

Letters to the Editor

Shorter antibiotic courses, but why?

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Thanks for the article on antimicrobial duration for common infections.¹ I both hated it and welcomed it. I hated it because it contradicted prior teaching which I have long preached, and welcomed it for the benefits cited and because it is evidence based.

It would be useful for prescribers to know why shorter antibiotic courses are as effective as standard ones so they may comply and educate the patient. Is it the case that the antibiotic 'stuns' the organism allowing the immune system to acquire an enhanced ability to fight it which is adequate once the antibiotic is ceased? I realise this sounds like a lovely theory, but is there any evidence for this notion or any other proven reason?

An alternative or additional explanation to tell the patient could be simply 'Don't be surprised by the short course I have prescribed. The latest evidence is that it is sufficient and has the added benefit for you of reducing adverse effects.'

Incorporation of artificial intelligence in prescribing software which linked the diagnosis with the prescribing of the appropriate reduced antibiotic quantities (by default), along with the reason and what to say to the patient, would be useful.

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REFERENCE

1. Wilson HL, Daveson K, Del Mar CB. Optimal antimicrobial duration for common bacterial infections. *Aust Prescr* 2019;42:5-9. <https://doi.org/10.18773/austprescr.2019.001>

Heather Wilson, one of the authors of the article, comments:

Antibiotics target a variety of molecules in bacteria that can kill the bacteria or halt their growth. Successful treatment of an infection relies on multiple factors, including a balance between the appropriate antibiotic treatment and the actions of the immune system. Sterility in any infection is not necessary except in a few key circumstances.

The key to the current recommendations on antibiotic duration is based on two main points. First, we now have empirical evidence that shorter courses are nearly always as effective as standard ones, whereas previous recommendations were largely arbitrary. Second, it was previously thought that you had to use enough antibiotic to prevent the development of resistance. We now understand that many of the adverse effects that are related to antibiotic use, for example antibiotic resistance, candidiasis and *Clostridium difficile* infection, are increased with prolonged antibiotic therapy.

In terms of resistance, it is often not the initial infecting organism that is the problem. Instead longer antibiotic exposures result in greater pressure to select for antibiotic resistance in other commensal bacteria that may then go on to cause infection in the future.

The idea of having syndrome-based prescribing information linked into prescribing software is a good one. It is something that I hope to see in the future, but as far as I know is not available now. In the meantime, guidance may be sought from local guidelines. The latest version of *Therapeutic Guidelines: Antibiotic* has new resources to support primary care practitioners in antimicrobial prescribing, including shared decision-making with patients.



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