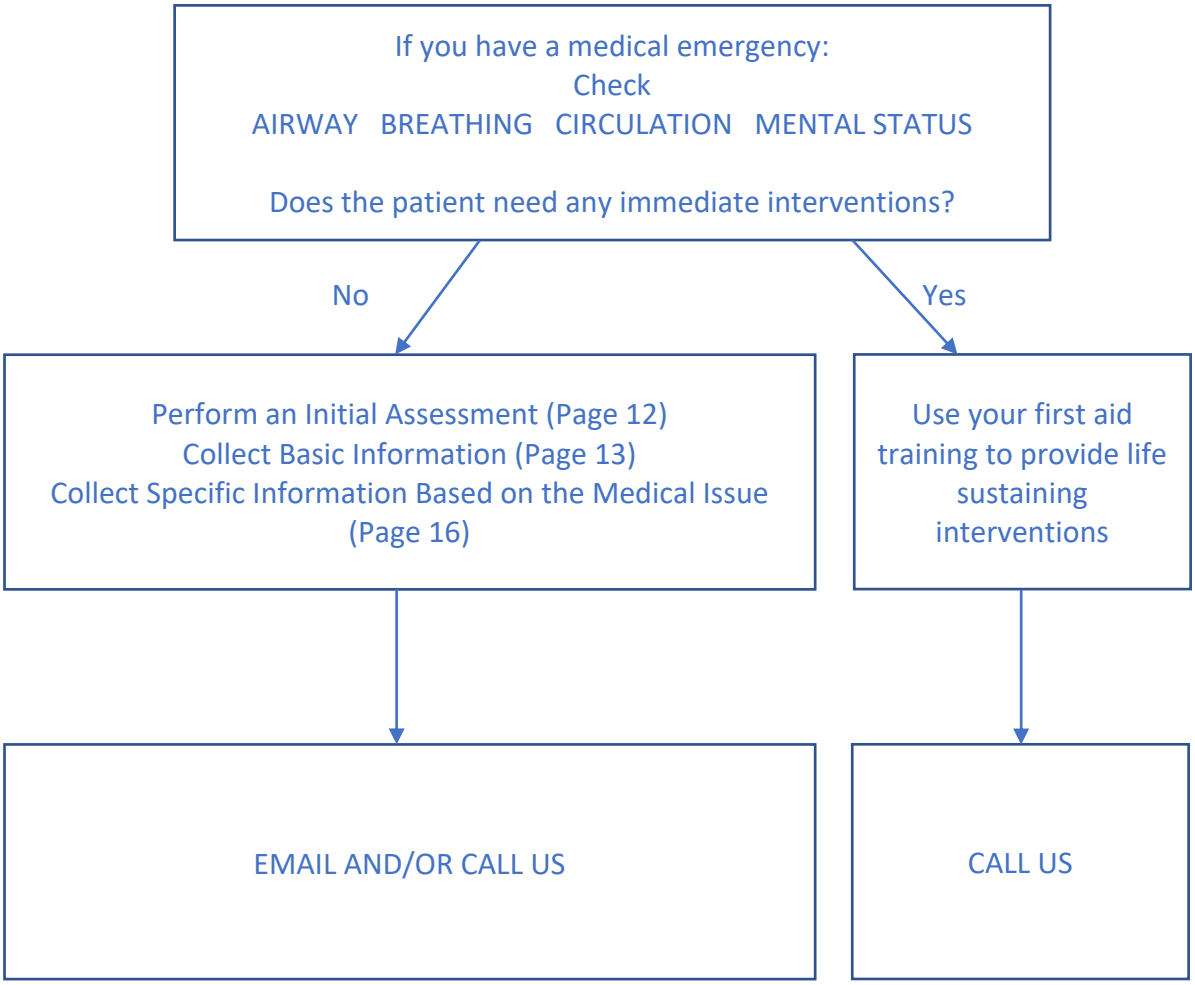
Communication and Medical Protocols Manual

DEPARTMENT OF EMERGENCY MEDICINE
THE GEORGE WASHINGTON UNIVERSITY

For Immediate Assistance Call 001-202-715-4219

Last Updated May 16, 2023

Quick Reference



For Shoreside Physician Assistance

Primary phone number: 001-202-715-4219

Backup phone number: 001-202-741-2936

Email: GWMMA@gwmaritime.com

Use your resources – delegate tasks (communication, patient care, equipment retrieval)

GW Maritime Medical Access Intake Form

Reason for Contact (Nature of Case):_____

Vessel Operations

Vessel Name:_____ **Approximate Vessel Location:**_____

Next Port:_____ **Date/Time Expected in Next Port:**_____

Master, Medical Officer, or Other Contact Person Aboard (Name):_____

Vessel Contact email:_____ **Vessel Contact Phone:**_____

Identification of Ill or Injured Person

Name:_____ **DOB:**_____ **Sex:**_____ **Gender:**_____

Date/Approximate Date Individual Joined the Vessel: _____

Date/Approximate Date Individual is Due to Sign-off the Vessel: _____

Medical History

List Known Medical Problems

List Past Surgical Procedures

List Current Medications Including Dose and Frequency Taken (e.g. Tylenol 650mg 4 times a day)
Include supplements, over-the-counter and prescription medicines and prescription medicines obtained without a prescription.

List Allergies (include allergies to medicines)

Other Contact Information

Personal email (optional):_____ **Personal Phone (optional):**_____

List Name, Phone Number, and Fax Number of Primary Care Physician, Dentist, and all Specialist Physicians

GW Maritime Medical Access

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Introduction

You or your company has contracted with The George Washington University Medical Faculty Associates to provide health advice through GW Maritime Medical Access (GW MMA). In the event of an illness or injury aboard a vessel, the Master or his designee is to contact GW Maritime Medical Access for instructions and guidance in delivering medical care.

Maritime Medical Access services are provided by the GW Medical Faculty Associates' Department of Emergency Medicine. All GW MMA physicians are board-certified Emergency Medicine physicians who continue to work clinically in GW Hospital's Emergency Department. They are well-versed on the logistics of treating patients on board while balancing the operational needs of the vessel. This manual is your guide to contacting GW MMA and communicating with GW MMA Physicians.

Please keep the following important points in mind:

1. GW MMA physicians are available to assist you 24 hours a day, 365 days a year.

2. Contact us early, contact us often – a minor medical issue should be treated before it turns into a major medical emergency. Contact us as soon as you have a question or concern.

3. The primary purpose of this manual is to guide you in rapidly collecting and sharing information with our physicians that will assist them to efficiently care for your ill or injured crew member.

4. This guide does not, by itself, represent health advice. Please do not perform any of the medical procedures described in this guide without direct instruction from our physicians.

5. Pre-plan: know your crew member's medical problems, know your medicine chest and medical equipment, know your on-board medical capabilities, and know how to communicate with us *before* you have a medical emergency at sea.

This guide is divided into three parts:

Section 1: Communication and Planning Protocols (Page 10) – This section describes how to contact us, how to collect basic medical information, and explains what we will want to know when you contact us. This section also describes important points about pre-planning for a medical emergency at sea.

Section 2: Assessment Protocols (Page 16) – This section is designed to assist you in collecting data likely to be requested by the Maritime Medical Access Physician for specific common medical issues. If you have time prior to contacting us, please collect this information. If you are initiating a case via email, please answer these questions in your initial email.

Section 2: Assessment Protocols (Page 77) – This section provides instructions for some of the examination and intervention procedures that you may have to perform at sea. Please do not perform any intervention (e.g. sutures, incision and drainage of abscess) without first contacting us and receiving specific instructions from a GW MMA physician.

Special Section: COVID-19

The COVID-19 pandemic has affected the maritime industry in many ways. COVID-19 can spread rapidly in the congregate environment aboard a ship. Mariners are particularly vulnerable if they become infected since they may be far from medical assistance. Consequently it is important to limit COVID-19 entry onto the ship, identify potential cases early, and take steps to limit COVID-19 spread. Vaccines are now widely available and recommended for all aboard. Tests are available and should be carried aboard, and there are emergency treatments that may be available to carry aboard.

At various times certain Countries have also limited entry due to local restrictions.

A detailed discussion on planning for COVID-19 is beyond the scope of this document, however a more detailed COVID-19 guidance document may be found on the GW MMA website:

https://gwdocs.com/specialties/emergency-medicine/maritime.

Section 1: Communication and Planning Protocols

How to Contact Us

You may initiate a case telephone, email, or telemedicine kit (if your vessel supports one of these kits)

Hour of operation: GW MMA physicians are available 24/7/365

Primary phone number:	001-202-715-4219
Backup phone number:	001-202-741-2936
Fax:	001-202-741-2214
Email:	GWMMA@gwmaritime.com

*Country code (001) may be omitted if calling from a US telephone.

Before Going Off-Shore (Pre-Planning)

It is critically important that all personnel aboard a ship be fit for sea and have a detailed understanding of their medical history and medical problems. Appropriate treatment of chronic medical conditions prior to going to sea and while at sea will help ship operators and mariners to avoid medical emergencies while offshore. All commercial crew members should have appropriate medical clearance and documentation prior to coming aboard, and all crew and guests on private vessels should be seen by their personal physician before coming aboard to be cleared for sea.

Crew Health

The Captain, Medical Officer, and any other relevant personnel should be aware of any chronic medical conditions, physical or mental limitations, medications taken, and allergies for all individuals on the vessel. We recommend that all personnel aboard carry a document with an overview of their medical history that is easily accessed when needed. At a minimum, this document should list:

1. Name
2. Date of Birth
3. Biological sex and gender if different than biological sex
4. Chronic medical conditions
5. Medications routinely taken including medication name, dose, schedule, and prescriber; over the counter medicines and supplements should be included
6. List of medication allergies and other allergies
7. List of prior surgical procedures
8. Name and contact information for primary care provider and any other physicians/providers routinely seen

All personnel aboard should also keep a copy of their electrocardiogram (ECG, or heart tracing) with this document.

Personal medications should be carried in quantities sufficient to last through any planned time at sea *plus* potential delays in returning to shore to obtain refills.

What to do when you have a medical emergency

In a situation that is immediately threatening to life, limb, sight, or function, please call as soon as you are able. Use your training to address life threatening injuries immediately (e.g. open the airway, begin rescue breaths or chest compressions if necessary, place pressure on hemorrhaging wounds). If you have the resources, you should designate one individual to communicate with us while others provide life-saving interventions.

However, if time permits, please perform an initial assessment and collect as much information about the case prior to contacting us.

Initial Assessment

1. Assure that scene is safe and maintain scene safety.
2. Don body substance isolation precautions (Universal Precautions).
3. Determine the nature of the illness or mechanism of injury.
4. Assess Airway, breathing, circulation. Correct critical issues.
5. Assess mental status (e.g. awake and alert, lethargic, responsive to pain, unresponsive, etc.).
6. Form a general impression of the patient. What do you think is going on? What are you concerned about?

Provide this information for all patients

When contacting us with a new case, always include the following (you may use the Intake Form located on page 3 of this document):

1. Vessel Name?
2. Approximate Location?
3. Next port?
4. Approximate time to next port?
5. Vessel Master/Medical Officer/Contact Person?
6. Vessel Contact information (we should have this on file but will want to confirm)?
7. Patient name?
8. Patient date of birth?
9. Patient biological sex and gender if different than biological sex?
10. Patient role on vessel?
11. When did the patient sign on to the vessel?
12. When is the patient due to sign-off the vessel?
13. Does the patient have any chronic medical conditions?
14. What medicines does the patient take on a regular basis?
15. Does the patient have any allergies to medications?
16. What surgical procedures has the patient had in the past?
17. Reason for contacting us (why have you initiated the case (e.g. fever, chest pain, eye injury, etc.)?
18. Full set of vital signs (temperature, pulse, blood pressure, blood oxygen saturation)?

Trauma Assessment

If a patient is injured, attempt to determine the mechanism of injury. If a patient cannot tell you what happened then ask bystanders. **If a patient is unconscious/unresponsive, begin to administer aid and contact GW MMA as soon as is practical.** Please use the appropriate assessment protocol (starting on page 16) to help guide your assessment of the trauma patient.

If there is a serious or significant mechanism of injury, assess airway, breathing, and circulation, and then complete a full body **RAPID TRAUMA ASSESSMENT** (do not skip genitals, buttocks, back, or other parts of the body). Inspect and palpate the body, systematically from head to toe, for:

1. Deformities
2. Contusions
3. Abrasions
4. Penetrations or punctures
5. Burns
6. Tenderness
7. Lacerations
8. Swelling

If there is no serious or significant mechanism of injury, perform a focused assessment of the injured area.

Medical Assessment

If a patient is responsive, please obtain the following information (SAMPLE). Please use the appropriate assessment protocol (starting on page 16) to help guide your assessment of the medical patient.

1. **S**igns and Symptoms – What symptoms is the patient reporting and what can you observe that lets you know they are ill?

2. **A**llergies – Does the patient have any allergies to medications? Any environmental allergies?

3. **M**edications – What medications does the patient take. Please include prescriptions (including birth control pills), supplements, illicit drugs, over-the-counter medications, etc.

4. **P**ast Pertinent History – Has the patient ever had this problem before? How was it treated? Do they have any chronic medical conditions? Have they had any past surgeries?

5. **L**ast Oral Intake – When and what did the patient last eat?

6. **E**vents leading to illness – How did the patient feel prior to becoming ill? What led to the illness?

If the patient has pain, use the OPQRST mnemonic to collect the following information:

1. **Onset** (When did the pain start? What was the patient doing when the pain started? Did The pain come on gradually or suddenly?)

2. **P**rovocation (does anything make the pain better or worse?)

3. **Q**uality (Describe the pain: shooting, stabbing, achy, throbbing, burning, etc.?)

4. **R**adiation (Does the pain radiate away from the site if primary pain, e.g. chest pain going to the arm, back pain going to the leg, etc.?)

5. **S**everity (Rate the severity of the pain from 0-10)

6. **T**ime (How has the pain changed over time? Is it better or worse?)

Section 2: Assessment Protocols

Use the following sections to guide your collection information. Answer the questions that are listed for the patient's medical problem. If none of the listed medical problems match the patient's issue, pick the one that is closest or contact us without collecting this information.

When contacting us with a new case, always include the following (you may use the Intake Form located on page 3 of this document):

19. Vessel Name?
20. Approximate Location?
21. Next port?
22. Approximate time to next port?
23. Vessel Master/Medical Officer/Contact Person?
24. Vessel Contact information (we should have this on file but will want to confirm)?
25. Patient name?
26. Patient date of birth?
27. Patient biological sex and gender if different than biological sex?
28. Patient role on vessel?
29. When did the patient sign on to the vessel?
30. When is the patient due to sign-off the vessel?
31. Does the patient have any chronic medical conditions?
32. What medicines does the patient take on a regular basis?
33. Does the patient have any allergies to medications?
34. What surgical procedures has the patient had in the past?
35. Reason for contacting us (why have you initiated the case (e.g. fever, chest pain, eye injury, etc.)?

Full set of vital signs (temperature, pulse, blood pressure, blood oxygen saturation)?

General

Fever

1. How long has the patient had a fever?
2. How high is the fever?
3. Has the patient taken and medicines to lower the fever and did the medicines work?
4. Does the fever come and go or is it constant?
5. Is the fever ever accompanied by shaking chills?
6. Does the patient have any of the following to suggest a source of the fever?
    a. Headaches
    b. Sore Throat/Sinus Pressure/Ear Pain/Tooth Pain
    c. Cough
    d. Nausea/Vomiting/Diarrhea
    e. Abdominal Pain
    f. Burning with urination
    g. Testicular pain/penile discharge/vaginal discharge
    h. Rashes
    i. Muscle Aches/Joint Aches?
7. Has the patient been using illegal drugs?
8. Has the patient been exposed to malaria in the past year?
9. Is the patient's skin yellow? Does the patient have a rash?
10. Does the patient have swollen glands?
11. Is the patient losing weight?

Fainting/Syncope/Lightheadedness

1. Were the symptoms transient, and if so, how long did they last?
2. Does the patient have any chest pain?
3. Is the patient short of breath?
4. Does the patient have a headache?
5. Does the patient have any numbness or tingling?
6. Does the patient have any Weakness?
7. Does the patient have any abdominal pain?
8. Was there any vomiting?
9. Was the patient working in the heat?
10. Was there anything that triggered these symptoms, such as rapidly standing?
11. Has the patient ever had these symptoms before?

Head and Neck

Eye Problems

1) Is the chief complaint eye pain, change in vision or both?
2) Which eye is affected or are both eyes affected?
3) Was there an injury that preceded the problem? Did anything get into the eye?
4) If the patient has decreased (or lost) vision:
    a. Was the change in vision transient?
    b. If so how long was the vision decreased (or lost).
5) Is there any blurry vision or double vision?
6) Is the eye red?
7) Is there any discharge from the eye?
8) Does the patient have a headache?
9) What is the patient's visual acuity (see Eye Exam on page 77)
10) Does the patient wear contact lenses or glasses? Does light bother the eye(s)?
11) If you shine a flashlight in the affected (good) eye, does that cause pain in the unaffected (bad) eye?

Ear Problems

1) Is one or both ears affected?
2) Does the patient have ear pain?
3) Does the patient have a sensation of fullness in the ear?
4) Does the patient have a cold or runny nose? Has the patient had these symptoms in the past two (2) weeks?
5) Is there any drainage from the ear?
6) Has there been any bleeding from the ear?
7) Has the patient experienced any episodes of dizziness?
8) Does it hurt the patient to gently tug on the earlobe?
9) Is the ear itself visibly red or swollen?
10) Has the patient's hearing changed?
11) Has the patient been using Q-tips or other such objects in their ears?
12) Has the patient been placing cotton in the ear for noise control? Does the patient use any headset or noise control device that fits in the ear?
13) Has the patient had a problem in the past with wax buildup in the ear?

Nose Problems

1) Is the patient complaining of a congested nose?
2) Is the patient experiencing bleeding from the nose? If yes, is the bleeding coming from one nostril or both? Is the bleeding primarily from the nostrils or is the complaint the blood is running into the throat?
3) Does the patient have a history of high blood pressure?
4) What is the patient's blood pressure?
5) Has the patient been having discharge from the nose? If yes, what color?
6) Does the patient have any facial pain?
7) Has the patient had any sinus problems in the past?
8) Is the patient's nose visibly swollen?

Tooth/Jaw Problems

1) Can the patient swallow and breathe normally?
2) Is the patient complaining of tooth pain? If yes, which tooth?
3) Has the patient lost a filling or crown?
4) Can you see an obvious cavity in the problem tooth?
5) Is the patient's face swollen?
6) Is the face or jaw tender to the touch near the area of the tooth?
7) Does the patient have a fever?
8) Can the patient close his mouth?
9) Is there pain when the patient bites his teeth together?
10) Is there pain near the hinge of the jaw, just in front of the ear?

*Regular oral care is important for everyone aboard. Individuals should be encouraged to brush teeth and gargle with mouthwash with twice a day and to floss once a day.

Throat/Swallowing Problems

1) Is the patient having any difficulty breathing?
2) Is the patient complaining of a sore throat?
3) Does the patient recall sudden pain while swallowing a large piece of food?
4) Does the patient have pain when he swallows?
5) Does the patient have a fever?
6) What do the patient's throat and tonsils look like? Are they swollen evenly on both sides or are they asymmetric?
7) Is the patient coughing?
8) Is the patient's voice hoarse?
9) Is the patient able to swallow liquids? Solids?
10) Does the patient have any swollen glands?
11) Can the patient comfortably move his/her neck?

Chest/Cardiac/Respiratory

Cough

1) How long has the patient been coughing?
2) Does the patient smoke?
3) Is the cough producing sputum? If yes, what color is the sputum? Has there been any blood in the sputum?
4) Does the patient have a fever?
5) Is the patient short of breath?
6) Does the patient have any pain in the chest?
7) Where is the pain?
8) Is there pain only with breathing or is the pain.

Difficulty Breathing

1) What is the patient's respiratory rate?
2) Starting from 1, how many numbers can the patient count in a single breath?
3) Does the patient have a fever?
4) Does the patient have a cough?
5) How far can the patient walk?
6) How many pillows does the patient use to sleep?
7) Is the patient wheezing?
8) Does the patient smoke?
9) Does the patient have a history of asthma or emphysema?
10) Has the patient been exposed to any fumes?
11) What is the patient's color? Are the lips and nails bluish or pink?
12) Does the patient have a history of any cardiac problems?
13) Has there been any trauma?
14) Did this come on suddenly or gradually?
15) Is there any leg pain or swelling?
16) Is the patient having chest pain? Describe it.

Chest Pain

1) How long has the patient had chest pain?
2) What are the patient's vital signs?
3) Has the patient had similar pains in the past?
4) Where is the pain located?
5) Is the pain present in other locations such as the jaw, arm or back?
6) Is the pain absent while the patient is at rest?
7) Does breathing make the pain worse? Does deep breathing make the pain worse?
8) Does the pain ever suddenly make the patient sweat or become nauseated?
9) Does the patient have a cough?
10) Does the patient have a history of cardiac problems?
11) What was the patient doing when the pain began?
12) Is the pain associated with shortness of breath?
13) Describe the pain - dull, achy, heavy, sharp.

Irregular Heartbeat (Palpitations)

1) What are the patient's vital signs?
2) Is the irregular rhythm present continuously, or does it come in episodes?
3) Is the patient complaining of weakness?
4) Is the heartbeat irregular, or regular but fast?
5) Is the patient short of breath?
6) Does the patient have chest pain?
7) Has the patient had an irregular heartbeat or other cardiac problems in the past?
8) Does the patient use any stimulants, diet pills, or cold medication?
9) Does the patient consume large amounts of caffeine containing beverages?
10) Has the patient used any illegal drugs, especially cocaine?
11) Does the patient take any medications? Please list them.

Gastrointestinal

Nausea or Vomiting

1) How long has the patient been ill?
2) How many times has the patient vomited? Over what period of time?
3) Does the patient have a fever?
4) Does the patient have any abdominal pain?
5) When was the patient's most recent bowel movement? Was it normal, loose? Was it very dark in color?
6) Is the patient vomiting any blood or material that looks like coffee grounds?
7) Does the patient have a history of ulcers or gastritis?
8) Is the patient jaundiced (yellow colored skin and eyes)?
9) Does the patient use alcohol?
10) Has the patient recently consumed food that was old or contained uncooked or rewarmed meat?
11) Is anyone else experiencing the same or similar symptoms?
12) Has anyone shared the same food or been in close contact with the patient?
13) What are the patient's vital signs?
14) Does the patient appear dehydrated?

Diarrhea

1) Is the stool watery or loose?
2) Is there any pus or blood in the diarrhea?
3) When did the diarrhea begin?
4) How many times a day is the patient experiencing diarrhea?
5) Is the patient experiencing abdominal cramping or pain?
6) Does the patient have a fever?
7) Has the patient ever had any abdominal surgery?
8) When was the patient's last normal bowel movement?
9) When and what did the patient eat most recently?
10) Is the patient nauseated?
11) Has the patient vomited?
12) Has the ship been in any areas where cholera is common or present?
13) Does the patient have any family history of Crohn's disease or ulcerative colitis?
14) Has the patient had similar symptoms in the past?
15) Is there anyone else on the ship with the same symptoms?

Jaundice

1) When did the jaundice first appear?
2) Does the patient feel otherwise healthy, or ill?
3) Has the patient experienced any fevers?
4) Is there any abdominal pain?
5) Is the patient nauseated, or has the patient vomited?
6) Has the patient had his gallbladder removed?
7) Does the patient use alcohol, or inject drugs?
8) Has the patient had hepatitis or other liver problems in the past?

Abdominal Pain

1) Where is the pain located?
2) Is it steady or intermittent?
3) Is it sharp, dull or crampy?
4) Has the patient had similar but less intense pains in the past?
5) Does food make the pain better or worse?
6) Is the patient nauseated, vomiting or experiencing diarrhea?
7) Does the patient have a fever?
8) Does the patient use alcohol?
9) Has the patient ever had abdominal surgery?
10) When was the patient's last bowel movement? Was it particularly hard stool or normal?
11) Does the patient have a history of constipation?
12) Does the pain travel into the groin, the testicles (male), or vagina (female)?
13) Is the pain felt in the back?
14) Has the patient had any problems urinating?
15) Has the patient ever had kidney stones?
16) Is it painful when the patient urinates?
17) Is there any blood in the patient's urine?

FOR FEMALES:
When was the patient's last menstrual period? Does she report any vaginal discharge?

Bleeding from the rectum or bloody stools

1) How much bleeding is occurring? Is there a small amount of blood coating the stool, or is the stool entirely bloody?
2) Is the bleeding continuous, or does it only occur during or after a bowel movement?
3) Is there pain in the abdomen?
4) Is the patient pale?
5) Does the patient become dizzy when standing?
6) Is there pain near the anus?
7) Has the patient had ulcers, gastritis or hemorrhoids in the past?
8) Has the patient recently been constipated? Has the patient recently passed any unusually hard stools?
9) Has there been any recent trauma to the anus/rectum?
10) How long has the patient been bleeding?
11) Has the patient had any surgery performed?

Constipation

1) When was the patient's last bowel movement? Was it normal or small?
2) Does the patient have abdominal pain?
3) Is the patient nauseated?
4) Is the abdomen swollen?
5) Is the patient passing gas?
6) Does the patient have a history of abdominal surgery, hemorrhoids or constipation?

Genitourinary

Painful Urination

1) How long has the patient been experiencing painful urination?
2) Is there pain as the urine flows, or only once the flow has stopped?
3) If the patient is female, when was the last menstrual cycle?
4) Does she report any vaginal discharge?
5) Is there blood in the urine?
6) If male, does the patient have any penile discharge?
7) Does the patient have fever, nausea or vomiting?
8) Does the patient have any back pain? If yes, where specifically?
9) Does the patient have a history of kidney stones?
10) Is the patient urinating more frequently than usual?
11) Has the patient had any previous urinary problems or urinary infections?

Penile Discharge

1) How long has the discharge been present?
2) What color is the discharge?
3) Does the patient experience pain while urinating?
4) Is there any pain in the testicles or abdomen?
5) Are the testicles swollen?
6) Are there any sores on the penis?
7) Does the patient give a history of gonorrhea, syphilis or herpes?

Pain in the Penis or Scrotum

1) Is the foreskin in proper position over the head of the penis? If not, can it easily be moved into normal position?
2) Is the patient able to urinate?
3) Is there pain with urination?
4) Is there any penile discharge?
5) Are the testicles painful? Is the pain centered in one testicle or both?
6) Does the patient have any abdominal pain?
7) Is the patient nauseated or vomiting?
8) Does the patient have any back pain?
9) Is the skin of the penis or scrotum red or tender?
10) Has the patient had sexual contact within the last two weeks?
11) Has the patient ever had a sexually transmitted disease such as syphilis or gonorrhea?
12) Is there any history of trauma to the groin area?
13) Is there any swelling of the scrotum?

Sores on the Penis

1) How long have the sores been present?
2) How many are there, what size are they?
3) Are the sores tender?
4) Is there any pus or discharge form the sores?
5) Does the patient give a history of ever experiencing this or a similar problem?
6) Does the patient give a history of gonorrhea, syphilis or herpes?
7) Is there pain with urination?
8) Are there swollen lymph nodes in the groin?
9) Does the patient have a fever?
10) Is there any discharge from the penis?
11) Does the patient have a history of unprotected sex? If so, when?

Inability to Urinate

1) How long has it been since the patient was able to urinate?
2) Is the patient in pain? If yes, how severe is the pain and where is it located?
3) Is the patient experiencing painful urination?
4) Has the patient experienced a decrease in the force of the urine stream over a period of time? Define the span of time.
5) Does the patient have a fever?
6) Is the patient nauseated or has the patient vomited?
7) Is there any pain in the rectum?
8) Does the patient have a history of surgical procedures?
9) Has there been any trauma to the area?
10) Has there been any blood in the urine?
11) Does the patient have a history of kidney stones?

FOR MALES:

12) Is there pain in the penis or testicles?
13) Is the penis swollen?
14) Is there a history of prostate problems?
15) Is the patient circumcised?

Vaginal Bleeding

1) When was the first day of the last menstrual period?
2) Has the patient missed any menstrual periods recently?
3) When did this bleeding start?
4) Is this bleeding at the expected time of the month?
5) How many pads has the patient used in the last 6 hours?
6) Has the patient had abnormal vaginal bleeding previously?
7) Does the patient have any abdominal or pelvic pain?
8) Does the patient use any oral contraceptive pills or other birth control methods?
9) When the was the last time the patient was sexually active?

Musculoskeletal

Neck Pain

1) When did the pain begin?
2) Did the pain awaken the patient from sleep?
3) Is the head turned to one side?
4) Where does the neck hurt? Are both sides painful?
5) Does the patient have a history of neck problems?
6) Does the patient have a fever?
7) Is the patient able to fully flex; extend and rotate the neck?
8) Does the patient have any pain or tingling in the arms or hands?
9) Does the patient have a headache?
10) Describe the onset of the neck pain.

Low Back Pain

1) Is the pain present at all times or only with movement?
2) Is the pain localized to one side or is it on both sides?
3) Is the patient able to walk normally?
4) Has the patient ever injured or strained his lower back?
5) Does the pain travel into the legs?
6) With the patient lying flat on his back can you raise each leg without pain?
7) Is the patient able to urinate without difficulty? Has the patient seen any blood in the urine?
8) Is the patient experiencing any numbness or weakness?

Arm, Leg, or Joint Pain or Swelling

1) When did the problem start?
2) Has it ever happened before, and if so, what was the diagnosis?
3) Which part of the arm or leg hurts, or what joint is affected?
4) Any fever?

Skin

Rash

1) Where is the rash located? Is it localized to particular areas or is it widespread?
2) If the rash is localized, where is it? Is it on the palms or soles? Is the rash located on the penis, waist area or face?
3) Are there any sores in the mouth?
4) Does the patient have a fever?
5) Does the rash hurt?
6) Does the rash itch?
7) What is the size of the individual lesion?
8) Are the lesions scattered or do they tend to run together into larger patches?
9) Are the lesions raised or flat?
10) Do they contain pus?
11) If you press the lesion does it turn white?
12) Has the patient suffered an insect bite?
13) Is there anyone else on board with a similar rash?
14) Describe the color of the rash (red, skin color, blue or purple).

Neurologic

Seizures or Tremors

1) Is the patient still seizing?
2) Has the patient ever had seizures in the past?
3) How many seizures has the patient had?
4) When did the seizures occur?
5) Did anyone witness the seizure?
6) How long did the seizure last?
7) Has the patient fully regained consciousness?
8) Did the patient suffer any significant trauma as a result of the seizure?
9) Does the patient take medication for seizures? If yes, has he been taking the mediation regularly as prescribed?
10) If the patient has had seizures in the past, has an evaluation been done by a neurologist and if so what were the findings?
11) Does the patient drink alcohol? If yes, how much and how often. When did the patient last consume alcohol?
12) Has there been any recent head trauma?
13) What is the patient's job?

Headache

1) When did the headache begin?
2) Was on the onset of the headache sudden or gradual? Did the headache wake the patient from sleep?
3) If the problem is recurring headaches, what time of the day do the headaches usually occur?
4) Where is the pain located? Is it limited to one side of the head or generalized over the entire head?
5) Is the pain throbbing or steady?
6) Is the patient nauseated or has the patient vomited?
7) Have there been any changes in the patient's vision?
8) Does light disturb the patient?
9) Has the patient's level of consciousness changed since the onset of the headache?
10) Does the patient have a fever?
11) Is the patient's neck stiff?
12) Has the patient had headaches in the past? If yes, has the patient ever been diagnosed as having migraine or cluster headaches?
13) Has the patient taken any medication for the headache? If yes, has the patient experienced any relief?
14) Is this the worst headache the patient has ever had?

Dizziness/Vertigo

1) Is the dizziness a feeling of lightheadedness or does the patient feel as through either he or his environment is moving or rotating?
2) Is the sensation constant or does it occur in episodes?
3) Is the patient made nauseated or sweaty by the dizziness?
4) Does movement cause or worsen the dizziness? Does standing up cause the sensation? Does moving the head cause the sensation?
5) Is the patient unsteady when walking?
6) Can the patient do finger-to-nose testing?
7) Has the patient experienced any hearing loss or ringing in the ears?
8) Does the patient have a jerking movement of the eyes?
9) Does the patient have a headache?
10) Has the patient taken any anti-seasickness medication? Did that help?
11) Does the patient have a fever?
12) Does the patient have an earache or nasal congestion?

Speech Problems

1) When did the problem begin?
2) Did the problem occur as a single episode? Has it persisted and progressed?
3) Does the patient slur his words or have difficulty choosing his words?
4) Does one side of the patients face seem to droop?
5) Is the patient able to tightly close both eyes?
6) Is the patient hoarse?
7) Does the patient have weakness on one side of the body? Is the weakness in both the arm and leg?
8) Does the patient have a headache?
9) Has the patient had a traumatic injury?
10) What are the patients' vital signs?

Paralysis

1) Which limbs are paralyzed?
2) Are the limbs completely paralyzed or can the patient move, even if a small amount?
3) Was the onset of paralysis sudden? Have the symptoms improved since they first began?
4) Is the patient experiencing any pain along with the paralysis?
5) Is there any numbness or tingling in the affected limbs?
6) Does one side of the face droop?
7) Is the patient able to grasp with both hands equally?
8) Is the patient having any problems speaking?
9) Does the patient have a headache?
10) Does the patient have any history of high blood pressure or heart attack?
11) Has the patient had a traumatic injury?
12) What are the patient's vital signs?

Change in Level of Consciousness

1) Is he breathing normally?
2) Did he complain of any symptoms of illness in the hours or days before the loss of consciousness?
3) Is there any evidence of trauma about the head or face?
4) Does the patient smell of alcohol or any other substance?
5) Is there any evidence of intravenous drug use? Was any drug paraphernalia found with the patient?
6) Is the patient talking at all? Can he answer questions?
7) Does the patient withdraw from a painful pinch?
8) Are the pupils equal in size?
9) Are the pupils large, small or mid-size? Do they react to light?
10) Does the patient have a history of diabetes?
11) Does the patient have a fever?

Psychiatric/Substance Use

Change in Mood or Behavior

1) Did the patient come to you seeking help or was his behavior brought to your attention?
2) Does the patient have a history of psychiatric problems?
3) What portion of the patient's behavior is abnormal?
4) Does the patient seem to take normal care with his dress and grooming? Has the patient's appearance become unusually sloppy?
5) Is the patient sleeping normally?
6) Have the patient's eating habits changed?
7) Is the patient oriented to his or her surroundings?
8) Is the patient expressing any bizarre thoughts or ideas?
9) Has the patient been considering suicide? (It is both important and reasonable to ask this directly. Patients who have been considering suicide will often answer you honestly, those who haven't will be impressed with your concern).
10) Does the patient have a plan for suicide?
11) Does the patient appear drowsy or intoxicated?
12) Does the patient take any medications?
13) Is the patient using any anti-seasickness medications?
14) Does the patient use any illicit drugs or alcohol?

Violent Behavior

1) When did the behavior begin?
2) Has the patient ever exhibited such behavior in the past?
3) Does the patient use any drugs or take any prescription medications?
4) Does the patient drink alcohol? Does the patient smell like alcohol? When did the patient last consume alcohol?
5) Does the patient's speech make sense?
6) Is the patient hearing or talking to voices?
7) Is the patient oriented?
8) Has the patient recently suffered any trauma?
9) Does the patient have a headache?

Drug Abuse

1) What drugs is the patient using? How often?
2) Has the patient been using drugs? If yes, for a long period of time or a short period of time?
3) Has the patient ever had hepatitis?
4) Does the patient have a fever?
5) Does the patient have tremors or is he shaking?
6) Does the patient use alcohol?
7) Does the patient appear depressed?
8) Has the patient discussed ideas of suicide?

Alcohol Abuse

1) How much and how frequently does the patient drink?
2) Is the patient drinking while on duty?
3) When did the patient last consume alcohol?
4) Is this a new problem or a long-standing problem?
5) Has the patient ever had seizures when he stops drinking?
6) Has the patient ever had delirium tremens (DT's)?
7) Has the patient been vomiting blood; experiencing abdominal pain or passing black stool(s)?
8) Is the patient jaundiced?

Toxic Exposure/Environmental Injuries

Chemical Exposure

1) When was the patient exposed?
2) What substances were involved? If unknown, are chemical identification numbers or formulae available?
3) What was the route of the exposure?
4) What personal protection devices was the patient wearing?
5) Was the patient wearing self-contained breathing apparatus?
6) Does the patient have a rash?
7) Is the patient short of breath?
8) Is the patient vomiting?
9) Were the eyes exposed? Were the genitals exposed?
10) What other symptoms is the patient experiencing?
11) What measures have been taken to decontaminate the patient? Is he isolated from other crewmembers?
12) Has anyone else been exposed?

Animal Bites/Stings

1) Is the injury a bite or a sting?
2) Was the animal identified?
3) If the injury was a bite, was it from an animal that is potentially rabid? Has the animal been retained for observation? Has the animal been vaccinated for rabies?
4) Is the wound deeper than the skin?
5) Where is the wound?
6) Is there crushed tissue in the wound?
7) Is the wound dirty or clean?
8) When was the patient's last tetanus shot?
9) Describe the appearance and location of the skin rash. is the rash painful? Is the rash burning or itching?
10) Is the skin swollen?
11) Does the patient feel otherwise ill?
12) What treatment has been administered thus far? Has it improved or worsened the pain?

Human Bite

1) Is the skin broken?
2) Is the affected area of the bite bruised or swollen?
3) Is the injury from a punch to someone else's mouth? If yes, was the skin broken? Is the examination of the hand otherwise normal?
4) When was the patient's last tetanus shot?
5) Was the person doing the biting known to have any communicable disease?

Burns

1) How did the burn occur? Chemical or thermal? Steam or open flame?
2) Describe the appearance of the skin. Has the patient lost skin? Are there blisters on the skin? Is the skin reddened?
3) Are any areas burned through the skin exposing fat or tissues beneath?
4) Carefully describe or estimate the size of the burned areas.
5) Was the patient exposed to any smoke or noxious fumes?
6) Is there any soot around the mouth or nose? Are the nose hairs burned?
7) Did the patient lose consciousness?
8) Did the fire occur in a closed space? If yes, what was burning?
9) Is the patient short of breath?
10) Is the patient's color normal?
11) Are the hands, face, feet or genitals burned?
12) When was the patient's last tetanus shot?
13) Does the patient have any serious medical conditions?

Electrical Shock

1) Locate and report the placement of entrance and exit wounds.
2) Did the patient lose consciousness?
3) If the patient fell, did he/she injury their neck?
4) Does the patient have full range of motion of all extremities?
5) Is there any continued burning?
6) Does the patient have any palpitations?

Trauma

Scalp

1) Did the patient suffer a loss of consciousness from the injury?
2) Does the patient complain of any neck pain?
3) Describe the size and shape of any scalp wounds.
4) Is the bone of the skull visible through the wound?
5) When palpating the skull with a gloved finger, does the bone seem depressed or irregular? Are there any sharp edges present?
6) If there is bleeding, is it controlled with direct pressure?
7) Does the wound extend to the forehead? Does the wound involve the external ear? If yes, for either how much of the forehead or ear is involved?
8) When you examine the ear, is there any blood behind the eardrum?
9) Does the patient have any bruising round the eyes giving the appearance of raccoon eyes? Is there bruising behind the ear?
10) What is the level of consciousness now?
11) Is the patient experiencing a headache, nausea or vomiting?

Face

1) Did the patient lose consciousness after being injured?
2) Is the patient complaining of any neck pain?
3) Is there bleeding from the nose? Is the shape of the nose distorted?
4) Is there any injury about the eye? If so, measure and report the exact size and location to any injuries about the eyes.
5) Is the patient's vision normal?
6) Are any teeth broken or missing? When the patient bites his teeth together, does the bite seem normal? Does the patient wear dentures?
7) Can the patient fully open and close the mouth?
8) Is the tongue lacerated and/or bleeding?
9) Are the lips lacerated? If yes, where? Do lacerations to the lips extend through to the inside of the mouth?
10) Look at the contour of the cheeks. Are both cheeks the same shape? Is one depressed or severely bruised?
11) If there are lacerations to the forehead, is the bone visible beneath? Can the patient fully raise both eyebrows?

Eyes

1) Is the patient's vision normal? Use either an eye chart or, if no chart is available, newsprint held at 6 inches from eyes to test the patient's vision.

2) Is the patient experiencing severe or minor pain in the eye?

3) Is there any laceration of the upper or lower lid?

4) Is there any blood coming from the eye?

5) Is there any blood in the white surface of the eyeball?

6) Is there any obvious laceration or rupture to the eyeball?

7) Can the patient move the eye in all the extremes of gaze: upward, downward, left and right?

8) Does the eye move the same amount as the opposite eye? In any of these directions, does the patient experience double vision?

9) Does the patient wear contact lenses? Are they still in place? When they were removed, were both lenses intact?

Ears

1) Is there laceration to the external ear? Is there any laceration that extends into the canal of the ear?
2) If the ear is lacerated, is there cartilage exposed? Is the shape of the ear distorted?
3) Does any laceration extend onto the scalp or face?
4) Is there blood or clear fluid coming from the ear?
5) Did the patient lose consciousness at the time of injury?
6) Is the patient complaining of neck pain?
7) Is the hearing normal from the injured ear?
8) Is the patient dizzy?
9) Is there any ringing in the injured ear?
10) Was the patient wearing a hearing aid at the time of injury?
11) Is there a foreign body in the patient's ear?

Nose

1) Is the patient having trouble breathing?
2) Is there bleeding from the nose? If no, was there any bleeding at the time of injury?
3) Is the shape of the nose normal or distorted?
4) Has the patient injured the nose at any time in the past?
5) Did the patient lose consciousness at the time of injury?
6) Is there any blood collected inside the nose? Is there any blood collected along the septum of the nose?
7) Can the patient breath through each nostril with the opposite nostril occluded?
8) If there is a laceration over the bridge of the nose, is there any air passing from the laceration as the patient breathes?

Mouth/Jaw

1) Is there any problem with the patient's airway or breathing?
2) Did the patient lose consciousness after the injury? Does the patient complain of any neck pain?
3) Are there any broken teeth? Are there any loose teeth? If yes, where?
4) Can the patient fully open their mouth?
5) When the patient bites down, do the teeth come together normally?
6) Is there any pain in front of the ear?
7) Is the tongue lacerated or bleeding?
8) Is there any laceration of the lips? Does this laceration extend through to the inside of the mouth?
9) Is there any bleeding from the nose?

Neck

1) Is the patient having problems breathing?
2) How did the injury occur?
3) Did the patient lose consciousness at the time of injury?
4) Are there any bruises or lacerations to the head or face?
5) What portion of the neck is painful?
6) Was the patient's head immobilized immediately after the injury?
7) Are there any other major injuries?
8) Is the patient experiencing any numbness or tingling in the arms or legs?
9) Is the patient able to move both feet and both hands?

Chest

1) Does the patient have any other injuries?
2) Is the patient breathing normally?
3) What is the patient's respiratory rate?
4) Is the patient wheezing or coughing? Is any blood produced by the cough?
5) Does any of the patient's chest wall move abnormally when he breathes?
6) Is there any air under the skin of the chest or neck?
7) If there was penetration of the chest by sharp or projectile object, exactly where did the penetration occur? Can you determine how deep the object penetrated? Is the object still imbedded in the chest wall?

Abdomen

1) Where did the blow strike the abdomen?
2) If this is a penetrating injury, exactly where did it penetrate the abdomen? Is there any tissue protruding from the wound? Is there any bleeding from the wound?
3) Where is the patient complaining of pain?
4) Is the abdomen soft or hard?
5) Is the abdomen tender? Where?
6) Is there any tenderness of the lower ribs? Do any ribs appear to be broken?
7) Is there any blood seen during the rectal exam?
8) Is the patient nauseated or vomiting?
9) Is there pain with deep breathing? Where? Is there any pain in either shoulder?

Back

To define upper back - As you look at a patient's back with arms down by their side - the upper back is the portion above the elbows.

Upper Back

1) Are there any lacerations on the back? If yes, is there any exposed bone?
2) Is there any pain in the neck?
3) Is the patient having any difficulty breathing?
4) Did the injury penetrate the thickness of the back?
5) Is there bleeding from the wound?
6) Is the patient able to raise both arms above the head? Is there pain associated with this maneuver?
7) Is the patient experiencing any numbness or tingling over the back, chest or abdomen?

Lower Back

1) Did the injury result from a fall, or a strain while lifting?
2) Has the patient injured his back in the past?
3) Where in the back is the patient experiencing the pain?
4) Is the patient in good or poor physical condition? Is the patient overweight?
5) Is the patient in pain while at rest?
6) Does the patient walk normally? Are you able to observe that he was injured from watching him walk?
7) Is there pain traveling into the legs?
8) Does the patient have normal strength in extending and flexing the knee? In extending and flexing the foot?
9) Does the patient complain of any numbness or tingling in the feet or legs?
10) With the patient lying flat on his back - can you raise each leg greater than 45 degrees without causing pain? If this does elicit pain, does it cause pain localized to the back or traveling down the legs?

Pelvis

Penis/Testicles

1) Is there any laceration of the skin? Describe the exact location of the laceration(s).
2) Is the patient able to urinate? Is urination painful?
3) Is there visible blood in the urine?
4) Is the scrotum swollen?
5) Is the scrotum discolored?
6) Is the scrotum tender?
7) Is the patient experiencing any pain in the back?
8) Is the patient nauseated, or has he vomited?
9) Is the patient circumcised?

Vagina

1) Are there lacerations near or in the vagina? Are they bleeding?
2) Is the patient able to urinate?
3) Is urination painful? Is there any blood visible in the urine?
4) Are the labia swollen?
5) Is there any injury in the region of the anus?
6) When was first day of the last menstrual period?

Anus/Buttocks

1) How did the injury occur?
2) Has the patient had a bowel movement since the injury? Was this painful?
3) Is there any bleeding from the wounds?
4) Do any wounds appear to extend higher up in the anus to the rectum?
5) Is there any bleeding from the rectum?
6) Is there any bruising of the buttocks?
7) Is the patient nauseated or vomiting?
8) Is the patient able to walk normally?
9) Are the pulses present in both feet?
10) Is there cramping of the buttock muscles?
11) Is there any tingling, numbness or weakness of the legs?
12) Is there any obvious bruising of the buttocks?
13) Has the patient had a bowel movement since the injury? Was this painful?
14) Is the patient able to fully move the hip(s)? Does this movement cause pain?

Arm

Shoulder

1) Where is the pain?
2) Is there any obvious fracture, swelling or discoloration?
3) Can the patient raise the straightened arm above the head?
4) Can the patient extend the wrist? the fingers?
5) Is there any numbness or tingling in the hand or fingers? If yes, which fingers?
6) Is grip strength normal?
7) Can you feel a fracture of the clavicle?
8) As you look at the patient from the front, does one shoulder droop?
9) Has the patient ever dislocated the shoulder?

Elbow/Forearm

1) Is the arm obviously fractured?
2) Is there any obvious swelling or discoloration? If yes, where?
3) Is the pulse in the wrist normal?
4) Is there any numbness or tingling about the hand?
5) Can the patient fully move the elbow?
6) Can the patient perform the motion of turning a screwdriver?
7) Can the patient fully flex and extend the wrist?
8) Is grip strength normal?
9) Can the patient flex the biceps against resistance?

Wrist/Hand/Fingers

1) Were any fingers amputated?
2) Was the injury a crush injury?
3) Are there any lacerations of the hand or fingers? Does any tissue protrude from the laceration?
4) Are there any obvious fractures? Where?
5) Is there any swelling or discoloration? If yes, where?
6) Is the pulse at the wrist normal?
7) Can the patient fully extend and flex the wrist?
8) Is any portion of the wrist tender?
9) Is the grip strength normal?
10) Does the patient have a normal sense of touch in each finger?
11) Can the patient touch each finger to the thumb?
12) Can the patient fully flex and extend each joint of each finger? (TEST EACH SEPARATELY AND CAREFULLY!!)

Leg

Thigh

1) Is the patient able to walk normally?
2) Is the patient able to move the hip through all ranges of motion? Does this cause pain?
3) Is one leg markedly shorter than the other?
4) Is there bruising over the hip?
5) Is the patient able to extend the knee? Is this painful? Is strength normal during extension of the knee?
6) Is there any numbness or tingling in the foot or leg?
7) Is there any pain in the back?
8) Are pulses present in the ankle and foot?
9) Is there any noticeable swelling in the thigh?

Knee

1) Has the patient previously injured the knee?
2) Is the knee swollen? Discolored?
3) Where is the knee tender? The inner aspect? The outer aspect?
4) Is the back of the knee tender?
5) Is the calf tender?
6) Are there any lacerations on the knee?
7) Is the patient able to walk normally?
8) Can the patient bear weight on the leg? Full weight, or limited?
9) Is there any tingling or numbness in the foot?
10) Can the patient extend the knee? Is strength normal during this maneuver?
11) Can the patient flex the knee or is it locked?

Ankle/Foot

1) Where is the ankle or foot tender?
2) Is there any swelling? Any discoloration? Where is it located?
3) Can the patient walk normally?
4) Is there pain in the ankle, the foot or both?
5) Is the joint obviously fractured?
6) Is there a normal pulse in the foot?
7) Is the Achilles tendon tender?

Section 3: Procedures

Assessment

Eye Exam

1. Check visual acuity – if the patient wears glasses this should be done with his or her glasses on. However, do not put contact lenses in to do this.

    a. **If you have a standard vision chart** (Snellen chart), have the patient stand 20 feet from the chart, cover the left eye and read the chart from top to bottom with the right eye. Read the number (like 20/100, 20/30, etc.) next to the smallest line the patient can read. Then have the patient cover the right eye and repeat the procedure while reading with the left eye. Then have the patient read the chart with both eyes.

    Right Eye (20/____) Left Eye: (20/____) Both Eyes (20/___)

    b. **If you don't have a vision chart**, hold any text in front of the patient with the injured eye covered and record the longest distance from which the patient can read the with the good eye. Then cover the good eye and have the patient read the text with the injured eye. If he or she cannot read the text, then have the patient move closer to the text and record the distance at which he or she can read the text with the inured eye.

2. Inspect the eyes.

    a. Is there any redness or swelling of the eyelids or around the eyes?

    b. Are there any bumps or spots on the eyelid?

    c. Are there any scrapes or scratches on the surface of the eye?

    d. Is the white part of the eye red or irritated?

    e. Can you see any objects stuck in the eye?

    f. Is the clear surface over the front of the eye (cornea) clear or cloudy?

    g. Is there any debris layering in the front of the eye?

3. Can the patient look up, down, right and left without pain in both eyes?

4. Check the pupils.

    a. Shine a light in the right eye and see if the right pupil gets smaller.

b. Shine a light in the right eye and see if the left pupil gets smaller.

c. Shine a light in the left eye and see if the left pupil gets smaller.

d. Shine a light in the left eye and seen if the right pupil gets smaller.

5. Flip the upper eyelid up and pull the lower eyelid down.

    a. Is there anything stuck under either eyelid?

    b. Are there any bumps or spots under the eyelid?

Fluorescein Exam

The purpose of this exam is to see if there are any scratches on the surface of the eye. Fluorescein is a dye that goes in the eye that glows under a black light. If there is a scrape or scratch on the surface of the eye it will glow under the blacklight. You need a fluorescein strip and black light to do this exam. If you don't have a blacklight, you may forego this exam. The fluorescein may also stain clothes.

1. Open the fluorescein strip.
2. Pull the patient's lower eyelid down and gently touch the strip to the red part of the inside of the eyelid (the palpebral conjunctiva)
3. Moisten the strip with sterile water or an eye anesthetic such as proparacaine or tetracaine eye drops (verify the patient has no drug allergies first) and let the dye run off the strip into the patient's lower eyelid.
4. Have the patient blink several times to distribute the dye.
5. Look at the eye in a darkened room using a black light.
6. Take well focused pictures of the eye without a flash to send for evaluation.

Intervention

Sutures

DO NOT PERFORM THIS PROCEDURE UNLESS A GW MMA PHYSICIAN HAS SPECIFICALLY INSTRUCTED YOU DO SO, AND DISCUSSED THE DETAILS OF THE APPROACH FOR THE SPECIFIC LACERATION YOU ARE TREATING. REMEMBER, YOU ARE PUTTING A NEEDLE INTO A PATIENT AND CAN CAUSE HARM IF YOU ARE NOT PREPARED.

1. Equipment Needed
    a. 5 cc syringe
    b. Lidocaine (numbing medicine) - 1% or 2% solution
    c. Large needle to easily draw up lidocaine (18 gauge is fine)
    d. Fine needle to inject lidocaine (25 gauge is fine, 1 to 1 1/2 inch long if possible)
    e. Alcohol swabs
    f. Sterile gloves
    g. Suture kit with needle-driver (clamp), scissors, forceps (tweezers) and sterile paper towels
    h. Suture material
    i. Betadine (disinfectant) and many sterile 4x4 gauze pads
    j. Bright light
    k. Bacitracin ointment
    l. Sterile saline for irrigation, with a large syringe (60 cc is ideal)
2. Anesthesia - numb the wound:
    a. Attach large needle to syringe.
    b. Draw 5 mL of lidocaine into the syringe (if rubber stopper to lidocaine vial, inject a few ccs of air to get medicine out; if glass ampoule, wrap it in gauze and snap glass top off ampoule, then draw up medicine with a filter needle)
    c. Switch to the finer 25 gauge or so needle.

d. Clean edges of wound with alcohol pad

e. Stick needle into one end of the cut edge and direct it along the edge all the way to the other end (this may take a couple sticks to work it if the cut is longer than your needle length).

f. Once needle is inserted to the hub, pull back on the syringe to make sure you are not in a blood vessel - if you get red, reposition the needle tip and try again. Once you are sure that you are not in a blood vessel, SLOWLY inject medicine into the tissue as you withdraw the needle.

g. Repeat with the other side of the laceration.

h. Wait 5 minutes to see how things go - assess by lightly touching with your lidocaine needle along where you will be placing sutures - if still sensitive, inject a little more lidocaine into that area. (If you need more than 3-5 ccs lidocaine to numb the wound, discuss with a GW MMA physician)

3. Prepping- Prep your kit:

   a. When numb, open up the suture kit and fold the paper wrapper flat.

   b. Peel apart the plastic envelope holding the suture material and let it drop onto this sterile suture kit.

   c. Peel apart the wrapper of several sterile 4x4 gauze bandages to let them drop into a sterile stack on your sterile suture kit.

   d. Pour a little bit of betadine onto this gauze stack.

4. Prepping - clean the wound:

   a. Draw up 60 cc of sterile saline into syringe - if you have a commercial "splashguard" to prevent splash back, use this - if not, attach the catheter from an 18-gauge IV set and use this to direct the saline into the wound, being careful to protect yourself from spray

   b. Use about 5 syringes full to clean out the wound (if you don't have a syringe you can just pour a copious amount of water into the wound.

   c. Finish by cleansing the area with betadine-soaked gauze.

5. Closing the wound:

   a. Put on sterile gloves.

   b. Cover the laceration with the sterile paper with the hole in the middle of it, so that only the laceration shows.

c. Take the needle driver (clamp) and use it to close on the suture needle about 2/3 of the way back from the point, and pull the suture out of the packet.

d. Starting at one end of the wound place a stitch every 1/2 cm or 1/4 inch. You should be able to get a decent "bite" of tissue to bring this together. Less may be more – you don't have to put the sutures too close together.

e. pass the needle through one side of the wound using a twisting motion of the wrist, then reposition the needle in the needle driver, then pass the needle through the other side of the wound. Don't try to get both sides of the wound in one pass.

f. Tie your knot:

    i. let go of the needle for a second and put the needle driver along the wound, between the two ends of the suture.

    ii. Take the long end of suture (the side with the needle on it) and wrap it around the needle driver 2 times.

    iii. Then open the clamp and grab the free tail and clamp down.

    iv. Pull the long end and the short end (in the needle driver) until the first layer of the knot is snug and the wound has pulled together nicely.

    v. After this, let go of suture with needle driver and place it along the wound again. Take the long end of the suture and wrap it around the needle driver ONE time this time, then grab short end and pull 2nd layer knot tight. Repeat this knot for a total of 6 layers,

    vi. Cut the long side of the suture about 2 finger-breadths away from the skin.

g. Continue to suture:

    i. Replace the needle in the needle driver.

    ii. Continue to suture as above, placing sutures every 0.5 cm until the wound is closed. Then take a picture for us, and cover with bacitracin ointment

Abscess Incision and Drainage

An abscess is a collection of pus, often occurring in the skin, that can be thought of like a large, infected pimple. The treatment for an abscess is to open it (incision) and drain it (drainage) of the pus. Sometimes an abscess will open on its own. Sometimes GW MMA physicians may recommend hot compresses and observation to allow an abscess to open on its own. Sometimes the abscess will have to be opened with a needle or scalpel. This section describes basic Incision and Drainage technique. This may be modified depending on the nature of the abscess and the site on the body.

What you will need:

1. Syringe to inject lidocaine (5cc or 10cc)
2. Lidocaine (numbing medicine) - 1% or 2% solution
3. Large needle to draw up lidocaine (18 gauge)
4. Fine needle to inject lidocaine (25 gauge is fine, 1 to 1 1/2 inch long if possible)
5. Alcohol swabs, Chlorhexadine, or Betadine for skin cleaning
6. Gloves
7. Incision and drainage kit or scalpel with #11 blade or similar. If you do not have a kit:
    a. Scalpel (#11 blade or similar)
    b. STERILE forceps or tweezers
8. 4x4 gauze pads or similar
9. Bright light
10. Sterile saline for irrigation
11. Sterile wound packing material, such as iodoform gauze, through packing may be optional
12. Underpad to catch drainage
13. Medical Tape or Kerlix gauze to wrap

Read this First: Incision and drainage is a clean procedure. Keep your work area as clean as possible. An abscess is filled with pus that can be released under pressure when the abscess is opened. The person performing the procedure should wear a mask and goggles or a face shield and gloves at a minimum. A gown or clothes that can easily laundered are recommended.

Procedure Steps:

DO NOT PERFORM THIS PROCEDURE UNLESS A GW MMA PHYSICIAN HAS SPECIFICALLY INSTRUCTED YOU DO SO, AND DISCUSSED THE DETAILS OF THE APPROACH FOR THE SPECIFIC

ABSCESS YOU ARE TREATING. REMEMBER, YOU ARE CUTTING INTO A PATIENT AND CAN CAUSE HARM IF YOU ARE NOT PREPARED.

1. **Skin cleaning.** Cleanse the abscess and the area around the abscess. You may use alcohol wipes, betadine, or chlorhexidine. Make sure to ask if the patient has allergies to any of these if you will use them. This is a *clean procedure*. You want everything to be clean, but you do not have to perform a formal surgical prep. Make sure the cleanser is dry before moving to the next step.
2. **Anesthesia.** Draw up 5-10 cc of 1% lidocaine using the large needle. Switch to the smaller needle. In a series of injections, place a "ring" of anesthesia around the bump and then over the center. The bevel of the needle should face up. Insert the needle just under the skin and inject a small amount of lidocaine. The skin might rise up. This is called raising a wheel. Then advance the needle across the skin, and just under the skin. Pull back on the syringe plunger before you inject – if you get blood back you are in a blood vessel. Pull the needle back and then pull back on the plunger again until you don't get blood back. If you don't get blood back, then withdraw the needle as you inject. A few CCs of lidocaine should be enough for the whole abscess. If you need more than 3-5 ccs of lidocaine, please discuss this with the physician. Remember you are numbing the skin. Do not push the needle deep.
4. **Make the incision.** Use an #11 blade or similar. The most common mistake made when incising an abscess is not to make the incision big enough. The incision needs to be long enough and deep enough to allow access to the abscess cavity. Typically, you would make an incision run the same direction as the skin creases to minimize scarring, though running across the skin creases may help the abscess to remain open. Make a single cut with a stabbing motion directly into the skin over the white part of the abscess or where you feel fluid, and then cut (don't saw) to open the abscess cavity enough for the abscess to drain. This may be from one end of the white portion of the abscess to the other. Go just deep enough to allow the pus to drain. Do not cut any deeper than you feel comfortable cutting.
6. **Squeeze out the pus.** Use your gloved hands and some sterile gauze to push on the area and drain the pus.
7. **Explore the abscess cavity.** This is done with a sterile pair of tweezers or forceps. There are several reasons to do this. The first is to see how deep the abscess goes. Some abscesses are like icebergs—what you see at the surface is only a small portion of the whole abscess. Some can run quite deep. You should find the full extent of the abscess cavity, however don't stab through the back of it. Second, many abscesses have multiple chambers and your incision may have only drained one. By exploring the cavity, you will break any remaining abscess walls and make sure the entire abscess has drained. Finally, many abscesses have thick, adherent pus stuck to the walls that does not drain easily. By rubbing the inner walls of the abscess, you will loosen that thick pus and get it out. A curved mosquito forceps with some gauze at the tip works well in those cases.
8. **Irrigate the interior of the abscess with saline.** This is done to make sure that we have all of the pus out. Use a large syringe filled with sterile saline to gently squirt saline into the

abscess through the incision you have created. When the saline draining out of the abscess is clear, the abscess cavity is clean.

9. **Insert a pack**. (This step is optional and will be discussed with you prior to the procedure.) Packing may be recommended for larger abscesses or in cases where the skin incision is easily collapsible and will close over. *The purpose of the packing is to keep the incision open so pus does not reaccumulate. The purpose is not to fill the abscess cavity with packing.* The packing does not aid healing. You only need to place enough packing in the cavity to keep the end (wick) of the packing in place. The end should stick out through the incision several centimeters and should be taped down to the skin. Placing too much packing in the cavity can place pressure on the inside of the abscess and impeded healing or cause tissue death. Abscess packing material is a foreign body and, if used, is typically only left in place for 24-48 hours. Whether or not packing is used, the abscess should be check frequently in the days after the procedure to ensure that pus is not reaccumulating.
10. **Place a dressing.** During the first 24 hours after an I&D the abscess will continue to weep, so it should be covered with an absorbent dressing to prevent the wound from weeping on clothes or bedding.
11. **Leave the abscess open**. After this, patients can shower and let the water wash the area of the abscess. Over the next week or two, the abscess will heal in from the inside out.
12. **Remove the packing**. If a packing was placed, it should be changed/removed at the direction of GW MMA physicians. If you are offshore and lose contact with GW MMA, do not leave the packing in for more than 48 hours.
13. **Antibiotics** are not always indicated, but if they are make sure that they are taken. GW MMA will make recommendations for specific antibiotics if considered necessary.

Foley Catheter Insertion

A foley catheter is a tube that is placed in the bladder through the urethra to drain urine out of the bladder if the patient cannot urinate. MMA doctors will assess whether a foley catheter is needed and this procedure should not be attempted without the guidance of an MMA physician.

General Guidelines:

1. Catheter insertion should be done under sterile conditions to prevent a urinary tract infection.
2. During the procedure, you will have a "sterile hand" in a sterile glove used to manipulate the equipment and a "non-sterile hand" used to manipulate the patient; usually the sterile hand should be your dominant hand and the nonsterile hand should be your nondominant hand.
3. Plan how you will do each step of the procedure before you start so you don't stumble part way through.
4. The catheter that will be in the patient should not touch anything that is not sterile throughout the entire procedure.
5. Read through entire procedure below to become familiar with it before attempting.
6. If at any time questions arise on how to perform the insertion or there are any complications please stop and call GWU MMA.

What you will need:

1. Private room
2. Catheter kit, which will contain the catheter and all equipment needed to insert the catheter, including a syringe with sterile lubricant and a syringe with sterile water. **The catheter will have a tapered end with a balloon that goes through the urethra. After the catheter is in the bladder the balloon will be inflated with sterile water to hold the catheter in place. The external end of the catheter will have a central port through which urine will drain, and a smaller side port onto which a syringe can be attached that will be used to fill the balloon.**
3. Hand washing equipment
4. Mask and hair net if available
5. An extra set of sterile gloves

6. Possibly an assistant if desired by you and patient

Procedure:

1. Ensure there is no reason to NOT put the catheter in, such as recent surgery on the prostate or external genitals. GW will discuss these contraindications with you.

2. Explain procedure to patient.

3. Put on mask/hair net.

4. Position the patient. The patient should be lying flat. If the patient is female, have the patient bend at the hips and knees, place heels close together, and let knees fall outward.

5. Position yourself on the side of the patient that will have your non-dominant hand closer to the patient's head.

6. Put your equipment on a flat surface.

7. Wash hands.

8. -Open the catheter tray in a sterile manner:

    a. Carefully fold open each corner of the packaging. The outside of the tray is not sterile however the inside of the tray is sterile.

9. Using sterile gloves from an outside package (or the ones included in the kit) prepare the equipment in the tray; **throughout this step, your sterile gloved hands should only touch sterile things from in the kit. If you need something and don't have it, ask your assistant to get it.**

    a. Empty the sterile lubricant into one of the empty troughs of the catheter tray (it is usually in a syringe in the tray but may be in a labeled packet); coat the end of the catheter that goes into the patient in the lubricant.

    b. Prepare the sterilization liquid (this varies by tray, but is usually brown betadine/iodine or chlorhexidine swabs in a silver package. Open this carefully so as not to not tear your gloves and have the stick ends of the swab easily available to grab with one hand).

c. If the urine collection bag comes in the tray, it is sterile and you can attach it to the catheter with your sterile gloves.

d. Prepare the correct volume of solution (sterile water) in a syringe to put in the retention balloon later—this will be labeled on the balloon port of the catheter. This syringe can be attached to the catheter.

e. Lubricate the tip of the catheter liberally by placing it in the lubricant that you placed on the tray.

f. Carefully set up the drape with a hole in it on the patient so that only the penis comes through the hole (male) or labia are visible (female).

10. If the patient is male:

    a. Using the hand closer to the head (**which will now be your "nonsterile hand" and should never touch any of the catheter supplies again**) grab the penis behind the glans (head/tip) and retract the foreskin if present—**do not use your sterile hand in any way to help.**

    b. Using the sterile hand only grab one sterilization swab (betadine or chlorhexidine) and, starting at the urethra (opening where urine comes out), go in a circular pattern around the glans (head/tip of the penis) spiraling the swab outward so that you don't go over the same spot twice until the entire glans and far end of the shaft is cleaned. Repeat this with each swab from the kit (usually three total)

11. If the patient is female:

    a. Using the hand closer to the head (**which will now be your "nonsterile hand" and should never touch any of the catheter supplies again**) spread the labia major and labia minora so you can see the urethra, which will be in front of the opening of the vagina — **do not use your sterile hand in any way to help.**

    b. Using the sterile hand only grab one sterilization swab (betadine or chlorhexidine) and, starting at the urethra (opening where urine comes out), go from front to back, cleaning first the center and then to the right and left of the urethra.

12. Allow the solution to dry.

13. If available, you can inject some sterile numbing gel (lidocaine) into the urethra at this point. Once injected from its syringe hold the urethral shut so the numbing gel can sit and work for a minute or two.

14.

15. While holding the penis using only the nonsterile hand at approximately 90 degrees away from the body (male) or holding the labia apart (female), take the catheter covered in lubricant in only the sterile hand and feed the tapered end of the catheter into the urethra.

    a. This will be uncomfortable for the patient; make sure the catheter is adequately covered in lubricant.

    b. If inserting in a male, when the catheter is inserted approximately the length of the penis, slight resistance might be felt when it reaches the level of the prostate. **GENTLE** pressure may be required to get through this junction. Gently moving the penis up and down slightly with the nonsterile hand can sometimes help. You should never push very hard on the catheter. If you encounter resistance or other problems, please call GWU MMA

    c. If inserting in a male, provided the catheter moves smoothly, push the entire length of the catheter in and "hub it" until the retention balloon (next step) is inflated. **Urine might start to come out prior to the catheter being "hubbed,"** *if the catheter is not already connected to a collection bag, be sure to have a container ready to catch the urine and be careful of what direction the external part of the catheter is pointing.*

    d. If inserting in a female, insert the catheter several more inches after urine starts flowing before inflating the balloon.

16. Once the catheter is in, either you or an assistant can inject the appropriate amount of sterile water into the retention balloon (see picture below) through the side port to prevent the catheter from falling out. The balloon should inflate with little resistance and inflation should not be painful. If there is resistance or pain with inflation, stop, deflate the balloon, and insert the foley further before trying again.

17. After the balloon is inflated, gently pull back on the catheter until it stops to seat the balloon in the bladder and avoid coils of catheter inside the bladder.

18. Attach the collecting bag tubing or catheter to the patients preferred leg, depending on what equipment you have (some kits come with a sticker to adhere to the patient's leg that has a clip molded to hold the catheter).

19. Replace foreskin, if applicable.

20. Wash hands/clean up.

21. GW MMA may instruct you to test the urine for infection using a urine dipstick and/or may instruct you to start the patient on antibiotics.

Aftercare:

1. If the patient feels light/headed or dizzy immediately after draining the bladder, lie them flat.

2. Measure the amount of urine drained in the first 10-15 minutes after the catheter is inserted.

3. If the amount of urine that comes out is <200ml and you have multiple foley kits then it *may* be ok to remove the catheter immediately **(make sure the retention balloon is DEFLATED before trying to remove)** and observe them to see if symptoms occur again. Discuss removal with GW MMA prior to removing the catheter. If the urine output is >200mL, leave catheter in place and drain collection bag as needed.

4. A small amount of blood tinging the urine is not completely unexpected after catheter insertion, but there should be no blood clots and the urine shouldn't be dark red or tea colored or cola colored.