Clinical Year: Being on the Other Side

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Disclosure

- I am the sole author of the PA Rotation Exam Review book (published 2018)
- I publish under Wolters Kluwer, the Health division of Lippincott & Williams & Wilkins (LWW), and will note where their products are recommended in this presentation
- The information provided is through the lens of a current faculty member and former PA student, recognizing the methods that work (and don’t work) for students of all calibers, including those who require remediation
Objectives

- Identify and describe various study resources and study methods that are beneficial for the PA student.
- Explain time management approaches and ways to commit large volumes of information to memory.
- Dissect components of specific and general objectives from the clinical year.
- Discover ways to approach various types of questions and identify what a question is asking.
- Create a study plan for future clinical rotations using objectives.
Study approach is as important as the resources that you utilize.

Individualized based on your learning style.

Clinical year is more about self-directed learning.

Identify and describe various study resources and study methods that are beneficial for the PA student.
Learning Styles

Visual

Aural

[Reading/writing] “verbal”

Kinesthetic
Learning Approach

Strategies and conditions worked best

Strategies and conditions that did not work well for you

Strategies too time consuming to continue
Process

1. Review
   - Review your PACKRAT #1 feedback
2. Review
   - Review your rotational learning objectives/syllabi
3. Set
   - Set individual goals and develop a study plan
4. Identify
   - Identify a primary study resource/tool
5. Create
   - Create your own study guide
6. Quiz
   - Quiz yourself/with group
7. Study
   - Study daily
8. Balance
   - Balance study with life/family, sleep and exercise
9. Manage
   - Manage your time effectively
Approach

- Take practice tests regularly
- Take questions at random
- Create your own vignettes
- Practice differentials for various chief complaints
- Chunking
- Learn as you go
- Learning techniques
How to Study

• For each topic: etiology (pathogens), epidemiology, risk factors, presentation, diagnostics (labs and imaging), treatment (side effects, monitoring, next steps, follow up), and health maintenance (vaccines, screenings)

• Quizzing yourself e.g. Strep Pharyngitis
  • What are the Centor criteria?
  • What is the presentation? How can I differentiate from other diagnoses?
  • Write whatever you can remember. Whatever you don’t get, quiz yourself again in a few days or following week.

• Application is crucial in clinical year
Supplemental Resources

- Question banks
- Osmosis, Aquifer, Picmonic, etc.
- Review books
- Podcasts and Phone Apps
Ask the Audience

• What resources have you found to be useful in didactic or clinical phase?
Selecting Study Resources

Don’t choose too many
Don’t choose PANCE review books
Don’t rely on question banks

I recommend:
  Sanford guide
  UpToDate, Cecil Essentials of Medicine
  Didactic notes
$75/student until you graduate

Exclusive Wolters Kluwer-Lippincott Resources

One free eBook + 30% off all other titles
  - Blueprints Medicine
  - Lippincott Illustrated Reviews: Integrated Systems
  - Step-Up to Emergency Medicine
  - SOAP for the Rotations

Maxwell Quick Medical Reference – free!

40% discount on Picmonic plans

Free JAAPA subscription
Every program must prepare students for the board exam (PANCE)

Your clinical year is not the time to begin preparing for your board exam

Your focus should be continuing to build on your foundation of medicine
Clinical Phase

- Typically 7 Core Rotations
  - Emergency Med
  - Family Med
  - Internal Med
  - Pediatrics
  - Psychiatry
  - Surgery
  - Women’s Health/Ob/Gyn
- 1-2 Electives
- Duration: 4-8 weeks each
Clinical Phase

- Covers the 7 Core Rotations
  - Emergency Med
  - Family Med
  - Internal Med
  - Pediatrics
  - Psychiatry
  - Surgery
  - Women’s Health/Ob/Gyn
- 25 practice questions/chapter + 175 additional online
- 2nd edition set to be available May 2024
  - More practice Qs
  - More pharmacology
  - More pictures
  - Content update
**Dilated cardiomyopathy (DCM)**

- **Most common type** (95%) and associated with reduced strength of ventricular contraction, resulting in dilation of left ventricle
- **Most idiopathic** (50%), age 20-60 y
- **CAD with prior MI** is common cause
- **Genetic abnormalities**
  - Excessive ETOH
  - Postpartum
  - Doxorubicin
  - Endocrineopathy
  - Myocarditis

**Clinical Symptoms and Signs**

1. **Dyspnea** (MC)
2. Fatigue
3. SX of L and R-HF signs
   1. **S3 gallop**
   2. Pulmonary crackles (rales)
4. Increased JVP
   - Arrhythmias
   - Sudden death
   - Embolic events (10%)

**Diagnoses**

1. EKG: nonspecific ST and T wave changes, conduction abnormalities, ventricular ectopy
2. **CXR: cardiomegaly**, pulmonary congestion
3. Echo:
   - **LV dilation** and dysfunction
   - High diastolic pressures
   - Low cardiac output
   - Decreased ejection fraction
   - Regional or global LV hypokinesis

**Therapy, Prognosis, and Health Maintenance**

1. CHF supportive therapy
   - ACE inhibitor
   - Diuretics
   - β blockers
   - Na restriction
2. Digoxin, vasodilators
3. ICD if EF <30%-35%
4. Cardiac transplant
5. Poor prognosis—most die within 5 y

**Hypertrophic Cardiomyopathy**

Massive hypertrophy (of the septum), small left ventricle, systolic anterior mitral motion, and diastolic dysfunction.

- Conditions, positions, and maneuvers that reduce LVED (decreased preload and afterload) worsen the outflow obstruction, intensifying the murmur
- Valsalva—decreases preload
- Moving from squatting to standing, nitrates—decreases preload
- Vasodilators—decrease afterload

**Disease**

<table>
<thead>
<tr>
<th>Hypertrophic cardiomyopathy (HCM) (Fig. 15-5)</th>
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<tbody>
<tr>
<td><strong>Etiology, Prevalence, Risk Factors</strong></td>
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<td>Asian descent, elderly (distinct form)</td>
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<tr>
<td>Most: <strong>autosomal dominant trait</strong></td>
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<td>Stiff, hypertrophied ventricle with</td>
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<td>elevated diastolic filling pres-</td>
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</table>

**Clinical Symptoms and Signs**

1. **Dyspnea** (90%)
2. **Angina pectoris** (75%)
3. Syncope and arrhythmias common
   - Palpitations, dizziness
4. Sudden cardiac death (30, 2-3%)

**Diagnoses**

1. EKG: unremarkable
2. EKG: nonspecific ST and T wave changes, septal Q waves, LVH
3. Echo
   - Asymmetric septal hypertrophy (>15 mm)
   - Systolic anterior

**Therapy, Prognosis, and Health Maintenance**

1. Beta blockers (first line) or CCB, diapryamide for negative inotropic effects
   - Increases ventricular diastolic filling time
   - Caution: use of digoxin (increases contractility), nitrates, & diuretics
Explain time management approaches and ways to commit large volumes of information to memory.

- What are your preferred time management skills?
- How do you commit information to memory?
Explain time management approaches and ways to commit large volumes of information to memory.

- Get rid of distractions
- Change your study environment
- Set goals and adapt
- Be creative with scheduling
- Be upfront with your family/friends

Clinicals are temporary, but meant to prepare you
Explain time management approaches and ways to commit large volumes of information to memory.

- Spaced repetition
  - Involves actively recalling learned material
  - If item forgotten, you have identified weak areas to focus on in the future
- Flashcards
  - Box Method
  - Spaced Repetition Software (Anki, Memorang)
    - Word definition
    - Reverse word definition
    - FITB
    - Images
- Start preparing early
- Study as permitted (during commute, breaks, etc.)
Dissect components of specific and general objectives from the clinical year.

- Take your objectives
- Create a study plan for yourself
- Adapt it as you go
- Adhere to it as best you can
- Align it with realistic, attainable goals
Dissect components of specific and general objectives from the clinical year.

- Specific Objectives: Oral Candidiasis (Thrush)
- General Objectives: Fatigue, Chest Pain, Vaginitis
  - Fatigue
    - Psych: depression
    - Heme: anemia (IDA, Vit B12/Folate)
    - Endo: hypoglycemia, DKA, hypothyroidism, etc.
    - Cardiac: HF, symptomatic arrhythmia, etc.
    - Respiratory: COPD
    - Neuro: OSA
    - Rheum: SLE
    - Infectious disease: TB, malignancy, Lyme, EBV, etc.
PC 1/2/3 core learning objectives

Upon completion of this clinical experience (PC1, PC2, or PC3), the student will be able to:

- Understand etiology, epidemiology, risk factors and pathophysiology
- Evaluate clinical manifestations
- Formulate a differential diagnosis
- Develop an assessment (including recommendation and interpretation of laboratory, diagnostic and radiological studies/findings)
- Construct a patient-specific plan (including pharmacological/ non-pharmacological, patient education, procedural and necessary referrals)
- Describe prognosis, complications, prevention, patient education, and treatment goals

of the following diseases/disorders/symptoms:

General
- Health promotion/disease prevention (IZ and health screening tests/schedules)
- Smiles for Life online module objectives

Symptoms
- Altered level of consciousness
- Chest Pain
- Edema
- Fatigue
- Fever
- Syncope
- Vertigo
- Weakness
- Weight loss

Cardiovascular
- Conductive disorders- atrial fibrillation/flutter, atrioventricular blocks, bundle branch block, paroxysmal supraventricular tachycardia, premature beats, ventricular tachycardia, ventricular fibrillation
- Hypertension- pre/stage 1/stage 2, essential, secondary
- Ischemic heart disease- CAD, acute myocardial infection, angina pectoris (stable, unstable, Prinzmetal’s/variant)
- Valvular disease- Stenosis, insufficiency/regurgitation of: Aortic, Mitral, Tricuspid, Pulmonic
- Mitral Valve Prolapse
- Lipid disorder- hypercholesterolemia, hypertriglyceridemia
# Sample Study Plan

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Monday</th>
<th>Aug 15</th>
<th>Tuesday</th>
<th>Aug 16</th>
<th>Wednesday</th>
<th>Aug 17</th>
<th>Thursday</th>
<th>Aug 18</th>
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<td>CAD/Ischemic Heart Disease</td>
<td>Vascular Disease</td>
<td>Cardiomyopathy</td>
<td>Conduetive Disorders</td>
<td>Heart Failure</td>
<td>Hypertension</td>
<td>Chest pain</td>
<td>Edema</td>
<td>Fatigue</td>
<td>Neuro Infection</td>
<td>Endo Adrenal</td>
<td>Endo Lipid d/o</td>
<td>Endo DM-T1, T2, hypoglycemia</td>
<td>Endo DM-Complications</td>
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<tr>
<td></td>
<td>GI liver</td>
<td>Pulm Obst d/z</td>
<td>EENT Ear</td>
<td>EENT Eye: infections</td>
<td>MSK Knee</td>
<td>Timed practice exam</td>
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<td></td>
<td>GI stomach</td>
<td>Inseed/parasites</td>
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<td>MSK Forearm/elbow</td>
<td>Anemias</td>
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<td>GI St/LI</td>
<td>Acneiform lesions</td>
<td>Ecematous eruptions</td>
<td>Vertigo</td>
<td>MSK wrist/hand</td>
<td>Leukocytosis</td>
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<td>Weight loss</td>
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<td>MSK shoulder</td>
<td>Leukopenia</td>
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<td>Antimicrobial agents</td>
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Exercise
Sleep
Study Hours
Create a study plan for future clinical rotations using objectives.

- Take sample objectives provided.
- Discuss ways to approach them.
- Utilize the methods we discussed today to create your own study plan.
Discover ways to approach various types of questions and identify what a question is asking.

- Read the “lead-in” (question being asked)
- Read the stem (vignette) of the question
- Try to answer the question without looking at the answer choices
- Optional: Look at the answer choices, cross out ones you know are incorrect based on the info given (“distractors”)
- Pull out important information (RF, signs/symptoms, ab/normal vitals)
- Select answer, go with your gut
- Avoid changing your answer
- Avoid adding content that isn’t there
Stem: A 72-year-old man presents for painless vision loss. He describes his vision as hazy. The problem started two years ago when he had to get new reading glasses, but it continues to worsen. He admits difficulty driving at night because his vision is fuzzy. On exam, the red reflex is diminished and visual acuity is 20/50 on the right, 20/70 on the left.

Lead-in: What is the most likely diagnosis?

a. Nuclear cataract
b. Retinal detachment
c. Age-related macular degeneration (ARMD)
d. Open angle glaucoma
A. Nuclear cataract
   1. RF: smoking (2x), EtOH, sunlight exposure, DM, metabolic syndrome
   2. Age 60+, Painless, progressive, blurry vision; bilat or unilat; diff driving at night, reading road signs or fine print; opacified lens on exam; darkening of red reflex, obscured ocular fundus

B. Retinal detachment
   1. Acute, painless vision loss (peripheral to central); “curtain coming down”, floaters, blurred/black vision (over hrs)

C. Age-related macular degeneration (ARMD)
   1. RF: long hx smoking, metabolic synd, white, female, age 50+
   2. Insidious onset, gradual loss of vision; retinal drusen may precede; scotomas, distorted vision → loss of central vision

D. Open angle glaucoma
   1. Acute, severe eye PAIN + nausea/vomiting, frontal HA, tearing, blurry vision w/ dec visual acuity
   2. PE: Cloudy or hazy cornea, mid-dilated and non-reactive pupil
Stem: A 72-year-old man presents for painless vision loss. He describes his vision as hazy. The problem started two years ago when he had to get new reading glasses, but it continues to worsen. He admits difficulty driving at night because his vision is fuzzy. On exam, the red reflex is diminished and visual acuity is 20/50 on the right, 20/70 on the left.

Lead-in: What is the most likely diagnosis?

a. Nuclear cataract
b. Retinal detachment (not acute, not periph to central)
c. Age-related macular degeneration (ARMD)
d. Open angle glaucoma (not severely painful, not acute)
Selecting the Best Answer

• Stem: A 72-year-old man presents for painless vision loss. He describes his vision as hazy. The problem started two years ago when he had to get new reading glasses, but it continues to worsen. He admits difficulty driving at night because his vision is fuzzy. On exam, the red reflex is diminished and visual acuity is 20/50 on the right, 20/70 on the left.
• Lead-in: What is the most likely diagnosis?
  a. Nuclear cataract
  b. Retinal detachment
  c. Age-related macular degeneration (ARMD) (no RF, no drusen on exam)
  d. Open angle glaucoma
Types of Questions

- Most likely diagnosis
- Confirmatory (gold standard) diagnostic test
- Initial diagnostic test
- Treatment
- Side effect of therapeutic option
- Complication of disease
Let’s Practice!

- Work in small groups of 3-4 to answer 3 questions together
- Utilize the method we learned to select the best answer
- You have 5 minutes to complete this
- Raise your hand when you’re finished
Pitfalls of Clinical Year

- Assumptions about ‘seeing’ a disease vs studying it
- Only reviewing question banks
- Not developing a study plan or following it
- Not utilizing correct objectives
- Assuming your prior experience will carry you through
- Did well in didactic, don’t need to study it again
- Procrastinating, cramming
- Not taking care of your: sleep, mental health, diet, etc.
- Utilizing board review books as a primary source
Why Is This Important?

- Stay current with ever-changing medicine
- Ensure patient safety, quality of care, community health
- Learn the difference between clinical medicine (art) and evidence based medicine (science)
- You will be tested on EBM
The Other Stuff

- Routine, dress code, arrival time & departure time
  - Rounding, call
- First impressions & lasting impressions
- Elicit and act on feedback (time & process)
- Maximize your clinical experience
- Define student and preceptor expectations
- Be flexible
- Familiarize yourself with P&P, office protocol
- Repetition helps with mastery
• Evaluations – who, what, when, where, how
• Respect your place in the HC system and in patient care
• Respect the privilege of practicing medicine
• Log your pt encounters daily, write down common ICD-10 codes
• Don’t believe everything you hear; open mind, ready to learn!
• Preceptors – no one is alike
• Non-clinical things, too
• Clinical year: a different type of “difficult”
• Who will be your clinical references?
What Did You Learn Today?
Questions?

Thank You!
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Sources