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Introduction

Hao-Hua Wu and Leo Wang

CHAPTER

1

I. The Gunner's Guide to a Better Test Score

Are you curious why certain classmates perform well on every exam? Are you frustrated by how few of these “gunner” peers share study secrets?

At *Gunner Goggles* (GG), our goal is to reveal and demystify. By integrating **augmented reality** (AR) into this review book, we **reveal** how some of the best students approach topics, conceptualize complex diseases, and efficiently allocate study time. By organizing each topic according to the National Board of Medical Examiners (NBME) format, we **demystify** exam content and the types of questions one can expect on test day.

Of the tests medical students strive to conquer, shelf exams boast the highest ratio of importance to the quality of study resources. For instance, performance on shelf exams typically informs final clerkship grades, which are the most important criteria on the medical school transcript for residency application. Yet, there is no single authoritative study resource for the shelf across all disciplines. Most importantly, no current book specifically targets shelf exam prep, so students must rely on miscellaneous resources and anecdotal advice to get the job done.

In light of this void in authoritative test prep, we have created the *Gunner Goggles* series to provide you with the most effective shelf exam testing resource. GG stands out for three important reasons.

First, readers have the opportunity to enhance understanding of important shelf topics by utilizing the AR features on each page. With an iPhone or iPad, users can download the *Gunner Goggles* AR iOS app and use it to turn book figures into three-dimensional (3D) images, access high-yield videos and view pertinent digital media. More on how AR technology works can be found on page 2.

Second, *Gunner Goggles* provides a plethora of tips on how to efficiently manage time when studying for the shelf. Mnemonics and strategies for how to approach difficult concepts can be found in the blue “Gunner



Column” to the right or left of each page. We also tell you how to **think** about these concepts so that medicine never feels like a laundry list of items you simply have to memorize.

Third, this review book is written and organized optimally for shelf exam test prep. Each chapter is organized according to the NBME Shelf Exam and United States Medical Licensing Examination (USMLE) Course Content outlines. In addition, a concise summary of how topics are tested prefaces each chapter.

As experts on the shelf exam, we understand how difficult it is to carve out time to study while juggling clinical responsibilities during your clerkship rotation. We also know that each student’s learning curve is different based on the timing of the rotation (first block vs. last block), the year in medical school (MS3 vs. MD/PhD returning after graduate school), and future career interests (e.g., an aspiring orthopedic surgeon learning about obstetrics and gynecology). However, we believe that any student can perform well on the shelf with the right strategy and study resources.


We created this book anticipating the needs of all types of students, and hope that *Gunner Goggles* will be the most comprehensive, authoritative shelf exam review book that you ever use. We are confident that *Gunner Goggles* will enable you to achieve your test performance goals and stick it to your “gunner” classmates, whose advice, or lack thereof, you won’t be needing after all.

II. Augmented Reality: A New Paradigm for Shelf Exam Test Prep

Think of AR as your best friend.

To use it, download the free *Gunner Goggles Psychiatry* application on your iPad or iPhone and create your own optional profile. Now with the *application* open, point your smart mobile camera at this page.

Notice how, on your camera, there are now links you can click on, 3D figures you can rotate, and a video you can watch. You have just unlocked the AR features for this page!

Take a moment to play around with these AR features on your smart mobile device. The way this works is that anytime you see the “Gunner Goggles” icon  in the blue Gunner Column to the right or left, there is an AR feature accompanying the text with which you have the opportunity to interact with.



Gunner Goggles Introduction
Video



Gunner Goggles Contact

Still not convinced? Here are three reasons why AR is your ideal study companion: presentation, evaluation, and community engagement.

Presentation

AR breaks the boundaries of how information can be presented in this textbook.

Traditionally, if you wanted to learn about a disease in a review book, you would be expected to read and memorize a block of text similar to the following:

“Huntington disease (HD) is a GABAergic neurodegenerative disorder that is caused by an autosomal dominant mutation leading to CAG repeats on chromosome 4. Patients typically present in the fourth and fifth decade of life with chorea, memory loss, caudate atrophy on neuroimaging, and motor impairment, depending on the variant. Although there is no cure for HD, the movement disorders associated with the disease, such as chorea, can be treated with drugs like tetrabenazine and reserpine to decrease dopamine release.”

Having read (or most likely glazed) through that last paragraph, do you feel comfortable enough to answer questions about the genetics, presentation, and treatment of HD right now? A week from now? Three weeks from now when you have to take your shelf exam?

Here’s where AR comes in. Use your *Gunner Goggles* app to check out how we’re able to present HD in different, memorable ways.

For visual learners, here’s a video of an effective HD mnemonic→

If you’re an audio learner, here’s a link to key points about HD for the shelf→

Forgot your neuroanatomy? Here’s where the caudate is→

What’s the difference between chorea, athetosis, and ballismus again? Chorea looks like this→

Now write a one-line description of HD in your own words in the margins of this page for future reference. It’s much easier with AR, right? Like we said, your best friend.

Evaluation

The GG Psychiatry app has the potential to exponentially enhance how you can evaluate your own understanding of the material. Although not available with the first edition, we are in the process of developing a personalized



Huntington Disease Mnemonic



Huntington Podcast



The caudate nucleus is part of the basal ganglia



Chorea patient example

question bank as well as a flashcards feature. Our vision is to allow you to scan a topic on the page for immediate access to relevant practice questions and flashcards. In future versions, you will also be able to create your own flashcard deck and track your mastery.

In addition the GG app can keep track of the AR Targets scanned and the Learning links viewed. These links are saved to a Link Library which you can view at any time. You can also like or dislike a Learning Link with an opportunity to provide us feedback for better resources available.

As development of the GG Psychiatry app is an ongoing process, we encourage and welcome your feedback. If you like the idea of having a personalized question bank and flashcard feature or have an idea for how we can improve the GG app to better serve your studying needs, please provide us feedback through an in-app message. You can also email us at GunnerGoggles@gmail.com.

Community Engagement

Studying for the shelf can be isolating. Our vision is to develop a feature in the GG Psychiatry that would allow you to connect with chapter authors and fellow readers. We are in the process of developing a medium in which shelf-related inquiries can be discussed among authors and readers through an optional short message system (SMS) feature.

Given that the community engagement feature is in development and unavailable for the first edition, we welcome your input on how we can connect you with the people who will enable your test day success.

To provide feedback, please scan the page and vote. You can also email us GunnerGoggles@gmail.com for any comments or suggestions.

Augmented Reality Frequently Asked Questions

“Since AR is integrated into *Gunner Goggles Psychiatry*, does this mean I have to pull out my iPad or iPhone for every page of the book?”

No, only if you need it. Some may use AR more than others, depending on their background and level of comfort with psychiatry. For instance, you may already have a solid understanding of HD and only need to read the text as a refresher. On the other hand, if you are less comfortable with HD, the AR features are there just in case.



Gunner Goggles Forum