



## RESTRICTED ANTIMICROBIALS REQUIRING AST APPROVAL IN PATIENTS ON ADULT SERVICES

Use of certain antimicrobial agents is restricted at Michigan Medicine. Agents are classified as Tier I or Tier II agents depending on whether Antimicrobial Stewardship Team (AST) approval is required prior to dispensing.

### TIER I RESTRICTED ANTIMICROBIALS

The use of the following agents (i.e., Tier I agents) requires AST (pager #30780) or ID approval prior to dispensing between the hours of 0700 and 2300. Please consult appropriate treatment guidelines.

Note: The below indications generally refer to appropriate EMPIRIC use. When cultures are available, antibiotic therapy should be escalated/de-escalated as appropriate based on organism and susceptibility. Restricted agents should only be utilized if narrower-spectrum agents are resistant or otherwise inappropriate. When cultures are not available, please refer to individual treatment guidelines for appropriate definitive therapy strategies.

UMHHC Policy 07-01-015 ([“Use of Infectious Diseases Restricted Antimicrobials”](#))

All treatment guidelines are available on the [Antimicrobial Stewardship page](#)

| Restricted Antimicrobial               |                                      |   |  |
|--|--------------------------------------|---|--|
| <a href="#">Baloxavir</a>              | <a href="#">Ertapenem</a>            | <a href="#">Liposomal Amphotericin B</a>                | <a href="#">Posaconazole delayed-release tablets &amp; PO suspension</a> |
| <a href="#">Cefiderocol</a>            | <a href="#">Ethanol Lock Therapy</a> | <a href="#">Meropenem</a>                               | <a href="#">Posaconazole IV</a>  |
| <a href="#">Ceftazidime-avibactam</a>  | <a href="#">Fidaxomicin</a>          | <a href="#">Meropenem-vaborbactam</a>                   | <a href="#">Quinupristin-dalfopristin</a>                                |
| <a href="#">Ceftaroline</a>            | <a href="#">Imipenem</a>             | <a href="#">Micafungin</a>                              | <a href="#">Remdesivir</a>   |
| <a href="#">Ceftolozane-tazobactam</a> | <a href="#">Imipenem-relebactam</a>  | <a href="#">Minocycline IV</a>                          | <a href="#">Inhaled Ribavirin</a>  |
| <a href="#">CMV-IGIV</a>               | <a href="#">Isavuconazole</a>        | <a href="#">Moxifloxacin</a>                            | <a href="#">Tigecycline</a>  |
| <a href="#">Daptomycin</a>             | <a href="#">Letermovir</a>           | <a href="#">Peramivir</a>                               | <a href="#">Voriconazole</a>   |
| <a href="#">Eravacycline</a>           | <a href="#">Letermovir</a>           | <a href="#">Polymyxins (Colistin &amp; Polymyxin B)</a> |  |

| Restricted Medication  | Approved Reasons for Use   |
|------------------------|--|
| Baloxavir              | <ul style="list-style-type: none"> <li>Influenza A or B infection with neuraminidase inhibitor-resistant strains</li> </ul>  |
| Cefiderocol            | <ul style="list-style-type: none"> <li>Generally, for MDR/XDR <i>Pseudomonas aeruginosa</i>, use of cefiderocol should be considered when other novel agents are resistant (ceftolozane-tazobactam, imipenem-relebactam, meropenem-vaborbactam, ceftazidime-avibactam). <ul style="list-style-type: none"> <li>If all are susceptible, ceftolozane-tazobactam remains our preferred agent for treatment of MDR/XDR <i>Pseudomonas aeruginosa</i>.</li> <li>If only resistance to only ceftolozane-tazobactam is seen, consultation with an infectious diseases pharmacist should occur for selection of the best agent for treatment.</li> </ul> </li> <li>For MDR <i>Acinetobacter baumannii</i>, combination therapy with cefiderocol should be considered, if susceptible (e.g., minocycline and cefiderocol may be appropriate for severe infections).</li> <li>For <i>Stenotrophomonas maltophilia</i> that is resistant to levofloxacin, sulfamethoxazole-trimethoprim, minocycline, and ceftazidime, use of cefiderocol should be considered.</li> <li>For CRE, meropenem-vaborbactam remains our preferred treatment for KPC-producing bacteria. Use of cefiderocol should be considered for MBL-producers and OXA-producers.</li> </ul>   |
| Ceftazidime-avibactam  | <ul style="list-style-type: none"> <li>Treatment of documented carbapenamase-producing Enterobacteriaceae infection requiring intravenous therapy AND resistance or intolerance to all other beta-lactams, fluoroquinolones, and aztreonam.</li> </ul>   |
| Ceftaroline            | <ul style="list-style-type: none"> <li>Treatment of Staphylococcus aureus bacteremia <ul style="list-style-type: none"> <li>Alternative therapy to vancomycin and daptomycin, depending on specific scenario (see complete recommendations)</li> </ul> </li> </ul>   |
| Ceftolozane-tazobactam | <ul style="list-style-type: none"> <li>Treatment of documented ceftolozane-tazobactam-susceptible Pseudomonas infection requiring intravenous therapy AND resistance or intolerance to all other beta-lactams, fluoroquinolones, and aztreonam.</li> </ul>   |
| CMV-IGIV               | <ul style="list-style-type: none"> <li>Documented CMV pneumonitis in combination with antiviral agent against CMV</li> <li>Severe life-threatening or progressive end-organ disease in combination with antiviral agent against CMV</li> <li>Consider in BMT patients if persistent or increasing CMV viremia after 21 days of ganciclovir or foscarnet in patients without end-organ disease</li> <li>Prophylaxis in recipient -/donor + lung transplant patients per UMHS guidelines</li> </ul>  |
| Daptomycin             | <ul style="list-style-type: none"> <li>Surgical prophylaxis as per “Surgical Antimicrobial Prophylaxis Guidelines”</li> <li>Empiric therapy for suspected VRE infections in patients receiving vancomycin with cultures demonstrating gram-positive cocci</li> <li>Empiric therapy for ICU, transplant, and/or heme/onc patients with gram + cocci in pairs/chains from blood or other sterile sites</li> <li>Empiric therapy for patients with E. faecium from blood pending susceptibilities</li> <li>Documented MRSA or MRSE infection with documented allergy or intolerance to vancomycin</li> <li>Documented infection due to vancomycin intermediate or resistant <i>Staph aureus</i> (MIC ≥4 mg/L)</li> <li>Documented VRE infections; exception – urinary tract infections that are susceptible to alternative agents such as, ampicillin, doxycycline, or nitrofurantoin, etc.</li> <li>Treatment of Bone and Joint Infections <ul style="list-style-type: none"> <li>Alternative to vancomycin in patients with vancomycin allergy</li> </ul> </li> <li>Treatment of Infective Endocarditis <ul style="list-style-type: none"> <li>Enterococci strains resistant to vancomycin, aminoglycosides, and penicillin</li> <li>Alternative for vancomycin allergy or failure in endocarditis due to methicillin-resistant staphylococci</li> </ul> </li> <li>Treatment of Staphylococcus aureus bacteremia <ul style="list-style-type: none"> <li>Alternative therapy to vancomycin, depending on specific scenario (see complete recommendations)</li> </ul> </li> </ul> |

| Restricted Medication | Approved Reasons for Use  |
|-----------------------|---|
| Eravacycline          | <ul style="list-style-type: none"> <li>Community-acquired, mild-moderate intra-abdominal infections who cannot tolerate formulary alternatives such as cefuroxime + metronidazole, ciprofloxacin + metronidazole, or vancomycin + aztreonam + metronidazole. Eravacycline, like tigecycline, may have a role in mixed intra-abdominal infections with VRE. Due to cost, eravacycline should be preferred to tigecycline for these indications.</li> <li>Eravacycline should not be used for urinary tract infections. There is insufficient data supporting the efficacy of eravacycline for other infections, including more complicated intra-abdominal infections or infections due to multi-drug resistant <i>Acinetobacter</i>. Use tigecycline preferentially until such data supporting eravacycline emerge.</li> </ul>  |
| Ertapenem             | <ul style="list-style-type: none"> <li>As a one-time dose prior to discharge for patients with polymicrobial infections requiring broad-spectrum therapy in which once-daily therapy is necessary or advantageous in the outpatient setting.</li> <li>De-escalation of therapy for infections caused by ESBL producing organisms and resistant gram negatives (resistant to piperacillin-tazobactam or cefepime) where ertapenem is susceptible or in cases where allergy precludes use of other beta-lactams and organism is sensitive to ertapenem. Recall that, contrary to meropenem-imipenem, ertapenem is <b>not</b> active against <i>Pseudomonas</i> or <i>Acinetobacter</i> spp</li> </ul>   |
| Ethanol Lock Therapy  | <ul style="list-style-type: none"> <li>Eligible patients are those with either a history of recurrent CVAD related bloodstream infections or are at risk of limited venous access (venous access in patients who require anticipated long-term (i.e., &gt;6 months), have poor vascular access, or are at risk of losing venous access during periods of treatment).</li> <li>There are extensive exclusion criteria. See complete guideline on Antimicrobial Stewardship website for full criteria for use.</li> </ul>   |
| Fidaxomicin           | <ul style="list-style-type: none"> <li>Reserved for consideration of treatment of <i>C. difficile</i> infection in patients with documented recurrent disease who failed a recent oral vancomycin taper.</li> </ul>   |
| Imipenem              | <ul style="list-style-type: none"> <li>Patients with a documented infection due to a gram-negative organism resistant to all other <math>\beta</math>-lactam antibiotics AND meropenem but susceptible to imipenem</li> <li>Patients with infections due to <i>Nocardia</i> spp.</li> </ul>   |
| Imipenem-Relebactam   | <ul style="list-style-type: none"> <li>Infections due to MDR <i>Pseudomonas</i>, Ceftolozane-tazobactam will remain our drug of choice for MDR <i>pseudomonas</i>, if susceptible. Taking into consideration susceptibilities of other novel agents and co-infections, imipenem-cilastatin-relebactam may be considered for use when resistance to ceftolozane-tazobactam has been confirmed. Consultation with an ID pharmacist is recommended.</li> <li>Infections due to CRE, meropenem-vaborbactam will remain the drug of choice for KPC-producing CRE. For OXA-producing CRE, ceftazidime-avibactam or cefiderocol will generally be used. However, in rare instances when resistance to meropenem-vaborbactam or ceftazidime-avibactam is confirmed, Imipenem-cilastatin-relebactam may be used if susceptible in consultation with ID pharmacists.</li> </ul> |
| Isavuconazole         | <ul style="list-style-type: none"> <li>Treatment of aspergillosis: in patients intolerant to voriconazole (preferred over posaconazole), specifically in regards to hepatotoxicity and QT prolongation. In regards to visual disturbances and hallucinations, continuation of voriconazole therapy is usually feasible with appropriate adjustment of dosing.</li> <li>Treatment of mucormycosis: <ul style="list-style-type: none"> <li>Step-down therapy: After clinical improvement with Liposomal Amphotericin B</li> <li>Salvage therapy: In patients unable to tolerate Liposomal Amphotericin B due to severe adverse effects.</li> </ul> </li> </ul>  |

| Restricted Medication | Approved Reasons for Use  |
|-----------------------|---|
| Letermovir            | <ul style="list-style-type: none"> <li>• Prophylaxis in CMV-seropositive allogeneic HSCT recipients with at least one of the following risk factors:               <ul style="list-style-type: none"> <li>○ Cord blood transplant recipient</li> <li>○ Receipt of a T-cell depleting agent: alemtuzumab, thymoglobulin, ATG</li> <li>○ Acute GVHD requiring <math>\geq 1</math> mg/kg/day of steroids within the first 100 days following transplant unless valganciclovir is deemed appropriate</li> </ul> </li> <li>• Letermovir should be initiated no earlier than Day +10 following transplant and should be continued for 3 months following initiation.</li> <li>• Outpatient insurance coverage for letermovir should be verified.</li> </ul>   |
| Linezolid             | <ul style="list-style-type: none"> <li>• Treatment of Bone and Joint Infections               <ul style="list-style-type: none"> <li>○ Alternative for vancomycin in patients with vancomycin allergy</li> </ul> </li> <li>• Treatment of Vertebral Osteomyelitis, Discitis, and Spinal Epidural Abscess               <ul style="list-style-type: none"> <li>○ Vancomycin allergy or intolerance</li> </ul> </li> <li>• Treatment of Infective Endocarditis               <ul style="list-style-type: none"> <li>○ Enterococci strains resistant to vancomycin, aminoglycosides, and penicillin</li> </ul> </li> <li>• Treatment of Intra-Abdominal Infections               <ul style="list-style-type: none"> <li>○ Critically ill liver transplant recipients, patients with a previous history of VRE intra-abdominal infection, or patients with septic shock who are colonized with VRE</li> </ul> </li> <li>• Treatment of Staphylococcus aureus bacteremia               <ul style="list-style-type: none"> <li>○ Alternative therapy to vancomycin and daptomycin, depending on specific scenario (see complete recommendations)</li> </ul> </li> <li>• Treatment of Skin and Soft Tissue Infections in adult patients               <ul style="list-style-type: none"> <li>○ Purulent cellulitis                   <ul style="list-style-type: none"> <li>▪ Alternative in patients intolerant to vancomycin</li> </ul> </li> <li>○ Superficial Surgical Site Infections                   <ul style="list-style-type: none"> <li>▪ Alternative for patients with high risk of MRSA or PCN/cephalosporin allergy and vancomycin allergy</li> </ul> </li> <li>○ Deep Tissue Surgical Site Infections or any SSI complicated by sepsis/septic shock                   <ul style="list-style-type: none"> <li>▪ Alternative for patients with vancomycin allergy</li> </ul> </li> <li>○ Traumatic Wound Infections of Extremity                   <ul style="list-style-type: none"> <li>▪ Patients at high risk of MRSA with vancomycin allergy</li> <li>▪ Patients with sepsis and traumatic wound infection or development of infection &gt;5 days after injury or significant water exposure with vancomycin allergy</li> </ul> </li> <li>○ Complicated SSTI without osteomyelitis                   <ul style="list-style-type: none"> <li>▪ Alternative for vancomycin resistance, intolerance, or allergy</li> </ul> </li> </ul> </li> <li>• Treatment of Pneumonia               <ul style="list-style-type: none"> <li>○ Non-ICU patients:                   <ul style="list-style-type: none"> <li>▪ No improvement or worsening pulmonary status with documented MRSA pneumonia after 3 days of vancomycin therapy</li> <li>▪ MRSA pneumonia with vancomycin MIC <math>\geq 2</math> mg/L</li> <li>▪ MRSA pneumonia with co-existent acute renal failure</li> <li>▪ MRSA pneumonia with respiratory failure</li> </ul> </li> <li>○ ICU patients:                   <ul style="list-style-type: none"> <li>▪ Gram-positive cocci in clusters on sputum or BAL culture, pending identification and susceptibility results</li> <li>▪ Documented MRSA pneumonia</li> </ul> </li> </ul> </li> <li>• Suspected VRE infections: cultures with gram-positive cocci in chains pending identification/susceptibilities in patients at high risk for VRE infection (BMT, Heme-onc, liver transplant, on vancomycin at time of culture, VRE colonized)</li> <li>• Infection at any non-urinary site with VRE</li> <li>• Infection at any site with vancomycin intermediate or resistant <i>Staph aureus</i> (MIC <math>\geq 4</math> mg/L)</li> <li>• Infection at any site with MRSA or MRSE and allergy or toxicity to vancomycin</li> <li>• Alternative oral therapy at discharge for documented non-bacteremic MRSA infection with plan for <math>\leq 14</math> days of therapy to avoid the need for intravenous access.</li> </ul> |

| Restricted Medication    | Approved Reasons for Use   |
|--------------------------|--|
| Liposomal Amphotericin B | <ul style="list-style-type: none"> <li>• Treatment of Aspergillosis and Mucormycosis               <ul style="list-style-type: none"> <li>○ Alternative therapy for aspergillosis in patients unable to tolerate voriconazole</li> <li>○ Primary therapy in patients with proven or probable mucormycosis</li> </ul> </li> <li>• Treatment of Candidemia               <ul style="list-style-type: none"> <li>○ Alternative to Micafungin in critically ill and neutropenic patients with recent exposure to echinocandins</li> </ul> </li> <li>• Treatment of Candida Endophthalmitis               <ul style="list-style-type: none"> <li>○ Fluconazole and voriconazole resistant isolates, including <i>C. glabrata</i> isolates with elevated MICs (Fluconazole MIC &gt;4, Voriconazole MIC ≥0.125)</li> </ul> </li> </ul>      |
| Meropenem                | <ul style="list-style-type: none"> <li>• Treatment of Bacterial Meningitis               <ul style="list-style-type: none"> <li>○ Community-acquired, non-life threatening PCN/Cephalosporin allergy</li> <li>○ Basilar skull fracture, non-life threatening PCN/cephalosporin allergy</li> <li>○ Penetrating trauma, non-life threatening PCN/cephalosporin allergy</li> <li>○ Post neurosurgery, non-life threatening PCN/cephalosporin allergy</li> <li>○ CSF shunt, non-life threatening PCN/cephalosporin allergy</li> </ul> </li> <li>• Treatment of Vertebral Osteomyelitis, Discitis, and Spinal Epidural Abscess               <ul style="list-style-type: none"> <li>○ Alternative in patients with Penicillin Allergy (non-anaphylaxis)</li> </ul> </li> </ul>  |
| Meropenem-vaborbactam    | <ul style="list-style-type: none"> <li>• Treatment of highly suspected or documented extensively drug-resistant gram-negative pathogens where polymyxins, tigecycline, and aminoglycosides are the only susceptible agents (ex. KPC-producing carbapenamase-producing Enterobacteriaceae).</li> <li>• Meropenem-vaborbactam is the preferred treatment for infections caused by KPC-producing carbapenamase-producing Enterobacteriaceae</li> </ul>  |
| Micafungin               | <ul style="list-style-type: none"> <li>• Treatment of Neutropenic Fever in Hematology and BMT patients               <ul style="list-style-type: none"> <li>○ Alternative in patients with liver dysfunction or drug interactions prohibiting voriconazole use</li> </ul> </li> <li>• Prophylaxis in Hematology and BMT patients               <ul style="list-style-type: none"> <li>○ Alternative to Fluconazole, Voriconazole, or Posaconazole in patients unable to tolerate or absorb oral azole antifungals, or in patients at risk of drug interactions/additive toxicity with azole antifungals</li> </ul> </li> <li>• Treatment of Candidemia</li> <li>• Treatment of Aspergillosis               <ul style="list-style-type: none"> <li>○ Monotherapy should only be considered in possible disease</li> </ul> </li> </ul> |
| Minocycline IV           | <ul style="list-style-type: none"> <li>• Treatment of documented Acinetobacter infection resistant to all beta-lactam antibiotics and doxycycline, and the patient is unable to take oral minocycline</li> </ul>   |
| Moxifloxacin             | <ul style="list-style-type: none"> <li>• Nocardia in patients with sulfa allergy</li> <li>• Atypical mycobacteria infections</li> <li>• Endophthalmitis prophylaxis in patients with penetrating trauma to the globe of the eye (x48 hours)</li> <li>• Odontogenic Infection Guidelines               <ul style="list-style-type: none"> <li>○ Mandibular osteomyelitis in patients with severe PCN or cephalosporin allergy (anaphylaxis, angioedema, hives)</li> </ul> </li> </ul>   |
| Peramivir                | <ul style="list-style-type: none"> <li>• Inpatients with influenza in which drug delivery by a route other than IV is not feasible</li> <li>• Peramivir should be given for a maximum of 5 days</li> </ul>   |

| Restricted Medication                                  | Approved Reasons for Use  |
|--|---|
| Polymyxins (Colistin & Polymyxin B)                    | <p><i>Note: Polymyxin B is the preferred systemic polymyxin for extraordinary infections. Colistin use is restricted to urinary source infections and inhaled therapy</i></p> <p><i>Systemic Therapy with Polymyxin B or Colistin</i></p> <ul style="list-style-type: none"> <li>• Treatment of infections due to <i>Pseudomonas aeruginosa</i>, <i>Acinetobacter baumannii</i>, <i>Enterobacter</i> spp, <i>Escherichia coli</i>, <i>Klebsiella</i> spp, or <i>Citrobacter</i> spp resistant or intolerant to all beta-lactams, aminoglycosides, and fluoroquinolones.</li> <li>• Cystic fibrosis patients with minimal clinical response to standard therapy or cultures demonstrating multi-drug resistant gram-negative isolates, as defined above.</li> <li>• Treatment with systemic polymyxins (IV polymyxin B or IV colistin) must be in combination with one or more additional antibiotics with gram-negative activity for synergistic activity and to prevent treatment emergent resistance.<sup>38,39</sup></li> </ul> <p><i>Inhaled Therapy with Colistin</i></p> <ul style="list-style-type: none"> <li>• Patients with cystic fibrosis or bronchiectasis receiving inhaled polymyxins as continuation of home therapy</li> <li>• Patients with cystic fibrosis or bronchiectasis who meet the clinical or microbiological criteria listed above for initiation of polymyxin therapy</li> <li>• For the adjunctive treatment of pneumonia, provided ALL the following criteria are met<sup>40</sup> <ul style="list-style-type: none"> <li>○ Isolated pathogen is susceptible ONLY to polymyxins or aminoglycosides</li> <li>○ Inhaled therapy is used in addition to systemic therapy with a polymyxin or aminoglycoside in combination with another gram-negative antibiotic (usually a beta-lactam)</li> </ul> </li> </ul> |
| Posaconazole delayed-release tablets and PO suspension | <ul style="list-style-type: none"> <li>• BMT and Hematology antifungal prophylaxis</li> <li>• Treatment of aspergillosis and mucormycosis <ul style="list-style-type: none"> <li>○ Aspergillosis: in patients unable to tolerate voriconazole</li> <li>○ Mucormycosis: in combination with LAmB in severe disease, after clinical improvement with LAmB, as salvage therapy, or in patients unable to take LAmB.</li> </ul> </li> </ul>   |
| Posaconazole intravenous                               | <ul style="list-style-type: none"> <li>• Treatment of aspergillosis and mucormycosis <ul style="list-style-type: none"> <li>○ Aspergillosis: in patients unable to tolerate voriconazole and unable to tolerate oral posaconazole</li> <li>○ Mucormycosis: in combination with LAmB in severe disease, after clinical improvement with LAmB, as salvage therapy, or in patients unable to take LAmB. In call cases, must not be able to tolerate oral posaconazole.</li> </ul> </li> </ul>  |
| Quinupristin-dalfopristin                              | <ul style="list-style-type: none"> <li>• ID Fellow/Attending approval only</li> </ul>   |
| Remdesivir   | <ul style="list-style-type: none"> <li>• Treatment of laboratory confirmed COVID-19 in patients with ≤14 days of symptoms with SpO<sub>2</sub> ≤94% on room air or supplemental oxygen, HFNC, or non-invasive mechanical ventilation</li> </ul>   |
| Inhaled Ribavirin                                      | <ul style="list-style-type: none"> <li>• Restricted to UMHS guidelines for use entitled “Indications for the Use of Ribavirin for Treatment of Respiratory Viral Infections in Adult and Pediatric Patients”</li> <li>• ID consult is mandatory prior to starting therapy</li> </ul>  |
| Tigecycline  | <ul style="list-style-type: none"> <li>• Treatment of gram-negative infections resistant to alternative agents, or for patient intolerance to alternative agents <ul style="list-style-type: none"> <li>○ <i>Acinetobacter</i> or Enterobacteriaceae resistant to all beta-lactams and fluoroquinolones</li> <li>○ <i>Stenotrophomonas</i> resistant to trimethoprim-sulfamethoxazole, ceftazidime and levofloxacin</li> </ul> </li> <li>• Treatment of vancomycin-resistant enterococci infections resistant to daptomycin and linezolid, or patient intolerance to daptomycin and linezolid</li> <li>• Empiric therapy for patients with significant allergies to all alternative agents</li> </ul>   |

| Restricted Medication | Approved Reasons for Use  |
|-----------------------|---|
| Voriconazole          | <ul style="list-style-type: none"> <li>• Treatment of Neutropenic Fever in Hematology and BMT patients</li> <li>• Prophylaxis in Hematology and BMT patients</li> <li>• Treatment of Candidemia               <ul style="list-style-type: none"> <li>○ Alternative if additional coverage of molds is indicated</li> <li>○ Step-down oral therapy in patients with <i>C. krusei</i> infection</li> </ul> </li> <li>• Treatment of Ocular Infections               <ul style="list-style-type: none"> <li>○ Candida Endophthalmitis                   <ul style="list-style-type: none"> <li>▪ Due to <i>C. krusei</i></li> <li>▪ Due to <i>C. glabrata</i> only if fluconazole MIC &gt;4 and voriconazole MIC ≤0.125</li> </ul> </li> </ul> </li> <li>• Treatment of Aspergillosis</li> </ul> |

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|---|-----------------------|
| Antimicrobial Subcommittee Approval: 01/2019;<br>06/2020  | Originated: Unknown   |
| P&T Approval: 12/2017;<br>07/2020   | Last Revised: 11/2020 |
| Revision History: 01/2020 - added eravacycline<br>08/2020 - added cefiderocol and imipenem-relebactam<br>11/2020 - added remdesivir |                       |

*The recommendations in this guide are meant to serve as treatment guidelines for use at Michigan Medicine facilities. If you are an individual experiencing a medical emergency, call 911 immediately. These guidelines should not replace a provider's professional medical advice based on clinical judgment, or be used in lieu of an Infectious Diseases consultation when necessary. As a result of ongoing research, practice guidelines may from time to time change. The authors of these guidelines have made all attempts to ensure the accuracy based on current information, however, due to ongoing research, users of these guidelines are strongly encouraged to confirm the information contained within them through an independent source.*

*If obtained from a source other than med.umich.edu/asp, please visit the webpage for the most up-to-date document.*