ANTIBIOGRAMS

The 2017 Antibiotics are available on the [NSHA AMS website](http://www.cdha.nshealth.ca/nsha-antimicrobial-stewardship). 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.

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:

   - **Nitrofurantoïn**: 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](http://www.cdha.nshealth.ca/nsha-antimicrobial-stewardship)