UWTASP tele-antimicrobial stewardship program | echo

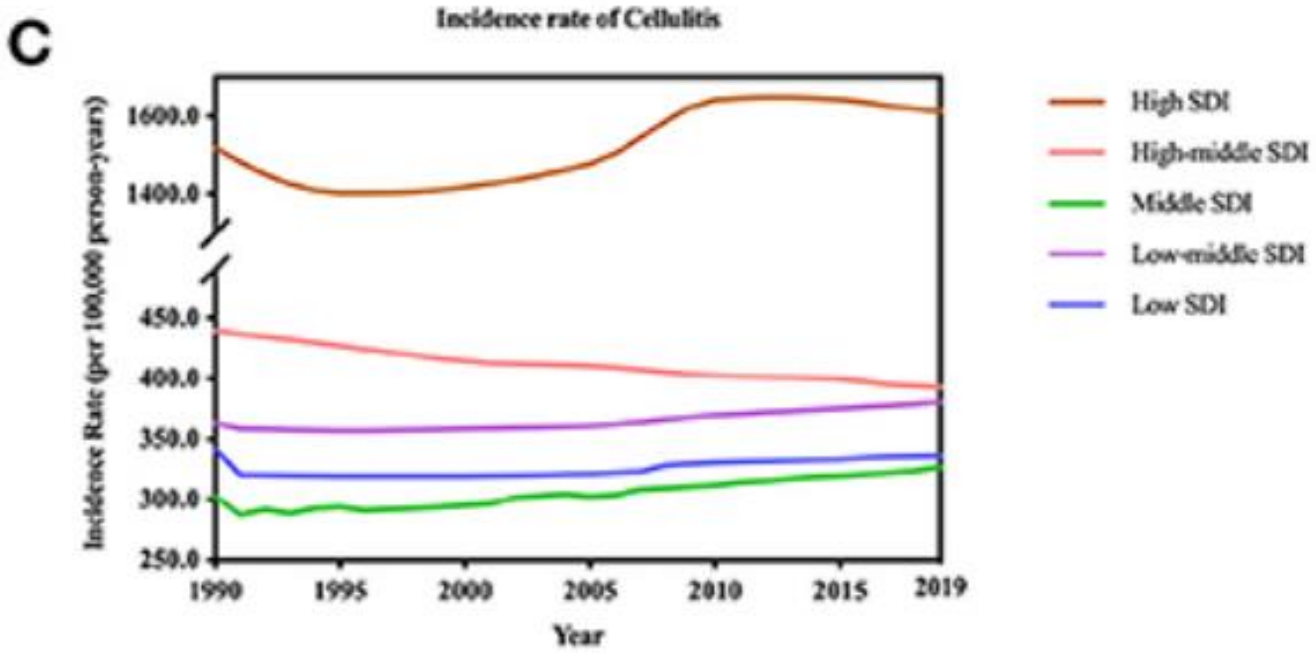
Jan 14, 2024

Recharge & Recap: SSTI

Recapping Cellulitis

1) Quick epi
2) The Top Myths
3) Chronic suppression with PCN
4) A helpful treatment pathway
5) Disparities in SSTI prescribing

1) Epidemiology



Xue, et al. Frontiers in Medicine. April 2022.
https://doi.org/10.3389/fmed.2022.861115

1) When thinking about ID epi, there is always misdiagnosis

- >1/3 of patients hospitalized for cellulitis are misdiagnosed (meta-analysis, 860 pts)
  - Derm or ID evaluation was the standard
  - Two most recent studies, 60% received an alt diagnosis

Cutler TS, et al. J Hosp Med 2023 Mar
(https://doi.org/10.1002/jhm.12977. opens in new tab)

2) Top 10 Myths in Cellulitis

1: Red/swollen skin is always cellulitis

2: Bilateral lower extremity swelling = bilateral cellulitis

3: All SSTIs need antibiotics

4: Increased community MRSA means all stable patients need MRSA coverage

5: All hospitalized patients with cellulitis need MRSA coverage

McCreary, et al. J of Emergency Med. 2017.
https://doi.org/10.1016/j.jemermed.2017.05.007

2) Top 10 Myths in Cellulitis

6: Clinda is good for MRSA

7: You cannot tell which bacteria cased the cellulitis, so treat with broad-spectrum agents

8: If the redness extends beyond the line, it's getting worse

9: If taking prophy for skin infections, there should be no more skin infections

10: Tick bites with surrounding redness is always cellulitis

McCreary, et al. J of Emergency Med. 2017.
https://doi.org/10.1016/j.jemermed.2017.05.007

3) Cellulitis Prophylaxis

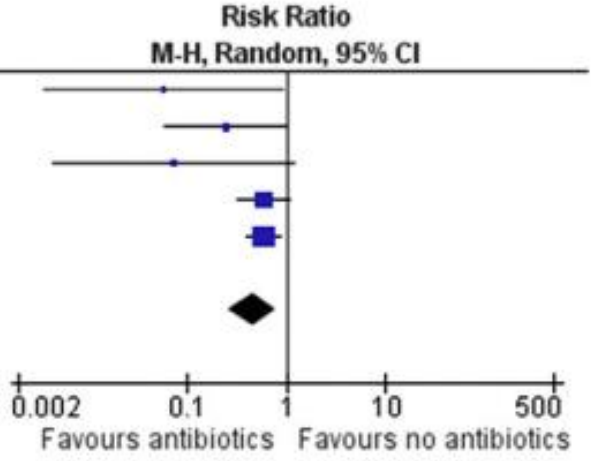
- Meta-analysis:
  - Adult patients with recurrent cellulitis (1+ episode) who were given antibiotic prophylaxis
- Primary outcome: Number of recurrent cellulitis events
- 535 patients from 5 studies
- All included 6-18 months of antibiotics compared to no antibiotics (placebo in the PATCH studies)

Oh, et al. J of Infection. 2014.
http://dx.doi.org/10.1016/j.jinf.2014.02.011

3) Cellulitis Prophylaxis

Study or Subgroup	Antibiotics Events	Total	No antibiotics Events	Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
Kremer 1991	0	16	8	16	3.7%	0.06 [0.00, 0.94]	1991
Sjoblom 1993	2	20	8	20	12.1%	0.25 [0.06, 1.03]	1993
Chakroun 1994	0	24	9	34	3.7%	0.07 [0.00, 1.21]	1994
Patch II 2012	12	60	21	63	34.3%	0.60 [0.32, 1.11]	2012
Patch I 2012	30	136	51	138	46.3%	0.60 [0.41, 0.88]	2012
Total (95% CI)		**256**		**271**	**100.0%**	**0.46 [0.26, 0.79]**	
Total events	44		97				

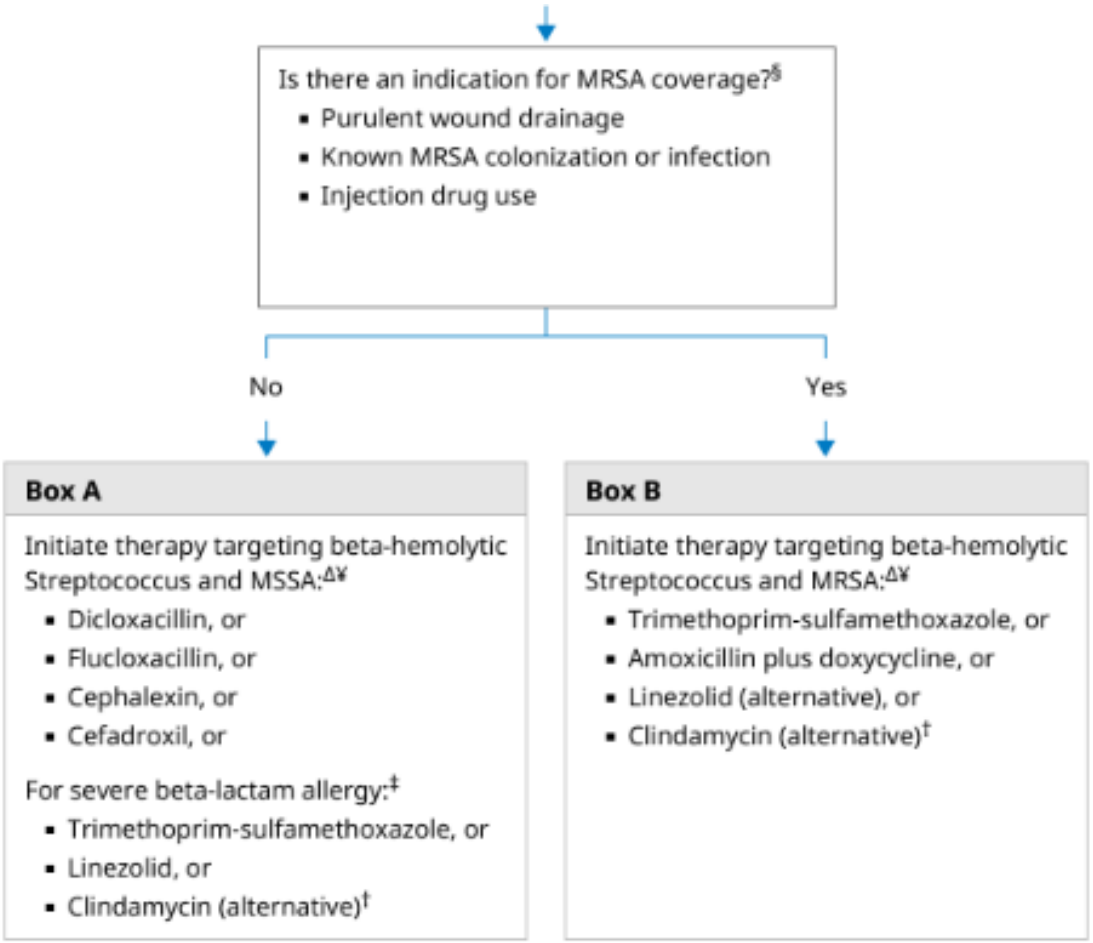
Heterogeneity: Tau² = 0.13; Chi² = 6.54, df = 4 (P = 0.16); I² = 39%
Test for overall effect: Z = 2.77 (P = 0.006)



Oh, et al. J of Infection. 2014.
http://dx.doi.org/10.1016/j.jinf.2014.02.011

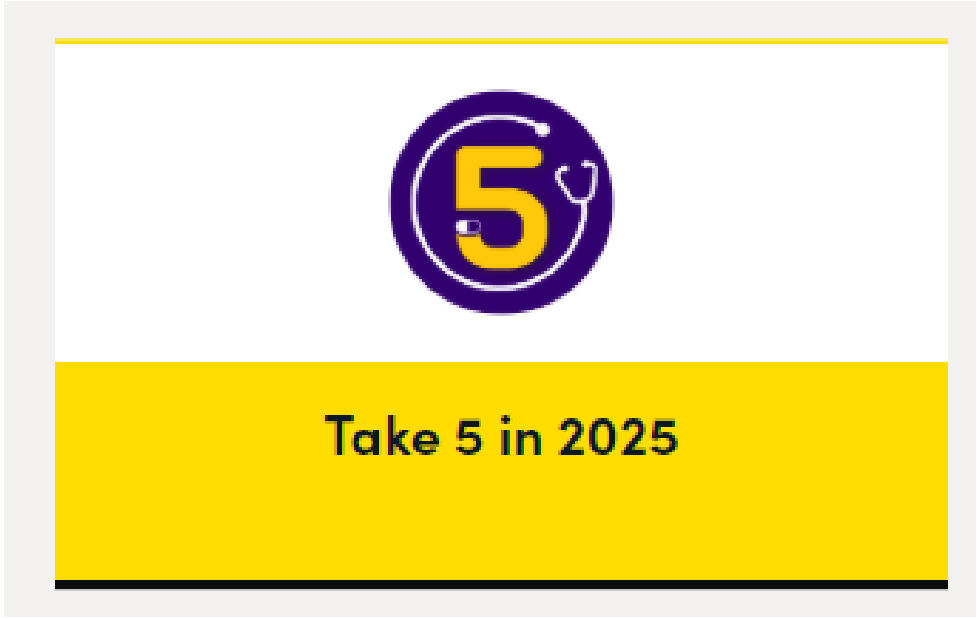
4) A Treatment Pathway

An appropriate patient for outpatient care



Duration: 5-6 days! Consider extension fi severe, slow, or immunocomp

Spelman D. UpToDate. Acute cellulitis and erysipelas in adults: Treatment. Updated Dec 2024. Viewed 1/13/25.


Take 5 in 2025

5) Antibiotic Prescribing Differences by Location and Race

- Cross-sectional data from ED visits from National Hospital Ambulator Medical Care Survey
- 688 visits (estimating 6.9 million national visits)
- ED: 75% antibiotics for SSTI were MRSA drugs
- Clinic: 26%

- Adjusted multivariate regression:
  - Black or African American patients were less likely to receive MRSA coverage compared to White patients (OR 0.3, 95% CI 0.1-0.8, p =0.01)

Nicholas, et al. Archives of Derm Research. 2024
https://doi.org/10.1007/s00403-024-03604-x

Take Aways

- Cellulitis is common and on the rise but so is misdiagnosis
- There are a lot of cellulitis myths (that likely contribute to misdiagnosis and misuse of antibiotics)
- Prophylaxis for well chosen patients is appropriate
- Opportunities:
  - Narrower spectrum
  - Shorter duration
  - Consider racial disparities in your setting

- Default Antibiotic Order Durations for Skin and Soft Tissue Infections in Outpatient Pediatrics: A Cluster Randomized Trial – PubMed
- Antibiotic prescribing for skin infections: broader coverage in emergency settings and differences by race | Archives of Dermatological Research
- Diagnostic stewardship and dermatology consultation in cellulitis management: a systematic literature review and meta-analysis - PubMed