St. Peter's Hospital Policies

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Category	Human Resources
Section # / Policy #	NEW
Author	Department
Committees	
Release Date	Today's Date
Replaces Issue	New
Approved by	First Initial. Last Name (D. Sullivan)

Subject:
Antimicrobial Stewardship Program

PURPOSE: The Antimicrobial Stewardship (AMS) program aims to improve the optimal selection, dosage, and duration of antimicrobial treatment that results in the best clinical outcome for the treatment or prevention of infection, with minimal toxicity to the patient and minimal impact on bacterial resistance. The AMS program will achieve this by utilizing a collaborative approach with the caregivers at St. Peter's Hospital.

POLICY: The intent of this policy is to outline the structure of the AMS program, formulary restriction, and anti-infective "Criteria for Use" as well as describe the activities and goals of AMS. The AMS team will utilize current guidelines and evidence-based medicine to optimize patient therapy, promote judicious use of anti-infective agents, and actively educate healthcare providers regarding updates in antimicrobial therapy.

REQUIREMENTS:

1. The Antimicrobial Stewardship (AMS) program will use a variety of techniques to assure proper use of antimicrobial agents, including, but not limited to:
   1.1. Antimicrobial de-escalation, dose optimization, appropriate duration of therapy, and therapeutic drug level monitoring for specific antibiotics.
   1.2. Implementing the hospital's formulary restriction and anti-infective "Criteria for Use" as outlined in **"Appendix A."**
   1.3. Recommending agents to be added or removed from the hospital formulary.
   1.4. Prospective audit and feedback to providers regarding antimicrobial therapy.
   1.5. Providing education on updated and/or new antimicrobial therapies as they become available.
   1.6. Updating electronic order sets and hospital treatment guidelines to reflect best practices and aid in stewarding of antibiotics.
   1.7. Annually updating the facility's antibiogram.

2. The AMS team will be comprised of a collaborative team that includes AMS Infectious Disease (ID) trained physician(s) and pharmacist(s), a representative from the Microbiology Department, and a representative from Infection Prevention.
   2.1. The AMS team will strive to minimize the emergence of antimicrobial resistance by ensuring judicious use of antimicrobials. The AMS team will work collaboratively with the Infection Prevention program and participate in Infection Prevention meetings to help with identified problems. Rates of resistance will be tracked in order to intervene on problematic trends and such data will be used to help benchmark the AMS program.
   2.2. The AMS team will actively assess current standards for microbiological identification methods to ensure the most appropriate method is currently being used. Additionally, regular rounding will occur with the head of the microbiology lab to discuss patient cases and other pertinent topics.

PROCEDURE:

1. **AMS Service:**
   1.1. Members of the AMS team (AMS ID physician and pharmacist) will formally review patients on antibiotics on a weekly basis (on Tuesdays, Thursdays, and Fridays). The AMS pharmacist will be actively involved with reviewing patients' antimicrobial therapy as well as acting as a resource to providers for therapy recommendations.
      1.1.1. The AMS pharmacist will consult the AMS ID physician as needed regarding questions about antimicrobial therapy.

1.2. The AMS team will review the antimicrobial therapy of patients hospital-wide and provide feedback to providers regarding therapy recommendations.
- 1.2.1. The AMS pharmacist may order labs to help aid in antimicrobial monitoring and de-escalation.
- 1.2.2. The AMS pharmacist may order and discontinue procalcitonin levels per the hospital's procalcitonin guidelines.
- 1.2.3. The AMS pharmacist may order and discontinue nasal PCR MRSA tests to help guide antimicrobial therapy

1.3. The AMS team will focus on the following activities:
- 1.3.1. Patients that qualify for de-escalation or discontinuation of antimicrobials;
- 1.3.2. Duration of antimicrobial therapy;
- 1.3.3. Dose optimization;
- 1.3.4. Appropriate drug monitoring and therapeutic levels as necessary;
- 1.3.5. Candidates for intravenous to oral formulation conversions;
- 1.3.6. Drug and disease state mismatches;
- 1.3.7. Drug and reported culture mismatches;
- 1.3.8. Antimicrobial guideline adherence;
- 1.3.9. Developing clinical pathways for therapy;
- 1.3.10. Procalcitonin guideline adherence;
- 1.3.11. Annual updates to the facility's antibiogram;

2. **Formulary Restriction and selected Anti-infective Criteria for Use:**

2.1. The AMS pharmacist will oversee the formulary restriction and designated "Criteria for Use" for specific anti-infectives as designated by the Pharmacy and Therapeutics (P&T) committee. Considerations for adding restrictions or Criteria for Use guidelines for specific agents include clinical efficacy, toxicity, spectrum of activity, disease specific treatments, and acquisition costs. The P&T must approve proposed changes to the criteria of use **(see Appendix A).**

2.1.1. Process for AMS pharmacist approval of restricted antibiotic therapy:

2.1.1.1. AMS pharmacist will be notified of any restricted antibiotic order(s) and will review the order(s) to see if it meets the criteria for use. If the order is generated between the hours 0700-1530 Monday – Friday (excluding holidays), it is the responsibility of the AMS pharmacist to verify the order and document the process in the medical record, including the criteria for approval and duration of therapy. If the order is generated between the hours of 1530 and 0659 or on weekends/holidays, the medication will be verified and AMS will review this therapy on their next day of service. AMS must approve the restricted anti-infective for therapy to continue.

2.1.1.2. If criterion is met as outlined in Appendix A, the AMS pharmacist will:

2.1.1.2.1. Process the order and document the approval (including criteria met for approval and duration of therapy) in the medical record.

2.1.1.3. If the patient does not meet criteria, the AMS pharmacist will contact the ordering physician to review the pertinent details of the case and recommend alternative therapy or come to a consensus with the ordering physician on the use of empiric therapy.

2.1.1.3.1. If a restricted agent is approved for criteria outside of standard, the AMS pharmacist will document the approval in the medical record.

2.1.1.3.1.1. Approval may include a limit (e.g. "until culture results are back") or the requirement for re-approval after a defined number of days of therapy.

2.1.1.4. If the request is denied because a patient does not meet criteria for approval and the requesting clinician feels that an exception for using a restricted agent is necessary:

2.1.1.4.1. The requesting clinician may request an official consult from the AMS Infectious Disease physician, who, after evaluating the patient, may approve the use of the restricted agent.

2.1.1.4.2. The AMS pharmacist will document approval or denial in the medical record.

2.1.1.5. Follow-up of approval:

2.1.1.5.1. The AMS pharmacist will contact the ordering physician to suggest any changes to the initial approval when warranted.

2.1.1.5.2. Any suggested changes will be documented in the medical record by the AMS pharmacist.

2.2. Patients admitted to the hospital currently on a restricted anti-infective(s) listed in **"Appendix A"** may continue on that therapy. The AMS pharmacist will review the therapy and may make recommendations to the provider during the hospital stay. The AMS pharmacist will document their review of the therapy in the medical record. If the patient does not meet criteria, ongoing approval for use of restricted agents may need to be requested from the Infectious Disease physician.

3. **The AMS team will review and make recommendations to P&T including:**
   - 3.1. Suggested changes to restricted agents or "Criteria for Use" antimicrobial list (see appendix A) and policy
   - 3.2. Antimicrobial agents to be added or removed from the formulary
   - 3.3. Recommendations to add lab tests related to infectious disease diagnosis
   - 3.4. Review and provide feedback for order sets that contain antimicrobial agents
   - 3.5. Updates regarding anti-infective safety and evidence-based medicine practices
   - 3.6. Other topics that may arise related to the area of infectious disease

QUALITY ASSURANCE

1. Development of an AMS program has been recognized by SPH Administration as a priority from regulatory, patient safety, educational, and financial standpoints. A formal statement of support will be obtained from SPH leadership to provide additional structure and substantiation to the AMS program.
2. Baseline antibiotic data and antibiotic expenditure trends over the last 2-3 years will be analyzed to identify areas of potential improvement. Annually this data will be reported to the appropriate hospital committees (i.e. P&T, Infection Prevention, and Quality) to assess the impact of AMS. Additionally, an annual AMS program report will be published to administration outlining the program's contributions with respects to patient care, hospital education, process and regulatory compliance improvements, and financial impact.

Anti-Infective Restriction and Criteria for Use (Appendix A):

1. Daptomycin (Cubicin®) if used outside established criteria
2. Linezolid (Zyvox®) if used outside established criteria
3. Anidulafungin (Eraxis®) if used outside established criteria
4. Ceftaroline (Teflaro®) if used outside established criteria
5. Oritavancin (Orbactiv®) if used outside established criteria
6. Meropenem (Merrem®) if used outside established criteria
7. Ertapenem (Invanz®) if used outside established criteria
8. Tigecycline (Tygacil®)
9. Colisthimethate (Colistin®)
10. Quinupristin/Dalfopristin (Synercid®)
11. Aztreonam (Azactam®)

12. Moxifloxacin (Avelox®)
13. Ticarcillin/Clavulanate (Timentin®)
14. Imipenem/Cliastatin (Primaxin®)
15. Intravenous Sulfamethoxazole/Trimethoprim

*DEFINITIONS:

- AMS: Antimicrobial Stewardship
- ESBL: Extended Spectrum Beta-lactamase
- ID: Infectious Disease
- MDRO: Multi-drug Resistant Organism
- MRSA: Methicillin Resistant Staphylococcus aureus
- MRSE: Methicillin Resistant Staphylococcus Epidemidis
- P&T: Pharmacy and Therapeutics Committee
- VRE: Vancomycin Resistant Enterococcus

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SIGNED/APPROVED: 00/00/2015
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