

Foreshadowing Strategy: Informing Future Doctors MCAT Plan

Link to test taking strategy video: <https://www.youtube.com/watch?v=irngA9Q4le0&t=10s>

Preparing for the MCAT is infinitely frustrating and discouraging. Even if you know all of the sciences and you've internalized all the strategies we've discussed thus far, you are still going to miss questions that you know sufficient content for. Perhaps you missed one word in the passage that gives you the clue to a question. Or maybe you knew the science you were being tested on, but you had no clue the question was even testing you on that science. Unfortunately, the truth is that it really doesn't matter how close you were to the correct answer. To medical schools, you either missed it or you got it correct.

So, how do you quit making silly mistakes?

The answer to that is Foreshadowing. It's one of the most difficult to master strategies and it is what we will spend most of our time in tutoring sessions perfecting. But before I explain how to do and practice Foreshadowing, consider *who* writes the MCAT.

The MCAT was not written by machines (regardless what it feels like). It was written by humans just like you and me. And in order to ask a question on the MCAT, the humans that write the exam must be able to point to a specific sentence or figure in the passage and confidently state that testers were given enough information to answer that question quickly and correctly. This means that every single question is within your grasp of answering correctly!

Also, the articles that are on the MCAT (excluding CARS) are excerpts from scientific articles that have been "adapted". Meaning, the MCAT authors actually will *add* to the articles with the goal of asking you questions on what they've added. So, if we can identify what they've added, then you can know the correct answers before they even ask the questions!

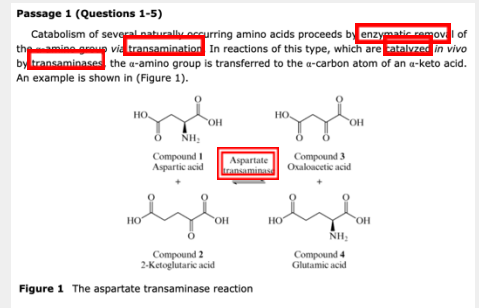
That's cool and all, but how do you know what they've added? It's not like it's highlighted with a big neon sign next to it. This is where your attention to detail comes in. Just like all liars have tells (indicators that they're lying), the MCAT has tells when it's adding in material.

The 2 most obvious tells are over-explanation and redundancy.

1. Over-explanation – If the MCAT takes the time to explain the basics behind a concept, *that is important!* These articles are only 700ish words, so they have to be very selective with what they choose to include and exclude. This can be seen in 2 forms

a. **Pre-Requisite Material** – This refers to when the MCAT over-explains material that you were supposed to know before you tested. If you see this, beware. It means they're priming you to test you on that subject!

i. Note, in this excerpt from the AAMC Official Guide, the emphasis on enzymes and transamination. You are *supposed* to know transamination, enzymes kinetics, and enzyme lingo. But notice they take the time to explain transaminases' function even though you should already know it (due to "-ase"). That's because it's tested!



b. **New Material** – This is when the MCAT introduces something you've NEVER heard of before (hint: you are not supposed to have heard of it either) and then explains the basic sciences behind what it is.

i. Oftentimes, the MCAT will introduce the science topic, add a comma right after it, and then explain what it is in basic science terms. *If they do this and ask you a question about that new topic, you are expected to answer the question with the basic sciences listed immediately after the science.* This is extraordinarily powerful. Let me give you an example:

Figure 1 Experimental protocol for infecting embryonic fibroblasts from engineered TauEGFP mice

Twelve days after infection, scientists observed the presence of cells that displayed bright green fluorescence and were positive for Tuj1, a neuron-specific class III β-tubulin. These cells also expressed several neuron-specific proteins including NeuN, which binds DNA. Tests revealed that while the majority of the fluorescent cells produced the excitatory neurotransmitter glutamate ($^-OOC-CH_2-CH_2-CH(NH_2)-COOH$), a few produced the inhibitory neurotransmitter γ-aminobutyric acid (GABA) ($HOOC-CH_2-CH_2-CH_2NH_2$), much like neurons from the central nervous system.

The basic sciences here are "neurons" and "proteins" as tubulin is a protein.

The basic science here is binding DNA

2. **Redundancy** – Do you remember in the 8th grade when your history professor informed you that he'd no longer tell you what was on the tests? It scared me to death. But I noticed that as Mr. Baldwin lectured, if he intended to test me on a subject, he would find a way to emphasize it. The MCAT does this too and it's done through some form or fashion of repetition. This Redundancy is elicited in a couple of ways:

- Rephrase and repeat – saying the same thing multiple different times throughout the passage in different ways
- Show & Tell – stating the science in the passage and then explaining it with a figure

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Notice how the structures of glutamate and GABA are provided without the authors addressing it. It's almost like they tried to sneak it in. And it's odd because glutamate is an amino acid and we know, we're supposed to know the



structures of the amino acids. To the average test-taker, it looks like I'm making a big deal out of nothing. But to the experienced eye, this is a red flag that we **MUST** consider the structures of these macromolecules. Don't believe me? Check out this question from the AAMC that followed the passage excerpt included above:

Which type of enzyme catalyzes the conversion of glutamate to GABA?

<input type="radio"/> A Kinase	x
<input type="radio"/> B Transferase	x
<input type="radio"/> C Decarboxylase	x
<input type="radio"/> D Dehydrogenase	x

Foreshadowing Applied to Questions:

This is not a fact that you're supposed to have memorized. Rather, the proper way to get this question correct is to compare the structures between glutamate and GABA, notice that the difference between the 2 is a carboxylic acid and rephrase the question as, "Which of these enzymes can remove a carboxylic acid?" That's a **MUCH** easier question. This is the power of applying and combining these strategies.

Drill to Practice Foreshadowing:

Foreshadowing is the application of the Flowchart Method. By now you've been picking out what is important in the passage for so long that hopefully it is second nature to how you read science passages. This Foreshadowing Drill will add a productive spin to that. Now that you're aware of what the MCAT Authors place value on, I want to narrow your focus to what will help you get questions correct on the MCAT.

1. Begin reading the passage with a timer set to 4 minutes beside you. When reading the passage, write down everything in the passage that you believe could be tested. This will include a lot of basic sciences, Over-Explanations, and Redundancies. Once you have read the whole passage or your time has expired, look at your notes and brainstorm what question you expect the MCAT to ask you about your note. Compare with your accountability group and help each other succeed!