

October 15th, 20

Resistant How to without



utti
Rounds

Conflict of Interest

- ❖ None to Declare
- ❖ I wish I was paid for this

Top 10 antibiotics:

10. You can't
9. rank antibiotics
8. because each
7. one has its
6. own spectrum
5. and all play
4. their part
3. in evidence
2. based medicine
1. **Vancomycin + Cefepime**

Rapid Fire Agenda

- ❖ Why do we care?
- ❖ MRSA
- ❖ ESBL
- ❖ C.Diff
- ❖ Pseudomonas
- ❖ Atypicals
- ❖ Resources

Learning Objectives

- 1) Describe which organisms are typical resistant pathogens and what settings to expect them in
- 2) List first line, and second line oral and IV options for each pathogen
- 3) Describe how to alter your management plan for resistant organisms based on the treatment environment and local biome.

Why Do We Care?

- ❖ Better Outcomes
- ❖ Allergies limiting selection
- ❖ Lesser known choices can be more effective options if not in use
- ❖ Don't always have culture data when selecting empiric antibiotics

Methicillin Resistant Staphylococcus Aureus

RISK FACTORS

- ❖ IVDU
- ❖ Prisons, Institutions, Homeless Shelters
- ❖ Long Term Care Facilities, Hospitals, ICU stays
- ❖ Transferred by Contact Predominantly

Methicillin Resistant Staphylococcus Aureus

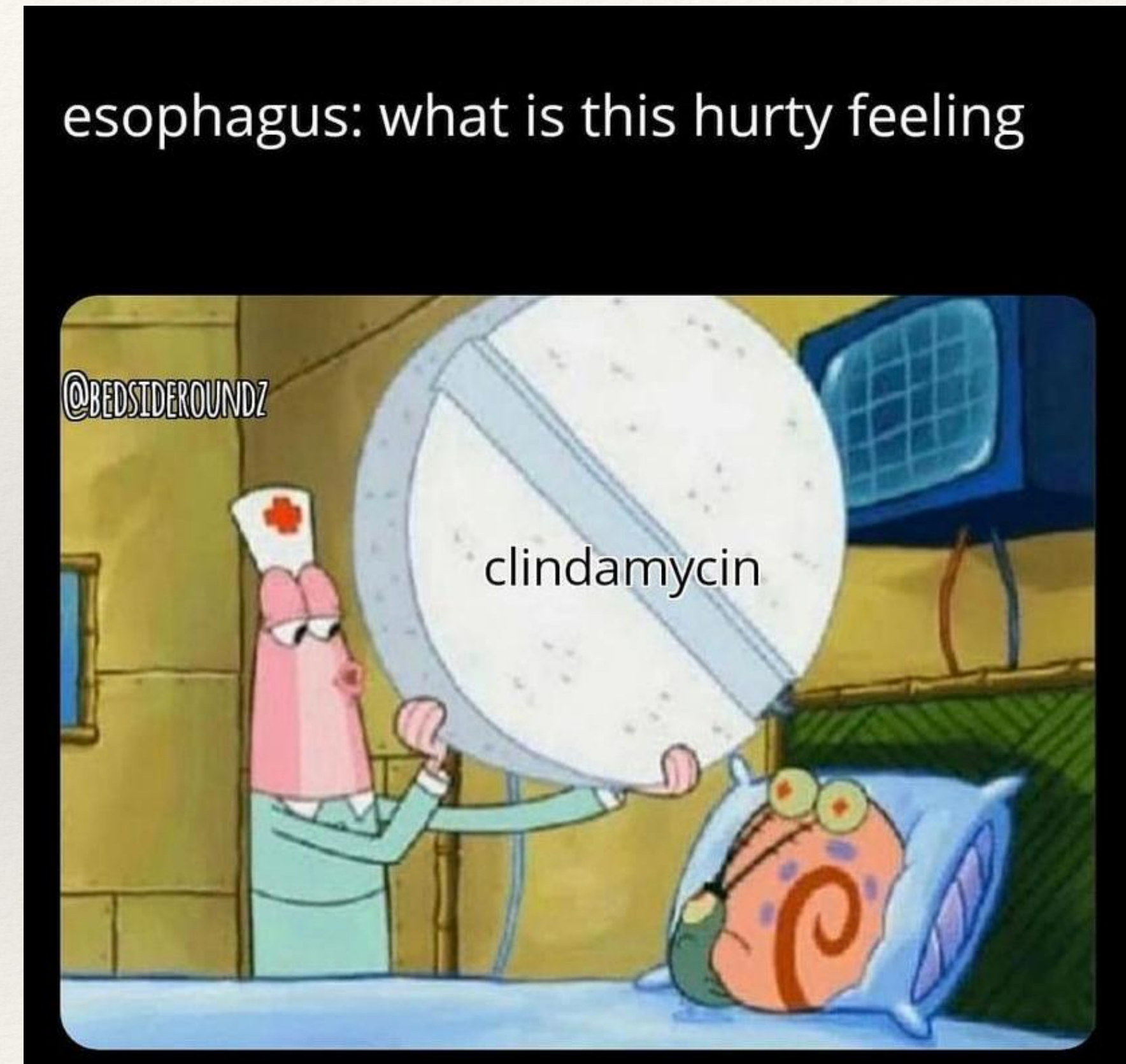
MOST COMMON SITES

- ❖ Skin and Soft Tissue infections
- ❖ Endocarditis
- ❖ Osteomyelitis
- ❖ Pneumonia

Methicillin Resistant Staphylococcus Aureus

Oral/Topical Treatment Options

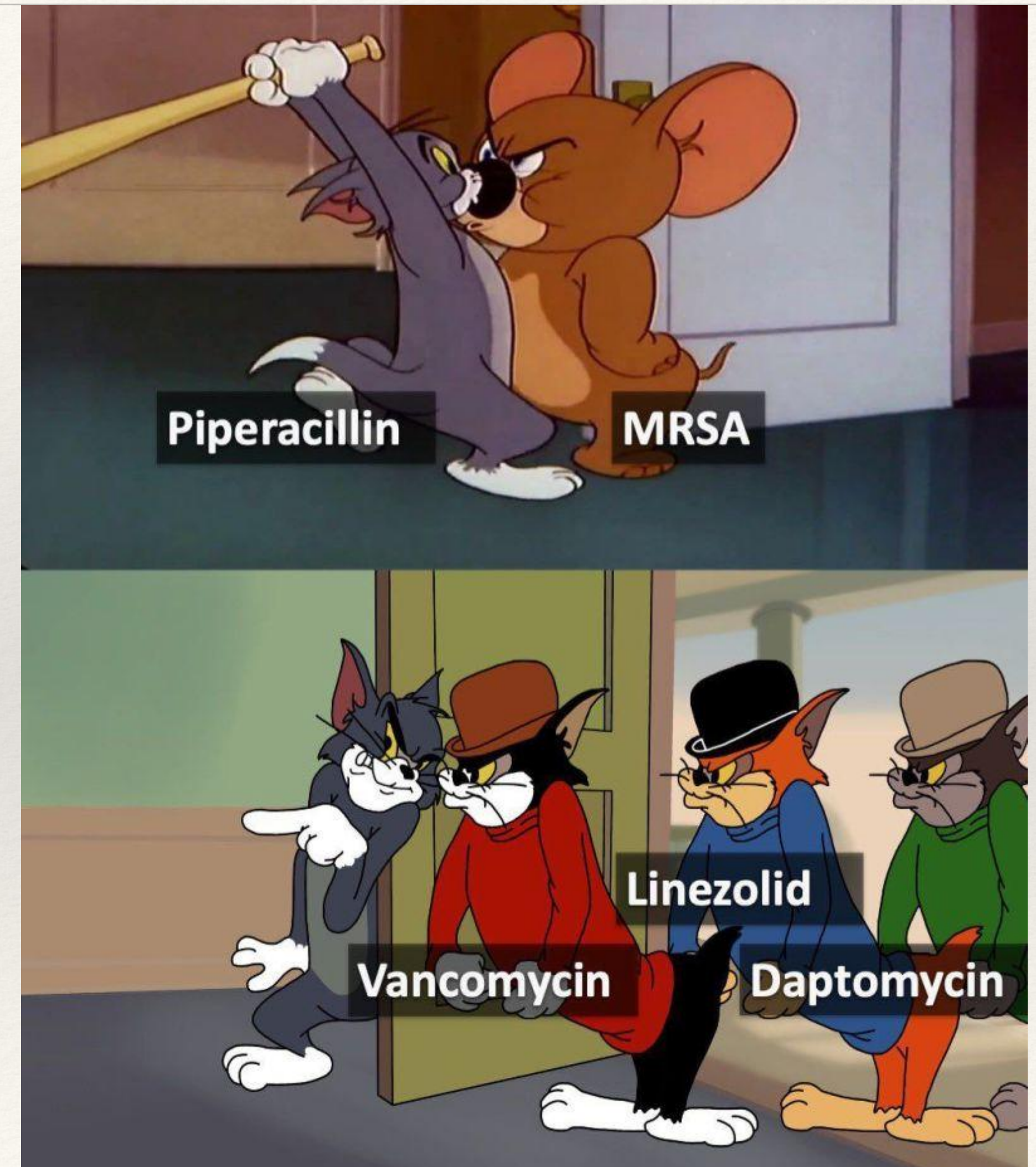
- ❖ Clindamycin
- ❖ Doxycycline/Minocycline
- ❖ Septra
- ❖ Linezolid (YES, YES IT DOES)
- ❖ Mupirocin 2%



Methicillin Resistant Staphylococcus Aureus

IV Treatment Options

- ❖ Vancomycin
- ❖ Daptomycin
- ❖ Linezolid
- ❖ ...and more expensive ones we don't have.
- ❖ (Ceftaroline, Ceftobiprole)



Methicillin Resistant Staphylococcus Aureus

Decolonization!

- ❖ Mupirocin 2% Ointment BID to nares x 5 days
- ❖ Doxycycline 100 mg PO BID x 14 Days
- ❖ Chlorhexidine Soap (5%) with showers for 2-4 weeks.
- ❖ Longer is better, with chlorhexidine soap and mouthwash, with significant declines in reinfection rates.

Extended spectrum beta-lactamases



ESBL E. coli when you give ceftriaxone

Pathetic.

Extended Spectrum Beta Lactamases

What Organisms can have this?

- ❖ E. coli
- ❖ Klebsiella Pneumoniae
- ❖ Proteus Mirabilis
- ❖ Klebsiella Oxytoca
- ❖ Pseudomonas Aeruginosa (THANKFULLY RARE)

No one:
E.coli when it sees a bladder:



Extended Spectrum Beta Lactamases

MOST COMMON SITES

- ❖ Urinary
- ❖ GI
- ❖ Pneumonia (RARE)
- ❖ Skin and soft tissue (RARE)

Extended Spectrum Beta Lactamases

Risk Factors

- ❖ Recent broad spectrum antibiotics use with failure of therapy
- ❖ Recurrent hospitalizations
- ❖ Urosepsis with above
- ❖ Frequent catheter usage
- ❖ Previous cultures with ESBL documentation.

Extended Spectrum Beta Lactamases

Oral Treatment (?)

- ❖ Macrobid
- ❖ Fosfomycin
- ❖ Prototype therapies under research...



Extended Spectrum Beta Lactamases

IV Treatment

- ❖ Meropenem
- ❖ Ertapenem
- ❖ \$\$\$\$ we don't have...
- ❖ Ceftazidime-Avibactam (we have the Tax)

When the Sputum Culture Comes Back and it's Resistant to MagicMero



Pseudomonas Aeruginosa

When your patient claims
he's been good but the
HbA1c is 15.2%



Pseudomonas Aeruginosa

Locations of Infections

- ❖ Skin and Soft tissue
- ❖ Pneumonia
- ❖ Urinary
- ❖ ENT infections

Pseudomonas Aeruginosa

Risk Factors

- ❖ ICU Stays
- ❖ Diabetes, particularly uncontrolled.
- ❖ Frequent Hospital stays, medical device use
- ❖ Cystic Fibrosis, COPD, lung immunocompromised patients

Pseudomonas Aeruginosa

Oral/Topical Treatments

- ❖ Ciprofloxacin
- ❖ Levofloxacin
- ❖ Acetic Acid Treatment! Can ask home care to provide.

Pseudomonas Aeruginosa

IV Treatment

- ❖ Ceftazidime
- ❖ Levofloxacin
- ❖ Pip-Tazo (4.5g IV dose ONLY!)
- ❖ Meropenem



Clostridium Difficile



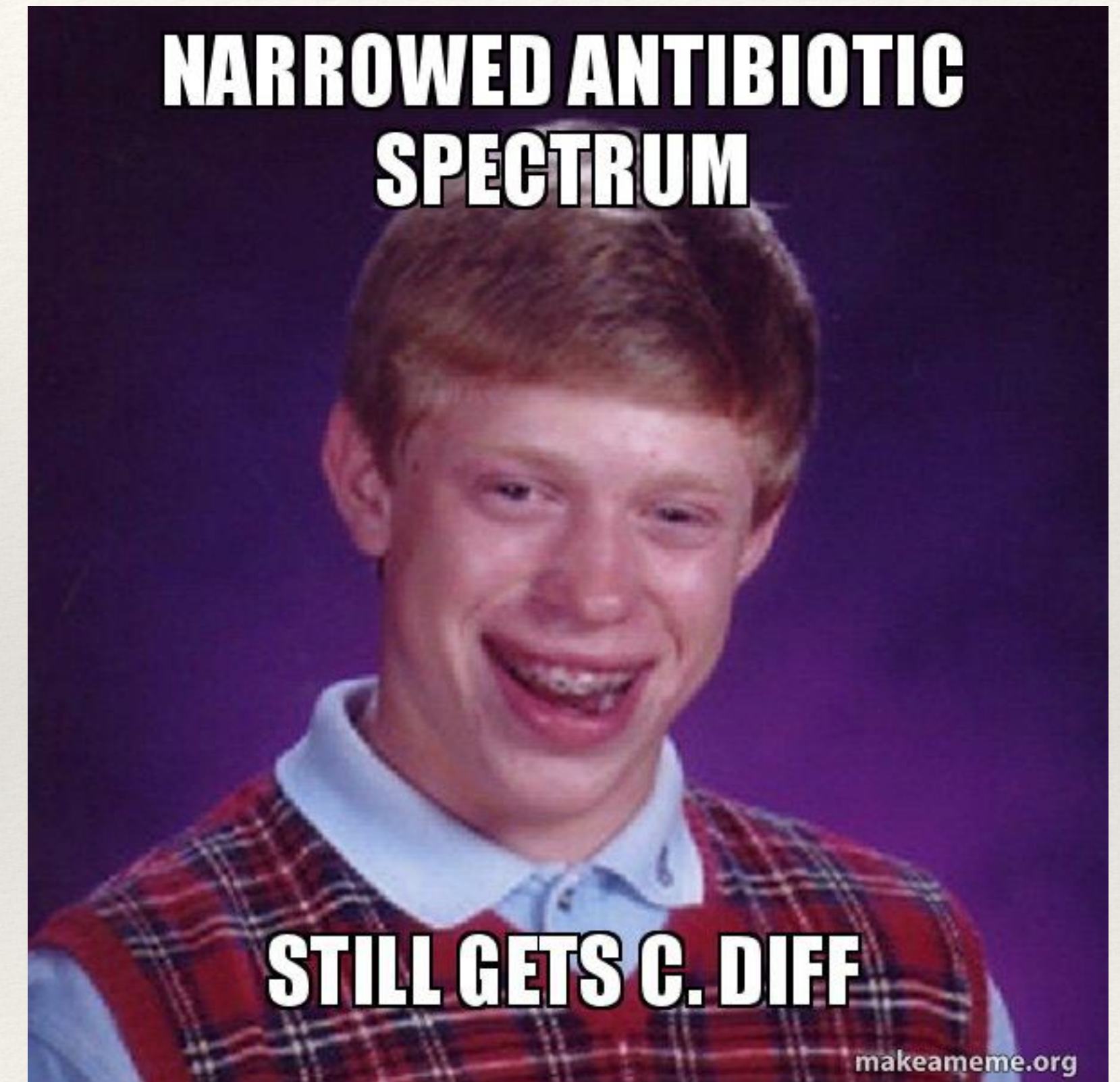
The first person to smell c. diff was probably like



Clostridium Difficile

Risk Factors

- ❖ Antibiotics, specifically broad spectrum
- ❖ Previous colonization
- ❖ Hospitalization, LTC



Clostridium Difficile

Oral Treatment

- ❖ Vancomycin
- ❖ Metronidazole
- ❖ Fidoxamicin

Clostridium Difficile

IV Treatment

- ❖ Metronidazole (WITH ORAL VANCOMYCIN!)

Surgery and medicine fighting over who's admitting the patient with abdominal pain



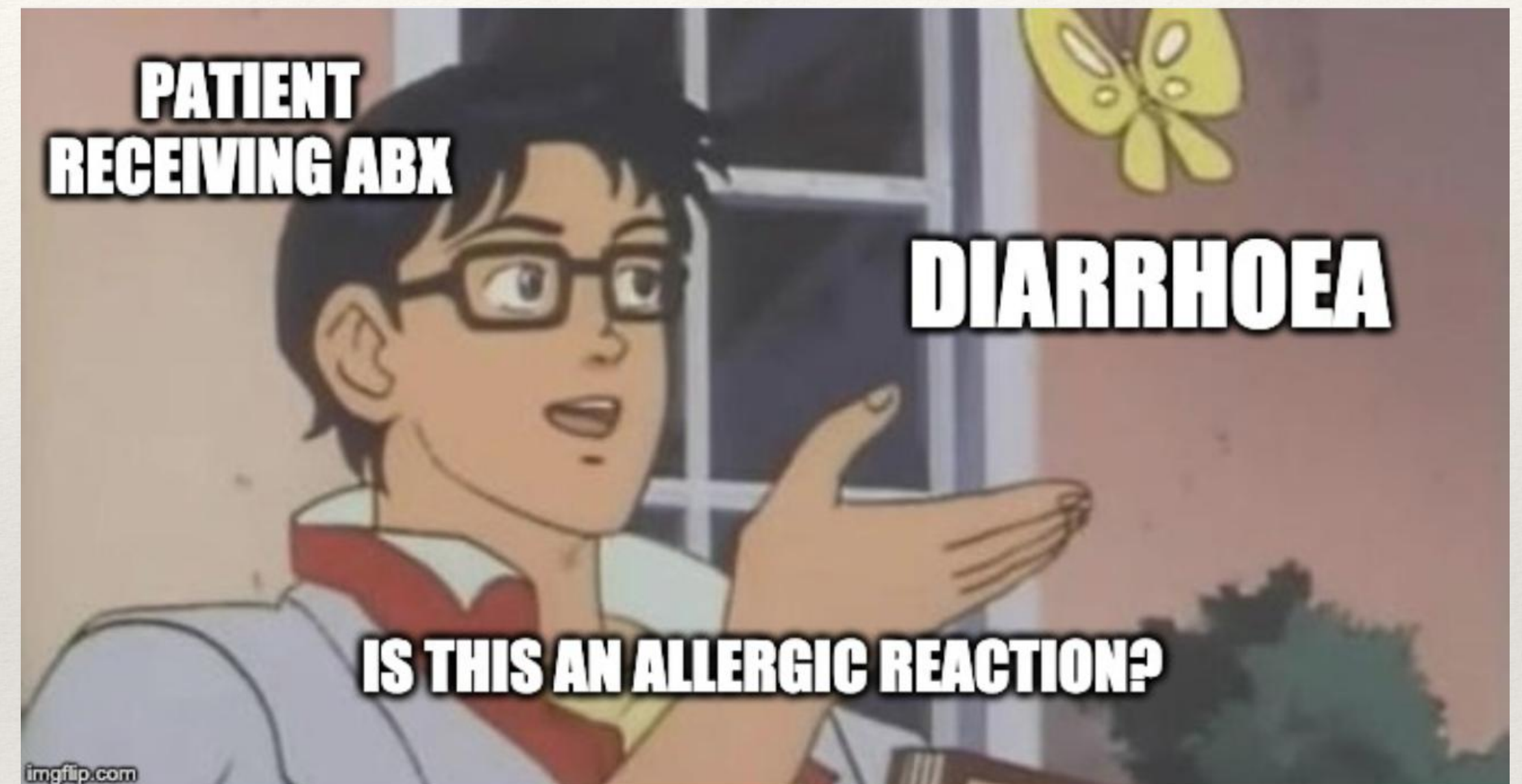
Atypicals

- ❖ Legionella
- ❖ Mycoplasma
- ❖ Vibrio (Doxycycline only)
- ❖ Chlamydia
- ❖ Tularemia
- ❖ Q fever

Atypical Organisms

Oral/Topical Treatments

- ❖ Fluoroquinolones (Levo/Moxi)
- ❖ Azithromycin
- ❖ Tetracyclines (Excluding Legionella)



Atypical Organisms

IV Treatments

- ❖ Fluoroquinolones (Levo/Moxi)
- ❖ Azithromycin
- ❖ Tetracyclines



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