



NSHA ANTIMICROBIAL STEWARDSHIP 5 MINUTE UPDATE

<http://www.cdha.nshealth.ca/nsha-antimicrobial-stewardship>

ANTIBIOGRAMS

The 2017 Antibiograms are **available on the NSHA AMS website**. In this first Antimicrobial Stewardship 5-minute update, we will discuss antibiograms and how you can use them to guide your antibiotic prescribing.

What is an antibiogram?

An antibiogram displays the overall **susceptibility** of bacteria to a variety of antibiotics. Antibiograms can be used to guide **empiric antibiotic therapy** and to identify and monitor **resistance trends** to antibiotics.

How do antibiograms help with antibiotic prescribing?

The new colour coded formatting of the antibiograms makes it easy to see antibiotics that are the **best choices for empiric treatment** based on the suspected microorganism. For example: you have a female patient with an uncomplicated urinary tract infection. The most likely pathogen is *E coli* and the colour coded system (green, yellow and red) identifies which antibiotics are most likely to treat this infection. The choice for most patients would be **nitrofurantoin**, although other considerations such as renal dysfunction may impact the decision.

	# tested**	Amoxicillin/Clavulanate	Ampicillin	Cefazolin (Cephalexin ¹)	Ciprofloxacin	Nitrofurantoin ¹	SXT/TMP
Inpatient Urine							
<i>E. coli</i>	613	80	53	83	79	97	79
<i>Klebsiella pneumoniae</i>	212	99	R	95	97	37	92

Local Data

All the antibiograms are prepared using isolates from **local** laboratory data. If there were not enough isolates available for certain bacteria, the data from Central Zone was used.

Tips to Interpreting Microbiology Reports

1. When testing for susceptibility to *Staphylococcus aureus*, oxacillin is the reference for **cloxacillin** and **cefazolin**. Antibiotics like cefazolin may not appear on the C&S report but if the isolate is **sensitive to oxacillin, cefazolin can be used**. See our new treatment guidelines [here](#).

2. AmpC microorganisms (*Citrobacter* and *Enterobacter*) can develop resistance to **3rd generation cephalosporins and piperacillin-tazobactam** during treatment. If treating **serious infections**, these antibiotics should generally be **avoided** even if these isolates are “susceptible” on the C&S report.

3. Some antibiotics should only be used for specific situations:

Nitrofurantoin: should only be used for uncomplicated symptomatic urinary tract infections (UTIs) in patients with sufficient urinary function (i.e. CrCl >30ml/min). Can be used in men with cystitis, treated for 7 days.

Cephalexin: should **NOT** be used for invasive Gram-negative infections caused by *E. coli*, *Klebsiella pneumoniae* or *Proteus mirabilis*. **Cephalexin CAN** be used for uncomplicated UTIs caused by these microorganisms if sensitive to cefazolin.

For a little touch of humour click on the link below to a video:
[In Da Lab](#)