**Name of Policy:** Daptomycin Dose-Adjustment and Batch Printing

**Policy Number:** 3364-133-136

**Department:** Pharmacy

**Approving Officer:** Chief Executive Officer

**Responsible Agent:** Chief Pharmacy Officer

**Scope:** University of Toledo Medical Center

**Effective Date:** 5/1/2019

**Initial Effective Date:** 5/1/2019

### (A) Policy Statement

**Dosing:**

All doses for daptomycin will be automatically rounded according to hospital-approved dose calculations and dose-rounding (Appendix I).

**Batch Printing:**

When a medication order is received for daptomycin initiation, the first dose will be prepared and sent immediately. All subsequent doses will be scheduled to be administered at 2000. If a dose change occurs before the dose is prepared for the day, the new dose will begin at 2000 that day. If a dose change occurs after the dose is prepared, the new dose will begin at 2000 the following day.

### (C) Purpose of Policy

To limit antimicrobial compounding waste by implementing batch printing and compounding, and a standard dosing and administration time for maintenance doses of daptomycin.

### (C) Procedure

**Dosing:**

1. Upon receipt of a medication order for daptomycin, a pharmacist will round the prescribed dose to the nearest 50mg-increment dose according to the dose-rounding table and calculations located in Appendix I
   a. Exclusions:
      i. Provider instructions for “Do Not Adjust” in the comments section of the order

**Batch Printing:**

1. Upon receipt of a medication order for daptomycin before 1200, the pharmacist will input the first dose immediately and have it sent up stat
   a. The pharmacist will then time subsequent maintenance doses to start at 2000 the same day for patients receiving daptomycin every 24 hours; subsequent maintenance doses will start at 2000 the following day for patients receiving daptomycin every 48 hours

2. Upon receipt of a medication order for daptomycin after 1200, the pharmacist will input the first dose immediately and have it sent up stat
   a. The pharmacist will then time subsequent maintenance doses to start at 2000 the following day for patients receiving daptomycin every 24 hours; subsequent maintenance doses will start at 2000 two days after the initial dose for patients receiving daptomycin every 48 hours

### (D) Background
Daptomycin is an intravenous cyclic lipopeptide antibiotic with activity against a broad-spectrum of aerobic, Gram-positive bacteria, including Enterococcus faecalis (vancomycin-susceptible and vancomycin-resistant isolates), Enterococcus faecium (vancomycin-susceptible and vancomycin-resistant isolates), and Staphylococcus aureus (including methicillin-resistant isolates)\textsuperscript{1}. FDA-approved dosing recommendations for daptomycin are 4 mg/kg once every 24 hours when treating complicated skin and skin structure infections (cSSSI) and 6 mg/kg once every 24 hours when treating S. aureus bacteremia, however recent literature recommends doses as high as 8 – 12 mg/kg depending on the pathogen and site of infection\textsuperscript{1-3}. In morbidly obese patients, this may lead to significantly higher doses and increased risk for adverse effects (ie; elevated creatinine phosphokinase) and thus the use of adjusted body weight (AdjBW) or a fixed, non-weight-based dose could be considered \textsuperscript{4,5}.

References:
**APPENDIX I:**

**Table 1. Daptomycin Dose Calculation**

<table>
<thead>
<tr>
<th>Pathogen</th>
<th>Weight-based Dose&lt;sup&gt;§&lt;/sup&gt;</th>
<th>Dosing Weight</th>
<th>Frequency of Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Standard/vancomycin intolerance</td>
<td>6 mg/kg</td>
<td>CrCl &gt; 30 mL/min</td>
<td>3x/week HD</td>
</tr>
<tr>
<td>• Vancomycin failure&lt;sup&gt;†&lt;/sup&gt; or MIC = 2</td>
<td>8 mg/kg</td>
<td>CrCl &lt; 30 mL/min or CRRT</td>
<td>Q24 hours Q48 hours OR 6-, 6-, 8 mg/kg OR 8-, 8-, 10 mg/kg Post HD</td>
</tr>
<tr>
<td>VRE Bacteremia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Daptomycin MIC ≤ 1</td>
<td>6 mg/kg</td>
<td>ABW &lt; 130% of IBW: ABW</td>
<td></td>
</tr>
<tr>
<td>• Daptomycin MIC 2 – 4</td>
<td>8 – 12 mg/kg</td>
<td>ABW ≥ 130% of IBW: AdjBW</td>
<td></td>
</tr>
</tbody>
</table>

<sup>§</sup>Dose to be selected during the order entry process

<sup>†</sup>Vancomycin failure defined as as greater than 5 days of bacteremia after source control is achieved

ABW = actual body weight; AdjBW = adjusted body weight; IBW = ideal body weight

IBW (men) = 50 + (2.3) x (Ht in inches > 60)

IBW (women) = 45.5 + (2.3) x (Ht in inches > 60)

AdjBW = IBW + 0.4(TBW - IBW)

**Table 2. Daptomycin Dose-Rounding**

<table>
<thead>
<tr>
<th>Prescribed Dose</th>
<th>Rounded Dose</th>
<th>Prescribed Dose</th>
<th>Rounded Dose</th>
<th>Prescribed Dose</th>
<th>Rounded Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 250 mg</td>
<td>250 mg</td>
<td>551 – 600 mg</td>
<td>600 mg</td>
<td>901 – 950 mg</td>
<td>950 mg</td>
</tr>
<tr>
<td>251 – 300 mg</td>
<td>300 mg</td>
<td>601 – 650 mg</td>
<td>650 mg</td>
<td>951 – 1000 mg</td>
<td>1000 mg</td>
</tr>
<tr>
<td>301 – 35 0 mg</td>
<td>350 mg</td>
<td>651 – 700 mg</td>
<td>700 mg</td>
<td>1001 – 1050 mg</td>
<td>1000 mg</td>
</tr>
<tr>
<td>351 – 400 mg</td>
<td>400 mg</td>
<td>701 – 750 mg</td>
<td>750 mg</td>
<td>1051 – 1100 mg</td>
<td>1100 mg</td>
</tr>
<tr>
<td>401 – 450 mg</td>
<td>450 mg</td>
<td>751 – 800 mg</td>
<td>800 mg</td>
<td>1101 – 1150 mg</td>
<td>1150 mg</td>
</tr>
<tr>
<td>451 – 500 mg</td>
<td>500 mg</td>
<td>801 – 850 mg</td>
<td>850 mg</td>
<td>1151 – 1200 mg</td>
<td>1200 mg</td>
</tr>
<tr>
<td>501 – 550 mg</td>
<td>500 mg</td>
<td>851 – 900 mg</td>
<td>900 mg</td>
<td>&gt; 1200 mg</td>
<td>Consult ID</td>
</tr>
</tbody>
</table>

**Approved by:**

/s/ Russell Smith, PharmD, MBA, BCPS
Chief Pharmacy Officer

/s/ Daniel Barbee, MBA, BSN, RN, FACHE
Chief Executive Officer

**Review/Revision Date:**

08/13/2019 Date

08/19/2019 Date

**Next Review Date:** 5/2022