

EAST TENNESSEE STATE UNIVERSITY
James H. Quillen College of Medicine

The QCOM Manual

2017-2018 Edition

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Foreword

Third year of medical school is perhaps the most formative year of your life. It is a time where most students will choose a career path. It is a time where the lessons learned are more than just about recognizing diagnoses and proper treatments – but encompass how to become a doctor in all the aspects the word implies. Many of you will cry when you deliver your first baby, and many more of you will cry when your patient finally loses the fight against cancer or some other fatal illness. You will laugh too and have many successful moments. Years from now, you will look back on this time and remember the lessons that individual patients taught you, whose names you will likely still remember. Without a doubt, you will learn more in this year and have more valuable experiences than in any other year of your life, and you'll be amazed at your personal growth both as an aspiring physician and as an individual.

The QCOM Manual is meant to serve as a handy reference and a not-too-detailed roadmap for the third year. Take some comfort when you begin a new rotation in that at the very least you know what's in this book. It'll serve as a great starting off point and quick reference guide throughout your rotation.

Work hard, have fun, and keep an open mind!

All the Best,

Kyle Boden, Nathan Bowers, John Kirby, Lizzie Monroe, Becky
Roland, John Riley Wilkinson
AOA Officers

Introduction: Transition to the Third Year

When your basic science training & learning style runs into that brick wall called Clerkships.

To help you in your transition to the third year, this manual has been developed as a pocket guide you can keep in your white coat. After some introductory elements, there are chapters for each of the third year clerkships, followed by topics that are high yield for every rotation. Also included are some invaluable quick reference materials, formulas, telephone numbers, and tips on excelling during your third year. It is important to know that clerkship-specific information changes year-to-year, so use this only as a guide. The syllabus will ultimately be the most up-to-date.

Preparing for Your First Day

Each time you begin a new rotation, it is natural to feel lost. Whether it is your first or last clerkship, the first few days are required for you to get your bearings. Don't worry if you feel lost at first. It's natural.

Location

Be sure to review where you are supposed to be on the first day of your rotation. Scout out the site ahead of time if you're unsure where the meeting is being held. Certain places (like the VAMC Surgical Suite) are tricky to find. Be sure to get a good rest before you begin third year. Being a clerk can be both a physically and emotionally tiring experience.

The Team

Now more than ever, it is imperative that you and your colleagues work together as a team. No longer are you burning the midnight oil alone in your study preparing for the next pharmacology exam. You are now the doctor. As a third year student, typically you will be the first person to

meet a patient whether in the hospital or office setting. Many patients will view you as their physician. It is now important to remember you are a part of the team. You will be working closely with your colleagues, residents, and attending physicians to provide the best care possible. Remember the following points:

- ✓ Be on time. Nothing is worse than showing up late.
- ✓ Dress for the occasion. Always wear your white coat and name badge so you may be readily identified.

Teamwork

Remember that you and your classmates have to look out for each other. If your colleague oversleeps one morning, be sure to contact him ASAP so he doesn't fall behind. When it's time to go to class or lecture, make sure everyone is ready and accounted for. Be ready to do some extra work to help out a classmate who is in a bind. You would hope that someone would do the same for you.

Act professionally at all times. Plan ahead. Remember to bring nice clothes for clinic. Work together as a team to accomplish a goal. Never quiz your colleague on rounds. While questions for clarification are acceptable, never ask questions to make a point or teach a lesson. It is hard to realize at first, but you are now a full member of the health care team.

The QCOM Manual

This manual is meant to be your helping hand during the clerkships. Included are specific chapters providing information specific to the individual rotations. Besides clerkship specific information, general medical information is also listed along with other handy information.

Top Six Survival Tips

Work with the nursing staff and they will be there when you need help.

1. If you want to know how your patient has been, ask the nurse.
2. Always read your patients' last note and review any new labs or diagnostic images every morning.

3. If you don't know the answer, it is okay to say, "I don't know." But it is usually better to take a shot at answering, or at least offer some of your thoughts. Third year is all about learning, so the more you practice, the better you'll be.
4. Don't be bullied into doing anything you don't feel comfortable doing.
5. Don't be afraid. Every medical student has gone through the process. It is okay to make mistakes and to learn from them.
6. Write down all your usernames and passwords to the EHRs. If you haven't been to a certain hospital in a few months, it is difficult to remember the subtle differences in your passwords. A handy way is to keep a note in your phone.

Top Ten Ways to Show Your Enthusiasm

1. Ask to pick up new patients when you are not busy.
2. Read from your text everyday.
3. Read about the problems of your patients.
4. Offer to do the procedures (with supervision) on your patients.
5. Be on time.
6. Ask questions.
7. Always know your patients' lab values, test results, and medications.
8. Be nice to the people on your team.
9. Laugh at all your attendings' jokes.
10. Offer to help the intern.

Point of Care Resources

As textbooks can quickly become outdated, we highly recommend electronic resources that are evidence-based and updated frequently. These resources include Dynamed, Evidence Essentials Plus, Stat Ref, Skyscape, Epocrates and Up-to-Date. These resources are available to you through the medical school library, and can be accessed on portable devices including smartphones and tablets. Contact the library help desk for free installation of these programs.

General Information

Each clerkship takes these basic guidelines and tailors them to the specialty.

How to Write in a Chart

Each hospital and outpatient office has a different way of recording patient data. Be sure to familiarize yourself with the format before you begin making notations. All hospitals you'll rotate through have a different EHR. You will receive training during Transitions Week or before starting your rotation. Most outpatient clinics use AllScripts. Don't forget: when in doubt, ask. **Note:** The example notes listed in this chapter and beyond are meant only to be a guide. Be sure to ask and follow the expectations of your resident and attending in reference to writing notes in the chart.

General Notes and Orders

Admission Orders. ADC VAAN DIML is a helpful acronym. Typically, residents will write admission orders. If your resident asks you to help out, below is a generalized format accepted at most hospitals.

Admit to: [physician on which service, ward]

Diagnosis:

Condition: [serious, stable, guarded, etc.]

Vital signs frequency: [q 4 hours, q shift]

Activity: [ad lib, bed rest, out of bed to chair, etc.]

Allergies: [meds the patient is allergic to]

Nursing Instructions: [e.g. Foley catheter to gravity, wound care instructions, daily weights, call house officer (resident) if T>101.5, etc]

Diet: [e.g. NPO, 1200 cal ADA, 2 g Sodium, regular, etc.]

IV Fluid Orders: [e.g. D5 ½ NS c 20 mEq KCl @ 75cc / hour]

Meds: [Include regular meds and prn meds with dose, frequency, and route of administration]

Laboratory tests & radiographic studies: [e.g. CBC, CHEM-7, CXR in am, etc.]

Discharge Note. Typically, residents should dictate discharge summaries. This is a useful guideline residents often use.

Date of Admission and Discharge

Admitting Physician, Discharging Physician

Discharge Diagnoses [Include list of diagnoses treated & those noted but not treated]

H & P pertinent positives

Hospital Course (short summary)

Procedures [include list with dates & results]

Consultations [service, physician, recommendations]

Labs [including pertinent admission labs, discharge labs, etc]

Discharge medications

Instructions [Follow up, wound care, etc.]

Disposition [D/C to home, nursing home, rehab hospital, etc.]

Please send copies of this report to attending, consultants & regular physician as applicable

Off Service Note. This type of note is very helpful when a team transition occurs on the wards. This allows the outgoing team to pass along vital information about each patient. These notes are true lifesavers when arriving on service.

Chief complaint, Admit date, Identifying data [age, sex, etc.]

Brief HPI (Be sure to include presenting symptoms)

Pertinent PMH

Initial Impression and Plan

Hospital Course and Work-up to date [list procedures with dates & results, pending labs, etc.]

Medications

Current problems, plans, scheduled tests

Writing Up The History and Physical (The SOAP Note)

This is a suggested H&P format with input given by R. Blackwelder, MD and S. Berk, MD. While you might include or omit certain areas on a case by case basis, this is a great starting point. (Remember that this is also the format for oral presentation of a patient's case.)

Subjective

ID: Name, Age, DOB, Sex, Race, Religion, Occupation

Chief Complaint (CC): [Reason for patient seeking treatment in his/her own words. Also comment on the source of information & reliability of historian.] *This xx year-old-race-gender complaining of . . .*

History of Present Illness (HPI): [Does not need to be lengthy or in complete sentences; be complete with respect to presenting problem including all pertinent positives & negatives; if other significant problems are noted, list them as separate paragraphs under HPI instead of in ROS.] Onset (last felt healthy?), Chronological onset of symptoms, Onset / Duration / Frequency / Associated Signs and Symptoms, Manifestations / Treatments, Relevant Risk Factors, Relevant Past Medical History, Pertinent Positive and Negatives, Pain (PQRST) / Location / Severity

P: precipitating/aggravating factors

Q: quality

R: radiation

S: severity (1-10)

T: timing

Past Medical History (PMH): Illnesses (adult and childhood): Dx, yr, Dr., Hosp., Rx. comp., General Health Maintenance, Screening Tests: Mammogram, PSA, Colonoscope, Cholesterol, Pap-smear, Trauma / Injury, Blood transfusions, Immunizations.

OB-GYN Hx: Last Menstrual Period (LMP) (freq., regularity, duration flow), Age @ menarche, Gravidity, Parity, Vaginal d/c, Sexual life (active, date), Contraception (type), Pap smear (results, date), Breastfeeding (when, how long), Menopause (onset, symptoms)

Pediatric Hx: Immunization hx, Developmental hx, childhood illnesses

Psychiatric Hx:

Past Surgical History (PSH): Surgeries (Procedure / Date / Diagnosis / Hospital), Hospitalizations, Transfusions (number of units / dates)

Allergies: Drugs (describe type of rxn: hives, rash, itching, etc.), Foods

Medications: List (med., dose, frequency), OTC/ Herbal / Vitamins / Recent Changes.

Social History (SH): Tobacco (ppd), EtOH (type/quantity), Illicit drug use, Marital Status, Children (ages), Home situation, Activities/Exercise, Education, Work experiences (chemical exposure / repetitive work), Activities of daily living (ADLs) and Independent activities, and Sexual history.

Family History (FH): Parents / children + relatives, Cancer (breast, prostate, colon, etc.), DM, HTN, CAD, Obesity, TB, COPD, CVA, etc.

ROS: See page 10

Objective

- Vital signs, include height, weight, BMI, and orthostatics when appropriate
- General description of patient [younger, older, unkempt, etc.] HEENT: PERRL, discs, fundi, ears, nares, oropharynx, etc.
- Neck: bruits, pulses, thyroid, lymphadenopathy
- Chest/Lungs: appearance, movement, inspection, palpation, auscultation, & percussion; describe any crackles, wheezes, symmetry of breath sounds, change in femitus, dullness, etc; include CVA tenderness
- C/V: apical impulse, rate, rhythm, pulses, heart sounds, murmurs, gallops, rubs, bruits
- Abdomen: appearance, bowel sounds/quantity, hepato/splenomegaly, masses, tenderness, guarding, rebound, fluid wave
- GU: pelvic or testicular exam
- Rectal: check tone, prostate, hemoccult
- Extremities: edema, loss of hair, avascular changes, nails, clubbing, range of motion of joints, spine exam
- Neuro: mental status (consider mini-mental status exam), depression inventory if appropriate, cranial nerves, cerebellar function, gait, motor, sensory (light touch, pain, position, vibration), DTRs

- Skin: ulcers, lesions, tattoos, rashes, etc.
- Admission labs / imaging study results

Assessment

- Many different techniques exist. Find one you like which allows completeness.
- Problems are the most specific diagnosis one can make at the time. A problem can be a symptom if one is unable to define it more narrowly. For example: abdominal pain – rule out infection, appendicitis vs. small bowel obstruction vs. ischemic disease
- Be complete in generating a problem list. Include all problems, abnormal findings, abnormal lab values, etc. Comment on differential diagnosis for each.
- Try to combine abnormalities as much as possible. If a series of problems go together, list them as a diagnosis or suggestion of one.
- The H & P assessment/problem list should be the most complete on the chart. The daily SOAP/progress notes are directed by the problem list.

Plan

- For each active problem, outline your plan including diagnostic tests and therapy. Although your knowledge and comfort level may be lower than you would like, try to make some attempt at this section.
- Always include discharge planning as part of your admission plans. Some people prefer to combine the assessment and plan sections (A/P)

[Note: For patients in the ICU, some physicians prefer the RICHMAN A/P format, where as the A/P is organized by system: R- Respiratory, I- Infectious Disease, C-Cardiovascular, H-Hematology, M-Musculoskeletal/Metabolic, AAlimentary, N-Neuro/Nephr]

The Review of Systems (ROS)

General

weight change
appetite / thirst
fever / chills
diaphoresis
fatigue / malaise
strength / weakness
overall status

HEENT

Head: headache / injury
Eyes: vision (blurred, diplopia)
pain (itching, burning)
amaurosis fugax
photophobia, floaters
Ears: otalgia / otorrhea
hypacusis / tinnitus
Nose: nasal discharge / epistaxis
allergies (seasonal / winter / fall / summer)
sinuses (pain, pressure)
sneezing / itching
post-nasal drip
Throat: sore throat / hoarseness
difficulty swallowing
toothaches / loose teeth
bleeding gums / mouth sores

Cardiopulmonary

chest pain, palpitations, pressure, tightness
racing / skipped beats
orthopnea (number of pillows)
SOB (exertional, ortho, PND)
cough, sputum (color, consistency)
hemoptysis
asthma / wheezing / pleuritic pain

edema (symmetrical, pitting)
orthostasis / syncope
claudication

Gastrointestinal

anorexia / nausea / vomiting
dysphagia (fluids, solids, both) /
odynophagia
heartburn
reflux / regurgitation
indigestion / food intolerance
hematemesis
coffee grounds
abdominal pain
bloating / flatulence
bowel habits (variations)
blood in stools / black tarry stools
constipation / diarrhea
hematochezia / melenas
defecation (straining / pain)
hemorrhoids
jaundice
choluria / acholic stools
pruritus

Genitourinary

dysuria (freq., urgency, burning)
hematuria / flank pain
polyuria / nocturia
recurrent UTIs
STDs
stones / gravel
urethral discharge
stream (caliber / force)
hesitancy / dribbling
incontinence / retention
penis / testes / scrotum
libido / potency

intercourse

ejaculation / orgasm

OB/GYN

menorrhagia / metrorrhagia

vaginal d/c / flow

pain, itching, burning

intercourse / orgasm

incontinence

pelvic pain

dyspareunia

infertility

Breast

pain

masses

lesions

ulcerations

Nipple: d/c, galactorrhea

Endocrine

goiter (neck pain)

lethargy / bradylalia

changes in hair distribution

heat / cold intolerance

nervousness / hyperactivity

amenorrhea / galactorrhea

obesity (truncal, facial)

sexual characteristics

flushing

Hemo-Onc

pallor

bruising / bleeding

node swelling / pain

infections (recurrent)

Raynaud's phenomenon

xerostomy / xerophthalmia

Musculoskeletal

limping / gait disturbances

strength (weakness)

swelling / pain

limitation in movement / stiffness

joint pain / arthritis

joint swelling / redness

Neurological

headache

loss of consciousness

loss of memory / confusion

changes in sensation / neuropathy

seizures / tremors

involuntary movements

numbness / paresthesias

paralysis / paresis

dizziness / vertigo

sleep-wake cycle

right or left handed

Psychiatric

personality

affect / depression

neurosis / anxiety

social interactions

attention

will / thought

suicide idea

drug abuse

Skin

Color (nl/variations)

Rashes / sores

Pain / itching

Masses / nevi (changes in color / shape / new)

Hair (loss, etc.)

nails (changes)

The Complete Physical

The following is an outline for a complete physical examination, ordered according to patient position. This complete physical is given for the sake of completeness, and many parts should only be done when appropriate or necessary. Some parts of the exam (such as the pelvic exam) may require a chaperone.

Patient Lying Supine in Bed

General Appearance

Inspect patient's facial expression

Vital Signs

Palpate blood pressure in right arm

Auscultate blood pressure in right arm

Auscultate blood pressure in left arm

Patient Sitting Up in Bed

Vital Signs

Check for orthostatic changes in left arm

Patient Sitting With Legs Dangling

Off Side of Bed

Vital Signs

Palpate radial pulse for rate and regularity

Determine the respiratory rate and pattern

Head

Inspect cranium

Inspect scalp

Palpate cranium

Face

Inspect face

Inspect skin on face

Eyes

Assess visual acuity, both eyes

Check visual fields, both eyes

Determine eye alignment, both eyes

Test extraocular muscle function, both eyes

Check pupillary responses to light, both eyes

Test for accommodation, both eyes

Inspect external eye structures, both eyes

Fundoscopic examination, both eyes

Nose

Inspect nose

Palpate nasal skeleton

Palpate sinuses (frontal, maxillary), both sides

Inspect nasal septum both sides

Inspect turbinates, both sides

Ears

Inspect external ear structures, both sides

Palpate external ear structures, both sides

Evaluate auditory acuity, both sides

Perform Rinne's test, both sides

Perform Weber's test

Perform otoscopic examination, both sides

Inspect external canal, both sides

Inspect tympanic membrane, both sides

Mouth

Inspect out and inner surfaces of lips

Inspect buccal mucosa

Inspect gingivae

Inspect teeth

Observe Stenson's and Wharton's ducts, both sides

Inspect hard palate

Inspect soft palate

Inspect tongue

Test hypoglossal nerve function

Palpate tongue

Inspect floor of mouth

Palpate floor of mouth

Inspect tonsils, both sides

Inspect posterior pharyngeal wall

Observe uvula as patient says "Ah"

Test gag reflex

Neck

Inspect neck, both sides

Palpate neck, both sides

Palpate lymph nodes of head and neck, both sides

Palpate thyroid glands by anterior approach

Evaluate position of trachea

Evaluate mobility of trachea

Neck Vessels

Inspect height of the jugular venous

pulsation, right side

Neck (from the back side)

Palpate thyroid gland by posterior approach

Palpate for supraclavicular lymph nodes, both sides

Posterior Chest

Inspect back, both sides

Palpate back for tenderness, both sides

Evaluate chest excursion, both sides

Palpate for tactile fremitus, both sides

Percuss back, both sides

Evaluate diaphragmatic excursion

Auscultate back, both sides

Palpate for costovertebral angle tenderness, both sides

Sacrum

Test for edema

Anterior Chest

Inspect patient's posture

Inspect configuration of chest

Inspect chest, both sides

Palpate chest for tactile fremitus, both sides

Female Breast

Inspect breast, both sides

Inspect breast during maneuvers to tense

pectoral muscles, both sides

Heart

Inspect for abnormal chest movements

Palpate for point of maximum impulse

Auscultate for heart sounds, all four positions

Axilla

Inspect axilla, both sides

Palpate axilla, both sides

Palpate for epitrochlear nodes, both sides

Patient Leaning Forward **Heart**

Auscultate with diaphragm at cardiac base

Patient Lying Supine with Head of Bed Elevated 30deg

Neck Vessels

Inspect jugular venous wave form, both sides

Auscultate the carotid artery, both sides

Palpate the carotid artery, each side separately

Breasts

Inspect breasts, both sides

Palpate breasts, both sides

Palpate subareolar area, both sides

Palpate nipple, both sides

Chest

Inspect chest, both sides

Evaluate chest excursion, both sides

Palpate for tactile fremitus, both sides

Percuss chest, both sides

Auscultate breath sounds, both sides

Heart

Inspect for movements

Palpate for localized motion, all four positions

Palpate for generalized motion, all four positions

Palpate for thrills, all four positions

Auscultate heart sounds, all four positions

Time the heart sounds to the carotid pulse

Patient Turned on Left Side **Heart**

Auscultate with bell at cardiac apex

Patient Lying Supine With Bed Flat **Abdomen**

Inspect the contour of the abdomen

Inspect the skin of the abdomen

Inspect for hernias

Auscultate the abdomen for bowel sounds, one quadrant

Auscultate the abdomen for bruits, both sides

Percuss the abdomen, all quadrants
Percuss the liver
Percuss the spleen
Test superficial abdominal reflex
Palpate abdomen lightly, all quadrants
Palpate abdomen deeply, all quadrants
Exclude rebound tenderness
Check for hepatic tenderness
Evaluate the hepatojugular reflux
Palpate liver
Palpate spleen
Palpate kidney
Palpate aorta
Check for shifting dullness if ascites is suspected

Pulses

Palpate radial pulses, both sides
Palpate brachial pulses, both sides
Palpate femoral pulses, both sides
Palpate popliteal pulses, both sides
Palpate dorsalis pulses, both sides
Palpate posterior tibial pulses, both sides
Time radial and femoral pulses, right side
Perform heel-to-knee test

Male Genitalia

Inspect the skin and hair distribution
Observe the inguinal area while instructing the patient to bear down
Inspect the penis
Inspect the scrotum
Palpate for inguinal nodes, both sides
Elevate the scrotum and inspect the perineum

Male Patient Standing in Front of Seated Examiner

Male Genitalia

Inspect the penis
Inspect the external urethral meatus
Palpate the shaft of the penis
Palpate the urethra
Inspect the scrotum
Palpate the testicles, both sides

Palpate the epididymis and vas deferens, both sides
Observe the inguinal area while instructing the patient to bear down
Test superficial cremasteric reflex
Transilluminate any masses
Palpate for hernias, both sides
Male Patient Turned Around and Bent Over

Rectum

Inspect the anus
Inspect the anus while patient strains
Palpate the anal sphincter
Palpate the rectal walls
Palpate the prostate gland
Test stool for occult blood

Female Patient in Lithotomy Position

Female Genitalia

Inspect the skin and hair distribution
Inspect the labia majora
Palpate the labia majora
Inspect the labia minora, clitoris, urethral meatus, and introitus
Inspect the area of Bartholin's glands, both sides
Inspect the perineum
Test for pelvic relaxation
Perform speculum examination
Inspect cervix
Obtain Pap smear
Inspect vaginal walls
Perform bimanual examination
Palpate cervix and uterine body
Palpate adnexa, both sides
Palpate rectovaginal septum
Test stool for occult blood
Patient Sitting on Bed With Legs Off

Side

Mental Status

Ask routine questions

Face

Test motor function of trigeminal nerve, both sides

Test sensory function of trigeminal nerve, both sides

Test corneal reflex, both sides

Test facial nerve, both sides

Test spinal accessory nerve, both sides

Test double simultaneous stimulation, both sides

Perform finger-to-nose test

Neck

Test range of motion

Hands and Wrists

Inspect hand and wrist, both sides

Inspect nails, both sides

Palpate shoulder joint, both sides

Palpate interphalangeal joints, both sides

Palpate metacarpophalangeal joints, both sides

Test light touch, both sides

Test vibration sense, both sides

Test position sense, both sides

Test object identification, both sides

Test graphesthesia, both sides

Test two-point discrimination, both sides

Assess rapid alternating movements, both sides

Elbows

Inspect elbow, both sides

Test range of motion, both sides

Palpate elbow, both sides

Test upper extremity strength, both sides

Test biceps reflex, both sides

Test triceps reflex, both sides

Shoulders

Inspect shoulder, both sides

Test range of motion, both sides

Palpate shoulder joint, both sides

Shins

Inspect skin, both sides

Test for edema, both sides

Feet and Ankles

Inspect feet and ankles

Test range for motion, both sides

Palpate Achilles tendon, both sides

Palpate metatarsophalangeal joints, both sides

Palpate metatarsal heads, both sides

Palpate ankle and foot joints, both sides

Test light touch, both sides

Test vibration sense, both sides

Test position sense, both sides

Test lower extremity strength, both sides

Test ankle reflex, both sides

Test plantar response, both sides

Knees

Inspect knee, both sides

Test range of motion, both sides

Palpate patella, both sides

Ballot patella if effusion is suspected

Test patellar reflex, both sides

Patient Standing With Back to Examiner

Hips

Inspect hips

Test range of motion

Spine

Inspect spine

Palpate spine

Test range of motion

Assess gait

Perform Romberg's test

Pearls and Tidbits for the H&P

Pulmonary Diagnostic Tips

	<u>Pneumonia</u>	<u>Pleural Effusion</u>	<u>Pneumothorax</u>
Breath Sounds	Decreased	Decreased	Decreased
Abnormal Sounds	Inspiratory rales	Egophony (E→A)	None
Percussion	Dull	Dull	Resonant
Tactile Fremitus	Increased	Decreased	Decreased

Breath Sounds

Bronchial/Tracheal: heard over trachea. Expiration > Inspiration

Bronchovesicular: Heard over main bronchus, medium pitch. Inspiration = Expiration

Vesicular: heard over distal lung fields, low pitch, soft. Inspiration > Expiration

DTR's

0	Absent
1+	Decreased
2+	Normal
3+	Hyperactive
4+	Hyperactive with clonus

Muscle Strength

0	No contraction
1+	Slight contraction
2+	Movement but not against gravity
3+	Ability to resist gravity only
4+	Overcome gravity and added force
5+	Normal

Things To Carry In Your Coat Pocket

The QCOM Manual

Stethoscope

Pens and notepad

A penlight

Reflex hammer

Pharmacopoeia/Sanford's (or equivalent on a tablet/phone)

Washington Manual or other pocket manual for discipline (or equivalent resource on tablet/phone)

Surgery

Tiffany Lasky, DO – Clerkship Director

Brenda Holt – Clerkship Coordinator (439-8870)

Clerkship Info

The General Surgery Clerkship provides valuable information in the general care of patients, as well as, care specific to surgery patients. This includes technical skills. Most students are surprised by the broad applicability of skills learned on our rotation. Our department has received many awards for teaching and we are proud and committed to maintaining excellence in this area.

The rotation is divided into two 3 week blocks at either: JCMC, VAMC, BRMC, or HVMC. Evaluations are based on departmental quizzes, ward evaluations (evaluation forms included in syllabus) and NBME shelf exam.

Notes and Orders for Surgery

Preoperative Note. This note is written on the day or morning prior to surgery.

1. Brief summary: Preoperative diagnosis, procedure planned, type of anesthesia planned
2. Allergies
3. Medications
4. Labs: Electrolytes, BUN, creatinine, CBC, INR/PTT, UA, liver function tests, ABG
5. CXR, EKG, & other pertinent tests
6. Blood screened, typed and/or cross-matched if necessary
7. Consent signed & on the chart. Document explanation to patient of risks and benefits of the procedure and alternative treatments. Document patient's or guardian's informed consent and understanding of the procedure. Obtain signed consent form.

Operative Note. This note is written in the recovery room after surgery. Typically the surgeon or resident will dictate note.

1. Preoperative diagnosis
2. Postoperative diagnosis
3. Procedure
4. Surgeon
5. First assistant [resident surgeon]
6. Second assistant [medical student]
7. Anesthesia: [general, spinal, local, etc.]
8. Fluids and blood products administered during procedure.
9. Operative findings
10. Complications
11. Estimated blood loss (EBL)
12. Specimens: [to pathology, for culture, etc.]
13. Drains [type placed]
14. How patient tolerated the surgery
15. Where patient was sent after surgery [recovery room, ICU, etc.]

Example Operative Note

Preop Dx: occluded L common carotid artery

Postop Dx: same

Procedure: L carotid endarterectomy (CEA)

Surgeon: Dr. Green

1st Assist: Dr. Blue

2nd Assist: Jane Doe, MS3

Anesthesia: General

Fluids: 2 L lactated ringers

Findings: L common carotid artery approx. 95% stenoses

Complications: none

EBL: approx. 100cc

Drains: JP placed (JP=Jackson-Pratt)

Patient tolerated the procedure well & was sent to the recovery room in stable condition

Postoperative Orders. These are orders written in the recovery room after surgery, typically completed by the resident. Remember that most previous orders written in the chart are automatically cancelled when the patient is transferred to the OR.

1. To Recovery Room, when stable to ward/SICU/etc.
2. Surgical Dx
3. Condition
4. Vitals [e.g. q 15 min x 4 then q 30 min x 2 then q 4 hr]
5. Activity [e.g. bed rest, out of bed to chair, up ad lib, etc.]
6. Allergies
7. Nursing [e.g. I&Os, weight qd, Foley to gravity, NG to LCS, dressings, drains] Diet [e.g. NPO, clears, advance to regular as tolerated, etc.]
8. IVF [e.g. D5 ½ NS c 20 mEq KCl @ 75cc / hour]
9. Medications [include preoperative meds & pain meds]
10. Labs now and in am
11. Respiratory Therapy orders [e.g. incentive spirometer at bedside]
12. Call orders

Postoperative Note. This is a note written the day of surgery. Usually this check up is 4-6 hours after the completion of surgery.

1. Procedure
2. Mental status
3. Vital signs
4. Inputs & Outputs (especially drains)
5. Pertinent PE
6. All post operative labs
7. Assessment/Plan – This can be crucial, especially when the wards are full, to have an “end point” or “goal” for eventual patient discharge. Be sure to always mention discharge planning in any assessment/plan.

Example Postoperative Note

Mr. George is s/p laparoscopic cholecystectomy this am. He is awake, A&Ox3.

VS: T 99.0 P 88 RR 20 BP 145/90 I=125 cc/hr O=60c/hour urine

JP drain = 40cc of serousanguinous fluid.

No new labs.

PE: Dressings clean, dry, & intact. JP drain secure. Lungs CTA bilat. C/V RRR

A/P: Pt stable postop. Will continue IVF and antibiotics. Plan for advancing diet with d/c home tomorrow afternoon.

Procedure Note. This note is written usually after a simple procedure completed at the bedside.

1. Procedure: [e.g. lumbar puncture, chest tube, thoracentesis]
2. Description: [step by step what was done – prep, meds/dose, location, size, suture, etc.]
3. Findings:
4. Follow up: [e.g. CXR, CBC, etc.]
5. Complications

Daily Progress Note for Students. Your daily morning progress note should look something like the example listed below for all surgical ward patients.

Post Op Day # ____ s/p primary dx or procedure.

Antibiotic Day # ____

S: Pain, BM, flatus, tolerative diet, ambulation, etc.

O: VS: T HR RR B/P Wt

24 hour Ins & Outs in cc:

Ins: IVF, PO, Hyperalimentary, Blood

Outs: Urine, NGT, drains, chest tube

Totals: including cc/kg/day

PE: heart, lungs, abdomen, extremities, wound sites, drains

A: Assessment

P: Plan (Be sure to include discharge plans)

Pearls - *i.e.*, A Few Hints to Make You Popular on Surgery Rotations

1. The fundamental habit to develop is **responsibility** for your patients. You are expected to begin to act like the doctor you will be in two years.

2. It is your responsibility to know where you need to be for each new portion of the rotation. Get in touch with the resident ahead of time (at the latest, during Friday conference before Monday of the new rotation). Showing up at checkout saying that you didn't know which patients to see is a sure way to earn ill-will. Again, see #1.
3. Unless specifically told otherwise, it is your responsibility to meet the patient in pre-op holding and write a pre-op note for cases that you will observe/scrub.
4. If you were in the case, you should write a post-op note 4-6 hours later when you're not in another case, **preferably without being asked to do so**. If the note will be hours after checkout, ask the resident before you go home if it is too soon to write the post-op note.
5. Act interested. If asked if you would like to do something, the answer is "Yes, that would be great!" Many of the skills are transferable to other areas of medicine.
6. For pre-rounds, ask yourself two questions: What things are going into and out of my patient? (lines, drips, drains, catheters, etc.) Also, what needs to happen before my patient can go to floor/home/SNIF, etc.? (urine, BM, lines out, ambulating, PO intake and meds, etc.)
7. To succeed as a medical student, you need affability, availability, and ability. And the first two will take you pretty far.
8. Make the effort to take ownership for the care of your patients (i.e., check back on patients, change dressings once the resident approves for you to do so).
9. If you forget everything else.... **Take care of the patient.**
Extra credit: Locate a copy of Surgical Recall and read "The Perfect Surgery Student" on the day of your rotation orientation.

High Yield Topics for Surgery

1. Acute Abdominal Pain

Differential of Abdominal Pain – Think Anatomy!

Right upper quadrant: acute cholecystitis/biliary colic, peptic ulcer disease, gastritis, cholangitis, hepatitis, pneumonia

Left upper quadrant: acute pancreatitis, perforated viscus, myocardial infarction, splenic rupture/infarction, gastroesophageal reflux disease, gastritis, peptic ulcer disease

Epigastrium: gastroesophageal reflux disease, peptic ulcer disease, gastroenteritis, esophagitis, gastritis, pancreatitis, angina/myocardial infarction, perforated viscus, aortic aneurysm

Right lower quadrant: acute appendicitis, inflammatory bowel disease, Meckel's diverticulum, Acute cholecystitis, pyelonephritis, nephrolithiasis, diverticulitis, ovarian torsion, cyst, ruptured ectopic pregnancy, PID, intussusception, ruptured carcinoma

Left lower quadrant: diverticulitis, sigmoid volvulus, colorectal carcinoma, mesenteric ischemia, colitis, pyelonephritis, nephrolithiasis, ovarian torsion, cyst, ruptured ectopic pregnancy, PID.

2. Other common clinical scenarios:

Appendicitis (PATFL): in order, patient will experience Pain (periumbilical), Anorexia (preceding nausea and vomiting), Tenderness on exam of the right lower quadrant, Fever, and Leukocytosis.

Cholecystitis/Biliary cholic

Pancreatitis

Diseases of the colon: Inflammatory Bowel Disease: *Crohn's disease* – segmental “skip” lesions; transmural; *Ulcerative colitis* – continuous, not transmural; increased cancer risk. *Diverticulosis/-itis.*

Peptic ulcer disease. Important distinction between stomach and duodenum, identify relationship to meals.

GI Hemorrhage. Site: Upper vs. lower source of bleeding. Diagnostic work up: Endoscopy, imaging in some cases

Hernia: direct hernias pass through Hesselbach's Triangle, *directly* through the abdominal wall; indirect hernias pass through the internal inguinal ring. **Layers of abdominal wall:** skin, subcutaneous fat, Scarpa's fascia, external oblique, internal oblique, transversus abdominis, transversalis fascia, peritoneum. ***The strength of a closure is in the fascia.***

Trauma: Resuscitation: ABCs; Shock/critical care; Neuro: Glasgow coma scale.

Vascular Disease: Systemic disease: *Peripheral vascular disease.*
Peripheral vascular tests to assess arterial occlusive disease: Doppler ultrasound, pulse volume recordings (PVR), TcPO₂ (PO₂ in tissues), ankle/brachial index (ABI= bp in ankle/bp in arm). *Cerebrovascular disease.*
Coronary artery disease.

Electrolytes and nutrition

Common causes of post-op fever (chronologically) – 5 W’s:

Wind (atelectasis) - POD# 1-2

Water (UTI) - POD# 3.5

Wound (healing/infection) - POD# 5-7

Walking (DVT leading to pulmonary embolus)

Wonder drug (drug reaction) - POD# &+

Ranson’s Criteria (for determining severity of acute pancreatitis):

Upon Admission: 1) Age > 55. 2) Glucose > 200 mg/dl. 3) WBC > 16,000.
4) Serum LDH > 350 IU/L. 5) AST >250.

After 48 hours: 1) HCT decrease 10%. 2) Serum Calcium less than 8 mg/dl. 3) BUN increase > 5 mg/dl. 4) O₂ sat less than 60 mm Hg. 5) Base deficit > 4 meq/L. 6) Fluid sequestration > 6L.

Interpretation Score of 0-2, minimal mortality; 3-5, 10-20% mortality; >5, >50% mortality.

Virchow’s Triad (three factors which lead to thrombosis): 1) damage to the endothelium (with inflammation, trauma, pelvic surgery, central lines, etc.); 2) change in blood flow (e.g., immobility, local pressure, varicose veins, shock, CHF, venous obstruction, hydration, hypovolemia); 3) hypercoagulability.

Drains and Tubes

Dobbhoff Tube: For liquid feeds, poor for drainage.

Jackson-Pratt (JP) Drain: Surgical wound drain. Clear tubing attached to suction canister.

Penrose Drain: Surgical wound drain. No suction.

Gastrojejunostomy (GJ) Tube: Two ports, one gastric, one jejunum.
Nasogastric (NG) Tube: Drainage of gastric contents, suction assisted.
Used for feeds.

Percutaneous Endoscopic Gastrostomy: Placed surgically. Feeding into stomach.

<u>Abs. Sutures</u>	<u>Rxn</u>	<u>Absorption</u>
Chromic gut	mod.	90 dys
Regular gut	mod.	70 dys
PDS	slight	180-210 dys
Vicryl	mild	70 dys

<u>Nonabs. Sutures</u>	<u>Rxn</u>
Silk	moderate
Prolene	minimal
Nylon (Ethilon)	slight

Removal

Abdomen:	7 days
Back	14 days
Extremities	7 days
Face	3-5 days
Joints	7-10 days

Needles: *Cutting* is for skin; *Taper Point* is for: soft tissue, gut, nerve, muscle, peritoneum.

Recommended Resources

Wapnick, Simon., ed., et al. *Appleton & Lange's Review of Surgery*. Blackbourne, Lorne H. *Surgical Recall*. Lippincot, Williams, and Wilkins, 2008..

Kao, Lillian.. *Surgery: PreTest Self-Assessment and Review*. 11th Edition. McGraw-Hill Medical, 2006.

Review Books: Casefiles, First Aid, Blueprints, Kaplan CK, NMS.

Dr. Pestana's Surgery Notes: Top 180 Vignettes for the Surgical Wards.

Obstetrics/Gynecology

Mark Ransom, MD, HCLD, MBA – Clerkship Director
Brandi Nave – Clerkship Coordinator (439-6335)

Clerkship Info

Welcome to Ob/Gyn! We love our work and want to share our excitement and information with you. We'd like this to be the most exciting rotation of your 3rd year.

Some things to remember while on the OB service, either high risk or low risk:

- You have at least TWO patients for each pregnant woman in your care.
- Situations change fast, so stay on your toes and don't go too far away.
- Most of what you need is in the **Medical Student Manual for Obstetrics & Gynecology for the MSIII clerkship** provided to you on the first day of your rotation.

We want you to do well. We are your advocates. We are always available.

Mark Ransom, MD, HCLD, MBA
Clerkship Director, Obstetrics and Gynecology

High yield topic for the OB/Gyn rotation include:

Female history and examination	Postpartum care
Pap smear and probes/cultures	Lactation
Legal/ethical aspects in OB/GYN	Ectopic pregnancy
Preventive care	Spontaneous abortion
Maternal-fetal physiology	Medical and surgical complications of pregnancy
Preconception care	Preeclampsia/eclampsia
Antepartum care	Alloimmunization
Intrapartum care	Multifetal gestation
Immediate care of the newborn	

Fetal death
Abnormal labor
Third trimester bleeding
Preterm labor
Premature rupture of membranes
Intrapartum fetal surveillance
Postpartum hemorrhage
Postpartum infection
Anxiety and depression
Postterm pregnancy
Fetal growth abnormalities
Obstetric procedures
Family planning
Induced abortion
Vulvar and vaginal disease
STIs and UTIs
Pelvic organ prolapse
Endometriosis
Chronic pelvic pain
Disorders of the breast

Puberty
Amenorrhea
Hirsutism and virilization
Abnormal uterine bleeding
Dysmenorrhea
Menopause
Infertility
PMS and PMDD
Gestational trophoblastic dz
Vulvar neoplasms
Cervical disease and neoplasia
Uterine leiomyomas
Endometrial hyperplasia and carcinoma
Ovarian neoplasms
Sexuality and modes of sexual expression
Sexual assault
Domestic Violence

Notes and Orders for Obstetrics/Gynecology

Obstetrics Admission Note.

Date _____ Time _____ Attending _____

ID: Age, G ___ P ___, LMP _____, @ _____ weeks gestation
(?consensus with EDC)

EDC _____ weeks by dates

EDC _____ weeks by ultrasound

CC: [e.g. contractions, leaking fluid, vaginal bleeding, fetal movement, ruptured membranes, complications of pregnancy, etc.]

Present pregnancy: Prenatal Care – provided by whom?; Diabetic risks/screening, GHTN; Bleeding, infections; Smoking, EtOH, street drugs, medications; Problem list (include hospitalizations, social status, etc.);

TWG (total weight gain) - comment if TWG is appropriate for size/dates or not

Prenatal Labs/Studies: Heme: Hgb, Hct, ABO group, Rh, Antibody status; ID: rubella, VDRL, GC, herpes, HIV, Hep B, Hep C; Chemistry; U/A; Last Pap smear; AFP/Quad Screen; Ultrasound results; Risk factors for Group B strep

Past Pregnancies: Include dates, type of delivery, hours in labor, birth weights, complications.

Past Gynecologic History: Include menses, STDs/STIs, contraception, abnormal pap smears.

PMH: Surgery; Illnesses [e.g. HTN, DM, thyroid disease, asthma, heart murmur, hepatitis, seizure, bleeding/anemia, injury]; Medications; Allergies; Transfusions; Anesthesia History.

Social Hx: Include marital status, number of children in home, support system, domestic violence screening, etc.

Family Hx: Include HTN, DM, birth defects, twin gestations, pregnancy complications, breast cancer, ovarian cancer.

ROS: This section is frequently included in the review of present pregnancy, and should include: headache, visual changes, abdominal pain (RUQ), nausea, vomiting, fevers, discharge, etc.

PE: General, Vital Signs, Skin, HEENT/Neck, Lungs, Heart, Abdomen (Scars, CVA tenderness, Murphy's sign, tenderness, distention, fundal height, EFW (estimated fetal weight), FHT (fetal heart tones), fetal lie

Cervical Exam: Dilation, effacement, position, station, firmness

Extremities: Edema, reflexes/clonus, calf tenderness

Data Base: Biophysical profile, Labs: CBC, U/A with C&S, UDS if needed, type & screen; Ultrasound [placenta, amniotic fluid, lie, age/weight]; Sterile speculum exam [pooling, ferning, nitrazine]; Cultures; Amniocentesis (LS/PG).

Assessment

Plan

Intrapartum Progress Note. This type of documentation is used frequently while a woman is in labor.

Subjective: Complaints, tolerance, etc.

Objective: Vital signs, Labs, FHT's and pattern, Contractions [intensity, duration, frequency], uterine resting tone (soft, firm, tense), Cervix [dilation, effacement, position, station]

Assessment: (relate to labor curve, fetal distress, maternal compromise)

Plan: (Intervention or lack of and persons involved in decision making)

Mag note

Basically an Intrapartum note with special emphasis on side effects of MgSO₄

- A. Flushing, Nausea/Vomiting, blurred vision/diplopia, headache, dry mouth, SOB, chest pain, RUQ pain
- B. Vital signs, slurred speech, decreased breath sounds or crackles (pulm. Edema), decreased respiratory rate, Decreased DTRs (patellar reflexes), cardiac conduction defects and arrest (arrhythmias, bradycardia, hypotension), urine output

A/P- Related to labor curve, Signs of toxicity include decreased DTR's and pulm. Edema, higher toxicity leads to resp. depression and cardiac conduction defects.

Delivery Note. The following is template often used following delivery. Patient is a ___ y/o female G___ P___ Ab___ EDC___ who presents c/o _____. Patient [describe labor, admission findings, initial cervical exam] was admitted in _____ [active labor, etc.]. Patient required _____ (if anything). Fetal heart tones were _____ throughout labor. Patient monitored _____ [external, internal, etc.]. Patient was completely dilated at [time]. Patient went on to deliver at [time] in _____ presentation a [♀ or ♂]. Apgars were ___ at one minute and ___ at five minutes. Weight was ___ lb ___ oz. Infant required _____ [routine, etc.] resuscitation and was taken to _____ [NBN, NICU, kept at bedside]. Cord had ___ vessels and appeared _____ [normal, etc.]. Placental delivered at _____ [time] by _____ [spontaneous, manual, etc.]. Vagina and cervix examined and were _____ [report findings]. A ___ degree episiotomy was performed to aid in delivery and was repaired in the usual fashion with _____ suture. Repeat pelvic and rectam examination were _____ [normal, etc.] EBL ____.

Operative & Postoperative Notes. Refer to the examples given under *Surgery*.

Postpartum Progress Note. Typical daily postpartum note.

Subjective:

Hospital Day # ___ Post Partum Day # ___

Patient is a ___ y/o female who delivered via _____ a viable ___ infant weighing _____ with Apgar scores ___ at 1 minute & ___ at 5 minutes over [intact, first degree, second degree, etc.] perineum. Infant to _____ [NBN/NICU/etc.].

Maternal complaints, Diet, associated N/V, Pain Control, episiotomy stitch pain, Ambulation, Flatus / BM / urination, Lochia, Breast or bottle-feeding, Contraception plans

Objective: Vital signs, C/V, Lungs, Abdomen, BS, fundus [firmness, relationship to umbilicus], distention, tenderness, Vaginal noting if lochia is present & if it is increasing or decreasing, Extremities, Prenatal labs, also, note UDP and post-partum Hb & Hct

Assessment: PPD #, Rubella status/Blood type with Rh

Plan: Rubella vaccine, Rhogam if appropriate, Contraception if needed
Discharge planning.

High-Risk Patient, Daily Note. As high-risk obstetrical patients are in the hospital often a long time prior to delivery, additional information must be reviewed and noted in a daily note.

History: hospital day, reason for admission

Subjective: ROS pertinent to admission

Objective: including FHT's, contractions, etc.

Labs: cervical cultures?, Mg levels, etc.

Plan: tocolytics?, antibiotics?, activity level? steroids? BPP?

Pearls and Tidbits for Obstetrics/Gynecology

Clinical Estimates for Gestational Age. Urine hCG positive as early as 3.5 weeks. Fetal heart tones audible by Doppler at 10-12 weeks. Patient notes fetal movement at ~19 weeks for a primigravida and ~17 weeks for a multigravida. At 20 weeks the fundus should be at the level of the umbilicus.

Gestational Milestones.

0 wks	Last menstrual period
2 wks	Conception
3.2-4 wks	Positive pregnancy test
5 wks	Gestational sac seen on US
6 wks	Fetal heart movement by ultrasound
	Typically, first prenatal visit: CBC/UA/Hep C/Type, Rh and screen/Rubella titer/HepB/HIV/Pap smear/G&C culture/Syphilis
12 wks	Uterine fundus palpable, FHR by Doppler
12-13 wks	First trimester screening/nuchal translucency
18-20 wks	1 st fetal movements (quickening); Quad screen (16 wks); Serum alpha-fetoprotein level (16 wks)
17-20 wks	Heart rate by Doppler, baby's sex by ultrasound
	Ultrasound dating/Screening ultrasound
24-28 wks	Glucose tolerance test
28-30 wks	RhoGam administration for Rh positive mothers
35-37 wks	HIV/ Group B Strep screen
36-40 wks	G&C culture, RPR in high risk patients
39 wks	May perform elective deliveries/scheduled cesareans
37-42 wks	Full term infant

Preterm Terms.

Preterm labor: regular uterine contractions with progressive cervical change *or* regular uterine contractions with a cervix that is at least 2 cm dilated and 80% effaced at less than 37 weeks gestation

PROM: premature rupture of membranes, rupture of membranes before the onset of labor

PPROM: preterm premature rupture of membranes, rupture of membranes before 37 weeks gestation

Prolonged ROM: rupture of membranes for >24 hours before delivery increases risk of chorioamnionitis and postpartum endometritis

Bishop Scores/Parts of Vaginal Exam.

<u>Part of vaginal exam</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>
Dilation	closed	1-2 cm	3-4 cm	5+
Effacement	0-30%	40-50%	60-70%	80+%
Station	-3	-2	-1	+1/+2
Cervix position	Posterior	Middle	Anterior	
Cervix consistency	Firm	Medium	Soft	

Add 1 for preeclampsia and vaginal delivery

Subtract 1 for nulliparity/post-term/ROM (early and late)

Stages of Labor.

<u>Stage</u>	<u>Event</u>	<u>Duration</u>
First (Latent)	Dilation to 4 cm	6-11 h
First (Active)	4 cm → 10 cm	4-6 h
Second	Delivery of baby	1-2 h
Third	Delivery of placenta	30 min

Should take about 1/2 the time for a multiparous woman.

Abnormal Labor Pattern.

	<u>Nulliparous</u>	<u>Multiparous</u>
First (Latent)	> 20 hr	> 14 hr
First (Active)	> 12 hr	> 6 hr
Second	> 50 min	> 20 min
Dilation ≥ 2 hr.		

Induction of Labor

<u>Indications</u>	<u>Contraindications</u>	<u>Fetal Maturity</u>
Preeclampsia/eclampsia	Placenta previa	36 wks since +serum Hcg or +FHT
PROM	Classical uterine incision	U/S at 12-20 wks, g.a. ≥ 39 wks
Chorioamnionitis	Prolapsed umbilical cord	U/S at 6-11 wks, g.a. ≥ 39 wks
Post-term pregnancy		
Fetal compromise		g.a.=gestational age
Intrauterine fetal death		

Always know patient's rubella/Rh/GBS status. Treatment:

Rubella: If non-immune, rubella vaccine *after* delivery.

Rh isoimmunization: Rh- mothers Indications: Abortion, Amniocentesis, Antepartum period, Ectopic pregnancy, Postpartum period. Administer: 300 mcg of RhoGAM (D Immunoglobulin). Obtain cord blood of Rh- mothers at delivery to determine blood type of baby. If baby is Rh-, RhoGAM should not be necessary. High risk for isoimmunization: Placenta previa, placenta abruptio, Cesarean section. Perform Kleihauer-Betke test to determine degree of blood transfer.

Group Beta Strep Positive. Requires intrapartum administration of antibiotics if mother has GBS+ bacteria or positive rectovaginal swab culture.

Classification of Perineal Lacerations and Episiotomies.

1st degree: extends only through the vaginal and perineal skin

2nd degree: extends deeply into soft tissues of perineum down to, but not including, the external anal sphincter capsule. Involves the bulbocavernosus and transverse perineal muscles

3rd degree: extends through the perineum and through the anal sphincter

4th degree: extends through the perineum, anal sphincter, and the rectal mucosa to expose the lumen of the rectum

Leopold Maneuvers.

1 st maneuver	Presentation by palpating fundus.
2 nd maneuver	Fetal lie by palpating for back
3 rd maneuver	Determining engagement
4 th maneuver	Determines fetal head flexion or extension

Menstrual Cycle Terms.

Dysmenorrhea: painful menstrual flow

Hypomenorrhea: decreased menstrual flow

Intermenstrual bleed: bleeds between regular intervals

Menometrorrhagia: frequent, irregular, and excessive menstrual flow

Menorrhagia: excessive menstrual flow both in duration and amount

Metrorrhagia: irregular bleeding

Oligomenorrhea: irregular bleeds, >45 day interval

Polymenorrhagia: frequent regular menstrual flow, < 18 day cycle

Menstrual cycle: 28+/- 7 days, duration 5+/-2 days

Puberty: Girls around 10-11 yo

Menopause.

Hot flashes: most frequently occurring sx, sudden, episodic skin flushing and perspiration. Last 3-4 minutes, once a day up to 3 episodes per hour.

Lower urinary tract atrophy: atrophy of urethra and periurethra, loss of pelvic tone, prolapse of urethrovesicular junction. Sx of dysuria, urgency, frequency, suprapubic discomfort, frequent stress and urge incontinence

Genital changes: shortening of vaginal canal, loss of vaginal folds, epithelial thinning and friability, bacterial vaginosis common. Leads to atrophic vaginitis, dyspareunia or vaginal bleeding

Osteoporosis: associated with decreased bone mass, increased susceptibility to fractures. HRT decreases fracture risk.

Cardiovascular: HRT increases cardiovascular risk (stroke, MI, blood clot).

Apgar Scoring

Sign	0 Points	1 Point	2 Points
A Activity (Muscle Tone)	Activity (Limp)	Arms and Legs Flexed	Active Movement
P Heart Rate	Absent	Below 100 bpm	Above 100 bpm
G Grimace (Reflex Irritability)	No Response	Grimace (cries, some movement)	Sneeze, cough, pulls away
A Appearance (Skin Color)	Blue-gray, pale all over	Pink body, blue hands and feet	Normal over entire body
R Respiration	Absent	Slow, irregular	Good, crying

A score of 7-10 is considered normal, while 4-7 might require some resuscitative measures, and a baby with Apgars of 3 and below requires immediate resuscitation.

Postpartum Bleed Differential.

Atony, accreta, retained tissue, multiparity, inverted uterus, laceration, bleeding disorders.

Risk Factors for Preeclampsia.

Nulliparity (risk ratio 3:1)

Age >40 or <20 (3:1)

African-American race (1.5:1)
Family or personal history of the disease (5:1)
Chronic hypertension (10:1)
Chronic renal disease (20:1)
Diabetes (2:1)
Multiple gestation (4:1)

Ddx. of Suspected PID:

GYN: ectopic pregnancy, hemorrhagic ovarian cyst, torsion of an ovary, endometriosis

GI: appendicitis, cholecystitis, gastroenteritis, IBS

Urinary: nephrolithiasis, UTI

Psych: somatization

Recommended Resources

Beckman, Charles R.B. et al. *Obstetrics and Gynecology*, Seventh Edition. Lippincott Williams & Wilkins, 2013.

Toy, Eugene. et al. *Case Files: Obstetrics and Gynecology*. Third Edition. Lange, 2006.

www.obgynstudent.com

www.ob-efm.com

Internal Medicine

Aaysha Kapila MD – Clerkship Director (kapilaa@etsu.edu)

Yvette Font – Clerkship Coordinator (439-6381) (font@etsu.edu)

Clerkship Info

The Internal Medicine rotation is an eight-week rotation designed to perfect skills in history-taking, patient examination, and patient care. Students will spend 4 weeks at 2 of 3 sites, including: JCMC, VAMC, HVMC as a member of the ward team. Clerks are responsible for medical history and physical examination of patients assigned to them, and for assisting in the diagnostic and therapeutic management of those patients. This experience provides in-hospital adult experience in the fundamentals of Internal Medicine. Each student's final grade is based on a composite evaluation of performance by preceptors, senior residents and ward attendings as well as the student's performance on weekly quizzes and the NBME Internal Medicine subject examination at the end of the clerkship.

Try to start out seeing two patients, and as you become more comfortable, try taking on additional patients. Different attendings like different styles of oral presentations, so ask the residents you are working with whether the attendings like it “short and sweet” or all the details. You will be expected to take overnight call once a week, so coordinate with other students on your service. Rounds can take a considerable amount of time, so eat breakfast beforehand and wear comfortable shoes. The residents stay busy, so the more interested and engaged you are in patient care, the more they will teach and let you do!

Notes and Orders for Internal Medicine

Please see GENERAL INFORMATION section at the beginning of the Manual for a more complete Internal Medicine note.

Inpatient: The following is an example of a daily SOAP note that you will write each morning on all of your patients.

Example Daily SOAP Note.

Subjective: Pt c/o [] this am. Pain well controlled with meds. Pt reports +BM, +flatus, +void, no chest pain, no SOB, etc.

Objective:

VS: Tm Tc BP P R

I: [] cc/24 hrs O: [] cc/hr

PE: CV: RRR, no M / R / G, Lungs: CTA on R, crackles L base

Abd: obese, +BS, NT, ND, no organomegaly

Ext: no calf pain, no edema, pulses 2+, DTR 2+

IV Site: no erythema, no edema, no drainage

Problem site: Give more info

Labs:

CXR: no acute changes, RUL infiltrate persists

Assessment: initial problem, lab problem, subjective – ie c/o pain, physical findings (as many as necessary)

Plan: Go back to assessment and list what you would do for each.

ICU: The following is an outline of things to include in a note.

Date/Time: **Service:** **HD#:** **POD#:**

Antibiotics: **Drips:** **Lines:** **Medicines:**

Events Overnight:

Subjective:

VS: Tmax / 00:00 / Tcurrent / HR / BP / CVP / O2sat%

Pulmonary Artery Catheter: PAP / PWP / CO / CI / SV / MVO2

Ventilator: Mode / FiO2 / TV / Patient Rate / Set Rate / PEEP / PS / PAP

ABG (00:00): pH / PO2 / pCO2 / HCO3 / Base Excess

In Total **Out Total** **Net:**

- | | |
|--------------------------------|-----------------------|
| 1. Crystalloid | 1. Urine (color) |
| 2. Colloid | 2. Blood Loss |
| 3. Blood | 3. Emesis/Stool |
| 4. Feeds (enteral/paraenteral) | 4. Nasogastric/Drains |
| 5. Per Oral | |

New Labs:

Microbiology: Serum / Sputum / Urine / Stool / Ascites / Drain / Cultures

Imaging: Daily CXR / CT / MRI / AbXR / US (TEE, TTE)

PE:

A/P

- | | | |
|---------------------|-----------------------|-----------------|
| 1. Neurological | 6. Infectious Disease | 10. Skin Care |
| 2. Cardiovascular | | 11. Prophylaxis |
| 3. Respiratory | 7. Hematology | 12. Code Status |
| 4. Gastrointestinal | 8. Endocrine | |
| 5. Genitourinary | 9. Electrolytes | |

Hot Topics for Internal Medicine

Cardiology

Angina pectoris (unstable, ROMI, Prinzmetal's)
Acute MI
CHF (diastolic and systolic dysfunction)
Arrhythmias (a fib, SVT, VT, V fib, Bradycardias)
Cardiac Arrest (sudden death)
Cardiomyopathies
Hypertension
Valvular Heart Disease Endocarditis
Myocarditis
Pericarditis

Pulmonology

Pneumonia (community acquired vs. nosocomial)
Pleural Effusion (transudate vs exudate)
Pulmonary
Embolism (risk factors, blood gas interpretation, treatment)
Pneumothorax
Asthma (assessing disease severity and Tx for each case)
COPD

Lung Cancer (work up of a lung nodule)

Interstitial Lung Disease (BOOP = bronchiolitis obliterans organizing pneumonia, IPF, sarcoidosis, etc.)
Acute Respiratory Failure

Gastroenterology

GI bleed (upper vs lower, work up and Tx)
Peptic Ulcer Disease (*H. pylori*)
Inflammatory Bowel Disease (Crohn's, Ulcerative colitis)
Pancreatitis (Ranson's Criteria)
Acute Hepatitis (toxic, infectious, alcoholic)
Portal Hypertension
GI malignancies
Swallowing Disorders (achalasia, CA)
Diarrhea
Malabsorption

Infectious Diseases

TB (know screening, prophylaxis, Tx, and isolation criteria)
HIV (opportunistic infections/ neoplasms, viral load/CD4 counts, classes of drugs, concept of resistance)

Pneumonia/URI
Meningitis (septic vs aseptic, diagnosis,
and treatment)
UTI/Pyelonephritis
STD's
Osteomyelitis (in normal, diabetic, and
IVDU)
Encephalitis
Diverticulitis
Lyme Disease
Malaria
Fever of Unknown Origin

Nephrology

Acute Renal Failure
Glomerulonephritis (FSGS, post-
streptococcal, lupus, Goodpasture's,
Wegener's)
Chronic Renal Failure/Dialysis
(CAPD=continuous ambulatory
peritoneal dialysis)
Electrolyte Disorders
Acid/Base Disorders
Nephrolithiasis

Rheumatology

Systemic Lupus Erythematosus
Rheumatoid Arthritis

***We would like to stress the importance of outside reading as
critical for performing well on the shelf exam.***

Osteoarthritis
Polyarteritis Nodosa
Ankylosing Spondylitis
Gout/Pseudogout
Polymyositis
Fibromyalgia

Hematology

Anemia (macrocytic, microcytic,
normocytic)
Bleeding Disorders (factor deficiencies,
platelet disorders)
Hypercoagulability (factor deficiencies,
CA, Virchow's triad, Factor V Leiden
[APC resistance], anti-phospholipid
syndrome)

Oncology

Breast CA
Prostate CA
Colon CA
Leukemia/Lymphoma
Lung CA
Paraneoplastic syndromes
Health Maintenance Issues
CA Screening
Medical Ethics
Outpatient management

Recommended Resources

Urban, Robert et al. *Medicine: PreTest-* good review book for shelf
Agabegi, Steven S. *Step Up to Medicine-* good explanations/shelf review
Sabatine, Mark. *Pocket Medicine: The Massachusetts General Hospital
Handbook of Internal Medicine-* great to carry on wards
First Aid for Medicine Clerkship – review book
UWorld Qbank and Master the Boards

Pediatrics

Jennifer Gibson, MD – Clerkship Director

Demetrio Macariola, MD – Assistant Clerkship Director

Gina McGee – Clerkship Coordinator (429-6228)

Clerkship Info

Welcome to third year! You've been through a lot to get to this point, and many exciting things await you this year. We are looking forward to working with you during your pediatric rotation. It is our hope that you will learn many new concepts and skills and have some fun while you are doing so!

Your rotation will be divided into 5 subsections: 2 weeks on the Inpatient Ward service, 1 week in an Outpatient Peds clinic, 1 week of mornings in the Newborn Nursery and afternoons in an Outpatient Peds Clinic, 1 week in the Neonatal ICU, and 1 week in the specialty of your choice. The Inpatient Ward is located on the second floor of Niswonger Children's Hospital (NCH). The ETSU Outpatient Clinic is across the street from the hospital, on the ground floor of the Clinical Education Building (325 N. State of Franklin). The Newborn Nursery is in the Women's Center at JCMC, and the NICU and PICU are on the third floor of NCH. The nurseries are locked wards that require numeric codes or badge access for entry. You will be given these codes and provided with security clearance via Tawana Holland on your first few days of the rotation. These codes should not be shared with patients, patient's families, or hospital visitors under any circumstances.

On Wednesday afternoons during your rotation, you will not have clinical responsibilities. Didactic sessions with the faculty and quizzes are held each Wednesday in the Pediatric Conference room on the third floor of Building 1 on the VA campus. Wednesday lectures are not optional. You will also have two simulation laboratory sessions, each 2 hours in length,

which focus on the skills of information gathering, forming a differential diagnosis, and initiating a management plan.

Overnight call will be taken during your 2 weeks on the wards with 1 scheduled weeknight and 1 scheduled weekend call. Call will also be taken in the NICU but will be home call.

Flexibility is the key to surviving this rotation. Children do not respond well to rigid structure; and if you approach them without attempting to meet them at their level, you are going to have a very long 6 weeks. It is also highly likely that you will get sick on this rotation because children are amazing germ reservoirs and you will probably be encountering all manner of their bodily fluids. Your best defense is to wash your hands, thoroughly and often.

There is no required textbook for this rotation. During orientation you will be introduced to 32 interactive computer-based cases that will cover all the learning objectives in your syllabus. We also recommend that you obtain a good board review book to prepare for the standardized NBME examination you will take at the end of this rotation. There are many of these books in print. Find one that suits you and use it.

Notes and Orders for Pediatrics.

Pediatric Ward H&P Outline. The pediatric H&P follows the same general outline as other specialties with a few key differences.

Chief Complaint:

PCP:

HPI:

Past Medical History: should include lifetime hospitalizations and birth history (SVD vs CD, weeks at delivery, weight, complications)

Immunization History:

Developmental history: see developmental milestones below

Family history: childhood illness and adult illnesses if they are pertinent to the chief complaint (No one is going to get excited that little Bobby's great aunt died of a stroke at the age of 96).

Social history: Where does the child live? Who are the primary caretakers? Do caretakers work or go to school? Who is the child's PCP? Are there smokers or pets in the home? What is the water source (city water, well, or spring)?

ROS

PE:

Vital Signs: T, HR, RR, BP, O₂, Weight, Length and Head Circumference – plotted on an appropriate growth chart

General:

HEENT:

Neck:

Chest/Lungs:

Heart:

Abdomen:

GU: tanner stage

Musculoskeletal:

Neurological: primitive reflexes (in infants)

Skin:

Labs:

Interim History:

Assessment: You are generally safest to do this in the form of a problem list, however if the patient is especially complicated you can organize it by organ systems

Plan: Don't just write "Will discuss with resident and attending." Put yourself out there – it's the path to greatness.

Inpatient Daily Progress Note Outline.

Hospital day # **Antibiotic Day #** (if appropriate)
(typically reported in mg/kg/dose)

Subjective: New problems, parental concerns, patient diet, activity and voiding and stooling patterns.

Objective: Vital signs (if the patient has been febrile, note the maximum temperature in the last 24 hours)

Weight: note change in weight in past 24 hours

Intake: calculate the patient's fluid intake from all sources in the past 24 hours, report it in "ml/kg/day" (normal is 70-120)

Output: calculate the patient's urine output for the past 24 hours (typically expressed in diaper weight where 1 gram diaper weight = 1 ml of urine output), report it in ml/kg/day and ml/kg/hour (normal is 1-3)

Physical exam: (as a minimum)
General appearance

Heart /Lungs/Abdomen

And any previous abnormal physical exam findings should be addressed.

Labs:

Assessment /Plan:

Well Child Visits. The clinic uses EHR for patient visit notes. Students have access to the EHR to review patient records and may assist residents and attendings with note completion but do not write their own notes. Use the outline below for history gathering and development of an assessment and plan. Tailor it to your patient's age. See useful templates for each age group at: http://brightfutures.aap.org/tool_and_resource_kit.html. See the CDC website for vaccine schedules at: <https://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>.

CC/HPI: Questions or concerns, interim history, ROS

PMH: Brief birth history (term, delivery, complications); newborn screening results; other medical issues, hospitalizations, surgeries

Nutrition: breastmilk/formula; milk/table foods/juice; water (city, well, bottled); urination (#wet diapers), stooling; WIC

Social History: who pt lives with; pets; smokers; domestic violence; childcare/school; sleep

Family History: infant/child deaths; immunosuppressed family members; other

Screening: hearing, vision, lead, TB, postpartum depression, development (PEDS and MCHAT screening tools), behavior problems (PSC-17 screening tool), adolescent depression (PHQ9 screening tool)

Development: assess pt's achievement of developmental milestones by observation of the pt and discussion with parents/caregivers

Anticipatory Guidance: discuss age-relevant expectations regarding safety, nutrition, behavior, etc

Meds/Allergies: list all meds and allergies and include how the allergy presents

Immunizations: review pt's vaccine record and ensure it's up to date

Physical Exam:

Assessment and Plan:

Newborn H&P:

HPI: Baby girl/boy (name) is a (weight) AGA/SGA/LGA product of a (#) week gestation born on (date) at (time) to a (age) year old G_P_/_/_/_ (term/premature/abortions/living) female. Maternal PMH (including psychiatric history)

includes _____. Maternal labs include _____ (blood type, GBS, Hep B, HIV, RPR, GC, Chlamydia). Maternal social habits _____ (smoking, alcohol, drug use). Maternal meds include _____ (during pregnancy, including MVI). This pregnancy course was complicated by _____ (or uncomplicated). Prenatal care was adequate (or not adequate). Prenatal US was normal (or note any issues). Mom was admitted to (hospital) on (date) due to _____.

Delivery History: Mode of delivery, ROM, maternal anesthesia, baby's presentation, delivery complicated or uncomplicated, baby's APGARs at 1 and 5 minutes, baby's stats (birth weight, length, head circumference, blood type, Coombs), any resuscitation required for baby

Physical Exam:

Vital Signs: Wt, HC, BP, Pulse, Temp, RR

General: Describe resting posture, activity, gross abnormality, color (pink, cyanotic/acrocyanotic, pale mottled)

Skin: Lanugo, meconium staining, icterus, hemangioma, nevi, rash, excoriation, petechiae, bruises.

Head: Shape, molding, caput, cephalohematoma, sutures (over-riding, separated).

Fontanel - anterior, posterior (presence, size, flat/full).

Eyes: Edema, conjunctival or anterior chamber hemorrhage, discharge. Size of eye; cornea, iris normal? Lens clear? Red reflex present? Retina visualized? PERRL?

Nose: Nares patent? Septum midline? Drainage present?

Ears: Cartilaginous development of the ear lobe, position of ears, shape of auricle (normal/abnormal), preauricular sinus or skin tags. External auditory canal patent.

Mouth: Palate (intact, narrow or high arched), Epstein's pearls, mucosal cysts, teeth, tongue (size, position), frenulum, uvula. Micrognathia.

Neck: Trachea position. Masses, cysts, sinus tracts, movement, nodes.

Chest: Symmetry. Clavicles intact? Axillary adenopathy.

Lungs: Retractions, flaring, grunting, tachypnea, auscultation (rales, rhonchi, wheezes)

CVS: PMI, rhythm, rate (tachycardia, bradycardia); S1, S2 (amplitude equal? S2 split?); Murmur (quality, intensity, duration, relation to cardiac cycle, radiation, location of maximum intensity); Peripheral pulses - femoral, brachial, radial (amplitude, equality, simultaneous); Peripheral perfusion (capillary filling time)

Abdomen: Shape, muscle tone, number of umbilical vessels, hernia/diastasis.

Masses, HSM. Inguinal adenopathy?

Genitourinary: Female- size of clitoris and labia, masses in labia, hymenal tags, discharges, abnormalities in voiding. Male - urethral meatus patency and position,

chordee, testicular descent and scrotal development. Hernia or hydrocele, abnormalities in voiding.

Anus: Patency, abnormal stooling.

Extremities: Symmetry, ROM, abduction of hips, position of hands and feet. Number, shape, length of digits, length of nails, Palmar creases normal?

Spine: Tuft of hair, sacral dimple, scoliosis

Neurologic: Tone; Dubowitz/Ballard exam; Cry: character, intensity, frequency; Behavior: alertness, wakefulness, irritability, ability to be consoled; Reflexes: Suck, Grasp (palmer/plantar), Moro

DTRs (knee, angle, plantar, triceps, biceps); Tremor, clonus; Paralysis: facial brachial

Labs:

Assessment/Plan:

NICU Daily Progress Notes: NICU progress notes are on a preprinted template, but extra attention should be given to daily weight and daily fluid intake and output and caloric intake.

NICU Discharge Summary: See sample posted in NICU.

Pearls and Tidbits for Pediatrics.

Ranges in Vital Signs in Children.

Respiratory Rate: Mean respiratory rate plus or minus 1 stand dev.

Age	RR
0-3mo	35-55
3-6mo	30-45
6-12mo	25-40
1-3y	20-30
3-6y	20-25

Age	RR
6-12y	14-22
>12y	12-18

Heart Rate:

Age	Awake	Mean	Sleeping
Newborn- 3 months	85-205	140	80-160
3 months- 2 years	80-190	130	75-160
2-10 years	60-140	80	60-90
> 10 years	60-100	75	50-90

Blood Pressure, 90th Percentile (assessed by ht and age):

Age	Syst BP	Diast BP
Neonate	60-90	20-60
Infant	87-105	53-66
Toddler	90-105	53-66
School Age	97-112	57-71
Adolescent	112-128	66-80

Contraindications to Breastfeeding. HIV, HTLV, CMV, VZV, HSV, Rubella, TB.

Primitive Infant Reflexes.

Fencing: lying supine, the infant's head is turned; the ipsilateral arm extends horizontal and contralateral arm extends vertical **Extinct**: at 6 months

Moro: Abduction and extension of arms when infant falls backwards.
Extinct: at 6 months

Palmar Grasp: Touch infant's hand from palmar side. **Extinct**: by 3 months

Plantar: toe curl downwards. **Extinct**: at 8 months

Stepping: Alternate flexion and extension of legs when soles of feet touch the surface of exam table. **Extinct**: at 2 month

Weights and Measures.

1 ounce = 30 cc

2.2 lbs = 1 kg

1 tsp = 5 cc

3 tsp = 1 tbsp

2 tbsp = 1 ounce

38.0 degrees Celsius = 100.4 Fahrenheit

39.0 degrees Celsius = 102.2 Fahrenheit

Nutritional Information. Human babies were meant to drink human breast milk. There are 20 calories/ounce of human breast milk and standard infant formulas. Premie formulas contain either 22 or 24 calories per ounce.

Nutrition: Breastfeeding

<u>Age</u>	<u>Quantity (oz. Per feeding)</u>	<u>Feedings per 24 hours</u>
1-2 wks	2-3 oz	6-10
3-8 wks	3-5 oz	5-7
3 mos	5-6 oz	4-5
4 mos	6-7 oz	4-5
5-12 mos	7-8 oz	3-4

High Yield Topics for Pediatrics

Growth and Development / Failure to Thrive / Respiratory Distress / Syndrome / Sepsis/Meningitis / Bronchiolitis / Pneumonia / Otitis Media / Pharyngitis / Gastroenteritis / Asthma / Congenital Heart Disease / Viral Exanthems / Newborn Screening / Child Abuse

Recommended Resources

Marino, Bradley. *Blueprints in Pediatrics*, 2nd Edition. Blackwell Science, 2001.

Yetman, Robert J. *Pediatrics: PreTest Self-Assessment and Review*. 9th Edition. Appleton and Lange, 2000.

The Johns Hopkins Hospital. *The Harriet Lane Handbook*, 19th Edition, 2012.

Kliegman, Robert, et al. *Nelson Textbook of Pediatrics*, 19th Edition, 2011. (free on QCOM's medical library website)

Toy, Eugene C., et al. *Case Files Pediatrics*. 2004.

www.generalpediatrics.com

www.bilitool.com

Psychiatry

Merry Miller, MD – Clerkship Director

Wanda Young – Clerkship Coordinator (439-2244)

The James H. Quillen College of Medicine Department of Psychiatry Clinical Clerkship is a six week rotation that provides a general overview to the field of Psychiatry. Students will develop clinical clinical skills in psychiatric diagnosis and therapeutics, including how to conduct a psychiatric diagnostic interview and the mental status exam. The amount and quality of learning that you develop during this rotation will be of significant relevance for your future clinical practice of medicine regardless of your specialty choice. Students will spend 3 weeks at the VA and 3 weeks at Woodridge Hospital, including 1 week on Willow (the child unit), and 2 weeks on Spruce or Cedar. Students will also be exposed to outpatient psychiatry. You will prepare a presentation that links psychiatry with the field that you anticipate entering or another topic of interest.

Psychiatric Interview Outline.

What brings you in...?

Can you tell me more about ...?

*Can you describe how _____
affects you?*

*What else have you noticed? (time
line, associated symptoms,
aggravating and alleviating factors)*

*What has the treatment that you have
received been like? (medications,
therapy, case management)*

*What medications are you currently
taking?*

*Is there anything else that you have
been having problems with?*

Have you had problems like this before?

What kind?

When?

What did you do about it then?

How long did it last?

**Has anyone in your family ever had
any problems like this or other
emotional/psychological problems?
Has anyone in your family had any
problems with alcohol or drug abuse?**

**Have you had any problems with
alcohol or drug abuse?**

Do you smoke?
Have you ever been arrested for DUI or public drunkenness?
How is your general health?
Any problems?
Are you taking any other medications?

What kind of treatment are you receiving?

Can you tell me something about how you grew up?

How many people are in your family?
Are your parents together or divorced?

What is the quality of your family interactions?

Who are you closest to?
Who do you have friction with?

How has school been for you?

How far did you go?
Did you take any special classes?
Did you have any particular problems?

What did you like best about school?

What did you do when you left school?

What kind of jobs have you held?
Have these jobs been good or bad?
How is your current employment?
Have you ever been in the military? (What branch? What duty? What was your rank at discharge? Did you have any disciplinary problems?)

How are your relationships?

Have you ever dated? When did you start?

Are you currently involved with anyone?

Have you ever been married? (Is this your first marriage?)

Have you ever had a sexual relationship?

Do you have any children?

How many close friends do you have?

What is the quality of these relationships?

Do you feel safe in your relationships?

We've talked about a lot of things, but is there anything that we haven't discussed that you think might be important for me to know or understand?

Symptom Review: sleep, appetite, concentration, energy, mania, libido, interest, guilt, hopelessness, anxiety, phobias, panic attacks, obsession, compulsions, psychotic ideas, eating disorders, dissociation, flashbacks

Mental Status: orientation, reliability, appearance, behavior, speech, mood, affect, thought processes, thought content, delusions, perceptions, suicidal ideation, homicidal ideation, cognition (memory, abstracting), intelligence, judgment, insight, MMSE

Clinical Evaluation of the Psychiatric Patient

I. Psychiatric history

- A. Identifying information. Age, sex, marital status, race, referral source.
 - B. Chief complaint (CC)
 - C. History of present illness (HPI)
 - 1. Current symptoms: date of onset, duration and course of symptoms.
 - 2. Previous psychiatric symptoms and treatment.
 - 3. Recent psychosocial stressors: stressful life events which may have contributed to the patient's current presentation.
 - 4. Reason the patient is presenting now.
 - 5. Historical evidence in this section should be relevant to the current presentation.
 - D. Past psychiatric history
 - 1. Previous and current psychiatric diagnoses.
 - 2. History of psychiatric treatment, including outpatient and inpatient treatment.
 - 3. History of psychotropic medication use.
 - 4. History of suicide attempts and potential lethality.
 - E. Past medical history
 - 1. Type of treatment, including prescription, over-the-counter medications, home remedies.
 - F. Family history. Relatives with history of psychiatric disorders, suicide or suicide attempts, alcohol or substance abuse.
 - G. Social history
 - 1. Source of income.
 - 2. Level of education, relationship history (including marriages, sexual orientation, number of children); individuals that currently live with patient.
 - 3. Support network.
 - 4. Current alcohol or illicit drug usage.
 - 5. Occupational history.
 - 6. History of physical, sexual, or emotional abuse
 - H. Developmental history. Family structure during childhood, relationships with parental figures and siblings; developmental milestones, peer relationships, school performance.
- II. Mental status exam. The mental status exam is an assessment of the patient at the present time. Historical information should not be included in this section.
- A. General appearance and behavior
 - 1. Grooming, level of hygiene, characteristics of clothing.
 - 2. Unusual physical characteristics or movements.
 - 3. Attitude. Ability to interact with the interviewer. Reciprocal/appropriate.

4. Psychomotor activity. Agitation or retardation. Gait, tremor, tics.
 5. Degree of eye contact.
- B. Affect
1. Definition. External range of expression, described in terms of quality, range and appropriateness.
 2. Types of affect
 - a. Flat. Absence of all or most affect.
 - b. Blunted or restricted. Moderately reduced range of affect.
 - c. Labile. Multiple abrupt changes in affect.
 - d. Full or wide range of affect. Generally appropriate.
- C. Mood. Internal emotional tone of the patient (ie, dysphoric, euphoric, angry, euthymic, anxious).
- D. Thought processes
1. Use of language. Quality and quantity of speech. The tone, associations and fluency of speech should be noted.
 2. Common thought disorders (if normal--linear, logical, goal-directed)
 - a. Pressured speech. Rapid speech, typical of patients with manic disorder.
 - b. Poverty of speech. Minimal responses, such as answering just "yes or no."
 - c. Blocking. Sudden cessation of speech, often in the middle of a statement.
 - d. Flight of ideas. Accelerated thoughts that jump from idea to idea-typical of mania.
 - e. Loosening of associations. Illogical shifting between unrelated topics.
 - f. Tangentiality. Thought which wanders from the original point.
 - g. Circumstantiality. Unnecessary digression, which eventually reaches the point.
 - h. Echolalia. Echoing of words and phrases.
 - i. Neologisms. Invention of new words by the patient.
 - j. Clanging. Speech based on sound such as rhyming and punning rather than logical connections.
 - k. Perseveration. Repetition of phrases or words in the flow of speech.
 - l. Ideas of reference. Interpreting unrelated events as having direct reference to the patient, such as believing that the television is talking directly to them.
- E. Thought content
1. Definition. Hallucinations, delusions and other perceptual disturbances.
 2. Common thought content disorders
 - a. Hallucinations. False sensory perceptions, which may be auditory, visual, tactile, gustatory or olfactory.

- b. Delusions. Fixed, false beliefs, firmly held in spite of contradictory evidence.
 - i. Persecutory delusions. False belief that others are trying to cause harm, or are spying with intent to cause harm.
 - ii. Erotomanic delusions. False belief that a person, usually of higher status, is in love with the patient.
 - iii. Grandiose delusions. False belief of an inflated sense of self-worth, power, knowledge, or wealth.
 - iv. Somatic delusions. False belief that the patient has a physical disorder or defect.
 - c. Illusions. Misinterpretations of reality.
 - d. Derealization. Feelings of unrealness involving the outer environment.
 - e. Depersonalization. Feelings of unrealness, such as if one is “outside ” of the body and observing his own activities..
 - f. Suicidal and homicidal ideation. Suicidal and homicidal ideation requires further elaboration with comments about intent and planning (including means to carry out plan).
- F. Cognitive evaluation
- 1. Level of consciousness.
 - 2. Orientation: Person, place and date.
 - 3. Attention and concentration: Repeat 5 digits forwards and backwards or spell a five-letter word (“world ”) forwards and backwards.
 - 4. Short-term memory: Ability to recall 3 objects after 5 minutes.
 - 5. Fund of knowledge: Ability to name past five presidents, five large cities, or historical dates.
 - 6. Calculations. Subtraction of serial 7s, simple math problems.
 - 7. Abstraction. Proverb interpretation and similarities.
 - 8. Neurovegetative: sleeping, eating
- G. Insight. Ability of the patient to display an understanding of his current problems, and the ability to understand the implication of these problems.
- H. Judgment. Ability to make sound decisions regarding everyday activities. Judgment is best evaluated by assessing a patient’s history of decision making, rather than by asking hypothetical questions.

Mini-Mental Status Exam (MMSE)

Always note the level of consciousness during the exam, i.e. drowsy, alert, etc.

Orientation

➤ What is the year, season, date, day, month? (1 point for each correct answer)

➤ Where are we? country, state, city, hospital, floor (1 point for each correct answer)

Registration

➤ Name 3 unrelated objects. Ask until pt learns all three. Record # of trials (score only 1st trial awarding 1 point for naming each word)

Attention and Calculation

➤ Serial 7's; do five. Or spell W-O-R-L-D backwards. (1 point for each correct subtraction or 1 point for each letter of WORLD spelled backwards)

Recall

➤ Ask for the three objects you named above. (1 point for each correct answer)

Language

➤ Naming: pencil and watch (1 point for correctly naming objects)

➤ Repetition: "No ifs, ands, or butts." (1 point if repeats correctly)

Comprehension

➤ Three-step command: "Take this piece of paper in your right hand. Fold it in half. Put it on the floor." (1 point for correctly following each of three commands)

Reading

➤ Please read and do what it says CLOSE YOUR EYES (1 point for reading and following command)

➤ Writing an example sentence (must contain a subject, a verb, and make sense for 1 point)

Drawing

➤ Copying: Intersecting pentagons (1 point for a drawing consisting of two 5-sided figures that intersect to form a 4-sided figure)

Scoring: Max 30 points

0-10 = Severe cognitive impairment

11-20 = Moderate impairment

20-25 = Mild impairment

25-30 = Questionable impairment

III. General medical screening of the psychiatric patient. A thorough physical and neurological examination, including basic screening laboratory studies to rule out physical conditions, should be completed.

A. Laboratory evaluation of the psychiatric patient

1. CBC with differential
 2. Blood chemistry (SMAC)
 3. Thyroid function panel
 4. Screening test for syphilis (RPR or MHATP)
 5. Urinalysis with drug screen
 6. Urine pregnancy check for females of childbearing potential
 7. Blood alcohol level
 8. Serum levels of medications
 9. HIV test in high-risk patients
- B. A more extensive workup and laboratory studies may be indicated based on clinical findings.
- IV. DSM-V Diagnosis
- V. Treatment plan. This section should discuss pharmacologic treatment and other psychiatric therapy, including hospitalization.

Notes and Orders for Psychiatry

Admission Note Parameters. This includes: Identifying data, CC, HPI, Past psychiatric history, Family psychiatric history, Past medical history, Social history(include legal problems, impact of symptoms on work/productivity), Alcohol / Tobacco / Drugs / Caffeine, Current medication, Allergies, Physical Exam, Mental Status Exam, DSM V Diagnosis.

Example

Mr. John Doe is a 35 y.o male who was transferred from Sycamore Shoals emergency department as an emergency commitment to the ICU at Woodridge. Attending is Dr. Green. Resident is Dr. Blue.

CC: "I have no reason to live since my wife left me."

HPI: Pt reports that he recently underwent a divorce after fifteen years of marriage.

Pt reports that he and his wife actually separated approximately 3 months prior to the patient receiving divorce papers. He states that at first he was "OK" with the divorce, but things began to bother him about 2 weeks after the divorce was final. He reports that his 11 y/o daughter and 10 y/o son live with their mother and her new boyfriend. Pt reports that he feels like his children are starting to like the mother's boyfriend better than they like him. Pt reports that for the last 2 weeks he has been very depressed, can't sleep at night, doesn't want to leave his house, feels constantly fatigued, has poor concentration, has no appetite, and that he was planning to take an overdose of Valium in order to "end my misery."

Past Psychiatric Hx: none

Family Psychiatric Hx: none

Developmental Hx: (key events in childhood and adolescence)

PMH: Essential hypertension

Social HX: Pt is recently divorced from a first time marriage. He has two children ages 10 & 11. He is currently unemployed, but his last job was approximately 1 month ago. He is a painter. He has a 12th grade education.

Alcohol / Tobacco / Drugs / Caffeine: Drinks a 12oz beer “maybe once or twice a weekend.” Smokes 2 ppd x 20 years. No illicit drugs. No significant caffeine hx.

Current meds: Lotensin 10mg po bid

Allergies: NKDA

ROS & PE: See complete H&P on chart for this section

MSE: Sensorium – Alert and oriented x 3. Appearance – Pt is average build tanned male who appears his stated age. He is dressed in jeans & a black T-shirt. His hair is black, short, and disheveled. He has a 5 o'clock shadow on his face. Behavior – patient is very fidgety throughout the interview as evidenced by shaking his right foot constantly and wringing his hands at times. Attitude – pt is cooperative and friendly with interviewer. Speech – clear, regular rate & volume, non-pressured, and spontaneous. Thought - thought processes are logical and coherent. No evidence of tangentiality or circumstantiality. No FOI or LOA. His thoughts are goal-directed and are centered around his recent divorce and its impact on his life. Pt denies A/V hallucinations or delusions of any type. Pt also denies homicidal ideations, but does express suicidal ideations with a plan. Pt's thinking is abstract based on responses to proverbs and similarities. Mood is depressed. Affect is congruent with mood. It is of average intensity, narrow range, and non-labile. Memory – immediate intact as tested by immediate recall of 3 objects. Recent and remote memory also intact. Concentration impaired as patient cannot spell world backwards and can only complete 2 serial 7's. Judgment is fair. Insight is fair. Intellect is judged to be average based on vocabulary and general fund of information. Reliability – good.

Axis I: Major Depressive Disorder, Single episode, severe vs. Adjustment disorder with depressed mood, acute.

Axis II: Deferred

Axis III: Essential hypertension

Axis IV: Living alone, inadequate social support, unemployment, inadequate finances, divorce.

Axis V: Admit GAF= 25. Highest GAF in past year = unknown.

Treatment Plan: Admit to ICU. Observe and monitor for suicidal ideations. Will discuss further treatment plan with attending and resident.

Pearls and Tidbits for Psychiatry

Some Tips. Safety first: never sit with a labile patient between you and the door; if you feel threatened, leave the room and get help. Try to pick up on how a patient makes you feel (e.g. depressed, anxious). You'll find that the patient often has similar feelings. Learn the indications, interactions, and side effects of major psychoactive drugs.

Four A's of Dementia: Aphasia, Apraxia, Agnosia, disturbances in Abstract thought.

Screening for Alcoholism: CAGE.

Have you felt the need to Cut down on your drinking?

Have you ever felt Annoyed by criticism of your drinking?

Have you ever felt Guilty about drinking?

Have you ever had to take a morning Eye opener?

Major causes of delirium: HIDE.

Hypoxia

Infection (esp. UTI)

Drugs (esp. anticholinergics)

Electrolyte disturbances

Manic Episode Criteria:

DIG FAST.

Distractibility

Insomnia

Grandiosity

Flight of ideas

Increase in goal-directed **A**ctivity/
Activity

Pressed **S**peech

Thoughtlessness

Depression Criteria: SIGECAPS.

S: sleep disturbances

I: decreased interest in activities

G: guilt

E: decreased energy

C: decreased concentration

A: anhedonia/appetite changes

P: psychomotor agitation

S: suicidal ideations

Caveat: The following criteria are based on DSM IV. Compare to DSM V..

Mood Disorders

Depressive Episode

1. change from previous level of functioning
2. 1 symptom of ↓ mood or anhedonia

3. Significant social/occup. impairment

4. ≥ 5 of following

a. Sleep disturbances

b. Loss of interest

c. Guilt/worthlessness

d. ↓ Energy

e. ↓ Concentration

f. Appetite/weight changes

g. Anhedonia

h. Psychomotor agitation/retardation

i. Suicidal ideation

Manic Episode

1. ≥1 wk of abnormal and persistently elevated, expansive or irritable mood

2. Marked social and occup. impairment

3. Must have ≥3 of following during disturbance

a. Inflated self-esteem or grandiosity

b. ↓ need for sleep

c. More talkative or pressured speech

d. Flight of ideas

e. Distractibility

f. ↑ goal directed/psychomotor agitation

g. Excessive pleasure seeking activities

Hypomanic episode

1. ≥4 days of abnormal and persistently elevated, expansive or irritable mood

2. No marked social or occup. impairment

3. Must have ≥ 3 of following during disturbance:

a. ↑ self esteem or grandiosity

b. ↓ need for sleep

c. Pressured speech

d. Flight of ideas

e. Distractibility

f. ↑ goal directed/psychomotor agitation

g. Excessive pleasure seeking activity

Major Depressive

1. ≥ 1 major depressive episodes
2. No Hx of mania, or hypomanic episodes

Bipolar I

1. ≥ 1 manic or mixed episodes
2. Cannot be caused by psychotic episode

Bipolar II

1. ≥ 1 major depressive episodes and ≥ 1 hypomanic episode
2. Not accounted by psychotic episode

Cyclothymic Disorder

1. For at least two years, presence of numerous periods of hypomanic and depressive symptoms that do not meet criteria for major depressive episodes
2. Never been without symptoms for criterion #1 for >2 months
3. No major depressive, manic, or mixed episodes. Present during the 1st two years of disturbance
4. Symptoms cause clinically significant distress and impairment

Dysthymic Disorder

1. Depressed mood for most of the day for more days than not. Duration ≥ 2 years.
2. Never been without symptoms from #1/ #3 for > 2 months
3. No major depressive disorder during 1st 2 years of disturbance. No mani/ hypomanic/cyclothymic/or mixed episode. Disturbance does not occur during course of psychotic episode.
4. ≥ 2 present while depressed:
 - a. $\uparrow \downarrow$ appetite
 - b. Hypersomnia or insomnia
 - c. Low energy or fatigue
 - d. \downarrow self-esteem
 - e. Poor concentration or difficulty making decisions
 - f. Feeling of hopelessness

Psychotic Disorders

Schizophrenia

1. \downarrow Social or occupation functioning

2. Continuous signs of illness for ≥ 6 mos.
3. R/O schizoaffective and mood disorders
4. ≥ 2 of the following for ≥ 1 month:
 - a. Delusions
 - b. Disorganized speech
 - c. Disorganized or catatonic behavior
 - d. Hallucinations
 - e. Negative symptoms

Schizoaffective

1. Meets criteria for schizophrenia and major depressive, manic or mixed episodes
2. Delusions or hallucinations for ≥ 2 weeks w/o significant mood symptoms
3. Mood symptoms present for significant portion

Schizophreniform

1. Must meet criteria for schizophrenia
2. Duration of illness is 1 to 6 months
3. Must r/o schizoaffective and mood disorders

Brief Psychotic

1. Duration ≥ 1 day but ≤ 1 month
2. ≥ 1 of following
 - a. Delusions
 - b. Hallucinations
 - c. Disorganized speech
 - d. Disorganized or catatonic behavior

Delusional Disorder

1. Non bizarre delusions ≥ 1 mo
2. Absence of hallucinations, disorganized speech/behavior, and negative symptoms
3. Behavior and level of functioning not overly bizarre or impaired

Personality Disorders

Cluster A: Eccentric, Abn. Expression, cognition and peer relations; Paranoid: Paranoid, \uparrow vigilance, Mistrust, Hidden meanings, Tx. Supportive; Shizoid: Loners, cold, aloof, detached, \downarrow Friends, Tx. Behavioral approach; Schizotypal: Magical thinking, cold, aloof, unconventional

organizations, Tx. Supportive, Avoid grp Rx.

Cluster B: Dramatic, impulsive, violates norms, emotionality, acting out; Antisocial: Arrests, violates norms, Emotionality, acting out, Tx. Behavioral approach; Borderline: Instability of mood, relationships and self-identity, Tx. Cognitive/behavioral/ ↓ Transference; Histrionic: Self-centered, vain, craves novelty, Demand attention and reassurance, Tx. Psychodynamic/ Supportive/ Cognitive; Narcissistic: Entitlement, ↑ self-importance, Hypersensitive, lack empathy ↑ goals, Tx. Insight-Oriented Rx.

Cluster C: Anxious; Avoidant: Social phobia, ↓ self esteem, ↑ sensitive, Apprehension, mistrust, Tx. Group therapy/ desensitization; Dependent: excessive nurture/support, trouble with decisions, projects, Tx. insight psychotherapy/Group Rx; Obsessive-Compulsive: Perfectionism, inflexibility, constricted emotions, over-conscientious, Tx. Cognitive/Thought stopping.

Anxiety Disorders

Generalized Anxiety Disorder

1. Excessive anxiety and worry occurring more days than not for at least 6 months, involving a number of events/activities
2. Difficulty controlling the worry
3. Clinically significant distress or impairment in social, occupational, or other areas of functioning
4. Anxiety and worry associated with ≥ 3 of following occurring more days than not for the past 6 months
 - a. Restlessness/ "on edge"
 - b. Easily fatigued
 - c. Difficulty concentrating
 - d. Irritability
 - e. Muscle tension

f. Sleep disturbance

Panic Attack: A period of intense fear or discomfort, in which $\uparrow 4$ of following develop abruptly and peak within 10 min:

- a. Cardiac palpitations, ↑ heart rate
- b. Sweating
- c. Trembling/shaking
- d. Shortness of breath
- e. Feeling of choking
- f. Chest discomfort or pain
- g. Nausea/abdominal distress
- h. Dizzy/light-headed/faint/unsteady
- i. Derealization
- j. Fear of losing control
- k. Fear of dying
- l. Paresthesias
- m. Chills/hot flashes

Panic disorder (with or w/o agoraphobia)

1. recurrent and unexpected panic attacks
2. at least 1 attack has been followed with ≥ 1 mo. of worry about add. attacks
3. not better accounted by another mental disorder

Posttraumatic stress disorder

1. Exposure to traumatic event in which the person experience/witnessed or was confronted with an event that threatened death or serious injury and the patient's response involved intense fear/horror/helplessness.
2. Traumatic event is re-experienced; ≥ 1 of following: dreams/stress with symbolic events/ ↑ recollections/feeling that event is recurring
3. Persistent avoidance of stimuli associated with the trauma and numbing of the general responsiveness, as indicated by three of the following: activities, thoughts, ↓ recall of event/ ↓ range of affect / estrangement from others/ sense of foreshortened future

4. Persistent symptoms of increased arousal as indicated by ≥ 2 of the following: \uparrow/\downarrow sleep/ \uparrow anger/ \downarrow concentration/ startle/ hyper-vigilance
5. Duration 2, 3, 4 is >1 month. Significant impairment

Hot Topics for Psychiatry

Schizophrenia

Bipolar disorder

Depression

Alcoholism

Adjustment disorder

Anxiety disorder

Post traumatic stress disorder

Delirium

Alzheimer's

Recommended Resources

Desk Reference to the Diagnostic Criteria from DSM-IV-TR. American Psychiatric Association, 2000.

Mezzacappa, Giulia Mancini. *Psychiatry: PreTest Self-Assessment*

Stead, Latha. *First Aid for the Psychiatry Clerkship.*

Langue Q&A Psychiatry by Sean Blitzstein.

Family Medicine

Jason Moore, MD – Clerkship Director

Connie Clyburn – Clerkship Coordinator (439-6740)

Clerkship Info for Family Medicine

Welcome to the Family Medicine rotation. As you may know, we currently have three Family Medicine Residency Program sites in Bristol, Kingsport, and Johnson City. During this rotation you will be asked to visit each of the sites for a portion of the didactics, regardless of which site you may be assigned to for the clinical portion of the rotation.

Family Medicine has been a specialty since the 1970's, although it has its roots in the broad discipline of "General Medicine," since the days of doctors making home visits on horseback. Certainly, with the rapid advances in modern medicine, members of our specialty have had to develop means of keeping abreast of the large volume of information, while still providing quality care. A board-certified family physician will have completed three years of residency training, including one year of internship, and will have passed a rigorous board examination, which must be repeated every seven years to maintain certification along with self-assessment modules yearly.

A family physician can generally treat over 85 to 90% of the problems that patients present with to our offices, requiring the assistance of other specialties for the remainder of those. One of our most important roles is that of "gatekeeper" in modern medicine, where we coordinate the patient's care, and ensure that the patient continues to be treated as a whole person, and helping to sort out conflictive information when multiple specialists are assisting in the patient's care.

In general, our specialty has maintained an emphasis on preventative services and continuity of care (it is not unusual for a family physician, over the course of his or her career, to care for a patient from conception, through childhood, adulthood, and middle-age years, even through the

dying process, providing what has been called “cradle-to-grave” care). We also focus on the family unit and how it changes from the impact of disease on its members. Modern family physicians can choose to either maintain a broad scope of practice, or to narrow their focus, after completion of residency, with family physicians serving as emergency room doctors, occupational medicine physicians, acute care physicians, adult medicine doctors, or maintaining a practice including obstetrics, minor surgery, nursing home care, pediatrics, and adult medicine. Several fellowships are also open to family medicine residency graduates, including sports medicine, obstetrics, rural medicine, geriatrics, palliative care etc.

During your time with us, we hope to give you a better understanding of what our specialty is all about, and to add to your basic fund of knowledge information that we hope will be useful to you, regardless of your ultimate choice of specialty. Our rotation includes a series of didactics which are interactive and include several hands-on workshops. However, the bulk of your rotation will be the clinical experience at the individual residency program to which you are assigned.

Your Family Medicine rotation will include hospital rounds, during which you will see patients assigned to you, and you will coordinate the patient’s care with the resident assigned to that patient, along with the faculty member who is on the hospital service. Along with this you will spend approximately half of your time in ambulatory care in our clinics. You will be expected to take call roughly once a week, as outlined in your course syllabus. You also will be expected to perform a home visit on a patient during this rotation, and complete a group evidence based medicine project.

We look forward to sharing these experiences with you, and hope that you will find our rotation to be exciting and appropriately challenging. We encourage you to ask for feedback often as this is crucial to your professional development.

Hot Topics for Family Medicine

EKG Interpretation	Sprains/strains (including back)
Chest X-Ray Interpretation	Otitis media
Interviewing/Communication	Eczema, dermatitis
Performing a focused H&P	Cervical smear
Pharyngitis/tonsillitis	Vaginal discharge
Coryza (non-febrile)	Exam for preventive services
Acute bronchitis	Hypertension
Oral contraceptive advice	Diabetes
Febrile cold/influenza	Health education
Lacerations/ contusions/ abrasions	Osteoarthritis
Routine prenatal care	COPD exacerbation
Anxiety	Congestive Heart Failure
Depression	
Acute vomiting and/or diarrhea	

Recommended Resources

For our curriculum we have decided to use the fmCASES, an interactive set of cases, to cover the most important topics in Family Medicine. Your test will be taken from these cases.

5 Minute Clinical Consult is very user friendly in text form, or you can get a free trial by going through the following website <http://www.fmdrl.org>. Also use of the TRIPP database is highly recommended for searches. Other resources will be discussed at the beginning of your rotation during your first evidence-based medicine lecture.

For those of you using the **iPhone** the following website is particularly useful: http://researchguides.dml.georgetown.edu/content_mobile.php?pid=47274

Other resources: www.aafp.org and www.fmignet.aafp.org

Washington Manual of Medicine- therapeutic manual

Goroll, Allan et al. *Primary Care Medicine*. Lippincott Williams and Wilkins, 2000 (for rural track-required).

Community Medicine

Bill Fry, MD – Clerkship Director

Susan Austin, MPH – Clerkship Coordinator

Community Medicine was added to the curriculum in 2011-2012. The clerkship is based in Sevierville, TN and strives to expose students to the multiple components of the healthcare system necessary to deliver adequate care to a community. Half of the clerkship is spent in clinical care settings working with physicians and other health care professionals from a variety of specialties in both inpatient and outpatient settings.

The other half is spent immersed in the community participating in a variety of experiences designed to enrich clerks' understanding of common healthcare needs within a community, the impact of culture on healthcare, health education, methods to reach underserved populations, and the nonclinical roles of physicians in the community. Each group of students participates in a community project during the clerkship, which culminates with a presentation of this experience to various community leaders.

The clerkship includes a rural outreach health fair focusing on delivering preventive services to rural underserved areas. While 1-2 health fairs per year will be in Sevier County, most will be in other rural locations. The typical health fair week will involve 2 days of didactic preparation (on campus using the standardized patient lab) and 2 days in the rural communities. Transportation, food, and housing for the health fairs will be provided. Clerkship assignments will include lectures, workshops, on-line modules, presentations, and written reports.

Students will live in the community in housing provided at no cost. Students will be responsible for their own food costs as they would at home. Kitchen facilities will be available. Students should be able to return home most weekends if desired. Call responsibilities include 1 overnight shift in the Emergency Department, which follows an ambulance ride-along.

Rural Primary Care Track

Joe Florence, MD – Clerkship Director
Carolyn Sliger – Clerkship Coordinator

The RCPT students will spend a total of 12 weeks at their rural sites, (Rogersville or Mountain City). The first day will be spent on campus for orientation. You will attend didactic sections with the FM Clerkship. Contact Connie Clyburn to find out the lecture schedule. You will also work the Community Clerkship and join them for a health fair week. The location differs based on when you are scheduled. You will have access to the FM cases online to complete and will participate in the FM OSCE in the last week of your RPCT rotation. You may also choose to do a Rural OB rotation for 2 weeks in Newport, Jellico, or Livingston. This is highly encouraged and a great opportunity. You will also be required to complete a community project at your location.

Mountain City: Main clinic is the Johnson County Medical Group (located in Johnson County Community Hospital).

ID Badge: Make sure you pick up your MSHA ID before you leave for Mountain City. When you get to the hospital there, you can take your ID to security and they'll activate it to open doors in the hospital and clinic.

Preceptors: Dr. Jim Shine, Dr. Susanne Shine, and Dr. Robert Griffith.

Free Clinic: Held monthly at the Kellogg Building, M3 students are responsible for the majority of the planning, including advertising, delivering labs, and following up on results with clinic patients.

On Call: ED of Johnson County Hospital, and with Rescue and EMS.

House: 217 Donnelly St, Mountain City, TN 37683.

Rogersville: Main Clinical sites are the Rural Health Consortium, and Hawkins County Memorial Hospital.

ID Badge: You can obtain your hospital badge at HVMC. Contact Jeannie Parrot and/or Carolyn Sliger. See HR at HCMC to get it started. Students can eat for free at the hospital cafeteria.

Preceptors: Dr. Jose Velasco and Dr. Mark Dalle-Ave.

On Call: HCMC ED and HC EMS. Housing: Hale Springs Inn.

X-Rays, Imaging, Etc.

Approach to Reading Chest X-Rays

I. AP Film

A. Bones and Soft Tissues

1. Artifacts? Metallic objects? Air in the tissues?
2. Clavicular heads equidistant from spinous process (owl's beak)
3. Vertebral body eroded (pedicle = owl's eye)
4. Ribs notched or missing?
5. Breast missing? Neck dissection?
6. Stomach bubble on left? Distance to diaphragm?
7. Air under diaphragm? Calcified plaques? Effusion? Calcium in abdomen?

B. Mediastinum

1. SVC, Brachiocephalic vessels
2. Aortico-pulmonary window
3. Azygous vein or node
4. Descending aorta
5. Air? Hiatal hernia?

C. Trachea and Bronchi

1. Glottis, aortic knob
 2. L. Pulmonary a.
 3. Endotracheal tube, bronchus missing
4. Carina widened?

D. Heart

1. Ascending aorta, aortic knob
2. R. Pulmonary a., v., r. atrium
3. Aortico-pulmonary window
4. L. Pulmonary a., l. ventricle
5. L. atrial appendage
6. Aortic, mitral calcification

E. Lungs

1. Honeycomb infiltrate
2. Mass, cavity
3. Alveolar filling, infiltrate
4. Kerley lines
5. Costophrenic angle blunted

II. Lateral Film

A. Bones and Soft Tissues

1. Brachiocephalic vv. and shoulder girdle, manubrium
 2. Body of sternum, pectus excavatum? Wire sutures?
 3. Ribs, vertebral bodies getting darker? Osteophytes? Collapse? Erosion? Osteoporosis?
 4. R., L. hemidiaphragm, stomach bubble, pleural gutters
- #### B. Mediastinum
- #### C. Trachea and Bronchi
1. Deviation or compression?
 2. L. mainstream bronchus
- #### D. Heart
1. Transverse aorta, aortico-pulmonary window, desc. aorta
 2. L. atrium, IVC, R. ventricle
 3. Mitral valve calcification
- #### E. Lungs
1. Upper lobes, vessels
 2. Hilar adenopathy?
 3. Minor fissure, middle lobe and lingula, major fissure, lower lobes

Chest X-Ray ABCs

RIP: rotation, inspiration, penetration

A: airway

B: bones

C: cardiac size and silhouette

D: diaphragm

E: effusions

F: free air under the diaphragm

G: gadgets

H: hilar structures

I: infiltrates or densities

CT Scans

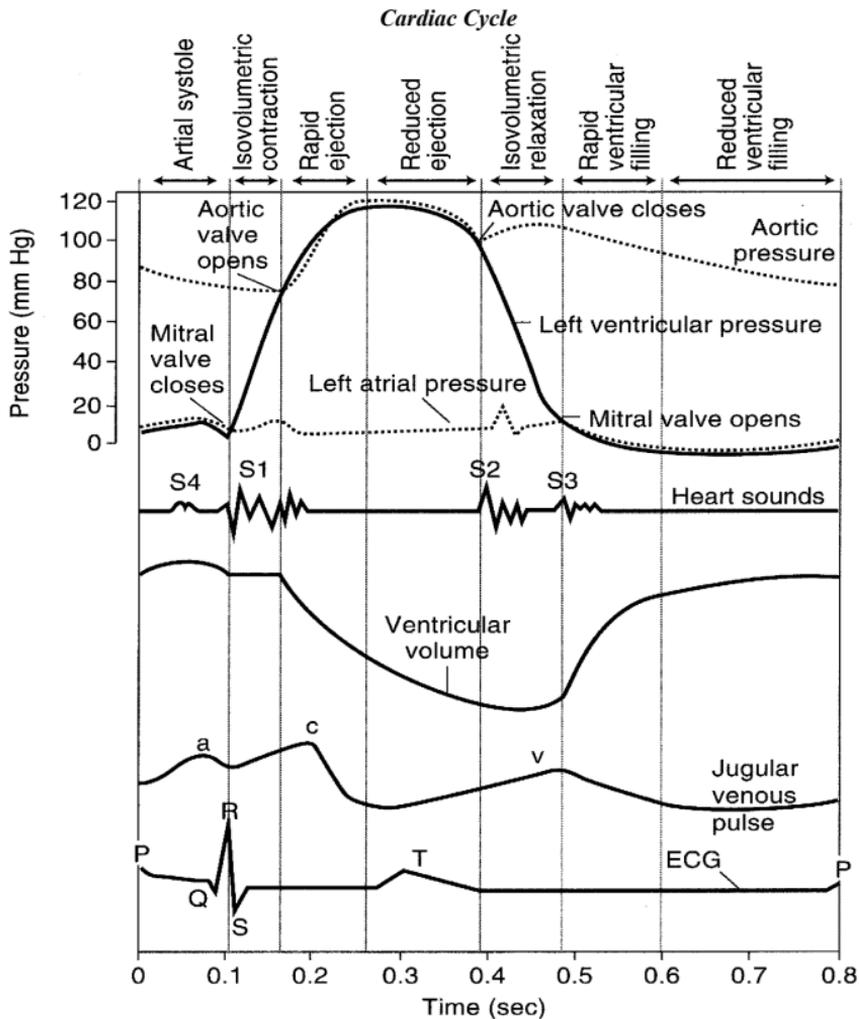
Black: air, fat, CSF, water **Gray:** edematous/ infarcted brain normal brain sub-acute hemorrhage **White:** hemorrhage, IV contrast, bone or metal

Acid Base/ABG

Normal ABG values
pH 7.35-7.45
pCO₂ 35-45mmHg
pO₂ 80-100mmHg
HCO₃ 22-26mmol/L
BE -2 - +2
SaO₂ >95%

1. Look at pCO₂ (<35 is hyperventilation) (>45 is hypoventilation)
 2. Look at pH (<7.35 is acidosis) (>7.45 is alkalosis)
 3. Follow ROME rule (Respiratory Opposite Metabolic Equal): If pH and pCO₂ move away from normal in opposite directions the problem is respiratory if they move in the same direction the problem is metabolic
 4. **Metabolic Acidosis**
 - i. Determine Anion or non-Anion gap
 - ii. $AG = Na - (HCO_3 + Cl)$, normal 8-12
 - iii. Remember MUDPILES (Methanol, Uremia, DKA, propylene glycol, INH, Lactic acidosis, Ethylene glycol, Salicylic acid) for anion gap
 - iv. Non-anion gap – remember diarrhea, RTA
 - v. Then **Winters formula** (Expected PCO₂ = $(1.5 * HCO_3) + 8 +/- 2$) to determine compensation- expected PaCO₂ will be the same as the last 2 numbers of the pH (ex, if the pH is 7.25 then the PaCO₂ should be 25)
 5. **Metabolic Alkalosis**- (NG suction, vomiting, diuretics, K⁺ def., HCO₃ ingestion, hyperaldosteronism, Cushings)
 - i. Compensation limited b/c you can't hold your breath forever
 - ii. Look to see if there is some attempt to hold CO₂
 6. **Respiratory Acidosis**-dec respiratory drive, neuro/musk dz
 - i. Compensation- pH will change .08 for every increase of 10mmHG (all calc done from PaCO₂ =40, pH=7.4)
 - ii. If PaCO₂ is 50 then if fully compensated pH = 7.32
 7. **Respiratory Alkalosis**- Hyperventilation, Aspirin Overdose
 - i. Compensation- pH will change .08 for every decrease of 10mmHG (all calc done from PaCO₂ =40, pH=7.4)
- Helpful tutorial: http://fitsweb.uchc.edu/student/selectives/TimuGranham/Acid_Base_Abnormalities.html

Cardiology, EKGs, HTN, and Murmurs



Normal Hemodynamic Properties - Adult

Parameter	Equation	Normal Range
Arterial Blood Pressure	Systolic (SBP) Diastolic (DBP)	90-140 mmHg 60-90 mmHg
Mean Arterial Pressure (MAP)	$[SBP + (2 \times DBP)]/3$	70-105 mmHg
Right Arterial Pressure (RAP)		2-6 mmHG
Right Ventricular Pressure (RVP)	Systolic (RVSP) Diastolic (RVDP)	15-25 mmHg 0-8 mmHg
Pulmonary Artery Pressure	Systolic (PASP) Diastolic (PADP)	15-25 mmHg 8-15 mmHg
Mean Pulmonary Artery Pressure	$[PASP + (2 \times PADP)]/3$	10-20mmHg
Pulm. a. Wedge Pres (PAWP)		6-12 mmHg
Left Atrial Pressure (LAP)		6-12 mmHg
Cardiac Output (CO)	$HR \times SV/1000$	4.0-8.0 l/min
Cardiac Index (CI)	CO/BSA	2.5 – 4.0 l/min/m ²
Stroke Volume (SV)	$CO/HR \times 1000$	60-100 ml/beat
Stroke Volume Index (SVI)	$CI/HR \times 1000$	33-47 ml/m ² /beat
Systemic Vascular Resistance (SVR)	$80 \times (MAP - RAP)/CO$	800-1200 dynes · sec/cm ⁵
Systemic Vascular Resistance Index	$80 \times (MAP - RAP)/CI$	1970-2390 dynes · sec/cm ⁵ /m ²
Pulmonary Vascular Resistance (PVR)	$80 \times (MPAP - PAWP)/CO$	<250 dynes · sec/cm ⁵
Pulmonary Vascular Resistance Index	$80 \times (MPAP - PAWP)/CI$	255-285 dynes · sec/cm ⁵ .m ²
Left Ventricular Stroke Work (LVSW)	$SV \times (MAP - PAWP) \times 0.0136$	59-104 gm-m/beat
Left Ventricular Stroke Work Index	$SVI \times (MAP - PAWP) \times 0.0136$	50-62 gm-m/m ² /beat
Right Ventricular Stroke Work (RVSW)	$SV \times (MPAP - RAP) \times 0.0136$	8-16 gm-m/beat
Right Ventricular Stroke Work Index	$SVI \times (MPAP - RAP) \times 0.0136$	5-10 gm-m/m ² /beat
Coronary Artery Perfusion Pressure	Diastolic BP – PAWP	60-80 mmHg
Right Ventricular End-Diastolic Volume	SV/EF	100-160 ml
Right Ventricular End-Systolic Volume	EDV – SV	50-100 ml
Right Ventricular Ejection Fraction	SV/EDV	40-60 %

EKG Interpretation
Courtesy of Reid Blackwelder, MD

I) Validity

- Clinical context for test, right patient
- In general:
 - Lead I should be opposite of AVR (in a normal EKG)
 - R-wave should progress in chest leads (V leads) such that by V4 the R-wave is most prominent (represents left ventricle)
- Look for voltage standardization curve of two big boxes tall
- A question of validity does not necessarily mean the tracing is invalid
- All abnormalities generate "Differential Diagnoses"

Nomenclature of QRS

- First downward deflection is a Q wave
- First upward deflection is an R wave
- A downward deflection that follows an R is an S wave if it goes below the baseline
- Large deflections are denoted by capital letters; smaller ones (< 3mm) by lower-case letters
- A second positive deflection is given a prime designation, a third a double prime, etc
- If only a negative deflection is present it is termed a QS complex

II) Rate

- Know:** Big box = 200 msec (0.2 sec)
Little box = 40 msec (0.04 sec) [also 1 mm]
- Memorize:** 300, 150, 100, 75, 60, 50, 43, 37
(or know that Rate=300/# of large boxes between R-waves)
(or count beats in 6 second strip and multiply by 10)

Normal rate: 60-100; <60 bradycardia, >100 tachycardia

Basic pacing rates: Atria 80/min, junction 60/min, vent 40/min

III) Rhythm

Basic rhythm of strip (use rhythm strip if available):

- Is it Regular?** - Regular
- Fairly regular
- Regularly irregular (group or pattern beating)
- Irregularly irregular (chaotic, unpredictable)

Is it Sinus? If yes, the P wave in II should always be positive if leads placed correctly and no dextrocardia

P waves present and associated with QRS (P before QRS, QRS after P)

- **Sinus rhythms: narrow QRS**
- **Supraventricular rhythms: narrow QRS**

Atrial Fibrillation: no P-waves, irregularly irregular

Atrial Flutter: Atria depolarize at 300/min with ventricular response in usually a 2:1 (150/min), or 4:1 (75/min) pattern; odd ratios uncommon.
Always suspect with supraventricular tach of ventricular rate 150/min

PSVT: rate 150-240 without obvious signs of atrial activity
New name AVNRT (AV Nodal Reentry Tachycardia)

Multifocal atrial tachycardia: multifocal P-waves with irregularly irregular rate

Junctional rhythm: no or inverted P-wave with rate of 40-60

Premature atrial contraction (PAC): PQRST occurs before regular sinus beat; P-wave different; pause follows

• **Ventricular rhythms: widened QRS**

PVC: followed by a pause

V-Tach: tachycardia with rate >120/min

- Defined as three or more PVCs in a row
- Non-sustained (<30 sec)
- Sustained: run persists

V-Fib: disorganized firing of ventricle with no recognizable wave forms

Idioventricular: one vent. pacemaker fires at 20-40

Accelerated idioventricular rhythm: single focus at 40-119

A wide complex tachycardia is V. Tach until proven otherwise
(SVT w/aberration, SVT w/ pre-existing BBB)

What are the Intervals?

• **Check PR interval(normal 0.12-0.20): start of P to start of QRS**

- First degree AV block, PR > .20
- Second degree AV block
 - Mobitz type I (Wenkebach): PR gradually increases until QRS is lost
 - Mobitz type II: PR constant, QRS lost
- Third degree AV block: complete disassociation of P-wave and QRS

• **Check QRS width (normal 0.10- 0.12): start of complex to end**

- Look for interventricular conduction delay (IVCD) (may be called early or incomplete BBB)

RSR' is marker - duration determines BBB (QRS > 0.12)

- RSR' location determines which bundle involved:

V1 V2 → RBBB

V5 V6 → LBBB

- Caveats: BBB makes ventricular hypertrophy criteria suspect
LBBB makes infarction hard to identify

- Hemiblock: anterior or posterior fascicle of LBB may be individually involved. Suspect when axis deviation present

Anterior hemiblock → LAD (esp if extreme) & Q1S3

Posterior hemiblock → RAD with S1Q3

(LARP: Left axis dev; Anterior HB; Right axis dev; Posterior HB)

• **Check QT interval (for rate < 100, QT < 1/2 R-R interval): start of QRS to end of T**

IV) Axis

• Use I and aVF for quick scan (normal is + QRS in both)

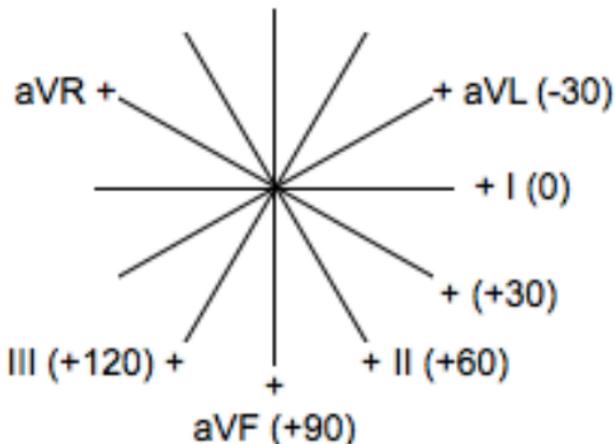
• Then look for most isoelectric limb lead; axis is perpendicular to it

• Main goal is to identify normal axis or not, but it can help to be more specific with respect to degree of axis

- Normal: -29 to +89 degrees
[Leftward (or LAD) 0 to -29]
- LAD: < or = -30 degrees

- RAD: $> \text{ or } = +90$ degrees

- Quick Hint: can diagnose pathologic/significant LAD by looking at Lead II:
If QRS deflection negative, then LAD (and probably LAHB)



V) Hypertrophy

• Atrial Hypertrophy

Look at P-wave in Lead II and V1:

- RAA

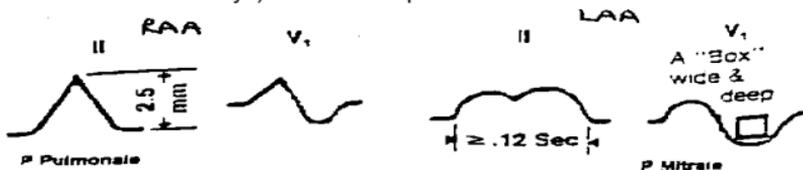
Lead II: Tall P-wave (>2.5 mm) is P-pulmonale and suggests RAE

V1: large diphasic P with tall initial component

- LAA

Lead II: P-wave duration > 0.12 with notched P-wave in I, aVL or II is P-mitrale and suggests LAE

V1: large diphasic or purely negative P-wave with wide and deep (one box both ways) terminal component



• Ventricular Hypertrophy

- LVH (voltage criteria)

Sum of deepest S in V1-2 + tallest R in V5-6 ≥ 35 mm

S in V1-2 or R in V5-6 > 25 mm

R wave in aVL ≥ 12 mm

R or S wave in any limb lead ≥ 20 mm

- R in I + S in III > 25 mm
- Often associated LAD
- Often with left-lead "strain" pattern - asym. T-wave changes in I, aVL, V5-6
- Intrinsicoid deflection > 0.05 sec in V6
- RVH
 - R > S in V1 but R decreases from V1 to V6 (R/S > 1)
 - Deep S wave in V5, V6 (R/S < 1)
 - R in V1 or S in V6 > 7 mm
 - RAD with wide QRS (> .12)
 - Often associated RAA
 - Intrinsicoid deflection > 0.4 sec in V1

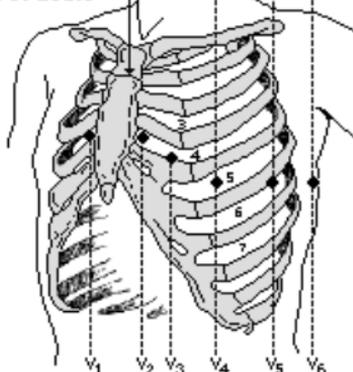
VI) Infarction/ Ischemia (Acute Coronary Syndrome)

- Check all leads for:
 - **Q waves** (significant Q > .04 wide, or $\geq 1/3$ amplitude of QRS)
 - Look for associated ST segment changes to determine if acute; signify tissue death. Irreversible
 - **ST segment changes**
 - **Elevation** → acute injury
 - if associated with Q waves → recent infarct
 - if no Q waves → non-Q wave infarction
 - Now called Non-ST Elevation MI (NSTEMI)
 - **Depression** → ischemia, subendocardial infarct or drug effect
 - **T wave inversion** → ischemia
 - Usually QRS and T are upright together
 - T waves should be upright in V 2-6
 - Usually occurs in same leads as acute changes
- Dynamic summary from ischemia to infarction:
 - Ischemia:
 - T wave inversion, pulls ST seg down (depression); if continues, then
 - Injury:
 - T wave peaks (hyperacute T wave), which pulls ST seg up (elevation); if injury continues, then T wave inverts again; if continues, then
 - Infarction:
 - Q wave appears (irreversible cell death); if continues
 - Q wave enlarges and ST segment returns to baseline
 - T wave inversion is the last thing to return to "normal" (months later)
- Location

Anterior (LAD):	Q/ST changes in V3 → V4
Septal (LAD):	Q/ST changes in V1→ V2
Inferior (RCA or Cx):	Q/ST changes in II, III, aVF
Posterior (RCA):	Large R with ST depression V1, V2
Lateral (Circumflex):	Q/ST changes in I, aVL, V5-6

EKG Lead Placement
Midclavicular Line
Anterior Axillary Line
Midaxillary Line

Angle of Louis



- V₁ = placed in the 4th right intercostal space at the sternal border.
- V₂ = placed in the 4th left intercostal space at the sternal border.
- V₃ = placed halfway between V₂ and V₄.
- V₄ = placed in the 5th left intercostal space in the midclavicular line (MCL).
- V₅ = placed in the anterior axillary line (AAL) at the same horizontal plane as V₄.
- V₆ = placed in the midaxillary line (MAL) at the same horizontal plane as V₄.

Systolic Murmurs (S₁ - Murmur - S₂)

Atrio-Ventricular (AV) Valves: Mitral (M1) -Tricuspid (T1) CLOSE
 Semilunar Valves OPEN

Mitral Valve Insufficiency/Regurgitation/Prolapse (MI, MR, MVP): Pan/holosystolic: sometimes a midsystolic click (esp. in MVP), soft S₁, **chronic:** wide split S₂, **acute:** split S₂, S₃, inflated BP cuff enhances; apex (5th ICS @ MCL) → L. axilla; pt in L-lateral position; giant V-waves in PAOP tracing, ↑PAP (systolic, normal mean), ↓CO; EKG: AF, LAH, LVF

Tricuspid Valve Insufficiency/Regurgitation (TI, TR): Pan/holosystolic: thrill, inspiration accentuates; LLSB, 4th & 5th ICS, xiphoid; ↑CVP w/ prominent V-waves on tracing; ↓PAP, ↓PAOP, ↓CO; EKG: tall, peaked P-waves, RAH/RVH, QR in V₁

Aortic Valve Insufficiency/Regurgitation (AI, AR), (mild/chronic): Pan/holosystolic or early / mid-systolic: decrescendo, "seagull," click, expiration accentuates; RUSB, 2nd / 3rd ICS → neck; sitting up/leaning forward; ↑PAOP, ↓CO. ↓SBP, widened pulse-pressure

Aortic Valve Stenosis (AS): SEM / mid-systolic: crescendo-decrescendo, soft S₂, sometimes an ejection-click, paradoxical split S₂ w/severe stenosis (pulmonic valve closes first, then aortic valve--increases w/ expiration; look for LBBB), S₄; RUSB, 2nd ICS → R-neck; lying flat or sitting up; demand angina, ↑PAOP, ↓CO, ↓SV, widened pulse-pressure - narrows w/decompensation, clinical scenario: angina → syncope → CHF; EKG: conduction changes, 1deg AVB, BBB, LVH, ST depression w/ T-wave inversion (severe stenosis)

Pulmonic Valve Stenosis (PS) infants & children: SEM: crescendo-decrescendo, ejection-click, split S₂ - wide & fixed w/severe stenosis, inspiration accentuates-ejection click accentuated by expiration; LUSB, 2nd ICS; ↑CVP, ↑PAOP, ↑PAP (mean)

VSD: Pan/holosystolic or early systolic: loud, often w/ thrill, split S₂; LLSB, 4th ICS;
EKG: RBBB, RAD, AF

PDA infants & children: Thrill, continuous, machinery-like; LUSB or LMCL, 2nd ICS;
EKG: RVH/LVH

Split S₁: Uncommon-see MS; LLSB, apex (5th ICS @ MCL); lying flat or L-lateral position

Diastolic Murmurs (S₂-Murmur - S₁)

Semilunar Valves: Aortic (A₂) - Pulmonic (P₂) CLOSE

AV Valves OPEN

Mitral Valve Stenosis (MS): Holodiastolic, mid to late diastolic, or presystolic (just before S₁): soft, rumbling, low-pitched, accentuated after exercise, MVOS (accentuated w/expiration), non-ejection-click (accentuated w/ inspiration, prompt standing), changes in S₁ - loud or soft, split S_s; apex (5th ICS @ MCL); lying flat or L-lateral position; ↑PAP (mean), ↓CO; EKG: AF, LAH/RVH, tall R-wave (+ II, III, aVF; - I, aVL), RAD, notched P-waves (formerly known as mitrale)

Tricuspid Valve Stenosis (TS): Mid to late diastolic: uncommon, associated w/ RMVD; early diastolic: non-ejection-click, TVOS, soft S₁, inspiration accentuates; LLSB, 4th ICS; lying flat or prompt standing; ↑CVP w/ accentuated A-waves on tracing; EKG: AF, tall, peaked P-waves, RAH

Aortic Valve Insufficiency/Regurgitation (AI, AR): (acute/moderate-severe). Early diastolic or holodiastolic: decrescendo, blowing, soft S₁, handgrip & isometrics enhance; RUSB, 2nd / 3rd ICS; ↓DBP, ↑SBP, ↑PAOP, ↓CO, wide pulse-pressure; EKG: LVH

Pulmonic Valve Insufficiency/Regurgitation (PI, PR): Early diastolic: decrescendo, inspiration accentuates (when murmur is loud); LUSB, 2nd ICS → RSB; ↑PAP (near systemic levels or >80 mm/Hg), ↑pulse-pressure, ↓ or normal PAOP & CO

Split S₂: Aortic-pulmonic valves closing heard separately--delayed pulmonic valve closure; may be physiologic if cycled between normal S₂ and split S₂ in deep inspiration (expiration diminishes split); LUSB, 2nd ICS; if split is fixed it's abnormal & may be due to VH, ASD, VSD; widely split S₂ may be due to PE or RBBB; EKG: RBBB

S₃ (S₃VG): Early diastolic (when the ventricle is dilated and noncompliant) ventricular gallop / pericardial knock, less common than S₄: "SLOSH'-ing-in" or "Ken-TUCK-ee;" LVS₃G: exercise, expiration & holding breath accentuates; apex (5th ICS @ MCL) using bell, pt in L-lateral position; RVS₃G: inspiration accentuates; LLSB, 4th- 5th ICS, (not apex); lying flat

S₄ (S₄VG): Late diastolic/presystolic (just before S₁) atrial gallop: "a-STIFF-wall" or TENN-e-see," LVS₄G: exercise & holding breath on expiration accentuates; apex (5th ICS @ MCL), using bell; pt in L-lateral position; RVS₄G: rapid, deep inspiration & exercise accentuates; LLSB (not apex); absent in atrial fibrillation but almost always present during active myocardial ischemia or early after MI; When both S₃ & S₄ present and overlap it's a "summation gallop," when S₃ & S₄ present and distinct it's a "quadruple gallop"

Predicted Maximal Heart Rate = 220 – age

Fluids

Solution	IV solutions		K
	Osm	Na	
D5W	278		
D10W	556		
1/2NS	143	77	
NS	286	154	
3%NS	1026	513	
D51/4NS	350	39	
D51/2NS	421	77	
LR	272	130	4
D5LR	524	130	4
LR	has 28meq of lactate		

For Pediatric Patients

Maintenance fluids/hr

- 4 ml/kg for 1st 10 kg
- 2 ml/kg for 2nd 10 kg
- 1 ml/kg for > 20 kg

Maintenance fluids 24 h

- 100 ml/kg for 1st 10 kg
- 50 ml/kg for 2nd 10 kg
- 20 ml/kg for >20 kg

Maintenance lytes

- Na 52 mEq/m²
- Cl 32 mEq/m²
- K 32 mEq/m²

Treatment for dehydration in pediatric pt:
 Hyponatremic D5 1/2NS or D5 1/4NS
 Hypernatremic D5W or D5 1/4NS
 Isotonic D5 1/2NS or D5 1/4NS
 Add K⁺ after first void 10-40 mEq,
 depending on deficit

For Adult Patients

Maintenance IV Fluids

4 cc/kg/hr for the first 10 kg
 2 cc/kg/hr for the next 10 kg
 then 1 cc/kg/hr

Parkland Formula - BURNS

Hydrate pt with 4cc/kg x TBSA of LR,
 give 1/2 the volume in first 8 hours and
 remainder in 16 hours following

Post-surgery Fluids

Increased fluids required for fever, NG
 suction, wound drain, diarrhea

Transfusions: premedicate with
 Tylenol 650 mg PO & Benadryl 25 mg
 PO; watch for volume overload, consider
 diuresis between units; transfuse each
 unit RBC over 3 to 4 hours if no acute
 bleeding

Equations

Fractional Na Excretion = (urine Na x serum creatine)/(serum Na x urine creatine)

Corrected Na = Na + [(glucose-100) x 0.016]

Osmolality = 2 x [Na] + [glucose]/18 + [BUN]/2.8

Body water deficit (L) = (0.6 x wt in kg x (pt Na - nml Na))/(nml Na)

Creatine Clearance = (urine creatine x urine vol (ml))/(serum creatine x time (min))

GFR (ml/min) = ([140-age] x wt in kg)/(85 for ♀ or 72 for ♂)

Corrected Total Ca = [0.8 x (nml albumin - pt. albumin)] + Ca

Dehydration

	Mild 5%	Moderate 10%	Severe 15%
Cap refill	<2 sec	2-3 sec	>3 sec
Fontanelle	normal	mild sunken	sunken
Membranes	wet	mildly dry	dry
Tears	present	decreased	none
Skin turgor	normal	mild delay	delay

Infectious Diseases

Cellulitis: #1 *S. pyogenes* (Group A); *P. multocida* (from cat/dog bite)

Diarrhea, bacterial: *Salmonella enteritidis*, *Shigella*, *Yersinia enterocolitica*, *S. aureus*, *E. coli* (ET, EA, EH (0157:h7), EI), *C. jejuni*, *C. difficile*, *Ps. aeruginosa*, *B. cereus*, *V. parahaemolyticus*, *V. cholerae*

Diarrhea, fungi: *C. albicans*

Diarrhea, parasitic: *C. parvum*, *Isospora belli*, *Microsporidium* sp, *Cyclospora* sp, *G. lamblia*, *Balantidium coli*, *E. histolytica*

Diarrhea, viral: Rotavirus (infants), Norwalk, Adenovirus, Astrovirus

Encephalitis (and other neurodegenerative diseases): HSV-1, Measles, Polio, Coxsackie A-B, Enterovirus, Echovirus, ARBO viruses (WEE, VEE, EEE, California Encephalitis, SLE, Dengue), HTLV-1, HIV 1/2, Prions (CJD), Rubella, Mumps

Epiglottitis: *H. influenzae* (type B)

Food poisoning: *S. aureus*, *C. botulinum*, *C. perfringens*, *Campylobacter jejuni*, *B. cereus*, *Pseudomonas aeruginosa*, *V. parahaemolyticus*, *V. vulnificus*, *V. cholerae*, *E. coli*, *Salmonella enteritidis*, *Salmonella typhi*, *Salmonella paratyphi A and B*, *Shigella* sp, *Y. enterocolitica*

Hepatitis: HAV, HBV, HCV, HDV, HEV, CMV, Yellow Fever Virus

Infectious Arthritis: #1 *S. aureus*; *N. gonorrhoeae*, *S. marcescens*

Meningitis, aseptic (viral): Picorna enteroviruses (Echovirus, Coxsackie virus, Polio virus), Mumps virus, HSV 2, Lymphocytic choriomeningitis

Meningitis, bacterial: *H. influenzae*, *N. meningitidis*, *S. pneumoniae*, *S. agalactiae* (neonatal), *E. coli* (neonatal), *Listeria* (neonatal and immunocompromised), *S. aureus* (trauma or surgery), *Flavobacterium* (neonatal), *M. tuberculosis*, *T. pallidum*, *B. burgdorferi*

Meningitis, parasitic: *Naegleria* spp, *Acanthamoeba* spp

Meningitis, pediatric: < 1 mo-*S. agalactiae*, Group B Strep., *E. coli*; 1-24 mos-*H. influenzae*, *S. pneumoniae*, *N. meningitidis*; >24 mos-*N. meningitidis*, *S. pneumoniae*, *H. influenzae*

Meningitis, yeast: *C. neoformans*

Osteomyelitis: #1 *S. aureus*; *Salmonella* spp in pts w/ sickle cell anemia

Otitis Media: #1 *S. pneumoniae*; *H. influenzae*, *Moraxella catarrhalis*

Peritonitis: *Bacteroides fragilis*

Pneumonia, Atypical: *Mycoplasma pneumoniae*, Adenovirus, Cytomegalovirus, Influenza virus, *Legionella pneumophila* (nosocomial), *Chlamydia psittaci*, *C. pneumoniae*

Pneumonia, Bacterial: *S. Pneumoniae* (rusty sputum), *H. influenzae*, *S. aureus* (nosocomial), *Ps. aeruginosa* (nosocomial and cystic fibrosis), *Klebsiella-Enterobacter-Serratia* group, *B. anthracis*, *Y. pestis*, *Coxiella burnetii*

Pneumonia, Pediatric: <6 weeks-Group B Strep., *C. trachomatis*, *S. aureus*; 6 wks to 6 mos-RSV, *S. pneumoniae*, *H. influenzae*, Group A Strep., *C. trachomatis*, *S. aureus*; >6 mos-5 yrs-RSV, Parainfluenza, Influenza, Adenovirus, *S. pneumoniae*; >5 yrs-*Mycoplasma pneumoniae*, *S. pneumoniae*, Adenovirus

Pneumonia, Parasitic: *Ascaris*, *Strongyloides*, Hookworms, *P. carinii*

Pneumonia, Viral: Herpes simplex virus, RSV, varicella zoster, Measles, Influenza A and B, Adenovirus, Sin Nombre (Hanta virus)

Pneumonia, Yeast: *C. neoformans*

Sinusitis: #1 *S. pneumoniae*; *H. influenzae*, anaerobes

STD's, bacterial: *C. trachomatis*, *N. gonorrhoeae*, *T. pallidum*, *H. ducreyi*, *C. granulomatis*, *G. vaginalis*, *U. urealyticum*, *M. hominis*, *S. agalactiae*

STD's, Fungal: *Candida albicans*

STD's, other: *Phthirus pubis* (crab lice), *Sarcoptes scabiei* (scabies)

STD's, Parasitic: *T. vaginalis*

STD's, Viral: HPV (condyloma acuminata), HBV, HCV, HSV-1, HSV-2 (herpes genitalis), CMV (mononucleosis), *Molluscum contagiosum virus*, HTLV-1, 2, HIV-1, HIV-2

URI, Bacterial: *Mycobacterium tuberculosis*, *M. avium-intracellulare*, *M. kansasii*, *M. scrofulaceum*, *B. pertussis*, *H. influenzae*, *C/ diphtheriae*, *S. pyogenes* (Group A), *Moraxella catarrhalis*, *S. pneumoniae*, *Coxiella burnettii*, *Stenotrophomonas maltophilia* (nosocomial)

URI, Viral: Adenovirus, Rhinovirus, Influenza A and B, Coronavirus

UTI: Uropathogenic *E. coli*, Enterobacter, Klebsiella, Proteus-Providencia-Morganella, *Ps. aeruginosa* (3rd leading cause of hospital acquired UTI), *S. marcescens* (nosocomial only), *Enterococcus faecium*, *Enterococcus faecalis*, *S. agalactiae* (gp B), *G. vaginalis*, *Mycobacterium tuberculosis*, *S. saprophyticus* (esp. in sexually active young females), *Trichomonas vaginalis*, *C. albicans*, *Stenotrophomonas maltophilia* (usu. nosocomial)

Cancer Associated Microorganisms: Clonorchis sinensis fluke: Cholangiocarcinoma; EBV: Burkett Lymphoma; nasopharyngeal carcinoma; HBV, HCV, HDV: Hepatocellular; Helicobacter pylori: Gastric carcinoma; HIV: Kaposi sarcoma, CNS lymphoma; HPV-16, HPV-18: Cervical carcinoma; HTLV-1: T-cell leukemia/lymphoma; HTLV-2: Hairy cell leukemia; Schistosoma haematobium: bladder; Streptococcus bovis: Colon.

CSF Findings in Meningitis: Since white cells may enter the CSF in response to local infection, inflammation, or bleeding, the RBC count is used to correct the WBC count so that it reflects conditions other than hemorrhage or a traumatic tap.

Corrected WBC (csf) = WBC (csf) - (ratio of RBC (csf)/ RBC (serum)*WBC (serum)).

Component	Normal	Bacterial	Herpes	Viral	Spirochetal
Glucose (mg/dL)	40-80	<30	>30	>30	42-110
Protein (mg/dL)	20-50	>100	>75	50-100	13-150
Leukocytes/uL	0-6	>1000	10-1000	100-500	20-500
Neutrophils (%)	0	>50	<50	<20	<10
Erythrocytes/uL	0-2	0-10	10-500	0-2	0-2

UTI's

Indications for renal imaging: Boys 1st UTI (<5 yrs); Girls UTI (<5 yrs); Older w/ recurrent UTI; susp. pyelonephritis

Indications for prophylactic abx: Vesicoureteral reflux (grade \geq 2); Recurrent UTI's; Pyelonephritis

Dx: Colony count $\geq 10^5$ /ml; Nitrate specificity appr. 100%

Fever Work-Up

0 to <1 mo.: Admit to hospital; Full Sepsis Work-up: CBC with dif, Urine Cx, UA and micro, Blood Cx, CSF Cx with micro

1 to 3 mos: Full Sepsis work-up; Admit for: Focal infection *or* + Sepsis work-up *or* Ill-appearing *or* Unsure follow-up with clinic *or* ER

3 to 36 months: IM abx for empiric Rx *or* PO abx for specific infection *or* no abx and close follow-up; Based upon history and PE do a CBC with diff, blood Cx, Urine Cx and UA (other labs optional)

>36 months: Work-up is based upon H&P; Occult infection is rare; Outpatient management

Neurology

Motor Root Innervations

C3, C4	Trapezius
C5	Infraspinatus, Deltoid
C5, C6	Biceps, Brachioradialis, Supraspinatus, Infraspinatus
C6, C7	Supinator
C7, C8	Triceps, Pronator teres
C8, T1	Interossei, Lumbricals
L1, L2	Psoas
L4, L5	Tibialis ant
L5	Extensor Hallucis Longus
L5-S2	Gluteus Maximus
S1	Hamstrings, Gastrocnemius

Reflexes

Plantar: S1 S2 L4 L5

Achilles: S1 S2 **Patellar:** L2-L4

Brachioradial: C5 C6 **Triceps:** C6-C8

Abdom.: T7-T11 **Cremasteric:** T12-L2

	Afferent	Efferent
Corneal:	CN V1	CN VII
Lacrimal:	CN V1	CN VII
Jaw Jerk:	CN V3	CN V3
Oculocardiac:	CN v1	CN X

Cranial Nerves

I	Olfactory	Sense of smell
II	Optic	Sight
III	Occulomot.	Ciliary/Iris, Lev. Palpebrae, Sup., Med., Inf.,
	Recti	
IV	Trochlear	Superior Oblique
V	Trigeminal	Mm. of mastication Tensor tympani,
	sensation to face	
VI	Abducens	Lat. Rectus
VII	Facial	Mm. of Facial Express. Taste/Salivation/Tears External ear sensation
VIII	Vestibular	Hearing
	Cochlear	Equilibrium
IX	Glossoph.	Taste, salivation,
	swallowing	

X Vagus Phonation/Swallowing

XI Sp. Acc. Trapezius/SCM

XII Hypoglossal Mm of tongue

Spinal Tracts

Post. Column	2-pt/stereognosis Positional / Vibration / Deep Pressure
Ant. Spinothal.	Light touch / Deep Pres
Lat. Spinothal.	Pain / Temperature
Spinocereb.	Proprioception
Ant. & Lat. CS	Dysdiadochokinesia Vol. movements / DTR / Plantar refl.
Med. & Lat. RS	Gait/Posture/Romberg

Motor Neuron Signs

	Upper	Lower
Atrophy	∅	+
Babinski	+	-
DTR's	↑↑	↓↓
Spastic	+	-

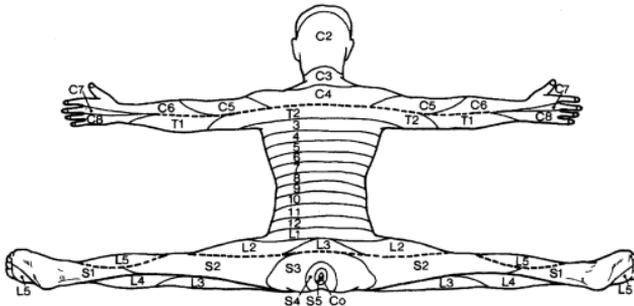
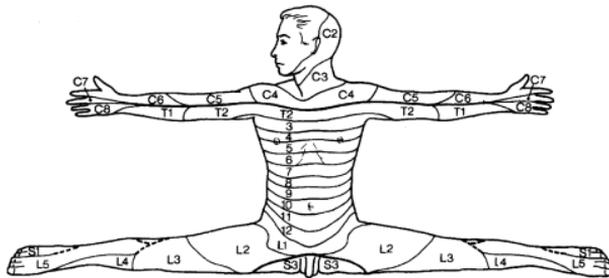
Hearing Tests

Rinne: Tests air to bone conduction. Normal 2:1 air/bone ratio. In conductive hearing loss, bone conduction is heard longer. Sensorineural air conduction is longer.

Weber: Place tuning fork on vertex of skull. In conductive hearing loss lateralized to deaf ear. Opposite in sensorineural loss.

Brain Death Criteria

1. absent posturing
2. absent pupillary light reflex
3. absent corneal reflex
4. absent gag and cough
5. absent spontaneous respirations
6. absent vestibulo-ocular reflex
7. absent oculocephalic reflexes
8. DTR's may be present



Tremors

Tremors	Hz	Character	Associated	Location
Asterixis	1-3	Rapid Twitches		Hands and Tongue
Cerebellar	3-6		Movement	Arms and legs
Essential	8-12	Oscillating		Distal extremities
Familial	8-12	Oscillating	Vol. Movement	
Parson's	4-7	Recipr. altern.	Resting	Face and hands

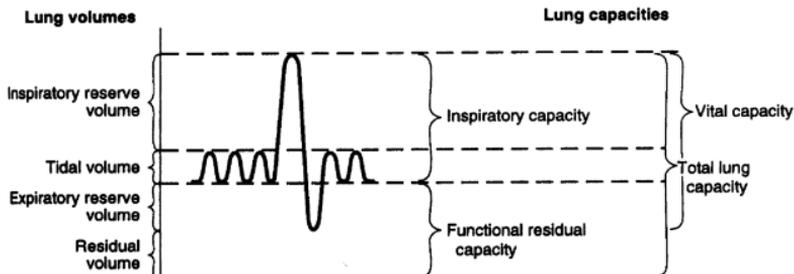
Contraindications to Anticoagulation in Stroke

Time	Clinical	History
>3 hours	Platelets <100,000 PT > 15 sec Glucose >400 or <50 BP > 175/100 Severe Anemia	Stroke <90 days Surgery < 14 days Hemorrhage <90 days Head trauma < 90 days Hx of cerebral bleed, seizures

Seizure Etiology By Age

Infant	Child (2-10)	Adolescent	Adult (18-35)	Adult (35+)
Perinatal injury/ ischemia Infection Metabolic disturbance Congenital/Genetic	Idiopathic Infection Trauma Febrile Seizure	Idiopathic Trauma Drug withdrawal AVM	Trauma Alcoholism Brain tumor Drug withdrawal	Trauma Stroke Metabolic disorders Alcoholism

Pulmonology



A-a Gradient

$$A-a \text{ gradient} = \text{predicted } pO_2 - \text{actual } pO_2 = (713 \times FiO_2) - (PaCO_2/0.8)$$

Ventilator Settings

O₂ depends on FiO₂ and PEEP

CO₂ depends on rate, tidal volume

Pulmonary Function Tests

Measurement	<u>Obstructive Disease</u>	<u>Restrictive Disease</u>
FEV ₁	Decreased	Normal or Decreased
FEF ₂₅₋₇₅	Decreased (<80% is indicative of terminal small airway dz and will lead to COPD)	Normal or Decreased
FEV ₁ /FVC	Decreased, 70%	Normal usually >75% (remember one can have restrictive with obstruction as well)
FVC	Normal or Decreased	Decreased
VC	Normal or Decreased	Decreased
TLC	Normal or Increased (Due to air trapping)	Decreased
RV	Increased	Normal, Increased, or Decreased

If FEV₁/FVC indicates obstruction look at FEV₁

FEV₁ >80% = small airway obstruction

FEV₁ 65-80% = mild dz

FEV₁ 50-65% = moderate dz

FEV₁ 35-50% = severe dz

FEV₁ <35% = very severe dz

Trauma

Clinical Presentation of Shock

Condition	Skin	Neck Veins
<i>Hypovolemia</i>	Cold, Clammy	Flat
<i>Cardiac Compression</i>	Cold, Clammy	Distended
<i>Cardiogenic</i>	Cold, Clammy	Distended
<i>Neurogenic</i>	Warm	Flat
<i>High Output Sepsis</i>	Warm	Flat to Normal
<i>Low Output Sepsis</i>	Cold, Clammy	Flat
<i>Hypoglycemia</i>	Cold, Clammy	Flat to Normal
<i>Inebriation</i>	Warm	Normal

		<i>Glasgow Coma Scale</i>	
Verbal	Orientated	5	
	Disorientated	4	
	Inappropriate word	3	
	Inappropriate sounds	2	
	None	1	
Eyes	Spontaneous	4	
	Moves to verbal	3	
	Moves to pain	2	
	None	1	
Motor	moves to verbal	6	
	Moves to pain	5	
	Flexion withdrawl	4	
	Flexion abnormal	3	
	Extension	2	
	None	1	

Coma Mnemonic

A	Alcohol, apoplexy
E	Epilepsy

I	Infection
O	Opiates, drugs
U	Uremia

ABC's of Trauma

A	Airway maintenance with cervical spine control
B	Breathing and ventilation
C	Circulation and bleeding control
D	Disability (Neuro assessment)
E	Exposure (Fully undress)
F	Foley, Finger in every hole

The AMPLE History

A	Allergies
M	Medications
P	Past Medical History
L	Last food or drink time
E	Events/Environment related to injury

Airway management: cricothyroidotomy is faster in truly emergent situations, but tracheostomy provides better long-term management and is more commonly seen.

Medical Spanish

Greetings

Hello	Hola
Good morning/ afternoon/ evening/	Buenos días/ tardes/ noches
How are you?	¿Cómo está Ud.?
Very well	Muy bien
Thank you	Gracias
You're welcome	De nada
Yes/No/Maybe	Si/No/Tal vez
Please	Por favor
You (informal/formal)	tú (s)/Usted (es)

Common Commands

You should/must...	Ud. debe ...
You need...	Necesita ...
I have...	(Yo) tengo ...
You have... Tú tienes ...	Ud. tiene...(formal)
I am...	Soy.../estoy...
You are... Tú eres/estás...;	Ud.es/está...
I have to ... Tengo que...	Ud. tiene que...
You have to ...	Es necesario...
It is necessary...	Pase
Come in	Entre
Enter	Venga acá
Come here	¡Cuidado!
Be careful	Dígame...
Tell me ...	Escúcheme
Listen to me	Cálmese
Calm down	

Common Questions

Do you speak English?	¿Habla usted inglés?
Do you understand?	¿Entiende Ud.?
What's your name?	¿Cómo se llama?
How are you?	¿Cómo está Ud.?
Where do you come from?	¿De dónde es Ud.?
Do you have ...?	¿Tiene Ud...?
Do you use ...?	¿Usa Ud...?
Do you remember?	¿Recuerda Ud.?
Have you had ...?	¿Ha tenido Ud.?

How much?	¿Cuánto?
How long?	¿Cuánto tiempo?
Is is better/worse?	¿Está mejor/peor?
What did you say?	¿Cómo?; ¿Qué dijo?
What do you have?	¿Qué tiene Ud.?
What do you need?	¿Qué necesita Ud.?
What?	¿Qué?
When?	¿Cuándo?
Who?	¿Quién?
Where?	¿Dónde?
Which?	¿Cuál?
Why?	¿Porqué?

Numbers and Time

0	cero
1	uno
2	dos
3	tres
4	cuatro
5	cinco
6	seis
7	siete
8	ocho
9	nueve
10	diez
minute	minuto
hour	hora
day	día
week	semana
month	mes
year	año
today	hoy
tomorrow	mañana
yesterday	ayer
soon	pronto
later	más tarde

Days of the Week

Monday	lunes
Tuesday	martes
Wednesday	miércoles
Thursday	jueves
Friday	viernes
Saturday	sábado
Sunday	domingo

Body Parts

abdomen	abdomen
ankle	talón

stitch, suture	sutura	tuberculosis	tuberculosis
swelling	hinchazón	tumor	tumor
thirst	sed	weakness	debilidad
thrombosis	trombosis	wound	herida
tonsillitis	amigdalitis		
trauma	trauma		

Patient Admission

Have you been here before? When?	¿Ha estado aquí antes? ¿Cuándo?
What's your telephone number?	¿Cuál es su número de teléfono?
Please write down/tell me your name and address.	¿Por favor, apunte/ dígame su nombre y dirección.
Please write down/tell me your date of birth/place of birth.	¿Por favor, apunte/dígame su fecha de nacimiento/lugar de nacimiento.
Whom can we call?	¿A quién podemos llamar?
What is the name of your family doctor?	¿Cómo se llama su médico de cabecera?
What do you do (job)?	¿Qué trabajo hace Ud?
Which health service/insurance are you with?	¿Indique su compañía aseguradora?
Do you have your medical insurance card with you?	¿Tiene volante de asistencia/tarjeta médica?
Are your children included under your/ your spouse's insurance?	¿Están asegurados sus hijos con Ud. o su cónyuge?
You may pay the fee in cash/by check/ with a credit card.	¿La factura médica puede pagarla al contado /con cheque/ con tarjeta de crédito.
Please wait here/in the waiting room.	¿Por favor, espere aquí/ en la sala de espera
Please return on (date) at (time).	¿Vuelva el (día) a las (horas)!

Conversation

Hello, I'm Dr. ...	Hola, soy el doctor...
I'm a medical student.	Soy estudiante de medicina.
How do you feel?	¿Cómo se siente?
fine/bad/sick	bien/mal/enfermo
Is there anyone here who speaks Spanish?/ English?	¿Hay alguien aquí que hable español?/ inglés?
Do you understand?	¿Entiende Ud.?
Do you have any questions?	¿Tiene Ud. algunas preguntas?

Interview

What happened?	¿Qué pasó? ¿Qué ocurrió?
What symptoms made you consult a doctor?	¿Por qué motivo se dirige al médico?
When did it happen?	¿Cuándo ocurrió?
What caused the injury?	¿Qué causó la herida?
How long have you been sick?	¿Desde cuándo está enfermo, -a?
Have you received a tetanus vaccine?	¿Está vacunado contra el tétanos?
Do you feel sick (weak, exhausted, tired)/ Do you feel pain in your...	¿Se siente Ud. enfermo (débil, sin fuerzas, cansado)/tiene dolores especialmente de...
Have you noticed any changes in your body that made you worry?	¿Ha notado algunos cambios corporales que le inquietan?
How long have you been noticing these changes?	¿Cuándo empezó a notar esos cambios?

What are the symptoms? ¿Cuáles son los síntomas?
 Has this happened before? ¿Le ha ocurrido antes?
 Have you seen another dr. for this prob.? ¿Ha visto a otro médico por este problema?

Basic Medical History

What's the name of your family doctor? ¿Como se llama su médico cabecera?
 Have you ever been in the hospital? When? Why? ¿Ha sido internado ya alguna vez en un hospital? ¿Cuándo? ¿Por que motivo?
 Have you ever received a blood transfusion? ¿Ha recibido transfusiones de sangre?
 Are you currently taking any medication? ¿Toma actualmente algún medicamento?
 Do you suffer from or have you ever had...
 high blood pressure ¿Padece o ha tenido Ud. algun vez...
 diabetes hypertension/presión alta
 heart failure diabetes
 asthma fallo cardiaco
 pneumonia asma
 migraines pulmonia
 epilepsy migraña
 allergies... epilepsia
 alérgia...
 Do you have a malignant disease? ¿Padece alguna enfermedad maligna?
 Do any medicines make you sick? ¿Hay medicinas que le sientan mal?
 Do you smoke regularly? ¿Fuma Ud. habitualmente?
 Do you regularly drink alcohol/more than one or two bottles of beer/glasses a of wine day? ¿Bebe Ud. regularmente alcohol/ más de uno o dos botellas de cerveza/vasos de vino diarios?
 Which vaccinations have you received? ¿Contra qué está Ud. vacunado/-a?

Physical Exam

Where does it hurt? ¿Dónde .e duele?
 How long have you had this pain? ¿Cuándo hace que padece ese dolor?
 Is the pain constant? ¿Permanece el dolor o las molestias?
 How strong is the pain? ¿Que fuerza tiene el dolor?
 Have you had this kind of pain before? ¿Habia padecido ya alguna vez ese dolor?
 Does the pain radiate? ¿Nota si el dolor se expande?
 I'm going to examine your... Le voy a examinar el/la...
 I'm going to inspect your... Le voy a inspeccionar el/la...
 I'm going to listen to your... Voy a escuchar su...
 Let me see... Déjeme ver...
 Please undress. Por favor, quítese la ropa.
 Does this hurt? ¿Le duele esto?
 Please move your... Por favor, mueva...
 I have to take your temperature/blood pressure/pulse. Le voy a medir la temperatura/ la presión sanguínea/pulso.
 I need a urine/blood/stool sample Necesito una prueba de orina/de sangre/de heces.
 Now we are going to take:
 an x-ray/ECG/EEG Ahora vamos a hacer:
 an ultrasound/echogram una radiografía/un ECG/EEG
 an endoscopy una ultrasonografía
 a CAT scan/an MRI una endoscopia
 You don't have to worry un TAC/imágenes por resonancia magnética
 No se preocup

Useful Vocabulary

Neurological Vocabulary

- Asterixis:** flapping tremor of hands and feet
- Athetoid:** slow, writhing
- Babinski:** upward deflection of great toe with plantar stimulation is positive, and abnormal in all except newborns
- Brudzinski's sign:** passive flexion of neck leads to involuntary hip flexion, in meningitis
- Choreiform:** rapid, jerky, purposeless synchronous movements
- Chvotek's sign:** twitch after facial nerve tapping, with low calcium
- Cogwheeling:** a type of rigidity seen in parkinsonism in which the muscles respond with cogwheel-like jerks to the use of constant force in bending the limb
- Fasciculation:** visible twitching of muscle bundles
- Hemiballismus:** violent flinging movement
- Hoffman:** flick extended middle finger, if the thumb moves out this is a positive finding
- Horner's Syndrome:** paralysis of cervical sympathetic, ptosis, miosis, anhidrosis of the face
- Kernig's sign:** when the pt lies upon the back and the thigh is flexed to a right angle with the axis of the trunk, complete extension of the leg on the thigh is impossible; present in various forms of meningitis
- Myoclonus:** sudden jerks
- Oppenheim sign:** extension of the toes induced by scratching of the inner side of the leg or by following sudden flexion of the thigh on the abdomen and the leg on the thigh; a sign of cerebral irritation
- Romberg's sign:** feet together, falls with eyes closed

- Tardive dyskinesia:** choreiform movements of tongue, lips, and face
- Tetanus:** sustained spasm to stimuli
- Tic Douloureux:** trigeminal neuralgia
- Tics:** repetitive twitching
- Trousseau's sign:** in latent tetany, the occurrence of carpopedal spasm accompanied by paresthesia elicited when the upper arm is compressed, as by a tourniquet or a blood pressure cuff

Ophthalmological Vocabulary

- Adie's pupil:** usually unilateral large slow reacting pupil
- Arcus senilis:** an opaque, grayish ring at the periphery of the cornea
- Argyll-Robertson pupil:** a form of reflex iridoplegia characterized by miosis, irregular shape, and a loss of the direct and consensual pupillary reflex to light, with normal pupillary constriction to a near vision effort (light-near dissociation); often present in tabetic neurosyphilis
- Blepharitis:** inflammation of the lid margins
- Canthi:** internal and external corners of the eye
- Caruncle:** a small reddish body at the medial angle of the eye, containing modified sebaceous and sweat glands.
- Chalazion:** nontender mebothian cyst inside the lid
- Dacryocystitis:** inflammation of the lacrimal sac
- Ectropion:** turned out lower lid
- Endotropion:** lid turned in
- Exophthalmos:** protruded eye
- Hemianopsia:** bilateral visual field defects; can be **homonymous** (same field) or **bitemporal** (chiasmatic lesion)

Hordeolum: sty or infected hair follicle on the lid margin
Lid lag: white sclera exposed when looking down
Palpebral fissure: the lid slit, or fissure between the eyelids.
Ptosis: drooping upper lid
Xanthelasma: yellow plaques along nasal eyelids, associated with lipid disorders

Dermatological Vocabulary

Macules: colored < 1 cm
Patches: colored > 1 cm
Papules: elevated < 0.5 cm
Plaque: flat elevated > 0.5 cm
Nodule: deep, up to 2 cm
Tumor: deep, larger than 2 cm
Wheal: localized superficial edema
Maculopapules: elevated macules
Vesicle: small blister
Bulla: larger blister
Pustule: filled with pus

Erosion: loss of epidermis
Ulcer: loss of skin surface
Crust: dried residue
Fissure: crack
Scale: flaking skin
Vegetation: elevated irregular growth
(**verrucous:** dry or keratotic;
papillomatous: normal skin)
Lichenification: thick skin with exaggerated furrows
Excoriation: scratched
Keloid: thick, irregular scar caused by excessive tissue growth
Melanoma: highly malignant skin cancer, graded with **ABCD** system: **A**, asymmetry, **B**, border, **C**, color, and **D**, diameter
Nevus: benign growth, like a mole
Dysplastic Nevi: atypical moles
Wart: benign skin growth caused by a virus
Condylomata accuminata: soft wart-like growths on the genitals

Common Abbreviations

A		ASHD	arteriosclerotic heart disease
a	ante [before]	ASO	anti-streptolysin (titer)
A&O	alert and oriented	AST	aspartate aminotransferase
A&OX3	alert and oriented to person, place, and time	AT/NC	atraumatic/normocephalic
A&W	alive and well	AV	arteriovenous; aortic valve; atrioventricular
A/P	assessment and plan	AVM	arteriovenous malformation
a/w	associated with	AVR	aortic valve replacement
AA	aplastic anemia	AZT	zidovudine
AAA	abdominal aortic aneurysm	B	
Ab	abortion	B/L	bilateral
ABG	arterial blood gas	BBB	bundle branch block
ABO	ABO antigens on RBCs	BCG	bacillus Calmette-Gurin [tuberculosis vaccine]
Abx	antibiotics	BCP	birth control pills
ac	ante cibum [before meals]	BCx	blood cultures
ACLS	advanced cardiac life support	BE	barium enema; bacterial endocarditis
ACTH	adrenocorticotrophic hormone	β -hCG	beta human chorionic gonadotropin
ad lib	at liberty	bid	bis in dies [twice a day]
ADH	antidiuretic hormone	BKA	below the knee amputation
ADL	activities of daily living	BM	bone marrow
AFB	acid-fast bacilli	BP	blood pressure
AFib	atrial fibrillation	BPH	benign prostatic hypertrophy
AFP	alpha-fetoprotein	BRBP	bright red blood per rectum
AI	aortic insufficiency	BRP	bathroom privileges
AIDS	acquired immuno- deficiency syndrome	BS	bowel sounds; breath sounds; blood sugar
AKA	above the knee amputation	BSA	body surface area
ALL	acute lymphocytic leukemia	BSO	bilateral salpingoophorectomy
ALT	alanine aminotransferase [SGPT]	BUN	blood urea nitrogen
AMA	against medical advice	bx	biopsy
AML	acute myelogenous leukemia	C	
AP	anteroposterior (x-ray)	c	with
ARDS	adult respiratory distress syndrome	C&F	chills and fever
ARF	acute renal failure; acute rheumatic fever	C&S	culture and sensitivity
AROM	artificial rupture of membranes	C/C/E	clubbing/cyanosis/edema
AS	aortic stenosis	C/D/I	clean, dry, and intact
ASA	acetylsalicylic acid [aspirin]	C/O	complaint of; complains of
ASAP	as soon as possible	c/w	consistent with
ASCVD	atherosclerotic coronary vascular disease	CA	cancer
ASD	atrial septal defect	CABG	coronary artery bypass graft
		CAD	coronary artery disease
		CAH	chronic active hepatitis; congenital adrenal hyperplasia

CAT	computerized axial tomography	DI	diabetes insipidus
CCB	complete blood count	DIC	disseminated intravascular coagulation
CC	chief complaint	DIP	distal interphalangeal (joint)
CCU	cardiac care unit	DJD	degenerative joint disease
CEA	carcinoembryonic antigen	DKA	diabetic ketoacidosis
CF	cystic fibrosis	DM	diabetes mellitus
CHF	congestive heart failure	DNI	do not intubate
CI	cardiac index	DNR	do not resuscitate
CLL	chronic lymphocytic leukemia	DOA	dead on arrival
CML	chronic myelogenous leukemia	DOB	date of birth
CMT	cervical motion tenderness	DOE	dyspnea on exertion
CMV	cytomegalovirus	DP	dorsalis pedis
CN	cranial nerve	DPT	diphtheria, pertussis, tetanus
CNS	central nervous system	DTR	deep tendon reflexes
CO	cardiac output	DTs	delirium tremens
COPD	chronic obstructive pulmonary disease	DUB	dysfunctional uterine bleeding
cor	heart	DVT	deep venous thrombosis
CP	chest pain; cerebral palsy	Dx	diagnosis
CPAP	continuous positive airway pressure	E	
CPK	creatine phosphokinase	ECF	extracellular fluid
CPR	cardiopulmonary resuscitation	ECG	electrocardiogram
CRF	chronic renal failure	ECHO	echocardiogram
CSF	cerebrospinal fluid	ECT	electroconvulsive therapy
CSx	cesarean section	EDC	estimated date of confinement [EDD]
CT	computed tomography; chest tube	EDD	estimated due date
CTA	clear to auscultation	EEG	electroencephalogram
ctx	contraction	EF	ejection fraction
CVA	cerebrovascular accident	EGA	estimated gestational age
CVA(T)	costovertebral angle (tenderness)	EKG	electrocardiogram
CVP	central venous pressure	ELISA	enzyme-linked immunosorbent assay
CVS	cardiovascular system	EMG	electromyogram
Cx	culture	ENT	ears, nose, throat
CXR	chest x-ray	EOM(I)	extraocular muscles (intact)
D		ERCP	endoscopic retrograde cannulation of the pancreatic duct
D&C	dilation and curettage	ESLD	end-stage liver disease
D&E	dilation and evacuation	ESR	erythrocyte sedimentation rate
d/c	discharge; discontinue	ESRD	end-stage renal disease
D5W	5% dextrose solution	ET	endotracheal
DAT	diet as tolerated	EtOH	ethanol
DDx	differential diagnosis	F	
DES	diethylstilbestrol	F/C	fever/chills
DEXA	dual-energy x-ray absorptiometry	f/u	follow-up
DHEA	dehydroepiandrosterone	FAS	fetal alcohol syndrome

FB	foreign body	Heme	blood; hematology
FBS	fasting blood sugar	Hgb	hemoglobin
FEV1	forced expiratory volume in one second	HIV	human immunodeficiency virus
FHR	fetal heart rate	HLA	human leukocyte antigen
FHx	family history	HO	house officer
FIGO	International Federation of Gynecology and Obstetrics	HPI	history of present illness
FIO2	forced inspiratory oxygen	HPV	human papilloma virus
5-FU	5-fluorouracil	HR	heart rate
FROM	full range of motion	hs	hora somni [at bedtime]
FS	finger stick	HSG	hysterosalpingography
FSH	follicle stimulating hormone	HSM	hepatosplenomegaly
FTA	fluorescent treponemal antibody test (also FTA-ABS)	HSV	herpes simplex virus
FTT	failure to thrive	HTN	hypertension
FUO	fever of unknown origin	HUS	hemolytic uremic syndrome
FVC	forced vital capacity	Hx	history
fx	fracture	I	
G		I&D	incision and drainage
G#P#	gravida (# pregnancies), para (# births)	I&Os	intake and output [ins and outs]
GA	general anesthesia	IAN	intern admission note
GC	gonococcus; gonorrhea	IBD	inflammatory bowel disease
GERD	gastroesophageal reflux disease	ICSI	intracytoplasmic sperm injection
GFR	glomerular filtration rate	ICU	intensive care unit
GH	growth hormone	ID	infectious disease; identifying data
GI	gastrointestinal	ID/CC	identifying data and chief complaint
GIFT	gamete intrafallopian tube transfer	IDDM	insulin-dependent diabetes mellitus
GnRH	gonadotropin-releasing hormone	Ig	immunoglobulin
GTD	gestational trophoblastic disease	IHSS	idiopathic hypertrophic subaortic stenosis
GTT	glucose tolerance test	IM	intramuscular
GU	genitourinary	INH	isoniazid
GVH	graft vs host disease	INR	international normalized ratio
H		IOP	intraocular pressure
H&P	history and physical	ITP	idiopathic thrombocytopenic purpura
h/o	history of	IUD	intrauterine device
HA	headache; hemolytic anemia	IUGR	intrauterine growth restriction
Hb	hemoglobin	IUI	intrauterine insemination
HBV	hepatitis B virus	IV	intravenous
HCG	human chorionic gonadotropin	IVC	inferior vena cava; intravenous cholangiogram
Hct	hematocrit	IVDA	intravenous drug abuser
HCTZ	hydrochlorothiazide	IVF	intravenous fluids; in vitro fertilization
HD	hospital day; heart disease	IVP	intravenous pyelogram
HDL	high density lipoprotein	J	
HEENT	head, eyes, ears, nose, throat		

JVD	jugular venous distention	MSPN	medical student progress note
JVP	jugular venous pressure	MVA	motor vehicle accident
K		MVP	mitral valve prolapse
KOH	potassium hydroxide	N	
KUB	kidneys, ureter, bladder (x-ray)	N/V/D	nausea/vomiting/diarrhea
KVO	keep vein open	NAD	no apparent distress; no acute distress
L		NC/AT	normocephalic/atraumatic
L&D	labor and delivery	ND	non-distended
LAD	left anterior descending; left axis deviation	NG	nasogastric (tube)
LAN	lymphadenopathy	NICU	neonatal intensive care unit
LBP	lower back pain	NIDDM	non-insulin-dependent diabetes mellitus
LDH	lactic dehydrogenase	NKDA	no known drug allergies
LDL	low density lipoprotein	NP	nasal prongs
LE	lower extremity	NPBAH	no psittacite birds at home
LES	lower esophageal sphincter	NPO	nil per os [nothing by mouth]
LFT's	liver function tests	NSAID	non-steroidal anti-inflammatory drug
LH	luteinizing hormone	NSR	normal sinus rhythm
LLL	left lower lobe	NSVD	normal spontaneous vaginal delivery
LLQ	left lower quadrant	NT	nasotracheal; non-tender
LMP	last menstrual period	NT/ND	non-tender/non-distended
LP	lumbar puncture	NTG	nitroglycerin
LSB	left sternal border	O	
LUL	left upper lobe	O/P	oropharynx
LUQ	left upper quadrant	OA	osteoarthritis
LVH	left ventricular hypertrophy	OCP	oral contraceptive pills
Lytes	electrolytes	od	oculo dextro [right eye]
M		OD	overdose
M&M	morbidity and mortality	OM	otitis media
M/G/R	murmurs/gallops/rubs	OOB	out of bed
M/R/G	murmurs/rubs/gallops	OR	operating room
MAT	multifocal atrial tachycardia	os	oculo sinistro [left eye]
MCP	metacarpophalangeal (joint)	OT	occupational therapy
MCV	mean corpuscular volume	ou	oculo utroque [both eyes]
MDI	metered dose inhaler	P	
MEN	multiple endocrine neoplasia	p	post [after]
MI	myocardial infarction; mitral insufficiency	PA	posteroanterior; pulmonary artery
MICU	medical intensive care unit	PAP	pulmonary artery pressure; Papanicolaou [cervical] smear
MM	mucous membranes	PAT	paroxysmal atrial tachycardia
MMR	measles, mumps, rubella	PBS	peripheral blood smear
MOM	milk of magnesia	pc	post cibum [after meals]
MR	mitral regurgitation	PCN	penicillin
MRI	magnetic resonance imaging	PCOD	polycystic ovarian disease
MS	mitral stenosis; multiple sclerosis; mental status; morphine sulfate		
MSAN	medical student admit note		

PCP	Pneumocystis carinii pneumonia	PUD	peptic ulcer disease
PCR	polymerase chain reaction	PVC	premature ventricular contraction
PCWP	pulmonary capillary wedge pressure	PVD	peripheral vascular disease
PDA	patent ductus arteriosus	Q	
PDR	Physician's Desk Reference	q	perfusion
PE	physical exam; pulmonary embolism	qd	quaque [every]
PEEP	positive end expiratory pressure	qh	quaque die [every day]
PERRLA	pupils equal, round, and reactive to light and accommodation	qid	quaque hora [every hour]
		QNS	quater in die [four times a day]
		qod	quantity not sufficient
PFT's	pulmonary function tests	R	quaque die [every other day]
PGY	post-graduate year	R/O	rule out
PICU	pediatric intensive care unit	RA	rheumatoid arthritis
PID	pelvic inflammatory disease	RAD	reactive airway disease
PIP	proximal interphalangeal (joint)	RAN	resident admission note
PKU	phenylketonuria	RBC	red blood cell
plt	platelet	RF	rheumatoid factor; renal failure; rheumatic fever
PMH	past medical history	RHD	rheumatic heart disease
PMI	point of maximal impulse	RLL	right lower lobe
PMN	polymorphonuclear (leukocyte)	RLQ	right lower quadrant
PMTS	premenstrual tension syndrome	ROM	range of motion; rupture of membranes
PND	paroxysmal nocturnal dyspnea	ROS	review of systems
po	per os [by mouth]	RPR	rapid plasma reagin (test)
POD	post-operative day	RR	respiratory rate
ppd	packs per day	RRR	regular rate and rhythm
PPD	purified protein derivative; post-partum day	RSB	right sternal border
PR	per rectum	RTA	renal tubular acidosis
PRBC	packed red blood cells	RTC	return to clinic
prn	as needed; as necessary	RUL	right upper lobe
PPROM	preterm premature rupture of membranes	RUQ	right upper quadrant
PROM	premature rupture of membranes	RV	residual volume; right ventricle
PSA	prostatic specific antigen	Rx	prescription; therapy
PSH	past surgical history	S	
PSTT	placental site trophoblastic tumor	s	sine [without]
		s/p	status post [after]
pt	patient	s/sx	signs/symptoms
PT	prothrombin time; physical therapy	S=D	size equals dates
PTA	prior to admission	SAB	spontaneous abortion
PTCA	percutaneous transluminal coronary angioplasty	SBE	subacute bacterial endocarditis
PTH	parathyroid hormone	SC	subcutaneously
PTT	partial thromboplastin time	SCM	sternocleidomastoid
		SG	specific gravity
		SGOT	serum glutamic oxaloacetate transaminase [AST]

SGPT	serum glutamic pyruvate transaminase [ALT]	TSS	toxic shock syndrome
SHx	social history	TSST	toxic shock syndrome toxin
SICU	surgical intensive care unit	TTP	thrombotic thrombocytopenic purpura
SL	sublingually	TURP	transurethral resection of the prostate (gland)
SLE	systemic lupus erythematosus	Tx	treatment
SMX	sulfamethoxazole	U	
SOAP	subjective, objective, assessment, plan	U/A	urinalysis
SOB	shortness of breath	UA	uric acid
SQ	subcutaneously	U/O	urine output
SROM	spontaneous rupture of membranes	UCx	ulcerative colitis
SS	sickle cell anemia	UCx	urine culture
STD	sexually transmitted disease	UE	upper extremity
SVC	superior vena cava	URI	upper respiratory infection
SVD	spontaneous vaginal delivery	US	ultrasound
sx	symptoms; surgery	USO(G)H	usual state of (good) health
sz	seizure	UTI	urinary tract infection
T		V	
T	temperature	V/Q	ventilation/perfusion ratio
T&A	tonsillectomy and adenoidectomy	VDAC	vaginal delivery after cesarian
T&C	type and cross match	VDRL	Venereal Disease Research Laboratories [test for syphilis]
T&H	type and hold	VLDL	very low density lipoprotein
T&S	type and screen	VF	ventricular fibrillation
TAb	therapeutic abortion	VS	vital signs
TAH	total abdominal hysterectomy	VSD	ventricular septal defect
TB	tuberculosis	VSSAF	vital signs stable, afebrile
TCA	tricyclic antidepressant	VT	ventricular tachcardia
TFT	thyroid function test	W	
TIA	transient ischemic attack	w/u	work-up
TIBC	total iron binding capacity	WBC	white blood cell
tid	ter in die [three times each day]	WD/WN	well-developed/well-nourished
TLC	total lung capacity; tender loving care	WNL	within normal limits
TM	tympenic membrane	WOB	work of breathing
Tmax	maximum temperature	WPW	Wolff-Parkinson-White syndrome
TMJ	temporomandibular joint	X	
TMP/	trimethoprim/	X	times; for
TNM	tumor/node/metastasis	XM	cross match
TOA	tubo-ovarian abscess	XR	X-ray
TORCH	toxoplasmosis, other, rubella, CMV, herpes	XRT	radiation therapy
tPA	tissue plasminogen activator	Y	
TPN	total parenteral nutrition	yo	year old
TRH	thyrotropin-releasing hormone		
TSH	thyroid stimulating hormone		

Telephone Directory

Bristol Regional Medical Center

Switchboard	844-1121
ED	2100
Lab	3100
OB/GYN	2500
Pediatrics	3300
Radiology	2200
MICU	2430
CCU	2400
MRI	2242
Call Room	2521
Family Medicine	989-4050
CICU	2430
Neuro/Ortho Wing/2E	2300

Holston Valley Medical Center

Switchboard	224-4000
Admitting	6552
ED	5108
Discharge Planning	6650
Lab	6700
Radiology	6800
IM Resident's Lounge	5079
FP Resident's Lounge	5094
Social Services	6650
Surgery	6100
Women's Health	6370

Indian Path Hospital	857-7000
Indian Path Pavillion	857-5500

Johnson City Medical Center

Switchboard	431-6111
Blood Bank	6379
Cath Lab	6480
NICU (neonatal)	5039
Newborn Nursery	6443
Home Health	6145
Med Education	6431
MICU	6602
Pastoral Care	6886
X-Ray Scheduling	6963/6777
Radiology Reading Room	1668
Library	1691

Amb. Surgery	2000
Same Day Surgery	2000
Blood Gas	6717
Women's Health	6858
ED	6561/6562
Lab	6373/6389/1305
Medical Records	6440
SICU	6622
PICU	1903
Pharmacy	6732
Main OR	1410
Social Work	6026
ETSU Cancer Center	433-6200

JCMC Radiology Report: 431-6138, #1, 5-digit doctor number, Patient medical record number followed by the # key: 2 stops playback, 3 short rewind, 5 manual disconnect from the system, 77 rewinds to the beginning & begins playback again, 8 skips to next report on the patient. REMEMBER to press 5 before hanging up!

Woodridge	928-7111
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James H. Quillen VA Medical Center

Switchboard	926-1171
Admitting	7508
Cardiology	3497
Chief Medicine	3496
Chief Surgery	7353
Dialysis	2563
EEG	2506
EKG	7588
ED	7521/7550/7118
X-Ray	7403
CT	7333
CG	2570
C1	2658
DG	2798
D1	2705
E2	2786
MICU	2797
SICU	2559
Surgery Scheduling	7355
GI Lab	2474
GI Clinic	2145

ID	2706
OR	7321
Social Work	2634
Computer Help	6400
Primary Care	3472
Lab	7875
Pulmonology	2447

VAMC Radiology Report: 7403/7937, enter your last 4 of SSN followed by # key. Press 1 for subject (pt). Enter entire SSN of patient followed by the # key. The most recent report for the patient will begin to play back. To skip to the next report, press 8. 2 stops playback, 3 continues, 3 also does short rewind with playback, 5 manual disconnect, 77 rewinds to the beginning. When finished PRESS 5.

ETSU Medical Clinics

Internal Medicine	439-7280/7931
OB/GYN	439-7272
Pediatrics	439-7320
Psychiatry	439-8000
Surgery	439-7201
Bristol Family Practice	989-4050
JC Family Practice	439-6464
Kingsport Family Practice	245-9600

Medical School Departments

Family Medicine	439-6740
Internal Medicine	439-6381
OB/GYN	439-6335
Pediatrics	439-6222
Psychiatry	439-2244
Surgery	439-8806
Academic Affairs	439-6327
Financial Aid	439-2035
Records	439-2032
Student Support Services	439-2037

Dr. Stephanie Leeper	439-2036
Med Student Counseling Services	439-2232/439-8000

Community Numbers

Poison Control	800-288-9999
STD Hotline	800-227-8922
Haven of Mercy	929-0610
Domestic Violence	800-799-7233
Child Abuse	800-422-4453/929-0171
Ronald McDonald House (JCMC)	975-5437
S.A.F.E. House	246-2273
Washington County Health Department	975-2200
Rescue Mission	929-0616
Drug Abuse & Addiction	928-6581
Watauga Mental Health	928-6545
Domestic Violence	926-8901
United Way	282-5682
Sexual Assault	928-6583
HIV Network	928-8888
Salvation Army	926-2101
AA	928-0871
Child Abuse	929-0171
Parent Help	800-356-6767

Local Restaurants

Amigos	975-0252
Firehouse	929-0502
Papa Johns	434-2424
El Charlois	928-0929
Yamato	232-8868
Domino's	929-1131
Pizza Hut	929-8371
Marco's	928-5888
Miso Teriyaki	975-6476
Ruby Tuesday	926-1336

Notes