

Book reviews

Microbiology Nuts & Bolts

By David Garner. North Charleston, USA: CreateSpace Independent Publishing Platform, 2013. 288pp.

It is very easy to remember how, as a new doctor, the job of 'calling micro' used to loom over a day, filling me with a fear of difficult questions to come. Worse still, I felt, was when they turned the tables and called you with a result. With these sorts of ambushes, you couldn't even prepare in advance. Later on, as a microbiology senior house officer, I found myself on the other side of the fence. Tasked with extracting clinical information from medical teams and formulating initial management plans, I began to appreciate the complexity of clinical infection and, conversely, just how difficult it can be to find the salient facts if your counterpart doesn't know what you're looking for. As a microbiologist with 15 years of clinical experience behind him, David Garner has clearly come across this problem before. *Microbiology Nuts & Bolts* is his response.

The pocket-sized tome in infection-control-friendly white is divided into six sections. 'Basic Concepts' covers the principles of diagnosing infection, including normal flora for each body site, how this changes in hospitalisation and differentiating between colonisation and infection. The 'Microbiology' section explains specimen processing and interpreting results, while gently emphasising that, like diagnosing infection, this is not as easy as it sounds. Included here are several example specimen results and interpretations, which form an engaging and accessible way of improving practice. 'Infection Control' describes isolation methods, priorities and key pathogens. A highlight here is an excellent diagrammatic explanation of *Clostridium difficile* spreading in the ward environment, incorporating ecological niches and answers from root cause analysis. Like the book itself, it is simple, readable and relevant. Next is a 'Clinical Scenarios' section, which works through common infections by body system. A detailed 'Antibiotics' chapter follows, listing coverage and tissue penetration in concise, usable tables, as well as drug-by-drug details on mechanisms of action and resistance, indications and side effects. A useful note on non-human immunodeficiency virus (HIV) antivirals is included. Finally, the 'Emergencies' chapter covers conditions such as neutropaenic sepsis and necrotising fasciitis. Throughout the book, coloured boxes flag up and dispel common myths, such as the assumption that guideline antibiotics for hospital-acquired pneumonia are 'stronger' than those for community-acquired pneumonia, or that bacteria grown from a central line tip always represent infection.

The text is laid out clearly, allowing readers to dip in and out, easily finding reference data. However, the commendable drive to demystify and to embed basic principles does occasionally

result in a somewhat simplistic tone. Certain information seems surplus, such as a 12-page 'A-Z' of microbiology tests, including tube colour and turnaround time. This may not be universally accurate and includes the news that stool samples should be sent in stool sample containers. I would have found this time more usefully spent taking some sections further, perhaps covering the links between specific immunodeficiency states and different infection susceptibilities, or expanding the information on returning travellers to include some well-known pitfalls caused by international antibiotic susceptibility variations. Furthermore, although antibiotic regimens are suggested only with caveats, where national guidelines exist these should be mentioned, particularly where the author diverges. For example, the author volunteers single dose intramuscular (IM) ceftriaxone as treatment for gonorrhoea, where the British Association for Sexual Health and HIV (BASHH) recommend single dose IM ceftriaxone with oral azithromycin, followed by test of cure.¹ Mention of nucleic acid amplification tests (NAATs), widely used in UK genitourinary medicine (GUM) clinics, is omitted altogether here. Finally, the author decided not to reference the text extensively in order to keep the presentation simple and this does perhaps mean some good learning opportunities are lost. While a few useful sources are listed on a back page, they are easily overlooked. It is difficult to see how a well-placed link to Public Health England's online *Green Book* on vaccination,¹ or to the full British Thoracic Society guidelines on community-acquired pneumonia² would detract from, rather than enhance the text.

Nonetheless, this book delivers a uniquely relevant and accessible take on microbiology and does an excellent job of bridging the gap between the dry lists of pathogens learnt at medical school and the clinical reality of infection. With a little tightening of the aforementioned 'nuts and bolts', I would recommend it to medical students and junior doctors in all specialties.

References

- 1 Department of Health. *Green book: Immunisation against infectious disease*. London: The Stationery Office, 2013. www.gov.uk/government/publications/green-book-the-complete-current-edition [Accessed 3 December 2013].
- 2 Lim WS, Baudouin SV, George RC et al. British Thoracic Society guidelines for the management of community acquired pneumonia in adults: update 2009. *Thorax* 2009;64:iii1–iii55. www.brit-thoracic.org.uk/Portals/0/Guidelines/Pneumonia/CAPGuideline-full.pdf [Accessed 3 December 2013].

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