THE Microbiology Bench Companion

J. Michael Miller, Ph.D., (D)ABMM
Microbiology Technical Services
Dunwoody, Georgia
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As clinical microbiologists and for clients of the microbiology laboratory, we have been privileged to have a plethora of wonderful texts and manuals, written by the bright leaders in the field, that make our role on the health care team a viable contribution to excellent patient care. Assisting in the diagnosis of infectious diseases has a considerable impact on patient outcome, infection control, and the cost of patient care, and it provides a significant degree of comfort to clinicians charged with diagnosis and therapeutic response.

Microbiology is becoming more complex, not simpler, because of the living organisms we interact with daily. Like moving targets, any of these microorganisms that we detect or culture may or may not be the etiologic agent responsible for specific symptoms. They may or may not be susceptible to the antimicrobics empirically prescribed by attending physicians. They may or may not be easily cultivatable in the laboratory or even easily coaxed from the specimen submitted for analysis. In fact, they may or may not be part of the normal flora in an individual. Optimizing the contributions of the microbiology laboratory requires an expertise not usually exhibited by generalists who are required to rotate through microbiology during the course of their work schedules. Clinical microbiology is a science of interpretive judgment requiring extensive specialty training in order to provide clinicians the complete information they need.

Ideally, every clinical microbiology laboratory should be directed by a specialist certified by the American Board of Medical Microbiology or the American Board of Medical Laboratory Immunology or their equivalents, or it should have direct access to such board-certified specialists. Hiring and retaining certified microbiology specialists in this complex field should be just as attractive and necessary to hospital chief executive officers and laboratory medical directors as employing board-certified clinicians and surgeons is, since certification is clearly documentation of expertise and quality.

This book is written primarily for those microbiology laboratorians who do not have access to these experts. I have immense respect for those individuals who work at the bench in the clinical microbiology laboratory. They tend to be astute, highly capable professionals who are asked difficult questions on a daily basis,
and my sense is that they would always love to have a little more information at their fingertips to fully satisfy a questioning physician or even a laboratory colleague. Many texts are available to provide specific identification techniques and even photographs of isolates, but few of these books offer convenient caveats that are directly related to the organism(s) isolated and reported and that help “decode” what is going on.

The Microbiology Bench Companion is an easy reference to be used by the technologist, nurse, or physician to assist in “decoding” an organism that has just been reported. I realize that many experienced microbiologists and our board-certified colleagues probably know every piece of information presented in these tables and charts, but this book will serve as a handy reference for them too. More importantly, virtually everything I have learned in microbiology was learned from someone else without whose expertise I would still be struggling more than I am. For that, I am eternally grateful to a myriad of colleagues who continue to amaze me with their knowledge and their willingness to share it. I would never overlook an opportunity to acknowledge a source of information, but in this work I have surely omitted some originators of a piece of advice or an astute observation made in the last 30 years, and for that I apologize. In addition, with the advent of genomics, so easily and effectively applied to taxonomy, it is clear that nomenclature changes, additions, and deletions occur seemingly with each journal publication. I recommend that as those changes occur, the reader simply make a marginal note in the text and hope that the next edition of the Companion will include the new or modified names.

The idea for the format of the information in this book actually came from my colleague and friend Harvey H. Holmes, who used a similar approach for his laboratorians when he directed a microbiology laboratory at a large medical center. Building on his idea, the Companion stands ready to offer small but significant bits of information about the most common organisms we see in the clinical microbiology arena.
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