I. PURPOSE:
To provide a guideline for initiating and preparing antibiotic lock therapy.

II. POLICY:
It is the policy of SHC to provide a process for managing antibiotic lock therapy.

III. DEFINITIONS:
A. Antibiotic Lock Therapy: A method for sterilizing the catheter lumen in patients who have central venous catheters; involves instilling high concentrations of antibiotics into the catheter lumen for extended periods of time. Results from in vitro studies demonstrate stability of antibiotics while maintaining high concentrations for prolonged periods of time. In vivo studies show antibiotic lock technique as an effective and safe option for both prevention and treatment of CRBSIs.

B. Catheter-related bloodstream infections (CRBSI): A bloodstream infection attributed to catheter placement.

IV. PROCEDURE:
A. Antibiotic lock is indicated for patients with catheter related bloodstream infections involving long-term catheters with no signs of exit site or tunnel infection for whom catheter salvage is the goal
   1. For CRBSI, antibiotic lock therapy should not be used as monotherapy; It should be used in conjunction with systemic antimicrobial therapy
   2. Dwell times for an antibiotic lock solution should not exceed 48 hours before reinstallation of lock solution except for dialysis patients; preferably reinstallation should take place every 12-24 hours

B. Antibiotic Lock Solutions\(^1\): ID consult required for antimicrobial locks that are not listed
C. Pharmacist Procedures
   1. Upon receipt of an antibiotic lock help order, pharmacist will order the appropriate and corresponding Epic order.
   2. It is the provider’s responsibility to specify which lumens to lock, dwell time (usually 12 hours, except dialysis which dwell between sessions), and the anticipated duration of therapy.
   3. Multiple antibiotic locks for the same patient will be entered as separate orders and numbered accordingly.
   4. Pharmacy will send syringes containing 3 mL of antibiotic lock, but the volume instilled in each lumen depends upon the type of catheter and is determined by the provider and nurse prior to drug instillation – a reference table is provided in the PCM: CVC Antibiotic Lock Therapy (Table 2).

D. Precautions/Contraindications
   1. Documented allergy/hypersensitivity reaction to the specific antibiotics
   2. Documented allergy/hypersensitivity reaction to heparins (Heparin-induced-thrombocytopenia)

V. COMPLIANCE:
   A. All workforce members including employees, contracted staff, students, volunteers, credentialed medical staff, and individuals representing or engaging in the practice at SHC are responsible for ensuring that individuals comply with this policy;
   B. Violations of this policy will be reported to the Department Manager and any other appropriate Department as determined by the Department Manager or in

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### Antibiotic Lock Therapy Preparation & Guideline

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Concentration (mg/mL) in NS</th>
<th>Heparin (units/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampicillin</td>
<td>10.0</td>
<td>5000</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>2.5</td>
<td>2500</td>
</tr>
<tr>
<td>Cefazolin</td>
<td>5.0</td>
<td>2500</td>
</tr>
<tr>
<td>Ceftazidime</td>
<td>0.5</td>
<td>100</td>
</tr>
<tr>
<td>Daptomycin</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>1.0</td>
<td>2500</td>
</tr>
</tbody>
</table>
accordance with hospital policy. Violations will be investigated to determine the nature, extent, and potential risk to the hospital. Workforce members who violate this policy will be subject to the appropriate disciplinary action up to and including termination.

VI. RELATED DOCUMENTS / PROCEDURES:
A. SHC Patient Care Manual: Central Venous Catheters: Antibiotic Lock Guidelines

VII. REFERENCES

VIII. DOCUMENT INFORMATION:
A. Legal References / Regulatory Requirements:
   1. N.A.
B. Original Document:
   1. Owner: Pharmacy Department
   2. Author and date: Emily Mui, PharmD, BCIDP: 06/2011
C. Distribution and Training Requirements:
   1. New documents or any revised documents will be distributed to Department Manual holders. The department/unit/clinic manager will be responsible for communicating this information to the applicable workforce members.
D. Review and Renewal Requirements:
   1. This policy will be reviewed and/or revised every three years or as required by change of law or practice.
E. Review and Revision History:
   1. Emily Mui, PharmD, BCIDP: 05/2013, 01/2015, 06/2016, 05/2021
   2. Lina Meng, Pharm.D., BCCCP, BCIDP: 11/2017
F. Approvals:
   1. Antibiotic Subcommittee: 06/2011, 05/2013, 05/2021
   2. Pharmacy & Therapeutics Committee: 1/2018, 05/2021

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