

## LIP Annual Review/Education update

**TOPIC:** Antibiotic Stewardship Program (prevention of antibiotic resistance )

### Prevention of antibiotic resistance

Current scientific literature emphasizes the need to reduce the use of inappropriate antimicrobials in all health care settings due to antimicrobial resistance. According to the World Health Organization (WHO): “Antimicrobial resistance threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi.” The Centers for Disease Control and Prevention (CDC) identified that 20%–50% of all antibiotics prescribed in US acute care hospitals are either unnecessary or inappropriate. The CDC has also stated: “Antibiotics are among the most commonly prescribed medications in nursing homes. Up to 70% of long-term care facilities’ residents receive an antibiotic every year.”

The goal is to control antibiotic usage to decrease worldwide growing antibiotic resistance. MISH will be able to contribute to this goal mostly in the area of antibiotic prophylaxis used in surgery. MISH is mostly surgically based, and does not have an ER. Since opening MISH has not needed to treat an MDRO. Below is an organizational plan in developing an antibiotic stewardship program that is based on our facility needs.

While we are taking many actions to meet this endeavor which includes (please HCAI update):

1. Prevention of healthcare acquired infections such as catheter/line/surgery related.
2. Prevention of bacteria from spreading (MDRO prevention measures).
3. Promoting hand hygiene culture and isolation protocols
4. Culture specimen collection procedures, and
5. MDRO surveillance

The focus for this update will be specific to antibiotic usage. Below we are outlining our procedure for antibiotic ordering in the treatment of a suspected infection versus prophylactic use during procedures/surgery.

1. Starting an antibiotic for treatment:
  - An order is required. Order must state dose, frequency, **duration and indication**. Duration and indication is now required.
  - Indication is required to improve communication and allow all healthcare providers access to the WHY information.
  - Prior to start of an antibiotic for infection treatment, pertinent cultures must be drawn first.
  - The Pharmacist will place the antibiotic order in the Antibiotic log. The log monitors: patient name/DOB, antibiotic start and stop date, dose, frequency, duration, indication, ordering physician, 48hr ordering physician intervention, changes to type, dose, frequency, duration or indication of antibiotic.
  - DON and ICP are notified by the pharmacist when an antibiotic is started for treatment. The patient is entered into the Culture Log. The culture log monitors: patient name/DOB, culture type and collection date(s), culture results as they become available.
  - **The ordering physician must re-evaluate antibiotic usage within 48 hrs of start, and perform an “Antibiotic Time-Out” and document.**
  - When culture results become available they are reviewed with the ordering physician, pharmacist and ICP to review continued antibiotic management.

- An “Antibiotic time-out” is performed when reviewing antibiotic usage, culture and MDRO logs consisting of questions such as:
  - Does this patient have an infection that will respond to antibiotics?
  - If so, is the patient on the right antibiotic(s), dose, and route of administration?
  - Can a more targeted antibiotic be used to treat the infection (de-escalate)?
  - How long should the patient receive the antibiotic(s)?
- Standardized Antibiotic usage for the treatment of many type of infections will be standardized or references will be available for your usage. Please reference those when prescribing antibiotics. Please always document indication and duration when prescribing or changing an antibiotic.
- Cultures with Drug resistant organisms are also entered into the MDRO Log. The MDRO log at minimum monitors the MDRO sensitivities, and how antibiotic is used in treatment. If an MDRO is recognized appropriate organism specific infection control measures would be initiated.
- When an MDRO is beyond MISH’s capabilities be it in expertise or required environmental facilities to manage the MDRO appropriately patient will be transferred.
- Pharmacist has authority to optimize/adjust dose based on therapeutic drug monitoring, organ dysfunction, optimizing therapy for highly drug-resistant bacteria, achieving central nervous system penetration, extended-infusion administration of beta-lactams. Alert LIP’s regarding duplication of treatment.
- Deviations from standardized antibiotic usage requires an indication and review with pharmacist and ICP.

## 2. Prophylactic (peri-operative) antibiotic use:

- An order is required. Order must state dose, frequency and duration
- Only antibiotics on the approved Prophylactic Antibiotic list are used, if an alternate antibiotic is requested it will require approval.
- The list is reviewed annually and updated as needed based on recommended current guidelines.
- **Duration cannot be longer than 24hrs** to be considered prophylactic. Antibiotic is automatically discontinued after 24 hrs. If needs to be given then it will be treated as an antibiotic in the treatment of infection – please follow procedure outlined above.

Also please see attached patient education materials about when antibiotics should be used. You can use this as a reference when a patient is demanding an antibiotic and you feel it is not needed or indicated.