#### **Test Taking Strategies for BPS Exams**

#### **Recognizing the Red Flags**

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> HIGH-YIELD MED REVIEWS

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#### Introduction

Craig Cocchio, PharmD, BCPS, DABAT



- A General Overview
- Recognizing the Red Flags
- A Special Coupon Code
- Live Q&A



#### **Types of Questions**

Question Type	Main Characteristics	Strategy
Background	Basic or reflects "explicit knowledge"	Mainly memorization of facts.
Foreground	More complex/complicated Reflects "tacit knowledge"	Utilize explicit knowledge along with greater depth where understanding occurs.
Negative	Not ideal questions (can be confusing) Uses words = Not, Except, and Never	Consider turning question into a T/F where the false answer is correct.
Conjunction	Connects 2 components that both must align/match up	Treat each part as its own question. If one part is wrong, all of it is wrong.
Two-Step	Requires you to apply several cognitive steps (usually tacit knowledge) to get the right answer.	Make sure you treat each step as a stand- alone question and again BOTH have to be right for the answer to be correct.
Bait & Switch	Where you get led in one direction, but they are really asking you something else at the end.	Make sure you read the last sentence and question very clearly.
Case-Based	Typically, the longest and most complex. Goal is to assess your ability to problem solve, decision making, and critical thinking $\rightarrow$ i.e. "Clinical indement"	Read the ENTIRE case to maintain context for the question. Do not skip to the question and then try to find the info.



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A General Overview
Types of Multiple-Choice Questions



## Knowledge Being Tested

# Multiple-Choice BPS Questions Types of Knowledge Tested

Knowledge Transfer

outcomes

Tacit Knowledge

Deeper understanding through practice and contextual integration

Explicit Knowledge Codified information to be learned and retained



#### Knowledge Being Tested



# Test-Taking Strategies Recognizing the Red Flags



#### **Recognizing Red Flags**

- Red Flags
  - High risk medications with very well-known clinical issues or concerns (if present)
  - Usually represents many "classic" teaching points
  - Greater chance for being a question on exams
  - Examples

#### **Classic Red Flags**

Red Flag Medication	Classic Concept to be Tested	
Amiodarone	PK: Long-half; prolonged time to steady state     Drug Interactions: Digoxin, Warfarin     Side Effects:, Hepatotoxicity, QT- Prolongation, Ocular toxicities, Skin changes	
	<ul> <li>Allergies: Sulfonamides</li> <li>Genetics: G6PD and Risk for Hemolysis</li> <li>Unique Indications: PJP, Stenotrophomonas maltophilia,</li> <li>Special Population Issues: 1<sup>st</sup> vs 3<sup>rd</sup> Trimester Pregnancy</li> </ul>	
Carbamazepine	Drug Interactions: Enzyme induction     Genetics:	
Cyclosporin	Drug Interactions: major substrate of CYP3A4     Side Effects: Nephrotoxicity, lipids, HTN	
	<ul> <li>Evidence: Lack mortality benefit</li> <li>Drug Interactions: substrate (amiodarone, diltiazem, verapamil, protease inhibitors)</li> <li>Clinical Issues: Low TI, toxicity profile</li> </ul>	

### **Classic Red Flags**

Red Flag Medication	Classic Concept to be Tested	
	<ul> <li>Drug Interactions: Diuretics, ACE/ARBs</li> <li>Side Effects: CNS toxicity</li> </ul>	
Rifampin	Drug Interactions: enzyme inducer	
St. Johns Wort	<ul> <li>Drug Interactions: Enzyme induction ; sympathetic neurotransmitters</li> </ul>	
Tramadol	Drug Interactions: Antidepressants,     Clinical Situations: Seizures, Overdose, Serotonin     Syndrome	
Venlafaxine	Side Effects: Dose-dependent increases in BP	
Warfarin	Drug Interactions: Amiodarone, Fluconazole,, TMP/SMX (especially)	

#### **Recognizing Red Flags**

#### Red Flags

- Also similar to "killer foils" clinical scenarios
  - Can be clinically similar situations or disease states that create confusion
  - They can be tricky to answer and are common enough to confuse people.
  - Can also be rare but unique scenarios that require a pattern of recognition to get correct
  - Why knowing disease states is relevant
  - Examples

#### **Example Killer Foils**

Disease State 1	Disease State 2	Pearls
Strep Pharyngitis (GABS)	Mononucleosis (EBV)	<ul> <li>Shared: Fever, sore throat, lymphadenopathy</li> <li>The Foil: location of lymphadenopathy &amp; LUQ pain with mono.</li> <li>Relevance: Antibiotic vs. Nothing</li> </ul>
CVA (Central Ischemia)	(Peripheral Nerve)	<ul> <li>Shared: Facial asymmetry with slurred speech</li> <li>The Foil: Raising of eyebrows</li> <li>Relevance: tPA +/- endovascular therapy vs. steroids +/- antivirals</li> </ul>
(Involving Cerebellum)	Vertigo / BPPV (Peripheral)	<ul> <li>Shared: Dizziness, N/V, nystagmus, imbalance</li> <li>The Foil: type of nystagmus, truncal ataxia</li> <li>Relevance: tPA +/- endovascular therapy vs. antihistamines or benzo</li> </ul>
	(Lithium Toxicity)	<ul> <li>Shared: Balance problems, AMS, dysarthria</li> <li>The Foil: recognizing PMH or MUE</li> </ul>
	Dilantin Toxicity (Shift from 1 <sup>st</sup> Order to 0 Order Elimination)	<ul> <li>Shared: Balance problems, dizziness, AMS</li> <li>The Foil: Missing improper PK and dosing</li> </ul>

#### Example - Killer Foil

- Example of a Killer Foil as a "Bait & Switch Type of Multiple-Choice Question"
  - A 27-year-old female with no PMH comes in with intermittent fever and worsening sore throat for the past 3 days. On exam she has swollen tonsils with some small exudates, lymphadenopathy to the back of the neck and mild left upper quadrant abdominal pain. She denies any drug allergies and was started on amoxicillin based on her exam findings alone. Two days later she calls the clinic nurse and reports a rash all over her body. She denies any shortness of breath, lip or tongue swelling, nausea or vomiting. What type of situation should not be treated with amoxicillin as it can cause this presentation?
    - Group A streptococcal pharyngitis
    - Glomerulonephritis
    - Drug-Reaction with eosinophilia and systemic symptoms (DRESS)
    - Mononucleosis

#### **Example Killer Foils**

Disease State 1	Disease State 2	Pearls
Hepatic Encephalopathy (Due to Cirrhosis)	Encephalopathy (Due to Valproic Acid)	<ul> <li>Shared: AMS with elevation in ammonia</li> <li>The Foil: The underlying etiology</li> <li>Relevance: Liver rabbit trail vs. MUE</li> </ul>
Malignant Hyperthermia (Excess Ca from RyR with anesthesia)	Serotonin Syndrome (Excess Serotonergic)	<ul> <li>Shared: AMS, tachycardia, fever, elevated BP, sweating, muscle rigidity</li> <li>The Foil: Missing the etiology and presence of hyper-reflexia and myoclonus</li> <li>Relevance: Wrong treatment (dantrolene vs cyproheptadine vs. diphenhydramine or benztropine</li> </ul>
	(Antipsychotic Exposure)	Shared: same as serotonin syndrome     The Foil: Missing etiology     Relevance: Wrong treatment (dantrolene vs     cyproheptadine vs. diphenhydramine or
Diabetes Insipidus (Central; Reduced CNS ADH Release)	Drug-Induced DI (Lithium Inhibits ADH in Kidney)	<ul> <li>Shared: Excessive urination, thirst, &amp; oral intake</li> <li>The Foil: Low vs normal ADH</li> <li>Relevance: Imaging +/- surgery vs. adjust Li</li> </ul>

## **Example Killer Foils**

Disease State 1	Disease State 2	Pearls
Cellulitis (Simple Case; No Etiology)	Dog or Cat Bite (Pasteurella multocida) Human Bite () Ocean Water	<ul> <li>Shared: Skin redness, fever</li> <li>The Foil: The underlying etiology</li> <li>Relevance: Cephalexin vs. Augmentin vs. Doxycycline</li> </ul>
Seizures (Complex vs Partial)	TCA Overdose (Na Channel Blockade)	<ul> <li>Shared: Seizure activity</li> <li>The Foil: The underlying etiology, missing ECG findings, MUE and use of phenytoin vs fosphenytoin</li> <li>Relevance: Worsening seizure → killing patient</li> </ul>
	(Decreased GABA)	Shared: Seizure activity     The Foil: The underlying etiology, MUE and     treating with anticonvulsant vs     Relevance: Wrong treatment
	Eclampsia (Excessive Neurotransmitter Release)	<ul> <li>Shared: Seizure activity</li> <li>The Foil: Knowing eclampsia can go beyond delivery</li> <li>Relevance: anticonvulsant vs. high dose Mg</li> </ul>

## **Example Killer Foils**

Disease State 1	Disease State 2	Pearls
DKA (Diabetes mellitus, hyperglycemia + AG metabolic acidosis)	HHS (Diabetics without DKA + really High Glucoses)	<ul> <li>Shared: Elevated glucose</li> <li>The Foil: Missing no AG metabolic acidosis and no ketones in urine.</li> <li>Relevance: Missed diagnosis &amp; dose titrations</li> </ul>
	Alcoholic Ketoacidosis (AKA) (Alcohol as nutrition; normal to low glucose with ketones in UA)	<ul> <li>Shared: metabolic acidosis</li> <li>The Foil: The glucose level &amp; etiology of heavy drinking</li> <li>Relevance: Wasted work ups, potential wrong treatments</li> </ul>
	(Diabetics with DKA but normal glucose)	<ul> <li>Shared: Seizure activity</li> <li>The Foil: The glucose, etiology, MUE</li> <li>Relevance: Wrong treatment</li> </ul>

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# How does all of that fit together?



## Knowledge Transfer

#### The High-Yield Approach



#### Knowledge Transfer



## The High-Yield Approach



# The High-Yield Approach



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