<u>NBME Shelf Exam Review*</u>

**Thanks to the University of Cincinnati Department of Family and Community Medicine, FM Clerkship and Florida Atlantic University College of Medicine Family Medicine Clerkship for this content*

Family Medicine Modular Exam

- Questions: 110
  - Core Content: 90 questions (on anything related to Family Medicine)
  - Chronic Care: 10 questions (management of patients with chronic medical conditions)
  - Musculoskeletal: 10 questions
- Time: 2 hours 45 minutes

Content

- Age breakdown
  - Childhood: 5-15%
  - Adolescence: 5-10%
  - Adulthood: 65-75%
  - Geriatric: 10-15%
- Organ Systems
  - Immunologic: 1-5%
  - Blood and Blood forming Organs: 1-5%
  - Mental Disorders: 5-10%
  - Nervous System and Special Senses: 5-10%
  - Cardiovascular: 10-15%
  - Respiratory System: 10-15%
  - Nutrition and Digestive disorders: 10-15%
  - Gynecologic Disorders: 5-10%
  - Renal, Urinary, and Male Reproductive System: 5-10%
  - Pregnancy, Childbirth and the Puerperium: 1-5%
  - Skin and Subcutaneous Tissue: 1-5%
  - **Musculoskeletal System and Connective Tissue: 15-20%**
  - Endocrine and Metabolic Disorders: 5-10%
- Physician Task
  - Health Maintenance: 15-20%
  - Understanding Mechanism of Disease: 5-10%
  - Establishing a Diagnosis: 30-35%
  - Applying Principles of Management: 25-30%

Overall:

- Mostly outpatient based
- The test stresses management
- A few zebras but not worth studying for these (you either will know it or you won't and just move on)
- Study your bread and butter family medicine topics (MSK, HTN, DM, high chol, asthma, COPD, depression, anxiety, common outpatient infections, back pain, health maintenance, etc)
- Only a few OB questions and usually not too difficult. A community family doc that is not delivering babies should be able to answer them.
- Most students do not have trouble with time, but if you are a consistent slow test taker, watch your time carefully. It is not a bad idea to take some short timed practice tests.

Studying:

- I highly recommend a combination of readings and questions
  - Readings:
    - **Step-Up to Family Medicine**: Outline format, easy to get through in 4 weeks, written by the UC DFCM specifically to do well on the FM Clerkship and shelf exam.
    - **Review articles on AAFP.org**
    - **Case Files for FM**: good if you are a cased based learner and can get through in a 6-week clerkship
    - Blueprints FM: I do not recommend - not detailed enough for the shelf exam
    - Essentials of FM: Very good book, but very long, maybe difficult to get through in 6 weeks.
  - Questions:
    - **AAFP board review questions**
      - Become a student member for free and you will have **free** access to these questions. Past students have found these very helpful.
      - It takes a few days to activate your account, so sign up early in the rotation.
      - Well over 1000 questions. On average the question stems may be a little shorter than the ones on the shelf.
    - **Pretest FM**
      - If you like Pretest for other clerkships you will probably like it for this clerkship as well. It does cost money.

HTN:

- Diagnosis: BP ≥140/90 on 2 occasions (not the same day) following an initial screening.
- Initial work up to include: CMP, CBC, TSH, U/A, ECG
- Treatment Goal: (JNC8)
  - <60 yo: <140/90
  - ≥60 yo: <150/90
  - DM or chronic kidney disease at any age: <140/90
- Treatment:
  - Lifestyle Modification
  - Non-black: ACE-I, ARB, CCB, thiazide diuretic
  - Black: CCB, thiazide diuretic
  - Chronic kidney disease: ACE-I, ARB
  - If still not at goal with initial therapy: optimize 1st med or add 2nd med from the above list.
  - If still not controlled with 2nd med optimize the 2 meds or add a 3rd med (one of these should be a thiazide diuretic)
- Test Pearls:
  - The test really likes secondary causes of hypertension so know them and how to recognize/diagnose them
    - obstructive sleep apnea, renovascular disease, hyperaldosteronism, chronic kidney disease, thyroid/parathyroid disease, pheochromocytoma, Cushing's, drugs
    - OSA most common
    - Think hyperaldo if low potassium or if potassium drops a lot on initiation of a thiazide diuretic
  - If optimized doses of three meds including a thiazide diuretic are not controlling the BP, look for secondary causes.
  - When starting lisinopril (ACE-I), expect a small bump in the creatinine level. Up to 30% is considered normal and the med should be continued.

- The test favors ACE-I so know their mechanism, side effects, etc. Choose these for patients with DM and HTN, or DM and microalbuminuria

DM II

- Diagnosis:
  - HbA1c ≥6.5
  - Fasting glucose ≥126 on 2 occasions
  - Random glucose ≥200 with symptoms (polydipsia, polyphagia, polyuria, weight loss)
  - 2 hour oral glucose tolerance test ≥200 (this is rarely done)
- Goals:
  - HbA1c: < 7 (< 9 for geriatric patients)
  - BP: <140/90
  - LDL: <100
  - No tobacco use
  - Low dose aspirin use unless contraindicated
  - Foot exam yearly
  - Eye exam yearly
  - Urine microalbumin yearly

  The 1st 5 are called the "D-5". Used by many organizations to measure quality. FYI: D5 actually uses HbA1c <8.
- Treatment:
  - Lifestyle modification
  - 1st line med: metformin (do not use if Cr ≥1.5 in ♂ or ≥ 1.4 in ♀)
  - 2nd line med: many choices including long acting insulin

Asthma

- Diagnosis:
  - Requires spirometry: obstructive component (FEV1/FVC ratio <0.7) and reversible with short acting beta agonist (SABA) of ≥12% and an increase in FEV1 by 200mL.
  - Peak flow not reliable for diagnosis but excellent for monitoring symptoms
- Treatment:
  - Acute exacerbation: SABA, oral steroids, +/- oxygen
  - Chronic care:
    - Try to identify and avoid triggers
    - Establish an asthma action plan including peak flow measurements at baseline and when having symptoms.
    - Escalate therapy ("Step-up therapy") is needing to use SABA 2 or more times a week or if having night time symptoms 1 or more time a week.
    - SABA for acute symptoms or prior to exercise if has exercise induced symptoms
    - 1st line daily med: low dose inhaled steroids
    - If not controlled, increase dose of inhaled steroid.
    - If still not controlled, can add Montelukast or LABA to the inhaled steroid
    - If still not controlled, can add theophylline
    - Do not use LABA without an inhaled steroid in asthma as it increases mortality

COPD

- Diagnosis:
    - Requires spirometry: obstructive component, a post-bronchodilator FEV1/FVC ratio < 0.7 (not reversible)
    - Almost always seen in smokers (beware of calling a smoker asthmatic as treatment differs)
- Treatment:
    - Acute exacerbation: SABA, oral steroids, +/- antibiotic (usually a macrolide), +/- oxygen
    - Chronic Care
        - Stop smoking
        - Avoid occupational exposures and air pollution
        - Regular physical activity
        - Meds:
            - SABA for acute symptoms
            - 1st line daily med: anticholinergics: ipratropium and tiotropium (tiotropium has better evidence and is dosed once a day)
            - 2nd line meds:
                - LABA (can be used as monotherapy in COPD)
                - Inhaled steroids/LABA combination (inhaled steroids do not have as good evidence as in asthma and increase risk of DM)
                - Theophylline
        - Pulmonary rehab can help with symptoms
        - Smoking cessation at any stage and oxygen in end stage are the only therapies that decrease mortality rate.

Depression and anxiety

- Counseling and SSRI's are first line treatment
- Do not use the SSRI Paxil (paroxetine) as it has a very short half life with no active metabolite - withdrawal symptoms are common even with missing just one dose
- Benzos are never the right answer unless asked which med to wean off or if you are treating alcohol withdrawal.
- Wellbutrin (bupropion) has less sexual side effects.

Back Pain

- Most often muscular
- Know the "red flags" of back pain: h/o cancer, weight loss, immunosuppressed, IV drug use, fever, significant trauma, bladder or bowel changes/incontinence, urinary retention, saddle anesthesia, loss of anal sphincter tone, major motor weakness, persistent neurologic findings, vertebral tenderness, age (old and young)
- Meds: NSAID (A recommendation), muscle relaxants (B recommendation)
- Opioids are never the right answer on this test

Other MSK

- Study this a lot
- Know the Ottawa ankle rules
- Know how to diagnose and treat common problems
    - Knee: ACL, MCL, LCL, meniscal tear
    - Shoulder: biceps tendonitis, rotator cuff problems, labral tear
    - Elbow: lateral epicondylitis
    - Wrist: carpal tunnel syndrome, DeQuervain's, scaphoid fracture

- Gout
- Osteoarthritis
- Plantar fasciitis

Infections

- Know antibiotics for common outpatient infections
- UTI, cellulitis, community acquired pneumonia, otitis media and externa, strep pharyngitis, sinusitis
- URIs and bronchitis are caused by viruses and should not be given antibiotics - treat symptomatically

Allergies

- Nasal steroids are the most effective meds in seasonal allergies.
- Avoid antihistamines in elderly patients as anticholinergic effects can affect cognition.

Health Maintenance

- The test stresses USPSTF recommendations, so know those.
- You don't need to memorize the CDC child and adult immunization tables, but know approximately when shots are indicated. They are unlikely to ask about make-up schedules. Know which are live and their contraindications.

Anemia

- Know the different causes and how to determine (i.e. what is microcytic, macrocytic, etc)