

## Island Health Residency Program – Therapeutic Session: **Interpretation of Microbiological Results & Mechanisms of Resistance**

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### Pre-Readings for session:

1. Giuliano C, Patel CR, Kale-Pradhan PB. A guide to bacterial culture identification and results interpretation. *Pharmacy and Therapeutics*. 2019 Apr;44(4):192.
2. Tamma PD, Aitken SL, Bonomo RA, Mathers AJ, van Duin D, Clancy CJ. Infectious Diseases Society of America Antimicrobial-Resistant Treatment Guidance: Gram-Negative Bacterial Infections. *Infectious Diseases Society of America* 2020; Version 1.0. 2020 Sep 8
  - a. **Please read the section on ESBLs only (pages 5-9)**
3. Tamma PD, Aitken SL, Bonomo RA, Mathers AJ, van Duin D, Clancy CJ. Infectious Diseases Society of America Guidance on the Treatment of AmpC  $\beta$ -lactamase-Producing Enterobacterales, Carbapenem-Resistant *Acinetobacter baumannii*, and *Stenotrophomonas maltophilia* Infections. *Clinical Infectious Diseases*. 2021 Dec 5.
  - a. **Please read section on AmpC beta-lactamases only (pages 9-25)**

### Learning Objectives:

By the end of the session, the resident will be able to:

1. Describe the approach to assessing a microbiological cultures reported in Powerchart
2. Differentiate between bacterial colonization, contamination and infection
3. Identify patient risk factors associated with multi-drug resistant infections
4. Describe differences in mechanisms of resistance of AmpC beta-lactamases and ESBLs and describe differences in treatment options
5. List 3 resources (e.g. local, national, global) that can serve as useful references when approaching a microbiological inquiry