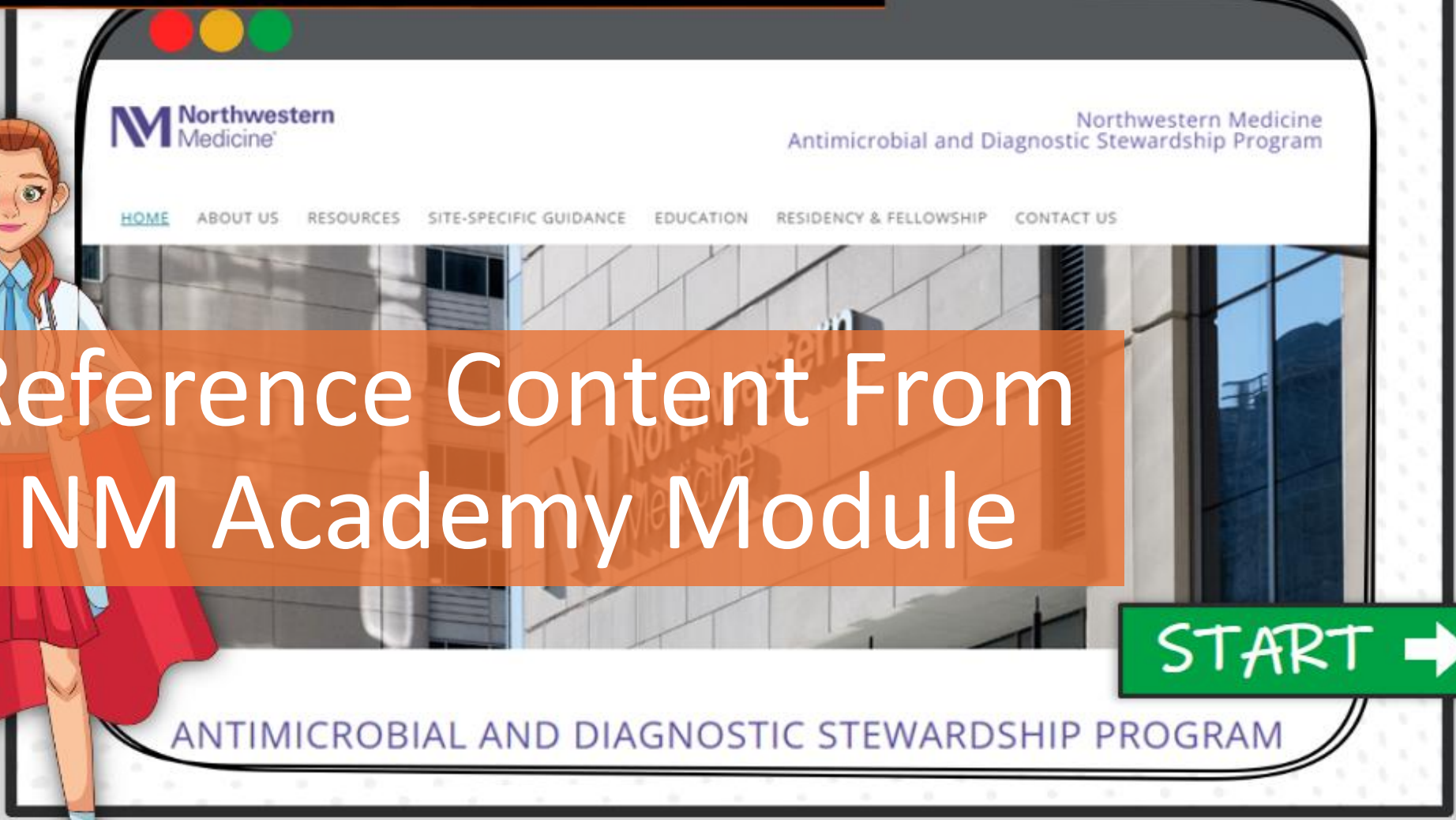
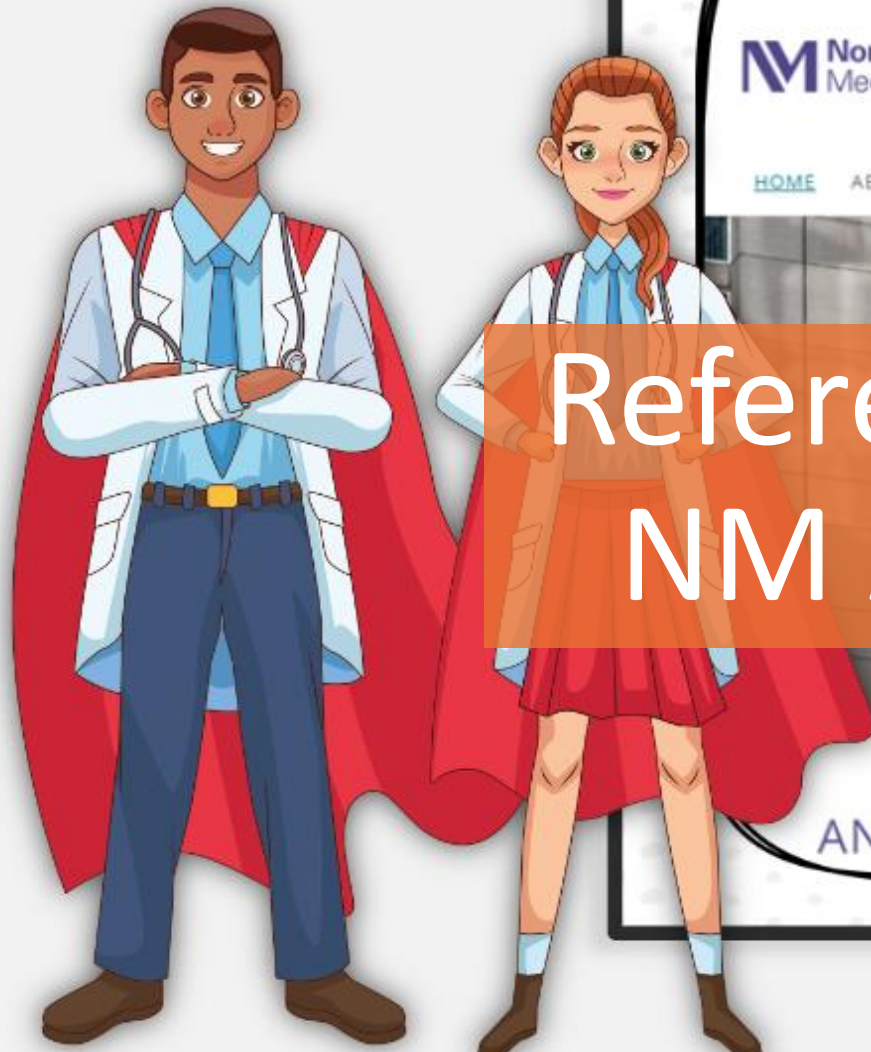


# ADSP Website Resource Review



## Reference Content From NM Academy Module

# Brought to you by NM Antimicrobial and Diagnostic Stewardship Program (ADSP)

- This content should only be viewed after all three NM Academy ADSP competencies have been completed



Northwestern Medicine Antimicrobial and Diagnostic Stewardship Program

# New Hire Competency 1: ADSP Website

Competency: Frontline pharmacists navigate the ADSP website for use in answering clinical questions

Learning Objective	Enabling Lesson Question Topic
<b>Dose Antimicrobials Optimally</b>	Renal Dosing
	Obesity, CRRT, oral cephalosporin, non-op IAI, sodium content
<b>Follow NM Guidelines</b>	Guideline Checking for Verification (UTI)
	MDR
	IV to PO
	Cdiff, COVID, Restricted
<b>Locate other helpful resources</b>	Antibiogram, Allergy, Local site, Clin ed

# Frontline pharmacists navigate the ADSP website for use in answering clinical questions

- The goal of this competency is to utilize the Antimicrobial and Diagnostic Stewardship Program (ADSP) website to answer clinical questions that could come up in your daily practice
- By the end of this you should feel confident navigating the ADSP website and using the main system resources for patient care

# Guidance VS Protocol

The ADSP website contains both **GUIDANCE DOCUMENTS** and **PROTOCOLS**. Look for this color coding throughout the course!

## Guidance Documents

For best practice. These are references but do not require automatic pharmacist action.



## Protocols

Approved pharmacist action per protocol.



# Renal dosing

- Many antibiotics are adjusted for renal function. The antimicrobial renal dosing guidance resource is intended to provide standard and optimal renal dose adjustment recommendations for NM patients.
- NM System P&T policy 18.3010 can be referenced for further pharmacist responsibilities, the primary responsibility for the pharmacist is to automatically adjust antimicrobials based on the patient's renal function from the [provided table](#).
- For critically ill patients, consider usual dosing for the first 24 hours prior to adjusting for renal dysfunction

# Obesity and CRRT Considerations

## Obesity (BMI >30)

- Antimicrobials have variable volume of distribution properties and may require adjusted doses for patients who are obese to avoid toxicity
- [Recommendations for body weight adjustments](#)

## CRRT

- [Dose adjustments](#) are based on rate
- Rate = ultrafiltrate + dialysate flow rate
  - Round to the closest rate (e.g. 1 L/hr, 2 L/hr)
- Always check and adjust antimicrobials when CRRT start or stops

# Oral Cephalosporins

- Cefpodoxime and cefuroxime have clinically significant drug-drug interaction with acid reducing agents which decrease concentrations by about 30-50%.
- For infections outside of cystitis, alternative agents should be considered if patients are on concurrent acid suppression.
- Cephalexin has no clinically meaningful interaction with acid reducing agents. The use of a cephalexin is supported by urinary antibiograms across the system.



# Non-op Appendicitis or Diverticulitis

- Intra-abdominal infections such as diverticulitis or appendicitis may be managed with oral antibiotics and without surgery.
- Cephalexin plus metronidazole can be recommended for oral empiric or step-down therapy.
- Fluoroquinolones may have inferior coverage for *E. coli* and higher risk of side effects like *C. difficile* infection. Reserve use for *Pseudomonas* if culture positive.

# Sodium Content

- In patients with heart failure or edema, limiting sodium is a useful thing to review when other considerations such as spectrum of coverage are similar.

# A New Antibiotic Is Ordered

In all cases of antimicrobial orders, you should assess the following:

1. Check the indication on the order
2. Review available ADSP or local guidelines for the antibiotic choice and the indication. Contact the prescriber if an alternate is a better fit for the patient and diagnosis
3. Reference the patient's renal function and adjust the dose if needed
4. If everything is correct, verify the order

# The Impact of Antibiotic Resistance

Antimicrobial & Diagnostic Stewardship Program  
Northwestern Medicine

**ADSP.  
NM.ORG**

Estimated antibiotic resistance global attributable deaths/yr by 2050<sup>1</sup>:

**10 million**

Predicted to overtake cancer deaths by 2050<sup>2</sup>

Estimated global GDP loss attributable to antibiotic resistance between 2014-2050<sup>1</sup>:

**\$100 Trillion**

One study demonstrated for each patient:

**Each additional**

**day** of broad antibiotics was associated with a **4%** increased chance of new resistance development<sup>3</sup>

What can you do?

1. **Avoid antibiotics** when bacterial infection is unlikely
2. Limit antibiotic **spectrum** and **duration**
3. Visit **[ADSP.NM.ORG](http://ADSP.NM.ORG)**



**We need your help!**

References: 1. [18\\_AMR-Infographic-V4 \(biomerieuxconnection.com\)](http://18_AMR-Infographic-V4(biomerieuxconnection.com))  
2. 2014 UK Office of the Prime Minister, "Antimicrobial Resistance Tackling a Crisis for the Health and Wealth of Nations."

3. Pharmacotherapy. 2019;39(3):261-70.

## Multi Drug Resistance

Drug resistance is a growing threat effecting all sites across NM

ADSP has [guidance for Multi Drug Resistant Infections](#)

[The Impact of Resistance Infographic](#)

## *C. difficile* Test Interpretation

*C. difficile* is a reflex test. It is important to interpret the PCR and toxin results to determine acute infection vs colonized

# Restricted Antimicrobials

## **Restricted to ID or ADSP approval:**

- Tigecycline
- Ceftazidime/avibactam
- IV polymyxin or colistin
- Cefiderocol
- Ceftolozane/tazobactam

## **Not restricted if use is appropriate based on NM guidance:**

- Amphotericin B
- Daptomycin
- Linezolid
- Remdesivir
- Oxacillin
- Meropenem

# Antibiogram

- ADSP updates our antibiograms each year to reflect the susceptibility from the previous calendar year.
- This should be used to help guide empiric antimicrobial use in Northwestern Medicine patients.

Thank you! Please let us know if you have questions or comments



If you haven't filled out the competency survey, please fill out here: [ADSP Website Competency Survey](#)

Meet your local and system ADSP team members here: [Meet Our Team \(nm.org\)](#)

For general ADSP question or comments, email your local ADSP leader or [adsp@nm.org](mailto:adsp@nm.org)