



Indications for Outpatient Parenteral Antimicrobial Therapy (OPAT)

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Oral antimicrobial therapy is adequate for most infections, so long as the causative organisms are known or likely to be susceptible to oral agents and the patient is able to take food and has normal gastrointestinal absorption. Even for severe infections in which initial IV therapy is often warranted (e.g. infective endocarditis, osteomyelitis), subsequent transition to oral therapy may be appropriate at some point in some cases. Given that OPAT is costly, burdensome to patients (e.g. limiting patients' ability to bathe, shower, or dress themselves without assistance), and associated with frequent complications (e.g. phlebitis, deep venous thrombosis, and bloodstream infection), every effort should be made to either stop intravenous antibiotics or transition to oral agents in hospitalized patients prior to discharge. Please refer to the institutional [algorithm for appropriateness and selection of VADs](#) for guidance.

The following is not intended as inflexible or dogmatic criteria for use of OPAT at UNMC, nor is it meant to supplant individual clinical judgement. However, these criteria are based on the UNMC Antibiotic Stewardship Program's guidance for antibiotic therapy and capture the majority of appropriate use cases for OPAT. Hence, **the OPAT team recommends inpatient Infectious Diseases consultation prior to requests for OPAT that fall outside of the indications below.**

Infection:	Antibiotic guidance:
Community-acquired pneumonia (CAP)	<p>OPAT is not routinely indicated. In patients who have had clinical improvement on empiric IV therapy and are ready for discharge, give targeted therapy based on microbiology data or consider switch to oral agents with a similar spectrum:</p> <p>Ceftriaxone → amoxicillin-clavulanate, or cefuroxime IV azithromycin, doxycycline, levofloxacin → oral formulations, or consider oral beta-lactam monotherapy in patients without risk factors for or proven pneumonia due to atypical pathogens</p> <p>Empiric antipseudomonal and anti-MRSA therapy (not routinely indicated in CAP) should be discontinued if those organisms are not recovered from sputum culture. In cases where patients at high risk for carriage of nosocomial pathogens develop CAP and no high-quality sputum culture data are available, consider completing the empiric IV antibiotic course as inpatient (at least 5 days or until an initially elevated procalcitonin is < 0.25), or consult Infectious Diseases.</p>
Hospital-acquired and Ventilator-associated pneumonia (HAP/VAP)	<p>OPAT is not routinely indicated. In patients who have had clinical improvement on empiric IV therapy and are ready for discharge, give targeted therapy based on microbiology data or complete the empiric IV antibiotic course as inpatient (total 7-8 days or until an initially elevated procalcitonin is < 0.25), or consult Infectious Diseases.</p>

<p>Urinary tract infection (including complicated UTI and pyelonephritis)</p>	<p>OPAT is not routinely indicated. For uncomplicated cystitis, all first-line (nitrofurantoin, trimethoprim-sulfa, and fosfomycin) and second-line (ciprofloxacin, levofloxacin, amoxicillin-clavulanate, cefdinir, and cefuroxime) agents have oral formulations. For non-severe pyelonephritis and complicated UTI, oral ciprofloxacin, levofloxacin, or trimethoprim-sulfa all have oral formulations.</p> <p>For patients who initially required hospitalization for severe pyelonephritis or complicated UTI and are now appropriate for discharge, switch from empiric IV beta-lactams to targeted oral therapy (e.g. a quinolone, trimethoprim-sulfa, or a cephalosporin) based on microbiology data, or consult Infectious Diseases.</p> <p>For UTIs due to multidrug resistant organisms (e.g. ESBL-producing <i>E. coli</i> with resistance to quinolones and trimethoprim-sulfa), first confirm that the clinical presentation reflects UTI rather than asymptomatic bacteriuria, then consider treatment with nitrofurantoin (if no pyelonephritis/bacteremia and CrCL>40), fosfomycin (if no pyelonephritis/bacteremia), or IM ertapenem (if the remaining course of therapy is 3 days or fewer).</p>
<p>Intrabdominal infection (IAI) with adequate source control</p>	<p>OPAT is not routinely indicated. Patients with uncomplicated intraabdominal infections who receive adequate source control (e.g. washout and repair of perforated appendicitis, percutaneous abscess drainage) can be treated with a short, 4-7 day course of antimicrobials. Oral treatment options include amoxicillin/clavulanate monotherapy or metronidazole plus levofloxacin/ciprofloxacin/cefuroxime/cefdinir. If there are no oral options based on microbiology data, complete IV therapy while the patient is in the hospital.</p>
<p>Intrabdominal infection (IAI) without adequate source control</p>	<p>OPAT is often indicated. These infections are often highly complex and such patients generally benefit from Infectious Diseases consultation.</p>
<p>Skin and soft tissue infection (SSTI) excluding surgical site infection</p>	<p>OPAT is not routinely indicated. In patients with nonpurulent SSTI who have had clinical improvement and are ready for discharge, give an oral agent active against streptococci and MSSA (e.g. dicloxacillin, cephalexin, cefadroxil; for PCN-allergic patients, clindamycin).</p> <p>In patients with purulent SSTI or severe/recalcitrant nonpurulent SSTI that improved only with IV antibiotics active against MRSA who are now ready for discharge, give oral trimethoprim-sulfamethoxazole, doxycycline, or minocycline (first-line), or linezolid (second-line).</p> <p>In patients with diabetic foot infection (DFI) without osteomyelitis who have improved on IV therapy, give antibiotics targeted to microbiologic data or consider a switch to oral agents with a similar spectrum: amoxicillin-clavulanate (preferred; add trimethoprim-sulfa or doxycycline/minocycline if any history of MRSA) or levofloxacin plus either trimethoprim-sulfa or doxycycline/minocycline (moderate DFI), or clindamycin (severe DFI).</p>

	For patients with severe SSTI associated with human or animal bite wounds, necrotizing SSTI, and SSTI due to unusual pathogens (i.e. <i>V. vulnificus</i> , <i>C. canimorsus</i>), antibiotics should be managed in consultation with Infectious Diseases.
Surgical site infection (SSI) involving “clean” sites (e.g. trunk, head/neck, and extremities)	OPAT is not routinely indicated. Patients with SSI of “clean” sites who improved on IV therapy targeting <i>S. aureus</i> (e.g. cefazolin, oxacillin for MSSA; vancomycin for MRSA) should be treated with an oral agent with similar spectrum (e.g. cephalexin, dicloxacillin for MSSA; doxycycline/minocycline or trimethoprim-sulfa for MRSA).
Surgical site infection (SSI) Involving the GI tract, female GU tract, or perineum	OPAT may be indicated. Patients with SSI involving the GI tract, female GU tract, or perineum who have culture data showing organisms susceptible to oral agents (e.g. quinolones and metronidazole) can be switched to oral therapy. Patients who have infections with undefined microbiology who improve on broad-spectrum IV therapy are generally continued on their empiric regimen for 5-14 days based on clinical response.
Bone and joint infections	OPAT is often indicated. Mounting evidence supports the equivalence of oral versus intravenous antibiotics for bone and joint infections (Li HK et al, NEJM 2019). That said, intravenous antibiotics are frequently employed as initial therapy and may be continued for the duration when infected hardware is present, in patients at high risk for a poor outcome (e.g. MRSA, incomplete source control), and when the microbiologic etiology of the infection is not known. Strongly consider Infectious Disease consultation.
Endovascular infections (including bacteremia, catheter-related bloodstream infections, septic thrombophlebitis, and endocarditis)	OPAT is often indicated. Emerging data suggests that under select circumstances, gram-negative blood stream infection (Kutob LF et al, Int J Antimicrob Agents 2016), low-risk <i>S. aureus</i> bacteremia (Willekens R et al, CID 2018), and even infective endocarditis (Iverson K et al, NEJM 2019) may be treated with oral antibiotic therapy. That said, data are too limited to make general recommendations about oral treatment of endovascular infections. The decision to use oral agents as definitive antibiotic therapy for an endovascular infection should always be made in consultation with Infectious Diseases.

For additional guidance in selecting antibiotic therapy based on infectious syndrome, see the following UNMC Antimicrobial Stewardship Program institutional guidance documents:

[Antibiotic recommendations for severe sepsis and septic shock](#)

[Community-acquired pneumonia recommendations](#)

[Hospital-acquired and ventilator-associated pneumonia recommendations](#)

[Diabetic foot infection recommendations](#)

[Skin and soft tissue infection recommendations](#)

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