Philippine Dermatological Society

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<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
Assess severity of infection

- Lesions localized with no systemic signs and symptoms
  - Topical therapy
  - Out patient - Oral therapy

- Widespread lesions, with systemic signs and symptoms, rapid progression, in an area difficult to drain (face, hand, genitalia), extremes of age, with comorbidities or immunosuppression, associated thrombophlebitis, and lack of response to incision and drainage alone
  - Hospitalized - IV therapy

**Figure 1. Algorithm for Assessing Severity of Skin Infection**

Impetigo and secondarily infected lesions such as ulcers and eczemas

- Localized
  - Mupirocin 2% ointment TID
    - GR A-II

- Widespread
  - Penicillinase-resistant penicillin or first generation cephalosporin
    - Gr A-I S

**Figure 2. Algorithm for the Treatment of Impetigo and Secondarily-Infected Lesions**
Skin and Soft Tissue Infections

**FIGURE 3. ALGORITHM FOR THE TREATMENT OF FURUNCLES AND CARBUNCLES**

- **First episode or localized lesion**
  - Incision and drainage with probing of cavity to break up loculations followed by dry pack

- **Widespread lesions, with systemic signs and symptoms, rapid progression, in an area difficult to drain (face, hand, genitalia), extremes of age, with comorbidities or immunosuppression, associated thrombophlebitis, and lack of response to incision and drainage alone**
  - Start oral therapy and consider empiric treatment for MRSA

- **Recurrent**
  - Eradicate nasal colonization of Staphylococcus by Mupirocin 2% ointment BID for the first 5 days of each month (Gr A-I) OR clindamycin 150 mg PO for 3 months Gr A-I

**FIGURE 4. ALGORITHM FOR THE TREATMENT OF CELLULITIS**

- **Cellulitis**
  - **Non-purulent**
    - Empiric therapy for B-hemolytic Streptococci
      - Gr A-II
  - **Purulent**
    - Empiric therapy for MRSA pending culture results
      - Gr A-II

**FIGURE 5. ALGORITHM FOR THE TREATMENT OF ERYSPIELAS**

- **Erysipelas**
  - Commonly caused by Group A B hemolytic Streptococci
    - Oral or IV Penicillin
      - Gr A-III
  - Considering infection with Staphylococci or Group B Streptococci (Rare)
    - Pencillinase-resistant semisynthetic penicillin or first generation cephalosporin
      - Gr A-III

Learn to access drug info on your cellphone. Send PPD to 2600 for Globe/Smart/Sun users.
Clinical Practice Guidelines for the Treatment of Skin and Soft tissue Infections

This is a review of the Clinical Practice Guidelines of the Infectious Diseases Society of America (IDSA) for the Management of Skin and Soft Tissue Infections (2005) and the Clinical Practice Guidelines of the Infectious Diseases Society of America for the Treatment of Methicillin-Resistant *Staphylococcus aureus* in Adults and Children (2011). The review is limited only to those infections commonly affecting the skin such as impetigo, furuncles, carbuncles, erysipelas, and cellulitis. The primary objective of the guidelines was consistent with the objective of this review to provide an update on the management of skin infections. The guidelines were meant for healthy and immunocompromised population however there was no mention of the characteristics of the population involved in the studies used to create the guideline. A guide on how grading was made for each recommendation was given (Table 1) however, the method of choosing the studies for the recommendations were not explicitly stated in the earlier review but was described in detail on the latter. Treatment options were mostly based on microbial resistance in the US and the presence of drug allergy of a patient. Cost and patient preference were not considered in the creation of the guidelines. The process of choosing the panel of experts was given for the MRSA guideline but not for the earlier report although both guidelines stated the conflicts of interest of the panel of experts. Retapamulin, a new class of topical antibiotics, was not yet included in both guidelines. Based on these guidelines, treatment algorithms were made.

**Table 1. Infectious Diseases Society of America–US Public Health Service Grading System for ranking recommendations in clinical guidelines**

<table>
<thead>
<tr>
<th>Category</th>
<th>Grade Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Good evidence to support a recommendation for use; should always be offered</td>
</tr>
<tr>
<td>B</td>
<td>Moderate evidence to support a recommendation for use; should generally be offered</td>
</tr>
<tr>
<td>C</td>
<td>Poor evidence to support a recommendation; optional</td>
</tr>
<tr>
<td>D</td>
<td>Moderate evidence to support a recommendation against use; should generally not be offered</td>
</tr>
<tr>
<td>E</td>
<td>Good evidence to support a recommendation against use; should never be offered</td>
</tr>
</tbody>
</table>

**Strength of recommendation**

**Quality of evidence**

- **I** Evidence from >1 properly randomized, controlled trial
- **II** Evidence from >1 well-designed clinical trial, without randomization; from cohort or case-controlled analytic studies (preferably from 11 centers); from multiple time series; or from dramatic results from uncontrolled experiments
- **III** Evidence from opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

Figure 1 generalizes the treatment approach of infectious skin diseases based on the severity of presentation of the disease. Mupirocin 2% ointment is the treatment of choice for localized impetigo and secondarily-infected skin lesions (Figure 2) while widespread disease entails the use of oral antibiotics. Incision and drainage remains to be the first line treatment for furuncles and carbuncles provided other comorbidities are not present. Aside from topical therapy with mupirocin 2% ointment and oral clindamycin used to eradicate nasal carriage of *Staphylococcus aureus* (Figure 3), Table 2 shows the recommended measures for recurrent skin and soft tissue infections with MRSA.

**Table 2. Recommended instructions for recurrent skin and soft tissue infections with MRSA**

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep draining wounds with dry clean bandages</td>
<td>A-III</td>
</tr>
<tr>
<td>Maintain good personal hygiene with regular bathing and cleaning of hands</td>
<td>A-III</td>
</tr>
<tr>
<td>with soap and water or an alcohol-based hand gel, particularly after touching</td>
<td></td>
</tr>
<tr>
<td>infected skin or an item that has directly contacted a draining wound</td>
<td></td>
</tr>
<tr>
<td>Avoid reusing or sharing personal items (e.g., disposable razors, linens, and)</td>
<td>A-III</td>
</tr>
<tr>
<td>towels that have contacted infected skin</td>
<td></td>
</tr>
<tr>
<td>Environmental hygiene measures should be considered in patients with recurrent</td>
<td>C-III</td>
</tr>
<tr>
<td>skin and soft tissue infection in the household or community setting:</td>
<td></td>
</tr>
<tr>
<td>Focus cleaning efforts on high-touch surfaces (i.e., surfaces that come into</td>
<td></td>
</tr>
<tr>
<td>frequent contact with people's bare skin each day, such as counters, door</td>
<td></td>
</tr>
<tr>
<td>knobs, bath tubs, and toilet seats) that may contact bare skin or uncovered</td>
<td></td>
</tr>
<tr>
<td>infections</td>
<td></td>
</tr>
<tr>
<td>Commercially available cleaners or detergents appropriate for the surface</td>
<td></td>
</tr>
<tr>
<td>being cleaned should be used according to label instructions for routine</td>
<td></td>
</tr>
<tr>
<td>cleaning of surfaces</td>
<td></td>
</tr>
<tr>
<td>Decolonization may be considered in selected cases if:</td>
<td>C-III</td>
</tr>
<tr>
<td>A patient develops a recurrent SSTI despite optimizing wound care and</td>
<td></td>
</tr>
<tr>
<td>hygiene measures.</td>
<td></td>
</tr>
<tr>
<td>Ongoing transmission is occurring among household members or other close</td>
<td>C-III</td>
</tr>
<tr>
<td>contacts despite optimizing woundcare and hygiene measures.</td>
<td></td>
</tr>
<tr>
<td>Decolonization strategies should be offered in conjunction with ongoing</td>
<td>C-III</td>
</tr>
<tr>
<td>reinforcement of hygiene measures and may include the following:</td>
<td></td>
</tr>
<tr>
<td>Nasal decolonization with mupirocin twice daily for 5–10 days</td>
<td></td>
</tr>
<tr>
<td>Nasal decolonization with mupirocin twice daily for 5–10 days and topical body</td>
<td></td>
</tr>
<tr>
<td>decolonization regimens with a skin antiseptic solution (e.g., chlorhexidine)</td>
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<tr>
<td>for 5–14 days or dilute bleach baths. (For dilute bleach baths, 1 teaspoon per</td>
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</tr>
<tr>
<td>gallon of water [or ¼ cup per ¼ tub or 13 gallons of water] given for 15 min</td>
<td></td>
</tr>
<tr>
<td>twice weekly for 3 months can be considered.)</td>
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</tr>
</tbody>
</table>
Oral antimicrobial therapy is recommended for the treatment of active infection only and is not routinely recommended for decolonization.

An oral agent in combination with rifampin, if the strain is susceptible, may be considered for decolonization if infections recur despite above measures.

In cases where household or interpersonal transmission is suspected:
- Personal and environmental hygiene measures in the patient and contacts are recommended.
- Contacts should be evaluated for evidence of S. aureus infection:
  - Symptomatic contacts should be and treated (AIII);
  - Nasal and topical body decolonization strategies may be considered following treatment of active infection.
- Nasal and topical body decolonization of asymptomatic household contacts may be considered.

The role of cultures in the management of patients with recurrent SSTI is limited:
- Screening cultures prior to decolonization are not routinely recommended if at least 1 of the prior infections was documented as due to MRSA.
- Surveillance cultures following a decolonization regimen are not routinely recommended in the absence of an active infection.

The management of cellulitis may be based on the presence or absence of purulent discharge (Figure 4). Empiric therapy for B-hemolytic Streptococci and MRSA are shown in Table 3. On the other hand, treatment of erysipelas usually entails the use of oral or IV penicillin since it is most commonly caused by group A B-hemolytic Streptococci (Figure 5). Leg elevation to reduce edema and treatment of predisposing factors leading to the infection such as untreated tinea and venous stasis should be addressed.

Retapamulin is a new topical pleuromutilin antibiotic. In the US, it is approved for the treatment of Methicillin-susceptible Staphylococcus aureus or Streptococcus pyogenes for patients 9 months and older. In Europe, however, it is approved for lacerations, abrasions, and sutured wounds without abscess.

REFERENCES:


### Table 3. Empiric therapy for cellulitis

<table>
<thead>
<tr>
<th>DISEASE</th>
<th>TREATMENT</th>
<th>ADULT</th>
<th>PEDIATRIC</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purulent cellulitis (defined as cellulitis associated with purulent drainage or exudate in the absence of a drainable abscess) - use empiric treatment for B-hemolytic Streptococci</td>
<td>Clindamycin</td>
<td>300–450 mg PO TID</td>
<td>10–13 mg/kg/dose PO every 6–8 h, not to exceed 40 mg/kg/day</td>
<td>Clostridium difficile- associated disease may occur more frequently, compared with other oral agents.</td>
</tr>
<tr>
<td></td>
<td>TMP-SMX</td>
<td>1–2 DS tab PO BID</td>
<td>Trimethoprim 4–6 mg/kg/dose, sulfamethoxazole 20–30 mg/kg/dose PO every 12 h</td>
<td>TMP-SMX is pregnancy category C/D and not recommended for women in the third trimester of pregnancy and for children &lt;2 months of age.</td>
</tr>
<tr>
<td></td>
<td>Doxycycline</td>
<td>100 mg PO BID</td>
<td>&lt;45 kg: 2 mg/kg/dose PO every 12 h, &gt;45 kg: adult dose</td>
<td>Tetracyclines are not recommended for children under 8 years of age and are pregnancy category D.</td>
</tr>
<tr>
<td></td>
<td>Minocycline</td>
<td>200 mg 3 1, then 100 mg PO BID</td>
<td>4 mg/kg PO 3 1, then 2 mg/kg/dose PO every 12 h</td>
<td>More expensive compared with other alternatives.</td>
</tr>
<tr>
<td></td>
<td>Linezolid</td>
<td>600 mg PO BID</td>
<td>10 mg/kg/dose PO every 8 h, not to exceed 600 mg/dose</td>
<td></td>
</tr>
<tr>
<td>Nonpurulent cellulitis (defined as cellulitis with no purulent drainage or exudate and no associated abscess)</td>
<td>B-lactam (e.g., cephalexin and dicloxacillin)</td>
<td>500 mg PO QID</td>
<td>Please refer to Red Book</td>
<td>Empirical therapy for B-hemolytic Streptococci is recommended (AI). Empirical coverage for CA-MRSA is recommended in patients who do not respond to b-lactam therapy and may be considered in those with systemic toxicity.</td>
</tr>
<tr>
<td></td>
<td>Clindamycin</td>
<td>300–450 mg PO TID</td>
<td>10–13 mg/kg/dose PO every 6–8 h, not to exceed 40 mg/kg/day</td>
<td>Provide coverage for both B-hemolytic Streptococci and CA-MRSA.</td>
</tr>
<tr>
<td></td>
<td>B-lactam (e.g., amoxicillin) and/ or TMP-SMX or a tetracycline</td>
<td>Amoxicillin; 500 mg PO tid</td>
<td>Please refer to Red Book</td>
<td>See above for TMP-SMX and tetracycline dosing. All Provide coverage for both B-hemolytic Streptococci and CA-MRSA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See above for TMP-SMX and tetracycline dosing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linezolid</td>
<td>600 mg PO BID</td>
<td>10 mg/kg/dose PO every 8 h, not to exceed 600 mg/dose</td>
<td>Provide coverage for both B-hemolytic Streptococci and CA-MRSA.</td>
</tr>
</tbody>
</table>
## Index of Drugs Related to the Guideline

This index lists the products of interest and/or their therapeutic classifications related to the guideline. This index is not part of the guideline. For the doctor’s convenience, brands available in the PPD references are listed under each of the classes. For drug information, refer to the PPD references (PPD, PPD Pocket Version, PPD Text, PPD Tabs, and www.TheFilipinoDoctor.com).

### Topical Antimicrobials

<table>
<thead>
<tr>
<th><strong>Mupirocin</strong></th>
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<tbody>
<tr>
<td>Bactroban Cream/Ointment</td>
</tr>
<tr>
<td>Foskina</td>
</tr>
<tr>
<td>Mupicin</td>
</tr>
<tr>
<td>Muprin</td>
</tr>
</tbody>
</table>

**Mupirocin/Betamethasone**

Foskina-B

**Retapamulin**

Altargo

### Systemic Antimicrobials

**First generation cephalosporins**

Cephalexin/Cefalexin

Airex

Altozef

Cefazolin

Lab46 Skincare Detox Cream w/ Vit C and E

Hyaluronic acid + shea butter + telmesteine + vitamin E + vitamin D + Vitis vinifera + glycyrrhetinic acid

Atopiclair Cream

Atopiclair Lotion

**BHT, tocopheryl acetate**

Bio-Oil

Calamine + Zinc Oxide

Calmomoseptine Ointment

**Calophyllum tacamahaca**

Tamanu Skinaid

### Ceramide

Ceradan

Cerakin

**Glycerin + magnesium ascorbyl phosphate + midazolindinyl urea + tocopheryl acetate**

Lab46 Skincare Detox Cream w/ Vit C and E

**Hyaluronic acid + shea butter + telmesteine + vitamin E + vitamin D + Vitis vinifera + glycyrrhetinic acid**

Atopiclair Cream

Atopiclair Lotion

**Jojoba Oil, Vitamin E**

Nno

**Lactoserum + Lactic Acid**

Lactacyd Baby Bath

Lactacyd Toddler Tubs

**Light Liquid Paraffin**

Oilatum Shower Gel

N-palmitoyl-ethanolamine + Physiological lipids

Physiogel Al Cream

**Paraffin**

Oilatum

Oilatum Shower Gel

**Physiological lipids**

Physiogel Cream/Lotion

**Saccharide isomerate + Dipalmitoyl hydroxyproline**

Elgy H2O ARR Hydro-Replenishing Cream and Lotion

**Sodium laureth sulfate + chamomile, disodium EDTA + citric acid**

Trisopure

**Squalene + Glycine Soya + Tocopherol**

Sense Daytime Protective Emulsion with Sunscreen

Sense Night Renewal Crème

Sense Perfecting Essence

**Vitamin A + vitamin D**

Vandan

### Emollients, Demulcients & Protectants

Cetaphil Daily Advance Ultra Hydrating Lotion

Cetaphil Moisturizing Cream/Lotion

Cetaphil Restoraderm

Ezerra Cream/ Ezerra Lotion

Aloe extract + Vitamin E

Elohera

**BHT, tocopheryl acetate**

Bio-Oil

Calamine + Zinc Oxide

Calmomoseptine Ointment

**Calophyllum tacamahaca**

Tamanu Skinaid

### Antiseptics/Disinfectants

Povidone-Iodine

Alfadine 10%

Alfadine 7.5%

Betadine 3%

Betadine 10%

Betadine 10% Wound Solution

Betadine 5% Cream

Betadine 5.7% Skin Cleanser

Rhea Povidone-Iodine 10%

RiteMED Povidone-Iodine

**Chlorhexidine**

Silver sulfadiazine

Flammacerium*

Flammazine

Innoxiderm

Sterizol

**Medicated Dressings, Plasters, and Bandages**

Methylsalicylate/Menthol/Zinc oxide

BSI Medicated Plaster

**Polyurethane**

Allevyn

Optisite Post-Op

**Silcryst Nanocrystals**

Acticoat

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