

## Antibiotic Therapy Duration

For many conditions, there is mounting evidence taking antibiotics for a shorter length of time than previously recommended is as effective as longer courses of therapy AND less likely to promote antibiotic resistance.<sup>1-3</sup> Additional benefits may be associated with shorter courses as well: decreased exposure to adverse effects which may occur with antibiotic medications, improved compliance because of shorter duration of therapy and reduced cost.<sup>1,3</sup> Table 1 contains a list of conditions for which short antibiotic regimens are now considered best practice for appropriate patients.

**Table 1: Conditions for which shorter antibiotic courses of therapy have been shown to be effective<sup>1-3</sup>**

Condition	Duration	Comments
<b>Acute bronchitis</b>	<ul style="list-style-type: none"> <li>• abx not routinely recommended</li> </ul>	<ul style="list-style-type: none"> <li>• usually viral</li> </ul>
<b>Acute Exacerbation of Chronic Bronchitis</b>	<ul style="list-style-type: none"> <li>• abx can be considered if signs of bacterial infection: sputum purulence AND at least one of increased sputum volume or increased dyspnea</li> <li>• ≤ 5 day course</li> </ul>	<ul style="list-style-type: none"> <li>• only 50 % of exacerbations are due to infection (viral and bacterial)</li> <li>• abx not routinely recommended</li> </ul>
<b>Acute otitis media</b>	<ul style="list-style-type: none"> <li>• watchful waiting for 2 – 3 days if mild to moderate: temp &lt; 38°C, mild pain for &lt; 48 hours</li> <li>• 5 day course children &gt;2 years of age</li> <li>• 10 day course children &lt;2 years of age, children with recurrent AOM or otitis media associated with perforated TM, and cases where initial therapy failed</li> </ul>	<ul style="list-style-type: none"> <li>• often viral</li> <li>• WHO guidelines: Consider &lt;3 days of abx (e.g., amoxicillin, azithromycin, ceftriaxone) for children &gt;2 years old with uncomplicated infections<sup>4</sup></li> </ul>
<b>Acute sinusitis</b>	<ul style="list-style-type: none"> <li>• abx not recommended unless s/sx worsen after initial improvement or persist &gt; 10 days</li> <li>• 5 day course of abx (exception: 3 days course of azithromycin)</li> </ul>	<ul style="list-style-type: none"> <li>• usually viral</li> </ul>
<b>Cellulitis</b>	<ul style="list-style-type: none"> <li>• 5 day course</li> </ul>	
<b>Cystitis, uncomplicated*</b>	<ul style="list-style-type: none"> <li>• 3 day course TMP-SMX</li> <li>• 5 day course nitrofurantoin</li> </ul>	<ul style="list-style-type: none"> <li>• check local resistance rates</li> <li>• 1 dose fosfomycin tromethamine – reserve for ESBL-producing bacteria</li> <li>• 3 day course fluoroquinolones – reserve for allergy, intolerance to 1<sup>st</sup> line abx or complicated cystitis</li> </ul>
<b>Pyelonephritis, uncomplicated*</b>	<ul style="list-style-type: none"> <li>• 5 day levofloxacin course</li> <li>• 7 day ciprofloxacin course</li> </ul>	
<b>Pneumonia, uncomplicated, community-acquired</b>	<ul style="list-style-type: none"> <li>• adult: ≥5 days AND patient afebrile &amp; clinically stable<sup>^</sup> for 24-48 hrs</li> <li>• pediatric: ≥7 days AND patient afebrile &amp; clinically stable<sup>^</sup> for 24-48 hrs</li> </ul>	
<p>*uncomplicated = otherwise healthy; <sup>^</sup>clinically stable = no more than one of: heart rate &gt; 100 beats per minute; respiratory rate &gt; 24 breaths per minute; or systolic blood pressure &lt; 90 mmHg            abx=antibiotics; ESBL = extended spectrum beta lactamase; s/sx = signs and symptoms; TMP-SMX = trimethoprim-sulfamethoxazole; WHO = World Health Organization</p>		

Shorter antibiotic protocols may not be suitable for patients who are immunosuppressed or have a history of recurrent infections.<sup>2,3</sup> The duration of treatment should NOT be shortened for the following conditions<sup>1-3</sup>:

- tuberculosis
- endocarditis
- osteomyelitis
- asymptomatic bacteriuria in pregnancy
- confirmed Group A streptococcal pharyngitis (10 day treatment is recommended to prevent rheumatic fever)

**Should patients still be routinely advised to finish all the medication in their antibiotic prescriptions?**

- **Yes, if there is a clear indication for the antibiotic and if the duration is based on current evidence (see Table 1), it is important patients complete the full course of therapy.<sup>5</sup> Keep in mind that dosing for short duration courses is often higher than previously recommended<sup>5</sup> so check current guidelines (e.g., RxTx Therapeutic Choices<sup>6</sup>, RxFiles<sup>7</sup>, Bugs&Drugs<sup>8</sup>) to ensure the appropriate dose is being used.**
- But in other situations, maybe not. There is no evidence that taking antibiotics past the time at which a patient's symptoms are resolved reduces antibiotic resistance or prevents relapse for most infections.<sup>1</sup> Recent medical journal articles by Infectious Disease specialists encourage prescribers to allow patients to stop taking antibiotics when their symptoms disappear.<sup>1,4</sup> Advise patients to check with their healthcare provider if their symptoms resolve before their antibiotic is finished to see if it is appropriate to stop taking the medication.

Prepared by Karen Jensen MSc, BSP

Reviewed by Dr. Yvonne Shevchuk PharmD, Carmen Bell BSP, Loren Regier BSP, Lynette Kosar BSP, Brent Jensen BSP  
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