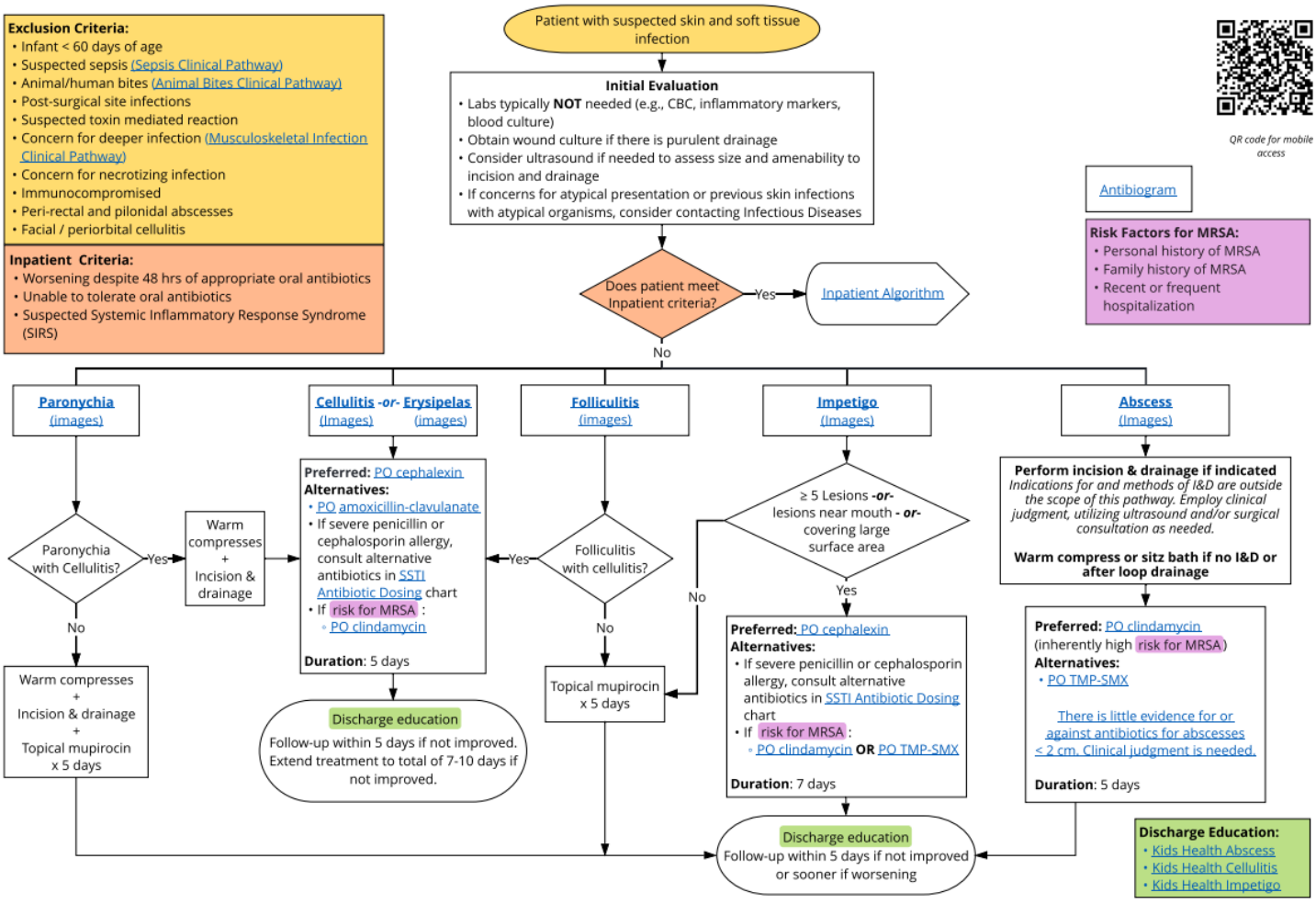
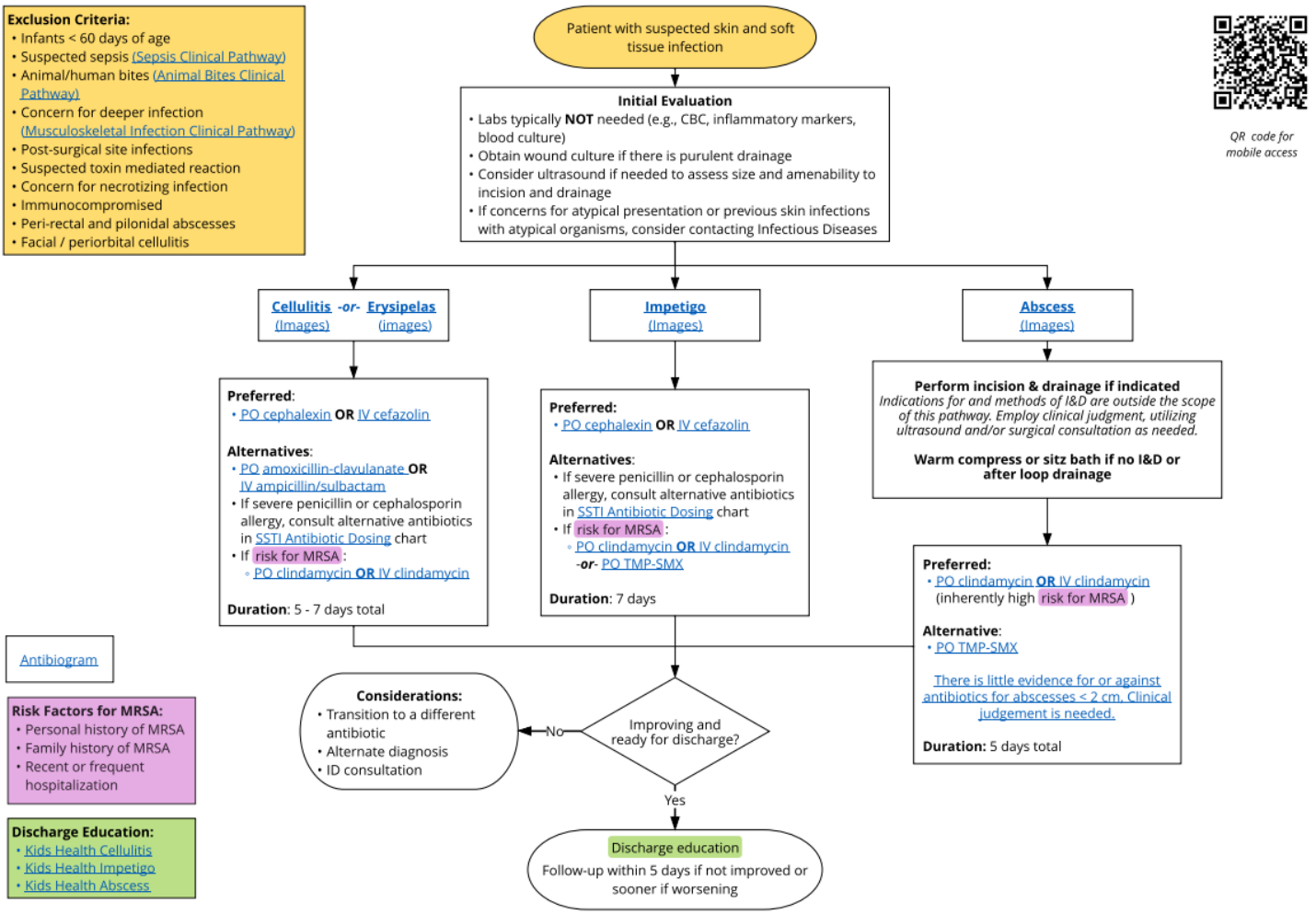
Skin and Soft Tissue Infection
Clinical Pathway Synopsis

Skin and Soft Tissue Infection: ED and Urgent Care Algorithm



These clinical pathways do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare a clinical pathway for each. Accordingly, these clinical pathways should guide care with the understanding that departures from them may be required at times.

Skin and Soft Tissue Infection: Inpatient Algorithm



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Objective of Clinical Pathway

To provide care standards for the patient presenting with a suspected skin or soft tissue infection. It provides guidance for initial evaluation and management, including recommended labs, imaging, and empiric antibiotic selection when warranted.

Background

Skin and soft tissue infections (SSTI) include, but are not limited to, paronychia, cellulitis, erysipelas, folliculitis, impetigo, and abscess. To provide optimal treatment, clinicians must determine the location and severity of infection, then consider pathogens specific to the particular SSTI, as well as local antibiotic resistance patterns. If antibiotics are indicated, they should be appropriately narrow and given for the minimal necessary duration to minimize adverse effects, including antibiotic resistance. In 2014, the Infectious Diseases Society of America (IDSA) provided guidelines on the diagnosis and management of SSTI, recommending that cellulitis be treated with a 5-day course of antibiotics. These guidelines also recommend that most other pediatric SSTIs can be treated with a 5 to 7-day course of antibiotics. This clinical pathway serves as a resource and decision support tool for clinicians, encouraging the use of evidence-based SSTI treatment.

Target Users

- Physicians (Primary Care, Urgent Care, Emergency Medicine, Hospital Medicine, Infectious Diseases, Residents, Fellows)
- Nurse Practitioners
- Nurses
- Pharmacists

Target Population

Inclusion Criteria

- Patients > 60 days old with suspected skin and soft tissue infection

Exclusion Criteria

- Suspected sepsis (Sepsis Clinical Pathway)
- Animal/human bites (Animal Bites Clinical Pathway)
- Post-surgical site infections
- Suspected toxin mediated reaction
- Concern for deeper infection (Musculoskeletal Infection Clinical Pathway)
- Concern for necrotizing infection
- Immunocompromised
- Peri-rectal and pilonidal abscesses
- Facial / periorbital cellulitis

AGREE II

The IDSA practice guidelines on the diagnosis and management of skin and soft tissue infections (Stevens et al., 2014) provided guidance to the SSTI Clinical Pathway Committee. See Table 1 for AGREE II appraisal.

Table 1
AGREE II Summary for the IDSA 2014 guidelines (Stevens et al., 2014)

Domain	Percent Agreement	Percent Justification^
Scope and purpose	99%	The aim of the guideline, the clinical questions posed and target populations **were** identified.
Stakeholder involvement	58%	The guideline **did not include** the appropriate stakeholders (e.g., patients, nurses, parents, pharmacists) nor the viewpoints of the intended user.
Rigor of development	81%	The process used to gather and synthesize the evidence, the methods to formulate the recommendations, and the process to update the guidelines **were** explicitly stated.

Clarity and presentation	100%	The guideline recommendations **are** clear, unambiguous, and easily identified; in addition, different management options are presented.
Applicability	52%	The guideline **did not** address implementation barriers and facilitators, utilization strategies, or costs associated with implementation.
Editorial independence	85%	The recommendations probably **were not** biased with competing interests.
Overall guideline assessment	79%	
See Practice Recommendations		

Note: Four EBP Scholars completed the AGREE II on this guideline.
^Percentage justification is an interpretation based on the Children's Mercy EBP Department standards.

Practice Recommendations

Please refer to the Infectious Diseases Society of America Clinical Practice Guideline for full diagnosis, evaluation, and treatment recommendations (Stevens et al., 2014).

Additional Question Posed by the Clinical Pathway Committee

In pediatric patients with abscesses that undergo incision and drainage, should systemic antibiotics be given after drainage versus no antibiotics for the outcomes of cured at follow-up and rate of recurrence?

Recommendation Specific for Children's Mercy

Children's Mercy adopted the majority of the practice recommendations made by the IDSA Clinical Practice Guideline. Deviations include:

> The IDSA (Stevens et al., 2014) guideline states "the addition of systemic antibiotics to incision and drainage of cutaneous abscesses does not improve cure rates, even in those due to MRSA, but did have a modest effect on the time to recurrence of other abscesses. However, systemic antibiotics should be given to patients with severely impaired host defenses or signs or symptoms of systemic infection. In addition, multiple abscesses, extremes of age, and lack of response to incision and drainage alone are additional settings in which systemic antimicrobial therapy should be considered (Stevens et al. 2014, pg. e22)." Based on a review of literature, Children's Mercy makes a conditional recommendation for the use of antibiotics for abscesses after incision and drainage. The overall certainty in the evidence is low to very low. In pediatric patients, the use of antibiotics following incision and drainage was favorable for cure rate versus placebo. There is little evidence for or against antibiotics following incision and drainage for abscesses <2 cm.

Updates from Previous Versions of the Clinical Pathway

- Reformatted for consistency with EBP standard work
- Refined exclusion criteria (removed history of multi-drug resistant organisms, added link to Musculoskeletal Infection Clinical Pathway, added link to Animal Bites Clinical Pathway)
- Reformatted antibiotic chart and linked to Penicillin ADR (HISTORICAL) Clinical Pathway
- Updated literature search associated with the prior CAT with no new evidence found

Measures

- Website hits for the clinical pathway
- Use of the associated order set

Value Implications

The following improvements may increase value by reducing healthcare costs and non-monetary costs (e.g., missed school/work, loss of wages, stress) for patients and families and reducing costs and resource utilization for healthcare facilities.

- Decreased risk of overtreatment (i.e., treatment with broad-spectrum antibiotics or longer courses when narrower options or shorter courses are recommended)

- Decreased risk of side effects or adverse events from medication
- Decreased risk of antimicrobial resistance
- Decreased frequency of admission, when appropriate
- Decreased inpatient length of stay
- Decreased unwarranted variation in care

Organizational Barriers and Facilitators

Potential Barriers

- Prescriber resistance to practice change
- Prescriber concern for treatment failure with shorter antibiotic course
- Challenges with access to healthcare and health literacy faced by some families

Potential Facilitators

- Collaborative engagement across the continuum of clinical care settings and healthcare disciplines during clinical pathway development
- High rate of use of the clinical pathway
- Standardized order sets for Emergency Department and Hospital Medicine

Bias Awareness

Our aim is to recognize social determinants of health and minimize healthcare disparities, acknowledging that our unconscious biases can contribute to these inequities.

Order Sets

The following order set(s) are currently in place, but could not be updated at this time due to Children's Mercy's Electronic Health Record (EHR) transition:

- EDP Skin & Soft Tissue Infection (subphases: paronychia, folliculitis, impetigo, abscess, cellulitis or erysipelas)
- Skin & Soft Tissue Infection (cellulitis, impetigo, abscess)

Clinical Pathway Preparation

This clinical pathway was originally created with representation from Hospital Medicine, Emergency Medicine, Infectious Diseases, Urgent Care, Patient and Family Engagement, and Evidence Based Practice. Literature analysis for additional questions posed by the SSTI Clinical Pathway Committee was performed by the EBP department. If a conflict of interest is identified, the conflict will be disclosed next to the committee member's name.

SSTI Clinical Pathway Committee Members and Representation

- Megan Hamner, MD | Infectious Diseases | Committee Co-Chair
- Rana El Feghaly, MD, MSCI | Infectious Diseases | Committee Co-Chair
- Erin Scott, DO | Emergency Medicine | Committee Member
- Jessica Markham, MD, MSc | Hospital Medicine | Committee Member
- Amanda Nedved, MD | Urgent Care | Committee Member
- Alaina Burns, PharmD, BCPPS | Clinical Pharmacist, Infectious Diseases | Committee Member

EBP Committee Members

- Kathleen Berg, MD, FAAP | Evidence Based Practice
- Kori Hess, PharmD | Evidence Based Practice

Clinical Pathway Development Funding

The development of this guideline was underwritten by the Department of EBP and the divisions of Hospital Medicine, Emergency Medicine, Infectious Diseases, and Urgent Care.

Conflict of Interest

The contributors to the SSTI Clinical Pathway have no conflicts of interest to disclose related to the subject matter or materials discussed.

Approval Process

- This pathway was reviewed and approved by the SSTI Committee, content expert departments/divisions, and the EBP Department
- Pathways are reviewed and updated as necessary every 3 years within the EBP Department at Children's Mercy. Content expert teams are involved with every review and update.

Review Requested

Department/Unit	Date Obtained
Emergency Medicine	Nov 2025
Hospital Medicine	Dec 2025
Infectious Diseases	Dec 2025
Pharmacy	Dec 2025
Evidence Based Practice	Dec 2025

Version History

Date	Comments
May 2022	Version one – developed synopsis and clinical pathway
Dec 2025	Version two – updated synopsis and antibiotic dosing chart, made minor revisions to clinical pathway

Date for Next Review

- 2028

Implementation & Follow-Up

- Version one:
  - Committee members garnered feedback from their respective divisions/departments
  - The pathway was presented to appropriate care teams. Power plans consistent with recommendations were developed.
  - Announcements were made to the appropriate divisions/departments by email.
  - Additional institution-wide announcements were made via the hospital website and relevant huddles.
- Version two:
  - Updates to order sets could not be made at this time due to Children's Mercy's EHR transition, but the new order sets will be reviewed, when possible, for consistency with the pathway.
  - Committee members approved the revisions.

Disclaimer

When evidence is lacking or inconclusive, options in care are provided in the supporting documents and the power plan(s) that accompany the clinical pathway.

These clinical pathways do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those individuals involved in providing health care are expected to use their judgment to determine what is in the best interests of the patient based on the circumstances existing at the time.

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References

Stevens, D. L., Bisno, A. L., Chambers, H. F., Dellinger, E. P., Goldstein, E. J., Gorbach, S. L., Hirschmann, J. V., Kaplan, S. L., Montoya, J. G., & Wade, J. C. (2014). Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the infectious diseases society of America. *Clin Infect Dis*, *59*(2), 147-159. https://doi.org/10.1093/cid/ciu296