May be repeated every four hours as necessary up to 12 tablets/caplets a day or as directed by a doctor.
- *Pediatric Dosage*
  - *Greater than 12 years and over: 1 or 2 tablets/caplets with water. May be repeated every 4 hours as necessary up to 12 tablets/caplets a day or as directed by a doctor*
  - *Less than 12 years old: Do not give to children under 12 unless directed by a doctor.*
- **Contraindications**:
  - Hypersensitivity to aspirin
  - Hypersensitivity to nonsteroidal anti-inflammatory agents (NSAID)
  - History of gastrointestinal bleeding
  - Patients with bleeding disorders (e.g., hemophilia).
  - Patient age less than 12 years old
- Side-effects:
  - Gastrointestinal symptoms
  - Gastrointestinal bleeding
  - Stomach pain
  - Heartburn
  - Nausea
  - Vomiting
- Adverse Reactions:
  - Interacts with NSAIDs, Coumadin, Heparin
- TMEP Use
  - Chest Pain Protocol
  - Deep Venious Thrombosis Protocol

Atovaquone 250mg/ Proguanil 100mg (Malarone®)

- Description: Antimalarial
- Indications
  - Prophylaxis and treatment of *Plasmodium falciparum malaria*
- Adult dose

  - There are pediatric tablets as well as adult tablets
  - Prophylaxis
    - Start treatment 1 or 2 days prior to entering malaria endemic area and continue daily during the stay and for 7 days after return
    - 1 tablet (adult strength) daily

- Preparation procedure/ Other notes
  - Take daily dose at the same time every day with food or milk
  - If vomiting occurs within 1hr of dosing, repeat the dose
  - Treatment has not been evaluated for treatment of cerebral malaria or other severe manifestations of complicated malaria
  - Absorption may be reduced in patients with diarrhea or vomiting. May need to add antiemetic to prevent vomiting.
  - Include protective clothing, insect repellants, bed nets as important components of malaria prophylaxis
  - If a dose is skipped, take it as soon as possible, and then return to normal schedule. Do not double the next dose.
- TMEP Use
  - Malaria Protocol

Augmentin – See Amoxicillin/Clavunlic Acid

Avelox – See Moxifloxacin

Azithromycin (Zithromax, Z-Pak®)

- Description: Macrolide antibiotic
- Indications:
  - Acute bacterial sinusitis
  - Mild community acquired pneunonia
  - Chancroid (Genital ulcer disease)
  - Pharyngitis/tonsillitis as alternative drug choice to first line therapy
  - Uncomplicated skin infections
  - Urethritis
- Adult dose
  - For most bacterial infections: 500mg as single dose on day 1, then 250mg daily on days 2 through 5.
  - For gonorrhea: 2gm PO as a single dose
- *Pediatric dose (6 months of age or older)*
  - *Z-pac is not indicated for children. The oral suspension is the only dose approved for use in children, and is dosed on a mg/kg basis*
    - *10mg/kg up to 500mg the first day; then 5mg/kg up to 250mg for the next 4 days*
- **Contraindications**
  - Known allergy to Azithromycin
  - Pregnancy
  - Z-pac in children
  - Patients receiving
    - Astemizole (Hismanal - antihistamine taken off of the U.S. market)
    - Cisapride (Propulsid – GI medication)
- Side-effects
  - Generally mild and reversible upon discontinuation of therapy
  - Nausea, vomiting, diarrhea, abdominal pain
- Adverse Reactions
  - Rare:
    - Angioedema (swelling of the larynx)
    - Cholestatic jaundice
  - Hypersensitivity
- Preparation procedure/ Other notes
  - Can be taken with or without food
  - Continue regimen for duration of prescription

- Side-effects:
  - Headaches
  - Dizziness
  - Nausea
  - Vomiting
  - Diarrhea
  - Abdominal cramps
  - Urticaria
  - ↑ temperature
- Adverse Reactions:
  - Eosinophilia
  - Thrombocytosis
  - Leukopenia
  - Injection Site
    - Pain
    - Induration
    - Sterile abscess
    - Tissue sloughing
    - Phlebitis
  - Thrombophlebitis with IV use
- Preparation procedure:
  - Withdraw 10cc NaCl from a 100cc bag. Inject 10cc NaCl into 1gm Rocephin vial. Mix.
  - Withdraw entire contents of vial and inject into original 100cc NaCl IV bag. Mix.
  - Piggyback with running IV.

  - If giving IM, reconstitute with 1% lidocaine **WITHOUT** epinephrine.
- TMEP Use
  - Abdominal Pain Protocol
  - Bronchitis/Pneumonia Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Dental Pain Protocol
  - Flank Pain (Renal Colic, Pyelonephritis, Kidney Stones) Protocol
  - Head and Neck Infection Protocol
  - Joint Infection Protocol
  - Meningitis Protocol
  - Sepsis/Septic Shock Protocol

Cephalosporins – General Antimicrobial Spectrum

- 1st Generation: Gram positive (including Staph aureus); basic gram negative coverage.
  - *Examples: cefazolin, cephalexin, cefadroxil*
- 2nd Generation: Diminished Staph aureus, improved gram negative coverage compared to 1st generation; some with anaerobic coverage.
  - *Examples: cefotetan, cefoxitin, cefuroxime*
- 3rd Generation: Further diminished Staph aureus; further improved gram negative coverage compared to 1st and 2nd generation; some with Pseudomonas coverage and diminished gram positive coverage.
  - *Examples: ceftriaxone **(see Rocephin)**, cefotaxime, cefpodoxime, cefixime, cefoperazone.*
- 4th Generation: Same as 3rd generation plus coverage against Pseudomonas.
  - Example: cefepime

- Treatment
  - 4 tablets (adult strength; total daily dose atovaquone 1gm/ 400mg proguanil) as a single daily dose for 3 consecutive days
- *Pediatric dosage*
  - *There are pediatric tablets as well as adult tablets*
  - *Tablets may be crushed and mixed with condensed milk just prior to administration for those having difficulty in swallowing tablets*
  - *Prophylaxis dosing based on body weight*
    - *Safety and efficacy for prophylaxis have been established for children greater than11kg*

Dosage of atovaquone/proguanil in prevention of malaria in pediatric patients		
Weight (kg)	***Atovaquone/proguanil total daily dose***	***Dosage regimen***
11 to 20	*62.5mg / 25mg*	*1 pediatric tablet daily*
21 to 30	*125mg / 50mg*	*2 pediatric tablets as a single daily dose*
31 to 40	*187.5mg / 75mg*	*3 pediatric tablets as a single daily dose*
greater than 40	*250mg / 100mg*	*1 tablet (adult strength) as a single daily dose*

  - *Treatment dosing based on body weight*
    - *Safety and efficacy for treatment have been established for children greater than 5kg*

Dosage of atovaquone/proguanil in treatment of malaria in pediatric patients		
Weight (kg)	***Atovaquone/proguanil total daily dose***	***Dosage regimen***
5 to 8	*125mg / 5 mg*	*2 tablets (pediatric strength) daily for 3 consecutive days*
9 to 10	*187.5mg / 75mg*	*3 tablets (pediatric strength) daily for 3 consecutive days*
11 to 20	*250mg / 100mg*	*1 tablet (adult strength) daily for 3 consecutive days*
21 to 30	*500mg / 200mg*	*2 tablets (adult strength) as single daily dose for 3 consecutive days*
31 to 40	*750mg / 300mg*	*3 tablets (adult strength) as single daily dose for 3 consecutive days*
greater than 40	*1gm / 400mg*	*4 tablets (adult strength) as single daily dose for 3 consecutive days*

- **Contraindications**
  - Hypersensitivity to atovaquone proguanil
  - Prophylaxis in patients with severe renal impairment (Cr CL less than 30ml/min) unless potential benefits outweigh risks of non-treatment (progaunil accumulates in severe renal failure)
- Side-effects
  - Headache
  - Abdominal pain
  - Nausea/ vomiting/diarrhea
  - Dizziness
  - Cough (pediatrics)
- Adverse Reactions
  - Liver transaminase elevations
  - Possible association with seizures and psychotic events (e.g. hallucinations)
  - Cutaneous reactions, including photosensitivity, erythema multiforme and Stevens-Johnson syndrome

- Adverse Reactions:
  - Hypertension
  - Angina
  - Vertigo
  - CNS stimulation
  - Sleeplessness
- TMEP Use
  - Asthma (Reactive Airway Disease) Protocol
  - Bronchitis/Pneumonia Protocol
  - Cough Protocol
  - Smoke Inhalation Protocol

Amoxicillin/Clavuslic Acid (Augmentin)

- Description: oral antibacterial combination consisting of the semisynthetic antibiotic amoxicillin and the β-lactamase inhibitor, clavulanate potassium (the potassium salt of clavulanic acid).
- Indications:
  - Lower Respiratory Tract Infections
  - Otitis Media
  - Sinusitis
  - Skin and Skin Structure Infections
  - Urinary Tract Infections
- Adult Dosage: The usual adult dose is one 500mg tablet every 12 hours. For more severe infections and infections of the respiratory tract, the dose should be one 875mg tablet every 12 hours, or one 500mg tablet every 8 hours.
- *Pediatric Dosage:*
  - 30mg/kg/day in divided doses (every 8-12 hours) produces less nausea and diarrhea and is effective for most infections
  - Pediatric patients weighing 40kg or more should be dosed according to the adult recommendations.
- **Contraindications:**
  - WARNING: SERIOUS AND OCCASIONALLY FATAL HYPERSENSITIVITY (ANAPHYLACTIC) REACTIONS CAN OCCUR IN INDIVIDUALS WITH A HISTORY OF PENICILLIN HYPERSENSITIVITY
  - Do not use in patients with a history of liver failure
- Side-effects: The majority of side-effects observed in clinical trials were of a mild and transient nature but can include:
  - diarrhea/loose stools
  - nausea
  - skin rashes and urticaria
  - vomiting
  - vaginitis
- Adverse Reactions:
  - Hypersensitivity reactions
  - Hepatic dysfunction
  - Blood and lymphatic dysfunction (likely hypersensitivity-related)
- TMEP Use
  - Cellulitis/Cutaneous Abscess Protocol
  - Dental Pain Protocol
  - Flank Pain Protocol
  - Head and Neck Infection Protocol
  - Ingrown Toenail Protocol

Chloroquine Phosphate

- Indications:
  - Malaria due to *P. vivax, P. malariae, P. ovale*, and susceptible strains of *P. falciparum.*
- Dose
  - The dosage of chloroquine phosphate is often expressed in terms of equivalent chloroquine base. Each 500 mg tablet of chloroquine phosphate contains the equivalent of 300mg chloroquine base.
- Adult Dose
  - Prophylaxis: 500mg (= 300mg base) on the same day of each week Initiate therapy 1-2 weeks prior to departure to endemic area
  - Dose must be administered on same day of week
  - Continue prophylaxis for 4 additional weeks upon return from endemic area
  - Treatment: 1gm PO x1 then 500mg PO daily x 3 days starting 6 hours after first dose
- *Pediatric Dose: The weekly suppressive dosage is 5mg calculated as base, per kg of body weight, but should not exceed the adult dose regardless of weight.*
- WARNING: Precautions: Liver disease, blood disorders, psoriasis, a certain metabolic disease (glucose-6-phosphate dehydrogenase-G6PD deficency), hearing problems, seizures.
- Side-effects
  - Nausea
  - Vomiting
  - Stomach upset
  - Cramps
  - Loss of appetite
  - Diarrhea
  - Blurred vision
  - Trouble seeing at night or problems focusing clearly
  - Easy bleeding or bruising.
- WARNING: Warnings:
  - It has been found that certain strains of *P. falciparum* have become resistant to chloroquine and hydroxychloroquine. Chloroquine resistance is widespread and, at present, is particularly prominent in various parts of the world including sub-Saharan Africa, Southeast Asia, the Indian subcontinent, and over large portions of South America, including the Amazon basin[1].
  - Before using chloroquine for prophylaxis, it should be ascertained whether chloroquine is appropriate for use in the region to be visited by the traveler. Chloroquine should not be used for treatment of *P. falciparum* infections acquired in areas of Chloroquine resistance or malaria occurring in patients where Chloroquine prophylaxis has failed. Patients infected with a resistant strain of plasmodia, as shown by the fact that normally adequate doses have failed to prevent or cure clinical malaria or parasitemia, should be treated with another form of antimalarial therapy.
- Drug Interactions
  - Ampicillin
  - Antacics
  - Cimeticine
  - Cyclosporine
  - Kaolin
  - Magnesium trisilicate.
- TMEP Use
  - Malaria Protocol

- TMEP Use
  - Bronchitis/Pneumonia Protocol
  - Ear Infection Protocol
  - Gastroenteritis Protocol
  - Urinary Tract Infection Protocol

Bactrim – See Trimethoprim-Sulfamethoxazole

Bactroban – See Mupirocin Ointment 2%

Benadryl – See Diphenhydramine HCl

Bisacodyl (Dulcolax)

- Description: Stimulant laxative
- Indications: Used to treat constipation or to clean out the intestinal tract before bowel examinations or bowel surgery.
- Adult Dosage: Swallow the tablets whole with a full glass of water or juice. Do not crush or chew the tablets. The tablets should work within 6-10 hours.
  - 5-15mg.
- *Pediatric Dose:*
  - *6-12 years: 5mg, taken at bedtime or in the morning before breakfast to produce evacuation approximately 8 hours later.*
- **Contraindications**:
  - Ileus
  - Intestinal obstruction
  - Acute surgical abdominal conditions like acute appendicitis, acute inflammatory bowel diseases
  - Severe dehydration
  - Known hypersensitivity to substances of the triarylmethane group.
- Adverse Reactions: Rarely, abdominal discomfort and diarrhea have been reported.
- Preparation Procedure/Other Notes
  - Tablets have a special coating and therefore should not be taken together with milk or antacids. Tablets should be swallowed whole with adequate fluid.
- TMEP Use
  - Constipation/Fecal Impaction Protocol

Ceftriaxone Sodium (Rocephin)

- Description: 3rd generation cephalosporin
- Broad spectrum bactericidal antibiotic for IV/IM use.
- Indications: Serious infections of the lower respiratory tract (i.e. pneumonia); urinary tract; skin infections; intra-abdominal infections (especially penetrating abdominal trauma); penetrating trauma to the extremities; & CNS infections
- **Contraindications:**
  - Use caution in patients with a history of
    - Penicillin allergy
    - Hepatic dysfunction
    - Liver dysfunction
- Adult Dose:
  - 1-2gm IM/IV daily or in divided doses bid; Max dose 4gm/day
- *Pediatric Dose:*
  - *50-75mg/kg given in divided doses q12 hours, max dose 2gm/day.*

Combivir

- TMEP Use
  - HIV Post Exposure Prophylaxis Protocol

Decadron – See Dexamethasone

Dexamethasone (Decadron)

- Description: Parenteral steroid (glucocorticoid)
- Indications:
  - Emergency treatment of AMS, HACE, HAPE, when tactical conditions preclude descent or acclimatization.
  - Use of Decadron ↓symptoms of AMS, but does not speed acclimatization.
  - Use of Decadron does not preclude the need for an emergency descent. (Administer Decadron every 6 hours until descent is accomplished)
  - Inflammatory conditions
  - Allergic Conditions
- Dosage: 4mg IV / IM / PO every 6 hours
- **Contraindications:**
  - Use caution in patients with a history of:
    - Diabetes
    - Hypertension
    - Ulcers
- Side-effects:
  - Delayed wound healing
  - Acne
  - Various skin eruptions
  - Edema
- Adverse Effects Usually dose related.
  - Psychotic behavior
  - Congestive Heart Failure
  - Hypertension
  - Cataracts
  - Glaucoma
  - Hypokalemia
  - Hyperglycemia
  - Carbohydrate intolerance
- TMEP Use
  - Altitude Illness Protocol
  - Anaphylactic Reaction Protocol
  - Asthma (Reactive Airway Disease) Protocol
  - Contact Dermatitis Protocol
  - Head and Neck Infection, Including Epiglottitis, Protocol
  - Meningitis Protocol
  - Sepsis/Septic Shock Protocol
  - Smoke Inhalation Protocol

Dextrose – See Glutose

Diamox – See Acetazolamide

Diphenhydramine HCl (Benadryl)

- Description: Antihistamine. Prevents (but does not reverse) histamine-mediated responses. H1 blocker.
- Indications:
  - Mild to moderate allergic symptoms and/or allergic reactions
  - Dystonic reaction
- Adult Dose:
  - 25-50mg IM / IV / PO qid. Max dose 400mg/day.
- *Pediatric Dose:*
  - *(Children less than 12 years): 5 mg/Kg/day in divided doses qid. May be given PO, IM or IV*
- **Contraindications:**
  - Asthma
  - Pregnant or lactating females
- Side-effects:
  - Sedation
  - Blurred vision
  - Nausea
  - Vomiting
  - Diarrhea
  - Headache
- Adverse Reactions:
  - Insomnia
  - Vertigo
  - Palpitations
  - Dry mouth
  - Constipation
  - Dysuria
  - Urine retention
- TMEP Use
  - Allergic Rhinitis/Hay Fever/Cold Like Symptoms Protocol
  - Anaphylactic Reaction Protocol
  - Contact Dermatitis Protocol
  - Emesis Protocol
  - Nausea and Vomiting Protocol

Dulcolax – See Bisacodyl

Epinephrine (Adrenaline)

- Description: Alpha and beta adrenergic sympathomimetic.
  - First-line drug for anaphylaxis (See ACLS drugs for cardiac therapy)
  - Causes bronchodilatation, vasoconstriction, increases blood pressure.
  - Decreases edema/swelling due to allergic reactions.
    - NOTE:
      - 1:1,000 dilution epinephrine (1mg in 1cc) is standard pararescue issue.
      - 1:10,000 dilution (1mg in 10cc) is the standard 'Cardiac' dosage form for IV use.
      - 1:1,000 epinephrine can be diluted to the 1:10,000 form by putting 1cc of 1:1,000 epinephrine (1mg epinephrine) in 9cc's of normal saline (total volume of 10cc).
- Indications: Anaphylaxis
  - Allergic reactions (mild/moderate/severe)
  - Asthma
- Adult Dose (Epinephrine):
  - Anaphylaxis: 0.3-0.5mg (3-5cc of 1:10,000 dilution) IV or 0.3-0.5mg (0.3-0.5cc of 1:1,000 dilution) IM

- Preparation procedure/ Other notes
  - Visually inspect any solution ofertapenem for particulate matter and discoloration prior to use when possible. Solutions range in color from colorless to pale yelow. Variations in color do not affect potency of the drug.
  - IV administration- must be reconstituted prior to administraion
    - Do not mix or co-infuse with other medications
    - Do not use diluents cotaining dextrose
    - Reconstitute the contents of a 1gm vial of ertapenem with 10ml of 0.9% NaCl, or bacteriostatic water for injection
    - Shake well to dissolve,and immediately transfer contents to 50ml of 0.9% NaCl
    - Complete infusion within 6 hrs of reconstitution
  - IM administration - must be reconstituted prior to administration
    - Reconstitute the contests of a 1gm vial of ertapenem with 3.2ml of 1% lidocaine HCl injection (without epinephrine). Shake vial thoroughly to form solution
    - Immediately withdraw he contents of the vial, and administer by deep IM injection into a large muscle mass (such as the gluteal muscles or lateral part of the thigh)
    - Use the reconstituted IM solution within 1 hr after preparation. **DO NOT ADMINISTER THE RECONSTITUTED IM SOLUTION IV.**
- TMEP Use
  - Abdominal Pain Protocol
  - Bronchitis/Pneumonia Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Chest Pain Protocol (Other Etiologies)
  - Flank Pain (Renal Colic, Pyeloephritis, Kidney Stone) Protocol
  - Joint Infection Protocol
  - Meningitis Protocol
  - Sepsis/Septic Shock Protocol

Fentanyl – See Oral Fentanyl

Flagyl – See Metronidazole

Fluroquinolones – See Quinolones, Moxafloxacin, Gatifloxacin, Levofloxacin

Fluconazole (Diflucan)

- Description: Synthetic triazole antifungal agent
- Indications:
  - Vaginal Candidiasis (vaginal yeast infections due to *Candida*).
  - Oropharyngeal and esophageal candidiasis.
  - Fungal skin infections
- Adult Dosage:
  - Skin Infection: 150mg, 1 pill per week x 4 weeks
  - Single Dose: Vaginal candidiass: The recommended dosage of fluconazole for vaginal candidiasis is 150mg as a single oral dose.
  - Oropharyngeal Candidiasis: The recommended dosage of fluconazole for oropharyngeal candidiasis is 200mg on the first day, followed by 100mg once daily. Clinical evidence of orcopharyngeal candidiasis generally resolves within several days, but treatment should be continued for at least 2 weeks to decrease the likelihood ofrelapse.
- **Contraindications:**
  - Hypersensitivity to fluconazole.

- *Pediatric Dose:*
  - *0.5gm/kg in small doses - standing order*
- Drug Action: Increases blood glucose level
- Onset:1 minute
- Duration: Depends on the degree of hypoglycemia
- Precautions: Assure gag reflex is present
- Side-effects:
  - Aspiration
- **Contraindications:**
  - Absent gag reflex
  - Patients who are unable to protect their own airway
  - Patients who are unable to swallow
- TMEP Use
  - Behavioral Changes Protocol
  - Hyperthermia Protocol
  - Loss of Consciousness (without seizures) Protocol
  - Seizure Protocol

Hespan (Hetastarch in NaCl) Plasma Volume Expander (Artificial Colloid)
Hextend (Hetastarch in Lactated Electrolyte Solution)

- Description: Plasma Volume Expander (Artificial Colloid)
- Both Hespan and the newer product Hextend are artificial colloids and are used to expand the plasma volume. The major advantage over crystalloids is that these products give more volume expansion for a longer period of time for the same infused volume. These products are not blood or plasma replacements, they have no oxygen carrying capacity, and they have no coagulation properties. **These products should not be the primary fluid used to treat dehydrated patients.**
- Indications: Treatment of shock secondary to hemorrhage.
- Dose:
  - Patient in shock, bleeding not controlled: hold fluid and control bleeding.
  - Patient in shock, bleeding controlled: start 500cc of Hespan/Hextend IV, check for improvement in BP (titrate to SBP of 85) or improved mentation. Hold further fluid when either improvement point is met.
  - Patient still in shock after first 500cc of Hespan/Hextend: start second 500cc bag and titrate to improvement.
  - Do not give more than 1 liter (1000cc) of Hespan or Hextend to any casualty.
- **Contraindications:**
  - Known bleeding disorders or uncontrolled hemorrhage
  - CHF
  - Renal impairment
  - Not for use in children under 12 years
  - Use with caution in pregnancy.
- Side-effects:
  - Nausea/vomiting
  - Peripheral and facial edema
  - Urticaria
  - Flushing chills
- Adverse Reactions:
  - Severe anaphylaxis (rare)

- Allergic reaction: 0.3-0.5mg (0.3-0.5cc of 1:1,000 dilution) SubQ or IM
- Asthma: 0.3-0.5 mg (0.3-0.5 cc of 1:1,000 dilution) SubQ or IM

- *Pediatric Dose: 0.01mg/kg SubQ or IM. Not to exceed 0.5mg*
- **Contraindications:**
  - **1:1,000 Epinephrine is NOT given IV.**
  - Use caution in patients with a history of heart disease or over the age of 40.
  - Do not inject Epinephrine (or solutions containing Epi) into/near the fingers, toes, nose, ears or penis. Intense vasoconstriction may cause necrosis.
- Side-effects:
  - Cardiac arrhythmias
  - Ventricular Tachycardia
  - Ventricular Fibrillation
  - Angina
  - Hypertension
  - ↑BP
  - Nausea
  - Vomiting
  - Vasoconstriction
- Adverse Reactions
  - Uncontrolled effects on myocardium & arterial system
- TMEP Use
  - Anaphylactic Reaction Protocol
  - Asthma (Reactive Airway Disease) Protocol
  - Sepsis/Septic Shock Protocol

Ertapenem IV (Invanz®)

- Description: Carbapenem antibiotic
- Indications
  - Complicated intra-abdominal infections
  - Complicated skin infections
  - Pneumonia
  - Complicated UTI, including pyelonephritis
  - Acute pelvic infections
  - **Drug of choice for penetrating battlefield trauma**
- Adult dose
  - 1gm daily
  - May be administered IV up to 14 days or IM injection for up to 7 days
  - For IV administration, infuse over 30 minutes
- *Pediatric dose*
  - *Not approved in patients less than 18 yrs*
- **Contraindications**
  - Hypersensitivity to ertapenem
  - Penicillin allergy with documented severe reaction to PCN
  - Hypersensitivity to other carbapenem antibiotics
  - Anaphylactic reactions to other beta-lactam antibiotics
  - IM: hypersensivity to lidocaine or other anesthetics of amide-type
- Side-effects
  - Diarrhea
  - Infused vein phlebitis/thrombophlebitis
  - Nausea/ vomiting
  - Headache
  - Vaginitis
- Adverse Reactions
  - Seizures

Diazepam (Valium)

- Description: General CNS depressant (Anticonvulsant/sedative). Benzodiazepine Class.
- Indications:
  - Acute anxiety
  - Seizures
  - Status epilepticus
  - Relaxation of skeletal muscle
  - Drug of choice for treatment of convulsions associated with chemical agents or organophosphates. NOTE: Successful treatment of convulsions from organophosphate or chemical exposure may require mass quantities and repeated administration of Diazepam (Valium).
  - Has **NO** analgesic or anesthetic properties.
  - Overdose may be reversed w/ Romazicon (Flumazenil)
- Dose:
  - Status Epilepticus: 5-10mg IV slow push
  - Acute anxiety: 5-15mg IV slow push
  - Relaxation of skeletal muscle: 5-15mg IV slow push
  - Chemical Warfare: 10-15mg IV slow push
    - Auto injection Diazepam should be used for seizures induced by chemicals
- **Contraindications:**
  - Head injury
  - ↓ BP
  - Acute narrow angle glaucoma
  - WARNING Has additive effect with other respiratory depressants (morphine, phenergan and alcohol). Be prepared to perform BLS.
- Side-effects:
  - ↓ BP
  - ↓ Respirations
  - Drowsiness
  - Venous irritation
  - Pain at injection site
  - N & V
- Adverse Reactions:
  - Bradycardia
  - CV collapse
  - Amnesia
  - Abdominal discomfort
- TMEP Use
  - Back Pain Protocol
  - Behavioral Changes Protocol
  - Hyperthermia Protocol
  - Seizure Protocol

Diflucan – See Fluconazole

Ketorolac (Toradol)

- Description: Analgesic, non-steroidal anti-inflammatory (NSAID). Inhibits platelet function.
- Indications:
  - For the temporary relief of:
    - Mild to moderate pain
    - Fever (if ASA or Acetaminophen are not available)
- Usual Adult Dose:
  - Adults: 30mg IV/IM. May be repeated every 6 hours. ***Do not use more than 5 consecutive days.***
- *Pediatric Dosage*
  - *Adolescents 13-16 years and children 2-12 years: 1mg/kg IM to a maximum of 30mg or 0.5mg/kg IV to a maximum of 15mg*
- **Contraindications:**
  - Hypersensitivity to nonsteroida anti-inflammatory agents (NSAID)
  - History of gastrointestinal bleeding
  - Patients with bleeding disorders (e.g., hemophilia).
  - Suspected or confirmed
    - Cerebrovascular bleedng
    - Hemorrhagic diathesis
    - Incomplete hemostasis
    - High risk of bleeding
  - Prior to major surgery
  - Exercise extreme caution in patients with a history of
    - Hypertension or hypertension and congestive hear failure.
    - Cardiovascular disease
    - Peripheral vascular disease
    - Cerebrovascular disease (e.g., stroke, transient ischemic attack)
  - Advanced renal impairment
  - Patients at risk for renal failure due to volume depletion
- Side-effects:
  - Gastrointestinal symptoms
  - Gastrointestinal bleeding
  - Stomach pain
  - Heartburn
- TMEP Use
  - Pain Management Protocol

Ibuprofen (Motrin)

- Description: NSAID, analgesic, antipyretic. Cox-1 inhibitor
- Indications:
  - Mild to moderate pain
  - Arthritis
- Dose:
  - 200-800mg PO tid or qid. Not to exceed 2400mg/day (800mg tid)
- **Contraindications:**
  - NOTE: Should not be given to pts with a history of aspirin sensitivity or severe asthma
  - Penetrating trauma
  - Suspected internal bleeding
  - Suspected intracranial bleeding
  - Pregnancy
  - Nursing mothers.

- Side-effects/Adverse Reactions:
  - *Dermatologic:*
    - Exfoliative skin disorders including Stevens-Johnson Syndrome and toxic epidermal necrosis.
- TMEP Use
  - Fungal Skin Infection Protocol

Gatifloxacin 0.3% Ophthalmic Liquid (Zymar®)

- Description: Ocular fluoroquinolone
- Indications
- Adult dose
  - Days 1 and 2: instill 1 drop in affected eye(s) every 2 hrs while awake, up to 8 times/day
  - Days 3 to 7: Instill 1 drop in affected eye(s) up to 4 times/day while awake
- *Pediatric dose*
  - *Safety and efficacy in infants less than 1 year not established*
  - *Pediatric dosing like adult dosing*
- **Contraindications**
  - Hypersensitivity to any component of product
- Side-effects
  - Upon instillation, may cause temporary blurring of vision or stinging
  - If stinging, burning, or itching becomes pronounced, or redness, irritation, swelling, decreasing vision or pain persists or worsens, discontinue and consider alternative therapy
  - Lid margin crusting, white crystalline precipitates and foreign body sensation in the eye have been reported
  - Bad/bitter taste in mouth
  - Nausea
- Adverse Reactions
  - Discontinue at first sign of skin rash or other allergic reaction
  - Corneal staining
  - Tearing and photophobia
- Preparation procedure/ Other notes
  - To instill in eye, tilt head back, place medication in conjuncival sac and close eye(s).
  - Apply light finger pressure on lacrimal sac for 1 minute following instillation
  - To avoid bottle contamination, do not touch tip of container to any surface. Replace cap after use.
  - In general, contact lenses should not be worn during therapy
- TMEP Use
  - Corneal Abrasion, Corneal Ulcer, Conjunctivitis Protocol
  - Ear Infection Protocol

Glucose – See Glutose

Glutose (Dextrose, Glucose)

- Description: Carbohydrate
- Route: Ora
- Indications: Altered mental status caused by hypoglycemia defined as;
  - Adults:
    - Diabetics = fingerstick blood glucose analysis less than 110mg/dL
    - Non-diabetics = fingerstick blood glucose analysis less than 80mg/dL
  - Children:
    - Diabetics = fingerstick blood glucose analysis less than 90mg/dL
    - Non-diabetics = fingerstick blood glucose analysis less than 60mg/dL
- Adult Dose
  - Full tube given in small doses (25-50gm) - standing order

- Side-effects:
  - Nausea
  - Vomiting
  - Headache
  - Dizziness
  - Drowsiness
- Adverse Reactions:
  - Prolonged bleeding time
  - Tinnitus
  - Edema
  - Peptic ulcer
- TMEP Use
  - Chest Pain Protocol (Other Etiologies)
  - Pain Management Protocol

Imodium – See Loperamide HCl

Invanz® - See Ertaenem IV

Larium – See Mefloquine

Lidocaine HCL (Xylocaine)

- Description: Local anesthetic; See ACLS drugs for cardiac therapy.
- CAUTION: Some lidocaine solutions contain 1:10,000 epinephrine. This causes intense vasoconstriction, and prolongs the duration of the anesthesia. These solutions are identified by a red label or red lettering on the label. **DO NOT use solutions containing epinephrine on or near the fingers, toes, nose, ears or penis.**
- Indications:
  - Local anesthetic: Suturing, debridement, nerve blocks, thoracostomy or other similar procedures. Duration of anesthesia is 30-60 minutes.
  - Cardiac Use: Use ACLS Protocols
- Dose (Local anesthesia): To desired effect. Maximum single adult dose is 4.5 mg/kg or 300mg (15 cc's of the 2% solution contains 300mg lidocaine).
  - NOTE 1: This is a different max dose than with IV lidocaine for ACLS use.
  - NOTE 2: 2% lidocaine contains 20mg of lidocaine per cc. Diluting 2% lidocaine 1:1 with normal saline gives a 1% solution (10mg/cc) that is just as effective as the 2% solution.
- **Contraindications:**
  - 2nd degree, 3rd degree AV block
  - Hypotension
  - Stokes-Adams Syndrome
- Side-effects:
  - Slurred speech
  - Altered mental status
  - Tinnitus
  - Edema
- Adverse Reactions:
  - Dermatologic reactions
  - Status asthmaticus
  - Anaphylaxis
  - Seizures

- *Pediatric dose*
  - *Prophylaxis:*
    - *Children greater than 45kg: one 250mg tablet should be taken in children*
    - *Children less than45kg: weekly dose decreases in proportion to body weight (3 to 5mg/kg once weekly):*
      - *30-45kg: ¾ tablet*
      - *greater than20-30kg: ½ tablet*
      - *Up to 20kg: ¼ tablet*
      - *Experience with Mefloquine in infants less than 3 months or weighing less than 5mg is limited*
    - *Initiate therapy 1 week prior to departure to endemic area*
    - *Dose must be administered on same day of week*
    - *Continue prophylaxis for 4 additional weeks upon return from endemic area*
  - *Treatment: 20-25mg/kg for nonimmune patients*
    - *Splitting the dose into 2 doses taken 6-8 hrs apart may reduce adverse effects*
    - *Treatment in children has been associated with early vomiting; if patient vomits within 30 minutes of dose and a significant loss of drug is suspected by inspection of emesis, re-dose patient with full dose; if vomiting occurs within 30-60 minutes, administer ½ the full dose.*
    - *Do not administer on an empty stomach and give with ample water*
    - *For very young patients, dose may be crushed, mixed with water or sugar water and may be administered via oral syringe*
    - *Experience in infants less than 3 months or less than 5kg is limited*
- **Contraindications**
  - Hypersensitivity to related compounds (e.g. quinine, quinidine)
  - Patients with:
    - Active depression
    - Recent history of depression
    - Generalized anxiety disorder
    - Psychosis
    - Schizophrenia or other major psych disorders
    - History of convulsions
- Side-effects
  - Cardiac rhythm disturbances
  - Exercise caution when performing activities requiring alertness and fine motor coordination such as driving, piloting, operating heavy machinery as dizziness, loss of balance have occurred with Mefloquine during and following its use
- Adverse Reactions:
  - Reactions (symptoms) attributable to Mefloquine cannot be distinguished from symptoms of malaria. Due to long half-life of the drug, symptoms could persist for several weeks following the last dose.
  - Prophylaxis
    - Vomiting (3%)
    - Dizziness
    - Syncope (fainting)
    - Extrasystoles (skipped heartbeats; less than1%)
  - Treatment
    - Dizziness, headache
    - Myalgia (muscle aches)
    - Nausea, vomiting
    - Fever, chills
    - Diarrhea
    - Skin rash
    - Abdominal pain
    - Fatigue
    - Loss of appetite
    - Tinnitus (ringing in the ears)

- **Contraindications**
  - Hypersensitivity to any component of product, or other nitroimidazole derivatives
  - Pregnancy (first trimester in patients with Trichomoniasis)
  - Administer with caution to patients with CNS diseases
  - Use with caution in patients with history of blood dyscrasias
- Side-effects
  - Disulfiram-like reaction including flushing, palpitations, tachycardia, nausea, vomiting may occur with concomitant ethanol ingestion. Refrain from ethanol during therapy and ≥1 to 3 days afterward.
- Adverse Reactions
  - Seizures
  - Peripheral neuropathy (numbness or parethesia of extremity)
  - Patients with undiagnosed candidiasis may present more prominent symptoms during therapy; treat with candicidal agent
- TMEP Use
  - Abdominal Pain Protocol
  - Gastroenteritis Protocol

Mobic – See Meloxicam

Motrin – See Ibuprofen

Morphine Sulfate (Opiod)

- Description: Narcotic analgesic. Alters perception of pain and emotional response to pain.
- WARNING
  - Have Narcan available when using Morphine.
  - Alters perception & emotional response to pain
- Indications:
  - Severe pain
  - Pain from cardiac ischemia
- **Contraindications:**
  - Respiratory depression
  - Hypotension
  - Head injury
- Adult Dose 4-15mg IV/IM slow push. Titrate to response.
- *Pediatric Dose: 0.1-0.2mg/kg IM / IV. Do not exceed 15mg.*
- Side-effects:
  - ↓ RR
  - Hypotension
  - Bradycardia
  - Nausea
  - Vomiting
  - Dizziness
  - Pruritus
  - Skin flushing
- Adverse Reactions:
  - Seizures with large doses
  - Constipation
  - Ileus
  - Urinary retention

  - Meningitis Protocol (Prophylaxis)
  - Pain Management Protocol
  - Sublingual Hematoma Protocol
  - Urinary Tract Infection Protocol

Mupirocin Ointment 2% (Bactroban)

- Description: Topical antibacterial
- Indications
  - Impetigo
  - Topical Skin Infection
- Adult dose
  - Clean affected area
  - Apply small amount of antibiotic on the area 1-3 times/day
  - The affected area may be covered by gauze or a sterile bandage
- *Pediatric dose:*
  - *Safety in children has been established in ages 2-16 yrs*
  - *Pediatric dosing like adult dosing*
- **Contraindications**
  - Should not be used with open wounds
- Side-effects
  - Burning, stinging, pain, itching at application site
  - Adverse reactions
  - Nausea
- Adverse Reactions
  - Dry skin
  - Tenderness
  - Swelling
  - Contact dermatitis
  - Increased exudate (rare)
  - Systemic reactions (rare)
- Preparation procedure/ Other notes
  - For external use only
  - Avoid eyes and mucosal membranes
  - If no improvement in 3-5 days, consider alternative therapy
- TMEP Use
  - Epistaxis Protocol
  - Ingrown Toenail Protocol

Narcan – See Naloxone HCl

Naloxone HCl (Narcan)

- Description: Narcotic antagonist.
- Indications: Known or suspected narcotic induced respiratory depression.
  - WARNING
  - Have available when using morphine.
- Adult Dose 0.4-2mg IV. Repeat q2-3min/prn.
  - Duration is 20-40 minutes (less than duration of action of morphine). Repeat doses of may be necessary after 20-30 minutes.
- *Pediatric Dose: 0.01mg/kg dose IM / IV / SQ q2-3min.*
  - *If initial dose does not result in clinical response, increase dose up to 0.1mg/kg*
  - *If no response after 10mg has been administered, diagnosis of narcotic induced toxicity should be questioned.*

- Preparation procedure/ Other notes
  - Patients given Mefloquine for *P. vivax* are at high risk for relapse and should subsequently receive Primaquine.
  - There is insufficient clinical data to document Mefloquine's effect on malaria caused by *P. ovale* or *P. malariae*
  - Liver impairment can prolong the elimination of Mefloquine
  - When Mefloquine is taken concurrently with oral live typhoid vaccines, attenuation of immunization cannot be excluded. Therefore, complete attenuated oral live vaccinations at least 3 days before starting Mefloquine
  - Anticonvulsant blood levels (e.g. phenytoin [Dilantin™], valproic acid [Depakote™], carbamazepine [Tegretol™], and phenobarbital) may be reduced by Mefloquine and therefore risk for convulsions may increase in patients with history of epilepsy. Mefloquine itself has also been associated with convulsions in the absence of anticonvulsant treatment
- TMEP Use
  - Malaria Protocol

Meloxicam (Mobic)

- Description: NSAID
- Indications:
  - Relief of the signs and symptoms of osteoarthritis and rheumatoid arthritis. .
  - Mild to moderate pain relief
- Dosage:
  - 7.5mg or 15mg daily. The maximum recommended daily oral dose is 15mg.
- **Contraindications:**
  - Allergy to NSAID class of drugs, Aspirin.
- Side-effects:
  - Allergic reaction
  - Anaphylactoid reactions including shock
  - Face edema
  - Fatigue
  - Fever
  - Hot flushes
  - Malaise
  - Syncope
  - Weight decrease
  - Weight increase
  - Dyspepsia
- TMEP Use
  - Pain Management Protocol

Metronidazole (Flagyl)

- Description: Nitroimidazole antibiotic
- Indications
  - Gastroenteritis presumed due to Giardia
- Adult dose
  - Amebic Dysentery – 750mg PO tid x 5-10 days
  - Trichomoniasis – 2 grams PO x 1 dose; OR 250mg PO tid x 7 days
  - Giardia – 250mg PO tid x 5 -7 days
  - Severe anaerobic infections – 1gm IV, the 500mg IV q6h
- *Pediatric dose*
  - Safety and efficacy have not been established, except for amebiasis. 35-50mg/kg tid for 10 days. Newborns exhibit a reduced capacity to eliminate the drug.

- TMEP Use
  - Back Pain Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Ingrown Toenail Protocol

Loperamide HCl (Imodium)

- Description: Antidiarrheal (opioid)
- Indications: Treatment of acute diarrhea. For use in acute, non-invasive diarrhea only
  - Refer to medical emergencies if blood and/or mucus are present in stool, or diarrhea is associated with fever (infectious diarrhea).
- Dose: 2 capsules (4mg) first dose, then 1 capsule (2mg) after every unformed stool, not to exceed 10mg (5 capsules) in 24 hours. Use only if control of diarrhea is critical for continued operations.
- **Contraindications:**
  - Acute dysentery.
  - No for use in children less than 12 years old.
- Side-effects:
  - Abdominal pain/distention
  - Nausea
  - Vomiting
  - Severe constipation
  - Drowsiness
  - Dizziness.
- Adverse Reactions: Hypersensitivity

- TMEP Use
  - Gastroenteritis Protocol

Macrolide Class of Antibiotics – See Azithromycin (Z-Pak™)

Malarone - See Atovaquone 250mg/ proguanil 100mg

Mefloquine (Lariam™)

- Description: antimalarial agent
- Indications
  - Prevention of mild to moderate malaria caused by *Plasmodium falciparum* (including chloroquine-resistant strains) and *P. vivax*
  - Treatment of mild to moderate malaria caused by Mefloquine-susceptible strains of *P. falciparum* (both chloroquine-susceptible and resistant strains) and *P. vivax*
- Adult dose
  - Prophylaxis: 250mg once weekly
    - Initiate therapy 1-2 weeks prior to departure to endemic area
    - Dose must be administered on same day of week
    - Continue prophylaxis for 4 additional weeks upon return from endemic area
  - Treatment: 5 tablets (1250mg) given as a split dose taken 6-8 hours apart.
  - Do not take on empty stomach
  - Take with at least 240ml (8oz) glass water

- Side-effects:
  - In narcotic dependent patient, withdrawal symptoms may be precipitated.
- Adverse Reactions: With higher than recommended doses:
  - Nausea
  - Vomiting
  - Tachycardia
  - Hypertension
  - Tremors
- TMEP Use
  - Loss of Consciousness (without seizures) Protocol

Nelfinavir (Viracept)

- Description: Anti-retroviral agent, protease inhibitor
- Indications: HIV Post Exposure Prophylaxis
- Adult Dose: 750mg three times a day, or 1250mg two times a day if taken with food.
- *Pediatric Dose: Children 2-13 years old: 45-55mg/kg bid, or 25-35mg/kg tid.*
  - *If tablets are unable to be takes may use powder form mixed with water, milk, formula, or dietary supplement. Do not use acidic juices. Once mixed, do not store for more than 6 hours.*
- **Contraindications:**
  - Hypersensitivity to Nelfinavir
  - Concurrent therapy with amiodarone, ergot derivatives, midazolam, pimozide, quinidine, triazolam
- Adverse Reactions:
  - Diarrhea (14-20% of adults, 39-47% of children)
  - Nausea
  - Flatulence
  - Rash
  - Decreased Lymphocytes
  - Decreased Neutrophils
  - Decreased Hemoglobin
  - Increased Creatine Kinase
  - Increased Transaminases
  - Abdominal Pain
  - Weakness
  - Other reactions occur at a rate of less than 2%
- Other Notes:
  - Has high potential for interactions with other drugs.
  - No recommended for use with rifampin, St John's wort, lovastatin, simvastatin, or proton pump inhibitors. Serum levels will be significantly reduced.
  - Should be taken with meals to increase plasma concentration.
  - If mixed with acidic food or juice (orange juice, apple juice, apple sauce) it may have a bitter taste.
- TMEP Use
  - HIV Post Exposure Prophylaxis Protocol

Nifedipine (Procardia)

- Description: An antianginal drug belonging to a class of pharmacological agents, the calcium channel blockers. It works by relaxing blood vessels so blood can flow more easily.
- Indications
  - Certain types of chest pain (angina). It may help to increase exercise tolerance and decrease the frequency of angina attacks. Use other medications (e.g., sublingual nitroglycerin) to relieve attacks of chest pain.
- Dose
  - 10mg PO, then 20mg PO qh.

- TMEP Use
  - Chest Pain Protocol
  - Pain Management Protocol

Moxifloxacin (Avelox)

- Description: 4th generation quinolone
- Broad spectrum antibiotic with broad anaerobic coverage for PO/IV administration). Inhibits DNA preventing cellular replication and division
- Indications:
  - Community-acquired pneumonia (CAP), including CAP caused by multi-drug resistant *Streptococcus pneumoniae**
  - Complicated skin and skin structure infections, including diabetic foot infections
  - Complicated intra-abdominal infections, including polymicrobial infections such as abscesses
- Dose: 400mg/day PO/IV
  - IV infusion should be over 60 minutes
  - Avoid use with antacids;
  - Decrease dose in renal impairment
  - Avoid using with antiarrhythmics - May cause prolonged QT interval
- **Contraindications:**
  - Hypersensitivity to fluroquinolones
  - Patients less than 18 years old
  - Pregnancy and lactation
  - Uncorrected hypokalemia
- Side-effects:
  - Headache
  - Nausea
  - Diarrhea
  - Photosensitivity
  - Insomnia
  - Vertigo,
- Adverse Reactions:
  - Teedon rupture
  - Use cautiously with NSAIDs due to increased CNS stimulaion
  - Prolonged QT interval
  - Abnormal dreams
  - Pseudomembranosus colitis
- Preparation procedure/ Other notes
  - WARNING Oral antacids decrease absorption of the Moxafloxacin when taken orally
  - Visually inspect any solution of Moxafloxacin for particulate matter and discoloration prior to use. Solution must be clear.
  - IV administration- must be reconstituted prior to administration
    - Do not mix or co-infuse with other medications
    - At cool temperatures precipitation may occur, which will re-dissolve at room temperature.
- TMEP Use
  - Barotrauma Protocol
  - Bronchitis/Pneumonia Protocol
  - Cellulitis/Cutaneous Abscess Protocol
  - Ear Infection Protocol
  - Epistaxis Protocol
  - Flank Pain (Renal Colic, Pyelonephritis, Kidney Stone) Protocol
  - Gastroenteritis Protocol
  - Ingrown Toenail Protocol

- Side-effects: Primarily vasodilatory in nature (hypotension, peripheral edema)
- Warning:
  - Although, in most patients, the hypotensive effect of nifedipine is modest and well tolerated, occasional patents have had excessive and poorly tolerated hypotension.
- TMEP use
  - Altitude Illness Protocol

Ondansetron (Zofran)

- Description: antiemetic
- Indications
  - Prevention of nausea and vomiting
- Adult dose:
  - Oral Dose: 4-8mg PO tid up to 48 hours
  - IV / IM Dose : 4mg IV over 2-5 minutes or 4mg IM injection, tid
- *Pediatric dose*
  - *Oral Dose:*
    - *Little information available on dosing in children less than 3 yrs*
    - *4–11 years of age: 4mg tid up to 48 hours*
    - *Greater than 12 years of age: 4-8mg PO bid up to 48 hours*
  - *IV Dose:*
    - *Little information available on dosing in children less than 2 yrs*
    - *2-12 years old and less than 40kg: single .1mg/kg IV dose over 2-5 minutes*
    - *2-12 years and greater than 40kg: 4mg IV over 2-5 minutes*
- **Contraindications**
  - Hypersensitivity to any component of product
- Side-effects
  - Anxiety
  - Dizziness
  - Sedation/drowsiness
  - Headache
  - Malaise/fatigue
  - Chills/shivering
  - Constipation or diarrhea
  - Fever
  - Pruritis
  - Urinary retention
  - Musculoskeletal pain
  - Extrapyramidal symptoms
  - Arrhythmias
  - Hypotension
  - Chest pain
- Adverse Reactions
  - Elevated liver transaminases
  - Rare cases of hypersensitivity, sometimes severe (anaphylaxis) have been reported
  - Syncope (rare)
  - Grand mal seizures (rare)
  - Bronchospasm (rare)
  - Transient blurred vision (rare)
  - Hypokalemia (rare)
  - Rifampin may decrease ondansetron levels
- TMEP Use
  - Nausea and Vomiting Protocol

- Dose: 30mg PO daily x 14 days beginning immediately after leaving the malarious area
  - Sceen for G6PD deficiency prior to dispensing.
  - Give with food to prevent gastric irritation.
- **Contraindications:**
  - G6PD deficiency
  - Rheumatoid Arthritis
  - SLE
  - Pregnancy
- Side-effects:
  - Darkening of urine
  - Fevers
  - Chills
  - Cyanosis
  - Nausea
  - Vomiting
  - Abdominal cramps
- Adverse Reactions:
  - Visual disturbances
  - Hypertension
  - Anemia/leukopenia
  - Methemoglobinemia
- TMEP Use
  - Malaria Protocol

Procardia – See Nifedipine

Promethazine HCl (Phenergan)

- Description: Phenothiazine class. An H1 receptor blocking agent. Antihistamine, sedative, antimotion-sickness, antiemetic, and anticholinergic effects. The duration of action is generally from 4-6 hours. The major side reaction of this drug is sedation.
- Indications:
  - Antihistamine for allergies
  - Anaphylactic reactions in addition to epinephrine.
  - Nausea
  - Vomiting
  - Motion sickness.
  - Antiemetic therapy
- Adult Dose
  - Oral Dose
    - Nausea / Vomiting: The average adult dose is 25mg q4h.
    - Motion Sickness: The average adult dose is 25mg bid. The initial dose should be taken one-half to one hour before anticipated travel and be repeated 8-12 hours later, if necessary. On succeeding days of travel, it is recommended that 25mg be given on arising and again before the evening meal.
  - Parenteral: Administered by deep IM injection
    - Nausea / Vomiting: 12.5mg to 25mg q4-6h PRN. If taking narcotics or barbiturates, it may be necessary to reduce doses of those medications to prevent excess somnolence.
    - Motion Sickness: 12.5mg to 25mg; repeat PRN up to 4 times/day
- *Pediatric Dose:*
  - *Oral Dose:*
    - *Nausea / Vomiting*
      - *2-12 years old; 1.1mg/kg of body weight. Do not exceed half of the suggested adult dose.*

- Adult Dose
  - 30-60mg q4-6h PO
- *Pediatric Dose:*
  - *6-12 years old: 30mg/dose PO q4-6h*
  - *2-5 years old: 15mg/dose PO q4-6h*
- **Contraindications**
  - Hypersensitivity
  - Narrow angle glaucoma
- Precautions:
  - Pregnancy
  - Cardiac disorders
  - Hyperthyroidism
  - Diabetes mellitus
  - Prostatic hypertrophy
  - Lactation
  - Hypertension
- Side-effects
  - CNS: Tremors, anxiety, insomnia, headache, dizziness, halucinations, seizures
  - CV: Palpitations, Tachycardia, Hypertension, Chest Pain, Dysrrhythmias
  - EENT: Dry nose, Irritation of nose and throat
  - GI: Nausea, vomiting, anorexia, dry mouth
  - GU: dysuria
- Other Notes
  - Do not use continucusly, or more than recommended dose.
  - Rebound congestion may occur.
  - Avoid taking at bedtime, stimulation may occur.
- TMEP Use
  - Allergic Rhinitis/Hay Fever/ Cold Like Symptoms
  - Barotrauma Protocol

Quinolones – General Antimicrobial Spectrum

- 1st Generation: Gram negative (excluding Pseudomonas), urinary tract only.
  - *Example nalidixic acid*
- 2nd Generation: Gram negative (including Pseudomonas); Staph aureus but not Pneumococcus; some atypicals
  - *Examples: ciprofloxacin, norfloxacin, ofloxacin*
- 3rd Generation: Gram negative (including Pseudomonas); gram positive (including Staph aureus and Pneumococcus); expanded atypical coverage.
  - *Example: levofloxacin*
- 4th Generation: Same as 3rd generation: plus broad anaerobic coverage.
  - *Examples: gatifloxacin, moxifloxacin, trovafloxacin*

Rabeprazole (Aciphex)

- Description: GI Agent – Proton Pump Inhibitor (PPI)
- Gastric PPI that specifically suppresses gastric acid secretion by inhibiting the acid secretion in the cells of the stomach. Does not have H2 histamine receptor blocking properties.
- Indications: For healing and maintenance of erosive or ulcerative gastroesophageal reflux disease (GERD), duodenal ulcers and hypersecretory conditions.
- **Contraindications:**
  - PPI Hypersensitivity
  - Pregnancy
- Adult Dose:
  - 20mg PO qd

Salmetrol (Serevent)

- Description: Long acting inhaled beta-2 adrenergic agonist; relaxes bronchial smooth muscle (bronchodilator)
- Indications:
  - Relief of asthma
  - Prevention/treatment of exercise-induced bronchospasm
  - Treatment for Chronic Obstructive Pulmonary Disease (COPD)
  - Nocturnal Asthma
- Adult Dosage:
  - 1 inhalation every 12 hours (twice daily)
- Pediatric Dosage
  - If more than 4 years of age, same as adult dose
- **Contraindications:**
  - Hypersensitivity to salmeterol or other beta-2 agonists
- Side-effects:
  - Dry mouth/throat (sugarless hard candy or ice chips will often relieve symptoms)
- Adverse Reactions:
  - Cardiovascular: Tachyarrythmias
  - Neurologic: Dizzyness, Headache, Tremor
  - Respiratory: Throat Irritation, also Exacerbation of asthma (Severe)
- Caution:
  - This medication **DOES NOT** give immediate relief in the event of asthma attack or bronchospasm
  - This medication **SHOULD NOT** be used in combination with other long-acting inhaled beta-agonists (e.g. fonnoterol, salmeterol/fluticasone)
  - Milk allergy; milk protein in the nhalation powder formulation
- TMEP Use
  - Altitude Illness Protocol

Septra – See Trimethoprim-Sulfamethoxazole

Serevent – See Salmeterol

Sudafed - See Pseudoephedrine

Tequin – Gatifloxacin **(No longer used)**

Tetracaine .5% Drops

- Description: Local anesthetic
- Indications: As a topical optic anesthetic (may aid in ocular exam to relieve blepharospasm); removal of foreign bodies
- Dose:
  - 1 or 2 drops 2 to 3 minutes before procedure
  - See appropriate TMEP
- **Contraindications:**
  - No for prolonged use
- Side-effects:
  - Stinging
  - Tearing
  - Swelling
  - Sensitivity to light

- *Children less than 2 years old: Contraindicated*
- *Motion Sickness: Contraindicated in children*
- *Parenteral: Administered by deep IM injection*
- *Nausea / Vomiting :*
- *2- 12 years old: 12.5mg to 25mg q4-6h PRN. If taking narcotics or barbiturates, reduce the dose to 1.1mg/kg.*
- *Motion Sickness: Contraindicated in children*

- **Contraindications**
  - Subcutaneous injection may result in tissue necrosis
  - Children less than 2 years old
  - Comatose states
  - Antiemetics should not be used in vomiting of unknown etiology in children.
  - Asthma
- Side-effects
  - Drowsiness, sedation, sleepiness
  - Anticholinergic effects – dry mouth, urinary retention, dry eyes, constipation
  - Photosensitivity
  - Bradycardia.
  - Urticaria,
  - Sedation
  - Respiratory Depression
  - Hypotension
  - Chest pain
- Adverse Reactions
  - Lowers seizure threshold
  - Extrapyramidal symptoms, dystonia
  - May exacerbate glaucoma
  - May exacerbate hypertension
  - Cholestatic jaundice
  - Arrhythmias
- WARNING
  - Warning
  - Intra-arterial injection may result in gangrene of the affected extremity
  - Because of the potential for Phenergan to reverse epinephrine's vasopressors effect, epinephrine should **NOT** be used to treat hypotension associated with Phenergan overdose.
- Preparation procedure/Other Notes
  - Store at room temperature, between 15°-25° C (59°-77° F)
  - Protect from light.
  - Use carton to protect contents from light.
  - Do not use if solution is discolored or contains a precipitate.
  - IV administration may be hazardous and is **NOT** recommended
- TMEP Use
  - Nausea and/or Vomiting Protocol

Proventil – See Albuterol Inhaler

Pseudoephedrine (Sudafed)

- Description: Adrenergic class. Primary activity though α-effects on respiratory mucosal membranes reducing congestion, hyperemia, edema, and minimal bronchodilation secondary to β-effects.
- Indications:
  - Nasal decongestant
  - Adjunct in otitis media with antihistamines

Oral Fentanyl (Actiq Lozenge)

- Description: Opioid. Oral transmucosal fentanyl citrate.
- Indications: Severe battlefield related trauma pain
- Dosage: 400-800mcg.
  - The blister package should be opened with scissors immediately prior to product use. The patient should place the ACTIQ unit in his or her mouth between the cheek and lower gum, occasionally moving the drug matrix from one side to the other using the handle. The ACTIQ unit should be sucked, not chewed. A unit dose of ACTIQ, if chewed and swallowed, might result in lower peak concentrations and lower bioavailability than when consumed as directed.
  - The ACTIQ unit should be consumed over a 15-minute period. Longer or shorter consumption times may produce less efficacy than reported in ACTIQ clinical trials. If signs of excessive opioid effects appear before the unit is consumed, the drug matrix should be removed from the patient's mouth immediately and future doses should be decreased.
- **Treatment of Overdose**:
  - Ventilatory support
  - Intravenous access
  - Narcan (naloxone) or another opioid antagonist may be warranted in some instances, but it is associated with the risk of precipitating an acute withdrawal syndrome.
- Side-effects: The most serious adverse effects associated with all opioids are:
  - Respiratory depression (potentially leading to apnea or respiratory arrest)
  - Circulatory depression
  - Hypotension
  - Shock
  - All patients should be followed for symptoms of respiratory depression.
- TMEP Use
  - Pain Management Protocol

Oxymetazline HCl (Afrin Nasal Spray)

- Description: Vasoconstrictor (decongestant)
- Indications: Use as an adjunct to Valsava maneuver to clear ears and sinuses during compression and decompression.
- Dose: Spray into each nostril 2 times, twice daily. Not to exceed three consecutive days due to rebound congestion
  - NOTE: Do not tilt head backwards while spraying.
- **Contraindications:**
  - Severe damage to tympanic membrane/sinuses from barotrauma.
- Side-effects:
  - Burning
  - Sneezing and stinging of nasal mucosa
- Adverse Reactions:
  - Rhinitis
  - Rebound Congestion
- TMEP Use
  - Epistaxis Protocol

Phenergan – See Promethazine HCl

Primaquine

- Description: Antimalarial
- Indications: Used to prevent relapse of P. vivax and P. ovale malarias and to prevent attacks after departure from areas where P. vivax and P.ovale malarias are endemic. Used

- Adverse Reactions:
  - Conjunctival redness
  - Transient eye pain
  - Hypersensitivity reactions
- TMEP Use
  - Corneal Abrasion, Corneal Ulcer, Conjunctivitis Protocol

Toradol – See Ketorolac

Trimethoprim-Sulfamethoxazole (TMP-SMZ, Bactrim, Septra)

- Description: Antimicrobial – antibacterial, sulfonamide
- Fixed combination of TMP and SMZ, synthetic folate antagonists and enzyme inhibitors that prevent bacterial synthesis of essential nucleic acids and proteins; effective against Pneumocystis carinii pneumonitis, Shigellosis enteritis, most strains of Enterobacteriaceae, Nocardia, Legionella micdadei, and Legionella pneumophila, and Haemophilus ducreyi
- Indications:
  - Cellulitis
  - Enteritis
  - Urinary Tract Infections
- Adult Dose 160mg TMP/800mg SMZ (DS) PO bid
- **Contraindications:**
  - TMP, SMZ, sulfonamide, or bisulfite hypersensitivity
  - Group A beta-hemolytic streptococcal Pharyngitis
  - Use caution with severe allergy or bronchial asthma
  - G6PD deficiency
  - Pregnancy
- **Side-effect:**
  - Rash
  - Toxic Epidermal Necrolysis
  - Nausea and Vomiting
  - Diarrhea
  - Pseudomembranous enterocolitis
  - Abdominal Pain
- TMEP Use
  - Cellulitis/Cutaneous Abscess Protocol
  - Urinary Tract Infection Protocol

Toradol – See Ketorolac

Tylenol – See Acetaminophen

Valium – See Diazepam

Ventolin – See Albuterol Inhaler

Viracept – See Nelfinavir

Xylocaine – See Lidocaine HCL

- *Pediatric Dose:*
  - *Contraindicated.*
- Side-effects:
  - Headaches
  - Nausea
  - Vomiting
  - Diarrhea
  - Abdominal cramps
  - ↑ temperature
- Adverse Reactions:
  - Stevens-Johnson Syndrome
  - Toxic Epidermal Necrolysis (Fatalities have been reported.)
- Other Notes
  - This medication should be swallowed whole. It should not be crushed or chewed.
- TMEP Use
  - Abdominal Pain Protocol

Ranitidine (Zantac)

- Description: H-2 blocker; ↓ secretion of stomach acid
- WARNING
  - NOTE: Drug Interactions: ↓absorption of oral diazepam.
- Indications:
  - Gastric and/or peptic ulcers
  - Upper GI bleeds
  - Prevention of stress ulcers in burn victims or patients on steroid treatment.
  - Drug of choice for treatment of gastric or peptic ulcers.
  - Adjunct in treatment of urticaria and anaphylaxis.
- Adult Dosage:
  - 50mg IV or IM q6-8 hours for ucers, burns, steroid use, upper GI bleeds, urticaria or anaphylaxis.
  - Oral dose: 150mg bid for ulcer, urticaria.
- *Pediatric Dose: 1.5mg/kg IV x 1, then 0.75mg/kg IV every 12 hours*
- **Contraindications:** Known/suspected liver disease
- Side-effects:
  - Headache
  - Diarrhea
  - Constipation
  - Muscle aches
  - Vertigo
  - Malaise
  - Dry mouth
  - Nausea
  - Vomiting
- Adverse Reactions:
  - Thrombocytopenia
  - Liver toxicity
- TMEP Use
  - Abdominal Pain Protocol
  - Anaphylactic Reaction Protocol
  - Chest Pain Protocol (Other Etiologies)

Rocephin (Ceftriaxone Sodium)

Z- Pak – See Azithromycin

Zantac – See Ranitidine

Zithromax – See Azithromycin

Zofran –See Ondansetron

Zymar – See Gatifloxacin 0.3% Ophthalmic Liquid

HETASTARCH 6% IN SODIUM CHLORIDE 500ML PLASTIC BAG (HESPAN) 12S	HETASTARCH 6% IN SODIUM CHLORIDE 500ML PLASTIC BAG (HESPAN) 12S	REPLACEMENT PREPARATIONS	65050012811247	00264198510	No	Yes
IBUPROFEN TABLETS (MOTRIN) USP 400MG 500S	IBUPROFEN TABLETS (MOTRIN) USP 400MG 500S	OTHER NONSTEROIDAL ANTIINFLAMMATORY AGENTS	65050012880335	53746013105	No	Yes
IBUPROFEN TABLETS (MOTRIN) USP 800MG 500 TABLETS PER BOTTLE	IBUPROFEN TABLETS USP 800MG 500 TABLETS PER BOTTLE	OTHER NONSTEROIDAL ANTIINFLAMMATORY AGENTS	65050012149062	53746013705	No	Yes
LAMIVUDINE 150MG & ZIDOVUDINE 300MG (COMBIVIR) CAPSULES 60S	LAMIVUDINE 150MG & ZIDOVUDINE 300MG (COMBIVIR) CAPSULES 60S	NUCLEOSIDE AND NUCLEOTIDE REVERSE TRANSCRIPTASE INHIBITORS	65050014629945	00173059500	No	Yes
LEVOFLOXACIN IN DEXTROSE 5MG/ML 100ML	LEVOFLOXACIN IN DEXTROSE 5MG/ML 100ML	QUINOLONES	65050149743949	00043000901	no	yes
LEVOFLOXACIN (LEVAQUIN) INJECTION 25MG/ML, 20ML SINGLE DOSE VIAL	LEVOFLOXACIN INJECTION 25MG/ML, 20ML SINGLE DOSE VIAL	QUINOLONES	65050014443356	00045068951	No	Yes
LEVOFLOXACIN (LEVAQUIN) TABLETS 500MG I.S. 100S	LEVOFLOXACIN TABLETS 500MG I.S. 100S	QUINOLONES	65050014446635	00045152510	No	Yes
LIDOCAINE HYDROCHLORIDE INJECTION USP 2% 20ML VIAL	LIDOCAINE HYDROCHLORIDE 2% INJECTION USP 20ML VIAL	LOCAL ANESTHETICS	65050059861117	00186012001	No	Yes
LOPERAMIDE HYDROCHLORIDE (IMODIUM) CAPSULE 2MG I.S. 100 CAPSULE	LOPERAMIDE HYDROCHLORIDE CAPSULES 2MG I.S. 100 CAPSULES/PACKAGE	ANTIDIARRHEA AGENTS	65050012385632	51079069020	No	Yes
MEFLOQUINE HYDROCHLORIDE (LARIAM) TABLETS 250MG I.S. 25S	MEFLOQUINE HYDROCHLORIDE TABLETS 250MG I.S. 25S	ANTIMALARIALS	65050131512275	00004017202	no	Yes
MELOXICAM 15MG TABLETS 100S	MELOXICAM 15MG TABLETS 100S	NONSTEROIDAL ANTI-INFLAMMATORY AGENTS	65050154112243	00597003001	No	Yes
METRONIDAZOLE HCL (FLAGYL IV RTU) 500MG IN 100ML SODIUM CHLORIDE	METRONIDAZOLE HCL 500MG IN 100ML SODIUM CHLORIDE PIGGYBACK BAGS	ANTIPROTOZOALS, MISC	65050146284450	00338105548	No	Yes

NELFINAVIR (VIRACEPT) MESYLATE TABLETS 300 TABLETS PER BOTTLE	NELFINAVIR MESYLATE TABLETS 300 TABLETS PER BOTTLE	ANTIVIRALS	65050148784694	63010001030	No	No
NEOMYCIN, POLYMYXIN B SULFATE, & HYDROCORTISONE (CORTISPORIN) OT	NEOMYCIN, POLYMYXIN B SULFATE, & HYDROCORTISONE OTIC SUSP USP 10ML	ANTIBACTERIALS	65050104382302	24208063562	No	Yes
NIFEDIPINE CAPSULES USP 10MG 100 CAPSULES PER BOTTLE	NIFEDIPINE CAPSULES USP 10MG 100 CAPSULES PER BOTTLE	DIHYDROPYRIDINES	65050112638842	00069280066	No	No
NORFLOXACIN TABLETS 400MG 100 TABLETS PER BOTTLE	NORFLOXACIN TABLETS 400MG 100 TABLETS PER BOTTLE	QUINOLONES	65050125885642	00006070568	No	No
OFLOXACIN IN DEXTROSE INJECTION 4MG/ML 100ML BOTTLE 12/PACK/CASE	OFLOXACIN IN DEXTROSE INJECTION 4MG/ML 100ML BOTTLE 12/PACK/CASE	QUINOLONES	65050136641123	00062155201	No	No
OFLOXACIN OTIC SOLUTION 0.3% 0.25ML SINGLE DOSE DROPPERETTE 20S	OFLOXACIN OTIC SOLUTION 0.3% 0.25ML SINGLE DOSE DROPPERETTE 20S	ANTIBIOTICS	65050154924952	63395010111	No	No
OFLOXACIN TABLETS 200MG 50 TABLETS PER BOTTLE	OFLOXACIN TABLETS 200MG 50 TABLETS PER BOTTLE	QUINOLONES	65050134648882	00062154002	No	No
OFLOXACIN TABLETS 200MG I.S. 100 TABLETS PER PACKAGE	OFLOXACIN TABLETS 200MG I.S. 100 TABLETS PER PACKAGE	QUINOLONES	65050134620596	00062154005	No	No
OFLOXACIN TABLETS 300MG 50 TABLETS PER BOTTLE	OFLOXACIN TABLETS 300MG 50 TABLETS PER BOTTLE	QUINOLONES	65050134620053	00062154102	No	No
ONDANSETRON HYDROCHLORIDE (ZOFRAN) INJECTION 2MG/ML 20ML VIAL	ONDANSETRON HYDROCHLORIDE INJECTION 2MG/ML 20ML VIAL	5-HT3 RECEPTOR ANTAGONISTS	65050133961184	00173044200	No	Yes

CIPROFLOXACIN (CIPRO) 400MG IN 200ML D5W PIGGYBACK BAGS 24S	CIPROFLOXACIN 400MG IN 200ML D5W PIGGYBACK BAGS 24S	QUINOLONES	65050133661179	00085174102	No	Yes
CIPROFLOXACIN CONCENTRATE (CIPRO) FOR INJECTION 10MG/ML, 40ML VIAL 5S	CIPROFLOXACIN CONCENTRATE FOR INJECTION 10MG/ML, 40ML VIAL 5S	QUINOLONES	65050148666591	00085173101	No	Yes
CIPROFLOXACIN (CIPRO) TABLETS USP 500MG 100S	CIPROFLOXACIN TABLETS USP 500MG I.S. 100S	QUINOLONES	65050127236650	00172531210	No	Yes
CIPROFLOXACIN (CIPRO) TABLETS USP 500MG I.S. 30 TABLETS PER PACKAGE	CIPROFLOXACIN TABLETS USP 500MG I.S. 30 TABLETS PER PACKAGE	QUINOLONES	65050149918344		No	Yes
DEXAMETHASONE SODIUM PHOSPHATE INJECTION 4MG/ML 30ML	DEXAMETHASONE SODIUM PHOSPHATE INJECTION 4MG/ML 30ML	ADRENALS	65050152251164	63323016530	No	Yes
DEXTROSE TABLETS 45 GRAMS MULTI-USE SQUEEZE TUBE 12 TABLETS	DEXTROSE TABLETS 45 GRAMS MULTI-USE SQUEEZE TUBE 12 TABLETS	CALORIC AGENTS	65050142353165	08290328230	No	No
DIAZEPAM 5MG TABLETS	DIAZEPAM 5MG TABLETS I.S. 100S	BENZODIAZEPINES	65050109858602	51079028521	Yes	Yes
DIAZEPAM 5MG/ML, 2ML AUTOINJECTOR (CANA)	DIAZEPAM 5MG/ML, 2ML AUTOINJECTOR (CANA)	BENZODIAZEPINES	65050127409951		Yes	Yes
DIAZEPAM (VALIUM) INJ 5MG/ML MDV 5S	DIAZEPAM (VALIUM) INJECTION 5MG/ML MDV 5S	BENZODIAZEPINES	65050151364434	00409321302	Yes	Yes
DIAZEPAM (VALIUM) INJECTION 5MG/ML 2ML SYRINGE LUER LOCK W/O NE	DIAZEPAM INJECTION USP 5MG/ML 2 ML UNIT 10 PER PACKAGE	BENZODIAZEPINES	65050150534476	00409127332	Yes	Yes
DIPHENHYDRAMINE HYDROCHLORIDE (BENADRYL) CAPSULES USP 50MG 100S	DIPHENHYDRAMINE HYDROCHLORIDE CAPSULES USP 50MG 100S	ETHANOLAMINE DERIVATIVES	65050011663350	00555005902	No	Yes
DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML CARPUJECT 10S	DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML CARPUJECT 10S	ETHANOLAMINE DERIVATIVES	65050151829962	00409229031	No	Yes

ONDANSETRON (ZOFRAN) HYDROCHLORIDE INJECTION 2MG/ML 2ML VIAL 5/PACKAGE	ONDANSETRON HYDROCHLORIDE INJECTION 2MG/ML 2ML VIAL 5/PACKAGE	5-HT3 RECEPTOR ANTOGONISTS	6505013945963	00173044202	No	Yes
OXYMETAZOLINE HYDROCHLORIDE (AFRIN) NASAL SOLUTION 15ML SPRAY	OXYMETAZOLINE HYDROCHLORIDE NASAL SOLUTION 15ML SPRAY	VASOCONSTRICTORS	6505000694177	00102144464	No	Yes
PRIMAQUINE PHOSPHATE TABLETS USP 15MG 100S	PRIMAQUINE PHOSPHATE TABLETS USP 15MG 100S	ANTIMALARIALS	6505013482465	00024159601	No	Yes
PROMETHAZINE HYDROCHLORIDE INJECTION USP 25MG/ML 10ML	PROMETHAZINE HYDROCHLORIDE INJECTION USP 25MG/ML 10ML MDV 10S	ANTIHISTAMINE DRUGS	6505015401933	66758060119	No	Yes
PROMETHAZINE HYDROCHLORIDE (PHENERGAN) TABLETS USP 25MG 100S	PROMETHAZINE HYDROCHLORIDE TABLETS USP 25MG 100S	PHENOTHIAZINE DERIVATIVES	6505013648557	00591530701	No	Yes
PSEUDOEPHEDRINE HYDROCHLORIDE (SUDAFED) TABLETS USP 30MG 24S	PSEUDOEPHEDRINE HYDROCHLORIDE TABLETS USP 30MG 24S	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505001498098	00904505324	Yes	Yes
QUININE SULFATE CAPSULES USP 325MG 100 CAPSULES PER BOTTLE	QUININE SULFATE CAPSULES USP 325MG 100 CAPSULES PER BOTTLE	ANTIMALARIALS	6505009579532	00172417260	No	No
QUININE SULFATE CAPSULES USP 325MG 1000 CAPSULES PER BOTTLE	QUININE SULFATE CAPSULES USP 325MG 1000 CAPSULES PER BOTTLE	ANTIMALARIALS	6505010428040	52544071610	No	No
QUININE SULFATE TABLETS 260MG 100 TABLETS PER BOTTLE	QUININE SULFATE TABLETS 260MG 100 TABLETS PER BOTTLE	ANTIMALARIALS	6505011137514	00172300160	No	No
QUININE SULFATE TABLETS USP 260MG I.S. 100 TABLETS PER PACKAGE	QUININE SULFATE TABLETS USP 260MG I.S. 100 TABLETS PER PACKAGE	ANTIMALARIALS	6505012399803	47679050735	No	No

DIPHENHYDRAMINE HYDROCHLORIDE (BENADRYL) INJ USP 50MG/ML 1ML VI	DIPHENHYDRAMINE HYDROCHLORIDE INJ USP 50MG/ML 1ML VIAL 25S	ETHANOLAMINE DERIVATIVES	6505010917538	00641037625	No	Yes
DOXYCYCLINE HYCLATE (VIBRATABS) TABLETS USP 100MG I.S. 30 TABLE	DOXYCYCLINE HYCLATE TABLETS USP 100MG I.S. 30 TABLETS/PACKAGE	TETRACYCLINES	6505014915506		No	Yes
DOXYCYCLINE HYCLATE (VIBRATABS) TABLETS USP 100MG 500S	DOXYCYCLINE HYCLATE TABLETS USP 100MG 500S	TETRACYCLINES	6505011534335	00172362670	No	Yes
DOXYCYCLINE HYCLATE (VIBRATABS) TABLETS USP 100MG, I.S., 100S	DOXYCYCLINE HYCLATE TABLETS USP 100MG, I.S., 100S	TETRACYCLINES	6505015050146	00182153589	No	Yes
EPINEPHRINE INJECTION USP 0.1MG/ML 10ML LIFESHIELD SYRINGE 10S	EPINEPHRINE INJECTION USP 0.1 MG/ML 10ML LIFESHIELD SYRINGE 10S	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505015273957	00074492134	No	Yes
EPINEPHRINE INJECTION USP0.1MG PER ML SYRINGE-NEEDLE UNIT10ML10S	EPINEPHRINE INJECTION USP0.1MG PER ML SYRINGE-NEEDLE UNIT10ML10S	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505010932384	00074490118	No	Yes
ERTAPENEM SODIUM (INVANZ) 1GM VIAL 10S	ERTAPENEM SODIUM 1GM VIAL 10S	CARBAPENEMS	6505015035374	00006384371	No	Yes
FLUCONAZOLE (DIFLUCAN) TABLETS 100MG 100 TABLETS PER PACKAGE	FLUCONAZOLE TABLETS 100MG 100 TABLETS PER PACKAGE	AZOLES	6505013196233	00049342041	No	No
FLUCONAZOLE TABLETS (DIFLUCAN)100MG 30 TABLETS PER BOTTLE	FLUCONAZOLE TABLETS 100MG 30 TABLETS PER BOTTLE	AZOLES	6505013196248	00049342030	No	No
GATIFLOXACIN (ZYMAR) OPHTHALMIC SOLUTION 0.3% 2.5ML	GATIFLOXACIN OPHTHALMIC SOLUTION 0.3% 2.5ML	ANTIBACTERIALS	6505015090735	00023921803	No	No
HETASTARCH 6% IN LACTATED ELECTROLYTES 500ML PLASTIC BAG (HEXTEN	HETASTARCH 6% IN LACTATED ELECTROLYTES 500ML PLASTIC BAG (HEXTEND) 12S	REPLACEMENT PREPARATIONS	6505014988636	00409155554	No	Yes

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METRONIDAZOLE (FLAGYL) TABLETS USP 250MG I.S. 100S	METRONIDAZOLE TABLETS USP 250MG I.S. 100S	ANTIPROTOZOALS, MISC	6505011424914	00182133089	No	Yes
MORPHINE SULFATE 15MG/ML INJECTION 20ML	MORPHINE SULFATE 15MG/ML INJECTION 20ML	OPIATE AGONISTS	6505011533284	10019017963	Yes	Yes
MORPHINE SULFATE INJECTION 10MG AUTOMATIC INJECTOR	MORPHINE SULFATE INJECTION 10MG AUTOMATIC INJECTOR	OPIATE AGONISTS	6505013025530		Yes	Yes
MORPHINE SULFATE INJECTION 10MG/ML 1ML VIAL 25 PER PACKAGE	MORPHINE SULFATE INJECTION 10MG/ML 1ML VIAL 25 PER PACKAGE	OPIATE AGONISTS	6505014838274	10019017844	Yes	Yes
MORPHINE SULFATE INJECTION 10MG/ML, 1ML CARTRIDGE UNIT, LUER LOC	MORPHINE SULFATE INJECTION 10MG/ML, 1ML CARTRIDGE UNIT, LUER LOCK, NEEDLELESS, 10S	OPIATE AGONISTS	6505015055813	00409126130	Yes	Yes
MOXIFLOXACIN (AVELOX) HYDROCHLORIDE	MOXIFLOXACIN HYDROCHLORIDE	QUINOLONES	6505015034772	00026858169	No	No
MOXIFLOXACIN (AVELOX) HYDROCHLORIDE TABLETS 50S	MOXIFLOXACIN HYDROCHLORIDE TABLETS 50S	QUINOLONES	6505015163194	00026858188	No	No
MOXIFLOXACIN (AVELOX)HYDROCHLORIDE TABLETS 5S	MOXIFLOXACIN HYDROCHLORIDE TABLETS 5S	QUINOLONES	6505015163201	00026858141	No	No
MUPIROCIN (BACTROBAN) 2% OINTMENT 22GM	MUPIROCIN 2% OINTMENT 22GM	ANTIBACTERIALS	6505014805678	00029152544	No	Yes
NALOXONE ()NARCAN HCL 1MG/ML INJECTION 2ML SYRINGE 10S	NALOXONE HCL 1MG/ML INJECTION 2ML SYRINGE 10S	OPIATE ANTAGONISTS	6505014078213	00548146900	No	Yes
NALOXONE HCL INJ (NARCAN) 0.4MG/ML 1ML VIAL 10S	NALOXONE HYDROCHLORIDE INJ 0.4 MG/ML 1ML VIAL 10S	OPIATE ANTAGONISTS	6505015334126	00409121501	No	Yes
NALOXONE HYDROCHLORIDE (NARCAN) INJECTION USP 0.4MG/ML 1ML AMPUL	NALOXONE HYDROCHLORIDE INJECTION USP 0.4MG/ML 1ML AMPUL 10/BX	OPIATE ANTAGONISTS	6505000797867	63481035810	No	Yes

Common Name	Nomenclature	AHFS Category	NSN	Recommended NDC	Controlled	JDF status
ACETAMINOPHEN 325MG (TYLENOL) TABLET 100S	ACETAMINOPHEN 325MG TABLET 100S	ANALGESICS AND ANTIPYRETICS, MISC	6505015302679	51111048878	No	Yes
ACETAMINOPHEN (TYLENOL) 500MG TABLETS USP 100S	ACETAMINOPHEN TABLETS USP 500MG 100S	ANALGESICS AND ANTIPYRETICS, MISC	6505014367129	51079039620	No	Yes
ACETAZOLAMIDE TABLETS (DIAMOX) 250MG 100 TABLETS PER BOTTLE	ACETAZOLAMIDE TABLETS USP 250MG 100 TABLETS PER BOTTLE	CARBONIC ANHYDRASE INHIBITORS	6505006648857	51672402301	No	Yes
ALBUTEROL SULFATE (CFC-F) INHALAT ON 90MCG AER W/ADAP 6.7 GM 200 ACTUATIONS	ALBUTEROL SULFATE (CFC-F) INHALATION 90MCG AER W/ADAP 6.7GM 200 ACTUATIONS	SYMPATHOMIMETIC (ADRENERGIC) AGENTS	6505015382871	00085113201	No	Yes
ASPIRIN (ST JOSHEPH'S CHILDREN'S ASPIRIN)	ASPIRIN 81MG TAB CHEW 36S	SALICYLATES	6505010339866	00904404073	No	Yes
ASPIRIN TABLETS USP 0.324GM 100S	ASPIRIN TABLETS USP 0.324GM 100S	SALICYLATES	6505001009985	00904200960	No	Yes
ATOVAQUONE 250MG & PROGUANIL 100MG TABLETS (MALARONE) 100S	ATOVAQUONE 250MG & PROGUANIL 100MG TABLETS (MALARONE) 100S	ANTIPROTOZOALS, MISC	6505014919430	00173067501	No	Yes
AZITHROMYCIN TABLETS 250MG 18S (3 Z-PAKS 6S)	AZITHROMYCIN TABLETS 250MG 18S (3 Z-PAKS 6S)	OTHER MACROLIDES	6505014491618	00781149668	No	Yes
BISACODYL (DULCOLAX) TABLETS USP 5MG FILM ENTERIC I.S. 100S	BISACODYL TABLETS USP 5MG FILM ENTERIC I.S. 100S	CATHARTICS AND LAXATIVES	6505001182759	00574000411	No	Yes
CEFTRIAXONE SODIUM (ROCEPHIN) 1GM VIAL 10S	CEFTRIAXONE SODIUM 1GM VIAL 10S	THIRD GENERATION CEPHALOSPORINS	6505012192760	00004196401	No	Yes
CEFTRIAXONE SODIUM STERILE USP 2GM VIAL 10 VIALS PER PACKAGE	CEFTRIAXONE SODIUM STERILE USP 2GM VIAL 10 VIALS PER PACKAGE	CEPHALOSPORINS	6505012293149	00781320995	No	Yes
CEPHALEXIN (KEFLEX) 250MG CAPSULES 100S	CEPHALEXIN 250MG CAPSULES 100S	FIRST GENERATION CEPHALOSPORINS	6505001656545	00093314501	No	Yes
CHLOROQUINE PHOSPHATE TABLETS USP 500MG 25 TABLETS PER BOTTLE	CHLOROQUINE PHOSPHATE TABLETS USP 500MG 25 TABLETS PER BOTTLE	ANTIMALARIALS	6505012679662	00143212522	No	Yes

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RANITIDINE (ZANTAC) INJECTION USP 25MG/ML 2ML SINGLE DOSE VIAL 10/PACKAGE	RANITIDINE INJECTION USP 25MG/ML 2ML SINGLE DOSE VIAL	HISTAMINE H2-ANTAGONISTS	65050120895S5	00173036238	No	Yes
RANITIDINE (ZANTAC) TABLETS USP 15/MG 60 TABLETS PER BOTTLE	RANITIDINE TABLETS USP 150MG 60 TABLETS PER BOTTLE	HISTAMINE H2-ANTAGONISTS	65050116077O2	00781188360	No	Yes
TETRACAINE HYDROCHLORIDE (PONTOCAINE) OPHTHALMIC SOLUTION 0.5% 15ML	TETRACAINE HYDROCHLORIDE OPHTHALMIC SOLUTION 05% 15ML	LOCAL ANESTHETICS	65050058247J7	24208092064	No	Yes
TRANSMUCOSAL FENTANYL (ACTIQ) 400MCG, 30'S	TRANSMUCOSAL FENTANYL 400MCG, 30'S	OPIATE AGONISTS	65059NCM90544	63459090430	Yes	No

2006 Joint Drug List Authors

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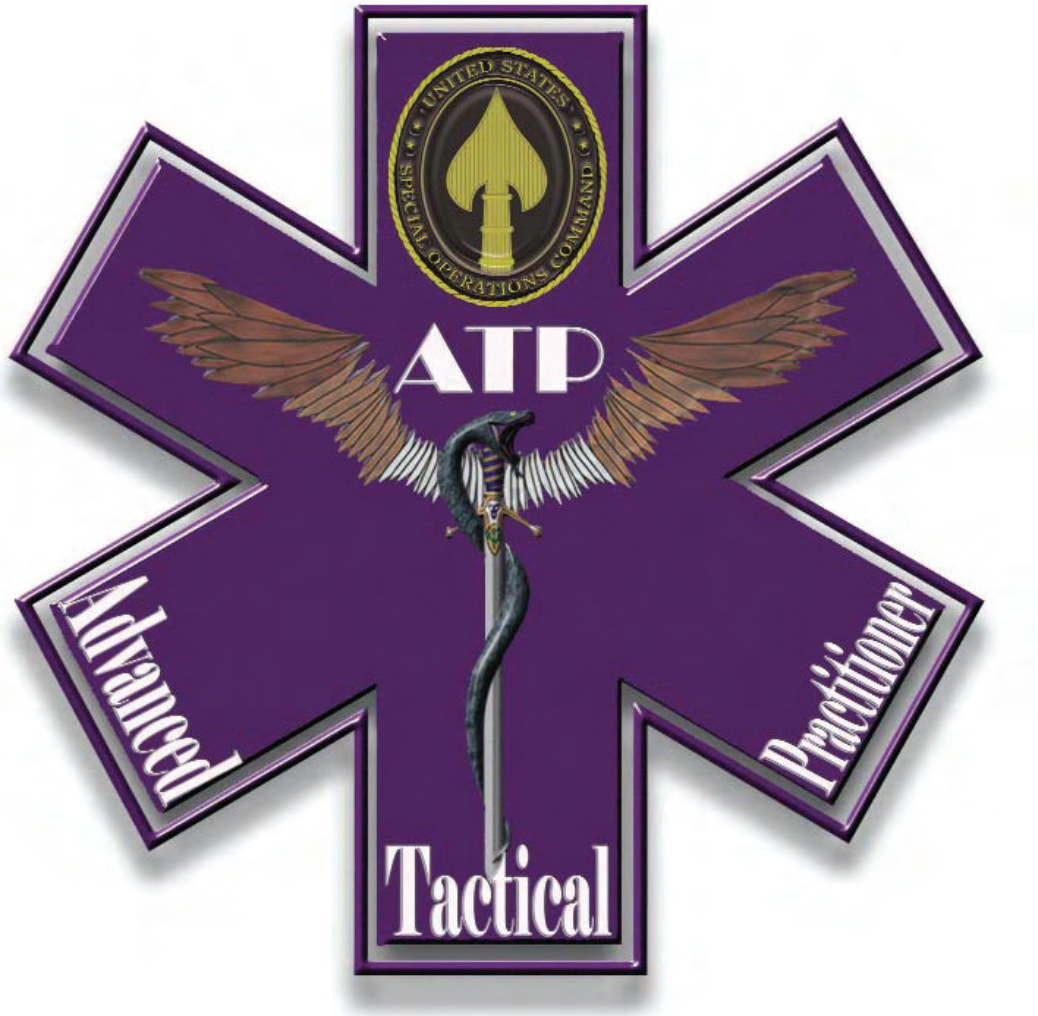
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