

# Applying visual techniques to med school lessons

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Quick! When a person is deprived of oxygen, which part of the brain is damaged first?

When Michael Natter learned the answer - the [hippocampus](#), among other key regions - he promptly drew a cartoon of a dopey hippopotamus hooked to an [oxygen tank](#).

Artist's sketchbook in hand, Natter, 29, is drawing his way through [medical school](#) at Thomas Jefferson University. He says his art helps him remember and digest the torrent of information.

"I study by drawing my notes," says the native New Yorker, who just wrapped up his second year. "The way my mind works is more visual than anything else."

It started with occasional doodles in the margins. A cartoon about the function of a body part, say, or a diagram of some obscure biochemical pathway.

From there, it moved to Facebook and on to Instagram, where Natter posts several cartoons and other drawings each day for more than 15,000 followers.

One, nicknamed nikkicarn, credited him recently for success in an anatomy and physiology class:

"Not going to lie, this account is a good part of the reason I'm passing A&P II."

Another, fasselhof, wrote: "I got a question right on a practice exam due to this picture" - Natter's cartoon of Schlemm's canal, a channel that drains fluid from the eye.

He had drawn a man wearing a T-shirt labeled "Schlemm," who waves cheerfully as he sucks fluid through a straw.

Multiple followers have urged Natter to do a book, which he is considering.

After all, medical students have been leaning on memory aids for as long as professors have asked them to cram their heads with facts. Acronyms, rhymes, songs - why not cartoons?

But long before the drawings helped Natter in the classroom at Jefferson's Sidney Kimmel Medical College, they served a more fundamental purpose.

They helped him get in.

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Natter became interested in the field of medicine at age 9, when he was diagnosed with Type 1 diabetes.

He gave some thought to becoming a doctor, but math and science were not his strongest subjects. Teachers saw him as "an art kid" and steered him toward the humanities.

"There were definitely numerous people who told me I would not get

into medical school," Natter said.

At Skidmore College in Upstate New York, Natter majored in neuropsychology and minored in studio art, but he stayed clear of most of the prerequisites he would need for med school.

He later filled in those gaps in a postbaccalaureate program at Columbia University. His grades and score on the MCAT med-school aptitude exam, though respectable, were apparently not up to the standards of many schools he applied to. Rejection letters piled up.

Then at a med school admissions fair, he met Elizabeth Y. Brooks, Jefferson's director of admission. The school gets 12,000 applications a year for 265 spots and could easily fill each year's class with top-scoring students.

Medical schools have long used nonacademic attributes to help pick from among the high scorers. Increasingly, however, some say they engage in a more "holistic" evaluation, considering other traits alongside test scores from the get-go.

The Association of American Medical Colleges holds workshops to encourage the practice, with the view that in the rich, multicultural landscape of 21st-century America, medicine is about more than spitting out facts.

Natter told Brooks he was working on a comic book about a boy diagnosed with diabetes. She was captivated by his artistic skill and warm demeanor.

"I saw a spark in him," Brooks said. "I thought this was someone I would love to be my doctor some day."

Some other recent Jefferson students with nontraditional backgrounds include a Navy SEAL, a firefighter and a ballerina, she said.

Natter started classes in fall 2013. He had self-published the comic book a few months before, dedicating it to Brooks.

He titled it "Captain Langerhans," after the Islets of Langerhans - regions of the pancreas that produce insulin and other hormones. The masked hero fights off an army of fanged green ogres that represent the rogue immune cells that characterize Type 1 diabetes.

Natter did not start drawing his notes regularly until the end of his first year of medical school. He began uploading pictures to Instagram at the end of 2014, under the name mike.natter, drawing fans from as far away as South America and the Middle East.

The artist generally does not draw during lectures, preferring to wait until later in a coffee shop, equipped with felt-tipped pens and an 11-by-17-inch sketchbook. Square One in Philadelphia's Center City neighborhood is a favorite spot.

Natter said he derived more academic benefit from the process of visually thinking through the material than from the finished drawings.

"You're taking different pathways in your brain," he said. "In the exam, you'll remember that whole process."

And, apparently, the drawings can even help people who already know the material. Such as Brooks, who also teaches at Jefferson.

"I've learned and forgotten nephrology 1,000 times because it's so complicated," the admission director said. "But then I was looking at what Mike had drawn about the kidneys, and I was like, 'Wow, that

makes sense."

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