

An 18-month-old boy is brought to the emergency department an hour after drinking liquid oven cleaner from an unlocked kitchen cabinet. His parents tried to give him water and milk, but he has difficulty swallowing. The boy also has blood-tinged oral secretions. His vital signs are stable. Examination shows an anxious child who is crying and drooling. His lips and chin are swollen and erythematous. He has no stridor and his breathing pattern appears normal. Lungs are clear to auscultation. His shirt is covered in oven cleaner. Which of the following is the best next step in management of this patient?

- ☐ A. Barium swallow study
- ☐ B. Clothing removal
- ☐ C. Intravenous corticosteroids
- ☐ D. Nasogastric feeding tube
- ☐ E. Nasogastric lavage
- ☐ F. Neutralization with vinegar
- ☐ G. Upper gastrointestinal endoscopy

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- ☐ A. Barium swallow study [1%]
- ☒ B. Clothing removal [68%]
- ☐ C. Intravenous corticosteroids [1%]
- ☐ D. Nasogastric feeding tube [1%]
- ☐ E. Nasogastric lavage [15%]
- ☐ F. Neutralization with vinegar [1%]
- ☐ G. Upper gastrointestinal endoscopy [12%]

Proceed to Next Item

Explanation:

User Id:

Caustic ingestion	
Clinical features	<p>Chemical burn or liquefaction necrosis resulting in:</p> <ul style="list-style-type: none"> • Laryngeal damage: Hoarseness, stridor • Esophageal damage: Dysphagia, odynophagia • Gastric damage: Epigastric pain, bleeding
Management	<ul style="list-style-type: none"> • Secure airway, breathing, circulation • Decontamination: Remove contaminated clothing & visible chemicals; irrigate exposed skin • Chest x-ray if respiratory symptoms • Endoscopy within 24 hours
	<ul style="list-style-type: none"> • Upper airway compromise • Perforation

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Management	<ul style="list-style-type: none">• Secure airway, breathing, circulation• Decontamination: Remove contaminated clothing & visible chemicals; irrigate exposed skin• Chest x-ray if respiratory symptoms• Endoscopy within 24 hours
Complications	<ul style="list-style-type: none">• Upper airway compromise• Perforation• Strictures/stenosis (2-3 weeks)• Ulcers• Cancer

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Infants and toddlers are at high risk for foreign body ingestion as much of their normal behavior involves putting objects in their mouths. Parents should be vigilant about locking up hazardous substances (eg, cleaning supplies) as most accidental ingestions occur at home.

This patient is experiencing orofacial inflammation and dysphagia after ingesting a caustic alkaline substance. After assessing his airway, breathing, and circulation, the best next step is to **remove contaminated clothing**, as persistent exposure to the caustic agent can cause ongoing damage. Patients should be hospitalized under close supervision for any developing airway compromise. **Upper gastrointestinal endoscopy (Choice G)** is recommended within 24 hours to assess the extent of the injury. The extent of the injury may not be apparent if performed immediately, and delayed endoscopy increases **perforation** risk.

(Choice A) Barium swallow studies are usually not helpful in determining the extent of injury in the acute setting. All patients with persistent dysphagia or significant

occur at home.

This patient is experiencing orofacial inflammation and dysphagia after ingesting a caustic alkaline substance. After assessing his airway, breathing, and circulation, the best next step is to **remove contaminated clothing**, as persistent exposure to the caustic agent can cause ongoing damage. Patients should be hospitalized under close supervision for any developing airway compromise. **Upper gastrointestinal endoscopy (Choice G)** is recommended within 24 hours to assess the extent of the injury. The extent of the injury may not be apparent if performed immediately, and delayed endoscopy increases **perforation** risk.

(Choice A) Barium swallow studies are usually not helpful in determining the extent of injury in the acute setting. All patients with persistent dysphagia or significant esophageal burns on endoscopy should undergo barium contrast studies 2-3 weeks after ingestion to assess for **esophageal strictures** or **pyloric stenosis**.

(Choice C) Steroids are not recommended given the lack of proven efficacy in preventing strictures and potential increased chance of perforation.

(Choices D, E, and F) Any intervention that could provoke **vomiting should be avoided**. This includes administration of milk, water, activated charcoal, vinegar, or nasogastric lavage, as vomiting can increase the extent of injury. In addition, vinegar combined with an alkaline substance can cause an exothermic reaction and burn the mucosa, exacerbating the existing injury. During endoscopy, a nasogastric feeding tube can be placed under direct visualization; it should not be placed blindly due to the risk of perforation.

Educational objective:

The first step in managing caustic ingestions is assessing airway, breathing, and circulation. Contaminated clothing should be removed promptly. Upper gastrointestinal endoscopy is the diagnostic study of choice to evaluate the extent of injury. Attempting to neutralize the alkali with vinegar or lavage is dangerous as these interventions may trigger vomiting, which may cause further mucosal damage.

References:

1. [Caustic injury of the upper gastrointestinal tract: a comprehensive review.](#)
2. [Caustic ingestion in children.](#)
3. [Updates in pediatric gastrointestinal foreign bodies.](#)