

# Antimicrobial Stewardship

Coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy and route of administration.



# Antimicrobial Stewardship Program

## Currently, we review

- All positive blood cultures
- Potential drug-bug mismatches
- Duplicate anti-infective agents
- Protected anti-infective agents
- Potential de-escalation opportunities

Feedback/recommendations given to care teams

## • Other activities

- Track antimicrobial utilization
- Monitor change in hospital resistance patterns (antibiogram)
- Participate in infectious disease clinical pathway development
- Education of staff on antimicrobial stewardship related topics

## • Contact:

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# Antimicrobial Stewardship Resources

## ASP website:

<https://mychildrens.childrensnebraska.org/content/page/6170d4c89762d2357badb7c0>

- Anti-infective shortage guidance
- Antimicrobial education documents
- Penicillin allergy facts
- Clinical Microbiology
  - Blood Culture Therapeutic Guide (BCID)
  - C.diff testing guidance and interpretation
  - Extended spectrum beta lactamase (ESBL) education
- Pharmacokinetics documents
- Protected Anti-infectives
- Guidelines
  - Asplenia
  - Eculizumab and Ravulizumab immunization guidance
  - Palivizumab guideline and protocol
  - Respiratory culture guidance
  - Surgical Prophylaxis guidelines


**Antibiogram:** [2023 Children's Hospital Antibiogram.pdf](#)

**Clinical Pathways:** <https://www.childrensnebraska.org/clinical-pathways/>

# Antibiogram

- Use to determine which empiric antibiotic may be best for potential organism
- Alternative effective agent in patients with intolerance to other antibiotics
- Updated annually

2023 Guide to Antimicrobial Therapy  
(data collected Jan-Dec 2022)



Antimicrobial agent	Percent Susceptible													
	Gram Positives							Gram Negatives						
<b>BETA-LACTAMS</b>														
<b>Penicillins</b>														
ampicillin				95					54			90		
ampicillin/sulbactam							84	100	62	75	89	96		
oxacillin (nafcillin)	100	0	38											
penicillin G				98	85									

# Blood Culture Identification (BCID) Therapeutic Guide

**Table 1: Blood Pathogen Panel Results and Recommended Therapy: Gram Positive Pathogen**

Gram Positive Pathogen Detected	Preferred Therapy	Comments
<i>Enterococcus faecalis</i>		
vanA/B negative (vancomycin susceptible)	Ampicillin 100 mg/kg IV q 6 h +/- gentamicin	
vanA/B positive = VRE (vancomycin resistant)	Linezolid 10 mg/kg IV q 8 h (or daptomycin) +/- gent	Consult ID

- Provides guidance on how to interpret BCID result
- Provides guidance as to best antimicrobial to use based BCID result
- Updated annually based on antibiogram

# Who is an Antimicrobial Steward?

- It takes **EVERYONE!**
  - Prescribers who only use antimicrobials when necessary and only as long as needed
  - Clinical team who use the antibiogram and blood culture guidance document to assist with choice of antibiotic
  - Prescribers who use clinical pathways for assistance on treatments, including drug, dosing, and duration guidance
  - Staff who refer to the antimicrobial stewardship website for educational and interpretation guidance
  - Nurses who assist team with determining best route of administration
  - Pharmacists who ensure drug, dose, and duration are appropriate