

Inborn Errors of Memorization

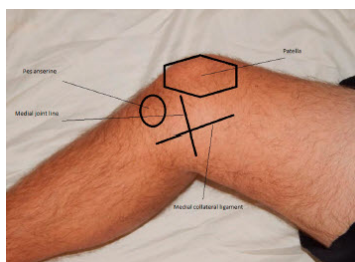
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To me, multiplication tables, [The Song of Hiawatha](#), Latin verb conjugations, the periodic table, human anatomy, the [Krebs Cycle](#), and the “Denver Developmental” represent memorable roadblocks in my education.

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Through scheduled recitations, multiple choice question tests, and oral exams, my superiors judged how well I learned my lessons—from grade school through residency and beyond—by asking me to mechanically repeat information I had memorized.

And I hated memorizing. It was time-consuming, I was easily distracted when trying to memorize, and my short-term memory was exactly that.

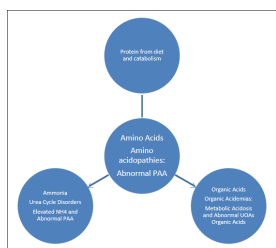
I distinctly remember at an early age arguing with my teacher about the futility of memorizing answers that I could always look up. I would rather reason the correct answer to a relevant question than recall some incidental fact; only when a fact was applied to a situation did it seem worthwhile to know the fact in question. Maybe it was stubbornness or outright perverseness on my part that made me superficially treat subjects that required memorization.

Given my inherent distaste for memorization, imagine my frustration when in medical school I first encountered the topic of inborn errors of metabolism, with its seemingly endlessly involved chemical pathways for a group of disorders that were rare.

I just could not push myself to fully learn these diseases, yet I did worry that I would never be able to detect the patient with an inborn error since I refused to memorize the signs, symptoms, and mechanisms of these diseases.

Deep down, I never could reason the underlying theme that made it worth my while to memorize the fine details of these disorders until I read Chin-To Fong's 1995 *Pediatrics in Review* article [Back to Basics: Principles of Inborn Errors of Metabolism: An Exercise](#). This article was full of clinical scenarios meant to entice the reader into the excitement of managing patients with inborn errors.

In his summary, Dr. Fong stated that the majority of inborn errors of metabolism basically present when an affected patient, either through poor oral intake or intercurrent illness, switches to “a predominantly catabolic state, when glycogen, fat, and protein are mobilized as alternative energy sources.” This proved, to me, that this subject was really fascinating, made clinical sense, and was well worth my undivided attention.



In [January 2016 Pediatrics in Review](#), Dr. Gregory Rice, of the [University of Wisconsin School of Medicine and Public Health](#), and Dr. Robert Steiner, of the [Marshfield Clinic Research Foundation](#), continue the tradition of enticing pediatricians to learn the intricacies of inborn errors of metabolism. In their article [Inborn Errors of Metabolism](#), they readily admit that this topic can be “frustratingly complex” for pediatricians (especially those who do not like to memorize). They

offer what I find to be a clear, concise, and up-to-date diagnostic approach to identifying a patient with a metabolic disease. There is still a lot to memorize, but Drs. Rice and Steiner provide a framework that makes this subject more exciting and less onerous to learn.

In a similar vein, Dr. Michael Wolf, of [St. Christopher’s Hospital for Children](#), Philadelphia, PA, ties in the importance of knowing the anatomy of the knee when evaluating knee pain. His clear, concise, clinical descriptions in [Knee Pain in Children: Part 1: Evaluation](#) make it worthwhile to learn those anatomical structures with names based on Latin vocabulary.

Similarly, Dr. Rebecca Scharf, of the [University of Virginia](#), Charlottesville, VA, Dr. Annemarie Stroustrup, of the [Icahn School of Medicine](#) at Mount Sinai, in New York City, and medical assistant Graham Scharf, of the [Institute for Advanced Studies in Culture](#), in Charlottesville, VA, in their article [Developmental Milestones](#) offer clinical red flags that convincingly underscore the necessity of memorizing the stages of normal development of infants, toddlers, and children. (Although I would argue that until one raises a child, one never really knows child development.)

For those of you afflicted with an “inborn error of memorization,” this [first issue](#) of 2016 offers rewarding lures for learning the diagnostic and management nuances of inborn errors of metabolism, knee pain, and developmental milestones.

Further Reading

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