

A 4-year-old boy is brought to the office for evaluation of a rash. A few days ago, he had a few small red bumps on his left arm that became painful as they filled with yellow fluid. The patient has a history of atopic dermatitis and intermittent asthma and uses topical corticosteroids and albuterol as needed for exacerbations. Vital signs are normal. Physical examination shows 5-7 small pustules on left antecubital fossa. Some lesions are covered with a thick golden-yellow crust. The rest of his examination is normal. Which of the following is the most appropriate next step in management of this patient?

- ☐ A. Anti-streptolysin O antibody titers
- ☐ B. Oral cephalexin
- ☐ C. Swab intact skin for culture
- ☐ D. Topical corticosteroid
- ☐ E. Topical mupirocin

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- ☐ A. Anti-streptolysin O antibody titers [10%]
- ☐ B. Oral cephalexin [25%]
- ☐ C. Swab intact skin for culture [7%]
- ☐ D. Topical corticosteroid [4%]
- ☒ E. Topical mupirocin [54%]

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Explanation:

User Id:

Impetigo		
Type	Non-bullous	Bullous
Microbiology	<ul style="list-style-type: none">• <i>Staphylococcus aureus</i>• Group A <i>Streptococcus</i> (<i>S pyogenes</i>)	<ul style="list-style-type: none">• <i>S aureus</i>
Clinical features	<ul style="list-style-type: none">• Painful non-pruritic pustules• Honey-crusted lesions	<ul style="list-style-type: none">• Rapidly enlarging flaccid bullae with yellow fluid• Collarette of scale at periphery of ruptured lesions
Treatment	<ul style="list-style-type: none">• Limited skin involvement: Topical antibiotics (eg, mupirocin)• Extensive skin involvement: Oral antibiotics (eg, cephalexin, dicloxacillin, clindamycin)	

The patient's rash is consistent with **localized non-bullous impetigo**. Impetigo is a common pediatric rash typically caused by *Staphylococcus aureus* or group A beta-hemolytic *Streptococcus* (*Streptococcus pyogenes*). Predisposing factors include a warm and humid climate, poverty/crowding, poor personal hygiene, and pre-existing skin trauma/inflammation (eg, insect bite, eczema). Colonization with staphylococci or streptococci is also a risk factor.

This superficial skin infection manifests with multiple **painful pustules** on the exposed areas of the face and extremities. Over the course of a week, the pustules rupture and harden into a characteristic **golden-yellow** ("honey") **crust**. Local lymphadenopathy can be present, but fever is unusual.

Antibiotics are indicated to reduce transmission and recovery time. **Topical antibiotics** (eg, mupirocin) are preferred for localized infection due to fewer side effects and less antibiotic resistance risk compared to oral therapy. Oral antibiotics (eg, cephalexin, dicloxacillin, clindamycin) (**Choice B**) are indicated when topical therapy is impractical for widespread non-bullous impetigo. Extensive bullous impetigo (ie, flaccid bullae containing yellow fluid) caused by *S aureus* is an additional indication for oral antibiotics. Thorough handwashing is also important to prevent the spread of this contagious infection.

(**Choice A**) Impetigo diagnosis is based on clinical presentation. Antibody titers can take weeks to rise and are generally not useful in acute illness. Anti-streptolysin O titers can be considered for patients who develop complications (eg, post-streptococcal glomerulonephritis).

(**Choice C**) Swabs of intact skin are not useful as only skin flora would be detected.

(**Choice D**) Topical corticosteroids are indicated for the treatment of moderate-to-severe atopic dermatitis, which can present with erythematous, dry, thickened skin in flexural areas (eg, antecubital and popliteal fossae). Topical corticosteroids are not indicated for impetigo as the underlying cause is bacterial infection.

Educational objective:

Non-bullous impetigo is characterized by painful pustules and honey-crusts lesions; diagnosis is clinical. Topical mupirocin is the treatment of choice for localized infection.

References:

1. [Bacterial resistance and impetigo treatment trends: a review.](#)
2. [Impetigo: diagnosis and treatment.](#)
3. [Treatment of impetigo: oral antibiotics most commonly prescribed.](#)

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