CPJE (CA Practice Standards & Jurisprudence) & NAPLEX®
Board Overview

Karen Shapiro, PharmD, BCPS
Director, Pharmacist, Clinical Pharmacy Team, RxPrep, Inc.
Disclosures

- The information is not endorsed by NAPLEX®, NABP, or CA State Board of Pharmacy

- Presenter is a co-founder of RxPrep, Inc.
Learning Objectives

• Provide an overview of the CPJE and NAPLEX
• Discuss general preparation questions and answers
• Review study tips and recommendations
• Review sample questions
RxPrep

CPJE – Exam Overview
CPJE Pass Rates by Date Range

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Pass Rate</th>
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<tr>
<td>April 1, 2011 - Sept 30, 2011</td>
<td>81.3%</td>
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<td>Oct 1, 2011 - March 31, 2012</td>
<td>70.4%</td>
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<tr>
<td>April 1, 2012 - Sept 30, 2012</td>
<td>86.0%</td>
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<td>Oct 1, 2012 - March 31, 2013</td>
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<td>April 1, 2013 - Sept 30, 2013</td>
<td>82.6%</td>
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<td>Oct 1, 2013 - March 31, 2014</td>
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<td>83.4%</td>
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<td>Oct 1, 2014 - March 31, 2015</td>
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<td>April 1, 2015 - Sept 30, 2015</td>
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<td>Oct 1, 2015 - March 31, 2016</td>
<td>65.3%</td>
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Welcome to the California State Board of Pharmacy

The Board of Pharmacy protects and promotes the health and safety of Californians by pursuing the highest quality of pharmacist’s care and the appropriate use of pharmaceuticals through education, communication, licensing, legislation, regulation, and enforcement.

What’s New

- Guidance on Applying for Compliance Delays During Construction in Hospital or Community Pharmacies that Compound
- DEA to Hold Next National Prescription Drug Take-Back Day on October 22, 2016
- FAQ from ask.inspector@dca.ca.gov
- Governor Signs Bill Extending Board of Pharmacy
- Board Announces New Regulation to Initiate or Administer Vaccines
- Comprehensive Changes to Drug Compounding Regulations Approved
- CURES Survey for Pharmacists Whose Licenses Expire on November 30, 2016
- SB 493 Implementation
- CDC Approves Final Opioid Guidelines
- Naloxone Protocol Information
- Recall Notices

Popular Pages

- Verify a License
- Law Book
- Board & Committee Meetings
- Publications & Reports
- Pharmacy Law Changes for 2016

Quick Hits

- Laws and Regulations
- Change of Address and/or Name
- License Renewal
- File a Complaint
- Enforcement Actions and Policies
- Newsletter - The Script
Pharmacist Examination and Licensure Information

To be licensed as a Pharmacist in California, you must satisfy the requirements under Business and Professions Code section 4200.

Applications and Forms

- Pharmacist Licensure Exam Application and Instructions (PDF)
- Retake Application for Pharmacist Licensure and Examination (PDF)
- Examination Security Acknowledgement (Form 17A-78) (PDF)
- Affidavit of Intern Experience Obtained in Community and Institutional Pharmacy Settings (Form 17A-77) (PDF)
- Reasonable Accommodations
- Foreign Pharmacy Graduate (PDF)

General Examination Information

- Required Identification for the CPJE/Identifications Don't Match (PDF)
- Release of Exam Results - Updated 10/16/15 (PDF)
- Prior Exam Pass Rates
- Recount of the CPJE (PDF)
- Four Time Failure of California Examinations (PDF)
- Pharmacist Licensure Examination Flowchart (PDF)
- NAPLEX Examination Information
- Determining the Passing Scores for the California Pharmacist Licensure Examinations (PDF)
- Resource for Candidates: List of Schools Offering 16-Semester Units of Remedial Pharmacy Education (PDF)
- Frequently Asked Questions (PDF)

CPJE Exam Information

- CPJE PSI Candidate Handbook - Updated 1/1/16 (PDF)
- California Specific Examination CPJE Content Outline (PDF)
2016 LAWBOOK FOR PHARMACY

The Pharmacy Law
(Business and Professions Code 4000 et seq.)

Excerpts from the Business and Professions Code

Board of Pharmacy Regulations
(California Code of Regulations Title 16 Section 1700 et seq.)

Excerpts from the California Uniform Controlled Substances Act
(Health and Safety Code 11000 et seq.)

Excerpts from the Confidentiality of Medical Information Act
(Civil Code 56 et seq.)

Excerpts from the Public Resources Code

Board of Pharmacy
Be Aware & Take Care

Resources for Searching California Laws and Regulations:
http://leginfo.legislature.ca.gov
https://www.westlaw.com/calregs
California Practice Standards and Jurisprudence Examination:

- Patient Medications (20 Items)  Clinical
- Patient Outcomes (33 Items)  Clinical
- Pharmacy Operations (22 Items)  Law
2 hour exam

90 multiple choice questions

- 75 questions count towards score
- 15 questions are pretest and will NOT count towards score

4 answer choices per question (only one correct answer choice)

Questions must be answered in the order in which they are presented

No penalty for wrong answer

Criterion-referenced scoring; a board committee decides what is the passing standard

- Not a direct correlation (i.e., answering 75% correctly is not equivalent to a score of 75) not graded on a curve
- Passing scaled score of 75

Restroom breaks allowed (but no additional time allowed)
Exam eligibility expires after one year

One test attempt per application

Schedule exam: [www.psiexams.com](http://www.psiexams.com)

Can reschedule exam for free if done within 2 days prior to exam

PSI exam centers are open for testing 8 AM – 5 PM, Monday – Friday

$30.50 per exam (PSI fee) + $260 (CA Board fee)

Special accommodations for disabilities/conditions
Arrive at least 30 minutes early

Bring 2 forms of identification:

- United States issued social security card
- United States government issued photo ID
- The name appearing on both of these ID cards must match exactly
- Marie Anne Martinez ≠ Marie A. Martinez

Cell phones, pagers, purses, briefcases, personal belongings, and children are not allowed at the examination site.

No smoking, eating, or drinking will be allowed at the exam site.
Taking the CPJE by Computer

- **Green Next/Back Key**: Press when you want to go to the next or previous question.
- **Blue Mark Key**: Press when you want to mark a question to review later.
- **Green Goto Key**: Press when you want to goto a specific question.
- **Green End Key**: Press to end your exam or view other options.

- **Yellow Response Keys**: Press 1, 2, 3, or 4 to select an answer.
- **Yellow Erase Key**: Press to unanswer a question.
- **Red Help Key**: Press anytime for help.
- **Blue Comments Key**: Press to enter a comment about an item.
- **Green Enter Key**: Press to record answer.
You will get notepaper and a pencil

There are timers/clocks at the test site and on the computer
About 30 days after you take the CPJE examination, the board will mail your score, unless there is a QA.

“Effective August 1...the board instituted a quality assurance review of the CPJE. This means that there will be a delay in the release of all CPJE examination scores...Based on historical patterns, the board anticipates results being released approximately October 31...”

~ 90 DAY DELAY!
1. PATIENT MEDICATIONS 20 items
   A. Collect, Organize, and Evaluate Information
      1. Obtain information from the patient/patient's representative for patient profile (e.g., diagnosis or desired therapeutic outcome, allergies, adverse reactions, medical history)
      2. Obtain information from prescriber and/or health care professionals for patient profile (e.g., diagnosis or desired therapeutic outcome, allergies, adverse reactions, medical history)
      3. Assess prescription/medication order for completeness, correctness, authenticity, and legality
      4. Assess prescription/medication order for appropriateness (e.g., drug selection, dosage, drug interactions, dosage form, delivery system)
      5. Evaluate the medical record/patient profile for any or all of the following: disease states, clinical condition, medication use, allergies, adverse reactions, disabilities, medical/surgical therapies, laboratory findings, physical assessments and/or diagnostic tests
      6. Perform physical assessment (e.g., vital signs/blood pressure measurement, observations of signs/symptoms)
      7. Perform health screening (e.g., blood glucose checks, diagnostic tests)
      8. Evaluate the pharmaceutical information needs of the patient/patient's representative
B. Dispense Medications

1. Select specific product(s) to be dispensed for a prescription/medication order
2. Document preparation of medication in various dosage forms (e.g., compounded, repackaging)
3. Document preparation of controlled substances for dispensing
4. Verify label(s) for prescription containers
5. Select auxiliary label(s) for container(s)
6. Perform the final check for medications, products, preparations, or devices prior to dispensing
7. Use automated dispensing machines
8. Administer medications, biologicals, and immunizations as ordered by a prescriber, protocol, or scope of practice
9. Participate in compounding (sterile and non-sterile)
2. PATIENT OUTCOMES

A. Determine a Course of Action

1. Develop a therapeutic regimen for prescription medications (e.g., recommend alteration of prescribed drug regimen, select drug if necessary, perform medication therapy management)
2. Collaborate with health care team/prescriber to determine goals of therapy and course of action
3. Assess changes in health status (e.g., onset of new disease states, changes in clinical condition)
4. Perform pharmacokinetic calculations
5. Perform monitoring and therapeutic management activities
6. Manage drug therapy according to protocols or scope of practice
7. Resolve problems that arise with patient’s therapy (e.g., ADEs, drug interactions, non-adherence)
8. Apply results of literature in the performance of evidence-based pharmacotherapy
9. Assess patient for immunization needs
10. Resolve problems with insurance coverage of prescription, medication, or device orders
11. Perform medication reconciliation
12. Recommend/order necessary monitoring procedures (e.g., renal/hepatic function, glucose levels, EKG, drug levels)
13. Initiate pharmacist-provider therapies (e.g., hormonal contraceptives, smoking cessation, travel-related medications)
B. Educate Patients and Health Care Professionals
   1. Assess the patient's understanding of the disease and treatment
   2. Counsel patient/patient's representative regarding prescription medication therapy and devices
   3. Counsel patient/patient's representative regarding nonprescription medication (OTC)
   4. Counsel patient/patient's representative regarding herbal/complementary/alternative therapies
   5. Counsel patient/patient's representative regarding non-drug therapy
   6. Counsel patient/patient's representative regarding self-monitoring of therapy (e.g., devices, symptoms)
   7. Verify the patient's/patient representative's understanding of the information presented
   8. Educate health care professionals (e.g., physicians, nurses, medical residents/fellows, other health care providers/students, precepting intern pharmacists)
   9. Communicate results of monitoring to patient/patient's representative, prescriber and/or other health care professionals
   10. Respond to consumer inquiries (e.g. internet searches, media information, FDA patient safety alerts, radio/television commercials)
   11. Provide supplemental information, as indicated (e.g., medication guides, computer-generated information)
   12. Participate in emergency preparedness and response

C. Promote Public Health
   1. Participate in population health screening and/or disease or condition management programs
   2. Participate in health-related public awareness/patient education programs
   3. Make recommendations regarding health care resources for patients (e.g., Medicare Part D, patient assistance programs)
3. PHARMACY OPERATIONS
   22 items
   
   A. Pharmaceuticals, Devices and Supplies, and Inventory Control
      1. Ensure quality specifications for pharmaceuticals, durable medical equipment, devices, and supplies (e.g., sourcing, pedigree)
      2. Place orders for pharmaceuticals, durable medical equipment, devices, and supplies, including expediting of emergency orders
      3. Maintain a record-keeping system of items purchased/received/returned in compliance with legal requirements (e.g., dangerous drugs, devices, supplies)
      4. Maintain a record of controlled substances ordered, received, stored, and removed from inventory
      5. Dispose of expired, returned, or recalled pharmaceuticals, durable medical equipment, devices, supplies, and document actions taken
      6. Respond to changes in product availability (e.g., drug shortages, recalls)
      7. Design and implement policies to prevent theft and/or drug diversion
      8. Comply with policies and procedures to prevent theft and/or drug diversion

   B. Perform Quality Assurance/Improvement
      1. Assess pharmacist and/or pharmacy technician competence
      2. Ensure the accuracy of medication administration
      3. Participate in a system to monitor/improve medication use including quality assurance programs (e.g., antimicrobial stewardship, standard order sets, peer review, self-evaluation)
      4. Participate in a system for medication error prevention, assessment, and reporting (e.g., root cause analysis, National Patient Safety Goals, medication error reduction program)
      5. Participate in systems by which adverse drug effects and interactions are prevented, documented, evaluated, and reported
C. Manage Operations, Human Resources and Information Systems

1. Monitor the practice site and/or service area for compliance with federal, state, and local laws, regulations, and professional standards/guidelines
2. Supervise the work of pharmacy personnel
3. Ensure the availability, control, and confidentiality of patient and prescription information (e.g., patient profiles, medication administration records)
4. Participate in the development of pharmacy policies and procedures, protocols, order sets, and/or therapeutic guidelines
5. Participate in the use of pharmacy information systems and technology (e.g., electronic health record, e-prescribing, CURES)
6. Manage the use of pharmacy information systems and technology (e.g., electronic health record, e-prescribing, CURES)
D. Manage Formulary and Medication Use Systems

1. Use a formulary system (e.g., therapeutic conversion, advising patients and prescribers)
2. Manage an existing formulary system (e.g., formulary guidelines, criteria for use, tier placement, evaluation of products for inclusion)
3. Apply therapeutic interchanges
4. Design medication use evaluations (e.g., set criteria, establish data collection process)
5. Analyze medication use evaluation data
6. Apply results of medication use evaluations to revise practice procedures to improve patient outcomes

Total 75 items

Fifteen pretest items will be included on each test form.
Flow rates

Creatinine clearance

Compounding

Pharmacokinetics (as of April 1st, 2016)

Applying results of drug literature (as of April 1st, 2016)
Infectious Disease

HIV

Immunizations

Medication Safety

Critical Care

IV Drug Compatibility, Administration & Degradation

The RxPrep NAPLEX test bank called *Indications Test Bank; Practice*
And...the protocols that are effective when you test

Self-administered hormonal contraception, smoking cessation, travelers (in the exam blueprint)

Health screenings, diagnostic tests, physical assessment

Naloxone

And, ways to dispense/furnish/provide EC
The following drugs are out of stock at a pharmacy. A pharmacist will place an order with the wholesaler. Which of the following drugs do not need to be ordered with the DEA Form 222?

A. Hysingla ER   Schedule II
B. Vyvanse       Schedule II
C. TussiCaps     Schedule II
D. Marinol       Schedule III
Which of the following drugs require a pharmacist to include a medication guide when dispensing a prescription?

1. Mefloquine
2. Methocarbamol
3. Digoxin
4. Amiodarone

A. 1 and 2 only
B. 1 and 4 only
C. 2 and 3 only
D. 3 and 4 only
Welcome, Pamela

This is your eLearning Portal. Here you can access all your online course materials and student resources.

**Announcements**

Effective April 15, 2016, the following changes will occur in the MPJE:

Read More

How to do well on the NAPLEX, MPJE, or CPJE. Read me please.

This contains the method that has helped many students before you succeed on their exams with RxPrep. For those testing in
Customize your Study Plan
Having a "Study Plan" will help you focus on the topics you need most. Go to My eLearning Tools get started.

Last Viewed Test
Acute Coronary Syndromes (ACS)-2015 Course
Acute Coronary Syndromes (ACS)

Last Viewed Video
Acute Coronary Syndromes
RxPrep 2015 Text, Chapter 43, Page 729 (00:39:11 minutes)

Drug Therapy Question for The Week
RxPrep
March 3 at 1:00am
Drug Therapy Question for The Week - Please Answer All Parts of All Questions Completely. $10 Starbucks Card for the First Complete and Correct Response. The prize for this week is reserved for someone who has never won the Drug Therapy Question of the Week, but all are...
See More

New Drug Approval
RxPrep
February 23 at 12:40am
New Drug Approval: Acetylcysteine Effervescent Tablets (Cetylev) A new formulation of acetylcysteine (also called n-acetylcysteine or NAC) was approved to prevent or lessen hepatic injury after acetaminophen overdose. The effervescent tablets have a lemon-mint flavor in order to...
My Videos & Tests

Topic Library

<table>
<thead>
<tr>
<th>Study Plan</th>
<th>Topic Name</th>
<th>Target Completion Date</th>
<th>Tests (Completed/Total)</th>
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<tr>
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<td>CPJE I</td>
<td></td>
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<td>CPJE II</td>
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<td>CPJE III</td>
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<tr>
<td></td>
<td>CPJE IV</td>
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Displaying 1-4 of 4 items
Lectures (1)

CPJE Part 1
Duration: 00:47:42 minutes

Tests (2)

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<th>Latest Score</th>
<th>Take test</th>
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<td>n/a</td>
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<tr>
<td>CPJE I Part B: Law and Clinical Topics</td>
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CPJE I

Lectures (1)

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Tests (2)

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<td>N/A</td>
</tr>
<tr>
<td>CPJE I Part B: Law and Clinical Topics</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Time Remaining: unlimited

C When a patient is terminally ill and at a SNF or hospice, the prescription may be filled in increments but all increments must be filled within 30 days from the date the prescription was written.

D When a patient is terminally ill and at a SNF or hospice, the prescription may be filled in increments but all increments must be filled within 60 days from the date the prescription was written.

E Prescriptions may NOT be filled in increments for any patient unless the pharmacy does not have enough of the medicine.
“Go to” law reference for pharmacists practicing in California.

Included are the two supplements issued by Dr. Weissman to provide current law updates.
The following changes will go into effect on November 1, 2016:

1. The number of items on the exam will increase from 185 to 250. Of the 250 questions, 200 will count toward the score and 50 will be pre-test questions (not scored).

2. The time to take the exam will increase from 4 hours and 15 minutes to 6 hours. The entire appointment at Pearson VUE will be 6.5 hours. This allows time to take the exam tutorial, read a confidentiality agreement and take a post-test survey.

3. The registration fee will increase from $505 to $575.

4. The examination assembly format will change from a computer adaptive exam (test assembled as candidate is taking the exam) to a linear form exam (pre-assembled exam form).

5. Time to retake exam will be 45 days.

March NABP newsletter can be found at: www.nabp.net --> Publications --> NABP Newsletters --> March 2016 --> Page 55.
NAPLEX®

• 2 forms of ID are required
• Palm vein scan, a digital picture and a digital signature are required before entering exam room
• Given an erasable note board and pen. Raise your hand during exam if need to replace
• On-screen calculator, request hand-held basic function
• Must answer each question as they present; cannot go back and change an answer
NAPLEX® – Focus on:

- Calculations
- Biostatistics/Pharmacoeconomics
- Sterile, N-S compounding, per USP 795, 797, ASHP Guidelines & Recommendations
- Brand/generic names
- Medication safety
- FDA-approved indications and guideline recommendations
- Side effects, adverse reactions, boxed warnings
- Drug interactions
- Unique formulations (such as ODTs, injections, suppositories, patches)
- Storage requirements, how to use, patient counseling
- Lifestyle counseling, patient care
The NAPLEX® Competency Statements

The NAPLEX® Competency Statements provide a blueprint of the topics covered on the examination. They offer important information about the knowledge, judgment, and skills you are expected to demonstrate as an entry-level pharmacist. Revised Statements (11/1/15)
NAPLEX® – Blueprint cont.

• AREA 1 – Ensure Safe and Effective Pharmacotherapy and Health Outcomes (~ 67% of Test)

• 1.1.0 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

1.2.0 Develop and Implement Individualized Treatment Plans, Taking Into Consideration:
1.2.1 Specific uses and indications and dosing for drugs
NAPLEX® – Blueprint cont.

- 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
NAPLEX® – Blueprint cont.

- **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
• 1.3.0 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
NAPLEX® – Blueprint cont.

• 1.4.0 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

• 1.5.0 Advocate Individual and Population-Based Health and Safety, Considering:
  ❖ 1.5.1 Best practices, scientific literature evaluation, and health-related resources
NAPLEX® – Blueprint cont.

- **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
Area 2 – Safe and Accurate Preparation, Compounding, Dispensing, and Administration of Medications and Provision of Health Care Products (~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
NAPLEX® – Blueprint cont.

• **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** Physiochemical 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
NAPLEX® Question Format

1. Multiple-Choice Question Format
   ◦ Select 1 response as the answer

2. Multiple-Response Question Format
   ◦ Select ALL that apply

3. Constructed-Response Question Format
   ◦ Fill in the box

4. Ordered-Response Question Format
   ◦ Ranking a list in the order requested

5. Hot Spot Question Format
   ◦ Diagram is presented
1. Multiple Choice
2. Constructed Response (short answer)
3. Multiple Response (select all that apply)
4. Hot Spot (point and click)
5. Ordered Response (ranking)
A female patient who is pregnant has been admitted to the hospital with a DVT. The physician will begin heparin therapy. What is the mechanism of action of heparin?

A. Heparin potentiates factor V
B. Heparin potentiates factor Ixa
C. Heparin potentiates factor Xa
D. Heparin potentiates antithrombin
E. Heparin inhibits clotting factors II, VII, IX, & X
CB was admitted for weakness and disorientation. She was given *Unasyn* as empiric treatment and experienced the following: difficulty breathing with wheezing, an increase in her normal blood pressure of 40/18 mmHg, an increase in body temperature, a swollen face (cheeks, lips, tongue), and a red, raised rash that spread out from her trunk.

Which are representative or typical signs or symptoms of anaphylaxis? (Select **ALL That Apply**.)

- Swollen cheeks, mouth and lips
- Increase in blood pressure
- Difficulty breathing
- Rash
- Rigors
Rank the following topical steroids in order from highest to lowest potency. (All options must be used.) Left-click the mouse to highlight, drag and order the answer options.

<table>
<thead>
<tr>
<th>Unordered Response</th>
<th>Ordered Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clobetasol propionate 0.05%</td>
<td></td>
</tr>
<tr>
<td>Hydrocortisone 1%</td>
<td></td>
</tr>
<tr>
<td>Mometasone furoate 0.01%</td>
<td></td>
</tr>
<tr>
<td>Fluocinonide 0.05%</td>
<td></td>
</tr>
</tbody>
</table>
A patient with mild, intermittent asthma has been prescribed an albuterol MDI. Counsel the patient on the correct use of the device. Place the instructions for proper metered dose inhaler (MDI) technique below in the correct order. (All options must be used.) Left-click the mouse to highlight, drag and order the answer options.

<table>
<thead>
<tr>
<th>Unordered Response</th>
<th>Ordered Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold your breath as long as you can, up to 10 seconds.</td>
<td>Press the top of the canister while you are breathing in deeply and slowly.</td>
</tr>
<tr>
<td>Press the top of the canister while you are breathing in deeply and slowly.</td>
<td>Place the mouthpiece on your lips and close your lips around it.</td>
</tr>
<tr>
<td>Place the mouthpiece on your lips and close your lips around it.</td>
<td>Inspect the mouthpiece for any debris.</td>
</tr>
</tbody>
</table>
Bactrim oral suspension contains 400/80 mg/5 mL. A physician orders 10 mL to be given twice daily for 14 days. How many mL of suspension should be provided?
Using the diagram below, identify where in the HIV life-cycle maraviroc exerts its mechanism of action. (Select the TEXT response, and left-click the mouse. To change your answer, move the cursor, select alternate TEXT response, and click.)
What part of the nephron do thiazide diuretics act on in order to manage hypertension? (Select the TEXT response, and left-click the mouse. To change your answer, move the cursor, select alternate TEXT response, and click.)
General Questions

• When shall I start preparing?
• How do I begin to prepare?
• How soon should I sit for the exams after graduation?
• How long should I wait between taking the two exams?
• Which exam should I take first?
When Shall I Start Preparing?

- January or now or holidays
- Continuously, after APPEs and on weekends
- Repetition is key
- Rotations – diversify
- At work
- Study groups, solo study, ask questions, talk to colleagues, etc.
How Do I Begin To Prepare?

Be organized
◦ Make an outline and time table

Set aside “dedicated” time
◦ Many students reserve 1-2 hours/day after rotations
◦ Use your best time of the day to study
◦ Take “off” days

Utilize up-to-date material only
◦ Pharmacy school notes (be careful), important current guidelines, top drugs, review books, law material, etc.
How much time between the exams?

Not long

- Between 2-4 weeks
Which exam should I take first?

The simpler one if you can

Build Confidence

NAPLEX® — generally easier (for most)
  ◦ If you know drug names and common doses, calculations, medication safety, drug knowledge and biostats well
  ◦ If you can get through the patient cases in a timely manner
  ◦ If you’ve tested your speed and retention
Study Tip # 1

Focus on the common, chronic conditions first (DM, HTN, lipids, anticoagulation, pain, geriatric conditions, CHF, asthma/COPD, psych, common ID, common OTC) and calculations and medication safety.

- Calculations questions are mainly constructed-response questions.
- There may be calculations that do not directly involve a pharmacy calculation (taking a percentage of one number from another, reading a graph, basic algebra).
Study Tip # 2

Study the trade/generics for the top drugs.

The doses for the drugs in which the starting dose, if too high, can be toxic

Dosing required for efficacy: HF, ID
Study Tip # 3

Many times, the counseling & safety considerations will be similar for all agents in a particular class; therefore, if you know trade/generics, you can identify the SEs, ADRs, etc. for the group.

- Know when individual agents have differences.
- For example, propranolol (lipophilic, non-selective), carvedilol (non-selective, with food), SSRIs (fluoxetine - most activating & is taken in the AM; QT prolongation most with citalopram and escitalopram) pregnancy not with paroxetine), some have more DIs (fluvoxamine, then fluoxetine, then paroxetine), otherwise SEs are similar. Study for the group, along with the individual exceptions.
Study Tip # 4

When reading the case, write down the allergies, abnormal labs and major enzyme inducers/inhibitors. They are there for a reason.

- Use the dry erase if it suits your style and the time—take time to write these key things down if you might forget (Sulfa allergy, high SCr)—so they are in your mind when looking at the questions.
Study Tip # 5
Know the Major Drug Interactions

BIG Inducers (PS CROPS):
• Phenytoin
• Smoking
• Carbamazepine
• Rifampin
• Oxcarbazepine
• Phenobarbital
• St. John’s wort

BIG Inhibitors (G❤ PACMAN):
• Grapefruit
• PIs
• Azole antifungals
• Cimetidine
• Macrolides
• Amiodarone
• Non-DHP CCBs
More on Drug Interactions

- Additive or single-agent bleeding risk
- Digoxin
- Rifampin
- HIV drugs
- Antiarrhythmics
- Additive QT-prolongating agents
- Serotonergic drugs
- NSAIDs and heart failure, BP, renal disease, GI bleeding

- Nitrates and PDIs
- TCN and some of the quinolones that chelate with cations
- Itraconazole, ketoconazole-pH-dependent absorption
- Additive K⁺, especially in reduced renal function and with drugs that ↑ K⁺
- Diet and drugs: alcohol, tyramine containing foods, others
- Additive CNS toxicity
Study Tip # 6

When studying specialty topics (such as HIV, oncology, transplant), focus on the areas that staff pharmacists should know (not all that a specialist would know)

○ Trade/generics
○ Major toxicities of drugs and how to prevent or mitigate them
○ Key side effects, current guidelines, prophylaxis of OIs, etc.
○ How to manage the side effects of common agents

○ For transplant what is most important (take a guess): induction, maintenance or acute rejection regimens?
Additional Resources

Major Guidelines for conditions:
- Diabetes
- HTN
- Cholesterol
- Asthma
- Anticoagulation

In addition to reputable text books, summaries can be helpful. Good ones can be obtained from *Pharmacists Letter*, *The Medical Letter*, *P&T*, *Formulary*.

Current, updated study guide - we recommend our text – others available.
Which of the following statements concerning tenofovir are correct? (Select ALL that apply.)

- The dose must be adjusted with renal insufficiency.
- Tenofovir can cause renal damage.
- Tenofovir is one of the components in the combination product Atripla.
- Tenofovir is one of the components in the combination product Truvada.
- Tenofovir improves bone density and strength.

If the answer seems too simple or obvious—that’s because you know it. If you are not sure choose the safest response.
Study Tip # 8

**Answer the question and move on!**
- You may realize that you answered a question wrong—after you have passed it. Do not panic and freeze.
- Your mind may still be working on the last question after you have moved on.
- Don’t panic—you don’t need to answer every question correctly. Take a deep breath, realize it is fine, and move forward, calmly and confidently.
- You will have adequate time to finish if you work at a calm, steady pace and have much practice before going into the exam.
Study Tip # 9

Be sure you know how to provide patient counseling

◦ Be able to talk to patients about how to monitor for signs and symptoms of side effects/ADRs at home (e.g., liver impairment, hyperkalemia, etc.)
◦ Counsel on device storage and administration (MDIs, nasal inhalers, eye drops, insulin syringes and pens, EpiPen, Evzio, others) and where and how to administer
Other items to know

Key drug references:

- *For generics available, choose the Orange Book, etc.*

DOC in pregnancy, lactation

Natural Products and CAM

**Biostatistics, Pharmacoconomics** *(view video on youtube—ability to interpret terms)*

Pharmacogenomics

Immunizations, Travelers Medicine

Medication Safety, patient safety, reducing infection risk
PRACTICE CASE

Patient Profile

Patient Name: Terri Price
Address: 403 Morning Road
Age: 22
Sex: Female
Race: White
Height: 5'7"
Weight: 130 lbs
Allergies: NKDA

DIAGNOSES

GERD

MEDICATIONS

<table>
<thead>
<tr>
<th>Date</th>
<th>No.</th>
<th>Prescriber</th>
<th>Drug and Strength</th>
<th>Quantity</th>
<th>Sig</th>
<th>Refil</th>
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</thead>
<tbody>
<tr>
<td>7/15</td>
<td>35421</td>
<td>May</td>
<td>ProAir IFA</td>
<td>#1</td>
<td>1-2 puff(s)</td>
<td>4-6 PRN</td>
</tr>
<tr>
<td>7/15</td>
<td>35422</td>
<td>May</td>
<td>Flovent Diskus100 mg/inh</td>
<td>#1</td>
<td>2 inh BID</td>
<td>6</td>
</tr>
<tr>
<td>7/15</td>
<td>35423</td>
<td>May</td>
<td>Singular 10 mg</td>
<td>#30</td>
<td>1 PO daily</td>
<td>6</td>
</tr>
<tr>
<td>7/15</td>
<td>35424</td>
<td>May</td>
<td>AcipHex 20 mg</td>
<td>#30</td>
<td>1 PO daily</td>
<td>6</td>
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<tr>
<td>7/15</td>
<td>35425</td>
<td>May</td>
<td>Advil 200 mg</td>
<td>TID PRN</td>
<td>6</td>
<td></td>
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<tr>
<td>7/15</td>
<td>35426</td>
<td>May</td>
<td>Ferrous sulfate 325 mg</td>
<td>1 PO daily</td>
<td>6</td>
<td></td>
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<tr>
<td>1/18</td>
<td>87242</td>
<td>Horowitz</td>
<td>Albuterol 0.5%</td>
<td>#60</td>
<td>2 nebulizations daily</td>
<td>0</td>
</tr>
</tbody>
</table>

LAB/DIAGNOSTIC TESTS

<table>
<thead>
<tr>
<th>Test</th>
<th>Reference</th>
<th>Results</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glu</td>
<td>65-99 mg/dL</td>
<td>74/62</td>
<td>72/63</td>
</tr>
<tr>
<td>Na</td>
<td>135-146 mEq/L</td>
<td>135</td>
<td>137</td>
</tr>
<tr>
<td>K</td>
<td>3.5-5.5 mEq/L</td>
<td>4.2</td>
<td>4.7</td>
</tr>
<tr>
<td>Cl</td>
<td>98-110 mEq/L</td>
<td>102</td>
<td>105</td>
</tr>
<tr>
<td>CO₂</td>
<td>21-33 mmHg</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>BUN</td>
<td>7-25 mg/dL</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Creatinine</td>
<td>0.4-1.2 mg/dL</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Calcium</td>
<td>8.6-10.2 mg/dL</td>
<td>9.8</td>
<td>10.2</td>
</tr>
<tr>
<td>WBC</td>
<td>4-11 cells/mm^3</td>
<td>10.2</td>
<td>10.2</td>
</tr>
<tr>
<td>RBC</td>
<td>38-51 L/mm³</td>
<td>4.6</td>
<td>4.6</td>
</tr>
</tbody>
</table>

10/29/15 Here for refills on all her asthma medications. Using ProAir 4x/week. Last refilled ProAir 18 days ago. Last refilled Flovent, Singular and AcipHex 27 days ago. Requests recommendation for sleep agent. Also buying OTC ferrous sulfate, aspirin, Dexamet, Succets lozenges and Maalox. Per discussion, she is a college student who lives at home with her parents.
Case #1

JK is a 54 year-old white female (ht 5’2”, wt 167 lbs) who has diabetes type 2, high cholesterol, hypertension, depression and occasional headaches. She was diagnosed with diabetes 7 months ago when she went to the doctor complaining of fatigue. At that time, she had an A1C of 9.2% and her doctor began metformin.

JK reports following her diabetes eating plan “somewhat”, walking each evening for 30 minutes or more, and taking the metformin. The walks have helped her to sleep better. Previously, she was not doing any regular physical activity. Her weight is stable.
Case #1, continued

Allergies: *Bactrim* (severe rash), penicillin (trouble breathing)

Family Hx: Mother deceased (cause unknown), father deceased at age 51 (MI)

Vitals: BP 148/82 mmHg, HR 83 BPM, RR 22 BPM

Lipid panel (mg/dL): CH 197  HDL 65  LDL 81  TG 320

Labs: Na⁺ 131, Cl⁻ 105, K⁺ 3.8, HCO₃⁻ 28, BUN 12, SCr 1.1, Gluc 139, A1C 8.2%

AST: 35 units/L, ALT: 24 units/L, Hgb: 14 g/dL, Hct: 39%, WBC: 6,700/mm³  PLT: 234
Case #1 continued

Medications:
Metformin 1,000 mg daily
Lisinopril 40 mg daily
Citalopram 20 mg daily
Simvastatin 20 mg daily
Hydrocodone/Acetaminophen 5 mg-300 mg 1-2 tablets PRN headache
1. JK is using metformin. Which of the following would be an appropriate next agent to add to control the diabetes? (Select **ALL** that apply.)

- Actos
- Invokana
- Victoza
- Amaryl
- At A1C goal, no additional medication should be recommended
2. JK is using metformin. Which of the following are correct counseling statements with the use of metformin? (Select **ALL** that apply.)

- Nausea and diarrhea may occur, but it is usually mild, and often goes away.
- Take the immediate-release tablets on an empty stomach.
- Take the extended-release tablets with breakfast.
- If you are getting a “contrast dye’ for a medical procedure (the dye will be injected into your vein), you should temporarily stop taking the metformin.
- This drug can cause heart failure; you should be checking your ankles daily for puffiness, and watch for shortness of breath.
3. According to the JNC 8 guidelines, which of the following medications would be appropriate to add to the medication regimen to get JK’s blood pressure to goal? (Select ALL that apply.)

- Diovan
- Hydrochlorothiazide
- Norvasc
- Altace
- JK does not require additional medication at this time
4. Which of the following are important foot care measures the patient should take to prevent foot infections? (Select **ALL** that apply.)

- Do not immerse feet in hot water before checking the temperature by dipping your big toe into the basin first.
- Cut toenails straight across and file to the contour of the toe.
- Always wear properly fitting, supportive shoes with clean socks.
- Walk barefoot outside if grassy in order to increase the callous density.
- Moisturize your feet after bathing, but do not apply moisturizer between the toes.
5. Four months later, JK is hospitalized due to a Gram-negative infection (cultures and sensitivities pending). Which of the following medications could be recommend for initial therapy?

A. Cipro
B. Zosyn
C. Unasyn
D. Zyvox
E. Imipenem
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