

## APPENDIX F

### ADDITIONAL HEALTH CARE PROVIDER CAPABILITIES

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# **ADDITIONAL HEALTH CARE PROVIDER CAPABILITIES**

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## **INTRODUCTION**

The needed medical care competencies available aboard ship have changed over time, as medical standards of care and technology have changed. A decade or two ago, the shipboard medic often independently managed, without outside consultation, a range of medical conditions. In today's world, the medic will immediately stabilize a patient, and then promptly contact a shoreside medical team for consultation about seriously ill patients. This consultation requires that the medic be able to carefully examine the patient, note normal and abnormal findings, and methodically report these to the shoreside consultant. These physical examination and communication skills are key to successful patient outcomes.

This section outlines the range of qualifications most shipboard medics will have. This chapter is provided as a guide, with recognition that some ships require a full medical staff while others may require only a first aid station. The level of medical care aboard ship varies with the health status of any passengers, operational risks to crew, distance from reliable shoreside health care, and a range of other variables. The specific requirements for a given ship on a given cruise should be made on an individual basis.

## **EMERGENCY INTERVENTION**

The following provides a summary of some commonly required medical skills. It can be used as a general reference or outline for developing adequate privileging credentials. Many ships will require the shipboard medical capability to be significantly greater; in some situations fewer skills may be needed.

In many shipboard environments the medical provider should have basic knowledge the following areas:

## **PATIENT ASSESSMENT**

Primary and Secondary Survey:

- Signs and symptoms
- Diagnostic signs
- Pulse
- Respirations
- Blood pressure
- Temperature
- Skin color
- Capillary refill
- Pupil size and responding to light
- Level of consciousness
- Scene safety
- Rapid and focused trauma assessment, as appropriate to patient's condition and/or mechanism of injury (compromised airway, breathing, and/or circulation, etc.)
- Immobilization, to include:
  - C-spine considerations while securing patient to spinal immobilization device for suspected spinal injury
  - Joint and long bone splinting
- Management of secondary injuries and wounds
- Continual monitoring of stable and unstable patient
- Preparation of patient for transport to definitive care
- Understand the vessel's multiple casualty incident plan, and roles and responsibilities to implement it

## **BASIC LIFE SUPPORT AND VENTILATION:**

Cardio Pulmonary Recitation (CPR)

- Airway assessment and management, including foreign body airway obstruction, considerations for C-Spine precautions, as appropriate.
- Breathing assessment and management, to include the breathing, non-breathing and inadequately breathing patient.
- Use of airway adjuncts and oxygen administration as appropriate for patient's condition.
- Circulation assessment and management, including CPR and hemorrhage control, as appropriate to patient's condition.
- Use of Automatic External Defibrillator (AED).
- Shock management

## **VENTILATION EQUIPMENT AND OXYGEN THERAPY:**

Demonstrate knowledge of, and treatment using, the following:

- Pocket mask with oxygen inlet
- Oropharyngeal airway (OPA)

- Nasopharyngeal airway (NPA)
- Bag-Valve Mask System (BVM)
- Portable and hand suctioning devices

### **HEMORRHAGE AND GENERAL EMERGENCIES:**

Demonstrate knowledge and treatment of the following:

- Hemorrhage control by direct pressure and extremity elevation.
- Splinting
- Utilizing air pressure splinting
- Understand indications, use and dangers of the Pneumatic Anti-Shock Garment/PSAG (formerly known as Military Anti-shock Trousers (MAST pants).
- Utilization of a tourniquet

### **SHOCK:**

Types of shock: signs, symptoms, treatment and causes to include:

- Cardiogenic shock
- Neurogenic shock
- Psychogenic shock
- Hypovolemic shock
- Metabolic shock
- Septic shock
- Nonvascular cause of shock: respiratory insufficiency and anaphylactic shock.

### **GENERAL INJURIES:**

Soft Tissue (open and closed injuries):

- Abrasions
- Lacerations
- Avulsions
- Puncture wounds
- Impaled objects

### **FRACTURES, DISLOCATIONS AND SPRAINS:**

Demonstrate knowledge of injury management, to include splint application to the upper and lower extremities:

- Fractures (open and closed injuries):
  - Greenstick fracture
  - Comminuted fracture
  - Pathologic fracture
  - Epiphyseal fracture
- Dislocations: signs and symptoms including treatment
  - Dislocation of the shoulder
  - Dislocation of the hip joint

- Sprains: signs and symptoms including treatment
- C-Spine injuries and treatment.

### **HEAD INJURIES AND MEDICAL EMERGENCIES:**

Demonstrate knowledge and treatment of the following:

- Cerebrovascular accident (CVA)
- Arterial rupture
- Cerebral embolism
- Stroke
- Dyspnea
- Scalp laceration
- Fractured skull.
- Concussion
- Contusion
- Intracranial bleed

### **INJURIES TO THE EYE, EAR AND THROAT:**

Demonstrate knowledge and treatment of the following:

- Foreign body, impaled object
- Burns: chemical, thermal and light burns
- Lacerations and blunt trauma
- Understand the appropriate advanced emergency treatment for a patient suffering from seizures, including status epilepticus.

### **CHEST INJURIES AND MEDICAL EMERGENCIES:**

Demonstrate knowledge and treatment of the following:

- Rib fracture
- Flail chest
- Penetrating injury
- Compression injury
- Asthma
- Pneumothorax
- Spontaneous pneumothorax
- Tension pneumothorax
- Hemothorax
- Sucking chest wound
- Subcutaneous emphysema
- Pulmonary contusion
- Acute pulmonary edema
- Pulmonary Embolism
- Chronic obstructive pulmonary disease (COPD)
- Myocardial contusion
- Pericardial tamponade

## **ALLERGIES AND ANAPHYLACTIC REACTIONS:**

Recognize and respond to an anaphylactic or adverse reaction due to immunization, latex exposure, food or medication ingestion, or an insect sting.

- Signs, symptoms and treatment of poisons, stings, and bites.
- Anaphylactic shock

## **ABDOMEN AND GENERAL EMERGENCIES:**

Demonstrate knowledge and treatment of the following:

- Closed abdominal injuries (blunt)
- Open abdominal injuries (penetrating)
- Evisceration
- Injuries to the genitourinary system
- Emergency childbirth procedures
- Acute abdomen

## **HEART DISEASE:**

Demonstrate knowledge and treatment of the following:

- Angina Pectoris
- Acute myocardial infarction (AMI)
- Congestive heart failure (CHF)
- Cardiogenic shock

## **ENVIRONMENTAL EMERGENCIES:**

Demonstrate knowledge and treatment of the following:

- Frostbite
- Hypothermia
- Heat exhaustion
- Heat stroke
- Heat cramps
- Drowning and near drowning
- Diving accidents

## **PSYCHIATRIC CONDITIONS:**

Demonstrate knowledge and treatment of the following:

- Acute psychotic episode/emotional episode
- Know how and when to request critical incident stress debriefing (CISD).

## **SUBSTANCE ABUSE**

Demonstrate knowledge and treatment of the following:

- Alcohol abuse
- Drug abuse

## CLINICAL SICKCALL

Most shipboard medical providers should be able to:

- Obtain a history of present illness (hpi), past medical history (pmh), and review of systems (ros), for a patient presenting with the below listed complaints.
- Develop treatment plan. Utilizing the pertinent data, develop a SOAP write-up and be able to provide a verbal case presentation for a patient with these chief complaints.
- Focus on information that enables a medical officer, or other “higher level” provider, to quickly familiarize themselves with patient's status and provide appropriate follow-on evaluation/treatment, either in person or via telecommunications.

In many shipboard environments the ship's medical personnel should be able to demonstrate complete knowledge and treatment applications of the following specific conditions:

### **HEAD:**

Establish a differential diagnosis for a patient presenting with a non-traumatic headache. List as possible diagnoses:

- Migraine
- Cluster
- Tension (cervical)
- Sinusitis or sinus congestion
- Temporomandibular Joint (TMJ) induced headache

### **VISION:**

Establish a differential diagnosis for a patient presenting with eye pain, red eye, foreign body or acute altered vision. Use the following list as possible diagnoses:

- Infectious conjunctivitis
- Allergic conjunctivitis
- Hordeolum
- Blepharitis
- Corneal abrasion
- Subconjunctival hemorrhage
- Acute iritis
- Acute retinal detachment
- Hyphema
- Flash burns
- Chemical burns

**EAR:**

Establish a differential diagnosis for a patient presenting with ear pain. Use the following list as possible diagnoses:

- Otitis media with effusion (Serous Otitis Media)
- Otitis media, acute
- Otitis externa
- Cerumen impaction
- Perforated/ruptured tympanic membrane due to trauma, including barotrauma
- Perforated/ruptured tympanic membrane due to suppuration
- Perforated/ruptured tympanic membrane due to retraction
- Foreign body
- Mastoiditis
- Temporomandibular joint (TMJ) syndrome

**SINUS/NOSE:**

Establish a differential diagnosis for a patient presenting with a nosebleed (epistaxis). Use the following list as possible diagnoses:

- Hypertension
- Digital manipulation
- Foreign object
- Medicamentosa
- Nasal fracture
- Contusion
- Sinus infection
- Nasal mucosa infection
- Nasal mucosa desiccation
- Fractured skull
  - Facial injuries
  - Sinusitis, infections
  - High blood pressure

**THROAT:**

Establish a differential diagnosis for a patient presenting with a sore throat. List as possible diagnoses:

- Epiglottitis
- Influenza
- Peritonsillar abscess
- Toxic shock syndrome
- Viral pharyngitis
- Streptococcal pharyngitis
- Tonsillitis
- Infectious Mononucleosis

**NECK:**

Establish a differential diagnosis for a patient presenting with neck pain. Use the following list as possible diagnoses:

- Meningitis
- Trapezius strain
- Cervical fracture
- Tension headache
- Dystonic reaction to phenothiazines (extrapyramidal (EPS) reaction to phenothiazines (such as phenergan, compazine) and butyrophenones, commonly used as anti-nauseants and antipsychotics).

**RESPIRATORY/THORAX/ CIRCULATORY:**

Establish a differential diagnosis for a patient presenting with cough, shortness of breath, and/or difficulty breathing. Use the following list as possible diagnoses:

- Asthma
- Acute bronchitis
- Upper respiratory infection
- Pneumonia, viral etiology
- Pneumonia, bacterial etiology
- Anaphylaxis
- Pulmonary embolism
- Upper airway obstruction

Establish a differential diagnosis for a patient presenting with “cold-like” symptoms (symptoms consistent with possible upper respiratory infection/uri). Use the following list as possible diagnoses:

- Sinus congestion
- Sinusitis
- Influenza
- Allergic rhinitis

Establish a differential diagnosis for a patient presenting with cough or difficulty breathing. List as possible diagnoses:

- Pulmonary edema
- Pneumothorax
- Status asthmaticus
- Influenza
- Pleuritis
- Tuberculosis

Establish a differential diagnosis for a patient presenting with chest pain. Use the following list as possible diagnoses:

- Gastroesophageal reflux disease (GERD)
- Angina pectoris

- Acute Myocardial Infarction
- Costochondritis
- Pulmonary Embolism
- Respiratory infection
- Myocardial infarction
- Pulmonary embolism
- Costochondritis
- Pleuritis
- Spontaneous pneumothorax

### **SKIN CONDITIONS:**

Establish a differential diagnosis for a patient presenting with a papular skin rash. List as possible diagnoses:

- Psoriasis
- Seborrhea
- Cellulitis
- Folliculitis
- Insect bites (scabies, fleas)
- Drug reaction/allergies

Establish a differential diagnosis for a patient presenting with a vesicular skin rash. List as possible diagnoses:

- Dyshydrotic eczema
- Impetigo
- Herpes simplex
- Hand-foot-mouth disease (coxsackie virus)

Perform an examination of a burn patient and know how to diagnose and treat first, second and third degree burns. Know the following:

- Burns of the respiratory tract
- Circumferential burns
- Body Surface Area Percentage (BSA%) partial thickness burns and its application to burn care
- Body Surface Area Percentage (BSA%) full thickness burns and its application to burn care
- Associated injuries and potential complications

### **ABDOMEN/REPRODUCTIVE:**

State signs, symptoms and describe appropriate emergency treatment for a diabetic patient including:

- Hyperglycemia, including that caused by patient taking insufficient insulin and/or inappropriate diet (i.e. diabetic ketoacidosis)
- Hypoglycemia, including that caused by patient taking too much insulin and/or “skipping” meals (i.e. insulin shock)

- Performing blood glucose check using glucose meter (such as Glucometer or Accucheck, or Dextrostix or equivalent reagent strip) with blood sample obtained via a fingerstick
- Performing urine reagent test and understand potential significance of positive ketones or sugar

### **DIABETES:**

Demonstrate knowledge and treatment of the following:

- Diabetic coma
- Insulin shock

Establish a differential diagnosis for gynecological conditions. List as possible diagnoses:

- Torsion of ovarian tumor
- Uterine prolapse,
- Endometriosis

Establish a differential diagnosis for male health issues. List as possible diagnoses:

- Incarcerated inguinal hernia
- Testicular cancer
- Testicular torsion

Establish a differential diagnosis for a patient presenting with painful or bloody urination. List as possible diagnoses:

- Chronic asymptomatic hematuria
- Renal cancer
- Renal contusion or laceration
- Urethritis

Establish a differential diagnosis for a female patient presenting with abdominal or pelvic pain. Use the following list as possible diagnoses:

- Food poisoning, bacterial (infectious gastroenteritis)
- Appendicitis
- Normal pregnancy
- Ectopic pregnancy
- Peptic Ulcer disease
- Gastroesophageal reflux disease (GERD)
- Urinary tract infection
- Dysmenorrhea
- Sexually transmitted disease (STD)
- Perforated ulcer
- Bowel obstruction
- Abdominal aneurysm
- Hepatitis

- Pancreatitis
- Ovarian abscess
- Ovarian cyst
- Endometriosis
- Upper gastrointestinal (GI) bleeding
- Pelvic inflammatory disease
  - Colitis (inflammatory bowel disease)
  - Irritable bowel syndrome
  - Cholecystitis
  - Food-borne illness (“food poisoning” type gastroenteritis)

Establish a differential diagnosis for a male patient presenting with abdominal pain, using Mosby’s Primary Care Consultant and Lange’s Current Emergency Diagnosis & Treatment as your primary references. Use the following list as possible diagnoses:

- Hernia
- Irritable bowel syndrome
- Colitis (inflammatory bowel disease)
- Food-borne illness (“food poisoning” type gastroenteritis)
- Pancreatitis
- Cholecystitis
- Hepatitis
- Abdominal aneurysm
- Bowel obstruction
- Perforated ulcer
- Testicular torsion

Establish a differential diagnosis for a female patient presenting with excessive vaginal bleeding or pain. Use the following conditions as possible diagnoses:

- Threatened abortion (miscarriage)
- Ectopic pregnancy
- Dysfunctional uterine bleeding (DUB)
- Metrorrhagia (uterine bleeding at irregular intervals)

Establish a differential diagnosis for a female patient presenting with vaginal irritation. Use the following conditions as possible diagnoses:

- Herpes
- Trichomoniasis
- Candidiasis
- Condyloma acuminata
- Chlamydia
- Gonorrhea
- Syphilis
- Bacterial/gardnerella vaginosis
- Excoriation/trauma

Establish a differential diagnosis for a patient presenting with an apparent sexually transmitted disease. Use the following conditions as possible diagnoses:

- Herpes simplex virus (HSV), type II
- Condyloma acuminata
- Syphilis
- Gonorrhea
- Chlamydia

Establish a differential diagnosis for a patient presenting with rectal bleeding. Use the following conditions as possible diagnoses:

- External hemorrhoids
- Internal hemorrhoids
- Colon cancer
- Colitis (inflammatory bowel disease)
- Rectal trauma

### **MUSCULAR SKELETAL:**

Establish a differential diagnosis for a patient presenting with low back pain. List as possible diagnoses:

- Aneurysm (such as ruptured abdominal aortic)
- Osteoarthritis (noninflammatory arthritis)
- Trauma

Establish a differential diagnosis for a patient presenting with shoulder pain. Use the following list as possible diagnoses:

- Bursitis, including Subacromial bursitis
- Tendinitis, including Bicipital tendonitis
- Trauma

Establish a differential diagnosis for a patient presenting with shoulder pain. List as possible diagnoses:

- Humeral head fracture
- Clavicle fracture
- Rotator cuff impingement
- Rotator cuff tear
- Sternoclavicular joint injury
- Acromioclavicular joint injury (i.e., dislocation, subluxation, sprain)
- Glenohumeral joint injury (i.e., dislocation, subluxation, sprain)

### **UPPER EXTREMITIES:**

Establish a differential diagnosis for a patient presenting with elbow pain. List as possible diagnoses:

- Olecranon bursitis (including septic etiology)
- Lateral or medial epicondylitis
- Radial head fracture
- Dislocation
- Carpal tunnel syndrome

Establish a differential diagnosis for a patient presenting with wrist pain. List as possible diagnoses:

- Carpal tunnel syndrome
- Scaphoid fracture
- Radial/ulna fracture
- Tendinitis
- Degenerative joint disease/noninflammatory arthritis (also known by the misnomer 'osteoarthritis')

Establish a differential diagnosis for a patient presenting with a painful nail area. List as possible diagnoses:

- Paronychia
- Subungual hematoma

### **LOWER EXTREMITIES:**

Establish a differential diagnosis for a patient presenting with knee pain. List as possible diagnoses:

- Patellofemoral disorders (arthralgia and compression syndrome)
- Lateral or medial collateral ligament (LML or MCL) injuries (sprain tear, or avulsion), being sure to use application of varum and valgum stress, with knee at proper degree of flexion, as part of your examination
- Anterior or posterior cruciate ligament (ACL or PCL) Injuries (sprain, tear, or avulsion), being sure to use positive and negative drawers, absence/presence of posterior 'sag,' and Lachman's tests as part of your examination
- Lateral and medial meniscus injuries, being sure to use McMurray's Test as part of your examination
- Fractures (i.e., tibial plateau, condylar, avulsion type, etc.)

Establish a differential diagnosis for a patient presenting with ankle pain. List as possible diagnoses:

- Achilles tendon rupture
- Achilles tendinitis
- Achilles bursitis
- Calcaneal fracture
- Plantar fasciitis
- Deltoid ligament tear

## **PSYCHOLOGICAL CONDITIONS:**

Establish a differential diagnosis for a patient presenting with signs of acute depression, consider the following conditions:

- Adjustment disorder
- Major depression
- Suicidal ideation
- Substance abuse

## **WELLNESS**

State four life style changes that can decrease a person's risk for heart disease. Know how to perform a wellness/fitness assessment. Assess a patient's major heart disease risks.

Know the risk factors, self-exam techniques (where applicable), screening procedures and screening intervals for the following cancers:

- Breast
- Lung
- Colon
- Cervical
- Ovarian
- Prostate
- Testicle
- Skin

State seven health hazards statistically correlated with the chronic use of substances or products containing alcohol, caffeine, and tobacco.

State the criteria for determination of substance abuse and substance dependence.

Identify ten physical disorders that have been associated with poor stress management.

## **ADMINISTRATION**

Understand the vessel's medical record system:

- Open a health record (medical and dental)
- Terminate a health record (medical and dental)
- Perform an accuracy and completeness check of a health record (medical and dental)
- Complete all required entries in a medical record, including the medical history, physical examination, laboratory, allergies, and other sections
- Complete all required entries on an eyewear prescription form
- Prepare a Request for Medical Records

- Complete all of the required patient and practitioner information on a fitness for duty form. Know how to use the vessel's log of persons not fit for duty

Understand the medical/clinic departmental Standard Operating Procedures (SOPs) for the vessel.

Understand how to prepare and interpret any required health statistical reports.

Understand the vessel policies on patient confidentiality and storage of medical records.

Maintain a Standard Operating Procedure (SOP) Manual for the vessel's Medical Treatment Facility. Incorporate any quality assurance checklists.

Develop and evaluate the quality assurance (QA) program. Include the required committees, frequency of their meetings, documentation of minutes, action for identified "problems," monitoring and evaluation reports, including appropriate follow-up if indicated, currency with MLC or external accreditation, status of departmental SOPs, etc.

Review any personnel staffing guidelines for clinical care, and determine/assure compliance.

## PATIENT AFFAIRS

Understand the standards of practice and/or legal requirements regarding patient sensitivity (confidentiality, use of chaperones and gender sensitivity).

State the Decedent Affairs Officer's duties and the role of the Medical Department Representative in decedent affairs.

Complete an inpatient hospitalization report message.

Understand the process and procedures to refer a patient to a civilian medical provider. Be familiar with billing policies and procedures.

Understand Workman's Compensation Insurance and Benefits, and the roles and responsibilities of the health care provider.

Understand any job medical requirements – both for initial employment and continued fitness for duty. Understand any waiver policies and procedures.

Understand basic employer and/or union health insurance options available to the crew.

## SUPPLY AND FISCAL MANAGEMENT

Develop appropriate list of medical pharmaceutical and other supplies. Conduct and maintain an inventory of existing supplies. Know policies and procedures for ordering supplies.

Understand policies and procedures to follow in establishing and maintaining a Preventive Maintenance Program as it pertains to health care equipment.

Know how to prepare a health care equipment acquisition request form.

Understand the medical departmental budget, and know how to follow the budget and develop future budgets.

## BASIC INSTRUCTION

Provide instruction on the following aspects of oral hygiene:

- Plaque & calculus formation
- Periodontal disease
- Brushing techniques
- Flossing
- Dietary aspects

Be qualified to instruct personnel in:

- “Standard First Aid” in accordance with American Red Cross standards
- Cardiopulmonary resuscitation in accordance with current Red Cross or American Heart Association standards.
- Shock
- Burns
- Patient transport
- Amputations
- Abdominal evisceration
- Compound fracture
- Electrocutation
- Smoke inhalation
- Mass conflagration
- Prevention of sexually transmitted diseases
- Prevention of pregnancy (relative effectiveness of different methods including use of male and female condoms, foam, contraceptive sponges and methods requiring a medical prescription).
- Medical aspects of chemical, biological and radiological terrorism

## SAFETY AND ENVIRONMENTAL HEALTH

Perform a routine tuberculosis screening skin test, interpret and properly record the test results.

Conduct sanitation inspections and submit appropriate reports for the following:

- Food service facilities (galley, club)
- Berthing and living spaces
- Recreational areas

Test potable water for pH and halogen residual (free available chlorine(FAC)) or total bromine residual(TBR)) using the DPD (diethyl-p-phenylene) Test Kit and also for bacteriological contamination using Colilert or Membrane Filter Technique (e.g., Millipore).

Conduct a survey of a food service and living space for both cockroach and rodent infestations. Perform basic pest control using non-chemical methods Operate a heat stress meter in accordance with the manufacturer's operating instructions. Also state the percentage that each of the dry bulb, wet bulb, and globe temperature (WBGT) readings contribute to the final WBGT Index/reading (i.e., Wet Bulb is 70 percent of WBGT reading, etc.)

Prepare a computation of the work/rest cycle for personnel, based on the results of a Wet Bulb Globe Thermometer (WBGT) index.

Evaluate your clinic's infectious medical waste storage program for compliance with regulations.

Understand the key elements of the following Safety and Environmental Health Programs:

- Heat stress
- Hazard communication
- Water supply and wastewater
- Food service sanitation
- Hearing conservation
- Respiratory protection
- Occupational medical monitoring
- Personal protective equipment
- Alien migration interdiction operations
- Radiation Monitoring program

Monitor and evaluate the completion of sanitation inspections for the following:

- Food service facilities (galley, club)
- Berthing and living spaces
- Recreational areas

Prepare the following reports:

- Disease alert report
- Mishap report

Conduct an inspection of the vessel's potable water and sewage systems and complete the appropriate reports.

Conduct training on the following environmental health topics:

- Hearing conservation
- Heat stress
- Food service sanitation

Manage an environmental health program aboard the vessel to include the:

- Tuberculosis (TB) control program
- Occupational medical surveillance program
- Hazard communication
- Heat stress
- Emergency rescue of migrants or others
- Water supply & waste water management
- Respiratory protection program
- Blood borne pathogens

Evaluate the vessel's compliance with its Safety and Environmental Health Program in accordance the established Standard Operating Procedures (SOPs).