

Management of Epistaxis

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At Glance

- Nose Blood Supply
- Causes of Epistaxis
- History, Examination and Investigation
- Management
- Blood loss management
- Avoidance



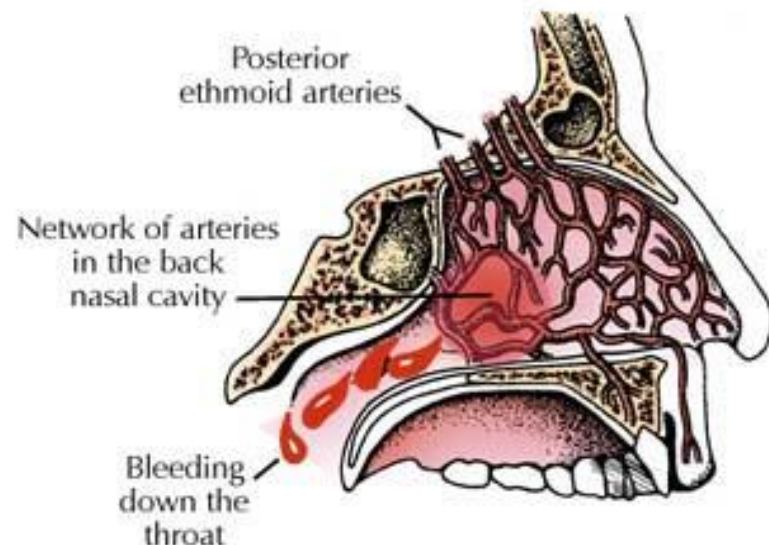
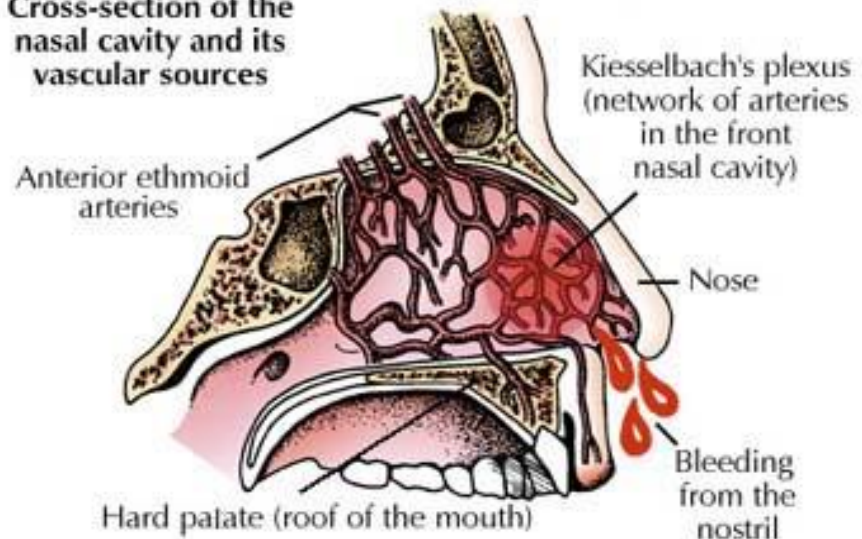
Nasal Blood Supply

- Internal and external carotid arteries
- Many arterial and venous anastomoses
- Kiesselbach's plexus (Little's area) in anterior septum
- Woodruff's plexus in posterior septum



Vascular anatomy of the medial and lateral nasal walls

Cross-section of the nasal cavity and its vascular sources



Local Causes of Epistaxis

- Nasal trauma (nose picking, foreign bodies, forceful nose blowing)
- Allergic, chronic or infectious rhinitis
- Chemical irritants
- Medications (topical)
- Drying of the nasal mucosa from low humidity
- Deviation of nasal septum or septal perforation
- Bleeding polyp of the septum or lateral nasal wall (inverted papilloma)
- Neoplasms of the nose or sinuses
- Tumors of the nasopharynx especially Nasopharyngeal Angiofibroma
- Vascular malformation



Systemic Causes of Epistaxis

- Systemic arterial hypertension
- Endocrine Causes: pregnancy, pheochromocytoma
- **Hereditary hemorrhagic telangiectasias**
- Anticoagulants (ASA, NSAIDS)
- Hepatic disease
- Blood diseases and coagulopathies such as Thrombocytopenia, ITP, Leukemia, Hemophilia



Most Common Causes of Epistaxis

- Disruption of the nasal mucosa - local trauma, dry environment, forceful blowing, etc.
- Facial trauma
- Scars and damage from previous nosebleeds that reopen and bleed
- Intranasal medications
- Hypertension and/or arteriosclerosis
- Anticoagulant medications



Patient History

- Previous bleeding episodes
- Nasal trauma
- Family history of bleeding
- Hypertension - current medications and how tightly controlled
- Hepatic diseases
- Use of anticoagulants
- Other medical conditions - DM, CAD, etc.

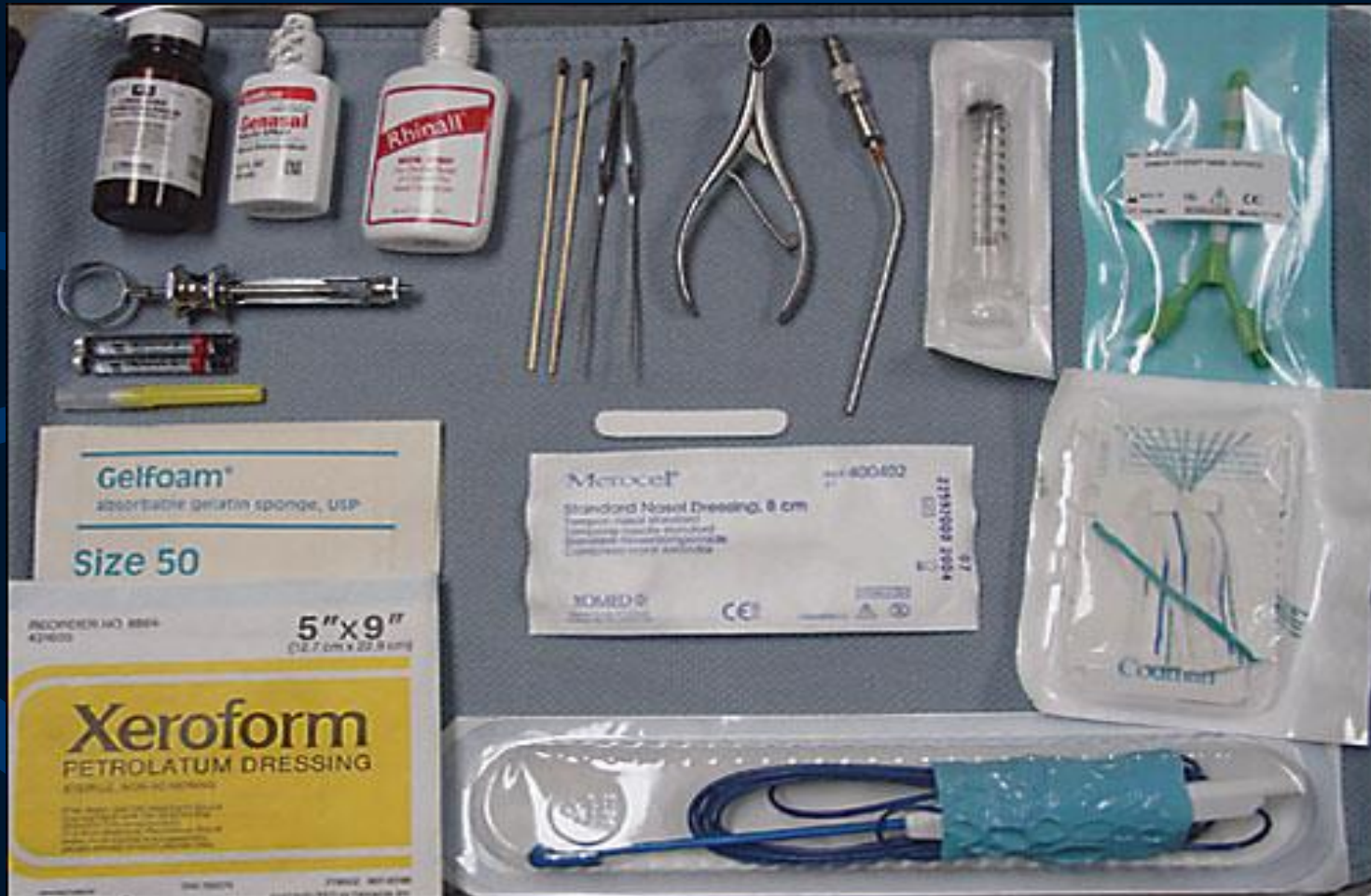


Physical Exam - Equipment

- Protective equipment - gloves, safety goggles
- Headlight if available
- Nasal Speculum
- Suction
- forceps
- Tongue depressor
- Vasoconstricting agent
- Topical anesthetic

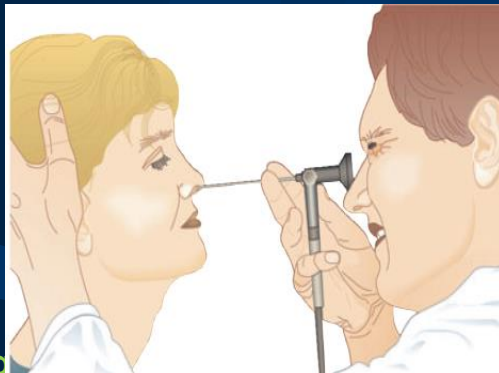


General Epistaxis Supplies



Physical Exam

- Measure blood pressure and vital signs
- Apply direct pressure to external nose to decrease bleeding
- Use vasoconstricting spray mixed with tetracaine in a 1:1 ratio for topical anesthesia
- **Identify the bleeding source**



Types of Nosebleeds

- ***ANTERIOR***
 - Most common in younger population
 - Usually due to nasal mucosal dryness
 - Usually controlled with conservative measures
- ***POSTERIOR***
 - Usually occurs in older population
 - HTN and SYS diseases are common contributing factors
 - Significant bleeding in posterior pharynx
 - More challenging to control



Treatment of Anterior Epistaxis

- Localized digital pressure for minimum of 5-10 minutes,
- Silver nitrate cautery
- Collagen Absorbable Hemostat or other topical coagulant
- Anterior nasal packing for refractory epistaxis



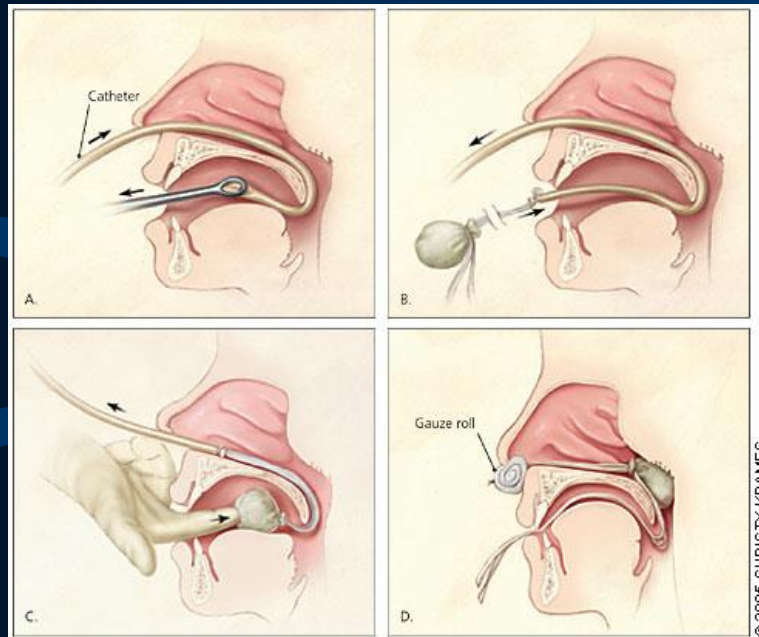
Anterior Nasal Packs



- Formed expandable sponges are very effective
- Available in many shapes, sizes and some are impregnated with antibacterial agents



Posterior Pack



Duration of Packing Placement

- Actual duration will vary according to the patient's particular needs.
- Typically, anterior pack at least 24-48 hours, sometimes longer.
- Posterior pack may need to remain for 48-72 hours.
- If a balloon pack is used, advised tapered deflation of balloons.



Patients with Nasal Packing

- Best to place patient on a p.o. antibiotic to decrease risk of sinusitis and Toxic Shock Syndrome
- Advise pt to avoid straining, bending forward or removing packing early



Patients with Nasal Packing

- Most patients may be treated as outpatients but hospital admission and observation should be strongly considered when a posterior pack is used. SaO₂ should be monitored as well.
- Admission may also be prudent for those with CAD, severe HTN or significant anemia. Give supplemental oxygen via humidified face tent.



Other Treatments for Refractory Epistaxis

- Greater palatine foramen block
- Septoplasty
- Endoscopic cauterization
- Selective embolization by interventional radiologist
- Internal maxillary artery ligation
- Transantral sphenopalatine artery ligation
- Intraoral ligation of the maxillary artery
- Anterior and posterior ethmoid artery ligation
- External carotid artery ligation



Preventive Measures

- Keep allergic rhinitis under control. Use saline nasal spray frequently to cleanse and moisturize the nose.
- Avoid forceful nose blowing
- Avoid digital manipulation of the nose with fingers or other objects
- Use saline-based gel intranasally for mucosal dryness
- Consider using a humidifier in the bedroom
- Keep vasoconstricting spray at home to use only prn epistaxis



Blood Loss Management

- Blood loss Estimate
 - Vital sign
 - Blood workup
- Blood volum Expansion
- Blood Transportation
 - Blood Component

