



Intranasal Foreign Body

Emergency Department/Urgent Care

Center for Clinical Excellence



Diagnosis & Definition

Epistaxis, commonly known as nosebleed, is bleeding from the nostrils, nasal cavity, or nasopharynx. Epistaxis is common due to the highly vascularized nasal mucosa. Epistaxis can be defined from the origin of the bleeding, anterior or posterior epistaxis. Anterior epistaxis is usually due to bleeding from the Kiesselbach plexus. Posterior epistaxis is commonly due to bleeding from the Woodruff plexus.

Anterior epistaxis is the most common cause of nosebleeds from which children suffer from. Anterior epistaxis is usually unilateral but can be bilateral. Posterior epistaxis can be more challenging to manage and may require further interventions. Posterior epistaxis is uncommon in children.

Common causes of epistaxis in children are trauma, nose picking, nasal mucosa dryness/irritation, and inflammation caused by rhinitis or upper respiratory infections. Epistaxis in children can cause great anxiety in parents and patients as the nostrils are highly vascularized and bleeding may appear profuse at times.

Differential Diagnoses

Findings suggestive of another diagnosis include:

- Foreign body
- Facial trauma
- Fracture
- Abnormal nasal anatomy
- Hematologic disorder
- Hereditary Hemorrhagic Telangiectasia (HHT)

Testing

- No specific initial testing is needed.
- Testing may be needed if persistent bleeding occurs or there are concerns for a bleeding disorder.

Severity Assessment

Epistaxis not resolving with manual pressure and topical vasoconstriction, will need additional treatment and may need an ENT consult.

Admission Criteria

- · Patient with refractory epistaxis or uncontrolled epistaxis
- Patient in need of more invasive measures provided by an ENT specialist
- Patient in need of monitoring due to blood volume loss

Assessment & Monitoring

Initial assessment will be done in the Emergency Department (ED). If the patient is stable, initial management can begin. If epistaxis cannot be controlled, ENT should be consulted for further recommendations.

Recommended Treatments

- If a foreign body is noted on initial examination, 2-3 attempts can be made to remove it. If the attempt to remove the foreign body is unsuccessful ENT can be consulted or ENT follow up can be scheduled. If the foreign body is a button battery ENT should be consulted immediately for further recommendations. If epistaxis occurs after removal of the foreign body; follow the epistaxis pathway.
- The most crucial step to initially managing epistaxis is applying manual pressure to the distal 1/3 of the nose for at least 5-10 minutes without interruption. If possible, have patient tilt head slightly forward to help prevent pooling of blood in the posterior pharynx and ensure there is good airway patency.
- If bleeding has subsided a good nasal exam is needed. Good lighting and removal of large clots are key for a good exam. Nasal speculums are available at all sites. Large clots can be removed with forceps (bayonet/alligator), or a cotton tip swab applicator. If bleeding occurs after removing clots, apply manual pressure and continue to follow the epistaxis algorithm.
- If manual pressure does not stop the bleeding, the next step is the use of topical vasoconstriction agent. We recommend the use of oxymetazoline 0.05% spray. Oxymetazoline 0.05% spray can be used in children 3 years and older regardless of their weight. You may apply 2 sprays of oxymetazoline to affected nostril(s), or onto a gauze pad then insert into affected nostril(s) and re-apply pressure if possible. Oxymetazoline can be used up to 2 times to help control the bleeding.
- Additional treatment can be used based on the provider's experience and comfort level prior to consulting ENT. Additional therapies include tranexamic acid (TXA), HemCon nasal plug, and silver nitrate.
- TXA is available in two forms topical or aerosolized. For epistaxis, topical TXA should be used. Topical TXA dosage for epistaxis is 500mg (5 mL) regardless of the patient's weight and age. Topical TXA can be placed on a cotton pledget or gauze pad and insert into the affected nostril(s) for 10 minutes and then removed. A 20-minute post treatment period is needed to ensure bleeding has completely subsided.
- HemCon nasal plug is made of expandable PVA sponge that contains an active micro-dispersed oxidized cellulose to help stop the bleeding. HemCon nasal plugs are kept in the supply closet (not the pyxis). HemCon can be inserted into the bleeding nostril and removed once the bleeding has stopped, usually within 10-20 minutes.
- Silver nitrate is another treatment option but due to the need for precise technique can cause some difficulties. Silver nitrate use is ideal when the specific source of bleeding can be identified, and the patient can be very cooperative during application. Silver nitrate should be used when epistaxis is unilateral. Using silver nitrate along both sides of the nasal septum can lead to perforation of the septum.

Nasal Foreign Body Removal Techniques

Consider a topical vasoconstrictor for improved visualization, decdreased secretions and decreased bleeding:

Oxymetazoline 0.05% spray can be used in children 3 years and older regardless of their weight. You may apply 2 sprays of oxymetazoline to affected nostril(s).

Direct visualization and removal by instrumentation using any of the following:

- Forceps
- Right angle hook
- Alligator forceps

Insert a probe or curette past the foreign body and pull outward. Make sure you can visualize a space for the catheter next to the foreign body.

Insert a flexible catheter with inflatable balloon past the foreign body, slightly inflate the balloon and pull outward. Make sure you can visualize a space for the catheter next to the foreign body.

Positive Pressure/Parent's Kiss:

Either parent's mouth or bag-valve mask is used to seal mouth and unaffected nostril is occluded. A puff of air is introduced which encourages nasal foreign body to be expelled.

Suction can be used as an adjunct or primary technique.



Return to Intranasal Foreign Body Algorithm

Treatments Not Recommended

- Routine bloodwork for mild epistaxis
- Irrigation for epistaxis or intranasal foreign body
- · Procedural sedation for bleeding control or
- Procedural sedation for removal of intranasal foreign body
- Any treatment a provider is not familiar with or comfortable using

Identification of Deterioration:

- Patient becomes hemodynamically unstable (volume loss, hypotension.)
- Airway or breathing difficulties

Escalation of Care Protocol:

• Consult ENT when bleeding cannot be controlled with treatments listed above.

<u>Return to Epistaxis</u> <u>Algorithm</u>

Discharge Criteria & Planning

Discharge Criteria:

- Cessation of bleeding
- No foreign body seen.
- Airway/breathing status are not compromised.
- Vitals are stable.

Follow Up:

- If this is the patient's first episode of epistaxis or the patient has very infrequent episodes epistaxis, follow up with their primary care doctor is appropriate.
- Epistaxis that has been occurring daily, should follow up ENT within 5-7 days.
- Epistaxis that has been occurring 2-3 times a week, or less, should follow up with ENT within a few weeks.
- Discharge instructions, along with helping hands patient handout will include ways to
 prevent additional episodes of epistaxis at home. An effective preventive measure is to
 use petroleum jelly on cotton applicator and apply to affected nostril(s) 1-2 times a day as
 needed. We do not recommend the use of oxymetazoline or other topical
 vasoconstriction agents at home to treat epistaxis.

Patient & Caregiver Education

Educational materials:

- Discharge instructions for epistaxis
- Helping hands for epistaxis (Available in English, Spanish and Somali)
- Krames-Staywell information document for nosebleeds

Risk Awareness & Zero Hero

- Nosebleeds in non-verbal or young children (less than 2 years of age) could be a sign of abuse and may require a further work up.
- Educating both nurses and providers on new medications and supplies. Also, making sure medical staff are aware of where the supplies are stored.
- Creating a new order set in EPIC to ensure proper doses of medication are prescribed and administered.

Key References

- Otolaryngology Head and Neck Surgery 2020 Vol. 162 (IS) SI S38. Clinic Practice Guideline: Nosebleed (Epistaxis) https://journals.sagepub.com/doi/full/10.1177/ 0194599819890327
- The Journal of Emergency Medicine. Vol 58 No. 2, pp 211-216, 2020. Comparative effectiveness of topically administered tranexamic acid versus topical oxymetazoline spray for achieving hemostasis in epistaxis.
- American Journal of Otolaryngology- Head and Neck Medicine and Surgery 42 (2021).
- The power of a checklist: Decrease in emergency department epistaxis transfer after clinical pathway implementation.
- StatPearls. Nasal Foreign Body https://www.ncbi.nlm.nih.gov/books/NBK459279/

Quality Measures

Outcome Measure:

• Decrease transfer rates from the UC to the main campus ED.

Process Measure:

• Oxymetazoline use in patients who are transferred to the ED.

Balancing Measure:

• Return to UC or ED for epistaxis within 7 days.

Potential Areas for Research

- Tranexamic acid usage in children to manage epistaxis. There is limited literature about the use of TXA as treatment option for epistaxis in children.
- Roles of preventative home remedies to decrease recurrent epistaxis (humidified air, petroleum jelly, nasal saline spray)

<u>Return to Epistaxis</u> <u>Algorithm</u>

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Clinical Pathway Development

This clinical pathway was developed using the process described in the NCH Clinical Pathway Development Manual Version 6, 2022. Clinical Pathways at Nationwide Children's Hospital (NCH) are standards which provide general guidance to clinicians. Patient choice, clinician judgment, and other relevant factors in diagnosing and treating patients remain central to the selection of diagnostic tests and therapy. The ordering provider assumes all risks associates with care decisions. NCH assumes no responsibility for any adverse consequences, errors, or omissions that may arise from the use or reliance on these guidelines. NCH's clinical pathways are reviewed periodically for consistency with new evidence; however, new developments may not be represented, and NCH makes no guarantees, representations, or warranties with respect to the information provided in this clinical pathway.

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