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## Literature Scan: Topical Antibiotics

**Date of Review:** March 2016

**Date of Last Review:** May 2013

**Literature Search:** April 2013-January 2016

**Current Status of PDL Class:**

See **Appendix 1**.

**Conclusions:**

- There is no new clinical evidence that can further inform PDL decisions for topical antibiotics.

**Recommendations:**

- No further review or research needed. After evaluation of comparative drugs costs in the executive session, no changes to the Preferred Drug List (PDL) recommended.

**Previous Conclusions:**

- No further research or review needed at this time.

**Previous Recommendations:**

- Evaluate comparative costs in executive session.

**Methods:**

A Medline literature search for new systematic reviews and randomized controlled trials (RCTs) assessing clinically relevant outcomes to active controls, or placebo if needed, was conducted. A summary of the clinical trials is available in **Appendix 2**. The Medline search strategy used for this literature scan is available in **Appendix 3**, which includes dates, search terms and limits used. The OHSU Drug Effectiveness Review Project, Agency for Healthcare Research and Quality (AHRQ), Cochrane Collection, National Institute for Health and Clinical Excellence (NICE), Department of Veterans Affairs, BMJ Clinical Evidence, and the Canadian Agency for Drugs and Technologies in Health(CADTH) resources were manually searched for high quality and relevant systematic reviews. When necessary, systematic reviews are critically appraised for quality using the AMSTAR tool and clinical practice guidelines using the AGREE tool. The FDA website was searched for new drug approvals, indications, and pertinent safety alerts. Finally, the AHRQ National Guideline Clearinghouse (NGC) was searched for updated and recent evidence-based guidelines.

The primary focus of the evidence is on high quality systematic reviews and evidence-based guidelines. Randomized controlled trials will be emphasized if evidence is lacking or insufficient from those preferred sources.

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**New Systematic Reviews:**

None Identified.

**New Guidelines:**

The Infectious Diseases Society of America (IDSA) updated their 2005 guidelines for the treatment skin and soft tissue infection.<sup>1</sup> For impetigo, topical treatment with mupirocin or retapamulin is as effective as oral antimicrobials unless accompanied by numerous lesions or group outbreaks, in which case oral or systemic therapy is preferred.<sup>1</sup> For appropriate topical antibiotic treatment of uncomplicated bullous and nonbullous impetigo clinicians should use either mupirocin or retapamulin twice daily (bid) for 5 days (recommendation: strong; quality of evidence: high).<sup>1</sup>

**New FDA Drug Approvals:**

None identified.

**New Formulations/Indications:**

None identified.

**New FDA Safety Alerts:**

None identified.

**References:**

1. Stevens, Dennis L., Alan L. Bisno, Henry F. Chambers, E. Patchen Dellinger, Ellie J. C. Goldstein, Sherwood L. Gorbach, Jan V. Hirschmann, Sheldon L. Kaplan, Jose G. Montoya, and James C. Wade. "Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update by the Infectious Diseases Society of America." *Clinical Infectious Diseases*, June 18, 2014, ciu296. doi:10.1093/cid/ciu296.

**Appendix 1: Current Status on Preferred Drug List**

| ROUTE   | FORMULATION | BRAND                | GENERIC                        | PDL |
|---------|-------------|----------------------|--------------------------------|-----|
| TOPICAL | CREAM (G)   | GENTAMICIN SULFATE   | GENTAMICIN SULFATE             | Y   |
| TOPICAL | OINT. (G)   | ANTIBIOTIC           | BACITRACIN ZINC                | Y   |
| TOPICAL | OINT. (G)   | BACITRACIN           | BACITRACIN                     | Y   |
| TOPICAL | OINT. (G)   | BACITRACIN ZINC      | BACITRACIN ZINC                | Y   |
| TOPICAL | OINT. (G)   | BACITRACIN-POLYMYXIN | BACITRACIN/POLYMYXIN B SULFATE | Y   |
| TOPICAL | OINT. (G)   | BACTROBAN            | MUPIROCIN                      | Y   |
| TOPICAL | OINT. (G)   | CENTANY              | MUPIROCIN                      | Y   |
| TOPICAL | OINT. (G)   | DOUBLE ANTIBIOTIC    | BACITRACIN ZINC/POLYMYX B SULF | Y   |
| TOPICAL | OINT. (G)   | DOUBLE ANTIBIOTIC    | BACITRACIN/POLYMYXIN B SULFATE | Y   |
| TOPICAL | OINT. (G)   | MUPIROCIN            | MUPIROCIN                      | Y   |

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Date: March 2016

|         |            |                               |                                |   |
|---------|------------|-------------------------------|--------------------------------|---|
| TOPICAL | OINT. (G)  | TRIPLE ANTIBIOTIC             | NEOMYCIN SU/BACITRAC ZN/POLY   | Y |
| TOPICAL | CREAM (G)  | ANTIBIOTIC PLUS               | NEOMYCIN SU/PLYMX B SU/PRAM    | N |
| TOPICAL | CREAM (G)  | BACTROBAN                     | MUPIROCIN CALCIUM              | N |
| TOPICAL | CREAM (G)  | MUPIROCIN                     | MUPIROCIN CALCIUM              | N |
| TOPICAL | FOAM       | CLINDAMYCIN PHOSPHATE         | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | FOAM       | EVOCLIN                       | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | GEL (EA)   | BENZAMYCINPAK                 | ERYTHROMYCIN/BENZOYL PEROXIDE  | N |
| TOPICAL | GEL (GRAM) | BENZAMYCIN                    | ERYTHROMYCIN/BENZOYL PEROXIDE  | N |
| TOPICAL | GEL (GRAM) | CLEOCIN T                     | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | GEL (GRAM) | CLINDAMYCIN PHOSPHATE         | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | GEL (GRAM) | ERYGEL                        | ERYTHROMYCIN BASE/ETHANOL      | N |
| TOPICAL | GEL (GRAM) | ERYTHROMYCIN                  | ERYTHROMYCIN BASE/ETHANOL      | N |
| TOPICAL | GEL (GRAM) | ERYTHROMYCIN-BENZOYL PEROXIDE | ERYTHROMYCIN/BENZOYL PEROXIDE  | N |
| TOPICAL | KIT        | CENTANY AT                    | MUPIROCIN                      | N |
| TOPICAL | KIT        | CLINDACIN ETZ                 | CLINDAMYCIN PHOS/SKIN CLNSR 19 | N |
| TOPICAL | KIT        | CLINDACIN PAC                 | CLINDAMYCIN PHOS/SKIN CLNSR 19 | N |
| TOPICAL | LOTION     | CLEOCIN T                     | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | LOTION     | CLINDAMYCIN PHOSPHATE         | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | MED. SWAB  | CLEOCIN T                     | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | MED. SWAB  | CLINDACIN ETZ                 | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | MED. SWAB  | CLINDACIN P                   | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | MED. SWAB  | CLINDAMYCIN PHOSPHATE         | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | MED. SWAB  | ERY                           | ERYTHROMYCIN BASE/ETHANOL      | N |
| TOPICAL | MED. SWAB  | ERYTHROMYCIN                  | ERYTHROMYCIN BASE/ETHANOL      | N |
| TOPICAL | OINT PACK  | TRIPLE ANTIBIOTIC             | NEOMYCIN SU/BACITRAC ZN/POLY   | N |
| TOPICAL | OINT. (G)  | ALTABAX                       | RETAPAMULIN                    | N |
| TOPICAL | OINT. (G)  | GENTAMICIN SULFATE            | GENTAMICIN SULFATE             | N |
| TOPICAL | OINT. (G)  | TRIPLE ANTIBIOTIC EXTRA       | NEOMYCN/BACI ZN/PMYX BS/PRAMOX | N |
| TOPICAL | OINT. (G)  | TRIPLE ANTIBIOTIC PLUS        | NEOMYCN/BACI ZN/PMYX BS/PRAMOX | N |
| TOPICAL | PACKET     | BACITRACIN                    | BACITRACIN                     | N |
| TOPICAL | PACKET     | BACITRACIN ZINC               | BACITRACIN ZINC                | N |
| TOPICAL | PACKET     | BACITRACIN-POLYMYXIN          | BACITRACIN/POLYMYXIN B SULFATE | N |
| TOPICAL | SOLUTION   | CLEOCIN T                     | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | SOLUTION   | CLINDAMYCIN PHOSPHATE         | CLINDAMYCIN PHOSPHATE          | N |
| TOPICAL | SOLUTION   | ERYTHROMYCIN                  | ERYTHROMYCIN BASE/ETHANOL      | N |

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## Appendix 2: New Clinical Trials

A total of 77 citations were manually reviewed from the literature search. After further review, all 77 trials were excluded because of wrong study design (observational), comparator (placebo), or outcome studied (non-clinical).

## Appendix 3: Medline Search Strategy

Ovid MEDLINE(R) without Revisions 1996 to January Week 3 2016

1. bacitracin.mp. or exp Bacitracin/ 1180
2. neomycin.mp. or exp Neomycin/ 4622
3. erythromycin.mp. or exp Erythromycin/ 18421
4. clindamycin.mp. or exp Clindamycin/ 5387
5. gentamicin.mp. or exp Gentamicins/ 11759
6. retapamulin.mp. 82
7. mupirocin.mp. or exp Mupirocin/ 1149
8. polymyxin B.mp. or exp Polymyxin B/ 2379
9. chlorhexidine.mp. or exp Chlorhexidine/ 5424
10. metronidazole.mp. or exp Metronidazole/ 8634
11. sulfacetamide.mp. or exp Sulfacetamide/ 137
12. sodium sulfacetamide.mp. 30
13. fusidic acid.mp. or exp Fusidic Acid/ 959
14. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 52632
15. Administration, topical.mp. or exp Administration, Topical/ 49078
16. 15 and 14 1719
17. limit 16 to (english language and humans and (clinical conference or clinical trial, all or clinical trial, phase iii or clinical trial, phase iv or clinical trial or comparative study or controlled clinical trial or guideline or meta analysis or multicenter study or practice guideline or pragmatic clinical trial or randomized controlled trial or systematic reviews) and last 3 years) 70

Ovid MEDLINE(R) without Revisions 1996 to January Week 3 2016

1. silver sulfadiazine.mp. or exp Silver Sulfadiazine/ 644 Advanced
2. silver nitrate.mp. or exp Silver Nitrate/ 2179 Advanced
3. 1 or 2/ 2795 Advanced
4. administration, topical.mp. or exp Administration, Topical/ 49126 Advanced
5. 3 and 4 /176 Advanced
6. limit 5 to (english language and humans and (clinical trial, all or clinical trial, phase iii or clinical trial, phase iv or clinical trial or comparative study or controlled clinical trial or guideline or meta analysis or multicenter study or practice guideline or pragmatic clinical trial or randomized controlled trial or systematic reviews) and last 3 years) / 7