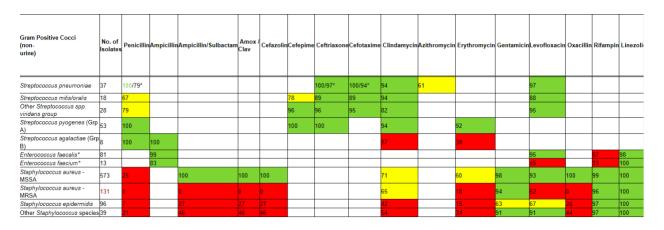
Problem-Based Learning Exercise:

A 9yo male comes in the emergency room with a new rash. He is well appearing and denies any recent fever. His left thigh has a 1cm area of fluctuance and a 3cm area of surrounding erythema. The site has warmth, tenderness to palpation and mild edema. He has no other physical exam findings currently. You make a diagnosis of community acquired purulent cellulitis. You perform an incision and drainage and send the sample for culture. What is the most common organism to cause this infection?

- A. Escherichia coli
- B. Proteus mirabilis
- C. Pseudomonas aeruginosa
- D. Staphylococcus aureus
- E. Staphylococcus epidermidis



Based on the Lurie institutional antibiogram, approximately what percentage of *Staphylococcus aureus* isolates are resistant to methicillin or 1st generation cephalosporins (i.e. Keflex/cephalexin, Ancef/cefazolin)?

- A. 10%
- B. 20%
- C. 50%
- D. 80%
- E. 100%

What percentage of Staphylococcus epidermidis are susceptible to levofloxacin?

- A. 52%
- B. 67%
- C. 91%
- D. 93%
- E. 100%

You decide that you will discharge this patient on oral antibiotics for a 5-day course of therapy. What is the most appropriate antibiotic for this patient?

- A. Bactrim/TMP-SMX
- B. Clindamycin
- C. Keflex/Cephalexin
- D. Linezolid
- E. Vancomycin

Two days later, you receive a phone call from the microbiology lab informing you that your culture is positive for *Staphylococcus aureus*. The report includes the following susceptibility report:

report.		
Antibiotic	MIC	Interpretation
Amoxicillin/Clavulanate	≤ 4/2	Susceptible
Ampicillin/Sulbactam	≤ 8/4	Susceptible
Cefazolin	≤ 4	Susceptible
Clindamycin	8	Resistant
Gentamicin	≤ 1	Susceptible
Levofloxacin	≤ 0.5	Susceptible
Vancomycin	1	Susceptible
Meropenem	≤ 2	Susceptible
Oxacillin	≤ 0.25	Susceptible
Penicillin	8	Resistant
TMP-SMX	≤ 0.5/9.5	Susceptible
Daptomycin	0.5	Susceptible
Linezolid	2	Susceptible
Tetracycline	≤ 1	Susceptible

Which of the following statements is true?

- A. Daptomycin (MIC 0.5) is superior to vancomycin (MIC 1) for this infection because of a lower MIC
- B. This bacterium can be characterized as methicillin resistant *Staphylococcus aureus* (MRSA)
- C. Your original choice of antibiotic for this patient needs to be altered for appropriate therapy
- D. Cephalexin is an appropriate antibiotic for this bacterial isolate
- E. Levofloxacin is a better choice for this infection because it has a narrower spectrum of activity than your original choice of antibiotic
- F. A & D
- G. A&C