MaineHealth

Antimicrobial Oral Transitions & Duration for Uncomplicated Infections in Adult Patients

Purpose:

This guideline is meant to provide direction for transition to oral antibiotic therapy for patients with uncomplicated infections. **Over half of antibiotics prescribed at discharge are not optimized.** This is due to prescribing courses of antibiotics beyond the necessary or recommended duration, inappropriate antibiotic for treatment indication or sub-optimal dosing. Inappropriate antibiotic prescribing contributes to development of drug-resistant organisms, *C. difficile* infection, and antibiotic adverse drug events.

General Considerations:

1. Please note, this guideline is not meant to supersede clinical judgment. These are general guidelines based on IDSA clinical practice guidelines and results of recently published randomized clinical trials and high quality retrospective studies. Consider discussion with ID or antimicrobial stewardship (ASP) in special populations:

This guideline may NOT apply to patients with:
Presence of an unresolved nidus for infection (e.g., residual or undrained abscess, empyema, infected ureteral stone)
Immunocompromised (e.g., solid organ transplant, hematologic malignancy, on immunosuppressant[a])
Presence of pathologic/altered anatomy (e.g., structural lung disease in setting of pneumonia, presence of prosthetic material)

aActive treatment with high-dose corticosteroids (i.e., ≥20 mg prednisone daily for >2 weeks), alkylating agents, antimetabolites, transplant-related immunosuppressive drugs, cancer chemotherapy classified as severely immunosuppressive, TNF blockers, or other biologic agents that are immunosuppressive or immunomodulatory

2. When available, **always confirm susceptibility** of bacterial isolates; suggested antibiotics are those commonly recommended based on source of infection, the most likely pathogen(s), and percentage of susceptible isolates based on the MaineHealth Antibiogram.

3. **Consultation with Infectious Diseases (ID) is recommended for bacteremia with *Staphylococcus aureus*, *Staphylococcus lugdunensis, Enterococcus spp.*** or fungemia.

4. Consider patient factors such as age, body weight, and renal function when selecting appropriate dosages. Refer to the MaineHealth Antibiotic Renal Dosage Adjustment Policy or consider discussion with ASP for antibiotic selection, duration, and dosage optimization.

Diagnosis	Typical Pathogens	Oral Antibiotic	Total Duration (Subtract IV days from count)
Uncomplicated Bacteremia[a]			
Uncomplicated Gram-negative Bacteremia (Excluding *Pseudomonas & Acinetobacter spp*.)	Enterobacterales[b]	**Culture-directed therapy with confirmed antibiotic susceptibility:**	
		TMP/SMX 1-2 DS tab BID	7 days
		Ciprofloxacin 500-750 mg BID	7 days
		Levofloxacin 750 mg daily	
		Amoxicillin/clavulanate 875/125 mg BID or TID	7-14 days
		Cephalexin 1000 mg TID or 1000 mg QID	
		Cefpodoxime 400 mg BID	
Uncomplicated Streptococcal bacteremia	*Streptococcus spp.*	**Culture-directed therapy with confirmed antibiotic susceptibility:**	
		Amoxicillin 1000 mg TID	14 days
		Cephalexin 1000 mg TID or 1000 mg QID	
		Cefpodoxime 400 mg BID	
		Levofloxacin 750 mg daily	
		Severe Beta-lactam allergy: Linezolid 600 mg BID	
Urinary Tract Infection[c]			
Symptomatic, Acute Cystitis Asymptomatic bacteriuria only requires treatment in patients who are pregnant or undergoing future urologic procedure	Enterobacterales[b]	**Preferred**	
		TMP/SMX 1 DS tab BID	3 days
		Nitrofurantoin 100 mg BID (if CrCl >30)	5 days
		Alternatives	
		Amoxicillin-Clavulanate 875-125 mg BID	3-5 days
		Cephalexin 500 mg BID	
		Cefpodoxime 200 mg BID	
		Cefdinir 300 mg BID (only if alternative beta-lactam not available)	
		Ciprofloxacin 500 mg BID or Levofloxacin 500 mg daily	3 days
		Fosfomycin 3 g x1 dose (*E. coli & E. faecalis* & CrCl >20ml/min)	1 dose
Pyelonephritis, complicated UTI (Excluding infection due to *Pseudomonas* spp., or bacterial prostatitis)	Enterobacterales[b]	TMP/SMX 1 DS tab BID	7 days
		Ciprofloxacin 500 mg BID or Levofloxacin 750 mg QD	5-7 days
		Cefpodoxime 200 mg BID	7-14 days
		Amoxicillin/clavulanate 875-125 mg BID	7-14 days

[a] Uncomplicated bacteremia is defined as bloodstream infection meeting the ALL of the following criteria: 1. Source secondary to UTI, intra-abdominal or biliary infection, pneumonia (without structural lung disease, empyema/abscess, cystic fibrosis), or skin and soft tissue infection 2. Source control achieved 3. Patient is not immunocompromised 4. Clinical improvement observed within 72 hours of effective antibiotic treatment 5. Patient has no evidence of complicated infection (e.g., endocarditis, CNS infection, osteomyelitis)
[b] Examples of organisms belonging to Enterobacterales order includes *Escherichia coli*, *Klebsiella* spp., *Enterobacter* spp., *Citrobacter* spp.
[c] This includes infections having undergone adequate source control procedure. Infections with renal abscess, or a persistent nidus for infection such as a retained infected kidney stone, infected hardware & prosthesis requires further source control and/or longer duration of therapy.

Diagnosis	Typical Pathogens	Oral Antibiotic		Total Duration (Subtract IV days from count)
Skin and Soft Tissue Infections (Excluding deep seated infection e.g., myositis, fasciitis, osteomyelitis, septic arthritis)[b]				
Non-Purulent Cellulitis (Non-purulent, without abscess)	*Streptococcus & Staphylococcus spp.*	Cephalexin 500 mg QID or 1000 mg TID		5 days (extension of therapy could be considered if slow clinical response)
		Cefadroxil 500-1000 mg BID		
		Amoxicillin 500-1000 mg TID		
		Amoxicillin/clavulanate 875/125 mg BID		
		Severe Beta-lactam Allergy: Linezolid 600mg BID		
Purulent Cellulitis	*Staphylococcus spp. Including MRSA*	Bactrim 1-2 DS tablets BID		5 days (extension of therapy could be considered if slow clinical response)
		Doxycycline 100 mg BID		
		Cefadroxil 500-1000 mg BID or Cephalexin 500 mg QID (if MSSA)		
		Alternatives: Linezolid 600 mg BID		
Intra-Abdominal Infection, Community-Acquired				
• **Cholecystitis** • **Cholangitis** • **Diverticulitis** • **Drained abscess**	Enterobacterales[a], Enteric anaerobes, *Streptococcus spp.*	**Empiric options when culture data is unavailable**		Following adequate source control: 4 days Non-ICU 7-8 days ICU
		Amoxicillin/clavulanate 875/125 mg BID		
		Ciprofloxacin 500mg BID or Levofloxacin 750 mg daily + Metronidazole 500 mg BID		
		Cefpodoxime 400 mg BID + Metronidazole 500 mg BID		
Respiratory Infection[c]				
Non-ICU Pneumonia, Community-Acquired	Typical pathogens: *S. pneumoniae, H. influenzae* Atypical pathogens: *M. pneumoniae, C. pneumophilia, Legionella* spp.	**PO Beta-lactam + Azithromycin 500 mg** OR **PO Beta-lactam + Doxycycline 100 mg BID**	**Preferred PO Beta-lactams:**	**Preferred:** Beta-lactam x5 days + Azithromycin x3 days OR Beta-lactam x5 days + Doxycycline x5 days
			Amoxicillin/clavulanate 875/125mg BID	
			Cefpodoxime 200 mg BID	
			Cefdinir 300 mg BID	
		Alternative for Beta-lactam allergy: Levofloxacin 750 mg daily		Levofloxacin x5 days
Pneumonia, Hospital-Acquired & Ventilator-Associated	MSSA, MRSA, Enterobacterales[a] & *P. aeruginosa*	Selection should be guided by isolated pathogen and susceptibility. Consider consultation with ID or ASP for MDR-Enterobacterales[a] or resistant *Pseudomonas* & *Acinetobacter* spp. The longer suggested ranges of duration may be used in severe disease or slow response.		**Enterobacterales**[a]**:** 7 days ***P. aeruginosa*:** 7-14 days **MSSA:** 7-14 days **MRSA:** 7-14 days

[a]Examples of organisms belonging to Enterobacterales order includes *Escherichia coli*, *Klebsiella* spp., *Enterobacter* spp., *Citrobacter* spp.

[b]For persons actively using substances, prioritize BID dosing over QID. Consider patient structural determinants of health (e.g. if unhoused, doxycycline may cause photosensitivity).

[c]Recommended duration of therapy falls under the pretense of an uncomplicated infection. Those with concomitant bacteremia, structural lung disease, pulmonary abscess, empyema or complicated parapneumonic effusion require source control and/or longer duration of therapy.

References:

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