

Carolina Antimicrobial Stewardship Program

Best Practices for Duration of Antimicrobial Therapy for the Most Common Infectious Syndromes

Too often, patients receive longer-than-needed antimicrobial treatment for common infections, when a shorter duration would be equally effective.

Duration recommendations are provided as a general guideline for therapy (IV or PO) with a goal of minimizing unintended consequences to the patient (e.g., precipitating *C. difficile* colitis, development of resistant pathogens, organ dysfunction). Patient-specific factors should influence duration decisions and transition to oral therapy.

Content

The evidence-based durations are divided into two tables:

1. Adult Durations for Common Conditions
2. Pediatric Durations for Common Conditions

Questions?

Page the Antibiotic Stewardship Program at 216-2398.

Infectious Diseases consultation recommended if diagnosis is not established or if patient does not respond to recommended therapies. These recommendations may not be appropriate for patients with significant immunocompromise (e.g., recent burn, transplant, or hematologic cancer).

Developed by UNC Medical Center Carolina Antimicrobial Stewardship Program

Approved by Anti-infective P&T Subcommittee and ACS-PPC August 2020

Table 1: Adult Durations for Common Conditions

SYNDROME	DURATION	COMMENTS	GUIDELINE
Lower respiratory tract infection			
Acute bronchitis	0 days (do not treat, 90% of cases are viral)		
Tracheitis	0 days (do not treat, treatment is not associated with clinical benefit)		
Community-acquired (CAP)	5 days minimum	Consider IV to PO switch if patient <38°C for 48-72 hours and no more than 1 CAP-associated sign of clinical instability	CAP, IDSA (CID 2007;4(S2):S27
Hospital-associated (HAP)	7 days		HAP/VAP, IDSA (CID 2016;63:e61)
Ventilator-associated (VAP)	7 days		
Acute exacerbation of COPD and chronic bronchitis	5 days	Reserve antibiotics for patient with acute exacerbation with physiologic compromise on top of chronic bronchitis or for COPD for patients with physiologic compromise, and worsening sputum purulence and either increased dyspnea or frequency of cough.	Bronchitis/COPD, HEDIS (link) , Am Fam Physician 2016; 94:560-65.
Skin and Soft Tissue			
Cellulitis and/or cutaneous abscesses (e.g., boils/furuncles)	5 days	All fluid collections and abscesses should be drained/debrided. Antibiotic therapy may not be needed for cutaneous abscess without surrounding cellulitis.	IDSA (CID 2014;59:e10-e52)
Urinary Tract			
Asymptomatic bacteriuria	0 days	Do not treat unless patient is pregnant or undergoing urologic procedure or manipulation.	IDSA (CID 2019;see IDSA web page)
Cystitis	5 days, nitrofurantoin 3 days, TMP/SMX 1 day, fosfomycin 4-7 days, oral beta-lactam		IDSA (CID 2011;52:e103e120)
Pyelonephritis	5-7 days (10-14 days if slow clinical response)	Appropriate for complicated and uncomplicated populations. Source control if appropriate; remove or replace urinary catheters.	IDSA (CID 2011;52:e103e120)
Pyelonephritis with bacteremia	7 days	<i>Enterobacteriaceae</i> from urinary source	CID 2019;69: 1091-1098.

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Table 1: Adult Durations for Common Conditions, continued

SYNDROME	DURATION	COMMENTS	GUIDELINE
Central Nervous System Infections			
Brain abscess Subdural empyema Spinal epidural abscess	6 weeks	ID consult highly recommended. Final duration guided by clinical response and re-imagining (e.g., CT, MRI).	Consensus*
Encephalitis, Herpes simplex 1 or 2	14-21 days	ID consult highly recommended.	IDSA (CID, 2008;47:303)
Meningitis		ID consult highly recommended. Do not obtain lumbar puncture for test of cure	IDSA (CID 2004;1267-1284)
<i>Neisseria meningitides</i>	7 days		
<i>Haemophilus influenzae</i>	7 days		
<i>Streptococcus pneumoniae</i>	10-14 days		
<i>Streptococcus agalactiae</i>	14-21 days		
Aerobic GNR	21 days		
<i>Listeria monocytogenes</i>	≥ 21 days		
<i>Clostridioides difficile</i> infection	10 days	Obtain test only if ≥3 watery stools in past 24 hours plus no laxatives in 48 hours. Discontinue offending antibiotics, if possible. Do not order test of cure.	CDC, IDSA (CID 2018;66:e1)
Diabetic Foot Infections			
Soft tissue only, mild	1 week	Follow-up recommended to assess response to therapy (i.e., resolution of purulence, erythema, and induration; presence of ulcer is not indication for continued therapy). Consider oral therapy for mild or moderate infection.	Consensus* IDSA (CID, 2012;54:132)
Soft tissue only, moderate	1-2 weeks		
Soft tissue only, severe	2 weeks		
Endocarditis	2-6 weeks based on pathogen, therapy and presence of prostheses	ID consult highly recommended.	IDSA (Circulation 2015;132:1435-86)
Intra-abdominal			
Hemodynamically stable patients following source control procedure	4 days		IDSA (CID 2010;50;133-64); NEJM 2015;372:1996-2005
Patients without source control or hemodynamically unstable	≥ 4 days	Recommend ID consult; longer durations may be required.	IDSA (CID 2010;50;133-64)

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Table 1: Adult Durations for Common Conditions, continued

SYNDROME	DURATION	COMMENTS	GUIDELINE
Osteomyelitis		ID consult highly recommended.	
<i>S. aureus</i>	6 weeks	May consider 1-3 months of rifampin-based combination therapy following initial 6 weeks; consider prolonged therapy for chronic infection or if debridement not performed.	Consensus*
Other bacterial pathogens	4 weeks from last major operative debridement		Consensus*
Vertebral	6 weeks		IDSA (CID 2015;61:e26-e46)
Amputation with all infected tissue removed	24-48 hours		Consensus*
Amputation with residual infected tissue and bone	6 weeks		Consensus*
Pharyngitis, streptococcal	5 days: azithromycin		IDSA (CID, 2012;55:e86)
	10 days: β -lactam, clindamycin, clarithromycin		
Septic arthritis (no prosthetic or hardware involved)		ID consult highly recommended.	
Gonorrhea	7 days		
Other bacterial pathogens	3 weeks	May change to oral therapy after 1 week	
Tick-Borne Diseases			
Rocky Mountain spotted fever	5-7 days (at least 3 days after cessation of fever)	Doxycycline is the first-line therapy for adults (including pregnant patients) and children of all ages.	CDC (see web pages)
Ehrlichiosis	5-7 days (at least 3 days after cessation of fever)		
Anaplasmosis	10-14 days		

CDC, Centers for Disease Control and Prevention (www.cdc.gov); CID, Clinical Infectious Diseases; COPD, chronic obstructive pulmonary disease; GNB, Gram-negative bacilli; IDSA, Infectious Disease Society of America (idsociety.org)

*"Consensus" reflects review of current clinical data by the UNC Antimicrobial Stewardship Program

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Table 2: Pediatric Durations for Common Conditions

SYNDROME	DURATION	COMMENTS	GUIDELINE
Neonatal Group B Streptococcal Infections (0-2 months of age)			
Urinary tract infection without meningitis	10 days	ID consult highly recommended. Meningitis must be definitively ruled out to use shorter durations.	AAP Red Book 2018: "Group B Streptococcal Infections"
Bacteremia without meningitis	10 days		
Meningitis	14->21 days		
Septic arthritis and/or osteomyelitis	3-4 weeks		
Central Nervous System Infections			
Brain abscess Subdural empyema Spinal epidural abscess <i>Meningitis (see below)</i>	6 weeks	ID consult highly recommended. Final duration guided by clinical response and re-imaging (e.g., CT, MRI)	Consensus*
Neonatal HSV Infection			
Skin, eyes, mucous membranes (SEM) Disseminated Central nervous system (CNS)	14 days 21 days ≥ 21 days	ID consult highly recommended. For CNS disease, documentation of HSV clearance from CSF is recommended prior to antiviral discontinuation.	AAP Red Book
Clostridioides difficile infection	10 days (refer to adult guidelines above)	Obtain test only if ≥3 watery stools in past 24 hours plus no laxatives in 48 hours. Discontinue offending antibiotics, if possible. Do not order test of cure.	CDC, IDSA (CID 2018;66:e1)
Endocarditis	2-6 weeks based on pathogen, therapy and presence of prostheses	ID consult highly recommended.	IDSA (Circulation 2015;132:1435-86)
Pediatric Community-acquired Pneumonia (CAP)	10 days	Longer courses may be required for complicated CAP	IDSA (CID 2011; 53(7))
Healthcare-associated respiratory infections			
Ventilator-associated pneumonia Healthcare-associated pneumonia Tracheitis	Refer to adult guidelines above, "Lower respiratory tract infections"		HAP/VAP, IDSA (CID 2016;63:e61)
Bacterial Meningitis (≥3 months of age)	Refer to adult guidelines above	ID consult highly recommended.	IDSA (CID 2004;1267-1284)

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Table 2: Pediatric Durations for Common Conditions, continued

SYNDROME	DURATION	COMMENTS	GUIDELINE
Pediatric Musculoskeletal Infections			
Osteomyelitis	4-6 weeks	ID consult highly recommended. Duration dependent upon response to therapy.	Local guidelines: “Pediatric Musculoskeletal Infection” in the UNC PEM Portal
Septic arthritis	3-4 weeks		
Pyomyositis	3 weeks		
Tick-Borne Infections	Refer to adult guidelines above.		CDC (see web pages)
Urinary Tract Infections (≥2 months of age)			
Febrile UTI, children ≤12 years	7-14 days	Durations in the longer end of the range may be needed with significant functional and/or anatomic abnormalities of the urinary tract.	Pediatrics 2011 Sep;128(3):595-610
UTI without fever, children ≤12 years	3-5 days		
UTI, child >12 years of age	Refer to adult guidelines above		
Pediatric appendicitis			
Uncomplicated (no perforation)	Discontinue after appendectomy	For perforated appendicitis, transition to PO antibiotics is acceptable if meeting discharge criteria. See guidelines.	Local guidelines: “Pediatric Appendicitis Pathway” in the UNC PEM Portal
Perforated	7 days		
Acute otitis media			
≤2 years	10 days	Ceftriaxone indicated only after failure of amoxicillin-clavulanate or oral third-generation cephalosporin or in patient who is truly intolerant of oral antibiotics.	Pediatrics 2013;131:e964–e999
2-5 years	7 days		
≥6 years	5-7 days		
Skin and soft tissue infection			
Cellulitis or drained abscess	5 days	Refer to adult guideline. ID consultation recommended for more complicated infections.	
Staphylococcal scalded skin syndrome	7 days		
Streptococcal pharyngitis	Beta-lactam, clindamycin: 10 days Azithromycin: 5 days	Beta-lactams (penicillin or ampicillin) are first-line therapy.	IDSA (CID, 2012;55:e86)

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