**Title:** Sulfa-So-Good: Treating *Stenotrophomonas maltophilia* Infections with Sulfamethoxazole-Trimethoprim vs Levofloxacin

**Presenter:**

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**Learning Objectives:**

1. Identify the current guideline-recommended treatment of *Stenotrophomonas maltophilia* infection.
2. Identify factors to consider when choosing between sulfamethoxazole-trimethoprim or levofloxacin for *Stenotrophomonas maltophilia* treatment.
3. Identify studies that may guide therapy decisions - considering strengths, weaknesses and application in clinical practice.
4. Discuss additional treatments in cases where sulfamethoxazole-trimethoprim or levofloxacin aren’t appropriate choices

**Abstract:**

*Stenotrophomonas* is a gram-negative bacillus that is responsible for a variety of infections, most commonly within the respiratory tract or bloodstream. Sulfamethoxazole/Trimethoprim (SMX/TMP) and levofloxacin are considered first-line therapies for the treatment of *S. maltophilia* infections. SMX/TMP is considered by IDSA guidelines as the preferred antibiotic of choice, however growing rates of antibiotic resistance have led to increased debate among providers when choosing between these two agents. Currently, adverse effect profiles may serve as the main assay of antibiotic decision-making among these two agents. While the guidelines do discuss appropriate indications for monotherapy, they do not discuss antibiotic decision-making in specific instances of *S. maltophilia* infection such as cystic fibrosis patients, those in the ICU, pneumonia infections, bacteremia, and endocarditis. More data and analysis is required to better identify sulfamethoxazole/trimethoprim or levofloxacin as the optimal antibiotic in the treatment of these infections.

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**Audience Response Questions:**

1. Which of the following is responsible for *S. maltophilia* resistance to β-lactam antibiotics?
   1. L1
   2. *smeDEF*
   3. L2
   4. All of the above
2. Which population would be most likely to develop an infection caused by *S. maltophilia*?
   1. 22-year-old woman w/PMH of migraines, asthma
   2. 64-year-old man w/ PMH - HTN, HLD, MI, A.fib
   3. 58-year-old man w/PMH – COPD/Asthma, intubated, hx meropenem 4 days ago
   4. 47-year-old woman w/PMH – T2DM, HFrEF, SSTI on cephalexin
3. Patient SM is a 66 y/o F admitted for NSTEMI – receives PCI w/DES to LAD.

PMH: T2DM | HTN | HLD | MDD + new HFrEF (EF 20-25%) | CrCl = 80-90mL/min

Vascular Access: Central Line, Left Forearm-Peripheral

On admission patient has blood cultures drawn and on hospital stay day 4 blood cultures result positive for *S. maltophilia*. Which antimicrobial regimen is most appropriate for the patient’s infection?

* 1. Bactrim SS – 1 tablet PO QD
  2. Levofloxacin 750mg + Minocycline 200mg PO Q12H
  3. Ceftazidime 2g Q8H
  4. Bactrim DS – 2 tablets PO BID