UW TASP tele-antimicrobial stewardship program | echo

August 8, 2017

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Agenda

- Didactic: Paul Pottinger MD, *Purulent SSTI*
- Case Discussion
- Open Discussion

URL: http://rwpoll.com
Code: uwecho

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Purulent SSTI

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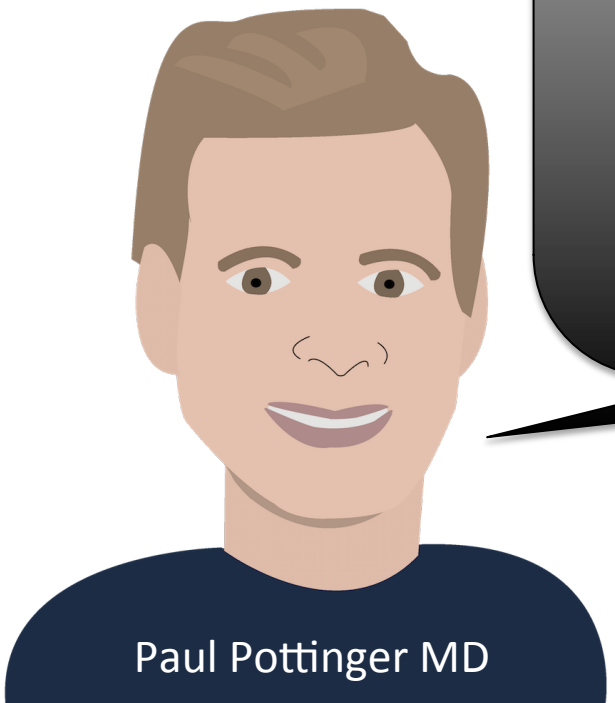
Disclosures

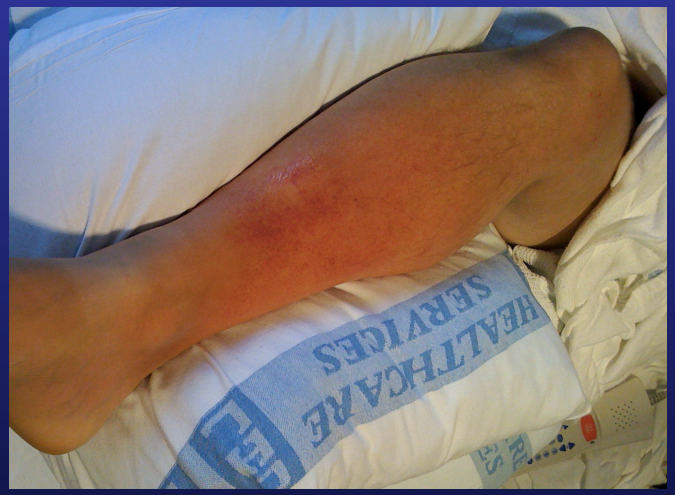
- No financial conflicts of interest
- Everything we discuss is QI, thus protected from legal discovery under WA State Code



SSTI

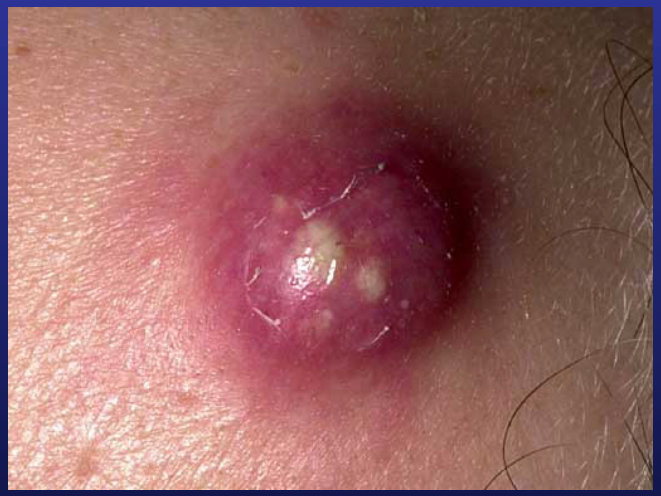
"Two Common Flavors"

Cellulitis



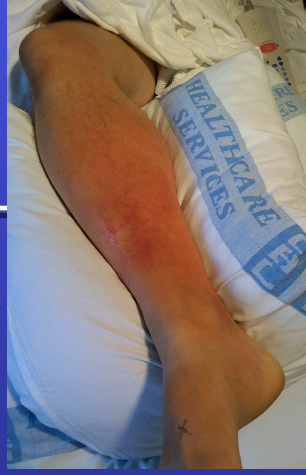
- ✓No purulent focus
- ✓Usually Strep
- ✓(*S.aureus* less often)

Abscess



- ✓Pus!
- ✓Usually MRSA or MSSA

SSTI



How to Cover Cellulitis?

- 179 pts with non-cultured cellulitis
- All were treated with beta-lactams
- All [illegible] s[illegible]ep
- 92 (96%) had treatment success
- *CAVEAT:* still reasonable to cover MRSA for "high risk" (purulence or personal MRSA history)

NOT ALL SSTI IS STAPHYLOCOCCAL!

Jeng *Medicine* 2010

MANAGEMENT OF SSTIs

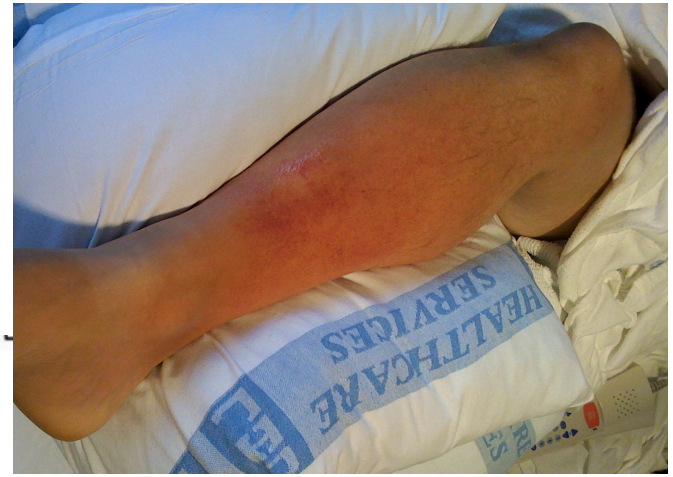
NONPURULENT
Necrotizing Infection /Cellulitis /Erysipelas

Moderate

INTRAVENOUS Rx
- Penicillin ***or***
- Ceftriaxone ***or***
- Cefazolin ***o***
- Clindamyci

Mild

ORAL Rx
- Penicillin VK ***or***
- Cephalosporin ***or***



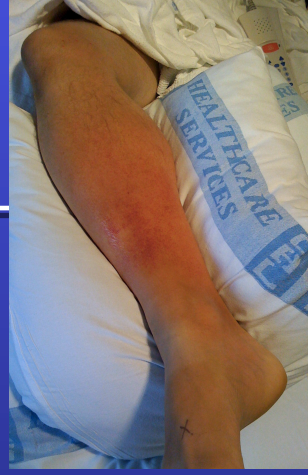
Exquisitely Tender

Piperacillin/Tazobactam

incomycin is recommended; clinda
resistance is <10-15% at the institut

IDSociety.org (2014)

SSTI



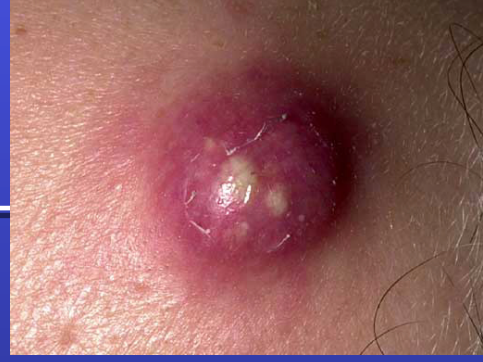
Prophylaxis for Recurrence?

- 274 pts with r
- Ran BID vs
- R ebo
- H
- NNT =
- Recurrence rates the same once abx stopped.

PCN worth considering in recurrent cases… look for other reversible factors (tinea, DM, stasis, etc).

Thomas *NEJM* 2013

SSTI



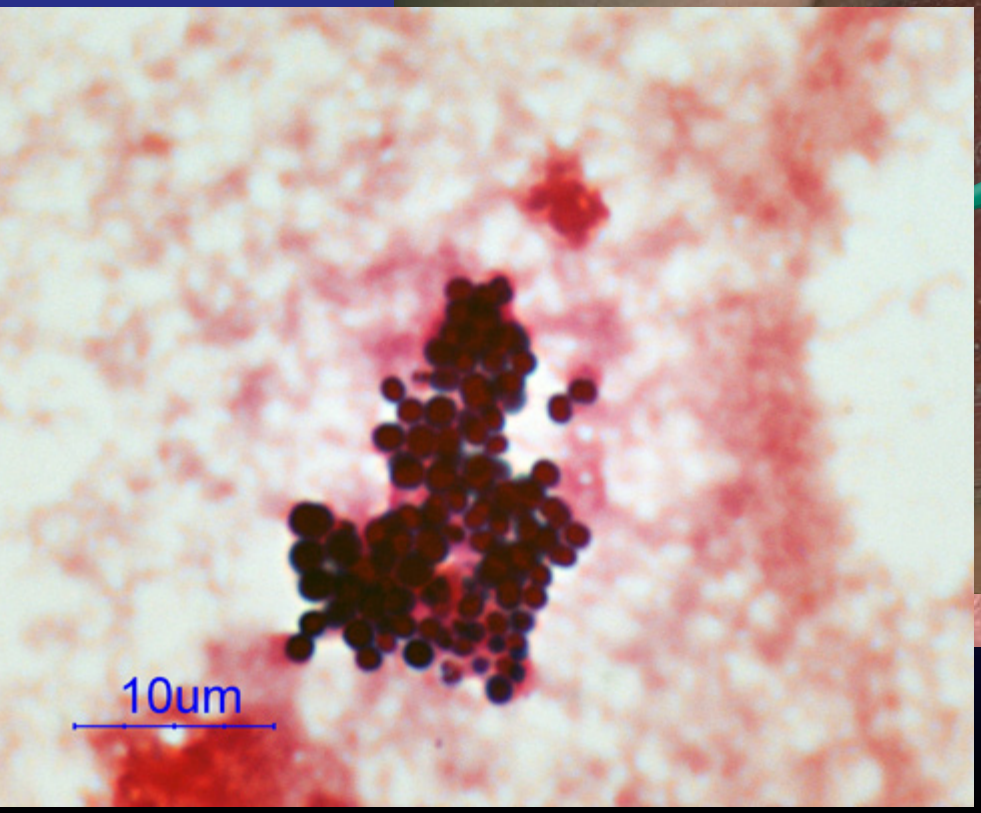
How to Treat Abscess?

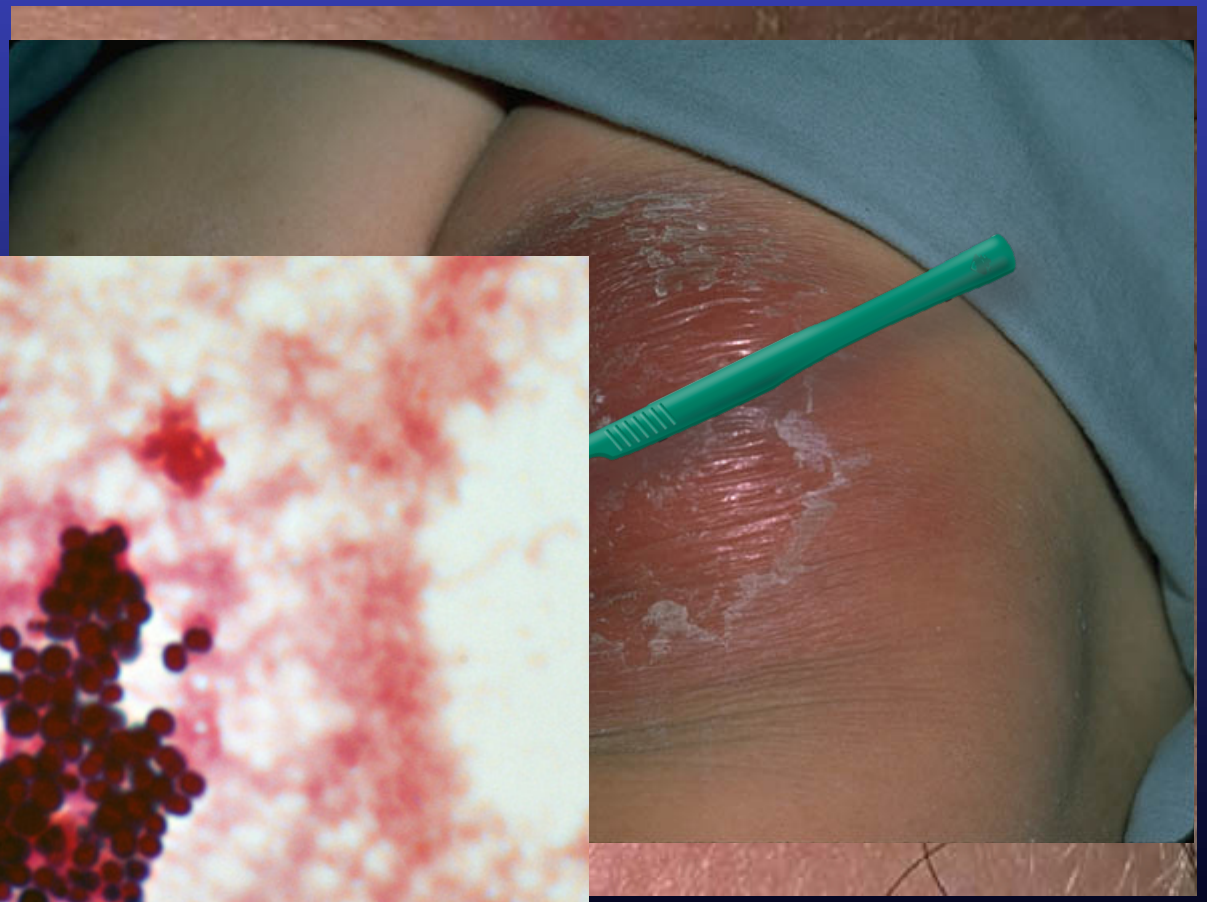
- 2006- Moran et al, *NEJM*, 57% of abx non-concordant with org sensitivity: 96% cont[illegible]pproved
- 200[illegible]T of placebo[illegible]jority of cultured orgs resistant to cephalexin, but "placebo" group did the same or slightly better

I&D Alone for Uncomplicated Abscess!

MRSA: *Drainage +/- Abx?*

When It's Not so Simple…

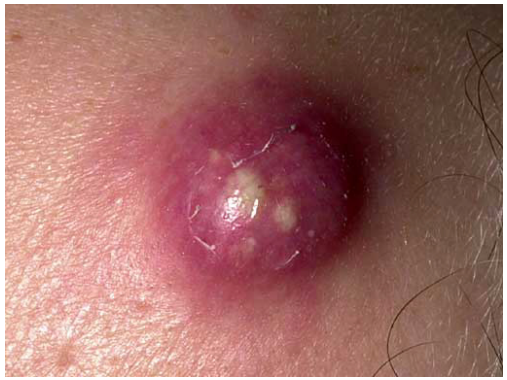




MANAGEMENT OF SSTIs

PURULENT
Furuncle / Carbuncle / Abscess

- Severe
- Moderate
- Mild → I & D



IDSociety.org (2014)

MRSA Susceptibilities: Seattle 2017

	Harborview	UWMC
Clindamycin*	55%	49%
Levofloxacin	14%	18%
Tetracycline	91%	89%
TMP/SMX	83%	89%
Vancomycin	100%	100%
Linezolid	100%	100%
Daptomycin	100%	100%
MRSA (of all *S.aureus*)	49%	31%

Newer, Fancier, Pricier ≠ Better!

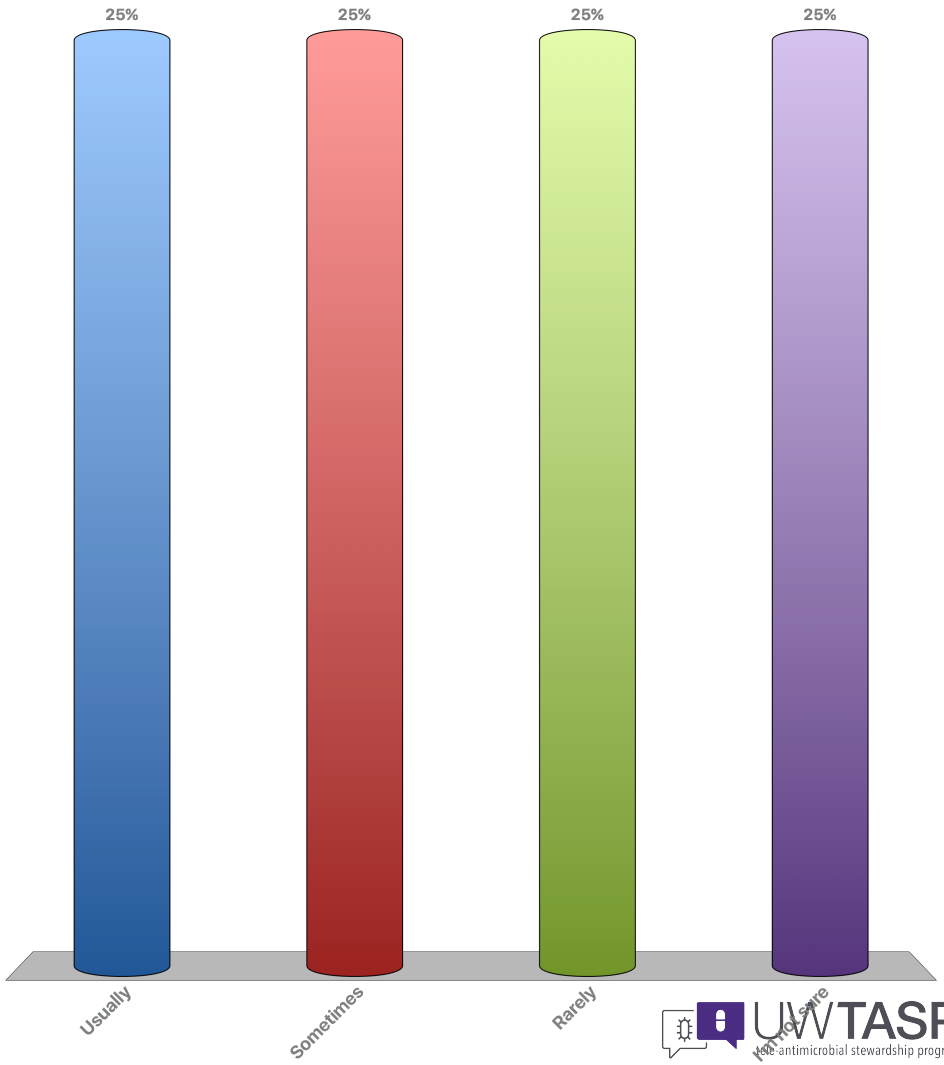
Linezolid

TMP/SMX

For complicated soft tissue abscess…

How often are abx prescribed for abscess at your center?

A. Usually
B. Sometimes
C. Rarely
D. I'm not sure



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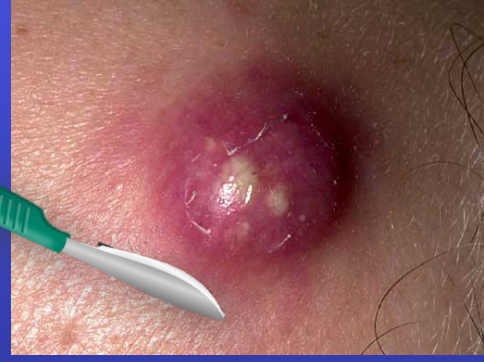
UWTASP
the antimicrobial stewardship program

Abx Update 2017: SSTI



Are you sure about this?

- DB-RCT: Uncomplicated abscess (all got I&D) randomized to 7 days of Placebo vs TMP/SMX

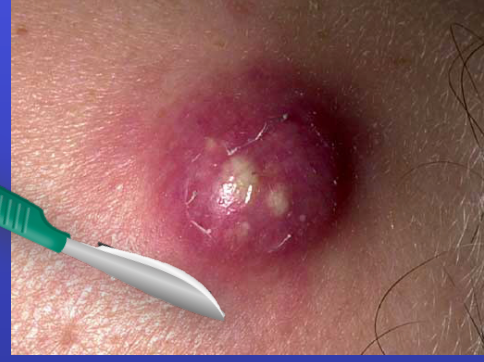
Table 3. Cure Rates among Patients with a Drained Cutaneous Abscess in Three Trial Populations.*

Trial Population	Cure of Abscess		Difference (95% CI)	P Value†
	Trimethoprim–Sulfamethoxazole	Placebo		
	no./total no. (%)		*percentage points*	
Modified intention-to-treat 1	507/630 (80.5)	454/617 (73.6)	6.9 (2.1 to 11.7)	0.005
Per-protocol‡	487/524 (92.9)	457/533 (85.7)	7.2 (3.2 to 11.2)	<0.001
FDAGEEP	218/601 (36.3)	204/605 (33.7)	2.6 (–3.0 to 8.1)	0.38

* CI denotes confidence interval.
† P values were calculated with a Wald asymptotic test of equality with a continuity correction.
‡ The primary outcome was clinical cure at the test-of-cure visit (7 to 14 days after the end of the 7-day treatment period) in the per-protocol population.

Talan *NEJM* 2016

Abx Update 2017: SSTI



Really?

- DB-RCT: Uncomplicated abscess (all got I&D) randomized to 7 days of Placebo vs TMP/SMX vs Clinda
-

Table 3. Cure Rate at Test-of-Cure Visit in the Overall Population and Relevant Subgroups.*

Group

Population

* The actual confidence interval was 95.6% after adjustment for the interim analysis. The intention … , and the population that could be evaluated includes participants who received treatment or placebo and completed …

I&D still gold standard for simple abscess!

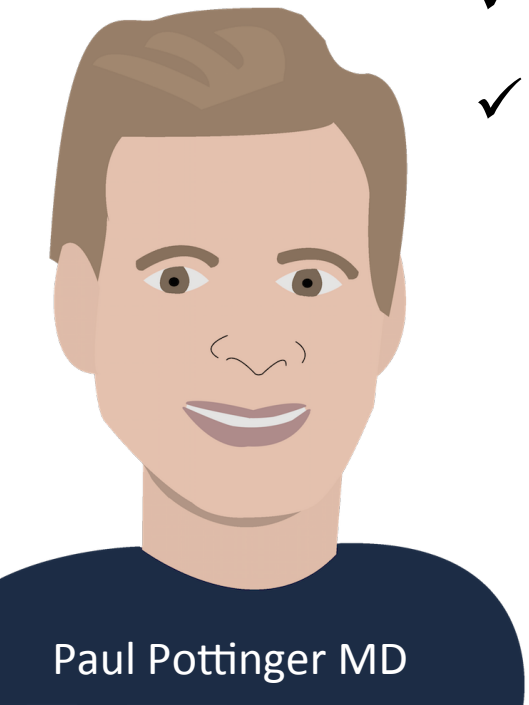
Suggestion of slightly better cure with TMP/SMX… but at what cost?

Daum *NEJM* 2017

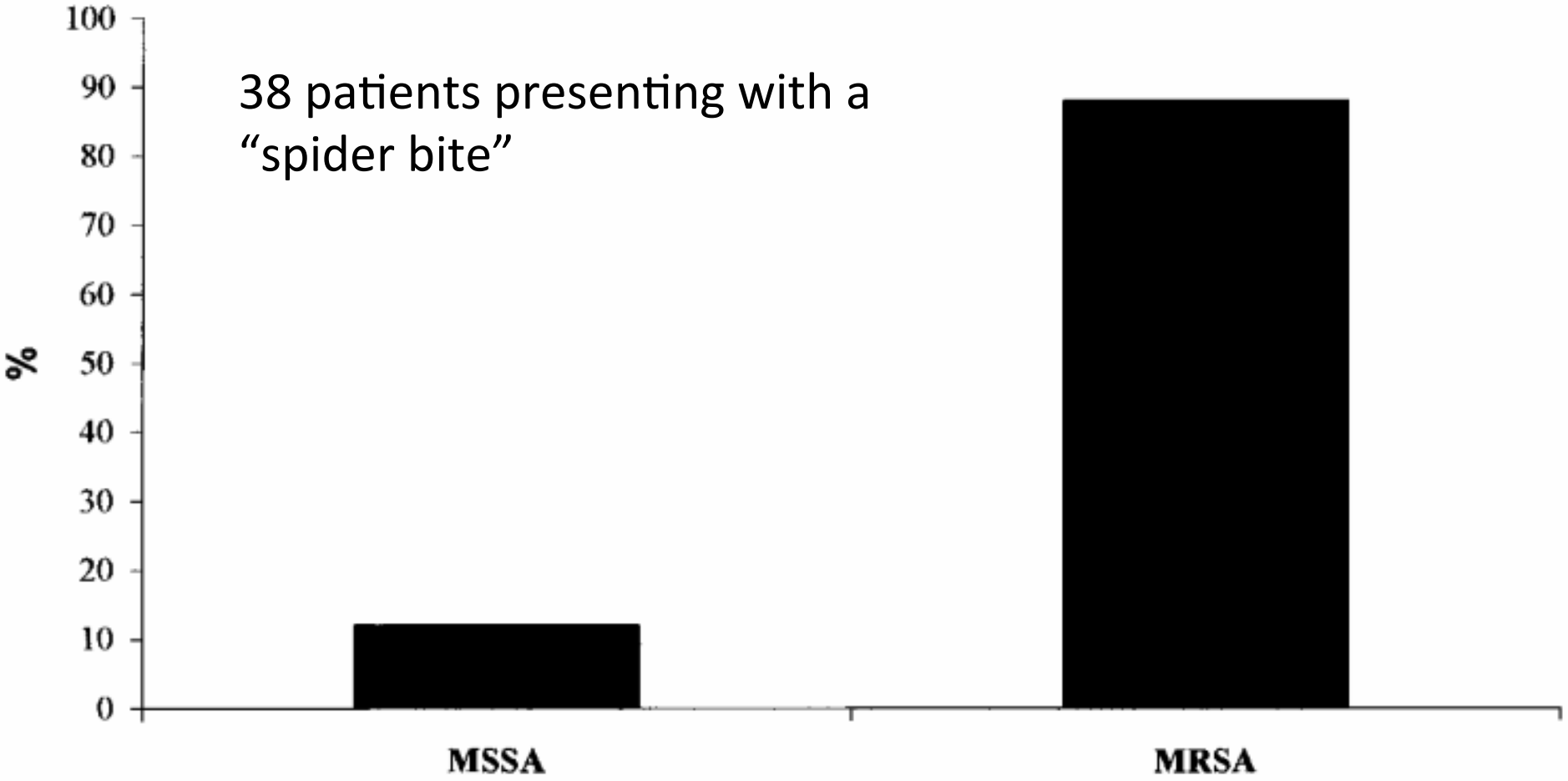
Conclusions

Purulent SSTI: *Stewardship Opportunities*

- ✓ Pus = Staph aureus… often MRSA
- ✓ I&D mandatory… often curative!
- ✓ Complicated SSTI: Cover MRSA!
- ✓ Uncomplicated: Controversial! Two recent trials show ~ 10% higher cure rate with MRSA coverage… consider this if "on the fence," but also recognize potential toxicity, interactions, side effects.



Microbiology Of Isolates



38 patients presenting with a "spider bite"

Fagan, Surgical Infections, 2003

Table 2. Presenting Patients Diagnosed with CA-MRSA

Patient	Patient's History	Association with Prison
A	10-year-old girl treated for 'spider bite' to left lower extremity.	Had visited her father in prison and her mother had been treated for 'spider bite' on her left elbow 2 weeks prior.
B	24-year-old man presented to clinic with complaint of single 'spider bite' lesion to left hip.	Girlfriend and girlfriend's sister both treated for 'spider bites,' girlfriend's other roommate recently released from prison.
C	43-year-old man with multiple pustules to legs, arms, and inguinal area.	Recently released from prison. While in prison, he was treated several times for similar infections.
D	25-year-old woman diagnosed with varicella zoster and then impetigo. Developed abscess with central eschar on right gluteus.	Boyfriend recently released from prison.
E	45-year-old woman, mother of case D. Treated for left gluteal abscess 1 week after her daughter,	See above.
F	41-year-old man with recurring skin infections thought to be impetigo.	Recently released from prison. Treated several times while in prison for similar lesions.
G	50-year-old man with multiple furuncles on his legs and arms. Failed treatment with ciprofloxacin for what was thought to be impetigo.	Recently released from prison. While in prison, he had a history of recurring 'staph' infections.
H	36-year-old woman with multiple furuncles to knee, posterior neck, and scalp. Abscess to left gluteus.	Visited her pregnant daughter in prison for several weeks before her outbreak.
I	16-year-old man with single boil to right axilla. Was treated for a 'spider bite' on his neck 1 year before.	Father released from prison and returned home 1 week prior. Father reported being treated twice for 'spider bites' while incarcerated.
J	42-year-old man with single 'spider bite' to his left groin. Had been treated for recurring skin infections several times since release from prison 8 years ago. Was treated for his first skin lesion while in prison.	Incarcerated 8 years prior. Sister and niece also treated for 'spider bites' during previous year.

Dominguez, JABFM, 2004

Many patients with SSTIs attribute their infection to a preceding spider bite. In the large outbreak of nearly 1000 cases of CA-MRSA among Los Angeles County Jail inmates, the outbreak was initially perceived as an outbreak of spider bites. Primary efforts to control this "spider bite" outbreak involved calling pest control experts, who could not find any spiders in the Jail [2]. Finally when the Los Angeles County Department of Health Services (LAC DHS) investigated, they found that the skin lesions were caused by CA-MRSA infection, which was being transmitted from inmate to inmate through skin to skin contact [2].

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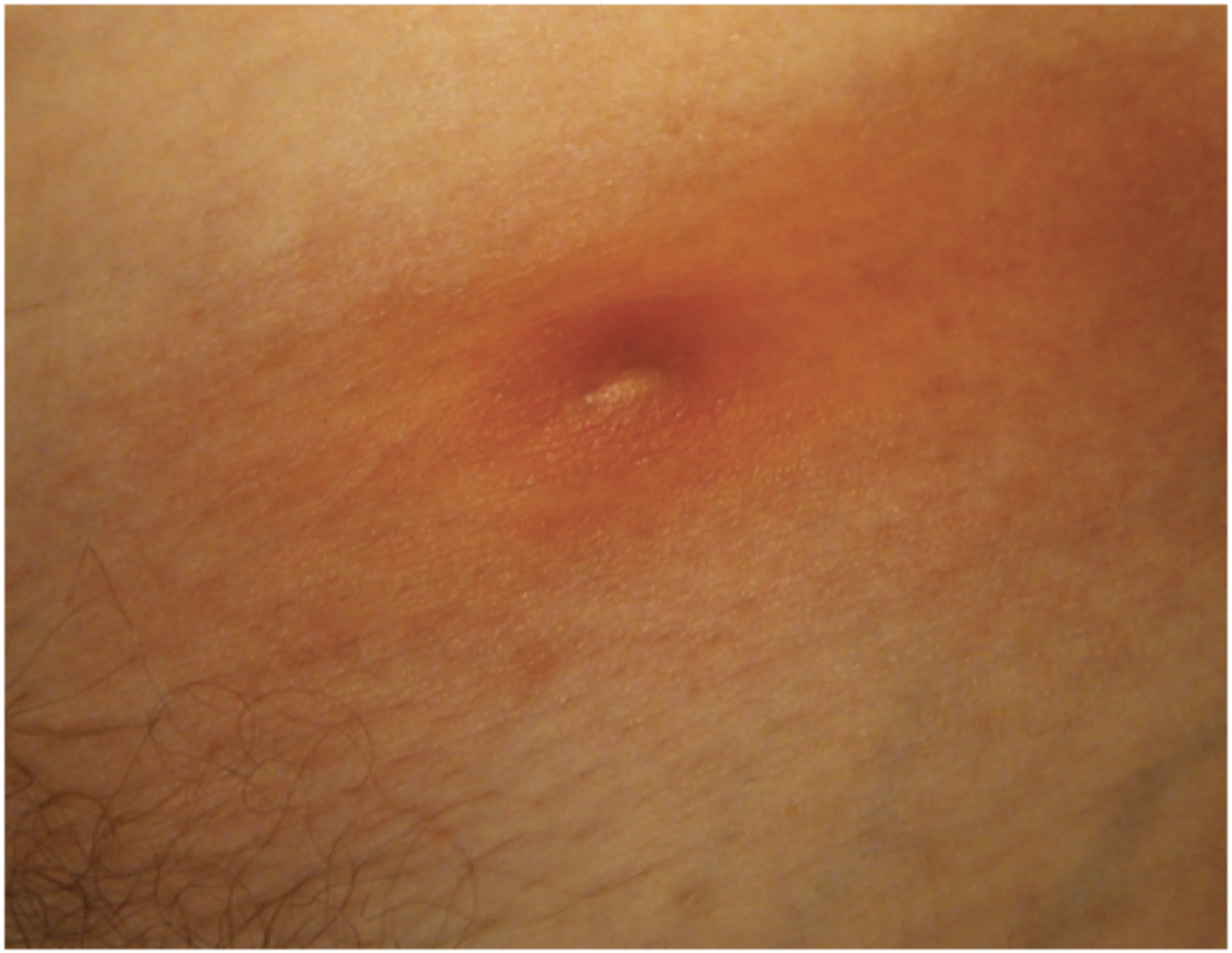
It is unclear why patients commonly attribute SSTIs and cutaneous lesions to spider bites [4,5]. Perhaps the spider bite is a cultural way for patients to explain their skin or soft tissue infection. Additionally, the peculiar presentation of CA-MRSA, which is often attributed to spider bites, may be relatively specific to CA-MRSA infections. CA-MRSA strains causing skin and soft tissue infection commonly contain Panton-Valentin leukocidin exotoxin; the presence of this exotoxin has been associated with severe SSTIs [7,8]. Nosocomial MRSA strains and *S. aureus* strains that do not cause skin infections typically lack this exotoxin [7,9]. It is therefore possible that "spider bite" history may be somewhat specific for CA-MRSA SSTIs.

Miller, Surgical Infections, 2004

Spider Bite or MRSA?



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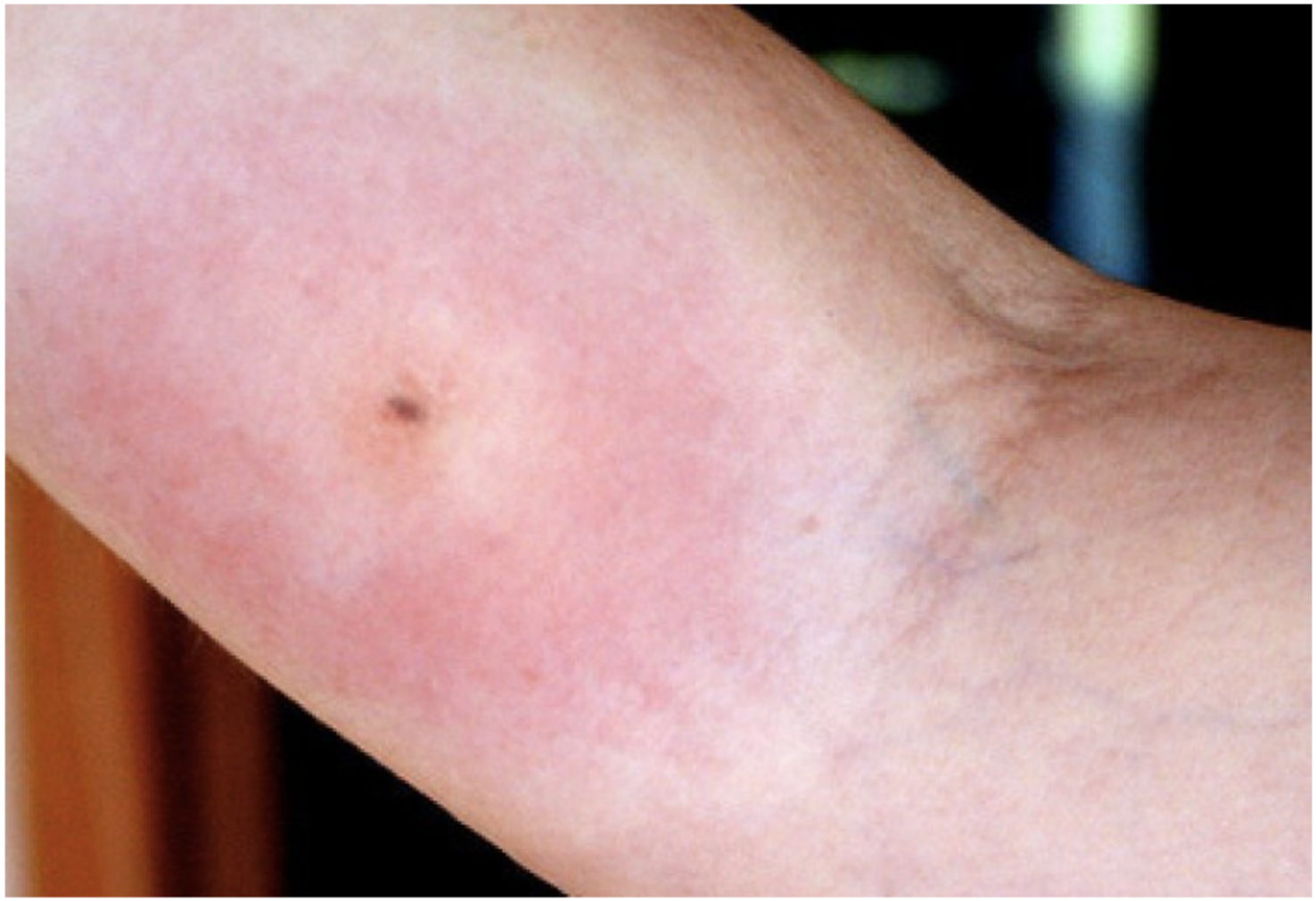
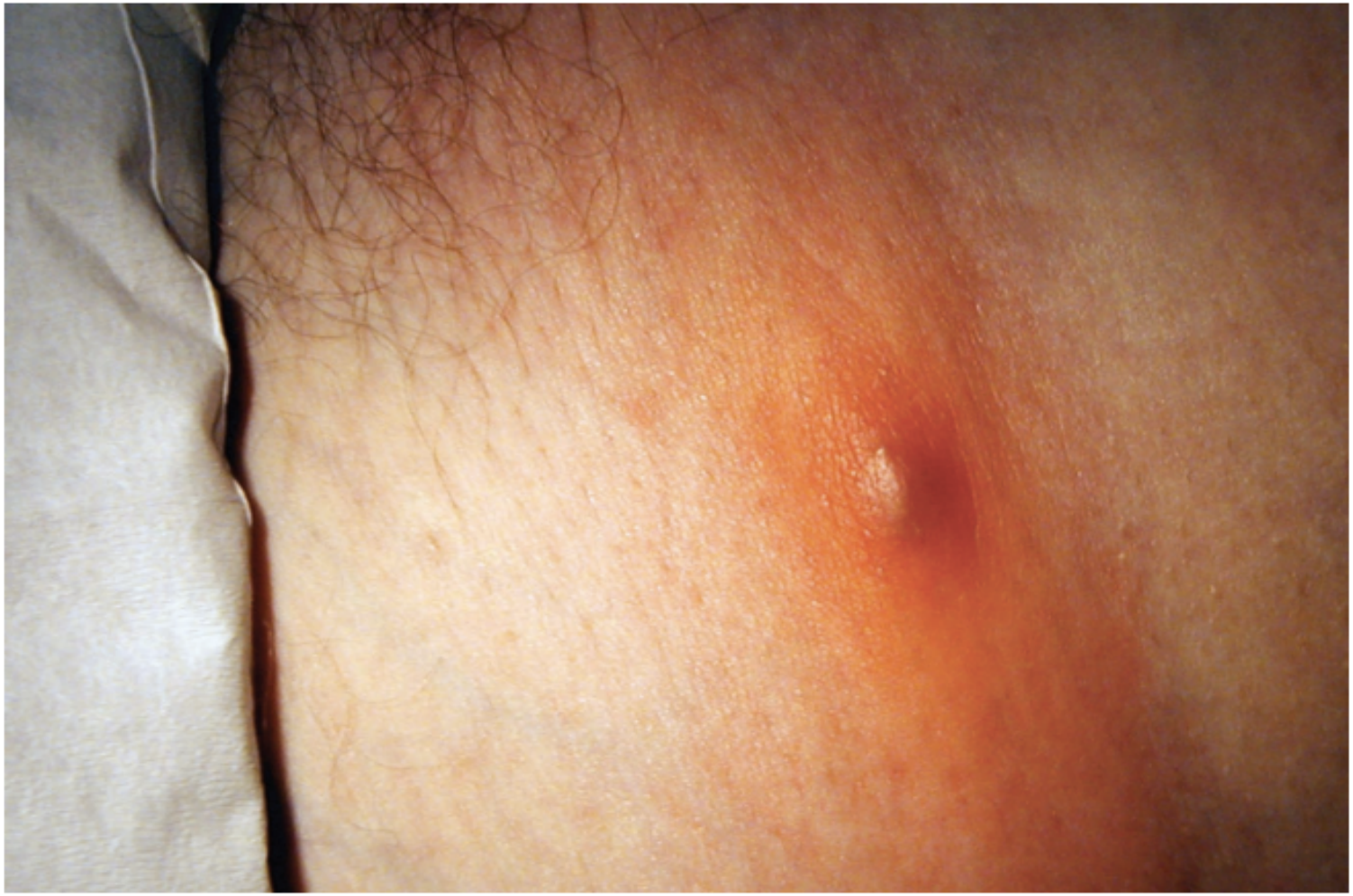
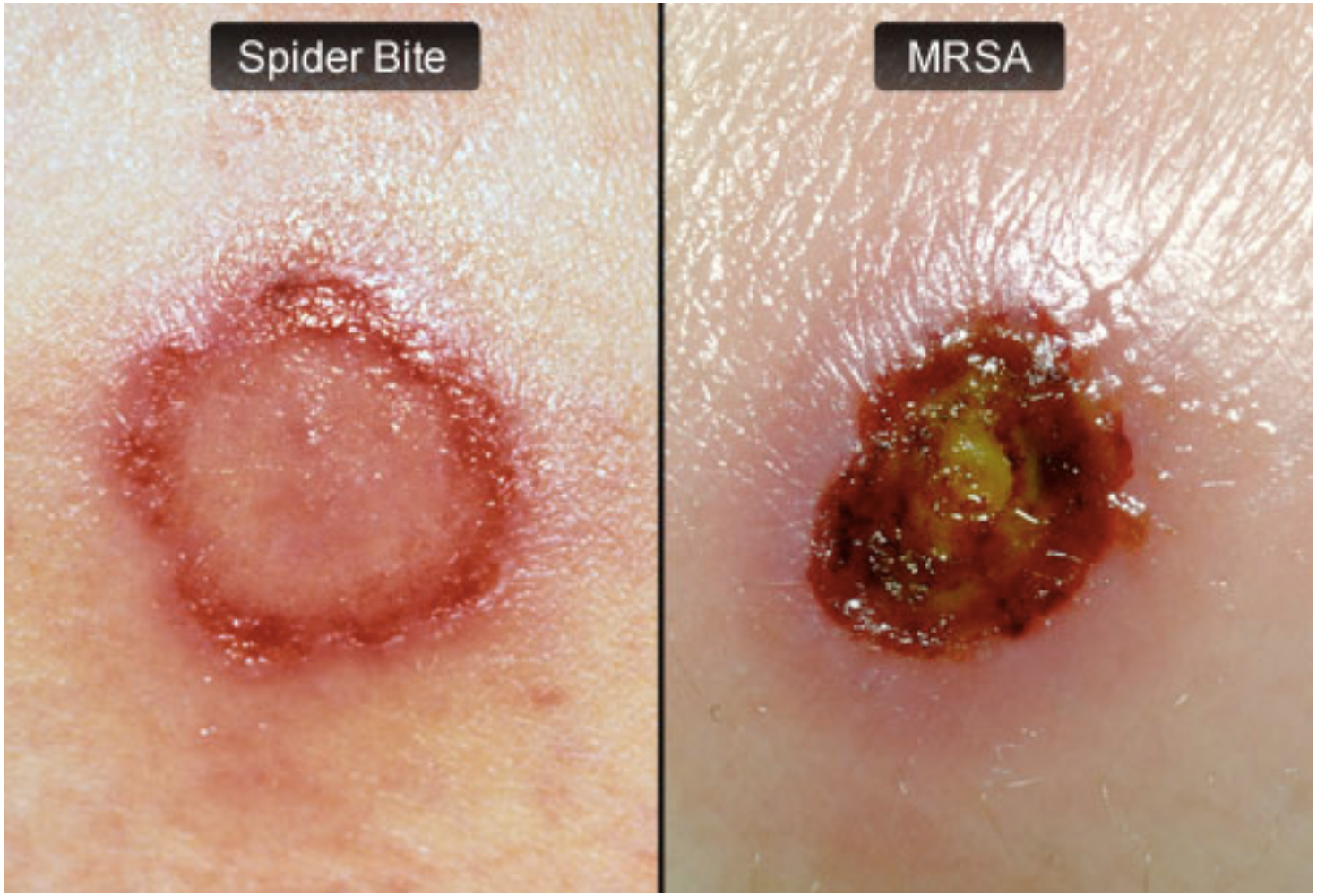
Spider Bite or MRSA?



Spider Bite or MRSA?



Spider Bite or MRSA?



WebMD, accessed 7 August 2017