Epistaxis & Nasal Trauma

Dr. Mohammed Tawalbeh

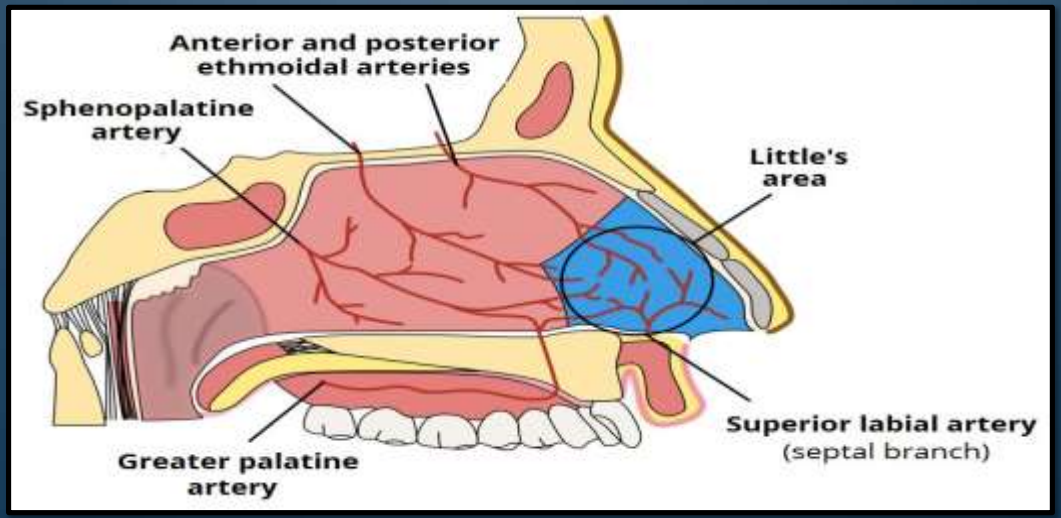
CONTENTS:

INTRODUCTION

- Epistaxis is the medical term for nosebleed.
- It more commonly occurs in children (ages 2–10) and older adults (ages 50–80)
- It is rarely life threatening but it may cause significant concern, especially among parents of small children.
- Most nosebleeds are benign, self-limiting, and spontaneous, but some can be recurrent.

INTRODUCTION

- The nose has a rich vascular supply, with substantial contributions from the internal carotid artery (ICA) and the external carotid artery (ECA).

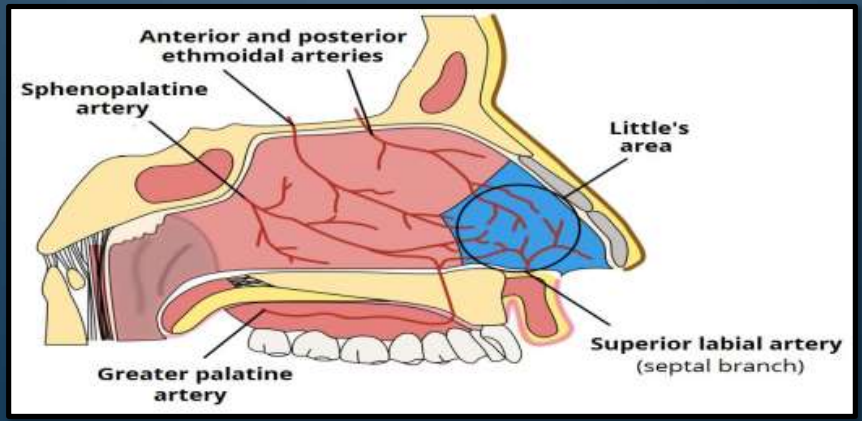


INTRODUCTION

- The ECA system: the facial and internal maxillary arteries.

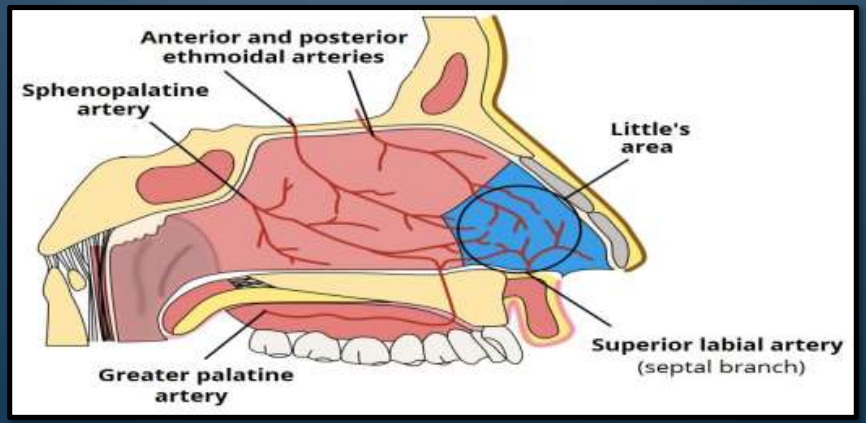
  * The superior labial artery is one of the terminal branches of the facial artery which supplies the anterior septum through a septal branch.

* The internal maxillary artery enters the pterygomaxillary fossa and divides into 6 branches, some of which are the greater palatine and sphenopalatine arteries.



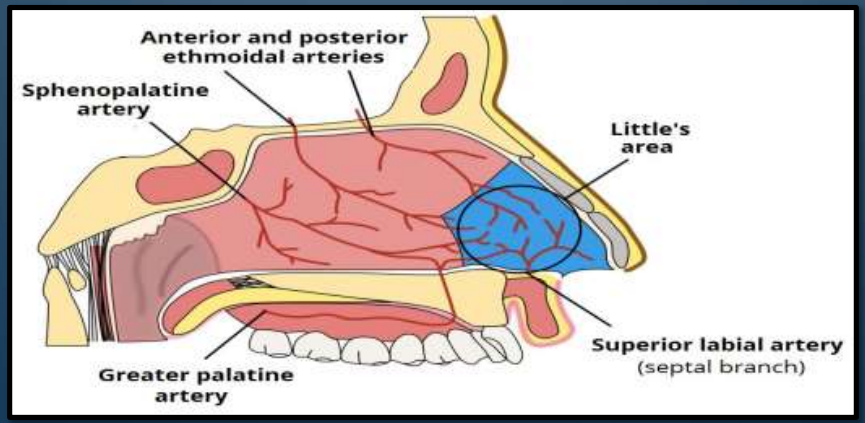
INTRODUCTION

- The ICA contributes to the nasal vascularity through the ophthalmic artery and its anterior and posterior ethmoidal branches.



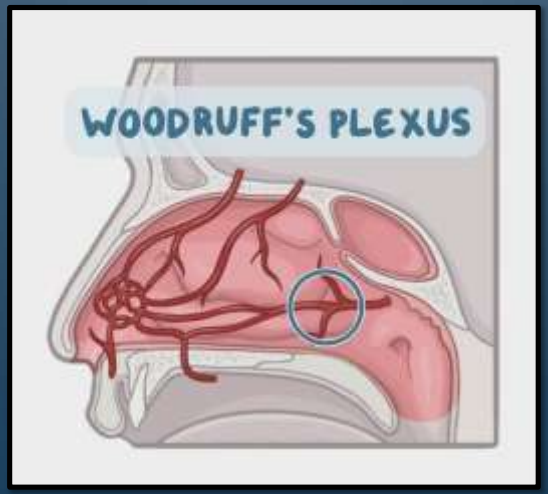
INTRODUCTION

- Kiesselbach plexus, or Little's area, is an anastomotic network of vessels located on the anterior cartilaginous septum. It receives blood supply from both the ICA and the ECA. It is where vessels from both the ICA (anterior and posterior ethmoidal arteries) and the ECA (sphenopalatine and branches of the internal maxillary arteries) converge.



INTRODUCTION

- Woodruff's plexus is a collection of arteries located in the posteroinferior region of the lateral nasal cavity, formed by anastomoses of the sphenopalatine artery (branch of the maxillary artery) and pharyngeal artery.

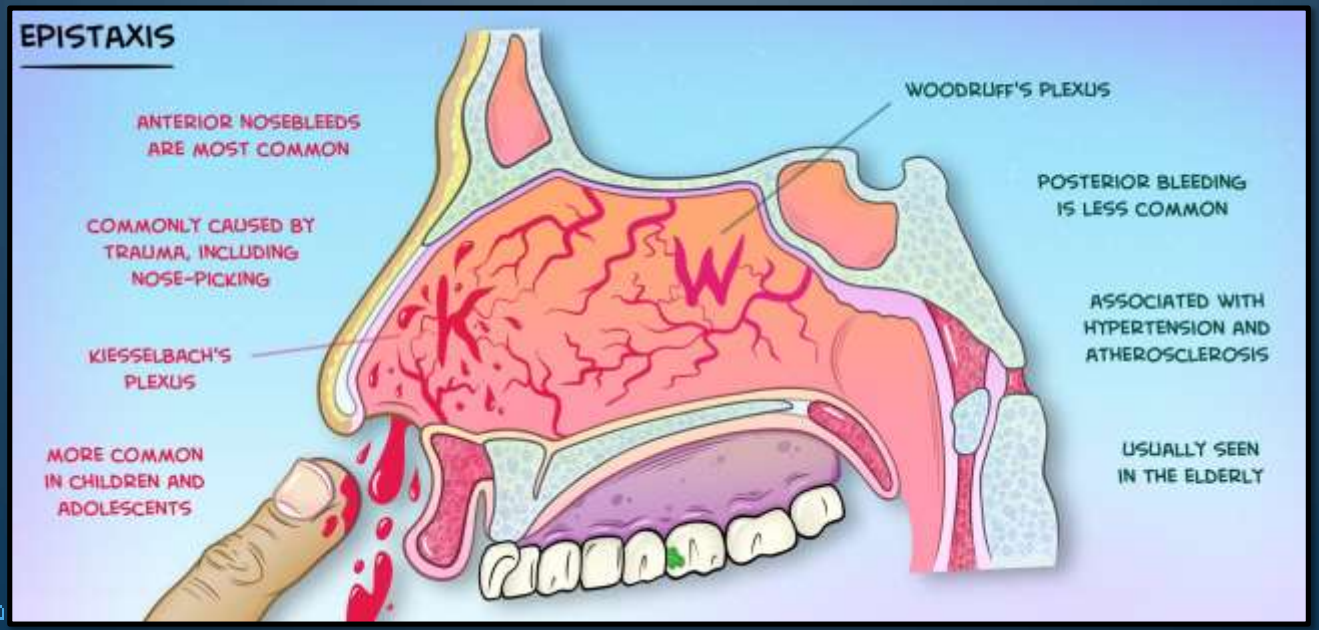


CLASSIFICATION

- There are two types of epistaxis depending on their origin: anterior and posterior epistaxis.

Criteria	Anterior epistaxis	Posterior epistaxis
Clinical features	Bleeding from the nostrils.	*Bleeding through the posterior nasal aperture down the throat (no external signs of bleeding). *Haemoptysis, hematemesis, and/or melena may occur due to swallowing of large amounts of blood.
Relative freaquency	90% of cases.	10% of cases.
Peak Incidence	Children < 10 years of age.	Older individuals (> 5o years of age).
Most common site of bleeding	Kiesselbach plexus.	Woodruff plexus.

CLASSIFICATION



CLASSIFICATION

- A posterior source presents a greater risk of airway compromise, aspiration of blood, and greater difficulty controlling bleeding.

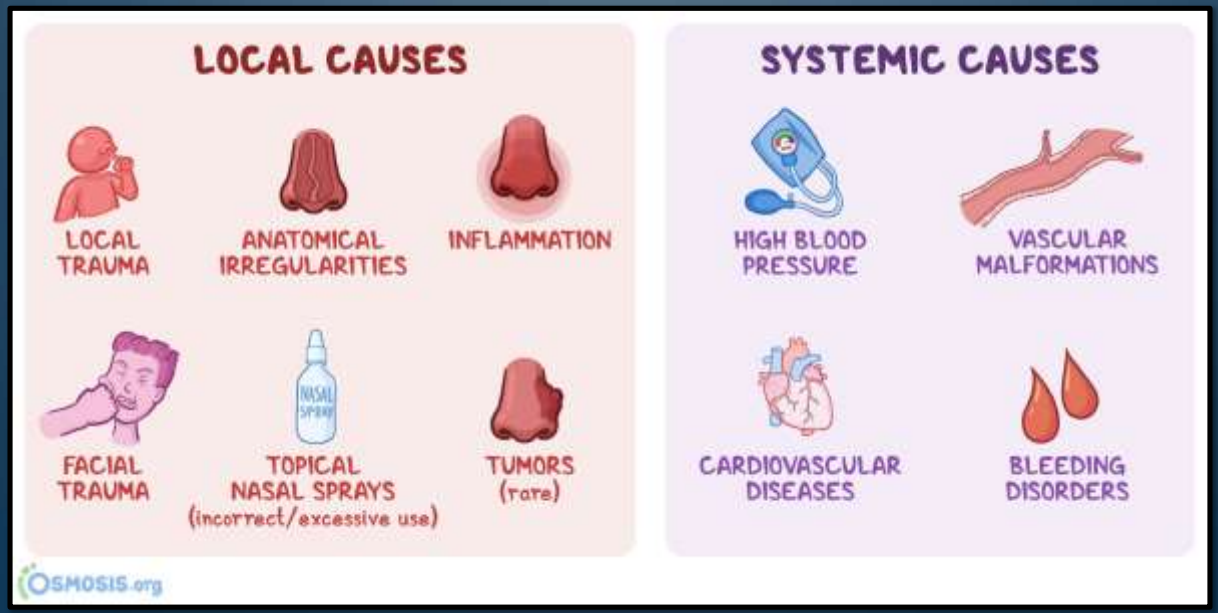
Posterior epistaxis can be a sign of life-threatening hemorrhages!

ETIOLOGY

- In most cases, the exact cause of epistaxis remains unknown (idiopathic epistaxis).
- While a single episode of epistaxis usually does not require any investigation, recurrent epistaxis must be investigated for an underlying cause (e.g. a bleeding disorder).
- Causes can be:
    * Local.
    * Systemic.

ETIOLOGY

- Local Trauma is the most common cause!

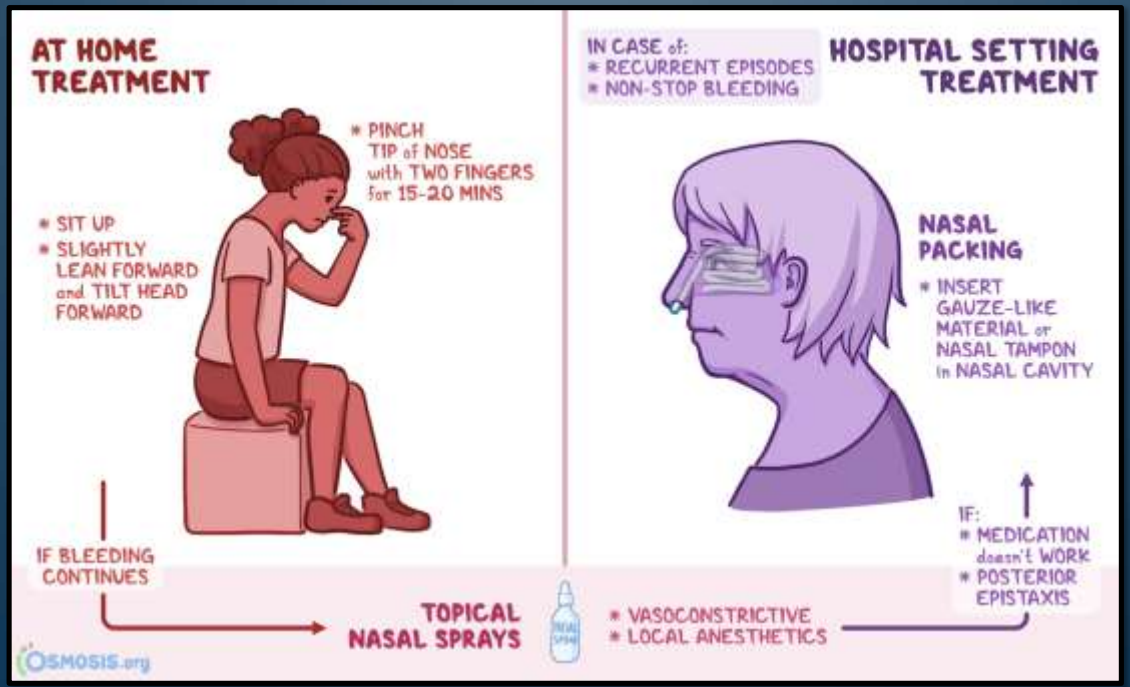


TREATMENT

- Management of epistaxis depends on the severity of the bleeding and the individual's accompanying medical conditions.
- Treating minor nosebleeds can often be managed at home with simple first aid measures.
- If needed, the course of treatment can progress to visiting a physician or the emergency room.
- In more serious or recurrent cases, surgical intervention may be required.

- Anterior epistaxis is usually the easiest to manage.
- Posterior epistaxis is more likely to require medical attention, since it is more difficult to control and may compromise the airways or cause aspiration.

TREATMENT


AT HOME TREATMENT
* PINCH TIP of NOSE with TWO FINGERS for 15-20 MINS
* SIT UP
* SLIGHTLY LEAN FORWARD and TILT HEAD FORWARD
IF BLEEDING CONTINUES
TOPICAL NASAL SPRAYS
* VASOCONSTRICTIVE
* LOCAL ANESTHETICS
IN CASE of:
* RECURRENT EPISODES
* NON-STOP BLEEDING
HOSPITAL SETTING TREATMENT
NASAL PACKING
* INSERT GAUZE-LIKE MATERIAL or NASAL TAMPON in NASAL CAVITY
IF:
* MEDICATION doesn't WORK
* POSTERIOR EPISTAXIS
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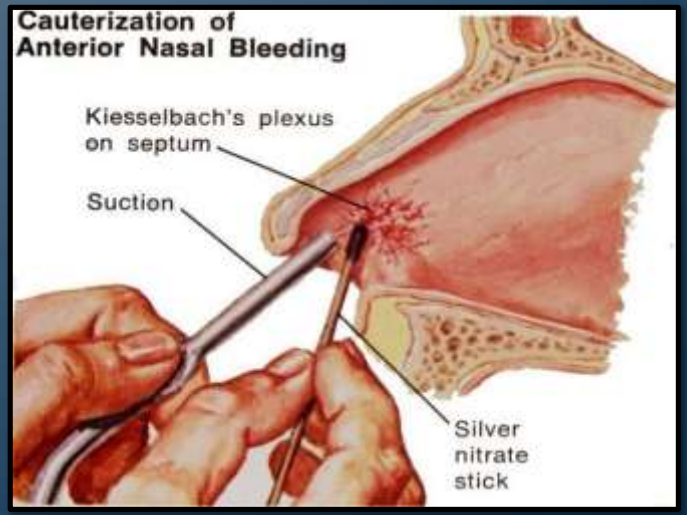
TREATMENT

- If we are able to identify the bleeding point: Cauterization.

- Can be:
- → Chemical: Silver nitrate.
- → Thermal: Electrocautery device.

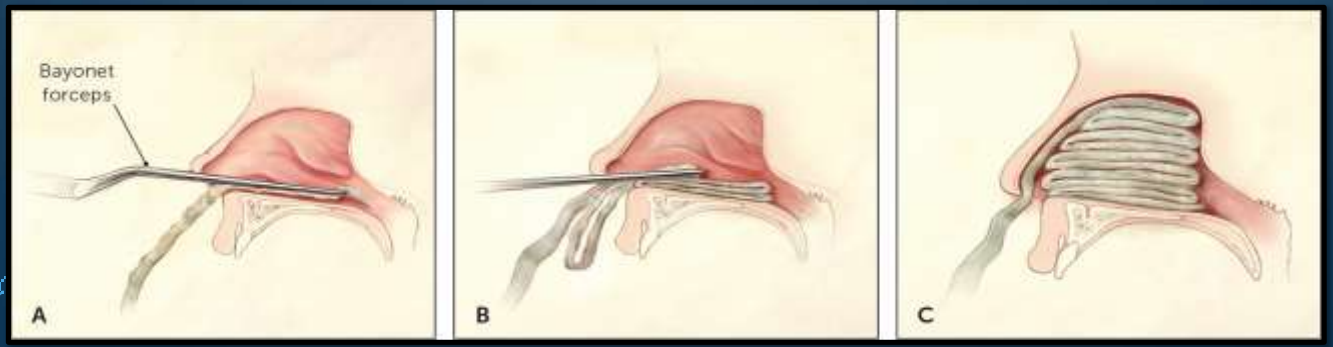


TREATMENT

- If the bleeding site can not be seen then perform: Nasal Packing.
- Can be:

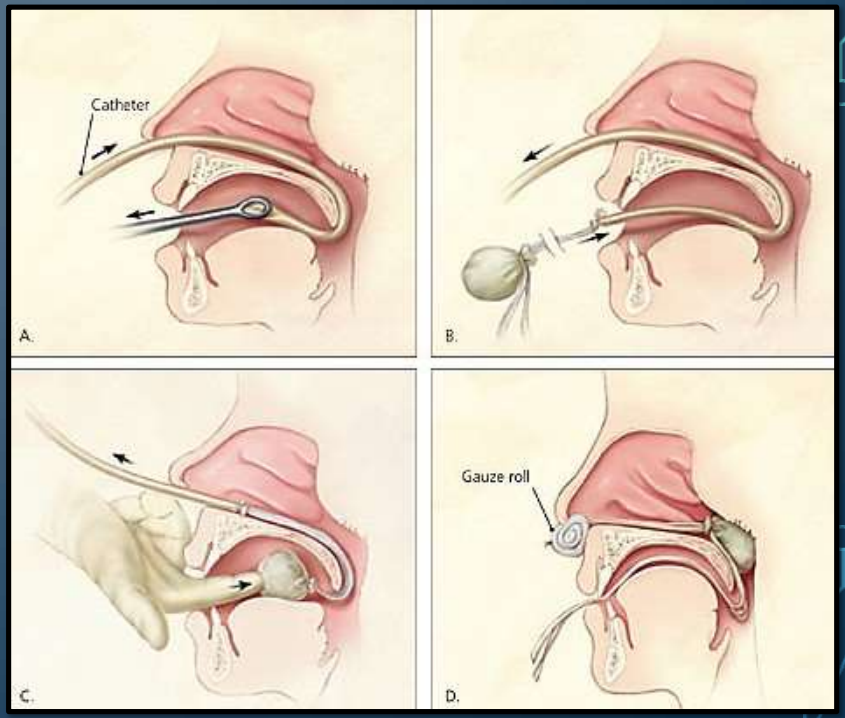
1. Anterior nasal packing.

•Involves inserting a gauze-like material or nasal tampon into the nasal cavity to absorb blood and provide pressure to the affected area



TREATMENT

- 2. Posterior nasal packing.
- Can be performed by using: conventional ribbon gauze or a Foley catheter.



EPIDEMIOLOGY

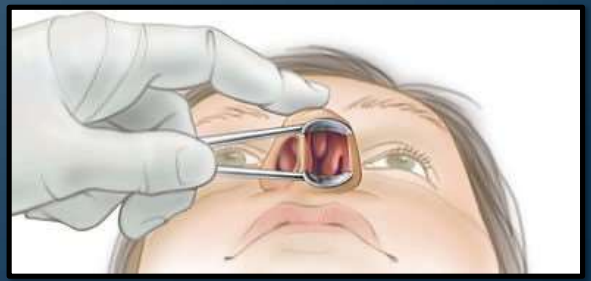
- The life long incidence of epistaxis is 60%, however only 10% seek medical attention.
- Males > Females.

HISTORY

- Age
- Onset, duration, severity, frequency
- Bilateral or unilateral
- Preceding factors: exercise, sleep, migraine, trauma
- Bleeding from other sites
- Aggravating and relieving factors
- Nasal discharge
- Medical conditions
- Current medications
- Smoking and drinking habits
- Previous epistaxis, recurrent bleeding, easy bruising
- Family history of bleeding disorders

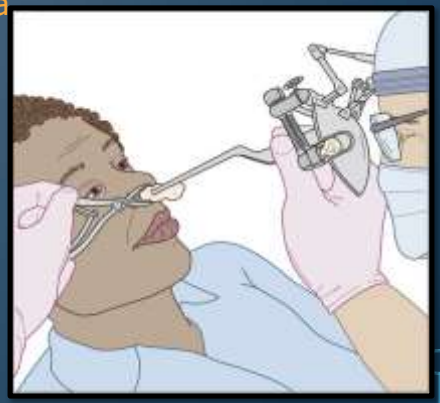
PHYSICAL EXAM

- General exam:
  examine the skin for evidence of bruises or petechiae that may indicate an underlying hematologic abnormality.
- Vital signs:
  persistent tachycardia must be recognized as an early indicator of significant blood loss requiring intravenous (IV) fluid replacement and, potentially, transfusion.
- Gently insert a nasal speculum and spread the naris vertically. Start with inspection, looking specifically for any obvious bleeding site on the septum that may be amenable to direct pressure or cautery.



LOCALIZATION OF BLEEDING

- Soak some pledgets with anesthetic-vasoconstrictor solution and insert them into the nasal cavity to anesthetize and shrink the nasal mucosa
- Allow them to remain for 10–15 minutes.
- Visualize the cavity with a speculum + a good light source.
- Aspirate excess blood and clots.
- If the bleeding originated from Little's area, it will be clearly visible.
- If an anterior source cannot be visualized, if the hemorrhage is from both nares, or if constant dripping of blood is seen in the posterior pharynx, the bleeding may be from a posterior site.
- Massive epistaxis may be confused with hemoptysis or hematemesis. Blood dripping from the posterior nasopharynx confirms a nasal source.



Approximately 90% of nosebleeds can be visualized in the anterior portion of the nasal cavity.

DIFFERENTIAL DIAGNOSIS

- Allergic rhinitis
- Trauma
- Cocaine toxicity
- Coumarin plant poisoning
- Nasal foreign bodies
- NSAID toxicity
- Osler-Weber-Rendu syndrome
- Hemophilia A
- Hemophilia B
- von Willebrand disease
- Warfarin and sub-warfarin toxicity

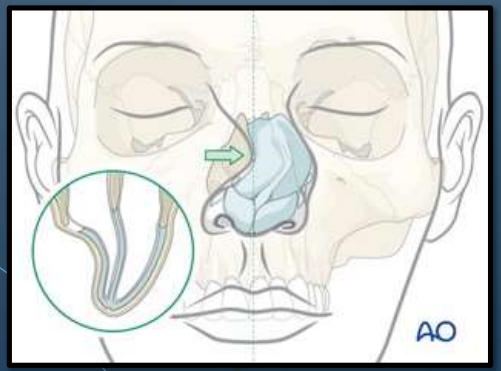
COMPLICATIONS

- Sinusitis
- Septal hematoma/perforation
- External nasal deformity
- Mucosal pressure necrosis
- Vasovagal episode
- Aspiration

PREVENTION

- Correction of bleeding disorders
- Control of hypertension
- Use of humidifiers or vaporizers
- Nasal saline sprays, ointment, Vaseline
- Avoid hard nose blowing or sneezing
- Sneeze with the mouth open
- Avoid nose picking
- Control the use of medications
- Avoid excessive alcohol drinking and smoking

Nasal Trauma



INTRODUCTION

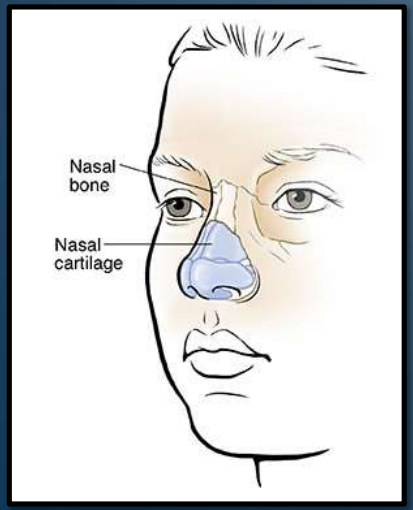
- The nose is the most frequently injured facial structure. It may be injured in various forms of sport, in personal assaults and in traffic accidents.

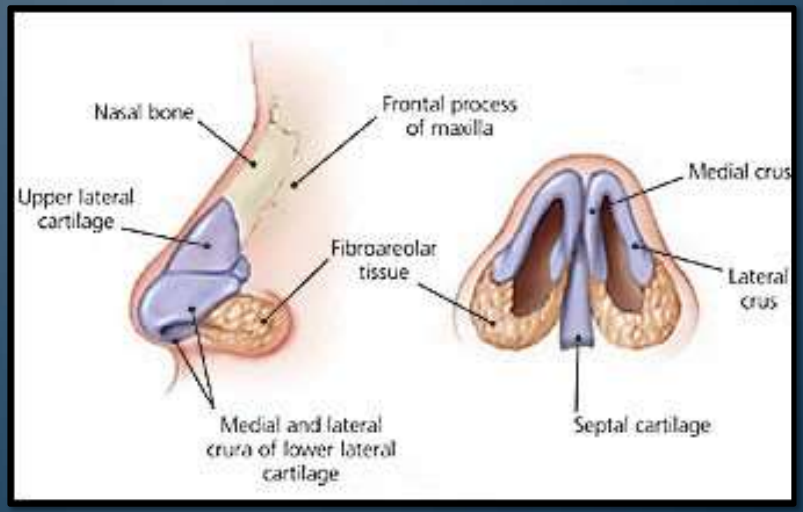
- Nasal deformity depends on the force and direction of trauma.

•Injury to the nose may result in one or more of the following:

1- Epistaxis
2- Fractures of the nasal bone
3- Fracture or dislocation of the septum
4- Septal hematoma

INTRODUCTION

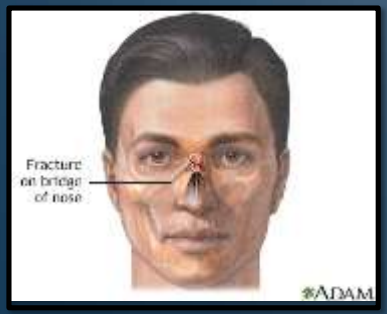




TYPES OF FRACTURES

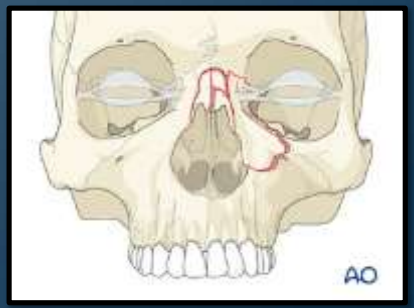
Type 1

only one bone is affected (nasal bone) due to anterior trauma



Type 2

two bones are affected (the frontal process of maxilla and the nasal bone) due to lateral trauma



Type 3

labyrinth of ethmoid

basal skull fracture

base of orbit, maxilla or mandible

MANAGEMENT

1. ABCs
2. Look for signs of fracture in the nose (swelling and discoloration of the skin and subcutaneous tissue covering the nasal bones, tenderness, mobility of the nose, crepitation, obvious deformity)
3. Look for skull and chest fractures
4. Look for signs of intracranial or abdominal bleeding
5. Admission id the patient is hypotensive, has severe epistaxis,…
6. Imaging: Plain X-Ray is most commonly done
   CT scan if: 1- Type 3 fracture
   2- Fracture of other facial bones
   3- Evidence of CSF leak

MANAGEMENT

Getting the nose back to its normal shape:

- Presentation within hours → the deformity is obvious, you fix the deformity immediately.
- Presentation after a day → you can not evaluate the condition due to edema and hematoma formation, you wait for one week, but you control the bleeding and give the patient pain killers and antibiotics in case of infection.
- -Presentation after a month or more → the process of healing has already started, we wait till it's complete (6-12 months), then the patient needs septorhinoplasty under GA.

COMPLICATIONS

1. Septal hematoma

2. Septal dislocation

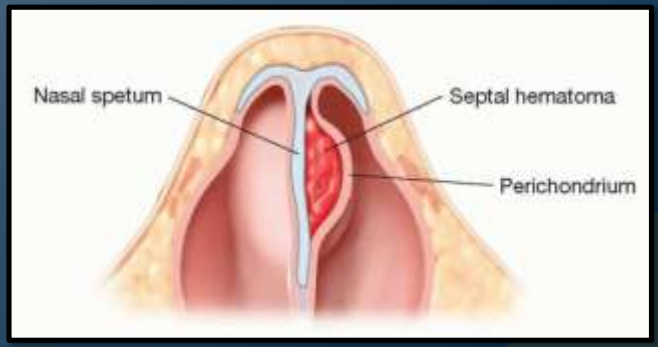
COMPLICATIONS —*septal hematoma*

In the setting of trauma to the anterior nasal septum, hematoma formation may occur.

The anterior portion of the nasal septum is composed of a thin cartilaginous plate with a closely adherent perichondrium and mucosa.
A septal hematoma is a blood-filled cavity between the cartilage and the supporting perichondrium.

Bacterial proliferation and abscess formation may then result from the presence of stagnant blood. A hematoma may become infected within 3 days of the trauma.

Although septal hematomas are uncommon, early diagnosis and treatment is important to prevent abscess formation, septal perforation, saddle-nose deformity and potentially permanent complications.



COMPLICATIONS *—septal hematoma*

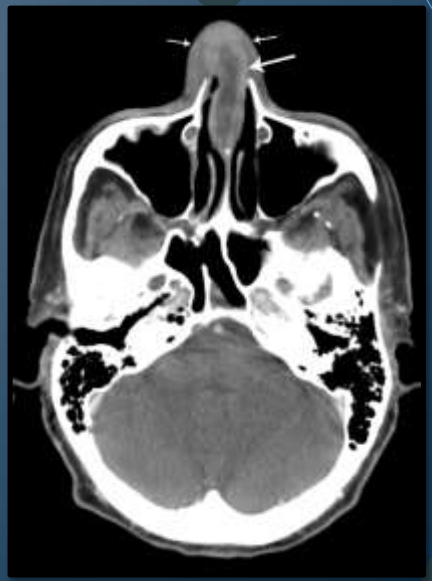
Nasal septal hematoma in:

- Adults → typically occurs with significant facial trauma and nasal fracture.
- Children → may be found with minor nasal trauma such as simple falls.

COMPLICATIONS

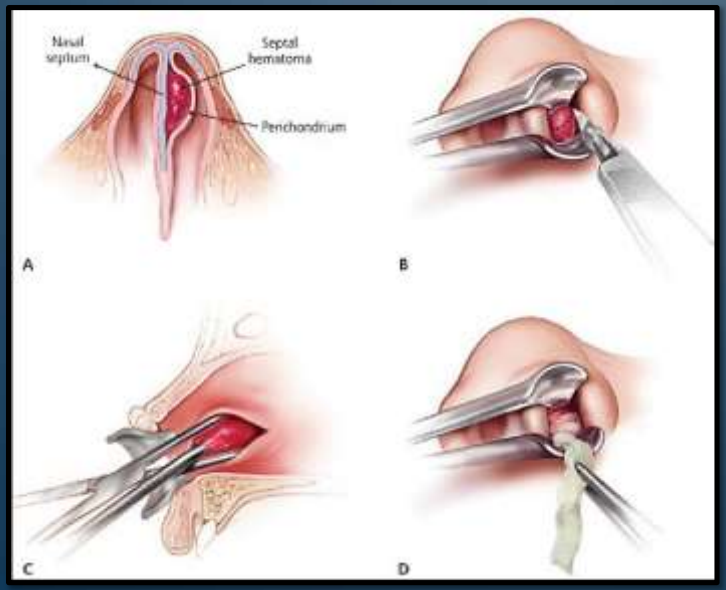
—septal hematoma

- A septal hematoma can usually be diagnosed by inspecting the septum with a nasal speculum.
- Asymmetry of the septum with a bluish or reddish fluctuance may suggest a hematoma.
- Direct palpation may also be necessary, as newly formed hematomas may not be ecchymotic. The best way to palpate is to insert a gloved small finger into the patient's nose and palpate along the entire septum, feeling for swelling, fluctuance, or widening of the septum.
- Most specific image is CT scan.



COMPLICATIONS —*septal hematoma*

- When a septal hematoma is identified, it should be aspiíated immediately oí incised with the aid of local anaesthesia.



Thank You