BY ORDER OF THE
SECRETARY OF THE AIR FORCE

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Medical Operations

THE AIR FORCE INDEPENDENT DUTY MEDICAL TECHNICIAN MEDICAL AND DENTAL TREATMENT PROTOCOLS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This is the initial publication of AFMAN 44-158. This manual provides patient treatment guidance and defines the Independent Duty Medical Technician's (IDMT) scope of care as outlined in the complementary AFI 44-103, *The Air Force Independent Duty Medical Technician Program/Medical Support for Mobile Medical Units.* It applies to all Independent Duty Medical Technicians throughout the Air Force, including the Air National Guard (ANG). It does not apply to Air Force Reserve Command (AFRC). Compliance with this manual is mandatory. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication,** through major commands to 381 TRS/XWB, Missile Road, Sheppard AFB TX, or AFMOA/SGOC, 110 Luke Ave Room 405, Bolling AFB DC 20332-7050

Chapter 1

INTRODUCTION

1.1. Background Information: These USAF IDMT Medical and Dental Treatment Protocols are the product of a concerted effort by representatives from all major command surgeons offices with the express goal to standardize the care IDMTs are permitted to provide regardless of location and command affiliation. The ever-increasing mobility requirements of Air Force IDMTs make this standardization is a necessity. These protocols also clearly define the scope of care parameters that the IDMT is expected and trained to work within. These treatment protocols are designed as a guide to accepted step-by-step treatments for medical disorders that may be encountered by IDMTs in the field. Critical to this system is the requirement for close communication between the IDMT and the assigned Physician and Dentist Preceptors. All IDMTs must be certified in the use of these protocols prior to treating patients IAW AFI 44-103, *The Air Force Independent Duty Medical Technician Program And Medical Support For Mobile Medical Units/Remote Sites* paragraphs 10.1.5 and 10.1.6.

1.2. General Guidance:

1.2.1. IDMTs are cautioned to remain extremely conservative when dispensing medication. It is important to note all medications listed in **Attachment 3**, **Drug Formulary** annotated with the term "MD" denotes those items that may be dispensed by the IDMT only after physician preceptor consultation. IDMTs must document the specific instructions and the name of the physician prescribing the medication on the SF 600, **Health Record - Chronological Record of Medical Care** entry. Dentist preceptors may approve deviations from prescribed dental treatment protocols, however, these deviations must be documented on AF Form 644, **Record of Dental Attendance.**

1.2.2. Intravenous Infusion options: If possible, contact physician preceptor to determine flow rate. Pending preceptor direction, if hypotensive general guidance is 1000cc wide open then 125cc/hr. For medication access: keep vein open (KVO).

Chapter 2

EMERGENCY MEDICINE PROTOCOLS

2.1. Anaphylactic Reaction (respiratory symptoms, oral swelling, or hypotension - not urticaria)

2.1.1. **IMMEDIATE ACTION**

2.1.2. Maintain open airway.

2.1.2.1. Administer oxygen, high flow with non-rebreather mask.

2.1.2.2. Administer epinephrine 1:1000 aqueous solution 0.2-0.5 ml, subcutaneous. (This dose may be repeated every 20 minutes as necessary.)

ACTION ALERT: The subcutaneous administration of epinephrine is the single most important action in the treatment of an anaphylactic reaction. IT MUST BE PERFORMED IMMEDIATELY. Do not administer epinephrine by I.V.

2.1.2.3. Place patient in shock position if BP <90/50 or patient is lightheaded.

2.1.2.4. Maintain body temperature (keep warm).

2.1.2.5. Secure I.V. access with normal saline.

2.1.2.6. Monitor vital signs.

2.1.2.7. **CONTACT PHYSICIAN PRECEPTOR**

2.1.2.8. If BP <90/50 initiate large volumes of fluid (saline, Ringer's lactate, plasma, colloid solutions or plasma expanders). Titrate to maintain systolic BP >90 mm Hg. **(Rapid expansion of intravascular fluid volume is necessary since large amounts of fluid escape to the extra vascular spaces.)** Other vasopressor drugs (I.V. dopamine at 2-20 micrograms/kg/min) may be necessary if the patient is not readily responding to the subcutaneous epinephrine.

2.1.2.9. Continue to assess vital signs and breath sounds every 5 minutes.

2.1.2.10. Other vasopressor drugs (dopamine) may be necessary if the patient is not readily yielding to the epinephrine

2.1.2.11. Administer diphenhydramine hydrochloride (Benadryl®), 50 mg, I.V. after epinephrine.

2.1.2.12. Albuterol 0.5% (0.5 ml mixed with 3 ml of normal saline) via nebulizer, or 2 puffs from inhaler if nebulizer is not available.

2.1.2.13. Administer Aminophylline 5 mg/kg for loading dose (infused no faster than 20 mg per minute), followed by Aminophylline 0.9 mg/kg I.V. drip, for bronchospasms.

2.1.2.14. If swelling causes airway to become obstructed, insertion of an endotracheal tube or an emergency cricothyroidotomy is indicated. If patient develops stridor or complains of difficulty getting air, consider immediate intubation prior to the development of laryngeal edema.

2.1.2.15. Once acute symptoms have resolved, administer antihistamines; diphenhydramine hydrochloride (Benadryl®), 25 mg, 1 tablet P.O. q.i.d., x 1 week. Oral corticosteroids may also be necessary.

2.1.2.16. May need to be taken longer if reaction is secondary to ingestion, or slow metabolizing drug.

2.1.2.17. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Before administering any drug or agent by injection always ensure that a treatment kit (as listed in AFI 44-103, Attachment 4) and oxygen for anaphylactic reaction are in immediate vicinity.

2.2. **Unconscious Patient**

2.2.1. **IMMEDIATE ACTION**

2.2.1.1. Establish unresponsiveness.

2.2.1.2. Establish and maintain an adequate airway.

2.2.1.3. Administer oxygen--high flow via a non-rebreather mask or initiate rescue breathing if no spontaneous respirations noted.
2.2.1.4. Initiate C-spine precautions.
2.2.1.5. Reassess breathing.
2.2.1.6. Check for carotid pulse. Initiate CPR and call for help if pulseless.
2.2.1.7. Initiate two large bore I.V. lines (draw blood upon starting intravenous for glucose level), use normal saline in one line at a KVO rate and Ringer's lactate in the second line.
2.2.1.8. **CONTACT PHYSICIAN PRECEPTOR**

CLINICAL NOTE: If trauma is involved, use Ringer's lactate in both lines. Microdrip administration sets should be used to control fluid replacement rate

2.2.1.9. Administer 50 cc's of 50% glucose solution I.V..
2.2.1.10. If no response, administer naloxone hydrochloride (Narcan®) 0.4-2 mg, sub-Q or IM.
2.2.1.11. May repeat q 2-3 minutes p.r.n. If no response is observed after administering 10 mg, the diagnosis of narcotic-induced toxicity should be questioned.
2.2.1.12. Monitor and record level of consciousness using Glasgow Coma Scale.
2.2.1.13. Consult with physician preceptor to determine evacuation priority and modality.

2.3. CARDIAC

2.3.1. **Cardiac Emergencies**
2.3.1.1. **SIGNS AND SYMPTOMS:**

CLINICAL NOTE: Any complaint of chest pain should initially be regarded as a potential cardiac emergency until proven otherwise. A thorough assessment is necessary as well as contact and concurrence by physician preceptor to review findings prior to allowing release of non-emergent appearing patient from your immediate care. Recurring chest pain patients with unconfirmed etiologies should be evacuated to the support facility for physician evaluation as soon as transportation is possible.

2.3.1.1.1. Diaphoresis
2.3.1.1.2. Dyspnea
2.3.1.1.3. Cyanosis
2.3.1.1.4. Palpitations, dizziness and syncope
2.3.1.1.5. Chest pain/with or without radiation
2.3.1.1.6. Nausea
2.3.1.1.7. Irregular rate $\geq$ 120 tachycardia or <60 bradycardia
2.3.1.2. **IMMEDIATE ACTION:**
2.3.1.2.1. **A:** Assess
2.3.1.2.2. **B:** Airway; begin artificial respiration if needed.
2.3.1.2.3. **C:** Check pulse; start chest compression if needed.
2.3.1.2.4. **D:** Attach AED/Defibrillator and shock if indicated.
2.3.1.2.5. **E:** Follow ACLS Algorithm; supportive care; evacuate.

Action Alert: The Automated External Defibrillator (AED/SAED) should never be applied to a conscious patient unless the unit has cardiac monitoring capability. It is only indicated for the pulseless unconscious patient. IDMTs need quarterly AED training to maintain proficiency in its use. Follow local directives for AED application and use. An AED is contraindicated for patients weighing less than 90 pounds.

2.3.1.3. **GENERAL MEASURES:**
2.3.1.3.1. Start oxygen; 10-15 liter per minute, non-rebreather mask or 6 liters per minute nasal cannula.

2.3.1.3.2. I.V. normal saline at KVO; if available use tubing with additive bag to permit medication administration when available.
2.3.1.3.3. Survey and assess patient (keep dynamic).
2.3.1.3.4. Cardiac monitor/EKG if available. (Some AEDs may be used to monitor)
2.3.1.3.5. Patient in semi-Fowlers position for comfort.
2.3.1.3.6. Calm/reassure.
2.3.1.3.7. **CONTACT PHYSICIAN PRECEPTOR**
2.3.1.3.8. Consult with physician preceptor to determine evacuation priority and modality.

Action Alert: A conscious cardiac patient can rapidly become an unconscious cardiac patient. It is critical to have quick access to the following equipment throughout the patient care and evacuation: AED/SAED, intubation equipment, airways and supplies, and also have suction equipment and supplies on hand.

2.3.2. **Arrhythmias**

CLINICAL NOTE: In dysrhythmias the heart rate may be slow or fast. Management will vary depending on whether heart rate is slow or fast as indicated below:

2.3.2.1. **(Bradycardia):** Pulse is slower than 60 beats per minute.
2.3.2.1.1. Rates above 40 beats per minute usually require no treatment unless associated with hypotension.
2.3.2.1.2. If rates are below 40 beats per minute or if symptomatic (hypotension, decreased level of consciousness), administer atropine 0.5 mg I.V.. May repeat doses up to a total of 2.0 mg I.V..
2.3.2.1.3. Administer oxygen, high flow by non-rebreather mask.
2.3.2.1.4. I.V. access with normal saline.
2.3.2.1.5. Monitor vital signs.
2.3.2.1.6. **CONTACT PHYSICIAN PRECEPTOR**
2.3.2.1.7. Consult with physician preceptor to determine evacuation priority and modality.
2.3.2.2. **(Tachycardia):** Pulse is between 150 and 250 beats per minute.

CLINICAL NOTE: Paroxysmal supraventricular tachycardia (PSVT) is one of the most common arrhythmias. Rhythm is regular and pulse rate is usually between 150 and 220 per minute. A rapid heartbeat may be the only symptom unless underlying heart disease exists.

2.3.2.2.1. Administer oxygen, high flow by non-rebreather mask.
2.3.2.2.2. I.V. normal saline.
2.3.2.2.3. Monitor vital signs.
2.3.2.2.4. **CONTACT PHYSICIAN PRECEPTOR**
2.3.2.2.5. Consult with physician preceptor to determine evacuation priority and modality.

CLINICAL NOTE: With preceptor approval the following steps may be attempted.

Have patient perform Valsalva maneuver (hold breath and attempt to breathe out against closed-off nose and mouth).

If under age 40, check both carotid arteries for patency and bruits. If patent and no bruits auscultated, apply firm but gentle pressure and massage at first over one carotid sinus (point of maximum pulsation medial to the angle of the jaw) for 10 to 20 seconds and then over the other--never massage both simultaneously. (Patient should be in a semi-recumbent position while this procedure is being performed.). DO NOT PERFORM THIS PROCEDURE UNLESS BOTH CAROTID ARTERIES ARE PATENT.

2.3.3. **Congestive Heart Failure**
2.3.3.1. **IMMEDIATE ACTION**

2.3.3.1.1. Administer oxygen, initially high flow by non-rebreather mask then adjust according to perfusion and comfort.

2.3.3.1.2. Place patient in semi-Fowlers sitting position

ACTION ALERT: The key elements in management of congestive heart failure are maintenance of an airway and increasing the patient's oxygen level.

2.3.3.1.3. **CONTACT PHYSICIAN PRECEPTOR**

2.3.3.1.4. Administer furosimide (Lasix®) 40 mg, I.V., injected slowly, the repeat dosage per preceptor's instructions.

2.3.3.1.5. If respiratory discomfort is prominent, administer morphine sulfate, 10 to 15 mg, IM (usually only one dose will be needed). Meperidine hydrochloride (Demerol®), 50 to 100 mg, IM, may be substituted for morphine sulfate.

2.3.3.1.6. For wheezing, Albuterol 0.5 ml of 0.5%-nebulized solution diluted in 2.5 ml NS; repeat every 30-60 minutes for severe bronchospasm.

2.3.3.1.7. Aminophylline 5 mg/kg in 500 cc D5W loading dose over 30 minutes, then 0.5 mg/kg/hour, I.V. in D5W for severe wheezing.

2.3.3.1.8. If hypertensive, place one 0.3-mg nitroglycerin tablet under the tongue (sublingually); let tablet dissolve. May repeat x 2.

2.3.3.1.9. If no response to above therapies, consider initiating rotating tourniquet therapy for severe left-sided failure.

2.3.3.1.10. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Fluid therapy if used must be carefully monitored. Overload of fluids will only increase vascular congestion and fluid retention. 1500 ml daily is usually sufficient. NO SALINE (SALT) PRODUCTS SHOULD BE GIVEN. Saline causes fluid retention.

2.3.4. **Myocardial Infarction**

2.3.4.1. **IMMEDIATE ACTION**

2.3.4.1.1. Place patient on complete bed rest, keep warm, and prevent shock. Head and chest may be elevated. Place on cardiac monitor, as available.

2.3.4.1.2. Administer oxygen, initially high flow by non-rebreather mask then adjust according to perfusion and comfort.

2.3.4.1.3. I.V. normal saline KVO.

2.3.4.1.4. Administer acetylsalicylic acid 1 tablet STAT

2.3.4.1.5. Reassure patient.

2.3.4.1.6. **CONTACT PHYSICIAN PRECEPTOR**

2.3.4.1.7. Place one 0.3 mg nitroglycerin tablet under the tongue (sublingually) as soon as the attack begins; let tablet dissolve. Dosage may be repeated every 5 minutes x 3 doses.

2.3.4.1.8. NOTE: Nitroglycerin may cause headache. If the patient has taken his/her own tablets, ensure that they are still Active. Watch for hypotension.

2.3.4.1.9. Administer analgesics for relief of severe chest pain: morphine sulfate, 2 to 3 mg, q 5 minutes until pain is relieved, I.V. STAT. Additional smaller doses may be given every 3 to 4 hours until relief is obtained.

CLINICAL NOTE: Meperidine hydrochloride (Demerol®) may be substituted for morphine sulfate. The initial dose is 100 mg, IM, and then 75 to 100 mg, IM, every 3 to 4 hours as necessary.

2.3.4.1.10. If anxiety becomes severe, administer diazepam (Valium®), 5 mg, P.O., t.i.d. (may be given IM if nausea and vomiting are present).

2.3.4.1.11. Consult with physician preceptor to determine evacuation priority and modality.

2.4. **TRAUMA**

2.4.1. **Multiple System Trauma**

2.4.1.1. **A: ASSESS/AIRWAY/C-SPINE:** Assess airway.

2.4.1.1.1. Establish secure Airway.

2.4.1.1.2. Protect C-SPINE

2.4.1.2. **B: BREATHING:** Check rate, efficiency and effort;

2.4.1.2.1. Assist ventilation's if indicated.

2.4.1.2.2. High flow oxygen using non-rebreather mask.

2.4.1.3. **C: CIRCULATION:** Check pulse, capillary refill and blood pressure.

2.4.1.3.1. Start CPR if indicated.

2.4.1.3.2. Initiate control of major bleeding.

2.4.1.4. **D: DISABILITY:** Assess for injuries; Check neurological status.

2.4.1.4.1. Assess for level of consciousness

2.4.1.4.1.1. A: Alert, spontaneous eye opening

2.4.1.4.1.2. V: Voice response

2.4.1.4.1.3. P: Pain response

2.4.1.4.1.4. U: Unresponsive

2.4.1.4.1.5. Initiate treatment for life threatening injuries.

2.4.1.5. E: EXPOSE: Examine thoroughly. **"Remember--a trauma patient is a naked patient."**

2.4.1.6. Treat other injuries.

NOTE: Trauma care begins with basic life sustaining effort and advances through a series of prioritized steps designed to treat: life threatening problems; potentially life threatening problems; disabling problems; potentially disabling problems; and finally evolving to treating problems of patient comfort.

Consider mechanism of injury…this should point towards most potential injuries and provide a key for you to use in the consideration of less obvious injuries.

Finally, remember the platinum 10 minutes and the golden hour; use brevity in care!

2.4.1.7. RE-ASSESS PATIENT:

2.4.1.7.1. Check ventilation. Is the airway secure? Is the patient still experiencing respiratory distress, demonstrating signs of hypoventilation or having paradoxical chest movement?

2.4.1.7.2. **If yes: Endotracheal intubation is indicated to assist ventilation.**

2.4.1.7.3. Recheck ventilation. Hypoventilation still noted? Reposition tube and auscultate.

2.4.1.7.4. Bilateral sounds still are not present after tube has been carefully repositioned?

2.4.1.7.5. **If yes: this patient may have a pneumothorax and needle decompression may be indicated.**

2.4.1.7.6. Check chest wall for wounds that may have been missed and check dressings to assure occlusive seal is intact.

2.4.1.7.7. Stop all obvious hemorrhage.

2.4.1.7.8. Secure two large bore (16 Ga.≥) intravenous catheters and begin crystalloid solution; rapidly run 2L. Follow with isotonic solution at greatly reduced rate…consult physician preceptor regarding additional fluids/rates while waiting evacuation.

2.4.1.7.9. Examine for shock; (diaphoresis, tachycardia, and capillary refill >2 seconds).

2.4.1.7.10. Initiate administrative/mission support actions to evacuate this patient ASAP.

2.4.1.7.11. Immobilize possible fractures, dress and bandage all wounds, cover patient appropriately for weather conditions…under and over in cold climates; package for transfer.

2.4.1.7.12. Continue to reassess patient status; obtain and record vital signs every 15 minutes.

2.4.1.7.13. Consult with physician preceptor to determine evacuation priority and modality.

2.4.2. **Shock and Volume Replacement**
2.4.2.1. Classes of Hemorrhage:
2.4.2.1.1. **Class I:** <15% volume loss (<750 cc). No obvious signs or symptoms; no fluid replacement required.
2.4.2.1.2. **Class II:** 15-30% volume loss (approx. 750-1500 cc). Increased heart rate, decreased pulse pressure, oliguria.
2.4.2.1.2.1. Replace fluids using Ringer's lactate.
2.4.2.1.2.2. Begin high flow O_2 to offset hemoglobin loss.
2.4.2.1.3. **Class III:** 30-40% volume loss (approx. 1500-2000 cc). Tachycardia (HR>100), hypotension (Systolic<90), decreased mental status.
2.4.2.1.3.1. Ringer's lactate will be of value…blood replacement will be needed.
2.4.2.1.3.2. O_2 to offset hemoglobin loss.
2.4.2.1.4. **Class IV:** >40% volume lost (≥2000 cc). Loss of life imminent; marked mental status changes.
2.4.2.1.4.1. Ringer's lactate and blood replacement critical.
2.4.2.1.4.2. Surgical intervention is most immediate need.
2.4.2.1.5. **INITIAL MANAGEMENT:**
2.4.2.1.5.1. **Airway:** Administer high flow oxygen through non-breather mask.
2.4.2.1.5.2. **Bleeding:** Control via direct pressure, elevation; pressure dressing.
2.4.2.1.5.3. **Fluid Therapy:** Ringer's lactate 1-2 liters rapid infusion.
2.4.2.1.5.3.1. Additional fluids at substantially reduced rate. (Normal saline may be utilized if Ringer's is not available).

ACTION ALERT: The most common cause of poor response to fluid therapy is continued hemorrhage.

2.4.2.1.5.3.2. I.V. Sites by order of preference:
2.4.2.1.5.3.2.1. Forearm.
2.4.2.1.5.3.2.2. Antecubital.
2.4.2.1.5.3.2.3. Saphenous.
2.4.2.1.5.3.2.4. ** Do not start I.V. distal to site of significant trauma.
2.4.2.1.5.3.3. **I.V. Equipment:**
2.4.2.1.5.3.3.1. Constricting band/penrose drain (single patient use only for infection control).
2.4.2.1.5.3.3.2. Gloves, eye protection and when possible barrier mask.
2.4.2.1.5.3.3.3. Skin cleanser e.g. Betadine.
2.4.2.1.5.3.3.4. I.V. intracath…prefer 16 ga. Or greater catheter over needle device.
2.4.2.1.5.3.3.5. I.V. tubing set…never use a microdrip type tubing with a trauma patient.
2.4.2.1.5.3.3.6. I.V. fluids…Ringer's lactate is first choice…Normal saline is second.
2.4.2.1.5.3.3.7. Tegaderm pads, tape and Neosporin® ointment.
2.4.2.1.5.3.3.8. Pressure administration cuff may be useful.
2.4.2.1.5.3.3.9. Desired urinary output levels:
2.4.2.1.5.3.3.9.1. Monitor urinary output.
2.4.2.1.5.3.3.9.2. 50 cc per hour for adult. 1 cc per kg/hr for children.

ACTION ALERT: Do not attempt urinary catheterization of a male patient demonstrating signs of lower abdominal or genitourinary trauma or blood in urethra

2.4.2.1.5.3.3.10. **Support patient:**
2.4.2.1.5.3.3.10.1. Keep warm; cover above and below body.
2.4.2.1.5.3.3.10.2. Trendelenburg position.
2.4.2.1.5.3.3.11. Consult with physician preceptor to determine evacuation priority and modality.

2.4.3. **Trauma Assessment**

2.4.3.1. **PRIMARY SURVEY:**

2.4.3.1.1. **A:** Airway secured/patent. C-spine control.

2.4.3.1.2. **B:** Breathing and ventilation. Rate, quality and depth.

2.4.3.1.3. **C:** Circulation and control of hemorrhage. Pulse, perfusion, capillary refill.

2.4.3.1.4. **D:** Disabilities/damage/detail on secondary assessment.

2.4.3.1.5. **E:** Expose; undress and thoroughly inspect patient: Color, moisture/dryness, contusions, abrasions, lacerations and symmetry.

2.4.3.2. **SECONDARY SURVEY:**

2.4.3.2.1. Obtain complete set of vital signs.

2.4.3.2.2. Obtain "SAMPLE" history (detailed history including signs and symptoms, allergies, medications, past history, last medication usage, exposures).

2.4.3.3. **OTHER USEFUL NOTES:**

2.4.3.4. **SIGNIFICANT MECHANISMS OF INJURY:** Trauma should be regarded as severe if it resulted from a fall twice the victims height was in a motor vehicle accident with a death in the same compartment, ejected from vehicle as result of impact, extrication from wreckage requires more than twenty minutes.

2.4.3.5. **CO-MORBID FACTORS IN TRAUMA: Survivability of the victim is greatly reduced if the** victim is less than age 12 or greater than 60; is pregnant; has significant medical history; or injuries occur in an extreme environment such as a cold/wet or hot climate.

2.4.3.6. **PHYSIOLOGICAL SIGNS OF SHOCK:** Diaphoresis, rapid/thready pulse, B/P below 90 mm Hg systolic; respiratory rate less than 10 or more than 30; or altered mental status, capillary refill greater than 2 seconds.

2.4.4. **Airway and C-Spine Trauma**

2.4.4.1. Base treatment on history and mechanism of injury

2.4.4.2. Manage the airway:

2.4.4.2.1. Protect C-Spine from flexion and extension.

2.4.4.2.2. Use Chin lift/jaw thrust method.

2.4.4.2.3. Look, listen and feel.

2.4.4.2.4. Ventilate as needed.

2.4.4.2.5. Insert artificial airway; oral/nasal/endotracheal intubation or in case of obstructed upper airway perform needle cricothyroidotomy.

2.4.4.2.6. Endotracheal Intubation; use extreme care regarding potential C-Spine injury.

2.4.4.2.6.1. Hyperventilate prior to intubation; do not interrupt ventilation >30 seconds.

2.4.4.2.6.2. Select appropriate ET tube (normally a 6.0 to 8.0 for an adult).

2.4.4.2.6.3. Insert tube; ventilate and auscultate to assure placement.

2.4.4.2.6.4. Inflate cuff until blow-by ceases.

2.4.4.2.7. Needle Cricothyroidotomy: Indicated by obstructed upper airway.

2.4.4.2.7.1. Use only as short-term emergency measure…effective less than 30 minutes.

2.4.4.2.7.2. 12 Ga. Needle is recommended…but may use more than one smaller needle.

2.4.4.2.7.3. Puncture membrane and aspirate to verify placement in airway.

2.4.4.2.7.4. Attach to 3-mm pediatric ET adapter.

2.4.4.2.7.5. 50 psi 0_2 using "Y" adapter as control valve.

2.4.4.2.7.6. Close open end with thumb one out of five seconds.

2.4.4.2.8. Establish Priorities:

2.4.4.2.8.1. Treat life-threatening injuries first.

2.4.4.2.8.2. Secure C-Spine with cervical collar and spine board (secure torso first).
2.4.4.2.8.3. Ventilate with high flow oxygen; if supplies are limited administer at least 5 minutes of high flow initially…then if required reduce flow to sustaining rate that will not deplete 0_2 resource.
2.4.4.2.9. Treat lesser injuries.
2.4.4.2.9.1. Treat for shock.
2.4.4.2.9.2. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: ALWAYS SUSPECT C-Spine trauma in patients with decreased mental status, or with history/evidence of blunt or penetrating trauma above the clavicle.

2.4.5. **Head Trauma**
2.4.5.1. Indications of severe head trauma:
2.4.5.1.1. Altered mental status; Glasgow coma scale score of ≤8.
2.4.5.1.2. Decreased heart rate/respirations; bradycardia is typical of increased intracranial pressure; tachycardia implies other causes…examine for further injury.
2.4.5.1.3. Unequal pupils; dilated pupils may be due to brain ischemia, pain, or drugs…constricted may be due to narcotics, parasympathetic stimuli, or central nervous system disorder; unequal motor function may be noted in the conscious patient.
2.4.5.1.4. Drainage from ears/nose; may produce HALO effect on 4x4 corner.
2.4.5.1.5. Open injury; presence of suspected brain tissue or bone fragments.
2.4.5.2. **IMMEDIATE ACTION**
2.4.5.2.1. Protect C-Spine; Immobilize on long spine board; raising head end.
2.4.5.2.2. Maintain adequate airway.
2.4.5.2.3. Intubate if airway protection is needed or if signs and symptoms of increased intracranial pressure.
2.4.5.2.4. Administer oxygen, high flow with non-rebreather mask.
2.4.5.2.5. Manage airway aggressively in all patients with altered mental status…cautiously hyperventilate patient with high flow oxygen; use bag valve mask to assist depressed rate respirations; suction airway as needed.
2.4.5.2.6. Stop obvious hemorrhage; do not attempt to stop drainage from ears or mouth.
2.4.5.2.7. Determine level of consciousness using Glasgow Coma Scale.

ACTION ALERT: Do not give more than 1200 to 1800 ml of fluid per day.

2.4.5.2.8. Establish I.V. of normal saline at KVO (Use micro drip administration set and regulate the infusion carefully to prevent fluid overloading.); consult with preceptor for rate adjustment.
2.4.5.2.9. Insert urinary catheter.
2.4.5.2.10. Monitor distal sensation and circulation.
2.4.5.2.11. Do not leave patient unattended…continuously monitor airway!
2.4.5.2.12. **CONTACT PHYSICAN PRECEPTOR**
2.4.5.2.13. Do not administer medication without being directed to do so by preceptor.

ACTION ALERT: Narcotics and sedatives should not be administered to a patient with a head injury because these drugs will alter the necessary follow up neurological evaluations and may increase neurological difficulties.

2.4.5.2.14. Initiate evacuation procedures and package patient for evacuation.
2.4.5.2.15. Closely monitor and record fluid intake and urinary output.
2.4.5.2.16. Closely monitor, reevaluate, and record patient's vital signs.
2.4.5.2.17. Consult with physician preceptor to determine evacuation priority and modality.

Action Alert: About 50% of trauma deaths are associated with head injury.

2.4.6. **Thoracic Trauma**

2.4.6.1. General Guidelines

2.4.6.1.1. **A: Assess airway:** Secure airway and protect C-Spine. High flow oxygen via non-rebreather mask or using bag valve mask to assist respirations.

2.4.6.1.2. **B: Breathing:** Check rate, efficiency and effort; look for signs of hypoxia, hypoventilation, symmetrical vs. paradoxical chest movement

2.4.6.1.3. **C: Circulation:** Check pulse rate, perfusion and blood pressure; stop obvious bleeding.

2.4.6.1.4. **D: Disability:** Auscultate for breath sounds, palpate for crepitus and percuss for tympany or hyperresonance.

2.4.6.1.5. **E: Expose:** Inspect for abrasion, punctures, ecchymosis, symmetry and other signs of injury.

ACTION ALERT: Any patient having blunt trauma to the chest wall should be considered for immediate evacuation as some lethal injuries may not be evident until later stages.

Chest Trauma: The leading cause of thoracic trauma deaths is inadequate ventilation inadequate circulation and resultant hypoperfusion.

2.4.6.2. **Closed Pneumothorax**

2.4.6.2.1. **SIGNS AND SYMPTOMS:** Dyspnea, pain with inspiration, presence of splinting or guarding.

2.4.6.2.2. **CONTACT PHYSICAN PRECEPTOR**

2.4.6.2.3. **TREATMENT:**

2.4.6.2.3.1. Administer oxygen; flow rate dependent on perfusion and consciousness – normally 4-6 liters per minute by nasal cannula or 8 – 10 liters per minute via face mask. In crisis—high flow via non-rebreather.

2.4.6.2.3.2. Monitor ventilation.

2.4.6.2.3.3. Monitor for progression to tension pneumothorax.

2.4.6.2.3.4. Package in semi-Fowlers or position of comfort for transportation.

2.4.6.2.3.5. Consult with physician preceptor to determine evacuation priority and modality.

2.4.6.3. **Tension Pneumothorax**

2.4.6.3.1. **SIGNS AND SYMPTOMS:** Tracheal deviation, respiratory distress, unilateral breath sounds, jugular vein distention, cyanosis and hyperresonance to chest wall percussion.

2.4.6.3.2. **CONTACT PHYSICAN PRECEPTOR**

2.4.6.3.3. **TREATMENT:**

2.4.6.3.3.1. Immediate needle thoracentesis indicated. Select site on affected side: 2nd intercostal space at mid-clavicular line.

2.4.6.3.3.2. Cleanse site; insert catheter over needle device attached to syringe (≥14 ga.) in "Z" pattern going just over top of lower rib.

2.4.6.3.3.3. Aspirate during insertion until air breaks vacuum.

2.4.6.3.3.4. Remove needle and syringe and leave intracath attached to flutter valve or 3-way stopcock.

2.4.6.3.3.5. Assist patient with ventilation using high flow oxygen and bag valve mask.

2.4.6.3.3.6. Package for transportation.

2.4.6.3.3.7. Consult with physician preceptor to determine evacuation priority and modality.

2.4.6.4. **Open Pneumothorax:**

2.4.6.4.1. **SIGNS AND SYMPTOMS:** Visible opening in chest wall; may have audible gurgling or sucking sounds.

2.4.6.4.2. **CONTACT PHYSICAN PRECEPTOR**

2.4.6.4.3. **TREATMENT**:

2.4.6.4.3.1. Apply occlusive dressing; secure on 3 sides.

2.4.6.4.3.2. Assist patient with ventilation giving high flow O_2.
2.4.6.4.3.3. Secure I.V. access and start Ringer's lactate at advanced rate.
2.4.6.4.3.4. Package for transportation. Consult with physician preceptor to determine evacuation priority.
2.4.6.5. **Flail Chest:**
2.4.6.5.1. **SIGNS AND SYMPTOMS:** Crepitus, asymmetrical chest wall motion, paradoxical respirations (late stages), decreased respiratory rate, pain, and pulmonary contusion.
2.4.6.5.2. **IMMEDIATE ACTION**
2.4.6.5.2.1. Maintain an open airway while observing C-Spine precautions. (Intubation may be indicated to assist with positive ventilation--after consulting with preceptor.)
2.4.6.5.2.2. Administer oxygen by positive pressure (AMBU bag) and high concentration.
2.4.6.5.2.3. Stabilize chest wall to correct dysfunctional ventilation.
2.4.6.5.2.4. Treat any associated injuries; be alert for underlying internal injuries.
2.4.6.5.2.5. Transport on spine board due to possible spinal involvement. **DO NOT** transport on affected side.
2.4.6.5.2.6. Treat patient for shock. Initiate an I.V. of Ringer's lactate.
2.4.6.5.2.7. Closely monitor intake and output.
2.4.6.5.2.8. **CONTACT PHYSICAN PRECEPTOR**

CLINICAL NOTE: Narcotics may cause respiratory depression. Use with caution!

2.4.6.5.2.9. Administer analgesics for pain as required:
2.4.6.5.2.9.1. Morphine sulfate 5-10 mg I.V. q 4 hours for pain.
2.4.6.5.2.9.2. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Fluids must be administered cautiously in patients who have sustained significant injury to the lung. Such patients are susceptible to fluid overload, especially in sodium containing solutions. Persistent high urine output (over 100 ml/hr for 3 hours or more) is a strong indicator of fluid over administration.

2.4.7. **Abdominal Trauma**
2.4.7.1. **IMMEDIATE ACTION**
2.4.7.1.1. **A: Assess airway:**
2.4.7.1.1.1. Secure airway and protect C-Spine.
2.4.7.1.1.2. High flow oxygen via non-rebreather mask or using bag valve mask to assist respiration.
2.4.7.1.2. **B: Breathing:** Check rate, efficiency and effort. Look for signs of hypoxia, hypoventilation, symmetrical vs. paradoxical chest movement.
2.4.7.1.3. **C: Circulation:** Check pulse rate, perfusion and blood pressure; Stop obvious bleeding.
2.4.7.1.4. **D: Disability:** Palpate for tenderness; observe for guarding.
2.4.7.1.5. **E: Expose:** Inspect chest, abdomen and pelvis. Conduct rectal exam for occult blood, rectal wall tenderness.
2.4.7.2. Supplemental Therapy
2.4.7.2.1. Administer oxygen; flow rate dependent on perfusion and consciousness – normally 4-6 liters per minute by nasal cannula or 8 –10 liters per minute via face mask. In crisis—high flow via non-rebreather.
2.4.7.2.2. Moist sterile dressing or occlusive dressing for evisceration.
2.4.7.2.3. Stabilize impaled objects.
2.4.7.2.4. Ligate vessels if dressing doesn't control hemorrhage.
2.4.7.2.5. NPO

2.4.7.2.6. I.V. of Ringer's lactate followed by normal saline wide open if hypotensive then 200cc/hr.
2.4.7.2.7. I&O
2.4.7.2.8. **CONTACT PHYSICIAN PRECEPTOR**
2.4.7.2.9. Administer tetanus toxoid 0.5 ml or Immunoglobulin as indicated.
2.4.7.2.10. Administer Demerol 75-100 mg with 25-50 mg Phenergan.
2.4.7.2.11. Apply MAST. Inflate if hypotensive.
2.4.7.2.12. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Abdominal trauma patients die largely because of unrecognized and unmanaged hemorrhage in the abdomen.

2.4.7.3. **INTRA-ABDOMINAL BLEEDING:**
2.4.7.3.1. **SIGNS AND SYMPTOMS:** Presence of contusions or abrasions.
2.4.7.3.1.1. Abdominal distention.
2.4.7.3.1.1.1. Penetrating abdominal injuries.
2.4.7.3.1.1.2. Pain; guarding/splinting present.
2.4.7.3.1.1.3. Pelvic instability.
2.4.7.3.2. **TREATMENT:**
2.4.7.3.2.1. Control hemorrhage.
2.4.7.3.2.2. Secure large bore I.V. access--Ringer's lactate.
2.4.7.3.2.3. Cover evisceration with moist (saline) dressing.
2.4.7.3.2.4. Continued assessment.
2.4.7.3.2.5. Package for transportation.
2.4.7.3.2.6. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Special considerations must be made for the pregnant trauma patient. Place the patient on left side to reduce compression of vena cava; address additional need for oxygen. Remember you are caring for mother and fetus. Question regarding fetal movement and consider checking FHT's if Doppler available.

2.4.8. **Extremity Trauma**
2.4.8.1. **GENERAL CONSIDERATIONS:**
2.4.8.1.1. More than 50% of extremity injures go unrecognized in the multiple system trauma patient.
2.4.8.1.2. Further injury should be avoided by using long spine board on all trauma patients. Always consider for potential loss of limb.
2.4.8.2. **CONSIDER FORCES OF TRAUMA:**
2.4.8.2.1. Direct impact- injury at impact point.
2.4.8.2.2. Indirect impact- injury transmitted to other area.
2.4.8.3. **TREATMENT PRIORITIES:**
2.4.8.3.1. Initiate care of extremity trauma after airway, breathing, circulation and other life threatening disorders have been addressed; do not allow gross deformity or obvious extremity injury distract you from the initial assessment.
2.4.8.3.2. **Stop all obvious hemorrhage**; direct pressure, elevate, pressure point, etc.
2.4.8.3.3. Verify distal pulse and distal sensation.
2.4.8.3.4. Treat all injured extremities as if there is a fracture present.
2.4.8.3.5. Bandage and dress open wounds.
2.4.8.3.6. Immobilize injured extremities; immobilize spine.
2.4.8.3.7. Reassess distal pulse and sensation.

2.4.8.3.8. **CONTACT PHYSICIAN PRECEPTOR**
2.4.8.3.9. Administer analgesic as needed for pain control.
2.4.8.3.10. Morphine sulfate 2-10 mg I.V. (titrated for pain) indicated for severe trauma.
2.4.8.3.11. Package patient as a single unit for transportation.
2.4.8.3.12. Consult with physician preceptor to determine evacuation priority and modality.

Table 2.1. TABLE OF SUSPICION.

TYPE OF TRAUMA AND REGION	INJURIES TO BE SUSPECTED
HEAD/NECK	
Blunt	C-Spine:
	Ocular Injury:
Penetrating	Fracture:
	Ruptured Tympanic Membrane:
	Intracranial injury:
	Crushed Trachea:
	Ocular Injury:
	Lacerated Artery:
THORAX	
Blunt	Flail Chest
Penetrating	Pneumothorax
	Closed
	Myocardial Contusion
	Ruptured Aorta
	Contused lung
	Herniated Diaphragm
	Laceration of Renal pedestal
	Pneumothorax
	Open
	Hemothorax
	Cardiac Tamponade
ABDOMEN	
Blunt	Lacerated/bisected Liver
Penetrating	Ruptured spleen
	Mesenteric Tears
	Evisceration
	Perforated bowel
	Perforated bladder
	Transected urethra
UPPER EXTREMITIES	
Blunt	Fracture
Penetration	Clavicle
	Humerus
	Radius/ulna
	Dislocated shoulder
	Separated Shoulder
LOWER EXTREMITIES	
Blunt	Dislocated Hip
Penetration	Fracture
	Pelvis
	Hip
	Femur
	Tibia/Fibula
	Lacerated Femoral Artery

Chapter 3

EYE PROTOCOLS

3.1. **Anterior Uveitis**
3.1.1. IMMEDIATE ACTION
3.1.1.1. Test and record visual acuity as a baseline for later comparisons.
3.1.1.2. Instill fluorescein stain into conjunctival sac and examine eye to rule out any corneal condition.
3.1.1.3. Warm compresses will decrease pain.
3.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**
3.1.1.5. Instill 1 drop of scopolamine ophthalmic solution (1/4%) into involved eye q 12 hours, until asymptomatic.
3.1.1.6. Administer analgesics acetylsalicylic acid 650 mg P.O. q 4 to 6 hours or acetaminophen with codeine (Tylenol® #3) 1-2 tablets P.O. q.i.d. as required for pain relief.
3.1.1.7. Consult with physician preceptor to determine evacuation priority and modality.

3.2. **Chalazion**
3.2.1. **IMMEDIATE ACTION**
3.2.1.1. Test and record visual acuity as a baseline for later comparisons.
3.2.1.2. Apply warm compresses to eyes for 15 minutes q.i.d. x 2 weeks then recheck.
3.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**
3.2.1.4. Topical antibiotics, such as 0.5% erythromycin ophthalmic, are initially indicated.
3.2.1.5. If no resolution after six weeks, refer to support for possible incision and curettage.

3.3. **Chemical Trauma**
3.3.1. **IMMEDIATE ACTION**
3.3.1.1. Irrigate immediately with 1 liter for a minimum of 30 minutes.
3.3.1.2. Instill proparacaine hydrochloride (Alcaine®) ophthalmic solution, 1-2 gtts if blepharospasm or pain precludes irrigation.
3.3.1.3. In mild to moderate acid or aromatic burns:
3.3.1.3.1. Direct lavage of cornea to dislodge particles.
3.3.1.3.2. Swab superior and inferior cul-de-sac to remove particles.
3.3.1.4. In severe cases or alkaline burns:
3.3.1.4.1.1. Direct lavage of cornea to dislodge particles.
3.3.1.4.1.2. Swab superior and inferior cul-de-sac to remove particles.
3.3.1.5. Refer to ophthalmologist --consult with physician preceptor to determine evacuation priority and modality.
3.3.1.6. Dilate with 0.2% Scopolamine or 2% Homatropine 1 gtt b.i.d.
3.3.1.7. Administer meperidine hydrochloride (Demerol®) 50 mg IM q 3 to 4 hours prn.
3.3.1.8. Consult with physician preceptor to determine evacuation priority and modality.

3.4. **Conjunctivitis**
3.4.1. **IMMEDIATE ACTION**
3.4.1.1. Test and record visual acuity as a baseline for later comparisons.
3.4.1.2. Administer frequent irrigation using sterile, normal saline solution, to keep eyes free of discharge.
3.4.1.3. Apply warm compresses to eyes for 15 minutes every 3 or 4 hours. Remove crusts and debris.

3.4.2. **VIRAL:** No specific treatment. May use Sulfonamide (sodium sulfacetamide) or Erythromycin ophthalmic 5% ointment as a prophylaxis against secondary infection. (After consulting with preceptor.)
3.4.3. **ALLERGIC:** Visine AC® eye drops (for a short period of time) and systemic antihistamines.
3.4.4. **BACTERIAL:** Usually self-limiting lasting 10 - 14 days. Instill antibiotic such as a Sulfonamide (Sodium Sulfacetamide) ointment or solution (1-2 gtts) t.i.d./q.i.d. or Erythromycin ointment until asymptomatic.
3.4.5. **GONOCCOCAL:** This is an ophthalmologic emergency due to the possibility of corneal perforation.

ACTION ALERT: Since conjunctivitis can be transmitted by physical contact care should be taken during treatment to prevent spread of the infection to the unaffected eye or to other persons.

3.5. **Corneal Abrasion**
3.5.1. **IMMEDIATE ACTION**
3.5.1.1. Test and record visual acuity as a baseline for later comparisons.
3.5.1.2. Instill 1 gtt of topical anesthetic, Proparacaine Hydrochloride (Ophthaine®) to facilitate the examination. (after consulting with preceptor).
3.5.1.3. Check cornea and conjunctiva with the Wood's Lamp after instilling fluorescein stain into the eye to rule out foreign body and diagnose abrasion.
3.5.1.4. Apply a bandage firmly enough to prevent movement of the eyelid. (Not required if symptoms are mild.)
3.5.1.5. Advise patient to rest and to keep uninvolved eye closed. Patch uninvolved eye if injury is severe.
3.5.1.6. **CONTACT PHYSICIAN PRECEPTOR**
3.5.1.7. Instill antibiotic, polymyxin B-bacitracin-neomycin (Neosporin®) ophthalmic ointment, into involved eye.
3.5.1.8. Instill 1-2 gtts of 5% Homatropine **(for significant abrasion**) to prevent a secondary iritis and help with discomfort.
3.5.1.9. Administer analgesics acetylsalicylic acid 650 mg P.O. q 4 to 6 hours or acetaminophen with codeine (Tylenol #3®) 1-2 tablets P.O. q.i.d. prn.
3.5.1.10. Recheck eye after 24 hours to be certain cornea has healed and to rule out the development of a corneal ulcer. Retreat if not totally re-epithelized.

ACTION ALERT: Do not use topical ophthalmic corticosteroids. They will make the condition worse as they tend to promote fungal growth.

3.6. **Corneal Ulcer**
3.6.1. **IMMEDIATE ACTION**
3.6.1.1. Test and record visual acuity as a baseline for later comparisons.
3.6.1.2. Check cornea and conjunctiva using Wood's lamp or ophthalmoscope to rule out foreign body.
3.6.1.3. **CONTACT PHYSICIAN PRECEPTOR**
3.6.1.4. Instill 2 drops of antibiotic, polymyxin B-neomycin-gramicidin (Neosporin®) ophthalmic solution, into involved eye every 2 hours. Increase to q h or q 30 min. depending on severity.
3.6.1.5. Administer analgesics acetylsalicylic acid 650 mg P.O. q 4 to 6 hours or acetaminophen with codeine (Tylenol #3®), 2 tablets P.O. q.i.d. prn.
3.6.1.6. Patch both eyes.
3.6.1.7. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Do not use topical ophthalmic corticosteroids. They will make the condition worse.

3.7. **Foreign Body**

3.7.1. **IMMEDIATE ACTION**
3.7.2. Test and record visual acuity as a baseline for later comparisons.
3.7.3. Locate the foreign body by examining the eye, using a Wood's lamp or ophthalmoscope, by instilling a fluorescein stain into the conjunctival sac.

ACTION ALERT: If the foreign body is under the upper eyelid evert the lid before attempting removal.

3.7.4. Attempt to wash out the foreign body with copious amounts of saline. If this fails, instill 1 drop of Proparacaine Hydrochloride (Ophthaine®) (after consulting with preceptor) ophthalmic solution into the eye and use a wet cotton swab to remove the foreign body.

CLINICAL NOTE: If unable to remove, patch both eyes and consult with physician preceptor to determine evacuation priority and modality.

3.7.5. **CONTACT PHYSICIAN PRECEPTOR**
3.7.6. Instill antibiotic, polymyxin B-bacitracin-neomycin (Neosporin®) ophthalmic ointment, into involved eye. Patch eye so as to remain tightly closed.
3.7.7. Administer analgesics acetylsalicylic acid 650 mg P.O. q 4 to 6 hours or acetaminophen with codeine (Tylenol® #3) 1-2 tablets P.O. q.i.d. prn.
3.7.8. Recheck patient every 24 hours until signs and symptoms resolve for secondary infection of conjunctiva, such as redness, discharge, or development of corneal ulcer.

ACTION ALERT: If foreign body is located intraocularly the patient should be evacuated for specialized treatment after both eyes are patched.

3.8. **Hordeolum**
3.8.1. **IMMEDIATE ACTION**
3.8.1.1. Test and record visual acuity as a baseline for later comparisons.
3.8.1.2. Apply warm compresses to eyes for 15 minutes t.i.d./q.i.d.
3.8.1.3. **CONTACT PHYSICIAN PRECEPTOR**
3.8.1.4. Instill ophthalmic antibiotic, such as a sulfonamide (sodium sulfacetamide) ointment t.i.d./q.i.d. or erythromycin solution (1-2 gtts) q 3 hours during acute phase to prevent secondary infection. (May not be necessary in mild cases.)
3.8.1.5. RTC x 24 hrs., if stable continue treatment for 5 - days, if worse, EVAC to support

ACTION ALERT: If incision is required this will be done at support facility; **NOT** by the IDMT.

3.9. **Hyphema**
3.9.1. **IMMEDIATE ACTION**
3.9.1.1. Test and record visual acuity as a baseline for later comparisons.
3.9.1.2. Place patient at bed rest. (Pt. will remain at bedrest - 45º - for 6 to 7 days.)
3.9.1.3. Bandage both eyes.
3.9.1.4. **CONTACT PHYSICIAN PRECEPTOR**
3.9.1.5. Give one Acetazolamide (Diamox®) tablet every 4 hours.
3.9.1.6. Instill 1 drop of Scopolamine ophthalmic solution, (1/4%) twice daily.
3.9.1.7. Consult with physician preceptor to determine evacuation priority and modality.

3.10. **Lacerations and Contusions of the Eye**
3.10.1. **Lid Contusions** Black Eye (Ecchymosis).
3.10.1.1. Apply ice packs to the region the first 48 hours.
3.10.1.2. Apply warm compresses to the region the next 48 hours.
3.10.1.3. Ensure trauma is limited to lid and does not involve the globe.
3.10.1.4. **CONTACT PHYSICIAN PRECEPTOR**

3.10.2. **Lid Lacerations** Minor (Horizontal, not full thickness)

ACTION ALERT: NEVER SHAVE THE EYEBROW. It may not grow back. Never use ophthalmic ointments when a penetrating wound of the eye is present. They will cause permanent eye floaters. Never attempt to suture a vertical laceration of the eyelid as an associated penetrating injury to the eye must be ruled out.

3.10.2.1. Cleanse and suture with 6-0 silk. Many minor upper lid horizontal lacerations require no sutures.
3.10.2.2. Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.
3.10.2.3. Apply sterile dressing and keep dry.
3.10.3. **Lid lacerations** extensive (vertical) or involving nasal or tear duct area
3.10.3.1. Apply sterile dressing after cleansing.
3.10.3.2. Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.
3.10.3.3. Do not suture.
3.10.3.4. Consult with physician preceptor to determine evacuation priority.
3.10.4. **Globe Trauma** EMERGENCY TREATMENT ONLY
3.10.4.1. **CLINICAL NOTE**: This includes hemorrhage into the anterior chamber, laceration of the iris, dislocated lens, and hemorrhage into the globe, retinal detachment, or hemorrhage and rupture of the eyeball.
3.10.4.2. **CONTACT PHYSICIAN PRECEPTOR**
3.10.4.3. Administer Meperidine HCl (Demerol®), 50 mg, I. M., for pain.
3.10.4.4. Instill two drops ¼% Scopolamine (ophthalmic solution only).
3.10.4.5. Apply sterile protective dressing to both eyes.
3.10.4.6. Administer local and systemic antibiotics:
3.10.4.6.1. If patient is **NOT** allergic, give Penicillin V 250 mg, P.O., q 8 hours until evacuation.
3.10.4.6.2. If patient **IS** allergic to Penicillin, give erythromycin (Erythrocin®), 250 mg, P.O., q.i.d. until evacuation.
3.10.4.6.3. Administer Tetanus Toxoid, 0.5 ml, I. M., or immunoglobulin as indicated.
3.10.4.6.4. Evacuate to a medical facility for specialized treatment.
3.10.4.6.5. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Never use ointments they will cause permanent floaters in the eye. Never use corticosteroids.

3.11. **Penetrating Wound of the Eye**
3.11.1. IMMEDIATE ACTION
3.11.1.1. Place patient on his back.
3.11.1.2. Keep manipulation of the eye to an absolute minimum. Do not clean wounds of the globe.
3.11.1.3. Apply sterile, protective dressing to both eyes.
3.11.1.4. Examine head and other areas of the body for additional injuries.
3.11.1.5. **CONTACT PHYSICIAN PRECEPTOR**
3.11.1.6. Administer meperidine hydrochloride (Demerol®), 50 mg, I. M., q 3 to 4 hours, as necessary, for pain. Evacuate patient to a medical facility for specialized treatment ASAP.
3.11.1.7. Consult with physician preceptor to determine evacuation priority and modality.

Chapter 4

EAR, NOSE, AND THROAT PROTOCOLS

4.1. **EAR**

4.1.1. **Acute Otitis Externa**

4.1.1.1. **IMMEDIATE ACTION**

4.1.1.1.1. Administer analgesics for pain, acetaminophen or acetylsalicylic acid, 650 mg, P.O., q 4 to 6 hours, as required.

4.1.1.1.2. Apply heat to the affected ear for comfort.

4.1.1.1.3. Advise patient to keep the ear dry until the infection has completely cleared.

4.1.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**

4.1.1.1.5. Apply polymyxin B-neomycin-hydrocortisone (Cortisporin®) otic suspension 5 gtts t.i.d./q.i.d. until asymptomatic. If there is significant edema, place an ear wick.

4.1.1.1.6. Administer appropriate systemic antimicrobial therapy if indicated.

4.1.1.1.7. Erythromycin or dicloxacillin sodium (Dynapen®), 250 mg, P.O. q.i.d. for 7 to 10 days, if systemic signs and symptoms are seen (fever, malaise, lymphadenopathy).

CLINICAL NOTE: Due to the potential of serious secondary infections, EVAC may be required.

4.1.1.1.8. **CONTACT PHYSICIAN PRECEPTOR** if systemic symptoms occur.

4.1.2. **Acute Otitis Media**

4.1.2.1. **IMMEDIATE ACTION**

4.1.2.1.1. Administer analgesics for pain acetaminophen or acetylsalicylic acid, 650 mg, P.O., q 4 to 6 hours) as required.

4.1.2.1.2. Apply heat to the affected ear for comfort.

4.1.2.1.3. Administer decongestants; pseudoephedrine hydrochloride (Sudafed®), 30 mg, 1-2 tablets, P.O., q.i.d.

4.1.2.1.4. **CONTACT PHYSICIAN PRECEPTOR**

4.1.2.1.5. Administer appropriate antimicrobial therapy.

4.1.2.1.6. If patient **IS NOT** allergic to penicillin; Give Amoxicillin, 250 mg, P.O., t.i.d. for 10 days. OR

4.1.2.1.7. Amoxicillin Clavulanate (Augmentin®), 250 mg, P.O., t.i.d., for 10 days.

4.1.2.1.8. If patient **IS** allergic to Penicillin, give Trimethoprim/Sulfamethoxazole (Bactrim®), 1 tablet P.O. b.i.d. x 10 days.

ACTION ALERT: Inadequate treatment may result in complications or recurrence. Be sure to give full 10 days of antibiotics.

4.1.3. **Barotrauma**

4.1.3.1. **IMMEDIATE ACTION**

4.1.3.1.1. Have patient attempt autoinflation by swallowing, yawning or Valsalva's maneuver.

4.1.3.1.2. Administer systemic decongestants; pseudoephedrine (Sudafed®), 30 mg, 1-2 tablets P.O. q.i.d.

4.1.3.1.3. Administer topical decongestants; oxymetazoline hydrochloride (Afrin®) 2 sprays into each nostril, b.i.d. x 3 days only.

4.1.3.1.4. Administer analgesics for pain, acetylsalicylic acid or acetaminophen, 650 mg, P.O. q 4 to 6 hours, as needed.

4.1.4. **Foreign Body in External Auditory Meatus**

4.1.4.1. **IMMEDIATE ACTION**

4.1.4.1.1. If the object is easily grasped (the exterior ½ of the canal) remove slowly with hemostats or alligator forceps.
4.1.4.1.2. For removal of insects that are deeper than external ½ of canal, attempt to entice insect out with at light source at external meatus or flush with mineral oil and then remove manually as this becomes possible.

ACTION ALERT: Insure the TM is not perforated prior to introducing any fluid into external canal.

4.1.5. **Labyrinthitis**
4.1.5.1. **IMMEDIATE ACTION**
4.1.5.1.1. Place patient at bedrest, preferably in a darkened room, until severe symptoms subside.
4.1.5.1.2. If labrynthitis follows otitis media, the treatment for otitis media should be initiated.
4.1.5.1.3. CONTACT PHYSICIAN PRECEPTOR
4.1.5.1.4. For severe vertigo, give diazepam (Valium®), 5 mg. P.O., t.i.d.
4.1.5.1.5. For less severe symptoms, give dimenhydrinate (Dramamine®), 25 - 50 mg P.O. q 4 hrs.; or Antivert (Meclizine®) 12.5 mg b.i.d. - t.i.d.
4.1.5.1.6. **CLINICAL NOTE**:
4.1.5.1.6.1. Medications above will cause drowsiness.
4.1.5.1.6.2. Because I.V. therapy may be required, consult with physician preceptor to determine evacuation priority.
4.1.6. **Otic Furuncle**
4.1.6.1. **IMMEDIATE ACTION**
4.1.6.1.1. Apply moist heat (cloth soaked in warm water) to the affected ear for comfort.
4.1.6.1.2. Keep ear canal as clean as possible.
4.1.6.1.3. **CONTACT PHYSICIAN PRECEPTOR**
4.1.6.1.4. Administer analgesics for pain, acetylsalicylic acid , 650 mg, P.O. q 4 to 6 hours or acetaminophen and codeine sulfate (Tylenol #3®), 1 tablet P.O. q.i.d., as needed.
4.1.6.1.5. Administer antibiotic therapy.
4.1.6.1.6. Gently pack ear canal using an ear wick soaked with polymyxin B-neomycin-hydrocortisone (Cortisporin®) otic suspension.
4.1.6.1.7. If patient is **NOT** allergic to Penicillin give Dicloxacillin (Dynapen®), 500-mg P.O. q 6 hours x 10 days, or cephalexin monohydrate (Keflex®), 500 mg, P.O. q 6 hours x 10 days. OR
4.1.6.1.8. If patient **IS** allergic to Penicillin, give Tetracycline hydrochloride, 500-mg P.O. q 6 hours x 10 days.

4.1.7. **Ruptured or Perforated Eardrum**
4.1.7.1. **IMMEDIATE ACTION**
4.1.7.1.1. Keep ear absolutely dry.
4.1.7.1.2. Treat underlying condition if rupture is due to otitis media.
4.1.7.1.3. **CONSULT WITH PRECEPTOR**
4.1.7.1.4. Administer analgesics for pain, as needed acetylsalicylic acid , 650 mg P.O. q 4-6 hr., or acetaminophen with codeine sulfate (Tylenol #3®), 1 tablet P.O. q.i.d. (after consulting with preceptor).
4.1.7.1.5. Surgical intervention may be required.
4.1.7.1.6. Consult with physician preceptor to determine evacuation priority and modality.

4.1.8. **Serous Otitis Media**
4.1.8.1. **IMMEDIATE ACTION**

4.1.8.1.1. Administer decongestants orally such as pseudoephedrine hydrochloride (Sudafed®), 30 mg, 1-2 q.i.d.
4.1.8.1.2. Instill 2 drops of oxymetazoline hydrochloride (Afrin®) nose drops into each nostril t.i.d. Do not use for more than 3 days.
4.1.8.1.3. Perform self-inflation of the ear using Valsalva maneuver after each instillation of nose drops.

4.2. **NOSE**
4.2.1. **Rhinitis**

ACTION ALERT: Since the underlying cause of rhinitis is often allergic in nature the offending substance should be removed if possible.

4.2.1.1. **IMMEDIATE ACTION**
4.2.1.1.1. Administer decongestants orally such as pseudoephedrine hydrochloride (Sudafed®) 30 mg, 1-2 tablet P.O. q 4-6 hrs or Entex LA 1 tablet P.O. b.i.d. (may be useful in patients with cough and rhinitis).
4.2.1.1.2. If rhinitis is due to allergies, you may use either:
4.2.1.1.2.1. Actifed® 1 tablet P.O. t.i.d. for 5 - 7 days OR
4.2.1.1.2.2. Dimetapp® 1 tablet P.O. b.i.d. for 5 - 7 days.
4.2.1.1.2.3. Instill 2 drops of nose drops oxymetazoline hydrochloride (Afrin ®) into each nostril b.i.d. for 3 days if severe nasal edema is present.

ACTION ALERT: Avoid using nose drops for more than 3 consecutive days. Rebound congestion may occur with prolonged or excessive use. The above drugs must be used with caution with patients having a cardiac history. Consult with preceptor prior to administering if such history is present.

4.2.2. **Nasal Furuncle**
4.2.2.1. **IMMEDIATE ACTION**
4.2.2.1.1. Apply warm, moist heat to the nasal area.
4.2.2.1.2. Administer analgesics as required for pain relief acetaminophen, (Tylenol®) 650-mg P.O. q 4 to 6 hours.
4.2.2.1.3. Administer pseudoephedrine hydrochloride (Sudafed®), 30-mg. 1-2 tablets P.O. q.i.d. if nasal congestion is present.
4.2.2.1.4. **CONTACT PHYSICIAN PRECEPTOR**
4.2.2.1.5. Administer antimicrobial therapy:
4.2.2.1.5.1. If patient is NOT allergic to penicillin, give dicloxacillin (Dynapen®), 500-mg P.O. q.i.d. x 7 to 10 days, or cephalexin monohydrate (Keflex®), 500-mg P.O. q.i.d. for 10 days. OR
4.2.2.1.5.2. If patient IS allergic to penicillin, give tetracycline hydrochloride, 500-mg P.O. q.i.d. x 10 days or erythromycin, 250-mg P.O. x 10 days.

4.2.3. **Sinusitis**
4.2.3.1. **IMMEDIATE ACTION**
4.2.3.1.1. Administer pseudoephedrine hydrochloride (Sudafed®), 30 mg. 1-2 tablets P.O. q.i.d.
4.2.3.1.2. Instill 2 drops of oxymetazoline hydrochloride (Afrin®) nasal solution into each nostril b.i.d. Do not use more than 3 days.
4.2.3.1.3. Administer analgesics, as required, for relief of pain, acetaminophen, (Tylenol®) 650-mg P.O. q 4 to 6 hours.
4.2.3.1.4. **CONTACT PHYSICIAN PRECEPTOR**
4.2.3.1.5. Administer antimicrobial therapy:

4.2.3.1.5.1. If patient is **NOT** allergic to penicillin, give amoxicillin 500-mg P.O. t.i.d. for 10 days OR
4.2.3.1.5.2. If patient **IS** allergic to penicillin, give trimethoprim and sulfisoxazole (Septra®), 1 D.S. tablet P.O. b.i.d. for 10 days.

4.2.4. **Epistaxis**
4.2.4.1. **IMMEDIATE ACTION**
4.2.4.1.1. Keep patient in a sitting position.
4.2.4.1.2. Instruct patient to apply pressure by pinching the soft lobular portion of the nose (pressure should be maintained for 5 to 10 minutes).
4.2.4.1.3. This is often sufficient; however, if bleeding continues:
4.2.4.1.3.1. Pack the bleeding nostril with a cotton ball that has been saturated with a vasoconstrictor such as (Afrin®) or pack with an absorbable gelatin sponge (Gelfoam®).
4.2.4.1.3.2. If bleeding continues and originates from a visible, bare blood vessel in the anterior portion of the nostril, use a silver nitrate stick to cauterize the bleeding site.
4.2.4.1.3.3. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: If bleeding is severe or in the posterior area and uncontrollable by the above treatments use the postnasal pack procedure to control bleeding. The balloon of a Foley catheter may be used to obstruct the choana. (After consulting with preceptor.)

4.3. **THROAT**
4.3.1. **Pharyngitis/Tonsillitis**
4.3.1.1. **IMMEDIATE ACTION**
4.3.1.1.1. Advise patient to rest and eat a light diet. Encourage fluid intake.
4.3.1.1.2. Advise patient to decrease or stop smoking.
4.3.1.1.3. Administer analgesics, as required, for relief of pain acetaminophen, (Tylenol®) 650-mg P.O. q 4 - 6 hours).
4.3.1.1.4. Perform throat culture and sensitivity tests to identify causative organism, if facilities are available.
4.3.1.1.5. Administer warm (not hot) saline gargles every 2 hours.
4.3.1.1.6. **CONTACT PHYSICIAN PRECEPTOR**
4.3.1.1.7. Administer antimicrobial therapy if throat culture proves, or physical examination findings (including fever > 101.5, purulent exudate, anterior cervical lymphadenopathy, and minimal cough) suggest, bacterial infection is present:
4.3.1.1.7.1. If patient is **NOT** allergic to penicillin, give phenoxymethyl penicillin (Pen Vee K®), 500 mg P.O. b.i.d. x 10 days. **CLINICAL NOTE**: If severe infection is noted, give q.i.d. x 48 hrs then back to b.i.d. OR
4.3.1.1.7.2. If patient **IS** allergic to penicillin, give erythromycin (Erythrocin®), 250 mg, P.O. q 6 hours x 10 days. **ACTION ALERT**: To reduce the chance of complications such as RHEUMATIC FEVER or NEPHRITIS treatment of pharyngitis should be continued for the full 10 days.

4.3.2. **Peritonsillar Abscess**
4.3.2.1. **IMMEDIATE ACTION**
4.3.2.1.1. Evaluate and monitor airway.
4.3.2.1.2. **CONTACT PHYSICIAN PRECEPTOR**
4.3.2.1.3. Administer analgesics for relief of pain, acetaminophen, 650 mg P.O. q 4 to 6 hours, or acetaminophen with codeine (Tylenol #3®) 1 - 2 tablets P.O. q.i.d., as needed.

ACTION ALERT: Cellulitis without pus formation will respond to penicillin in 24 to 48 hours. If pus is present and does not drain spontaneously incision and drainage are required. Peritonsillar abscesses tend to recur and tonsillectomy may be indicated.

4.3.2.1.4. Administer antimicrobial therapy:

4.3.2.1.4.1. If patient is **NOT** allergic to Penicillin, give Augmentin 875 mg b.i.d. or 500 mg t.i.d. for 10 days. OR

4.3.2.1.4.2. If patient **IS** allergic to Penicillin, give Clindamycin 300-mg P.O. q 6 hours. May be given IM for severe infections.

4.3.2.1.5. Ensure adequate fluid intake (2 to 3 liters of fluid daily).

4.3.2.1.6. EVAC patient to an otolaryngologist STAT for possible I & D.

4.3.2.1.7. Consult with physician preceptor to determine evacuation priority and modality.

4.3.3. **Laryngitis**

ACTION ALERT: There is no specific treatment for viral laryngitis.

4.3.3.1. **IMMEDIATE ACTION**

4.3.3.1.1. Advise patient to rest voice (use a note pad and pencil to communicate).

4.3.3.1.2. Advise patient to stop smoking.

4.3.3.1.3. Administer steam inhalations.

4.3.3.1.4. Administer analgesics, as needed, for relief of pain, acetaminophen, (Tylenol®) 650 mg, P.O., q 4 to 6 hours.

4.3.3.1.5. **CONTACT PHYSICIAN PRECEPTOR**

4.3.3.1.6. Administer antimicrobial therapy **if** streptococcal.

4.3.3.1.6.1. If patient is **NOT** allergic to Penicillin, give Phenoxymethyl Penicillin (Pen Vee K®), 500 mg P.O. b.i.d. x 10 - 12 days. OR

4.3.3.1.6.2. If patient **IS** allergic to penicillin, give Erythromycin (Erythrocin®), 250 mg P.O. q.i.d. x 10 - 12 days.

Chapter 5

DENTAL PROTOCOLS

5.1. **Acute Necrotizing Ulcerative Gingivitis**

5.1.1. **IMMEDIATE ACTION**

5.1.1.1. Manually remove as much plaque as possible with a toothbrush. (Xylocaine gel may be placed on the gingiva before brushing. Tissue will be very sensitive with or without xylocaine.).

5.1.1.2. Stress to the patient the need for good nutrition, oral hygiene and plenty of rest. Cigarette smokers should discontinue habit.

5.1.1.3. The use of dental floss and thorough brushing several times a day is a must!

5.1.1.4. Have patient swish with 1 cap full of Peridex® for 30 sec and expectorate, b.i.d. X 7 days.

5.1.1.5. Administer analgesics, PO, for pain prn. Options:

5.1.1.5.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.

5.1.1.5.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.

5.1.1.5.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets, q 4-6 hours.

5.1.1.6. **CONTACT DENTIST PRECEPTOR**

5.1.1.7. Acetaminophen with codeine (Tylenol # 3®), 1 - 2 tablets q 4-6 hours for severe pain.

5.1.1.8. Notify dental clinic and arrange for patient to be seen as soon as possible.

5.2. **Alveolar Osteitis ("Dry Socket")**

5.2.1. **IMMEDIATE ACTION**

5.2.1.1. Use sterile H_2O or saline to gently irrigate the socket and remove necrotic debris.

5.2.1.2. Apply a palliative medication: Nu gauze® slightly moistened with Eugenol® placed in the socket for 24 hours (should relieve the intense ache within 30 - 40 minutes). Continue changing dressing every 24 hours for 3 days, gently irrigating extraction site with sterile saline before replacing dressing.

5.2.1.3. Administer analgesics, PO, for pain prn. Options:

5.2.1.3.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.

5.2.1.3.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.

5.2.1.3.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.

5.2.1.3.4. Acetaminophen with codeine (Tylenol # 3®), 1 - 2 tablets q 4-6 hours for severe pain.

5.2.1.4. Notify dental clinic of any persistent symptoms and arrange for patient to be seen as soon as possible.

5.3. **Aphthous Ulcer**

5.3.1. **IMMEDIATE ACTION**

5.3.1.1. Administer topical anesthetic, lidocaine viscous, 1 tablespoon 4 times a day (before meals and at bedtime) to provide short-term relief and to facilitate eating if patient has multiple ulcers. Have patient swirl medication in mouth for one to two minutes and expectorate.

5.3.1.2. Apply a protective dental paste (Orabase®) to individual ulcers 4 times a day (after meals and at bedtime) to prevent irritation by the teeth and oral fluids.

5.3.1.3. Notify dental clinic if condition worsens or does not resolve in 7-10 days.

5.4. **Avulsed Tooth / Displaced Tooth**

5.4.1. **Avulsed Tooth**

5.4.1.1. **IMMEDIATE ACTION**

5.4.1.1.1. Examine socket area and gums for any obvious bone fragment or deformity (remove any deformity).
5.4.1.1.2. Place tooth in Save A Tooth ® solution (Hanks Balanced Salt Solution) for 20 min.
5.4.1.1.3. Reimplant tooth in socket site (If unable to reimplant leave in solution).
5.4.1.1.4. Place a small amount of wax on the avulsed tooth and adjacent teeth to help stabilize tooth.
5.4.1.1.5. **CLINICAL NOTE**: Do not scrape tooth. If Save A Tooth ® solution is not available, other storage solution options include the following (in order of preference): milk, saline, saliva, or sterile water.
5.4.1.1.6. Administer analgesics, P.O. for pain as required. Options:
5.4.1.1.6.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.4.1.1.6.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.4.1.1.6.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.4.1.1.7. Administer appropriate antimicrobial therapy:
5.4.1.1.7.1. If patient is **NOT** allergic to penicillin, administer Phenoxymethyl Penicillin (Pen Vee K®), 500 mg P.O. q.i.d. x 7 days. OR
5.4.1.1.7.2. If patient **IS** allergic to penicillin, administer Clindamycin (Cleocin), 300 mg P.O. q.i.d. x 7 days.
5.4.1.1.7.3. Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.
5.4.1.1.7.4. **CONTACT DENTIST PRECEPTOR** to determine evacuation priority and modality.

5.4.2. **Displaced Tooth**
5.4.2.1. **IMMEDIATE ACTION**
5.4.2.1.1. Attempt to reposition tooth in socket with finger pressure and stabilize with wax if tooth is very loose.
5.4.2.1.2. If unable to move tooth into original position, place gauze between posterior teeth as a jaw rest.
5.4.2.1.3. Administer analgesic P.O. for pain as required. Options:
5.4.2.1.3.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.4.2.1.3.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.4.2.1.3.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.4.2.1.3.4. Acetaminophen with codeine (Tylenol # 3®), 1 - 2 tablets q 4-6 hours for severe pain.
5.4.2.1.3.5. **CONTACT DENTIST PRECEPTOR** to determine evacuation priority and modality.

5.5. **Caries**
5.5.1. **IMMEDIATE ACTION**
5.5.1.1. Remove any gross debris if visible with saline irrigation or floss.
5.5.1.2. Administer analgesics, P.O., for pain as required. Options:
5.5.1.2.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.5.1.2.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.5.1.2.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.5.1.2.4. **CONTACT DENTIST PRECEPTOR**
5.5.1.2.5. If symptoms are relieved, make a routine scheduled appointment.
5.5.1.2.6. If symptoms are not relieved with analgesics, notify dental clinic and arrange for patient to be seen as soon as possible.

5.6. **Fractured Tooth or Crown**

5.6.1. **IMMEDIATE ACTION**
5.6.1.1. Mix glass ionomer restorative material (Vitrabond ®).
5.6.1.2. Cover exposed area with restorative material.
5.6.1.3. Smooth surfaces of material applied.
5.6.1.4. Have patient bite down gently to check occlusion of teeth.
5.6.1.5. Remove any excess material.
5.6.1.6. Administer analgesics, P.O. for pain as required. Options:
5.6.1.6.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.6.1.6.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.6.1.6.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.6.1.6.4. **CLINICAL NOTE:** If tooth is asymptomatic, immediate treatment is not required. Schedule a routine appointment.
5.6.1.7. **CONTACT DENTIST PRECEPTOR**
5.6.1.8. Acetaminophen with codeine (Tylenol # 3®), 1 - 2 tablets q 4-6 hours for severe pain.
5.6.1.9. **CLINICAL NOTE**: If symptomatic after treatment, notify dental clinic and arrange for patient to be seen as soon as possible (ASAP). If asymptomatic after treatment, make a routine scheduled appointment

5.7. **Gingivitis (Acute Painful)**
5.7.1. **IMMEDIATE ACTION**
5.7.1.1. Advise patient to maintain good oral hygiene.
5.7.1.2. Have patient swish with 1 cap full of Peridex® for 30 sec and expectorate, b.i.d.. x 7 days.
5.7.1.3. Administer analgesic P.O. for pain as required. Options:
5.7.1.3.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.7.1.3.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.7.1.3.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.7.1.4. **CONTACT DENTIST PRECEPTOR**
5.7.1.5. Notify dental clinic and arrange for patient to make a routine scheduled appointment.

5.8. **Periapical Abscess**
5.8.1. **IMMEDIATE ACTION**
5.8.1.1. If obvious superficial fluctuant swelling is present, induce drainage with #11 Bard Parker.
5.8.1.2. **CONTACT DENTIST PRECEPTOR**
5.8.1.3. Administer analgesics--P.O. for pain as required. Options:
5.8.1.3.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.8.1.3.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.8.1.3.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.8.1.3.4. Acetaminophen with Codeine (Tylenol® # 3), 1 - 2 tablets q 4-6 hours for severe pain.
5.8.1.4. Administer appropriate antimicrobial therapy:
5.8.1.4.1. If patient is **NOT** allergic to Penicillin, administer Phenoxymethyl Penicillin (Pen Vee K®), 500 mg P.O. q.i.d. x 7 days. OR
5.8.1.4.2. If patient **IS** allergic to Penicillin, administer Clindamycin (Cleocin), 300 mg, P.O. q.i.d. x 7 days.
5.8.1.5. Notify dental clinic and arrange for patient to be seen as soon as possible.

5.9. **Pericoronitis**

5.9.1. **IMMEDIATE ACTION**
5.9.1.1. If possible, remove obvious plaque buildup by irrigation of the area using large amounts of saline and an irrigation syringe. Care must be used, as this area will be very tender.
5.9.1.2. Stress to the patient the need for good oral hygiene to improve the condition of the gum in spite of the pain or bleeding.
5.9.1.3. Have patient swish with 1 cap full of Peridex® for 30 sec and expectorate, b.i.d. x 7 days.
5.9.1.4. Dispense an irrigation syringe to patient and show them how to irrigate area four times a day with saline solution.
5.9.1.5. Administer analgesics, P.O. for pain as required. Options:
5.9.1.5.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.9.1.5.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.9.1.5.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.9.1.6. **CONTACT DENTIST PRECEPTOR**
5.9.1.7. Acetaminophen with codeine (Tylenol® # 3), 1 - 2 tablets q 4-6 hours for severe pain.
5.9.1.8. If relief is not evident in 4 to 8 hours, administer appropriate antimicrobial therapy and notify dental clinic of any persistent symptoms:
5.9.1.8.1. If patient is **NOT** allergic to Penicillin, administer Phenoxymethyl Penicillin (Pen Vee K®), 500 mg, P.O. q.i.d. x 7 days. OR
5.9.1.8.2. If patient **IS** allergic to Penicillin, administer Clindamycin (Cleocin), 300 mg P.O. q.i.d. x 7 days.
5.9.1.9. Notify dental clinic and arrange for patient to be seen as soon as possible.

5.10. **Periodontal Abscess**
5.10.1. **IMMEDIATE ACTION**
5.10.1.1. If possible, remove obvious plaque buildup by irrigation of the area using large amounts of saline and an irrigation syringe. Care must be used, as this area will be very tender.
5.10.1.2. Stress to the patient the need for good oral hygiene to improve the condition of the gum in spite of the pain or bleeding.
5.10.1.3. Have patient swish with 1 cap full of Peridex® for 30 sec and expectorate, b.i.d. x 7 days.
5.10.1.4. Administer analgesics, P.O. for pain as required. Options:
5.10.1.4.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4-6 hours.
5.10.1.4.2. Acetaminophen (Tylenol®), 650 mg, q 4-6 hours.
5.10.1.4.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.
5.10.1.4.4. Acetaminophen with codeine (Tylenol® # 3), 1 - 2 tablets q 4-6 hours for severe pain.
5.10.1.5. **CONTACT DENTIST PRECEPTOR**
5.10.1.6. Administer appropriate antimicrobial therapy:
5.10.1.6.1. If patient is **NOT** allergic to penicillin, administer phenoxymethyl penicillin (Pen Vee K®), 500 mg, P.O. q.i.d. x 7 days.
5.10.1.6.2. If patient **IS** allergic to penicillin, administer Clindamycin (Cleocin), 300 mg, P.O. q.i.d x 7 days.
5.10.1.7. Notify dental clinic and arrange for patient to be seen as soon as possible.
5.11. **Pulpitis**
5.11.1. **IMMEDIATE ACTION**
5.11.1.1. Administer analgesics, P.O. for mild or moderate pain as required. Options:
5.11.1.1.1. Acetylsalicylic acid (Aspirin), 650 mg, q 4 - 6 hours.
5.11.1.1.2. Acetaminophen (Tylenol®), 650 mg, q 4 - 6 hours.

5.11.1.1.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets q 4-6 hours.

5.11.1.2. **CLINICAL NOTE:** If symptoms do not improve in 24 hours, notify dental clinic and arrange for patient to make a routine scheduled appointment.

5.11.1.3. **CONTACT DENTIST PRECEPTOR**

5.11.1.4. Acetaminophen with codeine (Tylenol® # 3), 1 - 2 tablets q 4-6 hours for severe pain.

5.11.1.5. Administer appropriate antimicrobial therapy:

5.11.1.5.1. If patient is **NOT** allergic to penicillin, administer phenoxymethyl penicillin (Pen Vee K®), 500 mg P.O. q.i.d. x 7 days. OR

5.11.1.5.2. If patient **IS** allergic to penicillin, administer Clindamycin (Cleocin), 300 mg P.O. q.i.d. x 7 days.

5.11.1.6. Notify dental clinic and arrange for patient to be seen as soon as possible.

Chapter 6

NEUROLOGICAL PROTOCOLS

6.1. **Cerebral Vascular Accident**

6.1.1. **IMMEDIATE ACTION**

6.1.1.1. Maintain the vital functions by ensuring basic life support.

6.1.1.2. Place patient on complete bed rest and keep warm and comfortable.

6.1.1.3. Maintain adequate airway. Protect from aspiration and be prepared to secure airway as needed.

6.1.1.4. Note vital signs, in particular-BP. If BP is elevated, do not attempt rapid lowering. Try keeping diastolic BP ≈ 100 mm Hg.

6.1.1.5. Administer oxygen; flow rate dependent on perfusion and consciousness – normally 4-6 liters per minute by nasal cannula or 8 –10 liters per minute via face mask. In crisis—high flow via non-rebreather.

6.1.1.6. Monitor for symptoms and signs of myocardial infarction, congestive heart failure, and hypertension.

6.1.1.7. If patient is not allergic, administer acetylsalicylic acid, 325 mg, 1 tablet P.O.

6.1.1.8. **CONTACT PHYSICIAN PRECEPTOR**

6.1.1.9. If patient is unconscious or cannot swallow, initiate I.V. therapy.

ACTION ALERT: Fluid intake should be limited to no more than 2 liters per day.

6.1.1.10. Insert urinary catheter and connect to drainage bag.

6.1.1.11. Monitor and record I&O.

6.1.1.12. Monitor and record level of consciousness using Glasgow Coma Scale.

ACTION ALERT: All sedatives including barbiturates are contraindicated since they may depress breathing mask other CNS SIGNS AND SYMTOMS and cause pneumonia. Check patient for pneumonia every 24 hours

6.1.1.13. Consult with physician preceptor to determine evacuation priority and modality.

6.2. **Headache**

6.2.1. **Migraine Headache**

6.2.1.1. **IMMEDIATE ACTION**

6.2.1.1.1. Have patient avoid precipitating factors. Dietary restrictions may be helpful.

6.2.1.1.2. Place at rest, in darkened, quiet room.

6.2.1.1.3. Consider discontinuation of oral contraceptives and estrogen therapy in the patient with recurrent migraine.

6.2.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**

6.2.1.1.5. For mild infrequent attacks:

6.2.1.1.5.1. Acetylsalicylic acid , 650 mg taken with food at the onset of symptoms or Naproxen, 250-500 mg b.i.d., may stop migraine, but treatment with extra-cranial vasoconstrictors or other drugs is sometimes necessary. (See below)

6.2.1.1.5.2. Cafergot®, 1-2 tablets taken at the onset of the headache or warning symptoms, followed by 1 tablet q 30 minutes, if necessary, up to 6 tablets per attack and 10 tablets per week. OR

6.2.1.1.5.3. Ergotamine Maleate, 2 mg, 1 tablet sublingual at onset. Another 2 mg sublingual tablet may be given 30 minutes later, if necessary for a maximum total of 6 mg per 24 hr. period. Limit dosage to 10 mg/week. OR

6.2.1.1.5.4. Sumitriptan (Imitrex) 6 mg SC injection. May repeat in 1 hour for maximum of 12 mg in 24 hours.

ACTION ALERT: Ergotamine containing preparations may affect the gravid uterus and thus should be avoided during pregnancy. Also contraindicated in peripheral vascular disease, HTN, and CAD.

6.2.1.1.5.5. Avoid in patients with known Coronary Artery Disease, pregnancy, or hypertension. OR

6.2.1.1.5.6. Midrin®, 2 tablets taken immediately, followed by 1 tablet q h as needed, up to 5 tablets/12 hrs.

6.2.1.1.5.7. Preventive treatment may be necessary if migraines headaches occur more frequently than two or three times a month. Refer to HMTF for evaluation—CONTACT PHYSICIAN PRECEPTOR to discuss priority and modality.

6.2.2. **Cluster Headache**

6.2.2.1. **IMMEDIATE ACTION**

6.2.2.1.1. Inhalation of 100% oxygen, 7 liters per minute for 15 minutes may be helpful.

6.2.2.1.2. Antihistamines, narcotics, sedatives and tranquilizers are ineffective in treatment of cluster headache.

6.2.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**

6.2.2.1.4. NSAID's such as Indomethacin (Indocin®), or Naproxen, (Naprosyn®) may be beneficial.

6.2.2.1.5. Sumatriptan (Imitrex) 6 mg SC may provide some relief.

6.2.2.1.6. For prophylaxis, give Ergotamine Tartrate 2-mg P.O. q d.

ACTION ALERT: Ergotamine containing preparations may affect the gravid uterus and thus should be avoided during pregnancy Also contraindicated in peripheral vascular disease, HTN, and CAD.

6.2.3. **Tension Headache**

6.2.3.1. **IMMEDIATE ACTION**

6.2.3.1.1. ASA/Tylenol®, or NSAIDs may be of benefit.

6.2.3.1.2. Instruct patient on relaxation techniques i.e. massage, hot baths, biofeedback etc.

6.2.3.1.3. **CONTACT PHYSICIAN PRECEPTOR**

6.2.3.1.4. Midrin®, 1-2 tablets P.O. q4h up to max of 8 tabs/day.

6.3. **Head Injuries (Note: See 2.4.5 … Head Trauma)**

6.4. **Herniated Nucleus Pulposus (HNP) with Radiculopathy**

6.4.1. **IMMEDIATE ACTION**

6.4.1.1. Bedrest in supine position.

6.4.1.2. Administer analgesics for pain as required:

6.4.1.2.1. Acetylsalicylic acid , 650 mg, q 4 - 6 hours.

6.4.1.2.2. Acetaminophen (Tylenol®), 650 mg, q 4 - 6 hours.

6.4.1.2.3. Ibuprofen (Motrin®), 400 mg, 1 - 2 tablets P.O. q 4 - 6 hrs. with food.

6.4.1.3. **CONTACT PHYSICIAN PRECEPTOR**

6.4.1.4. Acetaminophen with codeine (Tylenol # 3®), 1-2 tablets q 4 - 6 hours for severe pain.

6.4.1.5. Consult with preceptor regarding evacuation-- urgently if progressive neurologic deficit or evidence of sphincter dysfunction. Consult with physician preceptor to determine evacuation priority and modality.

6.5. **Meningitis**

ACTION ALERT: This treatment protocol is predicated on the fact that 90 percent of bacterial meningitis in adults is due to pneumococcus and meningococcus organisms. Since this cannot be

confirmed in the isolated environment, those responsible for the management may wish to use agents which will cover Hemophilus influenzae and gram negative organisms of other types. In any event, only two drugs need be considered. Penicillin G will cover about 90 percent of the cases and chloramphenicol is the alternate drug of choice for use in penicillin allergic patients and in cases where organisms other than pneumococci or meningococci are suspected.

6.5.1. **CONTACT PHYSICIAN PRECEPTOR**

6.5.2. Start an I.V. of normal saline and run at a continuous drip. Administer 1000 ml more fluid than urinary output but not less than 3000 ml daily. (after consulting with preceptor).

6.5.3. Insert an indwelling (Foley) catheter and monitor urinary output.

6.5.4. **CLINICAL NOTE**: No clinically effective antiviral agents are known. Until the causative organism is established, treat as bacterial.

6.5.5. Administer appropriate antibiotic therapy: (after consulting with preceptor):

6.5.5.1. If patient is **NOT** allergic to penicillin, give penicillin G, aqueous, 3-4 million units, I.V. every 4 hours or Ceftriaxone 100 mg/kg every 12 hours. OR

6.5.5.2. If patient **IS** allergic to penicillin, give chloramphenicol, 100 mg per kg body weight per day or 4 Gm/day, I.V., in 4 divided doses. In addition, trimethoprim/sulfamethoxasole (Septra®), may be given.

ACTION ALERT: In a closed environment with cramped living conditions close contacts should receive Rifampin 600 mg P.O. b.i.d. x 4 doses for meningococcal prophylaxis. Consult with preceptor.

6.5.5.3. Monitor and record vital signs.

6.5.5.4. Maintain an adequate airway.

ACTION ALERT: Viruses can cause encephalitis an inflammation of the brain tissue itself rather than the brain covering (meninges). Suspect encephalitis if a patient becomes drowsy or stuporous following a bout with the "flu." Other symptoms and signs will be the same as in meningitis and usually of a lesser degree. No specific treatment exists for viral encephalitis. Care should be supportive.

6.5.5.5. Consult with physician preceptor to determine evacuation priority and modality.

6.6. **Seizures**

6.6.1. General Information

6.6.1.1. **IMMEDIATE ACTION**

6.6.1.1.1. Establish and maintain an adequate airway using an oral airway unless it induces gagging, vomiting, or trismus is present.

6.6.1.1.2. Protect patient from any injury.

ACTION ALERT: Do not force objects between teeth as damage to tongue and/or teeth could result. DO NOT PUT YOUR FINGERS IN THE PATIENT'S MOUTH

6.6.1.1.3. Place patient on side with head down and suction if necessary.

6.6.1.1.4. Administer 100% O^2 preferably by non-rebreathing mask.

6.6.1.1.5. After cessation of attack, insure airway is clear.

6.6.1.1.6. Examine for associated injuries and treat as required.

6.6.1.1.7. Consult with physician preceptor to determine evacuation priority and modality.

6.6.2. **Status Epilepticus**:

6.6.2.1. **IMMEDIATE ACTION**

6.6.2.1.1. Evaluate airway and consider early intubation.

6.6.2.1.2. Insert large bore I.V. with normal saline at KVO rate.

6.6.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**

6.6.2.1.4. Administer 50% dextrose (25-50 ml), I.V.

6.6.2.1.5. NG tube placed to empty stomach if necessary.
6.6.2.1.6. If seizure continues, administer diazepam (Valium®), 5 mg I.V. (repeat q 5 minutes if necessary up to a total of 20 mg.) / (**Pediatric dose** 0.1 - 0.25 mg/kg).
6.6.2.1.7. May cause respiratory depression --monitor respirations and blood pressure.
6.6.2.1.8. **CLINICAL NOTE**: Valium® may be given (same dose as above) per rectum via catheter. Useful if delayed or difficult I.V..
6.6.2.1.9. Regardless of the response to diazepam, administer phenytoin (Dilantin®), 18 mg/kg, I.V., at a rate not to exceed 50 mg/minute. (after consulting with preceptor)
6.6.2.1.10. **NOTE**: Phenytoin (is injected directly) but can also be given in saline; it precipitates, however, if injected into glucose containing solutions.

ACTION ALERT: Continuous monitoring of cardiac and BP is mandatory during infusion. Contraindicated in 2° and 3° AV block

6.6.2.1.11. If seizure continues administer Phenobarbital in a loading dose of 10-20 mg/kg I.V. by slow or intermittent injection. **CLINICAL NOTE**: Respiratory depression and hypotension are common complications and should be anticipated.
6.6.2.1.12. Determine level of consciousness using Glasgow Coma Scale.
6.6.2.1.13. Consult with physician preceptor to determine evacuation priority and modality.
6.6.2.1.14. Consider inhaled corticosteroids for maintenance of moderate to severe asthmatics.
6.6.2.1.15. Consult with physician preceptor to determine evacuation priority and modality.

Chapter 7

CARDIAC/PULMONARY PROTOCOLS

(CARDIAC EMERGENCIES … 2.3.1.)

7.1. **Adult Respiratory Distress Syndrome (ARDS)**

7.1.1. **CLINICAL NOTE**: The medical problems initiating this serious syndrome are numerous and diverse. Mortality rate exceeds 50% and may reach 90% if accompanied by sepsis.

7.1.2. **CONTACT PHYSICIAN PRECEPTOR**

7.1.3. Aggressive supportive therapy.

7.1.4. Almost always requires endotracheal intubation.

7.1.5. Administer oxygen by positive pressure (AMBU bag). The lowest level of PEEP that produces adequate oxygenation should be used.

7.1.6. Secure large bore I.V. with normal saline @ KVO rate.

7.1.7. Treat underlying cause.

7.1.8. Broad-spectrum antibiotic treatment should be started promptly if infection is known or suspected.

7.1.9. EVAC STAT!

7.2. **Angina Pectoris**

7.2.1. **IMMEDIATE ACTION**

7.2.1.1. Administer oxygen: 4 to 6 liters per minute, by nasal catheter or cannula, 8-10 liters per minute by mask if signs of hypoxia.

7.2.1.2. Place one 0.3 mg nitroglycerin tablet under the tongue (sublingually) as soon as the attack begins; let tablet dissolve. Dosage may be repeated every 5 minutes x 3 doses. If no response, treat as impending M.I. (Before administering Nitroglycerin, insure systolic blood pressure is > 90 mm Hg.)

7.2.1.3. **CLINICAL NOTE:** Nitroglycerin may cause headaches. If the patient has taken their own nitro tablets, insure that they are fresh and maintained properly before moving to M.I. protocol.

7.2.1.4. Advise patient to stand still, sit, or lie down as soon as the anginal pain begins and to remain quiet until attack is over. (Patient should not try to "work the attack off.")

7.2.1.5. Control the patient's blood pressure.

7.2.1.6. Refer to MTF for work-up.

ACTION ALERT: If the patient has experienced previous anginal attacks, warn patient that any changes in pattern of attacks should be reported immediately and treated as an impending M.I.

7.3. **Asthma**

7.3.1. **IMMEDIATE ACTION**

7.3.1.1. Determine during the patient history any drugs, including doses and times, the patient may already have taken.

7.3.1.2. Place patient at rest in sittings position and relieve apprehension by reassurance.

7.3.1.3. Perform spirometer testing to aid in staging severity of the attack.

7.3.2. **Mild Asthma**

7.3.2.1. Administer inhaled sympathomimetic bronchodilator drugs i.e.: Albuterol or metaproterenol (preferred formulation in most cases), 1-3 inhalations, 5 minutes apart, q 4 hrs.

CLINICAL NOTES:

Metered-dose inhaler (MDI) devices are the most convenient and practical way of administering these drugs. Unfortunately, MDI's are used incorrectly by at least half of the patients.

Each inhalation should take 5 seconds followed by a 10-second breath holding to allow deposition of the aerosol in the periphery of the lung.

One assisted method is a device called the Inspir-Eaze®, or the actuation may be sprayed into a common plastic baggy; the patient would then inhale the medication from the bag slowly deflating it. (This does not need to be done in one long inspiration but the deeper the breath the better.)

7.3.2.2. Administer oxygen: 4 to 6 liters per minute, by nasal catheter or cannula, 8-10 liters per minute by mask.
7.3.2.3. Monitor and record vital signs frequently.
7.3.2.4. **CONTACT PHYSICIAN PRECEPTOR**
7.3.3. **Moderate to Severe attacks**
7.3.3.1. Early treatment with adequate doses of corticosteroids usually relieves symptoms and prevents hospitalization.
7.3.3.2. Methylprednisolone sodium succinate, 2 mg/kg/day, I.V., may use oral prednisone depending on severity.
7.3.3.3. The routine use of antibiotics for acute or chronic asthma is not warranted.
7.3.3.4. Empirical antibiotic therapy to control respiratory infection, if present, Amoxicillin, 500 mg, P.O., t.i.d. for 7-10 days, or Tetracycline Hydrochloride, 250-500 mg, P.O., q.i.d. for 7-10 days.

7.4. **Bronchitis**
7.4.1. **IMMEDIATE ACTION**
7.4.1.1. Remove the cause or source of irritation, when possible.
7.4.1.2. Place patient at rest until fever subsides. **CLINICAL NOTE:** Usually, fever may indicate pneumonia.
7.4.1.3. Force fluids, especially during the fever course of the condition.
7.4.1.4. Administer Acetylsalicylic acid , 650 mg, or acetaminophen (Tylenol®), 650-mg P.O. q 4 to 6 hours to reduce temperature.
7.4.1.5. Administer an expectorant cough mixture if cough is distressing. (Give 1 or 2 teaspoonfuls every 4 to 6 hours when necessary.)
7.4.1.6. Steam inhalations may offer relief and should be used if available.
7.4.1.7. Advise patient to reduce or quit smoking.
7.4.1.8. Monitor and record vital signs frequently.

ACTION ALERT: Advise patient to continue to cough and bring up sputum. Avoid the use of codeine like cough mixtures as they will keep the patient from coughing up mucus.

7.4.1.9. **CONTACT PHYSICIAN PRECEPTOR**
7.4.1.10. Administer antimicrobial therapy to control infection if present: Erythromycin (Erythrocin®), 250 mg, P.O. q.i.d. x 7 to 10 days. Alternate drug is Bactrim/Septra DS 1 P.O. b.i.d. x 7-10 days or Tetracycline Hydrochloride, 250-mg P.O. q.i.d. x 7 - 10 days.

7.5. **Costal Chondritis**
7.5.1. **IMMEDIATE ACTION**
7.5.1.1. Provide reassurance to relieve anxiety and apprehension.
7.5.1.2. Do not tape the chest. Give enough analgesics to allow normal respirations.

7.5.1.3. **CONTACT PHYSICIAN PRECEPTOR**

7.5.1.4. Administer anti-inflammatory medication such as ibuprofen (Motrin®) 800-mg P.O. t.i.d. or indomethacin (Indocin®), 25 to 50 mg, P.O. q 4 to 6 hours, with a maximum of 50-mg q 8 hrs. **CLINICAL NOTE**: If pain is severe, acetaminophen with codeine (Tylenol #3 ®) 1 - 2 tabs q 6 hours to control the pain.

ACTION ALERT: Be aware of the possibility that costal chondritis chest pain could exist with myocardial infarction.

7.6. **Flail Chest (See 2.4.6. Thoracic Trauma)**

7.7. **Pleurisy**

7.7.1. **IMMEDIATE ACTION**

7.7.1.1. Administer analgesics for relief of pain, Acetylsalicylic acid , 650 mg, P.O. q 4 to 6 hours or Motrin 800-mg T.I.D. with food.

7.7.1.2. Monitor and record vital signs frequently.

7.7.1.3. **CONTACT PHYSICIAN PRECEPTOR**

7.7.1.4. For more severe pain, give Acetaminophen and codeine, (Tylenol # 3), 1-2 tablets P.O. q 6-8 hours as needed (After consulting with preceptor for narcotics.)

CLINICAL NOTE: ASA may be more effective than Tylenol #3® because of its anti-inflammatory properties.

7.7.1.5. Administer sedative cough mixture (1 teaspoonful every 6 hours) for relief of severe cough.

7.7.1.6. Treat underlying conditions such as bronchitis or pneumonia, if present. If infection is present, administer antimicrobial therapy: erythromycin (Erythrocin®), 250-mg P.O. q.i.d. x 7 to 10 days. Alternate drug is tetracycline hydrochloride, 250-mg P.O. q.i.d. x 7 to 10 days.

ACTION ALERT: Consider a differential of pulmonary embolus in any patient with pain during breathing or coughing. If suspicious of PE (shortness of breath tachycardia) evacuate immediately for further evaluation.

7.7.1.7. Consult with physician preceptor to determine evacuation priority and modality.

7.8. **Pneumonia**

ACTION ALERT: Isolate pneumonia patient from other patients especially those with cardiac burn or upper respiratory conditions.

7.8.1. **IMMEDIATE ACTION**

7.8.1.1. Place patient on bed rest and keep warm.

7.8.1.2. Administer oxygen: 2 to 4 liters per minute via nasal cannula or 8-10 liters per minute by mask.

7.8.1.3. Force fluids. Ensure intake of 3000 ml per day, either P.O. or by I.V..

7.8.1.4. Administer acetylsalicylic acid, 650 mg, or acetaminophen (Tylenol®), 650 mg, P.O. q 4 hr. to control temperature and pain.

7.8.1.5. **CONTACT PHYSICIAN PRECEPTOR**

7.8.1.5.1. Administer antibiotic therapy to control infection:

7.8.1.5.1.1. Erythromycin (Erythrocin ®), 500 mg, 4 times a day for 10-14 days is the drug of choice, or

7.8.1.5.1.2. Azithromycin 500 mg on first day, followed by 250 mg q day for 4 days.

7.8.1.5.1.3. If pleuritic pain is present and not controlled by the above analgesics, give acetaminophen and codeine, (Tylenol # 3), 1-2 tablet P.O. q.i.d., as needed.

7.8.1.5.1.4. Consult with physician preceptor to determine evacuation priority.

7.9. **Pneumothorax (See 1.4.6.1,2,3 pneumothorax, tension; open; closed)**

7.10. **Pulmonary Edema** -- non-cardiogenic (see 1.3.5 Acute Pulmonary Edema)
7.10.1. **IMMEDIATE ACTION**
7.10.1.1. Place patient in sitting position; complete rest. Try pursed lip expiratory breathing.
7.10.1.2. Administer oxygen, initially high flow by non-rebreather mask is desired but may vary according to perfusion and comfort.
7.10.1.3. **CONTACT PHYSICIAN PRECEPTOR**
7.10.1.4. Prepare patient for EVAC
7.10.1.5. Administer bronchodilator:
7.10.1.5.1. Use of an aerosol of 2.5 mg of a mixture including metaproterenol sulfate (Alupent®) or albuterol sulfate (Proventil®), plus 2.5 mg normal saline. AND/OR
7.10.1.5.2. Aminophylline may be of some benefit.

ACTION ALERT: The above treatments may provoke tachycardia and supraventricular arrhythmias. Monitor for cardiac arrhythmia. Do not give in the presence of rapid tachycardia. (140 + bpm)

7.10.1.5.3. Treat any bacterial infection.
7.10.1.5.4. Steroid therapy, dexamethasone, 10 to 15 mg; Or prednisone, ~ 1-2 mg/Kg in a single loading dose by oral or methylprednisolone via parenteral route repeated in divided doses through the next 24 hours.
7.10.1.5.5. I.V. fluid; possible diuretic per preceptor.

Consult with physician preceptor to determine evacuation priority and **ACTION ALERT**: Sedatives and narcotics are contraindicated.

7.11. **Pulmonary Embolism and Infarction of the Lung**

ACTION ALERT: This is a serious medical emergency. Early intervention and evacuation is crucial to patient survival.

7.11.1. **IMMEDIATE ACTION**
7.11.1.1. Place patient on bed rest, in shock position.
7.11.1.2. Initiate an I.V. of normal saline at KVO.
7.11.1.3. Administer oxygen: initially high flow by non-rebreather mask, then adjust according to perfusion and comfort.
7.11.1.4. Treat for shock, keep patient warm.
7.11.1.5. Monitor vital signs frequently.
7.11.1.6. **CONTACT PHYSICIAN PRECEPTOR**
7.11.1.7. Administer analgesics for control of pain, anxiety, and dyspnea, meperidine hydrochloride (Demerol®), 75 to 100 mg, IM, every 3 to 4 hours as required.

ACTION ALERT: Morphine sulfate is contraindicated in any respiratory condition as it depresses respirations.

7.11.1.8. Consult with physician preceptor to determine evacuation priority and modality.

Chapter 8

GASTROINTESTINAL PROTOCOLS

8.1. **Abdominal Trauma (See 2.4.7)**
8.2. **Appendicitis**
8.2.1. **IMMEDIATE ACTION--NOTE:** IF APPENDICITIS IS SUSPECTED DO NOT ADMINISTER LAXATIVES.
8.2.1.1. Bed rest with bathroom privileges as tolerated. Keep patient in semi-Fowlers position to facilitate drainage in the event of perforation and to prevent diaphragmatic involvement.
8.2.1.2. NPO, occasional sips of water or ice chips may be given to moisten mouth.
8.2.1.3. Nasogastric tube and suction. If suction apparatus is not available, aspirate contents with 50-ml syringe until no return then aspirate every 30 to 60 minutes.
8.2.1.4. I.V. with 18 gauge or larger, Ringer's lactate initially, followed by normal saline.
8.2.1.5. Maintain intake and output record.
8.2.1.6. **CONTACT PHYSICIAN PRECEPTOR**
8.2.1.7. Antibiotics (I.V. or IM) are indicated for marked systemic reaction, consult preceptor for choice, -3rd generation cephalosporins are preferred.
8.2.1.8. Sedation with tranquilizing agent may be necessary. Narcotics should be avoided.
8.2.1.9. Consult with physician preceptor to determine evacuation priority and modality.

8.3. **Cholecystitis (Acute)**
8.3.1. **IMMEDIATE ACTION**
8.3.1.1. Bed rest.
8.3.1.2. Nothing by mouth.
8.3.1.3. Insert nasogastric tube to decompress the stomach and connect to suction.
8.3.1.4. I.V.-at least 3 liters of fluids each day, 1 liter should be Ringer's lactate solution followed by normal saline.
8.3.1.5. Measure and record urinary output.
8.3.1.6. **CONTACT PHYSICIAN PRECEPTOR**
8.3.1.7. Meperidine hydrochloride (Demerol®), 50-100 mg IM, every 4 to 6 hours.
8.3.1.8. Vistaril® or Phenergan®, 25-50 mg, combined with meperidine to prevent nausea.
8.3.1.9. Consult with physician preceptor to determine evacuation priority and modality.

8.4. **Enterobiasis** (Pinworms)
8.4.1. **GENERAL MEASURES**
8.4.1.1. Consider having entire household treated if symptomatic.
8.4.1.2. Stress good hygiene.
8.4.1.3. Avoid scratching perianal area.
8.4.1.4. Launder bedding and clothing.
8.4.1.5. Re-infestation is likely.
8.4.1.6. **CONTACT PHYSICIAN PRECEPTOR**
8.4.1.7. Mebendazole (Vermox®), drug of choice, 100 mg single oral dose (chewed for best results). May be repeated in 2-4 weeks.
8.4.1.8. Alternative treatment: Pyrantel Pamoate (Antiminth®), 11 mg/Kg, single dose (1g Max dose), repeat after 2 weeks. NOTE: Gastrointestinal distress, although infrequent, may occur.

8.5. **Gastritis**
8.5.1. **IMMEDIATE ACTION**
8.5.1.1. **VIRAL GASTRITIS -** Treat the same as Viral Gastroenteritis except anti-diarrheal agents are not indicated.
8.5.1.2. **DRUG (NSAID), ALCOHOL, OR STRESS INDUCED**
8.5.1.2.1. Eliminate the suspected cause.
8.5.1.2.2. Antacids.
8.5.1.2.3. **CONTACT PHYSICIAN PRECEPTOR**
8.5.1.2.4. Administer an anti-ulcer medication i.e.: Sucralfate (Carafate®), 1 g, q.i.d., 1 hour before meals and h.s. Or a histamine antagonist i.e.--ranitidine (Zantac®), 150 mg P.O. b.i.d.
8.5.1.2.5. Refer to MTF if symptoms persist during treatment or if any indication of GI bleeding.
8.5.1.2.6. **GASTRITIS DUE TO OTHER CAUSES - CONTACT PHYSICIAN PRECEPTOR for MTF referral.**

8.6. **Gastroenteritis**
8.6.1. **General Management**
8.6.1.1. Provide bed rest with access to bathroom.
8.6.1.2. Ice chips x 12 hours then clear liquids x 12 hours. Urine output q 2 H indicates adequate hydration status. Once clear liquids are tolerated, advance to BRAT (bananas, rice, applesauce, and toast) diet for 24 hrs, and then advance as tolerated. Avoid dairy products and alcohol for 72 hours.
8.6.1.3. Electrolytes i.e.--Gatorade® P.O. when indicated.
8.6.1.4. Antiemetics if indicated.
8.6.1.5. Antidiarrheal drugs for cramping and diarrhea as indicated. Limit the use of antimotility drugs (loperamide HCL, diphenoxylate, etc.) to patients who do not have fever or bloody diarrhea. Additionally, DO NOT use drugs in cases where toxins or antibiotics are suspected as the cause.
8.6.1.6. **CONTACT PHYSICIAN PRECEPTOR**
8.6.1.7. If febrile >24 - 36 hrs or temperature > than 103º.
8.6.1.8. Bloody diarrhea.
8.6.1.9. Marked dehydration.
8.6.1.10. For antibiotics.
8.6.1.11. Consult with physician preceptor to determine evacuation priority.
8.6.2. **Viral Gastroenteritis**
8.6.2.1. Treat symptomatically.
8.6.2.2. Bedrest.
8.6.2.3. Clear liquids for 12 hours, advance to BRAT (Bananas, Rice, Applesauce, and Toast) diet and then as tolerated.
8.6.2.4. Antiemetics as needed (P.O. IM or suppository whichever is indicated by symptoms).
8.6.2.5. **NO** antibiotics.
8.6.3. **Traveler's Diarrhea**
8.6.3.1. Treatment is primarily geared toward prevention; avoid food and drink sources that are likely to be contaminated.
8.6.3.2. Pepto-Bismol® 60 cc q.i.d. may be used prophylactically.
8.6.3.3. Maintain fluid and electrolyte balance.
8.6.3.4. **CONSULT PHYSICIAN PRECEPTOR**
8.6.3.5. If severe or prolonged, Bactrim®/Septra® 1 DS b.i.d. x 3-5 days or Ciprofloxin 500 mg b.i.d..
8.6.3.6. Consult with physician preceptor to determine if required evacuation is required.

8.6.4. **Salmonella Gastroenteritis**
8.6.4.1. Treat symptomatically.
8.6.4.2. NPO, except for clear liquids.
8.6.4.3. I.V. hydration if necessary.
8.6.4.4. Enteric isolation and precautions.
8.6.4.5. If toxic, call preceptor.
8.6.4.6. Consult with physician preceptor to determine if evacuation is required and mode of transport.

8.6.5. **Enteric Fever (Typhoid)**
8.6.5.1. Treatment is geared towards stabilization for evacuation.
8.6.5.2. Enteric isolation and precautions.
8.6.5.3. NPO.
8.6.5.4. I.V. fluids (normal saline or Ringer's lactate) if indicated for dehydration.
8.6.5.5. Intake and output.
8.6.5.6. Antibiotics (e.g. Bactrim®/Septra, Ampicillin), per preceptor.
8.6.5.7. Consult with physician preceptor to determine evacuation priority and modality.
8.6.6. **Staphylococcal Food Poisoning**
8.6.6.1. Treat symptomatically.
8.6.6.2. Bed rest.
8.6.6.3. NPO, except for clear liquids as tolerated.
8.6.6.4. I.V. rarely necessary.
8.6.6.5. Antiemetic (i.e. Tigan®).

8.7. **Gastrointestinal Bleeding**
8.7.1. **IMMEDIATE ACTION**
8.7.1.1. Obtain orthostatic vital signs.
8.7.1.2. Obtain hematocrit.
8.7.1.3. Bedrest.
8.7.1.4. Position the patient to protect the airway.
8.7.1.5. NPO.
8.7.1.6. I&O.
8.7.1.7. Initiate intravenous therapy using an 18 gauge or larger catheter. Give 2 liters of Ringer's lactate, followed by normal saline. If urinary output is less than 2 liters daily, give an additional liter of normal saline.
8.7.1.8. Monitor pulse and blood pressure closely every 15 to 30 minutes.
8.7.1.9. **CONTACT PHYSICAN PRECEPTOR.**
8.7.1.10. Consult with physician preceptor to determine evacuation priority and modality.

8.8. **Hepatitis (Viral)**
8.8.1. **CLINICAL NOTE**: Many viruses are implicated in the production of acute hepatitis. The more common of these are hepatitis A, B, C (non-A, non-B), D (delta agent) and E (enteric hepatitis). **Hepatitis A** is primarily spread through fecal-oral contamination. **Hepatitis B** is typically transmitted through contact with specified body substances. **Hepatitis C** (non-A, non-B) is responsible for most transfusion related cases of hepatitis. **Hepatitis D** is seen in conjunction with hepatitis B (never alone) and frequently exacerbates chronic hepatitis B infections. **Hepatitis E** (enteric hepatitis) is has been identified in waterborne outbreaks in many countries—including India, Burma, Afghanistan, Algeria and Mexico.

ACTION ALERT: Hepatitis is extremely contagious. Strict isolation is not necessary; however standard precautions (transmission based isolation) are required to prevent its spread. Thorough hand washing by caregivers handling contaminated utensils bedding or clothing is essential. Extreme caution must be exercised when using and disposing of sharps.

8.8.1.1. **IMMEDIATE ACTION**

8.8.1.1.1. Wear gloves when handling utensils, soiled facial tissue (Kleenex®), feces, urine or any of the seven specified fluids requiring precautions.

8.8.1.1.2. Use only disposable syringes and needles.

8.8.1.1.3. Good personal hygiene and controlled sanitation methods are a must.

8.8.1.1.4. Patient should be assigned separate bathroom facilities.

8.8.1.1.5. Provide tissue and paper bags for patient. Dispose of used tissue in sealed plastic bags.

8.8.1.1.6. Bed rest, as needed during the acute phase.

8.8.1.1.7. No strenuous physical exertion, alcohol or hepatotoxic agents (i.e. sedatives, morphine, or acetaminophen) during the acute phase.

8.8.1.1.8. Provide sound nutritional diet, as tolerated.

8.8.1.1.9. Patients or those in close contact should not be permitted to prepare food for others for a period of at least 2 weeks after onset of jaundice to preclude spreading the disease.

8.8.1.1.10. **CONTACT PHYSICIAN PRECEPTOR**

8.8.1.1.11. I.V., normal saline, at125cc/hr, if nausea and vomiting are pronounced or if oral intake is substantially reduced.

8.8.1.1.12. Restrict protein if patient shows signs of impending coma, until clinical improvement.

8.8.1.1.13. Consult with physician preceptor to determine evacuation priority and modality.

CLINICAL NOTE—IMMUNIZATIONS FOR PROPHALAXIS

Hepatitis A immunization for all active duty personnel. Hepatitis A-Immune globulin (IG) should be routinely given to all close personal contacts of patients with hepatitis A.

Recommended dose: 0.2 ml/kg IM.

Hepatitis B immunization for Health care personnel

Hepatitis B: Hepatitis B immune globulin for accidental needle stick exposure to Hep B infected blood, and for sexual partners of infected patients (within two weeks of sexual contact).

Document in PHS 731, Immunization Record

8.8.1.1.14. Hepatitis C: No prophylactic treatment is available.

8.9. **Hemorrhoids**

8.9.1. High fiber diet.

8.9.2. Non-irritating laxatives; Metamucil®, Colace®, Dulcolax®, or Surfak®.

8.9.3. Sitz bath.

8.9.4. Topical hemorrhoidal preparation (e.g. Anusol®, Preparation H®, witch hazel compresses).

8.9.5. CONTACT PHYSICIAN PRECEPTOR for thrombosed or ulcerated hemorrhoids.

8.10. **Inguinal Hernia**

8.10.1. **Incarcerated Hernia**

8.10.1.1. **IMMEDIATE ACTION**

8.10.1.1.1. Place patient in a supine position with knees flexed and hips slightly elevated. Advise patient to relax.

8.10.1.1.2. Apply ice pack or cool compresses to scrotum.

8.10.1.1.3. **CONTACT PHYSICIAN PRECEPTOR**
8.10.1.1.4. Administer diazepam (Valium®), 5 to 10 mg, I.M. or orally to help patient relax.
8.10.1.1.5. If reduction does not occur with lying down, attempt to reduce the hernia with patient's cooperation, doing his best to relax.
8.10.1.1.6. Keep patient in supine position.
8.10.1.1.7. Using your open flat hand, gently push protruding bowel through inguinal ring until you feel it disappear.
8.10.1.1.8. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Observe closely for signs of impending or actual strangulation; i.e., pain and tenderness to palpation in the region of the hernial swelling, discoloration of tissue over swelling site, nausea and vomiting, low grade fever and malaise, and absence of bowel movements.

8.10.2. **Strangulated Hernia**
8.10.2.1. **IMMEDIATE ACTION**
8.10.2.1.1. NPO.
8.10.2.1.2. I.V. fluids (normal saline) KVO as indicated.
8.10.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**
8.10.2.1.4. Administer analgesics, meperidine hydrochloride (Demerol®), 50 to 100 mg, I.M., every 4 to 6 hours for control of severe pain.
8.10.2.1.5. Evacuate patient to a medical facility as soon as possible for specialized treatment and possible surgical intervention. Consult with physician preceptor to determine evacuation priority and modality.

8.11. **Intestinal Obstruction**
8.11.1. **IMMEDIATE ACTION**
8.11.1.1. Bed rest.
8.11.1.2. NPO.
8.11.1.3. I&O.
8.11.1.4. Insert nasogastric tube and connect to suction if available or use a 50-cc syringe every 1 to 2 hours.
8.11.1.5. Initiate intravenous therapy. Ringer's lactate.
8.11.1.6. **CONTACT PHYSICIAN PRECEPTOR**
8.11.1.7. Antibiotics.
8.11.1.8. Analgesic.
8.11.1.9. Consult with physician preceptor to determine evacuation priority and modality.

8.12. **Pancreatitis (Acute)**
8.12.1. **IMMEDIATE ACTION**
8.12.1.1. Bed rest.
8.12.1.2. Nothing by mouth.
8.12.1.3. Insert nasogastric tube to decompress the stomach and connect to suction.
8.12.1.4. I.V. at least 3 liters of fluids each day, 1 liter should be Ringer's lactate solution followed by normal saline.
8.12.1.5. Measure and record urinary output.
8.12.1.6. **CONTACT PHYSICIAN PRECEPTOR**
8.12.1.7. Meperidine hydrochloride (Demerol®), 75-150 mg, I. M., every 3 to 4 hours.
8.12.1.8. Vistaril® or Phenergan®, 25-50 mg, combined with meperidine to prevent nausea.
8.12.1.9. Consult with physician preceptor to determine evacuation priority and modality.

8.13. **Peptic Ulcer**

8.13.1. **CLINICAL NOTE**: In selecting a management plan for ulcers, the immediate goal is to relieve the associated pain. The history of occurrence should be explained to the patient to obtain cooperation and reduce anxieties and tension. Preparation in dealing with the known ulcer patient will greatly aid in diminishing the time of ulcer healing, preventing complications, and recurrences.

8.13.2. **IMMEDIATE ACTION**

8.13.2.1. Rest--promote atmosphere conducive to physical and mental rest.

8.13.2.2. Discontinue caffeinated, decaffeinated, cola or alcoholic beverages, smoking and NSAIDs.

8.13.2.3. Balanced regular meals (High fiber is recommended).

8.13.2.4. Discontinue foods etc. if associated with recurrence.

8.13.2.5. Antacids, Maalox Plus® or Mylanta II®, t.i.d. - q.i.d. DO NOT USE MILK

8.13.2.6. **CONTACT PHYSICIAN PRECEPTOR**

8.13.2.7. Histamine antagonist, Cimetidine (Tagamet®) 400 mg, P.O., b.i.d or Ranitidine HCL (Zantac®) 150 mg P.O., b.i.d. or Sucralfate (Carafate®) 1g t.i.d. - q.i.d. on empty stomach.

8.13.2.8. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Active bleeding of the ulcer is indicated by the patient vomiting bright red blood or material resembling coffee grounds, or passing liquid black tarry, foul smelling stools. Hypovolemic shock due to diminished blood volume may exist. **NOTE:** Active bleeding—refer to 7.7 GI Bleeding Protocol

8.14. **Peritonitis**

CLINICAL NOTE: Surgical intervention is imperative, on site treatment is geared towards stabilization and evacuation.

8.14.1. **IMMEDIATE ACTION**

8.14.1.1. Absolute bed rest in semifowlers position.

8.14.1.2. NPO.

8.14.1.3. Nasogastric suction with a sump tube. If suction apparatus is not available aspirate stomach contents with 50-ml syringe until no return then aspirate every 10-15 minutes.

8.14.1.4. I.V. with 18 gauge or larger, Ringer's lactate initially, followed by normal saline 125cc/hr..

8.14.1.5. Maintain intake and output record.

8.14.1.6. **CONTACT PHYSICIAN PRECEPTOR**

8.14.1.7. Antibiotics (I.V. or IM) if drug of choice available--3rd generation cephalosporins (Cefotaxime 2 gm q 6-8 hours) are preferred.

8.14.1.8. Demerol and sedatives for comfort and rest.

8.14.1.9. Consult with physician preceptor to determine evacuation priority and modality.

Chapter 9

GENITOURINARY/GYNECOLOGICAL PROTOCOLS

9.1. **Candidiasis**
9.1.1. **Females - See vaginosis protocol**
9.1.2. **Males**
9.1.2.1. Cleanse genitalia with soap and water.
9.1.2.2. Nystatin cream, b.i.d. x 7-10 days.

ACTION ALERT: Persistent Candidiasis may be a result of diabetes or HI.V..

9.2. **Cystitis**
9.2.1. **IMMEDIATE ACTION**
9.2.1.1. Administer analgesics for relief of pain, acetaminophen (Tylenol®), 650 mg, P.O., q4
9.2.1.2. Hot sitz baths to relieve pain.
9.2.1.3. Encourage patient to force fluids.
9.2.1.4. Encourage patient to urinate frequently (every 2 to 3 hours) and to empty bladder completely each time.
9.2.1.5. **CONTACT PHYSICIAN PRECEPTOR**
9.2.1.6. Administer antimicrobial therapy:
9.2.1.6.1. **Women**-short term therapy for uncomplicated cystitis
9.2.1.6.2. Trimethoprim sulfamethoxazole (Bactrim®), 1st dose, 2 DS tablets followed by 1 DS tablet, every 12 hours for 3 days (if pregnant, should not be used during third trimester. Should not be used in cases of kernicterus).
9.2.1.6.3. For sulfa allergic patients, use Macrobid 100mg b.i.d. for 7 days or Cephalexin 250-500 mg q.i.d for 3 days.
9.2.1.6.4. Administer phenazopyridine hydrochloride (Pyridium®) 200 mg, P.O., t.i.d. to relieve burning. (Advise patient that urine will become orange/red).

CLINICAL NOTE: This should not be given for more than 2 days if used in conjunction with antibiotics.

9.2.1.6.5. **Men**-use above treatment, and refer to urology if more than one documented episode of cystitis.

9.3. Ectopic Pregnancy
9.3.1. CONTACT PHYSICIAN PRECEPTOR
9.3.1.1. NPO
9.3.1.2. Pain medications per preceptor
9.3.1.3. Antibiotics per preceptor
9.3.1.4. Hydration - large bore I.V. using normal saline 125cc/hr. or per preceptor's direction.
9.3.1.5. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: This is a surgical emergency.

9.4. **Epididymitis**
9.4.1. **IMMEDIATE ACTION**
9.4.1.1. Place patient on bed rest (supine position with elevation of the scrotum above the level of the symphysis pubis) during acute phase.
9.4.1.2. Provide scrotal support (cotton-lined athletic supporter may be used).

9.4.1.3. Administer analgesics for relief of pain, acetaminophen (Tylenol®), 650 mg, P.O., q 4 hours, or acetylsalicylic acid , 650 mg, P.O., q 4 hours, or acetaminophen with codeine (Tylenol #3 ®), 1-2 tablets, P.O., q 4-6 hrs., as needed (after consulting with preceptor for narcotics).
9.4.1.4. Apply ice pack to scrotum (only if noninfectious and in case of severe swelling).
9.4.1.5. Restrict patient's physical activity (no lifting).
9.4.1.6. **CONTACT PHYSICIAN PRECEPTOR**
9.4.1.7. Administer trimethoprime sulfamethoxazole (Bactrim®), 2 tablets, or 1 DS tablet P.O., b.i.d. for 14 days. In young adult, may add doxycycline hyclate (Vibramycin®), 100 mg b.i.d. x 7 days for Chlamydia trachomatis (after consulting with preceptor).

CLINICAL NOTE: If patient appears septic, an I.V. cephalosporin is indicated.

9.4.1.8. Consult with physician preceptor to determine evacuation priority and modality.

9.5. **Gonorrhea**
9.5.1. Because this diagnosis must be made by culture or gram stain, suspected GC patients may need to be referred to the HMTF for evaluation. In males with penile discharge only, consider culturing discharge and treating empirically with Rocephin 125 mg IM and Doxycycline 100 mg b.i.d. (or Azithromycin 1 gm P.O.) after consulting with your preceptor. Refer female patients and patients with severe symptoms to the HMTF.
9.5.2. Refer to urethritis protocol (paragraph 9.18) for additional information.
9.5.3. Consult with physician preceptor to determine evacuation priority and modality.

9.6. **Hard Mass in Testicle**
9.6.1. **IMMEDIATE ACTION**
9.6.1.1. Evacuate the patient to a medical facility for specialized treatment and possible surgical intervention.
9.6.1.2. Consult with physician preceptor to determine evacuation priority and modality.
9.6.1.3. **CLINICAL NOTE**: Considered cancerous until proven otherwise.

9.7. **(Genital) Herpes**
9.7.1. **CONTACT PHYSICIAN PRECEPTOR**
9.7.2. Offer STD testing.
9.7.3. Examine and treat sexual partners, STS initially and at 3 months.
9.7.4. Acyclovir, 200 mg, P.O., 5 times per day x 10 days. (If recurrent episodes use for 5 days.)
9.7.5. Observe for secondary infection.

9.8. **HI.V. Infection**
9.8.1. **CLINICAL NOTE**: HI.V. infections can mimic numerous medical illnesses. Any illness not responding to appropriate treatment or worsening with treatment deserves closer attention.
9.8.2. No cure is available for HI.V. infection; therefore prevention is the best measure. Transmission requires contact with bodily fluids containing infected cells or plasma. Transmission by saliva or droplets produced by coughing or sneezing has not been documented.
9.8.3. **Prevention** (includes but not limited to)
9.8.3.1. Avoid unsafe sexual practices.
9.8.3.2. Standard precautions must be taken for seven specific fluids.
9.8.3.3. Medical and Dental professionals should wear gloves.
9.8.3.4. Sharps precautions.
9.8.4. **Suspected HI.V. Infection**

9.8.4.1. CONTACT PHYSICIAN PRECEPTOR
9.8.4.2. Supportive care
9.8.4.3. Consult with physician preceptor to determine evacuation priority and modality.

9.9. **Hydrocele**
9.9.1. **IMMEDIATE ACTION**
9.9.1.1. Treatment of persistent, symptomatic hydrocele is surgical. If tense, hydrocele compromises circulation; this requires immediate evacuation.
9.9.1.2. If associated hernia is present, refer the patient for evaluation and treatment.
9.9.1.3. Consult with physician preceptor to determine evacuation priority and modality.

9.10. **Orchitis**
9.10.1. **IMMEDIATE ACTION**
9.10.1.1. Place patient on bed rest.
9.10.1.2. Elevate and support scrotum (cotton-lined athletic supporter may be used).
9.10.1.3. Apply compresses to scrotum for symptomatic relief (cold compresses if due to mumps warm compresses if due to bacterial infection).
9.10.1.4. Administer analgesics for relief of pain, Acetylsalicylic acid , 650 mg, orally, every 4 hours and/or acetaminophen with codeine (Tylenol #3 ®), 1-2 tablets, q 4-6 hrs., as needed. (after consulting with preceptor for narcotics).
9.10.1.5. Consult with physician preceptor to determine evacuation priority and modality.

9.11. **Pelvic Inflammatory Disease (PID)**
9.11.1. **IMMEDIATE ACTION**
9.11.1.1. Analgesic such as aspirin or Tylenol®
9.11.1.2. **CONTACT PHYSICIAN PRECEPTOR**
9.11.1.3. Consult with preceptor regarding evacuation for further evaluation--also to determine evacuation priority.
9.11.1.4. Ensure patient remains adequately hydrated.
9.11.1.5. Advise pelvic rest, insure adequate sleep/hydration/nutrition.

ACTION ALERT: It is essential to rule out ectopic pregnancy (and other causes of a surgical abdomen) on all female patients with severe abdominal pain and elevated temperature

9.12. **Prostatitis (Acute)**
9.12.1. **IMMEDIATE ACTION**
9.12.1.1. Place patient on bed rest.
9.12.1.2. Promote comfort with analgesics for relief of pain, Acetylsalicylic acid , 650 mg, every 4 hours, as needed.
9.12.1.3. Give sitz bath 2 or 3 times a day (for 1 hour) to relieve pain and spasm.
9.12.1.4. Ensure adequacy of hydration, but do not force fluids; (I. V. therapy may be required).
9.12.1.5. Observe for urinary retention (patient does not void in 6 to 12 hours and complains of increasing bladder discomfort) due to swelling of prostatic tissue.

ACTION ALERT: If suspected **do not catheterize!** Percutaneous suprapubic tube is required (refer STAT).

9.12.1.6. **CONTACT PHYSICIAN PRECEPTOR**
9.12.1.7. Administer appropriate antimicrobial therapy:
9.12.1.7.1. Trimethoprim/sulfamethoxazole (Bactrim ®) 1 DS b.i.d. for 21 days to 6 weeks. OR

9.12.1.7.2. Fluoroquinolones (Ciprofloxacin®) 500 mg, P.O. b.i.d. x 4 weeks.
9.12.1.7.3. Consider Doxycycline 100 mg b.i.d. for 7 days in young sexually Active males.
9.12.1.8. Refer to HMTF for treatment of persistent symptoms.
9.12.1.9. Consult with physician preceptor to determine evacuation priority and modality.

9.13. **Pyelonephritis (Acute)**
9.13.1. **IMMEDIATE ACTION**
9.13.1.1. Place patient on bed rest.
9.13.1.2. Encourage oral fluid consumption, if tolerated.
9.13.1.3. Monitor and record urine output.
9.13.1.4. If nausea and vomiting are present, administer fluids I. V. (2000 Ringer's lactate solution over 24 hours).
9.13.1.5. Administer antipyretic for control of fever, acetaminophen (Tylenol®), 325 to 650 mg, orally, every 4 hours or Acetylsalicylic acid , 650 mg, orally, every 4 hours. (Only for fever> 101.6° or pain control).
9.13.1.6. **CONTACT PHYSICIAN PRECEPTOR**
9.13.1.7. Administer analgesics for relief of severe pain, meperidine hydrochloride (Demerol®), 50 to 100 mg, IM every 4 hours, as needed. (after consulting with preceptor).
9.13.1.8. Consider Phenergan 25 mg P.O. or parenterally q.i.d. PRN nausea and vomiting.
9.13.1.9. Administer antimicrobial therapy (after consulting with preceptor).
9.13.1.10. Administer trimethoprim/sulfamethoxazole (Bactrim®) 2 tabs b.i.d. or 1 DS tablet b.i.d. x 14. OR
9.13.1.11. Amoxicillin+clavulanate acid (Augmentin®) 500 mg, P.O., t.i.d.
9.13.1.12. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Clinical improvement does not necessarily cure of infection

9.14. **Syphilis**
9.14.1. **General Considerations**
9.14.1.1. Pt will require evacuation to HMTF for evaluation and Military Public Health interview.
9.14.1.2. R/O other sexually transmitted diseases.
9.14.1.3. Instruct patient to refrain from sexual intercourse until conclusion of treatment, including treatment of the partner.
9.14.1.4. Quantitative reagent tests are performed at 1, 3, 6, and 12 months or until non-reactive.

9.15. **Toxic Shock Syndrome**
9.15.1. **CONTACT PHYSICIAN PRECEPTOR**
9.15.1.1. Remove tampon, culture vagina (nasal packing can also cause TSS).
9.15.1.2. Hydration – Ringer's lactate I.V. (flow rate per preceptor).
9.15.1.3. Monitor vital signs.
9.15.1.4. Vasopressors may be needed.
9.15.1.5. Antibiotics/anti-staph per physician preceptor.
9.15.1.6. Consult with physician preceptor to determine evacuation priority and modality.

9.16. **Trichomoniasis**
9.16.1. **CONTACT PHYSICIAN PRECEPTOR**
9.16.2. Sexual partner(s) must be treated simultaneously to preclude reinfection.
9.16.3. Avoid alcohol usage during treatment period.

9.16.4. R/O other STDs.
9.16.5. Examine and treat sexual partners, STS initially and at 3 months.
9.16.6. **Females -** Metronidazole 2g single dose.
9.16.7. **Males or if previous treatment fails -** Metronidazole 500 mg, b.i.d., x 7 days.

ACTION ALERT: Warn patient about antabuse effect while taking Metronidazole. Alcohol should not be consumed for at least 48 hours after completion of treatment

9.17. **Testicular Torsion**
9.17.1. **IMMEDIATE ACTION**
9.17.1.1. Place patient on bed rest.
9.17.1.2. Apply ice bag to the scrotum.
9.17.1.3. **CONTACT PHYSICIAN PRECEPTOR**
9.17.1.4. Administer analgesics for relief of pain, Meperidine hydrochloride (Demerol®), 50 to 100 mg IM every 4 hours, as needed.
9.17.1.5. Attempt to reduce torsion manually: (Rotate as below as seen from patient's feet.)

CLINICAL NOTES:

Good pain management will be needed in order to attempt reduction.

Right side torsion -gently rotate testicle counterclockwise one turn.

Left side torsion -gently rotate testicle clockwise one turn. (Whether right or left torsion if pain is increased by attempt at reduction, rotate in opposite direction).

This is a true urological emergency. Immediate surgical intervention is required

If pain has subsided (indicating a torsion/spontaneous de-torsion), immediate urological consultation is still required for possible orchiopexy

9.18. **Urethritis**
9.18.1. **IMMEDIATE ACTION**
9.18.1.1. Administer analgesics for relief of pain, acetaminophen (Tylenol®), 650-mg P.O. q 4 hours, or acetylsalicylic acid , 650 mg, orally, every 4 hours, as needed.
9.18.1.2. Discontinue use of alcoholic beverages and sexual activity temporarily, since these activities prolong the acute phase.
9.18.1.3. Because the differential diagnosis (GC) cannot be ruled out without performing a gram stain, CONTACT PHYSICIAN PRECEPTOR for possible referral. In patients with mild symptoms, consider culturing and treating empirically with Rocephin 125 mg IM and Doxycycline 100 mg b.i.d for 7 days (alternative Azithromycin 1 gm P.O. one time) after consultation with the preceptor.

9.19. **Urinary Tract Calculi**
9.19.1. **IMMEDIATE ACTION**
9.19.1.1. Monitor and record vital signs.
9.19.1.2. Force fluids round-the-clock (at least 3000 ml daily), by I.V., if necessary, to ensure an adequate urinary output (2000 ml daily).
9.19.1.3. Maintain accurate fluid intake and output records.
9.19.1.4. Strain all urine in an effort to recover stone for laboratory analysis.
9.19.1.5. Activity as tolerated.
9.19.1.6. **CONTACT PHYSICIAN PRECEPTOR**

9.19.1.7. Administer analgesics to relieve severe pain, Meperidine hydrochloride (Demerol®), 50 to 100 mg, IM q 4 hours, Or morphine, 8 mg, IM q4h, as needed.
9.19.1.8. Administer an antiemetic, hydroxyzine pamoate (Vistaril®), 25-50 mg, IM q 4-6 hrs. Or promethazine hydrochloride (Phenergan Plain®), 12.5 -25 mg, P.O., I.M., or rectally q 4-6 hrs as needed.

ACTION ALERT: Parenteral hydroxyzine must be administered deep IM only; not I.V. or Sub-Q. If the pain becomes uncontrollable and temperature and white blood cell count rise, sharply, the condition is a life threatening medical emergency. Initiate antimicrobial therapy and evacuate as soon as possible.

9.19.1.9. If fever or signs of infection, initiate antimicrobial therapy:
9.19.1.9.1. Administer trimethoprim/sulfamethoxazole (Bactrim®), 2 tabs, b.i.d. or 1 DS tablet b.i.d. x 1. OR
9.19.1.9.2. Gentamycin (Garamycin®), 1.7 mg/kg, q 8 hours.
9.19.1.10. Evacuate patient to a medical facility as soon as possible for specialized treatment and possible surgical intervention.

9.20. **Vaginitis**
9.20.1. **Monilia Candidiasis**
9.20.1.1. **CONTACT PHYSICIAN PRECEPTOR**
9.20.1.2. Monistat Cream -- Insert one full applicator at bedtime for 7 days.
9.20.1.3. Mycelex G/Gyne or Lotrimin -- Vaginally for 7 days,
9.20.1.4. Terazol-- Drug of choice for recurrent episodes; Apply one applicator at bedtime for 7 days.
9.20.1.5. Suggest patient avoid tight clothing, douching, bubble baths. Recommend cotton underwear only.
9.20.2. **Bacterial Vaginosis**

ACTION ALERT: Consider possibility of diabetes or HI.V. infection with persistent Candidiasis

9.20.2.1. **CONTACT PHYSICIAN PRECEPTOR**
9.20.2.2. Flagyl 2 gm P.O., STAT or 500 mg b.i.d. for 7 days.
9.20.2.3. Alternate DOC, Clindamycin 300 mg P.O., b.i.d. for 7 days.
9.20.2.4. Treat both partners - **ONLY** if recurrent.
9.20.2.5. **DO NOT** use Sultrin, TCN, or Betadine douche as it is an ineffective treatment.

9.21. **Varicocele**
9.21.1. **IMMEDIATE ACTION**
9.21.1.1. Provide scrotal support (cotton-lined athletic supporter may be used).
9.21.1.2. Refer patient to a medical facility for workup and possible elective surgery.

ACTION ALERT: New onset varicocele after age of 50 may be secondary to renal CA

9.22. **Venereal Warts**
9.22.1. **CONTACT PHYSICIAN PRECEPTOR**
9.22.2. R/O other STDs.
9.22.3. Examine and treat sexual partners, STS initially and at 3 months.
9.22.4. Trichloroacetic acid, 50-90%, applied to lesions only. Baking soda paste immediately after treatment can lessen any discomfort.
9.22.5. Observe for secondary infection.

Chapter 10

INTEGUMENTARY PROTOCOLS

10.1. **General Eruptions**
10.1.1. **IMMEDIATE ACTION**
10.1.1.1. **CLINICAL NOTE:** The management of integumentary disorders will basically be the same in isolated environments as in other spheres. A good patient history is vital to determining cause and accurate diagnosis.

ACTION ALERT: General eruptions often accompany or precede an anaphylactic reaction. A timely yet complete evaluation of the patent is essential. Be prepared to take emergent actions for managing an anaphylactic episode.

10.1.1.2. Advise patient of diagnosis and plans for treatment in order to gain their concurrence and cooperation.
10.1.1.3. If rash is accompanied by urticaria, administer diphenhydramine hydrochloride (Benadryl®) 25-50 mg P.O., q 6 hours.
10.1.1.4. If any other signs of anaphylaxis are present initiate emergent procedures for management of anaphylaxis.
10.1.1.5. Contact physician preceptor for further management instructions.

10.2. **Acne**
10.2.1. The management of acne is based on the severity of the condition. Patient education is important for an effective outcome.
10.2.2. Prescribe Benzoyl peroxide gel 5 % and Fostex soap b.i.d.
10.2.3. **CONTACT PHYSICIAN PRECEPTOR**
10.2.4. Administer antibiotic:
10.2.4.1.1. Tetracycline, 250 mg 2 tablets, P.O., b.i.d. x 2-3 weeks, then 2 tablets q day. NOTE: Photosensitivity precaution OR
10.2.4.1.2. Erythromycin, 250 mg, 1 tablet, P.O., b.i.d.
10.2.4.2. Refer to the HMTF on a routine basis if no response.

10.3. **Atopic Dermatitis**
10.3.1. **IMMEDIATE ACTION**
10.3.1.1. Apply hydrocortisone, 1-% cream t.i.d. to affected area.
10.3.1.2. Have patient use cotton underwear (if trunk, groin, or buttocks, or thigh) and mild body soaps such as Lowilla® or Keri Soap®.
10.3.1.3. Advise patient to use mild laundry soaps without softeners or bleaches.
10.3.1.4. Follow-up in one week.
10.3.1.5. Refer to physician on a routine basis.

10.4. **Contact Dermatitis**
10.4.1. **IMMEDIATE ACTION**
10.4.1.1. Remove offending agent if still present.
10.4.1.2. Have patient avoid materials, soaps, etc. that caused the eruption.
10.4.1.3. Acutely, treat with hydrocortisone 1% cream for t.i.d. application to affected area.
10.4.1.4. If patient is **not** allergic to hydroxyzine hydrochloride, prescribe Atarax® 10 mg 2 tablets P.O. t.i.d.

CLINICAL NOTE: Warn patient about drowsiness when first taking Atarax® and complete profile restricting from driving/hazardous duty if patient intends to take Atarax during waking hours.

10.4.1.5. Follow-up in one week if not resolved.
10.4.1.6. Refer to physician if not responsive to treatment.

10.5. **Cellulitis**
10.5.1. **IMMEDIATE ACTION**

ACTION ALERT: If systemic symptoms are present discuss possibility of an urgent aerovac with preceptor. If hypotension or other signs of sepsis are present take emergent actions for management of shock.

10.5.1.1. Advise patient of diagnosis and plans for treatment in order to gain their concurrence and cooperation.
10.5.1.2. **CONTACT PHYSICIAN PRECEPTOR**
10.5.1.3. Administer appropriate antibiotic

CLINICAL NOTE: Various organisms can be the cause for the above condition. Consult with your preceptor for most suitable antibiotic.

10.5.1.4. If patient is hypotensive, start a large bore I.V. of N.S. or Ringer's lactate. Consider diagnosis of septic shock, contact your preceptor and begin evacuation procedures.
10.5.1.5. Consult with physician preceptor to determine evacuation priority and modality.

10.6. **Eczema and Dyshidrosis**
10.6.1. **IMMEDIATE ACTION**
10.6.1.1. Have patient avoid as many offending agents as possible.
10.6.1.2. Topical corticosteroid creams or ointments applied t.i.d. are the most effective medications.
10.6.1.3. Corticosteroids can be supplemented with emollients i.e., White petrolatum, hydrogenated vegetable oil (as for cooking), or hydrophilic petrolatum (if patient is not allergic to lanolin) and water may be advisable.

CLINICAL NOTE: These emollients are applied between applications of corticosteroids and help to hydrate the skin, an important objective in the treatment.

10.6.1.4. Bathing should be minimized and the use of detergent or strong soaps should be stopped.
10.6.1.5. Fingernails should be kept short so as to prevent excoriations and secondary infection.
10.6.1.6. **CONTACT PHYSICIAN PRECEPTOR**
10.6.1.7. Secondary infections should be treated with systemic antibiotics: Dicloxacillin (Dynapen®) 250 mg P.O. q.i.d. Or Keflex 250 mg P.O. q.i.d.

10.7. **Fungal Infections**

ACTION ALERT: If there is any evidence of secondary or systemic infection then consult with the physician on an urgent basis.

10.7.1. **IMMEDIATE ACTION**
10.7.1.1. Perform an evaluation of the patient (history interview and physical examination).
10.7.1.2. Establish a diagnosis, based on the history and physical examination findings.
10.7.2. **Tinea** dispense clotrimazole cream 1% for t.i.d. application. Follow-up in two weeks. If not clearing, arrange for physician consultation regarding use of oral griseofulvin.

ACTION ALERT: Tinea Capitis frequently requires Griseofulvin. Delay in treatment can cause permanent scarring. If area is spreading while treating as above contact provider.

10.7.3. **Tinea Corporis** same as for **Tinea Capitis**

10.7.4. **Tinea Cruris** - same as for **Tinea Capitis Tinea Pedis**- same as for **Tinea Capitis.**

10.7.5. **Tinea Unguium** - consult with preceptor regarding possible use of griseofulvin.

10.7.6. **Tinea Versicolor** - same as for **Tinea Capitis**. Additionally may use selenium shampoo to prevent reoccurrence.

10.7.7. **Tinea with secondary bacterial infection** - consult with preceptor regarding antibiotic therapy.

ACTION ALERT: If there are corneal ulcerations or vesicles on the nose then consult with the physician on an urgent basis.

10.8. **Herpes Zoster**

10.8.1. **IMMEDIATE ACTION**

10.8.1.1. Advise patient of diagnosis and plans for treatment in order to gain their concurrence and cooperation.

10.8.1.2. Topical application of Calamine or starch shake lotions may be of some help.

10.8.1.3. Locally applied wet compresses are soothing.

10.8.1.4. **CONTACT PHYSICIAN PRECEPTOR**

10.8.1.5. Acetaminophen, 2 tablets, q 4-6 hrs. as need for pain or acetaminophen with codeine (Tylenol® # 3), 1 tablet P.O. q 4-6 hrs. for severe pain.

10.8.1.6. Acyclovir 800 mg P.O. q.i.d. x 7-10 days.

10.9. **Herpes Simplex**

10.9.1. **IMMEDIATE ACTION**

10.9.1.1. Gentle cleansing of area with soap and water is recommended, but keeping lesions moist may aggravate the inflammation and delay healing.

10.9.1.2. Topical application of Neosporin ® ointment b.i.d. may be used to prevent secondary infection.

10.9.1.3. If secondary infection is present, consult with the physician for antibiotic therapy.

10.9.1.4. **CONTACT PHYSICIAN PRECEPTOR**

10.9.1.5. Acyclovir 200 mg P.O. 5 times daily for 10 days.

10.10. **Impetigo**

10.10.1. **IMMEDIATE ACTION**

10.10.1.1. Establish a diagnosis, based on the history and physical examination findings.

10.10.1.2. Advise patient of diagnosis and plans for treatment in order to gain their concurrence and cooperation.

10.10.1.3. **CONTACT PHYSICIAN PRECEPTOR**

10.10.1.4. Begin antibiotics: dicloxacillin 250 q.i.d. x 10 days. Alternative medication: Erythromycin 250 q.i.d. x 10 days.

ACTION ALERT Any lesion requiring antibiotic or oral antifungal therapy will require physician notification. Pigmented lesions of the nails will require urgent physician notification directed by physician.

10.11. **Infections and Conditions of the Nails**

10.11.1. **Specific Treatments**

10.11.1.1. **Paronychia** - for mild cases advise warm soaks, for 10 minutes, five times per day and follow-up in one week or sooner if exudate becomes apparent. Frequently the pus can be removed by lifting the cuticle with any type of probe (i.e.: 18 Ga. needle or even a clean paper clip) after soaking.
10.11.1.2. **Herpetic Whitlow** - advise patient not to lance or incise tissue or vesicles/pustules. Warm compresses. Neosporin cream for t.i.d. application. Follow-up in one week.
10.11.1.3. **Ingrown Toenail** - If purulent consult physician regarding systemic antibiotic coverage. Otherwise, use warm soaks, for 10 minutes, five times per day and profile.
10.11.1.4. **Hematoma of the Nail** - drain with nail drill, hot paper clip, etc., followed by warm soapy water soaks for 10 minutes, five times per day. Have patient keep hand elevated; follow up in one week.
10.11.1.5. **Growth into/around Nail** - routine physician referral.

10.12. **Infections and Conditions of the Scalp**
10.12.1. This protocol outlines IDMT evaluation and treatment of problems involving general conditions of the scalp and scalp hair. Refer to specific diagnosis for management of Tinea and Pediculosis.

ACTION ALERT: If alopecia is present and not due to male pattern baldness or if not preceded by a febrile illness consult with physician on an urgent basis.

10.12.2. **Specific Treatments:**
10.12.2.1. **Seborrhea / Psoriasis -** dispense Selsun or Sebutone shampoo for daily use. Follow-up in two weeks. If no improvement refer to physician on routine basis (history of scaling).
10.12.2.2. **Alopecia -** if not male pattern and not proceeded by a febrile illness then consult with physician.

10.13. **Masses**

ACTION ALERT: Masses with associated soft tissue infection will require emergent physician notification for approval of systemic antibiotics. Multiple acute lesions associated with systemic signs and symptoms will require emergent physician notification. Non healing ulcers of more than a few weeks duration will require physician notification on an urgent basis.

10.13.1. **Specific Treatments:**
10.13.1.1. **Lymphadenopath**y of uncertain etiology and with systemic symptoms, Erythema Nodosum, Furuncle, Carbuncle, Sebaceous Cyst with signs of infection, -all require emergent physician notification.
10.13.1.2. **Sebaceous Cyst** without sign of infection, Acrochordon (skin tags), cherry angioma, seborrheic keratosis, keratoacanthoma, keloid - arrange for routine physician examination.
10.13.1.3. **Mole** - sudden increase in size, change in pigmentation, or change in borders requires physician notification. Otherwise, arrange for routine physician evaluation if patient desires treatment. If patient desires no further treatment, explain symptom signs and symptom signs that make a return visit necessary.
10.13.1.4. **Mass of uncertain Etiology** - will require urgent physician notification in non-healing ulcer, tissue destruction, or irregular pigmentation and irregular spread are noted. Otherwise, arrange for routine physician evaluation.
10.13.1.5. **Molluscum Contagiosum** - See General Skin Eruptions.
10.13.1.6. **Wart -** advise patient to report to Dermatology/Wart clinic or arrange for routine consultation.

10.14. **Pediculosis**
10.14.1. **Capitis**

10.14.1.1. Permethrin (Nix®) 1% cream rinse may be applied to the hair and scalp and left on for 10 minutes before rinsing. OR
10.14.1.2. Lindane (Kwell®) Shampoo should be worked into a thick lather and allowed to remain on the head for 5 minutes. Rinse thoroughly.
10.14.1.3. **In either case**, repeat in 1 week.
10.14.1.4. After rinsing, remove any remaining nits with a fine-toothed comb dipped in vinegar, or rinse hair with ¼ cup vinegar mixed with ¾ cup of water.
10.14.1.5. Refer other infected family members for treatment.
10.14.1.6. Wash caps, bedding, combs, hairbrushes, etc. in soap and hot water.
10.14.1.7. If secondary infection is present then apply Neosporin ointment.
10.14.1.8. If systemic signs of infection are present consult with physician for choice of oral antibiotic therapy.

10.15. **Corporis and Pubis**
10.15.1. Lindane (Kwell®) lotion--apply thin layer to affected areas and adjacent hairy areas. Remove after 12 hours. Repeat in 1 week.
10.15.2. Wash bedding, clothing, towels, etc. in hot water and soap.
10.15.3. Treat sexual and close contacts.
10.15.4. If secondary infection is present then apply Neosporin ointment.

ACTION ALERT: If signs or symptoms of systemic infection are present contact physician preceptor.

10.16. **Pruritus**

CLINICAL NOTE: Often pruritus is a symptom associated with another disease process. Treatment of the underlying disease will resolve the pruritus. In other cases the exact cause may be undetermined.

10.16.1. IMMEDIATE ACTION
10.16.1.1. Administer Diphenhydramine hydrochloride (Benadryl®), 25 mg, 1 - 2 tablets, P.O., q 6 hours.
10.16.1.2. Cool showers or compresses.

ACTION ALERT: If cause cannot be determined urgent notification of the physician preceptor is required. Pruritus may be the first sign of an anaphylactic reaction. Be prepared to take emergent actions.

10.17. **Pseudofolliculitis Barbae**
10.17.1. Treatment is based on severity:
10.17.1.1. **Grade 0** - No treatment required.
10.17.1.2. **Grade I** - Benzoyl Peroxide administered every other day or Fostex soap. If acute inflammation/irritation is present hydrocortisone lotion 1% applied b.i.d.
10.17.1.3. **Grade II** - Same as for Grade II plus shaving abstinence (follow AF or local policies for waiver authorization and duration).
10.17.1.4. **Grade III** -Fostex Soap; Hydrocortisone 1% applied b.i.d.
10.17.1.4.1. Topical antibiotic, consult with physician for desired medication
10.17.1.4.2. Shaving abstinence, following AF and local policies; and arrange for routine consult with physician.
10.17.1.5. **Grade IV** - Same as above plus urgent physician contact for selection of systemic antibiotic and arrangements for incision and drainage of the abscess.
10.17.1.6. **CONTACT PHYSICIAN PRECEPTOR**

10.17.1.7. For bacterial folliculitis, apply topical 2% mupirocin (Bactroban®), t.i.d. x 10 days.

10.18. **Psoriasis**
10.18.1. IMMEDIATE ACTION
10.18.1.1. Dispense Triamcinolone Acetonide 0.1% for b.i.d. application for 1 - 2 weeks.
10.18.1.2. If possible use an occlusive dressing.
10.18.1.3. Adjunctively or after treating with steroid cream, administer coal tar cream or ointment applied b.i.d.
10.18.1.4. Additional exposure to sunlight, is effective, however avoid sunburn.
10.18.1.5. If no improvement or if condition persists, consult with physician.

10.19. **Scabies**
10.19.1. IMMEDIATE ACTION
10.19.1.1. Permethrin 5% dermal cream. Apply thin layer from neck down. Allow to remain overnight.
10.19.1.2. **Alternately**, Lindane 1% cream or lotion applied in the same manner as Permethrin.
10.19.1.3. In either case, treat only one time.

ACTION ALERT: Use of Lindane in infants and pregnant women can result in neurotoxicity.

10.19.1.4. If secondary infection is present then apply Neosporin ointment.
10.19.1.5. Diphenhydramine (Benadryl®) 25 mg, 1-2 tablets P.O. t.i.d. or hydroxyzine hydrochloride (Atarax®) 10 mg 2 tablets P.O. t.i.d. as needed for itching.

ACTION ALERT: Patient may complain of itching for several weeks after treatment. This may be caused by the waste products of the mite.

10.19.1.6. Treat close contacts.
10.19.1.7. Wash bedding and clothing in hot water and soap.
10.19.1.8. If systemic signs of infection are present consult with physician for choice of oral antibiotic therapy.

Chapter 11

MUSCULOSKELETAL PROTOCOLS

11.1. **Bursitis and Tendonitis**
11.1.1. IMMEDIATE ACTION
11.1.1.1. Instruct patient to decrease activity; if severe immobilize for 48 - 72 hours after which gradually increase activity.
11.1.1.2. Apply cold packs.
11.1.1.3. **CONSULT PRECEPTOR**
11.1.1.4. Administer non-steroidal anti-inflammatory. Ibuprofen (Motrin®) 800 mg t.i.d. or Naproxen (Naprosyn®) 250 -375 mg b.i.d.
11.1.1.5. Patient education is the key to recovery and prevention.

11.2. **Fractures, Dislocations, Sprains, Strains**
11.2.1. **IMMEDIATE ACTION**
11.2.1.1. Without the advantage of X-rays and interpretations these injuries must be treated:
11.2.1.1.1. The same...**SPLINT!**
11.2.1.1.2. Check pulses above and below the site of injury, before and after splinting, and periodically until patient is transferred.
11.2.1.1.3. If pulses are absent reduction may be required.
11.2.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**
11.2.1.1.5. Patient must be evacuated for complete evaluation. Urgency will be dependent on patient's condition, the presence of other injuries and conditions, and your physician preceptor.
11.2.1.1.6. Consult with physician preceptor to determine evacuation priority and modality.

11.3. **Low Back Pain**

CLINICAL NOTE: The following protocol is for low back pain associated with muscle spasms and negative neurological findings. If HNP is present or suspected then the condition should be treated as such until proven otherwise. All non-musculoskeletal cause for low back pain must be ruled out.

11.3.1. **GENERAL MEASURES**
11.3.1.1. Perform a thorough examination. Rule out other causes for pain.
11.3.1.2. Cold packs.
11.3.1.3. **CONTACT PHYSICIAN PRECEPTOR**
11.3.1.4. If necessary muscle relaxant; confer with physician for specific medication and dosage.
11.3.1.5. Non-steroidal anti-inflammatory - Motrin 800 t.i.d. with food or Naprosyn 250-375 mg b.i.d.
11.3.1.6. Patient education as to causes, prevention, and life style changes.

11.4. **Shin Splints**
11.4.1. **GENERAL MEASURES**
11.4.1.1. Perform a thorough examination. Rule out other causes for pain.
11.4.1.2. Inform patient of diagnosis.
11.4.1.3. Avoid activities such as running, marching, etc. for 8 to 10 days. After this time increase activities gradually.
11.4.1.4. Patient education is a must to prevent reoccurrence. Gradually increase activity, distance, etc.
11.4.1.5. **CONTACT PHYSICIAN PRECEPTOR**
11.4.1.6. Non-steroidal anti-inflammatory; Ibuprofen (Motrin®) 800 mg t.i.d.

Chapter 12

MENTAL HEALTH/SUBSTANCE ABUSE PROTOCOLS

12.1. Mood Disorders

CLINICAL NOTE: The management of mood disorders and most psychiatric conditions will basically be the same in isolated environments as in other spheres. Administer all drugs; DO NOT give them to the patient for self-administration.

12.1.1. **IMMEDIATE ACTION**

12.1.1.1. Perform a neuropsychiatric evaluation of the patient (history interview and physical examination).

12.1.1.2. Rule out any organic defect.

12.1.1.3. Establish a diagnosis, based on the history and physical examination findings.

12.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**

12.1.1.5. Advise patient's superiors of diagnosis and plans for treatment.

12.1.1.6. Have frequent talks with the patient. Acknowledge negative reactions establish empathy and maintain objectivity. Encourage patient to speak freely.

12.1.1.7. If anxiety and insomnia are a problem, administer Lorazepam (Ativan®) 0.5-mg P.O. b.i.d. or Oxazepam (Serax) 15-30 mg b.i.d.

12.1.1.8. If the patient is severely agitated then Haloperidol (Haldol) 10 mg oral concentrate or 5 mg IM.

12.1.1.9. If fatigue and poor appetite are reported, advise patient to rest as much as possible and give 1 multiple vitamin tablet, orally, daily.

12.1.1.10. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Severe mood disorders especially of the depressive type may require constant surveillance physical restraint and evacuation. MUST EVALUATE RISK OF SUICIDE or inadvertent harm to self

12.2. Anxiety Disorders

12.2.1. **IMMEDIATE ACTION**

12.2.1.1. Perform a neuropsychiatric evaluation of the patient (history interview and physical examination).

12.2.1.2. Rule out any organic defect.

12.2.1.3. Assess history and physical examination findings and establish a diagnosis.

12.2.1.4. **CONTACT PHYSICIAN PRECEPTOR**

12.2.1.5. Advise the patient's superiors of the diagnosis and proposed treatment regimen to gain their concurrence and cooperation.

12.2.1.6. Communicate with the patient frequently, inspiring confidences and giving reassurance along with empathy and understanding. Allow patient to speak freely.

12.2.1.7. Administer all drugs; DO NOT give them to the patient for self-administration.

12.2.1.8. If anxiety and insomnia are present, administer Diazepam (Valium®) 5-mg P.O. q 4 to 6 hours as necessary.

12.2.1.9. If fatigue and poor appetite are reported, advise patient to rest as much as possible and give 1 multiple vitamin tablet orally, daily.

12.2.1.10. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Severe mood disorders especially when displaying depression or extreme agitation may require constant surveillance physical restraint and evacuation. MUST EVALUATE RISK OF SUICIDE or inadvertent harm to self

12.3. **Somatoform Disorders**

12.3.1. **IMMEDIATE ACTION**

12.3.1.1. Perform a neuropsychiatric evaluation of the patient (history interview and physical examination).

12.3.1.2. Rule out any organic defect.

12.3.1.3. Assess history and physical examination findings and establish a diagnosis.

12.3.1.4. **CONTACT PHYSICIAN PRECEPTOR**

12.3.1.5. Advise the patient's superiors of the diagnosis and proposed treatment regimen to gain their concurrence and cooperation.

12.3.1.6. Communicate with the patient frequently, inspiring confidences and giving reassurance along with empathy and understanding. Allow patient to speak freely.

12.3.1.7. If fatigue and poor appetite are reported, advise patient to rest as much as possible and give 1 multiple vitamin tablet orally, daily.

12.3.1.8. Consult with physician preceptor to determine evacuation priority and modality.

12.4. **Adjustment Disorders**

12.4.1. **IMMEDIATE ACTION**

12.4.1.1.1. Perform a neuropsychiatric evaluation of the patient (history interview and physical examination).

12.4.1.1.2. Rule out any organic defect.

12.4.1.1.3. Assess history and physical examination findings and establish a diagnosis.

12.4.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**

12.4.1.1.5. Advise the patient's superiors of the diagnosis and proposed treatment regimen to gain their concurrence and cooperation.

12.4.1.1.6. Communicate with the patient frequently, inspiring confidences and giving reassurance along with empathy and understanding. Allow patient to speak freely.

12.4.1.1.7. If fatigue and poor appetite are reported, advise patient to rest as much as possible and give 1 multiple vitamin tablet orally, daily.

12.4.1.1.8. Consult with physician preceptor to determine evacuation priority and modality.

12.5. **Suicidal Gestures/Attempts**

CLINICAL NOTE: The management of suicide attempts may be preventative or after the fact.

12.5.1. **IMMEDIATE ACTION**

12.5.1.1. Perform a neuropsychiatric evaluation of the patient (history and physical examination).

12.5.1.2. Rule out any organic defect.

12.5.1.3. Assess history and physical examination findings and establish a diagnosis.

12.5.1.4. Advise the patient's superiors of the diagnosis and proposed treatment regimen to gain their concurrence and cooperation.

12.5.1.5. **CONTACT PHYSICIAN PRECEPTOR**

12.5.1.6. If patient talks of committing suicide: Arrange for immediate evacuation to a medical facility for specialized care. Initiate 24-hour surveillance with patient in protective custody and employ appropriate physical restraint, if necessary, until evacuation can be effected.

12.5.1.7. If patient has attempted suicide: Render emergency treatment required to stabilize the patient (e.g., treat for drug overdose or physical injury). Initiate 24-hour surveillance with patient in protective custody and employ appropriate physical restraint.

12.5.1.8. Consult with physician preceptor to determine evacuation priority and modality.

12.6. **Substance Abuse**

12.6.1. **Opiate Type Drugs (Morphine and Heroin)**

12.6.1.1. **Acute Intoxication (Overdose)**

12.6.1.1.1. **IMMEDIATE ACTION**

12.6.1.1.1.1. Administer naloxone hydrochloride (Narcan®) 0.4 mg I.V. STAT; then, if patient is having severe respiratory distress or is not breathing, administer Narcan® 0.2 mg I. V. every 2 to 3 minutes until breathing and alertness are restored or until three doses have been administered. **CLINICAL NOTE**: Narcan® is of no value in treating other intoxicants such as barbiturates, cocaine, and LSD.

ACTION ALERT: If there is no improvement after three doses some other problem or drug is responsible for the patient's condition.

12.6.1.1.2. Maintain a patent airway and administer CPR and cardiac massage, if necessary.

12.6.1.1.3. Administer oxygen, initially high flow by non-rebreather mask then adjust according to perfusion and comfort if respiratory distress is present.

12.6.1.1.4. Observe the patient closely and use appropriate physical restraint, as necessary, to protect patient from injury.

12.6.1.1.5. **CONTACT PHYSICIAN PRECEPTOR**

12.6.1.1.6. Attach EKG, if available, and monitor.

12.6.1.1.7. Consult with physician preceptor to determine evacuation priority and modality.

12.6.1.2. **Withdrawal Syndrome**

12.6.1.2.1. **IMMEDIATE ACTION**

12.6.1.2.1.1. Place patient at rest under close, constant supervision.

12.6.1.2.1.2. If patient is severely agitated or violent, use appropriate physical restraint.

12.6.1.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**

12.6.1.2.1.4. Administer diazepam (Valium®) 5 to 10 mg, P.O. STAT, then 5-mg P.O. q 8 hours as necessary.

12.6.1.2.1.5. Evacuate the patient to a medical facility for specialized care as soon as possible.

CLINICAL NOTE: Even after undergoing withdrawal, the patient will still feel a need for the drug. This should never be allowed.

12.6.2. **Barbiturate or Tranquilizer Type Drugs**

12.6.2.1. **Acute Intoxication (Overdose)**

12.6.2.1.1. Establish and maintain patent airway (if patient is comatose, insertion of an endotracheal tube may be required).

12.6.2.1.2. Administer oxygen, initially high flow by non-rebreather mask then adjust according to perfusion and comfort and perform CPR as required.

12.6.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**

12.6.2.1.4. If drug(s) have been taken orally, initiate gastric lavage and observe material evacuated from stomach for clue as to substance(s) taken (if conscious, patient may provide this information).

12.6.2.1.5. Continue lavage until return material is clear: then instill 2 tablespoons of activated charcoal into the stomach, through the lavage tube, using 3 to 4 ounces of normal saline solution as a vehicle.

12.6.2.1.6. Position the patient on his side with his head lower than body, and turn to opposite side every 30 minutes.

12.6.2.1.7. Evacuate patient to a medical facility for specialized treatment as soon as possible.

ACTION ALERT: Be aware that if sufficient time has elapsed before treatment is begun for the drug to be absorbed into the blood stream the patient may go into a deep coma with respiratory arrest. In such a case CPR should be started and continued as long as necessary.

12.6.3. **Withdrawal Syndrome**

12.6.3.1. Identify substance abused, if possible.
12.6.3.2. Perform a thorough physical examination to rule out associated diseases such as gastritis, cirrhosis of the liver, and heart disease.
12.6.3.3. Treat agitation, fear and anxiety.
12.6.3.4. Administer pentobarbital sodium (Nembutal®) 200 mg P.O. and observe patient's response.
12.6.3.5. Repeat pentobarbital sodium (Nembutal®) every 8 to 12 hours, if necessary, until patient is evacuated.
12.6.3.6. Place patient at rest in as quiet an area as possible.
12.6.3.7. Cover his eyes with a cool damp cloth to minimize visual stimuli (this helps allay hallucinations).
12.6.3.8. Give frequent reassurance to the patient.
12.6.3.9. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: If patient continues to show signs of increasing withdrawal symptoms the second dose of pentobarbital sodium (Nembutal®) may be doubled.

12.6.4. **Stimulant Type Drugs**
12.6.4.1. **Acute Amphetamine Intoxication**
12.6.4.1.1. Place patient at rest and initiate close supervision.
12.6.4.1.2. If patient is violent, utilize appropriate physical restraint.
12.6.4.1.3. Maintain adequate fluid intake to preclude dehydration.
12.6.4.1.4. Monitor and record vital signs.
12.6.4.1.5. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: Amphetamine withdrawal does not occur-- violent cases must be evacuated for specialized care.

12.6.5. **Acute Cocaine Intoxication**

CLINICAL NOTE: Active treatment is usually unnecessary unless cardiac or respiratory complications develop.

12.6.5.1. If patient becomes violent, utilize appropriate physical restraint. DO NOT SEDATE THE PATIENT.
12.6.5.2. Closely supervise the patient and if cardiac or respiratory difficulties develop: Establish and maintain a patent airway. Administer oxygen, 6 to 8 liters per minute by nasal cannula or mask.
12.6.5.3. Consult with physician preceptor to determine evacuation priority and modality.

12.6.6. **Hallucinogen Type Drugs**
12.6.6.1. **Acute Intoxication and Flashback**
12.6.6.1.1. Place patient at rest and provide close supervision.
12.6.6.1.2. Utilize physical restraint, as necessary, to protect the patient from injury.
12.6.6.1.3. Administer diazepam (Valium), 10 mg, IM, STAT, and 5 mg, IM in 4 hours, if necessary.

ACTION ALERT: Even the most severe case of LSD intoxication responds well to a "talk down." Using a quiet environment and friends just talk to the patient reassuring him that he will improve as the drug wears off. If the patient is in a panic explore what it is that he fears. Keep talking to the patient. Sometimes this process can take several hours.

12.6.6.1.4. Consult with physician preceptor to determine evacuation priority and modality.

12.6.7. **Cannabinoid Type Drugs**
12.6.7.1. **Acute Intoxication**

CLINICAL NOTE: Active treatment for acute intoxication of marijuana is usually not necessary.

12.6.7.1.1. Place the patient at rest under appropriate supervision.

12.6.7.1.2. Protect the patient from injury using physical restraint, as necessary.
12.6.7.1.3. Refer patient for treatment as a drug abuser as soon as possible.
12.6.7.1.4. Consult with physician preceptor to determine evacuation priority.

12.6.8. **Alcohol Abuse**
12.6.8.1. **Acute Intoxication**
12.6.8.1.1. Advise patient to rest and "sleep it off".
12.6.8.1.2. If patient is belligerent, utilize appropriate restraint and close supervision to protect the patient from injury.
12.6.8.1.3. Monitor vital signs if consumption of a large amount of alcohol is suspected.
12.6.8.1.4. If patient is stuporous, observe constantly to ensure he does not aspirate vomitus into his lungs.
12.6.8.1.5. Ensure adequate fluid intake to preclude dehydration.

ACTION ALERT A thorough physical examination should always be performed on the alcoholic patient. Alcoholics are prone to develop related diseases, which include acute and chronic gastritis, cirrhosis of the liver, malnutrition, alcohol induced heart disease, and brain damage.

12.6.8.2. Identify substance abused, if possible.
12.6.8.2.1. Perform a thorough physical examination to rule out associated diseases such as gastritis, cirrhosis of the liver, and heart disease.
12.6.8.2.2. Treat agitation, fear and anxiety.
12.6.8.2.3. Administer pentobarbital sodium (Nembutal®) 200 mg P.O. and observe patient's response.
12.6.8.2.4. Repeat pentobarbital sodium (Nembutal®) every 8 to 12 hours, if necessary, until patient is evacuated.
12.6.8.2.5. Place patient at rest in as quiet an area as possible.
12.6.8.2.6. Cover his eyes with a cool damp cloth to minimize visual stimuli (this helps allay hallucinations).
12.6.8.2.7. Give frequent reassurance to the patient.
12.6.8.2.8. Consult with physician preceptor to determine evacuation priority and modality.

Chapter 13

POISONOUS BITES, STINGS, AND CONTACT PROTOCOLS

13.1. **Aquatic Bites and Stings**: One of the most significant dangers of marine toxins is respiratory paralysis. The IDMT must always be prepared to provide ventilatory support from the initial incident through the entire evacuation. It is entirely possible that aside from paralysis, all of the patient's life functions may remain viable and the patient may be mentally alert...although unable to respond.

13.1.1. **Box Jellyfish**

CLINICAL NOTE: This jelly fish, sometimes misnamed Sea Wasp, **can induce death in 30 seconds** and is considered the most venomous sea creature. They are primarily found in calm shallow waters of northern Australia, but may be found in open ocean. The victim will complain of immediate intense pain, struggles for a minute or two and collapses.

13.1.1.1. **IMMEDIATE ACTION**

13.1.1.1.1. Assess airway and support respiration if necessary.

13.1.1.1.2. Move victim as little as possible.

13.1.1.1.3. Consult with physician preceptor to determine evacuation priority and modality.

13.1.2. **Cone Shells, Octopus, Nudibranch (sea slug)**

13.1.2.1. **IMMEDIATE ACTION**

13.1.2.1.1. Pressure dressing, If practicable for location.

13.1.2.1.2. Gauze pad 6-8 cm square x 2-3 cm thick.

13.1.2.1.3. Place over sting/bite.

13.1.2.1.4. Hold in place using 15-18 cm wide bandage.

13.1.2.1.5. Tighten enough to occlude venous and lymphatic vessels only.

13.1.2.1.6. Do not remove until prepared to give systemic support.

13.1.2.1.7. Immobilize.

13.1.2.1.8. Hot water immersion as with fish poison, for cones.

13.1.2.1.9. I.V. -- normal saline KVO.

13.1.2.1.10. Monitor vital signs, q 15 min, until stable.

13.1.2.1.11. **CONTACT PHYSICIAN PRECEPTOR**

13.1.2.1.12. Local injection of epinephrine (except for digits, ears, nose, and penis).

13.1.2.1.13. Treat shock.

13.1.2.1.14. Mechanical ventilation may be required.

13.1.2.1.15. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: For severe allergic reaction see anaphylaxis protocol**.**

13.1.3. **Poisonous Fish Sting**

13.1.3.1. **IMMEDIATE ACTION**

13.1.3.1.1. Irrigate with salt water to remove venom.

13.1.3.1.2. Normal saline.

13.1.3.1.3. Ocean water.

13.1.3.1.4. Remove integumentary sheath & spine particles if visible.

13.1.3.1.5. Hot water immersion.

13.1.3.1.6. As hot as patient can tolerate without injury, approximately 113°F.

13.1.3.1.7. 30 to 90 minutes.

13.1.3.1.8. Sodium chloride or magnesium sulfate may be added.

13.1.3.1.9. Elevate extremity for several days.
13.1.3.1.10. Identify the fish causing the envenomation, if possible.
13.1.3.1.11. Monitor vital signs, q 15 min, until stable.
13.1.3.1.12. **CONTACT PHYSICIAN PRECEPTOR**
13.1.3.1.13. Re-examine for debris, debride and suture if necessary (allow for adequate drainage) or pack open. Preferred method is to loosely close without suturing.
13.1.3.1.14. Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.
13.1.3.1.15. Pain relief (pain may be severe if initial treatment is delayed).
13.1.3.1.16. Local anesthetic, except in digits.
13.1.3.1.17. Meperidine
13.1.3.1.18. I.V.--normal saline KVO.
13.1.3.1.19. Monitor vital signs, q 15 min.
13.1.3.1.20. Septra/Bactrim DS 1 Tablet b.i.d. or Tetracycline 500-mg q.i.d. X 7 days.
13.1.3.1.21. EVACUATE all but minor local reactions-- Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: California Scorpion fish Lion fish (a.k.a. Zebra, Turkey, Scorpion, and Fire fish) and the Stone fish toxins produce severe systemic reactions to include cardiac arrhythmia, respiratory failure, hypotension, and death. Envenomation by these fish may require antivenin and mechanical ventilation.

13.1.4. **Portuguese "Man-of-War" Jellyfish**

ACTION ALERT: This jellyfish is comprised of numerous single cell animals called Nematocysts. They contain toxins that remain present for days and can inflict a sting to the caregiver if contacted. Use of gloves in examining marine life injuries is always prudent for that reason. Instruments and extreme caution will be required to remove remaining nematocysts from the victim's skin.

13.1.4.1. **IMMEDIATE ACTION**
13.1.4.1.1. Rinse skin thoroughly using ocean water or normal saline. Fresh water or plain sterile water can cause nematocysts to discharge and re-injure the patient.
13.1.4.1.2. Detoxify the venom- 5% Acetic acid (vinegar) or Burrow's solution, applied for 30 minutes.
13.1.4.1.3. Alternate methods include isopropyl alcohol 40-70%, diluted household ammonia, unseasoned meat tenderizer paste and baking soda slurry.
13.1.4.1.4. Remove nematocysts- Gently apply lather of shaving cream or paste of backing soda, flour or talc and shave with razor blade or sharp knife.
13.1.4.1.5. Repeat detoxification procedure.
13.1.4.1.6. Topical application of 1% Hydrocortisone
13.1.4.1.7. Monitor vital signs -- q 15 min.
13.1.4.1.8. Observe closely for 6-8 hours.
13.1.4.1.9. **CONTACT PHYSICIAN PRECEPTOR**
13.1.4.1.10. Evacuate all of the following. Consult with physician preceptor to determine evacuation priority and modality.
13.1.4.1.11. Systemic reactions.
13.1.4.1.12. Severe stings.
13.1.4.1.13. Elderly and very young patients

For severe allergic reaction see anaphylaxis protocol.

13.1.5. **Sea Snakes** See Hydrophiidae for specific intervention.

13.2. **INSECTS**
13.2.1. **Black Widow Spider**
13.2.1.1. **IMMEDIATE ACTION**
13.2.1.1.1. Wash area.
13.2.1.1.2. Ice at bite site, for pain.
13.2.1.1.3. **CONTACT PHYSICIAN PRECEPTOR**
13.2.1.1.4. Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.
13.2.1.1.5. EVACUATE (all below).
13.2.1.1.6. Patients under 16 or over 60.
13.2.1.1.7. Hypertensive heart disease.
13.2.1.1.8. Severe envenomation.
13.2.1.1.9. Systemic reactions.
13.2.1.1.10. I.V.-- normal saline KVO.
13.2.1.1.11. Monitor vital signs, q 15 min.
13.2.1.1.12. For muscle pain and spasms.
13.2.1.1.13. Hot baths may provide relief for mild reactions.
13.2.1.1.14. Calcium gluconate, 10 cc of a 10% solution slow I.V., q 4H or,
13.2.1.1.15. Robaxin 10 cc I.V. slowly (over 5-10) minutes, followed by 10 cc in 250 cc D5W administered over 4 hours.
13.2.1.1.16. Diazepam, Demerol or morphine may be indicated for relief of severe pain.
13.2.1.1.17. For severe hypertension- Nifedipine.
13.2.1.1.18. Supportive care as necessary.
13.2.1.1.19. Consult with physician preceptor to determine evacuation priority and modality.

For severe allergic reaction see anaphylaxis protocol.

13.2.2. **Brown Recluse Spider**
13.2.2.1. **IMMEDIATE ACTION**
13.2.2.1.1. Ice to the bite site.
13.2.2.1.2. Elevate and immobilize (for 3 days).
13.2.2.1.3. Symptomatic Support.
13.2.2.1.4. Monitor vital signs, q 15 min, until stable.
13.2.2.1.5. **CONTACT PHYSICIAN PRECEPTOR**
13.2.2.1.6. Administer tetanus toxoid 0.5 ml or immunoglobulin as indicated.
13.2.2.1.7. Erythromycin 250 mg q.i.d. x 10 days.
13.2.2.1.8. Observe for hemolytic reactions- Hemoglobin and Hematocrit q 6H, if present,
13.2.2.1.9. Maintain urine output at 200 ml/hr by giving 4-8l of fluid P.O. or I.V..
13.2.2.1.10. Lasix 20-80 mg q 4-8 hrs may be necessary to maintain urine output.
13.2.2.1.11. Corticosteriods for systemic reaction.
13.2.2.1.12. Dexamethazone 4 mg IM q 6H during the acute phase.
13.2.2.1.13. Dosage decreased with time and resolving symptoms.
13.2.2.1.14. I.V. normal saline KVO.
13.2.2.1.15. Monitor vital signs--q 15 min.
13.2.2.1.16. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

For severe allergic reaction see anaphylaxis protocol.

13.2.3. **Hymenoptera, Centipedes, Millipedes, and Caterpillars**
13.2.3.1. **IMMEDIATE ACTION**

13.2.3.1.1. **Local Reaction**
13.2.3.1.2. Examine area.
13.2.3.1.3. Remove stinger, if present

ACTION ALERT: Scrape away from skin, grasping with forceps or fingers may inject additional venom

13.2.3.1.4. Scotch tape is effective in removing caterpillar hairs.
13.2.3.1.5. Apply cold compress i.e. chemical cold pack or similar item--not ice.
13.2.3.1.6. Application of baking soda paste or household ammonia may reduce discomfort.
13.2.3.1.7. CONTACT PHYSICIAN PRECEPTOR
13.2.3.1.8. Oral antihistamines i.e. Benadryl 25 mg q 6 hours.
13.2.3.1.9. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: For severe allergic reaction see anaphylaxis protocol.

13.2.4. **Scorpions**
13.2.4.1. **IMMEDIATE ACTION**
13.2.4.1.1. Immobilize patient and the bitten part.
13.2.4.1.2. Inspect for evidence of sting.
13.2.4.1.3. Cleanse area.
13.2.4.1.4. Apply constricting bands, as with snakebite, to slow absorption.
13.2.4.1.5. Apply cold packs (10-15 degrees Celsius), to slow absorption.
13.2.4.1.6. Monitor for systemic reaction.
13.2.4.1.7. **CONTACT PHYSICIAN PRECEPTOR**
13.2.4.1.8. Local anesthetic without epinephrine may be injected around the site (except for digits) to relieve pain with severe localized reactions.

ACTION ALERT: Avoid Morphine and Demerol for pain control, synergistic to scorpion venom, may cause respiratory depression and/or potentiate postictal depression

13.2.4.1.9. Administer Tetanus Toxoid 0.5 ml or immunoglobulin as indicated and Erythromycin 250 mg q.i.d. x 10 days, if indicated.
13.2.4.1.10. Control convulsions with diazepam.
13.2.4.1.11. To relieve muscle cramps, 10 ml of 10% Calcium Gluconate, slowly I.V..
13.2.4.1.12. Consult with physician preceptor to determine evacuation priority and modality.

For severe allergic reaction see anaphylaxis protocol.

13.3. **REPTILE BITES**
13.3.1. **Gila Monster and Beaded Lizard**
13.3.1.1. **IMMEDIATE ACTION**
13.3.1.1.1. Keep patient calm and immobile. DO NOT allow the patient to walk or run.
13.3.1.1.2. Place patient in recumbent position.
13.3.1.1.3. Immobilize bitten part. DO NOT manipulate bite area.
13.3.1.1.4. Irrigate bite area with water or normal saline to remove surface venom.
13.3.1.1.5. Support Airway-- supplement with oxygen.
13.3.1.1.6. I.V. normal saline KVO.
13.3.1.1.7. Monitor vital signs, q 15 min.
13.3.1.1.8. **CONTACT PHYSICIAN PRECEPTOR**
13.3.1.1.9. Analgesics, PRN pain.
13.3.1.1.10. Acetaminophen, up to 650 mg q 4 hrs or,
13.3.1.1.11. Acetaminophen, as above, with codeine, up to 60 mg q 4 hrs.

13.3.1.1.12. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: DO NOT give aspirin or depressant narcotics

13.3.2. **Poisonous Snakes**

ACTION ALERT: Heads can react up to 60 minutes after decapitation, venom remains Active for days

13.3.2.1. **IMMEDIATE ACTION**

13.3.2.1.1. **General Measures**

13.3.2.1.1.1. Keep patient calm and immobile. DO NOT allow the patient to walk or run. Place patient in recumbent position.

13.3.2.1.1.2. Immobilize/ avoid manipulation of bite.

13.3.2.1.1.3. Irrigate bite area with water or normal saline to remove surface venom.

13.3.2.1.1.4. Determine the type of snake causing bite **(see specific measures)**.

13.3.2.1.1.5. Support Airway, supplement with oxygen.

13.3.2.1.1.6. I.V. normal saline KVO.

13.3.2.1.1.7. Monitor for: vital signs/for edema of extremity/neurological signs/ at least q15 minutes.

13.3.2.1.1.8. Initiate evacuation process.

13.3.3. **Crotalidae/Viperidae Envenomation** (primarily hemotoxic)

ACTION ALERT: Australian Crotalidae, due to their high neurotoxicity and low hemotoxicity are treated as Elapidae envenomation

13.3.3.1. Apply wide constricting bands (2), 1/2 inch to 1-inch penrose drains are adequate.

13.3.3.2. Must be applied within 30 minutes of bite.

13.3.3.3. Two inches proximal and distal to bite

13.3.3.4. Tighten only enough to collapse superficial veins and lymphatics.

13.3.3.5. Move bands as swelling progresses.

13.3.3.6. **DO NOT** remove band until new band is in place.

13.3.3.7. **DO NOT** remove bands until antivenin is given.

13.3.3.8. Apply **Sawyer's Extractor** * or similar mechanical suction device (must be able to provide constant suction for 30 minutes).

13.3.3.9. Must be applied within 30 minutes.

13.3.3.10. Leave in place for 30 minutes.

13.3.3.11. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

13.3.3.12. **Elapidae/Hydrophiidae/Colubridae (boomslang, birdsnake) Envenomation** (primarily neurotoxic)

13.3.3.13. Apply pressure bandage.

13.3.3.14. Must be applied within 30 minutes.

13.3.3.15. Wrap from wound proximally.

13.3.3.16. Occlude superficial veins and lymphatics.

13.3.3.17. Mechanical extraction device is of little value unless fang marks are clearly visible.

13.3.3.18. **CONTACT PHYSICIAN PRECEPTOR**

13.3.3.19. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority.

13.3.3.20. Analgesics, PRN pain,

13.3.3.21. Acetaminophen, up to 650 mg Q 4 hrs or,

13.3.3.22. Acetaminophen, as above, with codeine, up to 60 mg Q 4 hrs.

13.3.3.23. Prepare equipment for emergency airway intervention. The patient's respiratory system may be paralyzed from the toxins while life is otherwise viable. Resuscitative measures as necessary.

ACTION ALERT: DO NOT give aspirin or depressant narcotics

13.4. **POISONOUS PLANTS**

13.4.1. **Skin Contact Poisoning**

13.4.1.1. **IMMEDIATE ACTION**

13.4.1.1.1. Remove contamination with strong soap and water.

13.4.1.1.2. Air exposure or astringent such as calamine lotion.

13.4.1.1.3. Wet dressing with Burrow's Solution, with excessive blistering and oozing.

13.4.1.1.4. **CONTACT PHYSICIAN PRECEPTOR**

13.4.1.1.5. Prednisone- 60 mg x 10 days for severe generalized reaction.

13.4.1.1.6. Benadryl 25-50 mg P.O. PRN as sedative for severe generalized reaction.

13.4.1.1.7. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

For severe allergic reaction see anaphylaxis protocol.

13.4.2. **Poisonous Plant Ingestion**

13.4.2.1. **IMMEDIATE ACTION**

13.4.2.1.1. Identify agent ingested, if possible.

13.4.2.1.2. Monitor vital signs, q 15 min.

13.4.2.1.3. **CONTACT PHYSICIAN PRECEPTOR**

13.4.2.1.4. Contact poison control.

13.4.2.1.5. Administer activated charcoal: may be given via NG-Tube in slurry mix with H_2O

13.4.2.1.5.1. Dosage: Adults and children, 1 Gm/kg of body weight.

13.4.2.1.5.2. Container must be thoroughly shaken. Due to "mud-like" appearance, place slurry in covered container and drink through a straw. If patient is taking a long time to drink slurry, charcoal will settle and need to be re-mixed.

13.4.2.1.5.3. If patient vomits, repeat dose x 1.

13.4.2.1.5.4. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

ACTION ALERT: For severe allergic reaction Anaphylaxis protocol.

Chapter 14

ENVIRONMENTAL INJURY PROTOCOLS

14.1. **Heat Stress Injuries**

14.1.1. **Heat Cramps**

14.1.1.1. Etiology - loss of Sodium Chloride (NaCl): Signs and symptoms: Abrupt onset, muscle cramps / muscle spasms profuse sweating, hyperventilation, normal body temperature.

14.1.1.2. **IMMEDIATE ACTION:**

14.1.1.2.1. Move patient to a cool environment

14.1.1.2.2. Have patient drink liquids, especially with high sodium or saline content.

14.1.1.2.3. Work muscles using passive stretching techniques.

14.1.1.2.4. **CONSULT PRECEPTOR:**

14.1.1.2.5. I.V. normal saline for victims unable to tolerate oral fluids.

14.1.2. **Heat Exhaustion**

14.1.2.1. Etiology - loss of fluids and salts. Signs and symptoms: weakness, fatigue, headache, nausea/vomiting, anxiety, impaired judgment, ashen/gray pale/cool/clammy skin, diaphoresis, slight elevation to temperature/pulse rate.

14.1.2.2. **IMMEDIATE ACTION:**

14.1.2.2.1. Treat impending shock

14.1.2.2.2. Remove to cooler area

14.1.2.2.3. Initiate more aggressive fluid replacement; oral fluids if tolerable … monitor patient for sudden changes.

14.1.2.2.4. **CONSULT PRECEPTOR:**

14.1.2.2.5. I.V. normal saline or Ringer's lactate if unable to tolerate oral fluids.

14.1.2.2.6. Possible evacuation. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority.

14.1.3. **Heat Stroke [a true medical emergency]**

14.1.3.1. **IMMEDIATE ACTION:**

14.1.3.1.1. Airway -secure and monitor.

14.1.3.1.2. Breathing - may need positive pressure ventilation with high flow O_2 .

14.1.3.1.3. Cooling - immediately:

14.1.3.1.3.1. Remove clothing.

14.1.3.1.3.2. Wet and fan for evaporation.

14.1.3.1.3.3. Ice packs to groin and arm pits.

14.1.3.1.3.4. Icy towels.

14.1.3.1.3.5. **CONSULT PRECEPTOR:**

14.1.3.1.3.6. Establish immediate I.V. access with normal saline or Ringer's lactate.

14.1.3.1.3.7. Two liters the first hour, then 1 liter per hour for 3 consecutive hours.

14.1.3.1.3.8. Administer diazepam IM or I.V. for seizures.

14.1.3.1.3.9. Unconscious patients - consider for:

14.1.3.1.3.9.1. Endotracheal intubation.

14.1.3.1.3.9.2. Nasogastric tube.

14.1.3.1.3.9.3. Foley catheter

14.1.3.1.3.9.4. Monitor I & O

14.1.3.1.3.9.5. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

14.2. **Cold Stress injuries**

14.2.1. **Immersion Syndrome** - prolonged exposure; to wet clothing (i.e. socks), in mud, or in water with ambient temperatures above freezing. Characterized by cold and numb sensation, hyperemic period - area feels hot and intensely painful, vaso-spastic period - pale or cyanotic with diminished pulsation, blistering, swelling, ecchymosis, hemorrhage, gangrene.

14.2.1.1. **IMMEDIATE ACTION**

14.2.1.1.1. Dry clean clothing.

14.2.1.1.2. Gradual warming in ambient room air; avoid massaging or re-wetting.

14.2.1.1.3. Protect injured parts from further trauma or secondary infection.

14.2.1.1.4. Bedrest.

14.2.1.1.5. Elevate injured area.

14.2.2. **Frostbite** - crystallization of tissue due to exposure to subfreezing temperatures.

14.2.2.1. **IMMEDIATE ACTION:**

14.2.2.1.1. Do not allow frozen tissue to thaw if there is any chance of re-freezing before evacuation is complete.

14.2.2.1.2. Remove all wet or constrictive clothing and replace with dry, loose fitting garments.

14.2.2.1.3. Cover frozen tissue with large dry bulky dressing and avoid manipulation.

14.2.2.1.4. Package and evacuate to stable clinical environment for evaluation and long term care (normally an urgent evacuation from the field environment).

14.2.2.1.5. Care in the stabilized environment:

14.2.2.1.5.1. Re-warm injured area in 104 ^{o} - 108 ^{o} F degree water until skin is: Pliable, erythematous at most distal part of injury.

14.2.2.1.5.2. Avoid using dry heat.

14.2.2.1.5.3. Keep blisters intact and protect from further trauma due to friction or manipulation.

14.2.2.1.5.4. Elevate extremity, put at bedrest and keep injured part open to air.

14.2.3. **Hypothermia** - Exposure to prolonged cold or immersed in cold water resulting in body core temperature dropping below 95 ^{o} F degrees.

NOTE: Active warming may cause dangerous arrhythmias; caution must be exercised while the patient is carefully monitored

14.2.3.1. **IMMEDIATE ACTION:**

14.2.3.1.1. Maintain airway and monitor breathing.

14.2.3.1.2. Remove wet/cold clothing and cover with warm dry material.

14.2.3.1.3. Re-warm

14.2.3.1.4. Passive - placing on warm covers and preventing further heat loss.

14.2.3.1.5. Active - Application of external heat source and administration of internal warm fluids.

14.2.3.1.6. Use pre-warmed blankets when possible.

14.2.3.1.7. Central warming technique - warm packs to chest, neck, armpits, and groin.

14.2.3.1.8. Package and carefully evacuate.

14.2.3.1.9. **CONSULT PRECEPTOR:**

14.2.3.1.9.1. Inappropriate response or unresponsive patient

14.2.3.1.9.2. Secure airway – endotracheal intubation

14.2.3.1.9.3. Defibrillation using AED

14.2.3.1.9.4. Up to three attempts may be made initially.

14.2.3.1.9.5. Delay further attempts if first three are not successful until core temp is at least 30 ^{o} C degrees.

14.2.3.1.9.6. Warming extreme hypothermia patients in the field environment remains controversial–but preservation of body heat is always indicated.
14.2.3.1.9.7. If equipped to do so - warm humidified O2 is desirable.
14.2.3.1.9.8. Warm I.V. fluids may be administered.
14.2.3.1.9.8.1. Medication administration is generally contraindicated because:
14.2.3.1.9.8.1.1. Heart may be unresponsive.
14.2.3.1.9.8.1.2. Drug metabolism/excretion may be reduced causing toxic accumulations.
14.2.3.1.9.9. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.

NOTE: Move carefully: rough handling may precipitate Ventricular Fibrillation. Keep in horizontal position to avoid aggravating hypotension and circulatory collapse. Remember, resuscitation efforts for hypothermia victims are not considered failed until the patient core temperature is between 30 ^{o} - 32 ^{o} C and there is no response

14.3. **Burns**

NOTE: The following patients should be referred to a Burn Center: Burns involving more than 10% BSA(2^{nd}/3^{d} degree) in patients older than 50 or younger than 10. Burns greater than 20% in all age groups. 2^{nd}/$3^{d\ o}$ burns of face, eyes, ears, hands, feet, genitalia, perineum, or major joints. $3^{d\ o}$ burns of 5% BSA …any age group. Also: Electrical burns…especially lightning, inhalation injuries with burns, any circumferential burn, concurrent burn and trauma, pediatric burns, victims with pre-existing medical problems, or chemical burns threatening disfigurement or loss of function.

14.3.1. **Thermal and Radiation**
14.3.1.1. Key factors regarding burns are: Length of exposure, temperature of thermal environment, thickness of skin at burn area, inhalation of gases at time of burn, and age and previous patient history: Age > 50 years = increased morbidity/mortality.
14.3.1.2. Quick rule of thumb…use palm of victim's hand to measure of 1% BSA.
14.3.1.3. **IMMEDIATE ACTION:**
14.3.1.3.1. Airway - secure with mechanical means as necessary.
14.3.1.3.2. Initiate high flow 02 and continuously monitor respiratory depth and rate; verify by checking perfusion.
14.3.1.3.3. Keep necessary equipment for intubation or emergent surgical airway, and suction nearby throughout treatment process.
14.3.1.3.4. Remember to maintain C-Spine precautions as indicated by mechanism of injury.
14.3.1.3.5. Debride and dress wounds:
14.3.1.3.5.1. Use a sterile dry sheet or dressing material (Saran Wrap or Aluminum Foil works well).
14.3.1.3.5.2. Silvadene Ointment - apply thickly for 2^{nd} and 3d degree burns.
14.3.1.3.5.3. Xeroform Gauze - place over all 2^{nd} degree burns.
14.3.1.3.5.4. Use Mycitracin ointment for facial burns.
14.3.1.3.5.5. Package for transport -- initiate evacuation process.
14.3.1.3.5.6. Consult with physician preceptor to determine evacuation priority and modality.
14.3.1.3.5.7. **CONTACT PHYSICIAN PRECEPTOR**
14.3.1.3.5.8. Initiate I.V. therapy using large bore I.V. and follow Parkland Burn Formula.
14.3.1.3.5.9. Ringer's lactate (LR) 2 - 4 ml x Kg (body weight) x % burn (BSA) = amount of fluids required for 24 hr.
14.3.1.3.5.10. Administer ½ of total in first eight hours.
14.3.1.3.5.11. Then ¼ of total each remaining 8 h interval thereafter.
14.3.1.3.5.12. Reduce rate/volume with stable victims.

14.3.1.3.5.13. Electrolyte free fluids may be administered to maintain desired urinary output.
14.3.1.3.5.14. Urine output - the best indicator of renal function, 30 -50 ml per hour in adults.
14.3.1.3.5.15. Place Nasogastric tube for critical patients.
14.3.1.3.5.16. Analgesics… narcotics may be indicated.
14.3.1.3.5.17. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority and modality.
14.3.1.4. **Chemical:** MAKE SPECIAL CONSIDERATION FOR TYPE OF CHEMICAL…SUCH AS:
14.3.1.4.1. Dry Lime or Soda Ash: Brush away -- but don't get wet; water increases corrosive potential and extent of injury.
14.3.1.4.2. Phenol:
14.3.1.4.2.1. Not water soluble
14.3.1.4.2.2. Can be irrigated off with alcohol.
14.3.1.4.3. Lithium and Sodium metal:
14.3.1.4.3.1. Don't get wet … reacts violently to water.
14.3.1.4.3.2. Particles should be immersed in oil.
14.3.1.4.4. White Phosphorus; burns in contact with air:
14.3.1.4.4.1. Smother using 20% copper sulfate -- but don't attempt to smother with liquids that may be flammable such as oils, etc.
14.3.1.4.5. **IMMEDIATE ACTION:**
14.3.1.4.6. In dry powder form; brush away as much as possible.
14.3.1.4.7. If safe; flush away particles with copious amounts of water.
14.3.1.4.8. Dress Burns

14.4. **Electrical:**
14.4.1. **IMMEDIATE ACTION**:
14.4.1.1. Ensure scene safety prior to executing rescue efforts.
14.4.1.2. Remove from source.
14.4.1.3. Avoid becoming part of circuit.
14.4.1.4. Evaluate for defibrillation using Automated External Defibrillator (AED) on pulseless patient.
14.4.1.5. CPR.
14.4.1.6. Supportive care
14.4.1.7. Initiate evacuation process. Consult with physician preceptor to determine evacuation priority.
14.4.1.8. **CONTACT PHYSICIAN PRECEPTOR:**
14.4.1.9. Treat associated injuries
14.4.1.10. Initiate I.V. therapy per Parkland Burn formula and preceptor direction.
14.4.1.11. Initiate ACLS drug therapy as indicated by algorithms and patient condition.

14.5. **Forms Prescribed:**
14.5.1. AF Form 623a, **On-The-Job Training Record Continuation Sheet**
14.5.1.1. AF Form 644, **Record of Dental Attendance**
14.5.1.2. SF Form 600, **Health Record - Chronological Record of Medical Care, Version 1**

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Surgeon General

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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*These publications are required for MTF/HMTF IDMT training programs, remote sites, and MMU IDMTs.

Abbreviations and Acronyms

AFI—Air Force Instruction

AFRC—Air Force Reserve Command

ANG—Air National Guard

B.I.D.—Two Times Daily

CPR—Cardiopulmonary Resuscitation

HMTF—Host Medical Treatment Facility

IDMT—Independent Duty Medical Technician

IM—Intramuscularly

IV—Intravenously

KVO—Keep Vein Open

MAJCOM/SG—Major Command/Surgeon

MAJCOM/SGD—Major Command/Dental Surgeon

MMU—Mobile Medical Unit

MTF—Medical Treatment Facility

OI—Operating Instruction

PDO—Publishing Distribution Office

P.O.—By Mouth

PRN.—As Needed

PRP—Nuclear Weapons Personnel Reliability Program.

Q.I.D.—Four Times Daily

SubQ.—Subcutaneously

T.I.D.—Three Times Daily

Terms

Dental Preceptor—A dentist appointed by the Senior Dental Officer who serves as the IDMT's dental supervisor and trainer and is identified by placing his/her signature and initials on AF Form 623a, On-The-Job Training Record Continuation Sheet. By virtue of their status as professional health care providers, preceptors fulfill the requirements of both trainers and task certifiers in accordance with AFI 36-2201, *Developing, Managing and Conducting Training.*

Independent Duty Medical Technician (IDMT)—Medical Service Technicians and selected Aeromedical Technicians in Air Force specialty codes 4N051/71 and selected 4F051/71, Staff Sergeants through Master Sergeants (and selected Senior Master Sergeants if assigned to a duty position requiring this specialty) who have successfully completed course number J3AZR90270 002/003/004 or J3AZ4N071-005 (PDS Code KSV) Medical Service Craftsman - Independent Duty Medical Technician, who are currently in good standing as National Registry of Emergency Medical Technicians (NREMTs) and have been awarded the Special Experience Identifier (SEI) 496. IDMTs perform patient examination and render medical/dental treatment and emergency care to MMU/remote site personnel within the

established scope of care in the absence of a licensed health care provider or in preceptor-supervised training settings in USAF MTFs as defined in paragraph 9.2.3.5. of this AF Instruction. They are responsible to the MMU/remote site commander and are certified to treat medical and dental disorders by the HMTF Chief of Medical Staff. IDMTs receive medical and dental guidance and support from their physician and dental preceptors and administrative/technical support from personnel assigned to the MTF/HMTF. IDMTs are categorized into the following three categories based on unit of assignment:

MMU/SME—IDMTs assigned directly to a line unit

Remote/Fixed Site IDMT—IDMTs assigned as medical support to a fixed site. Not tasked with MAJCOM TDYs.

MTF IDMT—IDMTs assigned directly to an MTF/HMTF prepared to support a remote site/MMU/contingency operations

Independent Duty Medical Technician Refresher Training—A USAF standardized program of a minimum two week training period, held annually at the MTF/HMTF, to recertify IDMTs (all 4N0X1 personnel who possesses SEI 496, Staff Sergeant through Master Sergeant and selected Senior Master Sergeants when required by the duty position, and 4F0X1 personnel currently assigned to SME positions who possess SEI 496) with their physician and dental preceptors and to provide skill verification in ancillary areas such as laboratory, Bioenvironmental Engineering services, and Public Health services listed in (Atch 6), AFI 44-103. Additional location specific training may be added to this program as appropriate.

Independent Duty Medical Technician Program Monitor—A 4N0XX Medical Service Technician (or representative) at an HMTF/MTF. At an MTF that is not tasked to support a remote site, an individual is appointed by the MTF Commander and tasked to oversee the in-house IDMT initial/refresher training programs. The training officer/NCO (training flight) is responsible for the implementation, operation, and documentation of the program.

Medical Aid Station—A medical treatment facility (fixed/mobile) staffed and equipped to provide limited ambulatory care, patient holding, and stabilization in preparation for evacuation.

Mobile Medical Unit—A medical function of an Air Force organization with a deployable Medical Aid Station established to provide limited ambulatory care, patient holding, and stabilization in preparation for evacuation to support line mobility units while in a deployed status. (Examples: CE Red Horse Squadrons or Air Control Squadrons).

Physician Preceptor—A physician appointed by the MTF/HMTF Commander who serves as the IDMT's clinical supervisor and trainer and is identified by placing his/her signature and initials on AF Form 623a, On-The-Job Training Record Continuation Sheet. By virtue of their status as professional health care providers, preceptors fulfill the requirements of both trainers and task certifiers in accordance with AFI 36-2201.

Remote Site—An Air Force operating location in a remote or geographically separated area without a full service MTF in the immediate vicinity. These remote sites usually have a small to medium number of assigned or attached personnel and many have a Medical Aid Station.

Attachment 2

DIFFERENTIAL DIAGNOSIS MATRIX

Table A1.1. NON-TRAUMATIC EYE CONDITIONS.

Symptoms and Signs	**External Hordeolum** (Sty)	**Internal Hordeolum**	**Chalazion**	**Conjunctivitis**	**Anterior Uveitis**	**Corneal Ulcer**
Eye Pain	Sensation of foreign body	Sensation of foreign body possible	Sensation of foreign body possible. After a few days, signs and symptoms resolve	Itching or burning	Moderate to severe dull ache	Moderate to severe
Vision	Normal	Normal	Normal	Normal	Blurred	Blurred
Photophobia	Possible	Absent	Absent	Absent to moderate	Present	Present
Discharge	Lacrimation	Absent	Absent	Present (purulent or watery)	Absent	Purulent
Redness and Inflammation	Usually localized, but may be diffuse	Localized	Grayish - red freely moveable mass in lid. Conjunctiva red and elevated	Entire eye red, more pronounced away from the cornea	Pink to red flush around cornea	Entire eye red, more pronounced away from the cornea
Pupil Size	Normal	Normal	Normal	Normal	Constricted	Normal or constricted
Pupil Shape	Normal	Normal	Normal	Normal	May be irregular	Normal
Pupil Reaction to Light	Normal	Normal	Normal	Normal	Diminished or absent	Normal or diminished
Special Notes	Small, round, tender area of induration on lid margin	Small elevation or yellow area at site of affected gland, on conjunctival side of lid	If mass is non-mobile, it may be malignant	Rarely a serious condition	Moderately serious condition	Very serious condition

Table A1.2. EAR CONDITIONS.

Symptoms and Signs	External Otitis	Otitis Media	Serous Otitis Media	Otic Furuncle	Ruptured or Perforated Eardrum	Labyrinthitis
Pain and Location	Moderate to severe earache, especially with pulling on affected ear	Mild to severe earache, may radiate over same side of the face	Usually not present	Throbbing earache	Sharp earache	Usually not present
Associated Symptoms and Signs	Ear canal swollen and crusty with discharge, recent exposure to water. * Consider ruptured TM if discharge present	Nausea, purulent discharge may be present, upper respiratory infection may be present	Vertigo and dizziness, history of upper respiratory infection, or change in atmospheric pressure	Localized furuncle in canal, may be preceded by external otitis	Tear in tympanic membrane, history of trauma, increased atmospheric pressure or exposure to loud noise(s), purulent discharge (if caused by otitis media	Vertigo, nausea, nystagmus, tinnitus, history of recent upper respiratory infection
Body Temperature	Usually normal except with severe infection	Elevated in relation to infection	Normal	May be elevated	May be elevated if caused by otitis media	May be elevated
Eardrum Appearance	Normal, if visible	Dull, reddish-pink, and bulging, or ruptured	Retracted, "ground glass" appearance, slightly pink, bubbles& fluid	Normal, if visible	Torn	Normal
Hearing	Normal	Normal to slightly impaired	May be impaired	May be impaired	May be impaired	May be impaired if infection is present
Require immediate referral	Fever, tender mastoid	Complete hearing loss, dizziness	Complete hearing loss, dizziness, vertigo	Fever	Hx of head trauma, fever, neurological symptoms	Fever, neurological symptoms

TABLE A1.3. NOSE AND THROAT CONDITIONS.

Symptoms and Signs	Rhinitis (Allergic)	Nasal Furuncle	Sinusitis	Pharyngitis	Acute Tonsillitis	Peritonsillar Abscess	Laryngitis
Pain Status and Location	Usually not noted	Mild to severe, in or around the nose	Sharp and throbbing headache over sinus, may radiate to teeth	Mild to severe sore throat	Mild to severe sore throat	Severe sore throat. May have trismus.	Mild sore throat
Associated Symptoms and Signs	Itchy, watery eyes, wheezing and sneezing, allergic history	Red and swollen nose or nostril, malaise, head- ache	Sore throat or URI symptoms, cough from post nasal drip	Enlarged cervical lymph nodes, red pharynx, with exudate on membrane, malaise, and headache.	Tonsils red and swollen malaise, aching, anorexia	Hard to swallow, malaise, headache one tonsil greatly enlarged and pushed outward into the throat, surrounding area is red with pus spots.	Larynx red and swollen, history of previous laryngitis. Usually due to URI.
Nasal Discharge	Clear watery	Usually not present unless boil ruptures; purulent discharge	May be clear watery or purulent	Usually not noted unless accompanied by upper respiratory infection	Usually not noted	Usually not noted	Usually not noted
Cough	Clearing type cough	Not present	May be present	Clearing type cough	May be present	May or may not be present	May be present
Hoarseness or Loss of Voice	Usually not noted	Not present	Usually not noted	Usually not noted	Usually not noted	Usually not noted	Always present
Body Temperature	Normal	Low-to high-grade fever	Low-to high-grade fever	Low-to high-grade fever	Low-to high-grade fever	High-grade fever	Normal
White Blood Cell Count	Normal or increase in eosinophils	Elevated					
			Elevated in bacterial attacks, normal or decreased in viral attacks	Elevated in bacterial attacks, normal or decreased in viral attacks	Elevated	Elevated with increase in polymorphnuclear leukocytes	Normal

Table A1.4. NEUROLOGIC CONDITIONS.

Symptoms and Signs	Cerebral Vascular Accident	Head Injuries	Seizures	Meningitis	Anaphylactic Reaction	Herniated Nucleus Pulposus	Unconscious patient
Onset	Sudden or gradual over a few hours	Sudden	Sudden	Gradual	Sudden	Acute or insidious	Sudden
State of Consciousness	Drowsy to comatose	Varying with severity of trauma	Unconscious during attack, drowsy later, amnesia for the event	Drowsy	Varies from anxious to unconscious	Normal	Unconscious
Pain Status	Headache may be present	Headache	Usually not reported	Headache and stiff neck	Headache and occasionally abdominal cramps	Increased with Valsalva, BM, coughing or sneezing.	Non-responsive
Associated Symptoms and Signs	Convulsions, vomiting face may be flushed, one-sided paralysis	Vomiting, vertigo, confusion contusions or lacerations of the head	Nausea, vomiting, muscle spasms, past history of epilepsy. Look for injuries	Nausea, vomiting, chills convulsions, positive, Kernig's and Brudzinski's signs	Heavy perspiration, vomiting, generalized itching, breathing difficulty. Urticaria	Muscle weakness/atrophy, paresthesia, depressed reflexes and loss of bladder control	Variable
Body Temperature	May be elevated to low- grade fever	Normal	Normal	High-grade fever, variable	Normal	Normal	Variable
Pulse	Slow	May be slow	Rapid	Rapid and weak	Rapid, weak, and irregular	Variable	Variable
Respiration	Rapid and shallow	Variable	Slow	Variable	Rapid and shallow	Normal	Varied to absent
Pupil Size	Normal or dilated and unequal	Constricted, normal or dilated, equal or unequal	Normal	Normal	Normal	Normal	Constricted, normal or dilated, equal or unequal
White Blood Count	Normal	Normal	Normal	Elevated	Differential may show increase in eosinophils	Normal	Variable

Table A1.5. MATRIX CHEST PAIN.

Signs And Symptoms	Angina Pectoris	Pulmonary Edema	Congestive Heart Failure	Costal Chondritis	Pneumothorax	Pneumonia (Lobar)	Myocardial Infarction
Pain Status And Location	Moderate to intense, pressure-like pain under the sternum, radiates to left arm and shoulder	Usually absent (if present, suspect other conditions)	Usually absent (if present, suspect other conditions)	Sharp chest pain localized to the cartilage between the ribs and sternum	Sudden, sharp, tearing pain in the side of the chest, may be referred to the shoulder blade. Pain worse with breathing	Sudden, sharp or gradual pain in the side of the chest aggravated by breathing	Sharp moderate to intense crushing chest pain under sternum, that may radiate to neck, arms, and jaw
Duration of Pain	Usually 3 to 30 minutes	Not Applicable	Not Applicable	Hours to days	Hours	Hours to days	Hours to several days
Shortness of Breath	Not present	Severe breathing difficulties	Present, especially when recumbent	May be present	Severe and increasingly worse with time	Common and often severe	May be present
Shock	Not present	Not present	Not present	Not present	Occasionally mild shock present	Usually not present	Commonly present (cold sweat, fast pulse, blood pressure down)
Associated Findings	Significant elevation in systolic and diastolic blood pressure during attack--however, may also be hypotensive. Associated with strenuous activity, history of heart disease	History of heart disease or exposure to toxic fumes, productive cough, nausea and vomiting, pitting edema of feet and legs. Moist cough with frothy pink or white sputum	Can accompany any serious illness, history of hypertension, nausea, vomiting, edema of the ankles and the feet. Moist cough with frothy pink or white sputum	History of similar attacks, temperature may be slightly elevated	Anxiety; flat, quiet chest, collapsed lung	Chills, fever, productive cough, rales, high WBC	Nausea, vomiting, fever, heavy perspiration,. Associated with strenuous activity, history of heart disease
EKG	T Wave changes may or may not be present	Variable	Variable	Normal	Normal	Normal	ST-T wave changes, Q wave changes

Table A1.6. PULMONARY CONDITIONS.

Symptoms and Signs	**Asthma**	**Pleurisy**	**Pneumothorax**	**Pneumonia**	**Pulmonary Embolism and Infarction of the Lung**	**Bronchitis**	**ARDS**	**Pulmonary Edema** (non-cardiogenic)
Onset	Sudden /gradual	Gradual	Sudden	Gradual	Sudden	Gradual	Sudden	Sudden
Pain Status and Location	Usually not reported	Mild to intense, stabbing chest pain, may radiate to abdomen or shoulder	Sharp pain in the chest shoulder, or arm	Sharp, stabbing chest pain	Oppressive substernal pain, radiating to the shoulders and neck	Mild, dull, or sharp ache in the chest or throat	Possible chest pain	Presents with a sensation of suffocation
Body Temperature	Usually normal	Usually normal	Normal	High-grade fever	Low-grade fever	Normal to low-grade fever	Normal unless septic	May be elevated, if septic
Respiration	Increased with pronounced shortness of breath	Increased and shallow pleural friction rub	Increased and labored breathing with sounds faint or absent on affected side	Increased with inspiratory rales and breath sound changes	Increased and labored	Normal with expiratory rales that may clear with coughing	Dyspnea, tachypnea, costal retraction, rales and rhonchi, and cyanosis	Cough, hemoptysis, wheezing, dyspnea and consolidation
Pulse	Increased	Normal	Increased	Increased	Increased	Normal	Rapid	Thready
Associated Symptoms and Signs	History of previous attacks, heavy perspiration inspiration is short and gasping. Wheezing on expiration	Productive cough, runny nose, inflamed throat	May have open chest wound, decreased chest motion on the affected side, hyperresonant sound over affected side	Shaking chills, productive, cough, cyanosis, flaring nostrils	Flaring nostrils, cyanosis heavy perspiration, hemoptysis	Productive cough, runny nose, inflamed throat	Variable based on etiology	Irritation of the eyes, nose, throat, trachea and bronchi if caused by gases or smoke
White Blood Cell Count	May reveal presence of eosinophilia	May be elevated	Normal	Elevated	May be elevated	Rarely to occasionally elevated	Variable based on etiology	Variable based on etiology

Table A1.7. ACUTE ABDOMINAL PAIN.

Symptoms and Signs	Appendicitis	Cholecystitis	Gastroenteritis	Hepatitis	Inguinal Hernia	Intestinal Obstruction
Age	Any age	Usually 30-50 years	Any age	Any age	Any age	Any age
Onset	Gradual	Gradual	Sudden	Gradual	Usually sudden, occasionally gradual	Gradual or sudden
Pain and Location	Mild to severe, generalized in mid abdomen early, later localizes in RLQ. Rebound tenderness and referred pain are common	Upper abdominal discomfort to sharp burning in RUQ. May refer to right shoulder	Moderate to severe in epigastric region, and lower abdominal cramps	Constant, dull, moderate to severe, in RUQ	Intermittent dull ache or "dragging sensation" in the inguinal area	Intermittent, moderate to severe, in epigastric region
Associated Symptoms and Signs	Nausea and vomiting (occurring after pain starts), abdominal rigidity, constipation, or occasional diarrhea and dysuria	History of previous attacks, nausea and vomiting, constipation or occasionally diarrhea; anorexia	Nausea, vomiting, diarrhea, marked tenderness in RLQ or LLQ, increased bowel sounds	Nausea, general malaise, yellowish skin, anorexia	Palpable mass in the inguinal area, onset preceded by coughing straining, or heavy physical work	Nausea and vomiting constipation, abdominal distention and rigidity, increased bowel sounds
Body Temperature	Low-grade fever	Low-grade fever	Usually normal, occasionally slightly elevated	Low- to high-grade fever	Normal	Low-grade fever
WBC	Moderate elevation	Moderate elevation	Usually normal	Moderate elevation	Normal	Moderate elevation
Urinalysis	Usually normal with a few WBCs	Usually normal	Usually normal	May be dark amber in color	Normal	Normal

Symptoms and Signs	Peptic Ulcer	Pneumonia	Pyelonephritis	Urethritis and Cystitis	Urinary Tract Calculi
Age	Usually 25-50 years old	Any age	Any	Any age	Usually 35-65 years
Onset	Gradual	Gradual or rapid	Gradual or rapid	Gradual	Sudden
Pain and Location	Intermittent sharp burn in epigastric region Deep tenderness may be present	Sharp pain in lower chest, upper abdomen, aggravated by breathing	Flank pain	Dull aching	Colicky abdominal pain radiating from the groin, scrotum, or labia are classic presenting symptoms
Associated Symptoms and Signs	Nausea and vomiting black, tarry stools, history of previous attacks	Rapid onset of chills, fever, rapid pulse and respiration, cough. Friction rub, inspiratory rales	Chills & fever	History of previous attacks, dysuria, frequency, urgency	Anorexia, nausea and vomiting often accompany abdominal pain
Body Temperature	Normal	High-grade fever	Fever	Normal unless pyelonephritis	Normal or slightly elevated
WBC	May be elevated due to stress	Moderate to greatly elevated	Increased	Usually normal unless pyelonephritis	Normal or slightly elevated indicating infection
Urinalysis	Normal	Usually normal	Blood/pus	Blood and pus usually present	Urine may contain RBCs, WBCs, bacteria, protein, and crystals

Table A1.8. GENITOURINARY CONDITIONS.

Symptoms and Signs	Urinary Tract Calculi	Acute Pyelonephritis	Prostatitis	Testicular Torsion	Orchitis	Epididymitis	Hydrocele
Pain Status and Location	Colicky abdominal pain radiating to the groin, scrotum, or labia are classic presenting symptoms	Moderate to severe dull ache over the kidneys flank, and lower back-unilateral or bilateral	Moderate to severe pain in lower back and perineum	Severe pain in scrotum. Radiates into lower abdomen	Moderate to severe pain in scrotum	Moderate to severe pain in scrotum. Usually hemiscrotal	Normally not present
Associated Symptoms and Signs	Anorexia, nausea and vomiting often accompany abdominal pain or flank pain	Nausea, vomiting, chills history of urinary tract conditions	Frequent and urgent urination, difficulty in starting urine flow. Tender, boggy prostate.	Nausea, vomiting, often occurs at night or following recent strenuous activity. More common in adolescents	Nausea, vomiting, previous case of mumps 7 to 8 days earlier	Nausea, vomiting, past history of urinary tract infections, tenderness and swelling in scrotal area	Swelling (that transilluminates) in scrotum, usually on one side. Associated hernia may be present
Body Temperature	Normal or slightly elevated	Low-to high grade fever	Normal or low-grade fever	Low-grade fever	Low-grade fever	Low-grade fever or normal depending on etiology	Normal
White Blood Cell Count	Normal or slight elevated indicating infection	Marked elevation	May be elevated	Normal	Elevated	Elevated to normal depending on etiology	Normal
Urinalysis	Urine may contain RBCs, WBCs, bacteria, protein, and crystals	Urine contains white blood cells, red blood cells, and bacteria. C&S +	May contain white blood cells +/- Hematuria +/- Pyuria	Normal	Normal	Urine may contain white blood cells	Normal

Table A1.9. SYMPTOM OF MAJOR PSYCHIATRIC SYNDROMES.

SYNDROME	Behavior	Speech	Thought Content	Perception	Affect	Orientation & Memory	Onset & Duration	Physical Findings
Delirium	Agitation (occasionally quiet) carphologia	Nonspecific	Variable, delusions	Illusions, hallucinations	Fear, anxiety	Disoriented, memory impaired, clouded consciousness	Acute with fluctuating symptoms	Abnormal vital signs
Dementia	Apathy, apraxia, echopraxia	Echolalia, aphasia.	Variable, few if any delusions.	Few if any hallucinations	Lability	Disorientation, memory impairment	Insidious	Frontal lobe release signs (such as grasp reflex)
Schizophrenia	Social withdrawal, agitation	Rambling, mutism	Bizarre, persecutory delusions, ideas of reference	Hallucinations	Blunt, flat inappropriate affect	Intact	Symptoms for 6 months	None
Mania	Hyperactivity, gregariousness.	Rapid, forceful	Delusions of grandeur, paranoia	Hallucinations (possible)	Elation, frequent irritability	Intact	Symptoms for 1 week	None
Depression	Motor retardation, occasional agitation	Lack of spontaneity, slow pace & monotone	Helplessness, hopelessness, delusions of guilt, somatic delusions	Few if any hallucinations	Depression, sadness, despondence	Intact	Symptoms for 2 weeks	None

Attachment 3

DRUG FORMULARY

Antihistamine / Decongestant / Expectorant/Antitussive Medications

Generic Name	**Trade Name**
Benzonatate	Tessalon Perles®
Brompheniramine	Dimetapp® Extentabs
Chlorpheniramine	CTM®
Chlorpheniramine/Pseudoephedrine	Deconamine®
Codeine "MD"	Codeine cough suppressant syrup
Dimenhydrinate	Dramamine®
Diphenyhydramine Hydrochloride injection	Benadryl®
Diphenyhydramine tablets	Benadryl®
Guaifenesin	Robitussin®
Guaifenesin / Dextromethorphan	Robitussin DM®
Hydroxyzine hydrochloride 10 mg	Atarax®
Oxymetazoline hydrochloride	Afrin®
Phenylepherine hydrochloride 1%	Neo-Synephrine®
Phenylephrine/Phenylpropanolamine / Guaifenesin	Entex® Entex LA®
Pseudoephedrine	Sudafed®
Triprolidine / Pseudoephedrine	Actifed®

Systemic Anti-infective Agents - All require physician prescription/consultation

Generic Name	Trade Name
Acyclovir "MD"	Zovirax®
Amoxicillin "MD"	Amoxil®
Ampicillin "MD"	Ampicillin
Amoxicillin clavulanate "MD"	Augmentin®
Azithromycin "MD"	Zithromax®
Cefotaxime for I.V. use "MD"	Claforan®
Cefoxitin "MD"	Mefoxin®
Ceftriaxone "MD"	Rocephin®
Cephalexin monohydrate "MD"	Keflex®
Cephalothin sodium "MD"	Keflin®
Cephradine "MD" Chloramphenicol	Velosef® Ophthalmic®
Ciprofloxin "MD"	Cipro®
Clindamycin hydrochloride "MD"	Cleocin®
Dicloxacillin sodium "MD"	Dynapen®
Doxycycline "MD"	Vibramycin®
Erythromycin "MD"	E-Mycin®
Gentamycin sulfate "MD"	Garamycin®
Mebendazole "MD"	Vermox®
Metronidazole "MD"	Flagyl®
Nitrofurantoin "MD"	Macrobid®
Penicillin G benathine "MD"	Bicillin L-A®
Penicillin G procaine "MD"	Wycillin®
Penicillin V potassium "MD"	Pen Vee K®
Pyrantel pamoate "MD"	Antiminth®
Tetracycline "MD"	Achromycin®
Trimethoprim/sulfamethoxazole "MD"	Bactrim® Septra®

Topical Anti-infective Agents

Generic Name	Trade Name
Bacitracin	Bacitracin Ointment
Condoms	Condoms
Clotrimazole "MD"	Mycelex G / Gyne-Lotrimin
Chlorhexidine gluconate	Hibiclens®
Lindane Shampoo	Kwell®
Miconazole vaginal "MD"	Monistat Cream / Suppositories
Miconazole Derm cream / lotion	2% cream / lotion
Mupirocin 2% topical	Bactroban®
Permethrin 1% cream	Nix®
Polymyxin B-bacitracin -neomycin ointment	Neosporin®
Pyrithione zinc shampoo	Sebutone shampoo
Selenium sulfide	Selsun shampoo
Silver sulfadiazine	Silvadene
Terconazole "MD"	Terazol®
Tolnaftate	Tinactin ®

Analgesic Drugs

Generic Name	Trade Name
Acetaminophen	Tylenol®
Acetaminophen and codeine sulfate "MD"	Tylenol #3®
Aspirin	Bayer®
Clove Oil	Eugenol®
Cyclobenzaprine HCl "MD"	Flexeril®
Ibuprofen	Motrin®
Indomethacin "MD"	Indocin®
Isometheptene	Midrin®
Lidocaine anesthetic injection 1%, 2%	Xylocaine®
Lidocaine, viscous	Xylocaine®
Meperidine "MD"	Demerol®
Methocarbamol "MD"	Robaxin®
Morphine sulfate "MD"	Morphine
Naproxen "MD"	Naprosyn®
Phenazopyridine	Pyridium®
Propoxyphene "MD"	Darvocet-N®
Sumitriptan “MD”	Imitrex
Vitrabond®	Vitrabond®

Overdose / Poison Antidotes

Generic Name	Trade Name
Acetylcysteine	Mucomyst®
Activated charcoal	Charcoaid®
Flumazenil	Flumazenil®
Ipecac Syrup	Ipecac
Magnesium citrate	Mag-Citrate
Naloxone hydrochloride "MD"	Narcan®

Topical Preparations

Generic Name	**Trade Name**
Aluminum acetate	Dome Boro Tablets®
Analgesic balm	Ben-Gay®
Anusol-HC	Anusol-HC®
Benzoyl peroxide gel 5%	Desquam-X-5®
Benzoyl peroxide gel / soap	Fostex ®
Boric acid / Acetic acid	Burrow's Solution ®
Calamine lotion	Calamine lotion®
Dibucaine	Nupercainal® ointment
Dichlorotetrafluorethane	Skin Refrigerant
Hydrocortisone, 1% topical cream	Cort-Aid
Hydrogen peroxide	Hydrogen peroxide
Isopropyl alcohol	Isopropyl alcohol
Keri lotion	Keri lotion
Orabase	Orabase®
Povidone-Iodine	Betadine®
Silver nitrate applicators	Silver nitrate applicators
Sunscreen	Sunscreen
Triamcinolone	Kenalog®
Triamcinolone acetonide 0.1% topical "MD"	Aristocort®
Trichloroacetic acid solution	Trichloroacetic acid solution
Zinc Oxide	Zinc Oxide

Ophthalmic Ointments and Solutions

Generic Name	Trade Name
Acetazolamide "MD"	Diamox®
Ciprofloxacin ophthalmic "MD"	Ciloxan®
Erythromycin ophthalmic "MD"	Ilotycin®
Gentamicin sulfate opthalmic "MD"	Garamycin®
Homatropine ophthalmic 5%	Homatropine
Polymyxin B-Bacitracin-Neomycin ophthalmic ointment "MD"	Neosporin®
Polymyxin B-Neomycin-Gramicidin ophthalmic solution "MD"	Neosporin®
Proparacaine Hydrochloride	Ophthaine ®/ Alcaine®
Scopolamine ophthalmic solution (1/4%) "MD"	Scopolamine ophthalmic solution (1/4%)
Sodium fluorescein applicator strips	Sodium fluorescein
Sulfacetamide "MD"	Sulamyd®
Visine	Visine AC® eye drops

Topical Ear, Nose and Throat Preparations (Continued)

Generic Name	Trade Name
Acetic acid solution	Burrow's otic
Anesthetic throat lozenges	Chloraseptic lozenges®
Antipyrene and Benzocaine	Auralgan®
Beclomethasone "MD"	Vancenase®
Carbamide peroxide	Proxigel®
Chlorhexidine gluconate	Peridex®
Polymyxin B-Neomycin-Hydrocortisone Otic suspension	Cortisporin®

Bronchodilators / Asthma Medications

Generic Name	Trade Name
Albuterol inhaler "MD"	Proventil®
Aminophylline I.V. injection "MD"	Aminophylline™
Metaproterenol inhaler "MD"	Alupent®
Theophylline "MD"	Theophylline®
Triamcinolone "MD"	Azmacort™ (inhaler only)

Systemic Steroid Medications

Generic Name	Trade Name
Dexamethasone IM "MD"	Dexamethasone Decadron
Methylprednisolone I.V. "MD"	Methylprednisolone, Depo-Medrol, Solu-Medrol
Prednisone tablets "MD"	Prednisone

Gastrointestinal Drugs

Generic Name	Trade Name
Aluminum-OH 400mg / Magnesium-OH 400mg / Simethicone 40mg	Mylanta II liquid ®
Aluminum-OH 200mg / Magnesium OH 200mg / Simethicone 25 mg	Maalox Plus®
Belladonna and Phenobarbital "MD"	Donnatal ®
Bisacodyl	Dulcolax®
Bismuth subsalicylate	Pepto-Bismol®
Cimetidine	Tagamet®
Diphenoxylate "MD"	Lomotil®
Docusate calcium	Surfak®
Docusate sodium	Colace®
Kaopectate	Kaopectate®
Loperamide	Imodium®
Meclizine hydrochloride	Antivert®
Milk of Magnesia	Milk of Magnesia®
Mylicon	Mylicon®
Promethazine	Phenergan®
Psyllium	Metamucil®
Ranitidine	Zantac®
Simethicone	Mylicon®
Sucralfate	Carafate®
Trimethobenzamide HCl	Tigan®

Cardiac Drugs

Generic Name	Trade Name
Atropine sulfate injectable "MD"	Atropine
Calcium Gluconate "MD"	Kalcinate®
Dopamine hydrochloride "MD"	Intropin®
Epinephrine 1:1000 aqueous solution "MD"	Epinephrine
Furosemide "MD"	Lasix®
Nifedipine "MD"	Procardia®
Nitroglycerin tabs "MD" 0.3 mg	Nitrostat
Propranolol "MD"	Inderal®

Psycho / Neuro Drugs

Generic Name	Trade Name
Ammonia ampules	Ammonia ampules
Diazepam injection "MD"	Valium®
Diazepam tablets "MD"	Valium®
Ergotamine maleate "MD"	
Ergotamine tartrate / caffeine "MD"	Cafergot®
Haloperidol "MD"	Haldol®
Lorazepam "MD"	Ativan®
Nicotine transdermal patches "MD"	Habitrol®
Oxazepam "MD"	Serax®
Phenobarbital "MD"	Phenobarbital
Pentobarbital sodium "MD"	Nembutal®
Phenytoin "MD"	Dilantin®
Propranolol "MD"	Inderal®

I.V. Solutions

Generic Name	Trade Name
Dextrose 5% in Water	D5W
Dextrose 5% Normal Saline	D5NS
Half Normal Saline	1/2NS
Normal Saline	NS
Ringer's Lactate	RL
Ringer's Lactate with 5% Glucose I.V.	D5RL

Immunizations / Miscellaneous

Generic Name	**Trade Name**
Diagnostic strips (blood and urine)	Labstix®
DPT and HIB	Tetramune®
Hepatitis A	
Hepatitis B	Heptavax-B®
Measles, mumps, and rubella	MMR
Meningococcal meningitis	
Oral polio	OPV
Oxygen	Oxygen, USP
Sodium Fluoride "MD"	Sodium Fluoride
Temporary Dental Restorative Material	IRM®, Vitrabond ® etc.
Tetanus Diphtheria	T-D
Tetanus immune globulin	Tetanus Immune globulin
Tetanus toxoid	Tetanus toxoid
Tuberculin skin test (IPPD)	Tuberculin skin test
Typhoid	Typhim®

"MD" denotes those items that may be dispensed by the IDMT only after physician consultation. IDMTs are cautioned to remain extremely conservative when dispensing medication and must document specific instructions and the name of the physician prescribing the medication.