ANTIMICROBIAL STEWARDSHIP AT LPC H

Prescriber Education
Objectives

• Understand the imperative for and potential benefits of an antimicrobial stewardship program

• Identify potential best practices of an antimicrobial stewardship program

• Recognize antimicrobial stewardship efforts currently implemented at LPCH, including formulary restriction, audit and feedback, and institutional antibiogram interpretation
Rationale

- Antimicrobials account for >30% of hospital pharmacy budgets
- Up to 50% of antimicrobial use is inappropriate
- Inappropriate antimicrobial use increases selection of resistant pathogens
- Infection due to resistant pathogens increases patient morbidity, mortality and health care costs
Mandate

• Growing recognition that antimicrobial effectiveness is a limited resource given increasing rates of resistance

• Antimicrobial stewardship is required of hospitals to preserve antimicrobial effectiveness:
  • California law
    • California Senate Bill 739 & 158 require that, “…general acute care hospitals develop a process for evaluating the judicious use of antibiotics…”
  • Joint Commission Requirement
    • “The hospital has an antimicrobial stewardship program based on current scientific literature.”
  • CDC Get Smart for Healthcare Campaign
    • Improving antibiotic use is a public health imperative
Mission

- Antimicrobial stewardship is designed to promote:
  - The appropriate **selection** of antibiotics
  - The appropriate **dosing** of antibiotics
  - The appropriate **route** of antibiotics
  - The appropriate **duration** of antibiotics
LPC H ASP Program

• Core ASP team
  • Medical Director: Hayden Schwenk, MD, MPH
  • Antimicrobial Stewardship Pharmacist: Betty Lee, PharmD
  • Specialist, Analytics & Clinical Effectiveness: Jenna Kruger, MPH

• Other team members
  • Infection Preventionist
  • Clinical Microbiologist
  • Medical Staff \( \rightarrow \) YOU!

• Administration
  • Subcommittee of the LPCH Pharmacy and Therapeutics Committee
  • Collaborates with the LPCH Laboratory and Infection Prevention and Control Program as part of the Integrated Infectious Disease Program

• Policy
  • https://intranet.lpch.org/formsPoliciesReferences/policies/hospitalWide/patientCare/antimicrobialStewardshipProgram.html
ASP Strategies for Optimizing Appropriate Use of Antimicrobials

- Formulary restriction and authorization
- Prospective audit with intervention and feedback
- Clinical practice guideline development
- IV to PO conversion
- De-escalation
- Dose optimization
- Clinician, patient, and family education
Formulary Restriction & Authorization

• Definition
  • To ensure appropriate use, certain antimicrobials require review by an infectious disease expert before therapy is initiated

• Reasons for restricting an antimicrobial include
  • Potential for negative impact on antibiotic resistance
  • Complexity of use
  • High risk of toxicity
  • Limited or unique indications
  • Cost
Formulary Restriction & Authorization at LPCH

- Seven restricted drugs
  - Colistin (IV)
  - Daptomycin
  - Tigecycline
  - Micafungin
  - Posaconazole
  - Linezolid
  - Cidofovir

- Prescribers **MUST** contact the Pediatric Infectious Disease fellow on call (24/7) for approval and document the approving provider in EPIC **BEFORE** release of a restricted antimicrobial from the Pharmacy.

- In the event of an **EMERGENCY**, and if an attempt to contact an approval source is unsuccessful, the pharmacy is authorized to dispense a **SINGLE** dose of any restricted antimicrobial.
Prospective Audit & Feedback

• Definition
  • Review of antimicrobial use by an infectious disease expert, with feedback to the medical team regarding opportunities for antimicrobial optimization

• Goals of prospective audit & feedback
  • Reduce antimicrobial use
  • Reduce costs
  • Reduce adverse events
  • Reduce antimicrobial resistance
Prospective Audit & Feedback
Common Opportunities at LPCH

Streamlining
- Appropriate discontinuation of “double gram negative” coverage

Dose optimization
- Incorrect dose of perioperative antibiotics

Therapeutic duplication
- Redundant anaerobic coverage (e.g., use of metronidazole with piperacillin-tazobactam)

Drug-bug mismatch
- Vancomycin for methicillin-susceptible S. aureus infections

Therapeutic monitoring
- Appropriate vancomycin trough targets

Parenteral to oral conversion
- Oral quinolone for patients on full diet

Drug-drug interactions
- Concurrent use of QT prolonging agents
Prospective Audit & Feedback at LPCH

- At LPCH, the ASP Medical Director and Pharmacist regularly review antimicrobial orders active for >48 hours.

- When an opportunity for antimicrobial optimization is identified, the unit based pharmacist will be contacted and is responsible for verbal communication of ASP recommendations.

- ASP recommendations are also visible within the EPIC ASP Navigator.
Select ASP Navigator from the “More” tab
LPC H Antibio gram

• The LPC H antibiogram contains valuable information regarding institutional resistance patterns.

• The antibiogram is updated annually and can be accessed as a weblink within EPIC or via the Lane Library at http://lane.stanford.edu/biomed-resources/antibiograms-lpch.html.
Additional Information

For additional information, please refer to the LPCH Antimicrobial Stewardship Policy

https://intranet.lpch.org/formsPoliciesReferences/policies/hospitalWide/patientCare/antimicrobialStewardshipProgram.html