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Book review

Microbiology nuts and bolts: key concepts of microbiology and infection

Garner 2D, CreateSpace Independent Publishing Platform, 2013, 282 pages, ISBN-13: 978-1500289584, £27.99.

This pocket-sized book, with accompanying website (www.microbiologynutsandbolts.co.uk), was written by UK-based consultant microbiologist, David Garner. Overall, it is a very good pocket guide covering the basics of microbiology, with handy tables and diagrams that can be referred to rapidly when required.

The basic concepts of microbiology have been outlined well, with clear explanations of infection, colonization and normal flora, why they are important in the context of the isolation of organisms from various sites; and what this all means for treatment of the patient.

There is a specific microbiology section covering what microbiologists would like to know when they are contacted for advice, what specimen types should be sent and in what types of tubes. This section also covers the basic classification of bacteria into Gram-positive and Gram-negative, and which bacteria are the most likely causative organisms in specific infections. In addition, examples of laboratory reports are used to demonstrate how to interpret microbiology results.

The next section covers infection control, including the process of a root cause analysis and how to stratify patients into a limited number of side rooms dependent on the organism isolated.

Clinical scenarios are covered, looking at which organisms cause which infections, and the first- and second-line antibiotics of choice for treating such infections. The antibiotic section covers classes of antimicrobials, including antibiotics, antivirals and antifungals; mechanisms of resistance; pharmacodynamics and pharmacokinetics; spectrum of activity; common side-effects; cautions; and contra-indications. Empirical antibiotics for adult and paediatric scenarios are also provided.

The most useful elements of this book include tables showing the antibiotic spectrum of activity, antibiotic tissue penetration and bacterial causes of infection. Negative aspects of this book include spelling mistakes — diphtheroids (p. 22) and NICE (p. 155) — and an incomplete list of Gram-negative anaerobes (*Veillonella* spp., *Prevotella* spp. and *Porphyromonas* spp. were omitted).

As a joint trainee in infectious diseases and microbiology, I would say that this book is aimed at foundation and core trainee doctors who wish to know more about microbiology and antibiotics. It may also be a good learning aid for trainee clinical scientists. It forms a good base of knowledge for specialist trainees in microbiology, but is too basic for the extent of knowledge they require.

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