Soft Tissue Infection: Staph and Strep Gone Wild!

Robert Dachs, MD
Soft Tissue Infections: Staph and Strep Revisited

Robert Dachs, MD, FAAFP
Vice Chairman, Dept of Emergency Medicine,
Ellis Hospital, Schenectady, NY
Clinical Associate Professor
Ellis Hospital Family Medicine Residency Program
Albany Medical College

Disclosure Statement

Dr. Dachs has no financial conflict of interest and has no affiliation with any pharmaceutical product or manufacturer.

Learning Objectives

1. Explain the pathophysiologic and treatment differences between purulent and non-purulent cellulitis.
2. Diagnose and treat common staph and strep skin infections.
Strep and Staph

- Impetigo
- Erysipelas
- Cellulitis/Abscess
- Necrotizing fasciitis

Strep and Staph

- Impetigo
- Erysipelas
- **Cellulitis/Abscess**
- Necrotizing fasciitis

Strep and Staph

- Impetigo
- Erysipelas
- Cellulitis/Abscess
- **Necrotizing fasciitis**
**Strep and Staph**

- Impetigo
- Erysipelas
- Cellulitis/Abscess
- Necrotizing fasciitis

**Perianal cellulitis**

**Strep and Staph**

- Impetigo
- Erysipelas
- Cellulitis/Abscess
- Necrotizing fasciitis

**Toxic shock syndrome**

**Streptococcus...6000+ strains**

- Alpha-hemolysis: Partial
- Beta-hemolysis
- Gamma-hemolysis: None

Lancefield typing: A - V, except I, J

GABHS = *Streptococcus pyogenes*

- *m* sequencing => M protein (150 types)

Courtesy: en.wikipedia.org
GABHS = *Streptococcus pyogenes*  
*m pen sequencing => M protein (150 types)*

- **Acute Rheumatic fever**
- **Glomerulonephritis**

Acute Rheumatic fever:  
*A disappearing act?*

- Est. 471,000 cases/yr worldwide*  
  – 60% will develop rheumatic heart disease  
- WHO data: School-aged children  
  – 100-200/100,000 in developing countries VS.  
  – 0.5/100,000 in industrialized countries.  
- In US, only 502 cases in 2000**

ARF: A Disappearing act...Why?

- Results:
  - Significant decreases in rheumatologic strains of GABHS noted (and replaced with non-rheumatologic strains)

The culprits: M types: 3,5,18,19,24
Shulman, ST, et al. CID; 2006

And it has nothing do with access to antibiotics!!!

Strep and Staph

Impetigo
Erysipelas
Cellulitis/Abcess
Necrotizing fascitis
All the following evaluation and treatment recommendations…. 

**Impetigo**
*pyoderma, impetigo contagiosa*

- **Non-bullous**
  - 70%
  - #1 Staph #2 Strep
- **Bullous**
- **Ecthyma**

---

**Impetigo**
*pyoderma, impetigo contagiosa*

- **Non-bullous**
  - 70%
  - #1 Staph #2 Strep

<table>
<thead>
<tr>
<th>Year</th>
<th>Strep (15-35%)</th>
<th>Staph (3-30%)</th>
<th>Both (25-60%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>15-35%</td>
<td>3-30%</td>
<td>25-60%</td>
</tr>
<tr>
<td>1980-90'</td>
<td>5-10%</td>
<td>50-60%</td>
<td>20-45%</td>
</tr>
</tbody>
</table>
Impetigo: where does it come from?

- **30% of population**
  - Nasal Colonization
  - *Staph aureus (MSSA)*

- **10% of population**
  - Perineum colonized
  - *Staph aureus*

Gorwitz RJ, et al. JID 2008

http://www.aocd.org/?page=Impetigo

---

**Impetigo**

(pyoderma, impetigo contagiosa)

- **Non-bullous**
  - Most common

- **Bullous**
  - Exclusively *Staph*

- **Ecthyma**

Courtesy of: http://emedicine.medscape.com/article/965254-overview#a3

---

**Impetigo**

(pyoderma, impetigo contagiosa)

- **Non-bullous**
  - Most common

- **Bullous**
  - Exclusively *Staph*

- **Ecthyma**
  - Usually *strep*

Impetigo
(pyoderma, impetigo contagiosa)

- Prognosis: resolves in 2 weeks
  - No scarring (even with bullous form)
  - (+) scarring with ecthyma

Treatment:

- Cochrane Review (2012)
  - 68 trials, 5578 participants
- Topical is as good as oral (antistaph)
  - Mupirocin (Bactroban): TID, 5 days
    - $34-50 - 22 gm tube
  - Retapamulin (Altabax): BID, 5 days
    - $135-174 - 15 gm tube
Impetigo: Treatment  
(pyoderma, impetigo contagiosa)

- Cochrane Review (2012)
  - 68 trials, 5578 participants
- Topical is as good as oral (antistaph)
  - Mupirocin (Bactroban): TID, 3-5 days
    - $34-50 – 22 gm tube
  - Retapamulin (Altabax): BID, 5 days
    - $135-174 - 15 gm tube
- Oral antibiotics for bullous/extensive dz
  - Anti-staph Abx – 7 days
  - Avoid PCN (does not cover staph)
  - Avoid erythromycin (S. pyogenes resistance)

Impetigo: oral therapy

- Dicloxacillin 250 mg QID  12 mg/kg/day
- Cephalexin 250 mg QID  25 mg/kg/day
- Erythromycin 250 mg QID  40 mg/kg/day
- Clindamycin 300–400 mg QID  10–20 mg/kg/day
- Amoxicillin/clavulanate 875/125 mg BID po

Strep and Staph

- Impetigo
- Erysipelas
- Cellulitis/Abscess
- Necrotizing fasciitis
Erysipelas

- **GABHS**
  - Less common group G, C, and B

- **Face was the most common**
  - Now accounts for ≤ 20% of cases.

- **Lower extremities are most common site**

---

Erysipelas

- Erythematous, warm, painful
- Skin lesions with raised borders
- Fever is common
- Usually in children or elderly people
- PCN/Amox 10 days

---

Erysipelas

- **Risk factors:**
  - **Lymphedema** 71.2 (95%CI 5.6-908)

  Dupuy A. et al. BMJ 1999
Erysipelas

- Risk factors: Odds Ratio
  - Lymphedema 71.2 (95% CI 5.6-908)
  - Disruption of cutaneous barrier
    *look between the toes…*
  - Venous insufficiency —>
  - Obesity

Erysipelas

- Recurrence rate: Common
  29% of 143 patients over 3 years¹


What do you do if this happens 2+ times?

- Methods: 274 pts, recurrent (2+) leg cellulitis
  – Randomized, double-blind to:
- Results: placebo PenVeek 250mg BID
  (+) cellulitis 1yr 37% 22%

NNT = 6.66
Strep and Staph

Impetigo
Erysipelas
Cellulitis/Abscess
Necrotizing fasciitis

Cellulitis

Non-purulent
What’s the bug(s)?

Purulent
What’s the bug(s)?

Cellulitis

Non-purulent

• Strep pyogenes
• MSSA

(+) purulent

• CA-MRSA
A history of Staph aureus

- 1941 penicillin introduced
- 1942 penicillin resistant forms emerge
- 1959 methicillin introduced
- 1961 MRSA appears
- 1963 1st hospital outbreak of MRSA
- 1996 Vancomycin resistant MRSA appears

Where did this come from?

Where did this come from?

Staph. aureus

- MSSA
- MRSA
  - HA- MRSA
    - USA 100, 200, 500, 600, 700, 800
  - CA- MRSA
    - USA 300, 400

Panton-Valentine Leukocidin toxin
Staph. aureus

MSSA

MRSA

HA- MRSA

USA 100, 200, 500, 600, 700, 800

CA- MRSA

USA 200, 400

Panton-Valentine Leukocidin toxin

Who is at risk?

CA-MRSA: Who is at risk?

- recent hospitalization,
- outpatient visit,
- nursing home admission,
- chronic illness,
- injection drug use
- close contact with a person with risk factor(s)
- antibiotic exposure

CA-MRSA: Antibiotics increase risk

- Methods: case-control study, children, UK
  - 297 (+) CA-MRSA cases vs. 9357 controls
- Risk of CA-MRSA
  - 1 Abx 1-6months prior 2.2
  - 2 Abx’s 3.3
  - 3 Abx’s 11.0
  - 4 Abx’s 18.2


• Same results in adults
CA- MRSA: presentation

“I think I got a spider bite”

Cellulitis: treatment

Non-purulent
- Strep pyogenes
- MSSA

(+) purulent
- CA-MRSA

Case: 28 y/o with 2 days erythema, warmth, tenderness of arm. No drainage, exudate, abscess VSS, afebrile

Which antibiotic????

Cellulitis: treatment

Non-purulent
- Strep pyogenes
- MSSA

Case: 28 y/o with 2 days erythema, warmth, tenderness of arm. No drainage, exudate, abscess VSS, afebrile

Which antibiotic????

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clindamycin*</td>
<td>300-450 mg TID</td>
</tr>
<tr>
<td>Doxycycline*</td>
<td>100 mg BID</td>
</tr>
<tr>
<td>Cephalexin (Cefazolin)</td>
<td>500 mg QID</td>
</tr>
<tr>
<td>Nafcillin</td>
<td>1-2g q6h</td>
</tr>
<tr>
<td>Dicloxacillin</td>
<td>500 mg QID</td>
</tr>
<tr>
<td>Linezolid*</td>
<td>600 mg BID</td>
</tr>
</tbody>
</table>
ARS Question: Do you need to add coverage for CA-MRSA in this case scenario?

Case: 28 y/o with 2 days erythema, warmth, tenderness of arm. No drainage, exudate, abscess VSS, afebrile

A. CA-MRSA coverage should be added (Keflex + Bactrim DS)
B. I occasionally add CA-MRSA coverage
C. CA-MRSA coverage is not required in this scenario

Should I add TMP-SMX to a cephalosporin for uncomplicated cellulitis?

- Methods: multi-centered, double-blind, randomized control trial
  - Outpatients, Boston area, No DM, No PVD, no immunosuppression
- Results:
  - Clinical Cure @ 30 days
    - Keflex + TMP-SMX: 62/73 (85%)
    - Keflex + placebo: 60/73 (82%)
  - Progress to abscess
    - 5 (6.8%)
    - 5 (6.8%)


Can I still use a B-lactam antibiotic with non-purulent cellulitis?

Methods: retrospective, nested, case-control trial
- 5 urban pediatric practices, outpatient treatment

Results: 2096 children, 104 (5%) treatment failures

B-lactam = clindamycin > TMP/SMX

Can I still use a B-lactam antibiotic with non-purulent cellulitis?

- Methods: 179 pts, UCLA, admitted with non-purulent cellulitis,
  - 121 treated with B-lactam antibiotics
- Results: 116 (95.8%) successfully treated with B-lactam antibiotics

Jeng et al Medicine 2010; 89:217-26

- **Cellulitis**
  - **Non-purulent**
    - Strep pyogenes
    - MSSA
    - **Do you need blood cultures?**
  - **CA-MRSA**

**Do you need blood cultures?**

No, yield < 5% → IDSA, 2014
Cellulitis

Non-purulent
- Strep pyogenes
- MSSA

(+) purulent
- CA-MRSA

How many days do you treat?

Non-purulent cellulitis: Duration of therapy

- Methods: 121 pts, Brooke Army Med Ctr
  - With cellulitis (not septic, not chronic cellulitis)
  - All started on levofloxacin 500 mg/day
  - After 5 days, re-evaluated and randomized

- Results:
  - levofloxacin (N=43): 98% resolution @10 days
  - placebo (n=44): 98% resolution @5 more days

**Cellulitis**

- Non-purulent
- (+) purulent
  - Strep pyogenes
  - MSSA
  - CA-MRSA

**Do you need Abx?----> (after I&D)**

---

**The role of antibiotics after I&D**

1. **149 children**
   - TMP-SMX x 10days vs. Placebo
   - 1st: Cure rate @ 10-14 days
     - 95.9% vs. 94.7%

2. **1267 adults**
   - TMP-SMX x 7days vs. Placebo
   - 1st: Cure rate @ 10-14 days
     - 80.5% vs. 73.6%
     - 95% CI: 1.1-11.7%, p=0.005, NNT = 14

---

The role of antibiotics after I&D

• 149 children¹

<table>
<thead>
<tr>
<th>TMP-SMX x 10days vs. Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st: Cure rate @ 10-14 days</td>
</tr>
<tr>
<td>2nd: New lesion(s) @ 10 days</td>
</tr>
</tbody>
</table>

• 1267 adults²

<table>
<thead>
<tr>
<th>TMP-SMX x 7days vs. Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st: Cure rate @ 10-14 days</td>
</tr>
<tr>
<td>(95% CI, 2.1-11.7%, p&lt;0.005, NNT = 14)</td>
</tr>
<tr>
<td>2nd: New lesion(s) @ 10 days</td>
</tr>
</tbody>
</table>


How to treat purulent cellulitis
(All A-II level IDSA recommendations)

• Empiric Rx for CA-MRSA is recommended
• Empiric Rx for -hemolytic strep unlikely needed
• Duration of therapy: 5-10 days,
  - individualize based on clinical response

But which antibiotic(s)???
How to treat purulent cellulitis
(All A-II level IDSA recommendations)

- Empiric Rx for CA-MRSA is recommended
- Empiric Rx for -hemolytic strep unlikely needed
- Duration of therapy: 5-10 days

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMP-SMX</td>
<td>1-2 tab BID*</td>
</tr>
<tr>
<td>Doxycycline</td>
<td>100 mg BID</td>
</tr>
<tr>
<td>Clindamycin*</td>
<td>300-450 mg TID</td>
</tr>
<tr>
<td>Linezolid</td>
<td>600mg BID</td>
</tr>
</tbody>
</table>

Well...what is it??
- 1 or 2 tabs of TMP/SMX BID?

- **Methods:** prospective observational cohort with nested case-control study
  - Univ of Texas, pts with MRSA
  - Note: appears more like retrospective study
  - Note: reported methods are poor.

- **Results:**
  - Had I&D of abscess
    - 1 tab: 82/188
    - 2 tab: 77/140
  - Clinical resolution
    - 1 tab: 75%
    - 2 tab: 73%


CA-MRSA and Clindamycin

- Potential inducible resistance
- Disc diffusion (D test)

- Susceptibility varies....
  - Ontario (2013): 99%
  - British Columbia (2010): 79%
  - Brooklyn, NY (Peds, 2012): 88%
  - Birmingham (2006): 66%
  - Baltimore (2003): 50%
  - Boston (2007): 52%

CDC nationwide survey (2010): 94%
Which is better: TMP-SMX or Clinda???

- **Methods:** double-blind, randomized pts. with cellulitis and/or abscesses > 5 cm
- **Results:**
  - TMP-SMX (n=260) (1 DS tab BID x 10 days) Clinical Cure 68.2%
  - Clinda (n= 264) (300 mg tid x 10 days) Clinical Cure 89.5%
  - Adverse events:
    - TMP-SMX: Diarrhea 9.7%
    - Clinda: Diarrhea 10.1%


<table>
<thead>
<tr>
<th>Source</th>
<th>Pain managed</th>
<th>Irrigate</th>
<th>Packing</th>
<th>C&amp;S</th>
<th>Antibiotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptodate</td>
<td>Field/ regional block</td>
<td>Yes, until all pus removed</td>
<td>Gentle</td>
<td>Yes, for those receiving Abx</td>
<td>Discussed separately</td>
</tr>
<tr>
<td>NEJM</td>
<td>Local</td>
<td>Yes, until clear</td>
<td>Gentle</td>
<td>Optional</td>
<td>Generally not recommended</td>
</tr>
<tr>
<td>IDSA (2014)</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Generally recommend, but OK without</td>
<td>Recommended in SIRS, impaired host defense</td>
</tr>
<tr>
<td>ACEP Choosing Wisely</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Pain managed</th>
<th>Irrigate</th>
<th>Packing</th>
<th>C&amp;S</th>
<th>Antibiotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptodate</td>
<td>Field/ regional block</td>
<td>Yes, until all pus removed</td>
<td>Gentle</td>
<td>Yes, for those receiving Abx</td>
<td>Discussed separately</td>
</tr>
<tr>
<td>NEJM</td>
<td>Local</td>
<td>Yes, until clear</td>
<td>Gentle</td>
<td>Optional</td>
<td>Generally not recommended</td>
</tr>
<tr>
<td>IDSA (2014)</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Generally recommend, but OK without</td>
<td>Recommended in SIRS, impaired host defense</td>
</tr>
<tr>
<td>ACEP Choosing Wisely</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Most painful procedures...

- 1,178 ED procedures
- Recorded by research assistant
  - #1 – Nasogastric tube
  - #2 – I & D
  - #3 – Fracture reduction
  - #4 – Urethral catheterization


---

<table>
<thead>
<tr>
<th>Source</th>
<th>Pain managed</th>
<th>Irrigate</th>
<th>Packing</th>
<th>C&amp;S</th>
<th>Antibiotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptodate Field/ regional block</td>
<td>Yes, until all pus removed</td>
<td>Gentle</td>
<td>Yes, for those receiving Abx</td>
<td>Discussed separately</td>
<td></td>
</tr>
<tr>
<td>NEJM Local</td>
<td>Yes, until clear</td>
<td>Gentle</td>
<td>Optional</td>
<td>Generally not recommended</td>
<td></td>
</tr>
<tr>
<td>IDSA (2014)</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Generally recommend, but OK without</td>
<td>Recommended in SIRS, impaired host defense</td>
<td></td>
</tr>
<tr>
<td>ACEP Choosing Wisely</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Irrigation of cutaneous abscesses does not improve treatment success.

**Methods:** prospective, nonblinded study
- 187 ED patients, randomized to:
- (+) irrigation
- (-) irrigation

**Results:**
- 30 day telephone follow-up
- Need for further intervention: (+) 15% (-) 13%
- Baseline differences:
  - packing: (+) 89% (-) 75%
  - antibiotics: (+) 91% (-) 75%
CA-MRSA abscesses and the I&D: Do you need to pack it?

- **Methods:** 48 pts. with abscess <5cm
  - Single-blind, randomized to:
  - **Results:**
    - Pain (post-procedure) > 23.8 (100mmVAS)
    - Pain (at 48 hours) > 16.4
    - No difference in need for secondary interventions

Routine Packing of Simple Cutaneous Abscesses is painful and probably unnecessary.


<table>
<thead>
<tr>
<th>Source</th>
<th>Pain managed</th>
<th>Irrigate</th>
<th>Packing</th>
<th>C&amp;S</th>
<th>Antibiotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptodate</td>
<td>Field/ regional block</td>
<td>Yes, until all pus removed</td>
<td>Gentle</td>
<td>Yes, for those receiving Abx</td>
<td>Discussed separately</td>
</tr>
<tr>
<td>NEJM</td>
<td>Local</td>
<td>Yes, until clear</td>
<td>Gentle</td>
<td>Optional</td>
<td>Generally not recommended</td>
</tr>
<tr>
<td>IDSA (2014)</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>Generally recommend, but OK without</td>
<td>Recommended in SIRS, impaired host defense</td>
</tr>
<tr>
<td>ACEP Choosing Wisely</td>
<td>Not discussed</td>
<td>Not discussed</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What are we doing….
- Survey-Monkey 350 ED physicians
- Irrigation? 48% routinely irrigate
  Not necessary
- Packing? 91% routinely pack
  Not necessary
- Culture? 32% routinely culture
  Not necessary
- Antibiotic? 17% routine, increases with surrounding cellulitis

In real life…
Merritt C, et al. BMC Emergency Medicine, 2013; 13 (26)
- Methods: Retrospective study, SSTI’s
  – 3 New England ED’s, 2010
  – 936 patients
- Results:
  76% of adults (+) abscess  (+) Antibiotics
  85% of peds (+) abscess  (+) Antibiotics

What if you are uncertain an abscess is present?
- Do you I&D?
- Do you US?
- How reliable is your examination?
How reliable is your exam?

Kappa (κ)

• Study #1: 371 peds patients........0.43
  (need for drainage)
• Study #2: 105 peds patients........0.44


Is ultrasound a solution?

<table>
<thead>
<tr>
<th></th>
<th>Clinical Exam</th>
<th>Ultrasound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sensitivity</td>
<td>Specificity</td>
</tr>
<tr>
<td>Study #1</td>
<td>86%</td>
<td>70%</td>
</tr>
<tr>
<td>Study #2</td>
<td>US changed management 56%</td>
<td></td>
</tr>
<tr>
<td>Study #3</td>
<td>78%</td>
<td>67%</td>
</tr>
<tr>
<td>Study #4</td>
<td>87%</td>
<td>71%</td>
</tr>
</tbody>
</table>

1Squire BT, et al. Acad Emerg Med 2005
Recurrent CA-MRSA infection

Example: Pt returns 1 month later with new infection, opposite thigh

What is the appropriate management of this patient?

A. Emphasize personal hygiene measures
B. Decolonize with mupirocin and chlorhexidine showers
C. Decolonize with TMP-SMX and rifampin
D. A and B
E. A, B, and C

Recurrence rates: 28% at 90 days - up to 50% in one year

The IDSA recommends….

- Personal hygiene (A recommendation)
  - Cover draining wounds
  - Hand hygiene after touching infected skin
  - Avoid reusing/sharing personal items (e.g., razors)
- Environmental hygiene (C recommendation)
- Decolonization (C recommendation)

Decolonization for recurrent abscesses

- IDSA (2014) says:
  "Consider a 5-day decolonization regimen twice daily of intranasal mupirocin, daily chlorhexidine washes, and daily decontamination of personal items such as towels, sheets, and clothes for recurrent S. aureus infection (weak, low)"
Why nasal decontamination alone might not work...

<table>
<thead>
<tr>
<th>Anatomic location</th>
<th># of MRSA (+) samples (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal alone</td>
<td>198 (66%)</td>
</tr>
<tr>
<td>Nasal + perineum</td>
<td>245 (82%)</td>
</tr>
<tr>
<td>Nasal + perineum + throat</td>
<td>269 (90%)</td>
</tr>
</tbody>
</table>

*NHS Scotland MRSA screening programme, n= 10,077

What about an oral antibiotic regimen for decolonization???

- The IDSA says “No”
- But then they comment...

  "rifampin combo is superior in decreasing S. aureus colonization (than anti-Staph abx alone)"

  *What's that all about????
Adding rifampin???

- **METHODS:** systematic review
- **RESULTS:** 9 comparative trials (6 RCT’s)

  - 25% for rifampin + TMP/SMX for 5 days
  - 100% for rifampin + minocycline for 14 days.
  - Rifampin D/C’d due to drug-related toxicity: 2% of 282 patients.
  - Resistance of S. aureus to rifampin developed in: 0% to 40% and overall 17% of the 236 patients.


Recurrent CA-MRSA infection

Example: Pt returns 1 month later with new infection, opposite thigh

**What is the appropriate management of this patient?**

A. Emphasize personal hygiene measures
B. Decolonize with mupirocin and chlorhexidine showers
C. Decolonize with TMP-SMX and rifampin

Recurrence rates: 28% at 90 days - up to 50% in one year

Should household contacts be decolonized?

Are household contacts colonized?

- **Methods:** 183 children with SSTI requiring I&D
  - Those with (+) MRSA or MSSA
  - Household contacts were screened
    - Nares, axilla, inguinal all swabbed
- **Results:** 79% MRSA, 21% MSSA
  - 27% household contacts colonized
  - 44% household contacts colonized

Is it worthwhile “decolonizing” household contacts?

- Methods: 183 children with STI with I&D
  - Randomized to decolonization:
    - Mupirocin BID, Hibiclens shower qd x 5 days

- Results:
  - Index only
  - Index+household
    - STI @ 1 month: 26% vs. 15%
    - STI @ 6 month: 61% vs. 38%
    - STI @ 12 month: 72% vs. 52%

Fritz, DA et al. CID 2012

Strep and Staph

- Impetigo
- Erysipelas
- Cellulitis/Abscess
- Necrotizing fasciitis

Necrotizing fasciitis

- First described by Hippocrates
- "Necrotizing fasciitis“ coined by Joseph Jones, Confederate Army Surgeon
- Presentation:
  "pain out of proportion to findings"
Best Practice Recommendations

1) When describing "cellulitis," indicate whether it is "purulent" or "non-purulent"
2) When discussing "MRSA," indicate whether this is "hospital acquired" (HA) or "community acquired" (CA-MRSA)
3) Irrigation and packing post-I&D is not necessary
4) In cases of CA-MRSA – try to avoid clindamycin due to the presence of an inducible gene for resistance
5) Recognize the high recurrence rates associated with CA-MRSA
Thank you for your
Time and consideration!!!

Contact info: dachsmd@aol.com