of ketogenic diet, massage, cannabis, and exercise. Dr. Know concludes that “not any one therapy is ideal” and recommends “a combination of numerous therapeutic agents and exercise [which he emphasizes] must always be included” to derive the best outcomes (186).

Dr. Know speaks directly to his readers and brings them back to the high school biology classroom. Throughout the book, figures and relevant asides are included to help illustrate the author’s arguments and ease the reader into the literature. It is well suited for a lay person audience or those with minimal scientific background. The glossary included in the back of the book is also helpful and the impressive 51 pages of references help lend more academic rigour to the author’s suggestions in the rapidly evolving field of mitochondrial medicine.

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Clinical Mitochondrial Medicine. Edited by Patrick F. Chinnery and Michael J. Keogh. 2018. Cambridge University Press: Cambridge, UK; New York, NY. ISBN: (Paperback) 978-0521132985. US \$49.99. 198 p.

Clinical Mitochondrial Medicine is a medical textbook dedicated to mitochondrial diseases, which are rare in that only 1 in 5,000 adults are affected but are often difficult to diagnose. Editors describe mitochondrial diseases as “complex and confusing, with vague symptoms accompanying a myriad of clinical signs.” Aimed at clinicians and medical students, the book comprises of case reports, clinical descriptions and molecular markers of various mitochondrial diseases, and schematic diagrams that help clinicians proceed with clinical evaluations. The book also contains images of clinical appearances of patients, histology, and some figures describing biochemical and cellular signaling pathways that contribute to mitochondrial diseases.

Highly specialized and comprehensive, each chapter of the book was written by mitochondrial experts and clinicians across the United States and Europe who specialize in the subject. The first section, *Introduction to Mitochondrial Medicine* describes the approaches of Mitochondrial Medicine in children and in adults, followed by perspectives of laboratory, clinical genetics, and clinical management when dealing with mitochondrial diseases. The other section, *Systems Involved in Mitochondrial Diseases* introduces various mitochondrial diseases in Neurology, Ophthalmology, Audiology, Cardiovascular Medicine, Respiratory Medicine & Anesthesiology, Endocrinology & Diabetes, Gastroenterology & Hepatolo-

gy, Nephrology, and Psychiatry as individual chapters.

Case reports and self-assessment questions contained in this textbook may be appropriate for medical students, clinical trainees, and other health professional who are involved in clinical assessment of patients. Self-assessment questions often inquire readers additional tests required to confirm or exclude a particular diagnosis, as mitochondrial diseases often utilize differential diagnosis of other medical conditions. Answers with explanations to self-assessment questions are provided, and strategies and approaches for clinical management are also outlined. Medical students and clinicians may also benefit from schematic diagrams which they may follow for assessment and management of symptoms in patients with a potential mitochondrial disease. Furthermore, genetic counselors may use tables that list relevant phenotypical features, nuclear-encoded and mitochondrial-encoded genes, especially for heritable mitochondrial diseases. For diseases that require molecular genetic diagnosis to detect mitochondrial DNA mutations, the chapter on *Laboratory Investigation of Mitochondrial Diseases* (Chapter 4) contains strengths and weaknesses of commonly-used molecular methods in the context of mitochondrial DNA.

The textbook aims to help clinicians to implement system-wide approaches (*i.e.*, certain mitochondrial diseases may manifest in various physiological systems) when dealing with mitochondrial diseases while recognizing relevant symptoms to ensure accurate diagnosis. Contributors of the book have presented the material in interactive ways, such as using schematic diagrams to describe diagnostic protocols that make clinicians watch out for specific symptoms or molecular markers in order to proceed with subsequent tests. As the book aims to provide a practical framework for clinical practice, most content of the book focuses on clinical presentation, diagnostic evaluations, and disease management, thus descriptions of disease mechanisms are only present where necessary. For those using the book in their clinical practice, it is important to keep in mind that Mitochondrial Medicine is an evolving discipline which may make some aspects of the book out of date, but the editors believe that fundamental clinical framework could be applied in most scenarios.

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Slime. By Ruth Kassinger. 2019. Houghton Mifflin Harcourt: New York, New York, United States of America. ISBN: (Hardcover) 978-0544432932. US \$17.89. 301 p.

Slime provides an interesting insight into the role of