

Everything You Ever Wanted to Know About the NAPLEX

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Objectives

AT THE COMPLETION OF THIS ACTIVITY, THE PHARMACIST PARTICIPANT WILL BE ABLE TO:

1. Summarize the latest changes to the NAPLEX blueprint and administration process
2. Understand the NAPLEX test development process and passing standard evaluation
3. Answer sample NAPLEX questions

AT THE COMPLETION OF THIS ACTIVITY, THE PHARMACY TECHNICIAN PARTICIPANT WILL BE ABLE TO:

1. Recall the latest changes to the NAPLEX blueprint and administration process
2. Outline the NAPLEX test development process and passing standard evaluation
3. Recognize sample NAPLEX questions

Financial Disclosure

Donald Godwin, PhD, has no relevant financial relationships with commercial interests to disclose

North American Pharmacist Licensure Examination[®] NAPLEX[®]

Purpose

**To assess a candidate's competence,
knowledge, skills and abilities to
practice pharmacy**

Recent NAPLEX Updates

- 2013-2014 Competency/content review
 - 2014 *National Pharmacy Practice Survey*
 - 2014 Standard setting meeting
 - 2015 (November) New content domains, blueprint and passing standard implemented
 - 2016 (November) Fixed-form, 250 item examination launched
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NAPLEX Blueprint – Area 1: Ensure Safe and Effective Pharmacotherapy and Health Outcomes (Approximately 67% of Test)

1.1 Obtain, Interpret, Assess, and/or Evaluate:

- 1.1.1 Information from patient interviews
- 1.1.2 Patient medical records
- 1.1.3 Results from instruments and screening strategies used to assess patients
- 1.1.4 Laboratory and diagnostic findings
- 1.1.5 Signs and symptoms associated with diseases and medical conditions
- 1.1.6 Patients' need for medical referral
- 1.1.7 Risk factors relevant to the prevention of a disease or medical condition and the maintenance of wellness
- 1.1.8 Information from interdisciplinary health care providers

1.2 Develop and Implement Individualized Treatment Plans, Taking Into Consideration:

- 1.2.1 Specific uses and indications and dosing for drugs
- 1.2.2 Purported uses and indications for dietary supplements and complementary and alternative medicine
- 1.2.3 Lifestyle and self-care therapy
- 1.2.4 Pharmacologic classes and characteristics of drugs
- 1.2.5 Actions and mechanisms of actions of drugs
- 1.2.6 The presence of pharmacotherapeutic duplications and/or omissions
- 1.2.7 Drug interactions
- 1.2.8 Contraindications, warnings, and precautions
- 1.2.9 Allergies
- 1.2.10 Adverse effects and drug-induced illness
- 1.2.11 Pharmacodynamic, pharmacokinetic, and pharmacogenomic principles
- 1.2.12 Pharmacokinetic data to determine equivalence among drug products
- 1.2.13 Pharmacoeconomic factors
- 1.2.14 Routes and methods of administration, dosage forms, and delivery systems

NAPLEX Blueprint – Area 1: Ensure Safe and Effective Pharmacotherapy and Health Outcomes (Approximately 67% of Test)

1.3 Assess and Modify Individualized Treatment Plans, Considering:

- 1.3.1 Therapeutic goals and outcomes
- 1.3.2 Safety of therapy
- 1.3.3 Efficacy of therapy
- 1.3.4 Medication non-adherence or misuse

1.4. Techniques for Effective Communication/Documentation of the Development, Implementation, and Assessment of Individualized Treatment Plans to:

- 1.4.1 Patients and/or patients' agents
- 1.4.2 Interdisciplinary health care providers

1.5 Advocate Individual and Population-Based Health and Safety, Considering:

- 1.5.1 Best practices, scientific literature evaluation, and health-related resources
- 1.5.2 Quality improvement strategies in medication-use systems
- 1.5.3 Processes, evaluation of, and responses regarding medication errors
- 1.5.4 Role of automated systems and technology in medication distribution processes
- 1.5.5 Emergency preparedness protocols

NAPLEX Blueprint – Area 2 Safe and Accurate Preparation, Compounding, Dispensing, and Administration of Medications and Provision of Health Care Products (Approximately 33% of Test)

2.1.0 Employ Various Techniques to Calculate:

- 2.1.1 Patients' nutritional needs and the content of nutrient sources
- 2.1.2 Drug concentrations, ratio strengths, and/or extent of ionization
- 2.1.3 Quantities of medication to be compounded, dispensed, or administered
- 2.1.4 Quantities of ingredients needed to compound preparations
- 2.1.5 Rates of administration

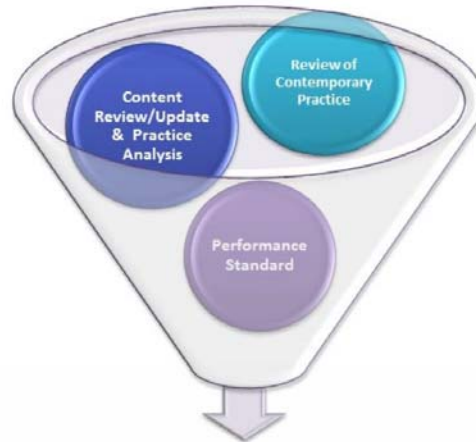
2.2.0 Compound Sterile and Nonsterile Products, Considering:

- 2.2.1 Techniques, procedures, and equipment for drug preparation, compounding, and administration of sterile products
- 2.2.2 Techniques, procedures, and equipment for drug preparation, compounding, and administration of nonsterile products
- 2.2.3 Physicochemical properties of active and inactive ingredients
- 2.2.4 Identifying the presence of, and the cause of, product incompatibilities or degradation and methods for achieving stability
- 2.2.5 Physicochemical properties of drugs that affect solubility and stability

2.3.0 Review, Dispense, and Administer Drugs and Drug Products, Considering:

- 2.3.1 Packaging, labeling, storage, handling, and disposal of medications
- 2.3.2 Commercial availability, identification, and ingredients of prescription and non-prescription drugs
- 2.3.3 Physical attributes of drug products
- 2.3.4 Specific instructions and techniques for administration

Practice Analysis/Survey/Passing Standard



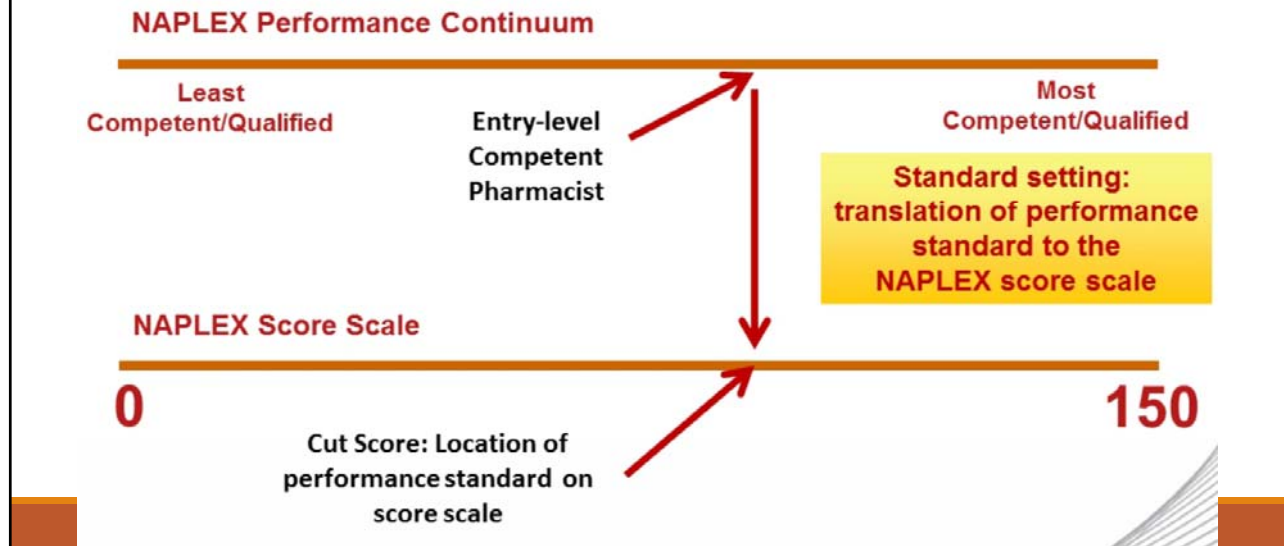
New NAPLEX

**Members of the
Entry Level Competent Pharmacist
group demonstrate:**

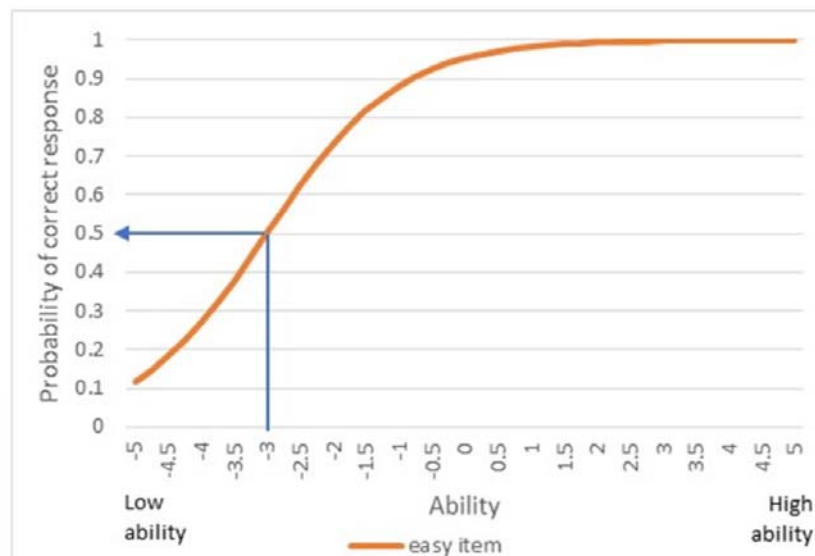
***Acceptable level of mastery over the
NAPLEX content domains. This level
of mastery must support the
licensure decisions made by the
boards of pharmacy for pharmacists
to practice in a safe and effective
manner.***



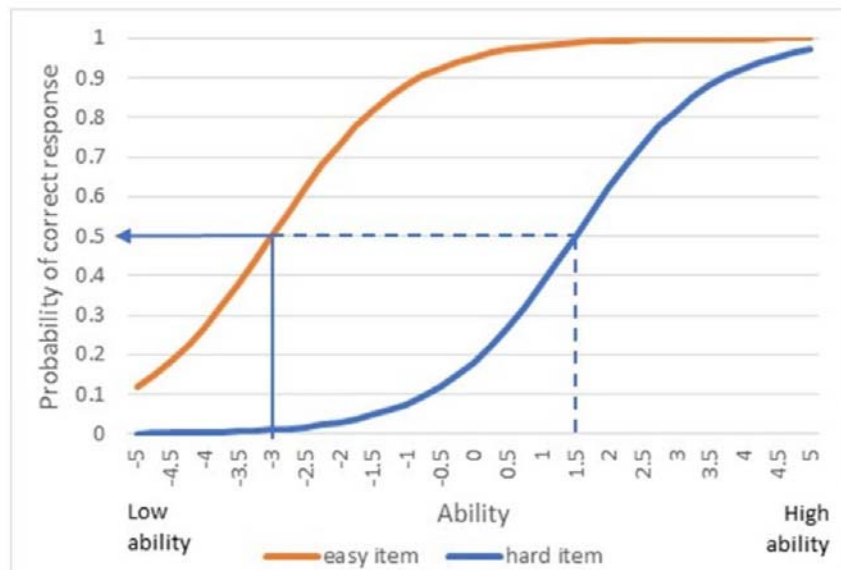
Relationship Between Performance Standard and Cut Score



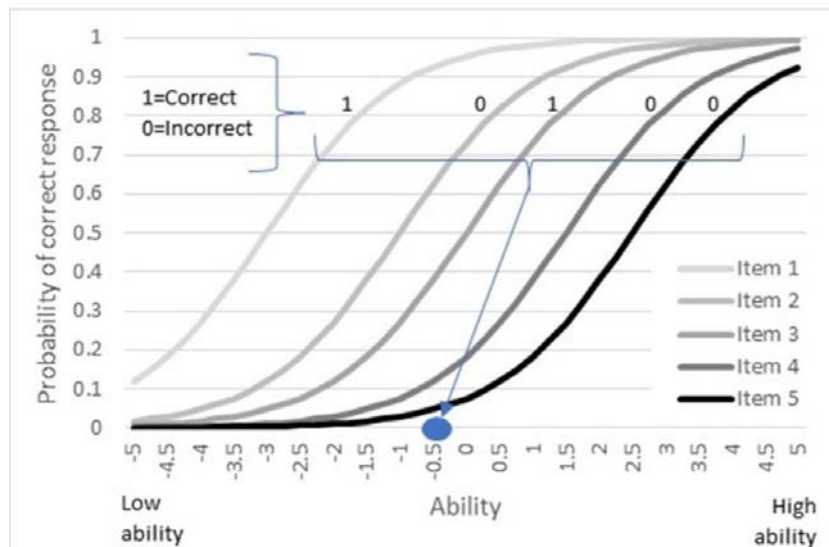
How is the NAPLEX Scored?



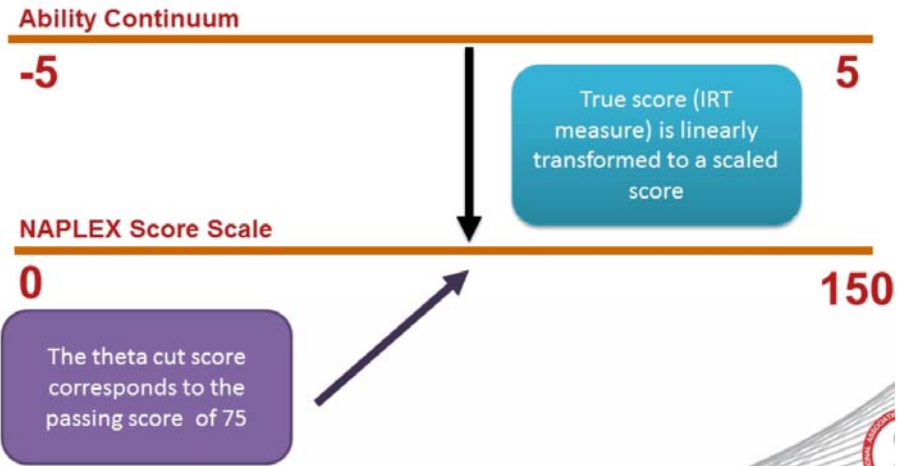
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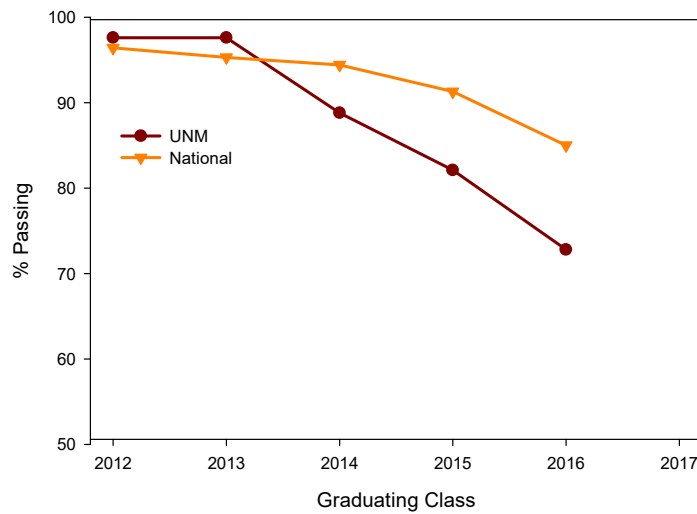
How is the NAPLEX Scored?



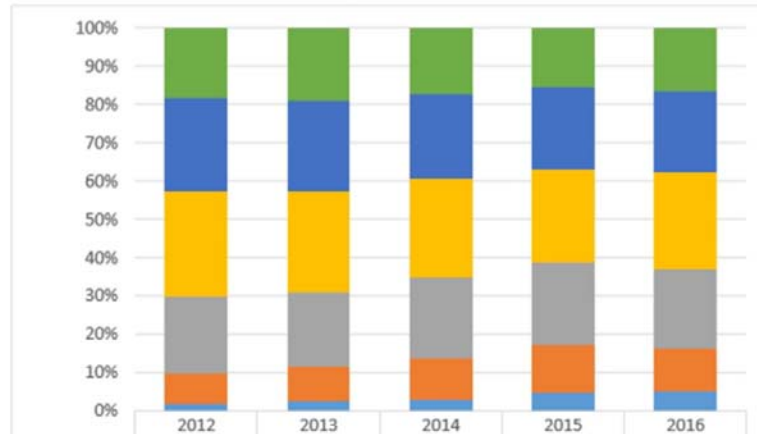
How is the NAPLEX Scored?



NAPLEX Pass Rates ACPE-accredited Program Graduates 2012-2016



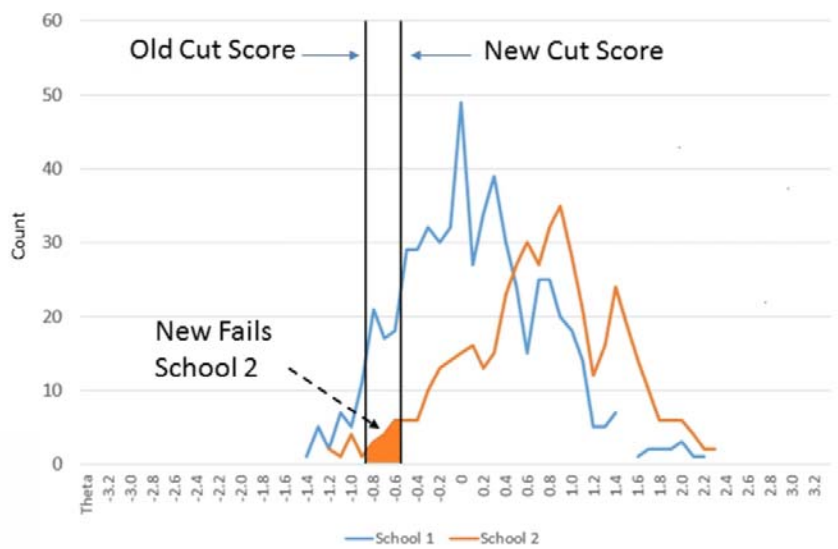
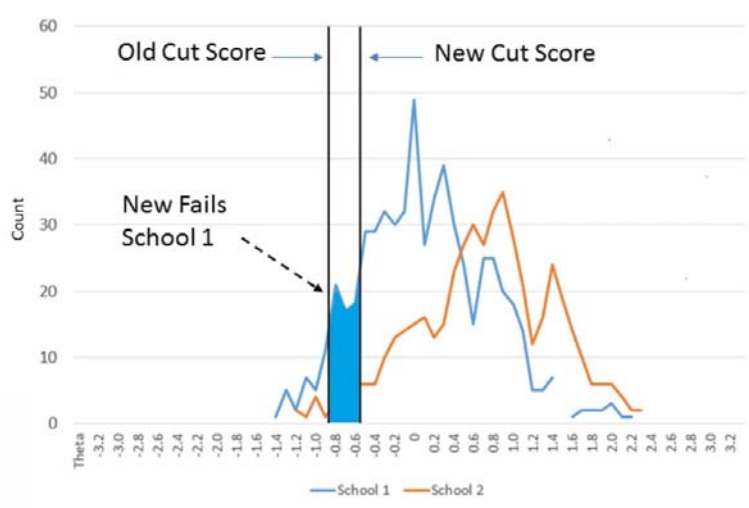
NAPLEX Ability Measurement Frequency ACPE-accredited Program Graduates 2012-2016



Two Schools Differentially Impact

School	2012			2013			2014			2015			2016		
	N	Pass Rate	Theta	N	Pass Rate	Theta	N	Pass Rate	Theta	N	Pass Rate	Theta	N	Pass Rate	Theta
School 1	126	93.65%	0.13	123	97.56%	0.12	117	95.73%	0.25	121	94.21%	0.10	103	73.79%	-0.04
School 2	94	98.94%	0.65	99	98.99%	0.65	94	95.74%	0.68	99	96.97%	0.84	89	89.89%	0.68

Two Schools Differentially Impact



Preparing COP graduates for the NAPLEX

Class of 2015 and earlier

- Basically nothing on the COP's part
 - Library has a license with Exam Master and students were made aware of NAPLEX review questions
 - No monitoring

Class of 2016

- 2 day live NAPLEX review course in late April
- Made students aware of library's Exam Master license

Preparing COP graduates for the NAPLEX

We are not “teaching to the test”

We are preparing the student to take the test

Preparing COP graduates for the NAPLEX

Class of 2017

- Purchased COP specific Exam Master license
 - Students were required to take a Baseline Assessment exam in January 2017
 - Students were required to take 5 different “topical” assessments in February and March 2017
 - Calculations and Compounding
 - Review, Dispense, and Administer Drugs
 - Pharmacotherapy and Health Outcomes
 - Obtaining, Assessing, Communication and Advocacy
 - Healthcare Information
 - Faculty provided review sessions on questions the student body struggled with
 - Students were required to take full-length NAPLEX exam (6 hours, 250 questions) on April 26, 2017
- Students were provided a different 2-day, live NAPLEX review course (High Yield Med Reviews) on April 24 and 25, 2017
 - Includes a very detailed review book.

Preparing COP graduates for the NAPLEX

Class of 2018

- Exam Master NAPLEX review
 - Students were required to take a Baseline Assessment exam in April 2017
 - Students will be required to take 5 different “topical” assessments between October 2017 and April 2018 (one each APPE block)with faculty reviews
 - Full-length NAPLEX exam (6 hours, 250 questions) on May 7, 2018
- Students will provided High Yield 2-day, live NAPLEX review course on March 23 and 24, 2018
 - This year includes a 7 month training course of online lectures and review questions to prepare students for the live review course
 - This year also has a full-length practice exam

Preparing COP graduates for the NAPLEX

Class of 2019

- Exam Master NAPLEX review
 - Baseline exam in April 2018
 - Topical exams between October 2018 and April 2019 (one each APPE block) with faculty reviews
 - Full-length NAPLEX exam (6 hours, 250 questions) in May 2019
- Students will be provided the High Yield 2-day, live NAPLEX review course (High Yield Med Reviews) on March 23 and 24, 2018
 - Students will get the course again in March 2019 after completing the 7 month online training program

Preparing COP graduates for the NAPLEX

Class of 2020

- Everything previously listed plus a brand new curriculum

A few practice NAPLEX questions

Practice question #1

If a gallon of propylene glycol weighs 3,897.52 g at 25° C, what is the specific gravity of propylene glycol?

- A. 1.23
- B. 0.97
- C. 1
- D. 1.12
- E. 1.03

Practice question #2

When differentiating Cushing syndrome and idiopathic Addison's disease, both can exhibit elevated levels of adrenocorticotrophic hormone (ACTH). Additionally, Cushing's syndrome exhibits _____ levels of cortisol and Addison's disease exhibits _____ levels of cortisol.

- A. Cushing syndrome usually has a reduced level of ACTH
- B. Decreased; decreased
- C. Decreased; elevated
- D. Elevated; decreased
- E. Elevated; elevated

Practice question #3

MEDICATIONS

Date	No.	Prescriber	Drug & Strength	Quantity	Sig	Refills
8/9	87561	Dr. Franklin	Flovent HFA 110 mcg	1 inhaler	2 puffs po bid	3
8/9	87562	Dr. Franklin	ProAir inhaler	1 inhaler	1 - 2 puffs po qid prn	6
9/12	90734	Dr. Richards	Aciphex 20 mg	30	1 po qd	11
10/22	98534	Dr. Stevens	Levaquin 500 mg	7	1 po qd x 7 days	0
10/22	98535	Dr. Stevens	Cheratussin AC	250 ml	10 ml po qid prn cough	0

What is the active ingredient in Rx #87562?

- A. Ipratropium
- B. Albuterol
- C. Levalbuterol
- D. Pirbuterol
- E. Metaproterenol

Practice question #4

Patient Name: Donna Webb				
Address: 88 Locust St., Fall River, MA 09984				
Age: 11	Sex: Female	Race: Caucasian	Height: 4' 11"	Weight: 82 lb
Allergies: NKDA				

DIAGNOSES

Attention deficit hyperactivity disorder	Varicella zoster infection
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MEDICATIONS

Date	No.	Prescriber	Drug & Strength
3/15	217820	Owens	Adderall 10 mg
6/11	417765	Reynolds	Valtrex 500 mg

What interaction is important regarding Rx #217820?

- A. Concomitant use of an antihypertensive may result in severe hypotension
- B. Lithium carbonate may enhance its stimulatory effects
- C. It may counteract the sedative effect of chlorpheniramine
- D. It may inhibit the action of warfarin
- E. Use with ascorbic acid may enhance its gastric absorption

Practice question #5

The patient's physician prescribes zolpidem (Elduar) due to patient's complaint on 4/18 (Patient presents with c/o inability to fall asleep easily at night recently due to stress at work). What of the following best describes the drug's dosage form?

- A. Inhaled solution
- B. Intravenous solution
- C. Ointment
- D. Sublingual tablet
- E. Transdermal patch

Practice question #6

What is the advantage of adenosine over calcium channel blockers in the treatment of acute AV nodal tachyarrhythmias?

- A. Greater effectiveness
- B. Shorter duration of action
- C. Longer duration of action
- D. Less expensive
- E. Effective in atrial, AV nodal, and ventricular tachyarrhythmias

Practice question #7

What clinical trial is designed to show that a treatment is no less effective than an existing treatment?

- A. Noninferiority
- B. Superiority
- C. Equivalence
- D. Cohort
- E. Randomized

Practice question #8

A pharmacist receives a prescription for lactulose 4 tablespoonsful 3 times daily. How much lactulose, in liters, would be dispensed for a 30 day supply?

- A. 5.4
- B. 10.8
- C. 180
- D. 5400
- E. 10800

Practice question #9

What is the most effective tool to diagnose a patient with Parkinson's disease?

- A. Magnetic resonance imaging
- B. Unified Parkinson's Disease Rating Scale (UPDRS)
- C. Levodopa challenge
- D. Single photon emission computed tomography
- E. Parkinson's Disease Questionnaire (PDQ-39)

Practice question #10

Monitoring of complete blood count, platelet function tests, and serum amylase is associated with what agent?

- A. Ramipril
- B. Aspirin
- C. Prednisone
- D. Azathioprine
- E. Atorvastatin

Practice question #11

A 63-year-old woman presents to the pharmacy asking for your advice. In the last week, she noticed an increased difficulty sleeping and wakes up multiple times during the night due to “burning” in her stomach. Her medications include naproxen 550 mg twice daily, lisinopril 20 mg once daily, alendronate 35 mg daily, and calcium 600 mg twice daily

- A. Milk of Magnesia
- B. Alka-Seltzer
- C. Elevate her head while sleeping
- D. Prilosec OTC
- E. Refer to doctor for evaluation

Practice question #12

MEDICATIONS

Date	No.	Prescriber	Drug & Strength
7/23	702300	Wilson	Aciphex 20 mg
8/14	834199	Wilson	Augmentin 500 mg/125 mg
8/31	862771	Jacobs	Xalatan 50 µg/mL

What is the generic name of the medication prescribed on 8/14?

- A. Sulfamethoxazole and trimethoprim
- B. Amoxicillin and sulbactam
- C. Amoxicillin and clavulanate potassium
- D. Ampicillin and clavulanate potassium
- E. Ampicillin and flucloxacillin

Questions/Comments

