

ENT Emergencies



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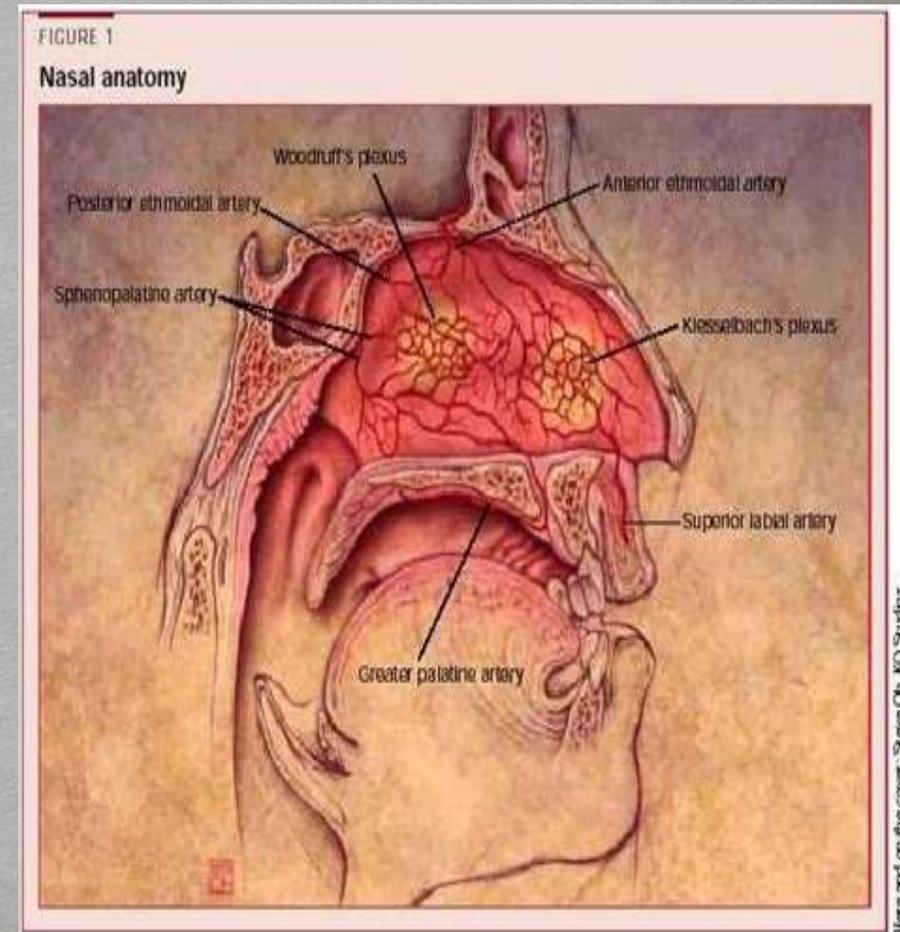
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Epistaxis



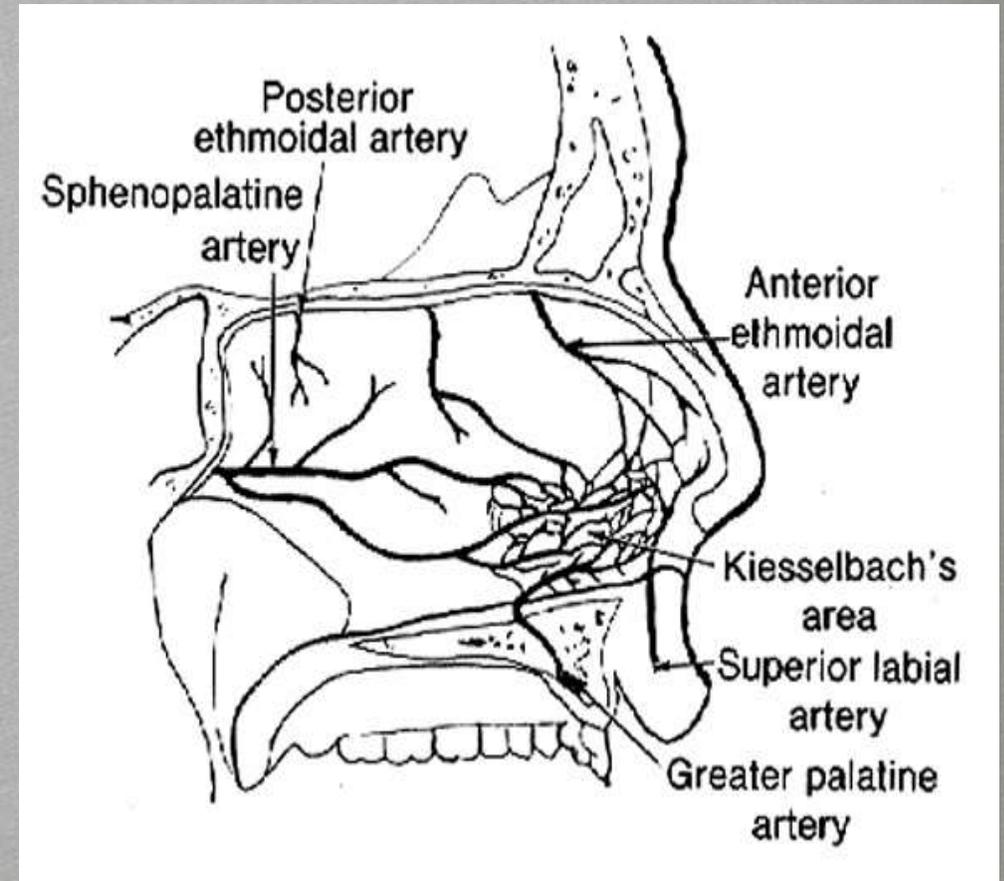
- Epistaxis is one of the most frequent emergencies in Otolaryngology.
- most common source of bleeding (in $\approx 90\%$ of cases) is the Kiesselbach plexus.



Vascular Supply



- ✓ Anterior - branches of internal carotid
- ✓ Posterior - distal branches of external carotid



Epistaxis: diagnostic steps



1- History

2- Localization of the source of bleeding and determination of its cause:

Anterior bleeding: nose-picking, idiopathic epistaxis, rhinitis anterior, infectious diseases

Posterior or middle bleeding: hypertension, arteriosclerosis, fractures, tumors...

3- Measurement of BP and HR

4 -Analysis of blood coagulation In appropriate cases

5 –CT of the nose and PNS

Epistaxis: treatment



- ✓ Calm patient (if necessary with medication)
- ✓ Have the patient sit upright
- ✓ Apply cold to the nape of the neck & nasal dorsum
- ✓ Mild pressure is applied to both nasal alae for several minutes.(20 min)
- ✓ Lower the blood pressure if hypertension is present
- ✓ Administer fluid and plasma expanders
- ✓ Blood transfusions are needed if hemoglobin (hematocrit) decreased >50%
- ✓ coagulation studies and check levels if the patient is on anticoagulants

EPISTAXIS TREATMENT & MANAGEMENT



Manual Hemostasis

The nostrils are squeezed together for 5-30 minutes straight

Cauterization

Nasal Packing(anterior & posterior)

Surgery & Embolization



CAUTERIZATION



- ✧ chemical cautery(silver nitrate)
- ✧ electrocautery
 - ✓ usually reserved for more severe bleeding and for bleeding in more posteriorly located sites, and it often requires local anesthesia.



Technique



☞ Topical Anesthesia and Vasoconstriction

- Soak cotton balls in a mix of 2% lidocaine and 1:1000 epinephrine. Put 1-2 cotton balls into the bleeding nostril.
- Leave the cotton balls in place for 10 minutes

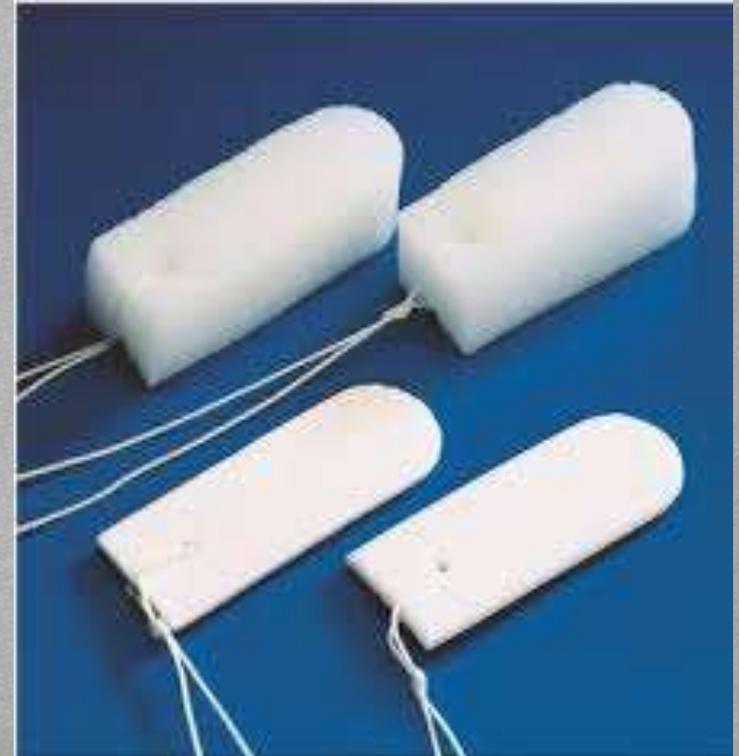
☞ Evacuation of Blood and Clot

☞ Identification of Bleeding Source

☞ Cauterization of Bleeding Source

☞ Nasal Packing

- Absorbable gelfoam
- Vaseline gauze
- Nasal tampon



Equipment



- ☞ Gloves
- ☞ Eye shield
- ☞ Procedure lighting (best to use a headlamp)
- ☞ Tape
- ☞ Cotton
- ☞ Tongue depressors
- ☞ Commercially produced nasal tampon —
Gelfoam, Merocel
- ☞ Topical vasoconstrictors and anesthetics
- ☞ Nasal speculum Suction apparatus (Frazier suction tip)
- ☞ Silver nitrate cautery sticks

ANTERIOR NASAL PACKING

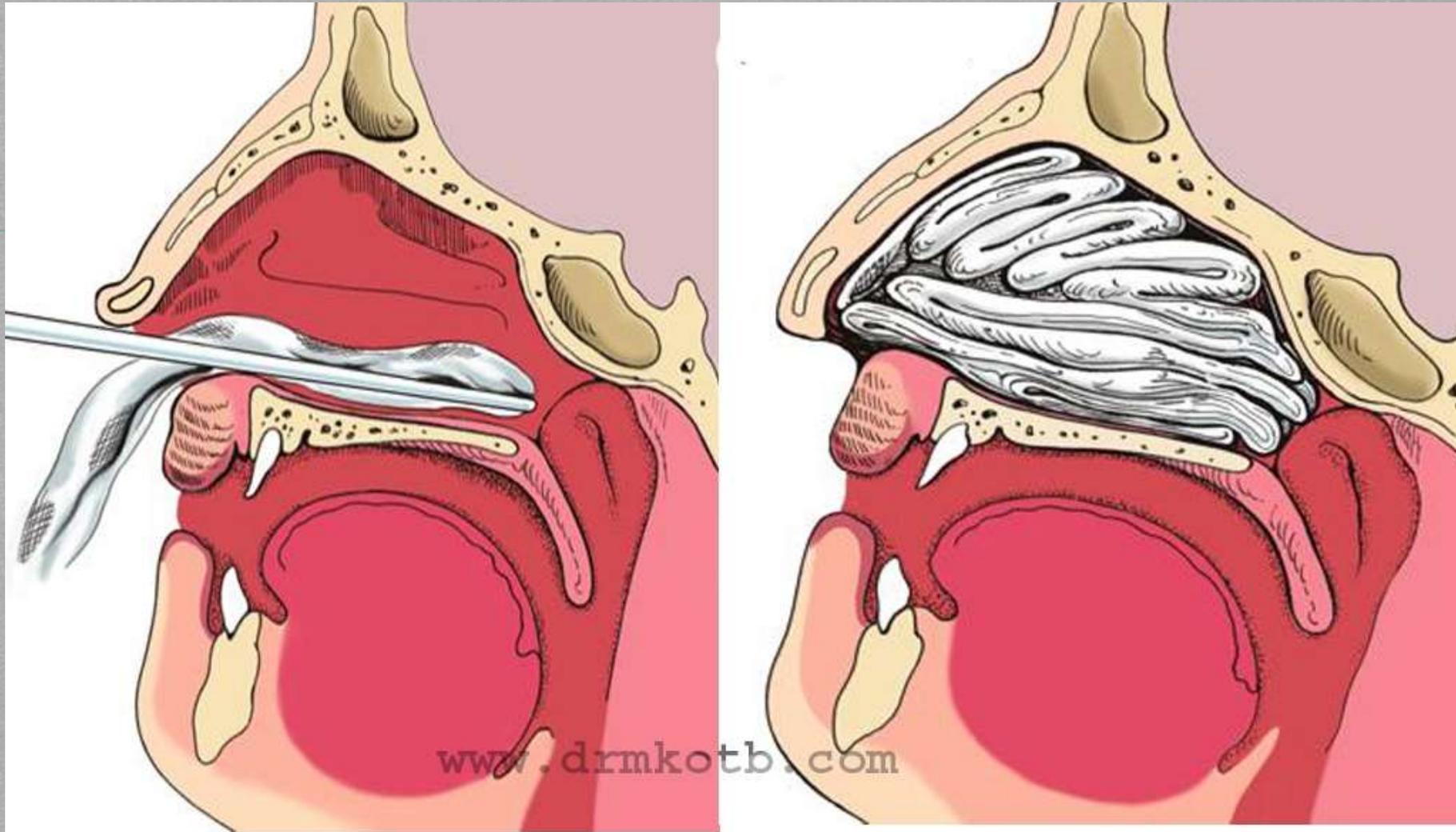


□ Indications:

- Anterior nasal packing is indicated for overt or suspected epistaxis after direct pressure, topical agents, or cauterization.

□ caution:

- Patients with respiratory compromise may first require airway control and mechanical ventilation.
- Patients with hemodynamic compromise may first require volume and blood product resuscitation.



Anterior nasal pack

posterior nasal packing



□ Indications:

∞ Failure of anterior packing

∞ Reliable or high suspicion of posterior bleeding (patient spitting out blood, older patient with atherosclerosis, no visible anterior bleeding site)

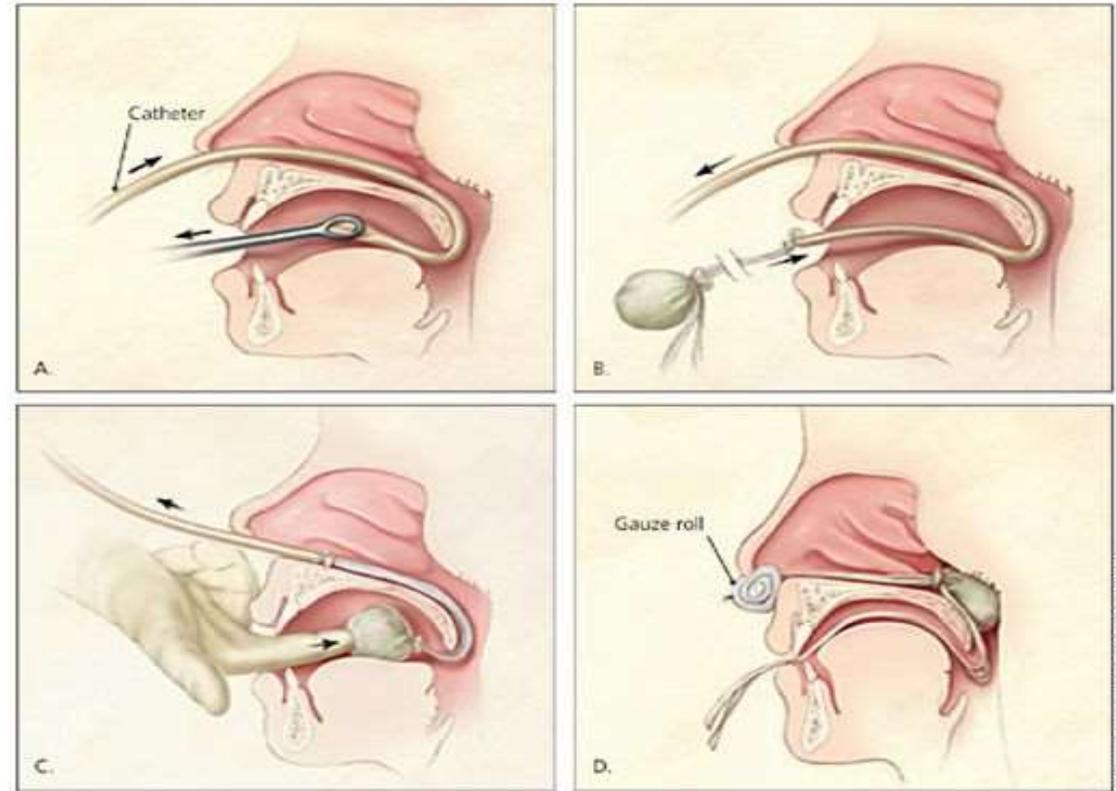
Technique

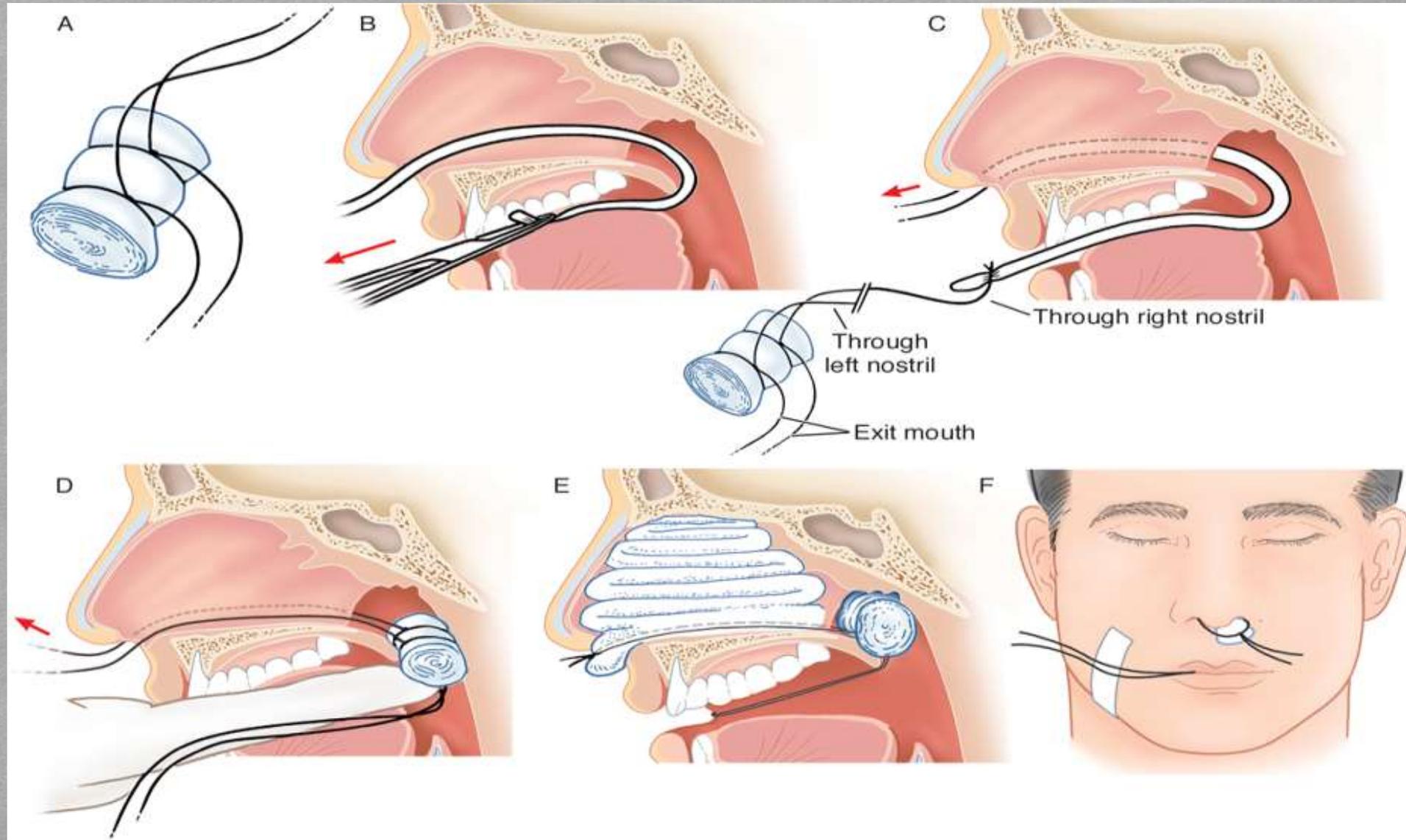


- ❧ Good lighting is paramount
- ❧ Topical Anesthesia and Vasoconstriction
- ❧ Two approach:
 - ❖ Foley Catheter Approach (eg, 12 or 14 French Foley catheters)
 - ❖ rolled gauz
- ❑ Regardless of the type of posterior pack used, an anterior pack should also be placed.

Posterior Nasal Packing

- Topical anesthetic & decongestant
- Posterior nasal packing
 - Foley catheter
 - Double balloon device





Nasal foreign bodies



- ∞ NFBs are most often a **pediatric** phenomenon.
- ∞ Among children, those **aged 2-5 years** have the highest incidence of NFBs.
- ∞ However, adults, particularly those with mental retardation or psychiatric illness, can also fall victim.
- ∞ NFBs can cause **mucosal damage** and, if they **dislodge into the airway**, can even prove fatal.

Nasal foreign bodies

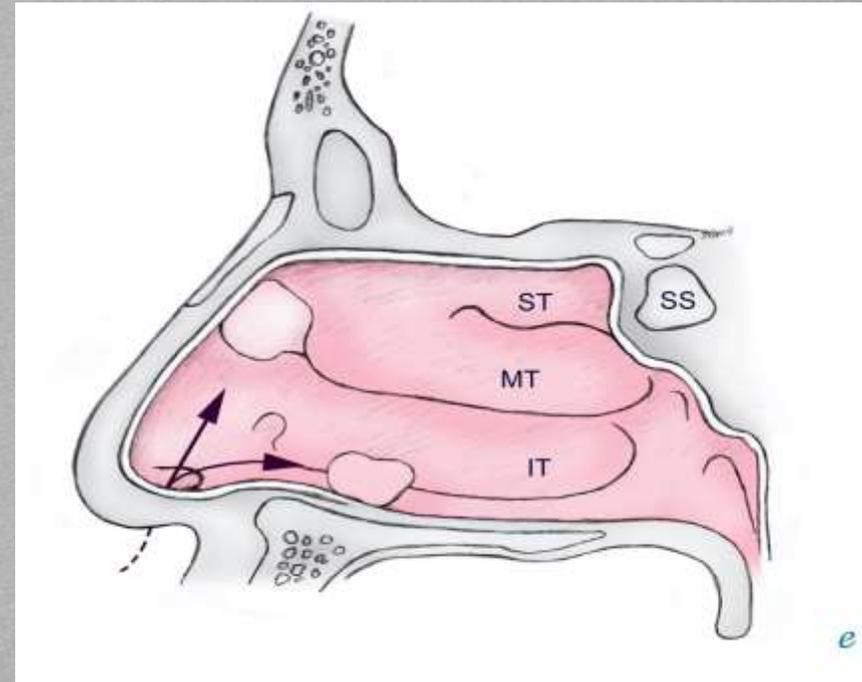


- Foreign bodies can be classified as either **inorganic or organic** :
- ✓ **Inorganic materials** are typically plastic or metal. Common examples include beads and small parts from toys. These materials are often asymptomatic and may be discovered incidentally.
- ✓ **Organic foreign bodies**, including food, rubber, wood, and sponge, tend to be **more irritating** to the nasal mucosa and thus may produce earlier symptoms.

Nasal foreign bodies



- The most common locations for NFBs to lodge are just **anterior to the middle turbinate** or **below the inferior turbinate**.



IT = inferior turbinate; MT = middle turbinate; SS = sphenoid sinus; ST = superior turbinate

Nasal foreign bodies Complications

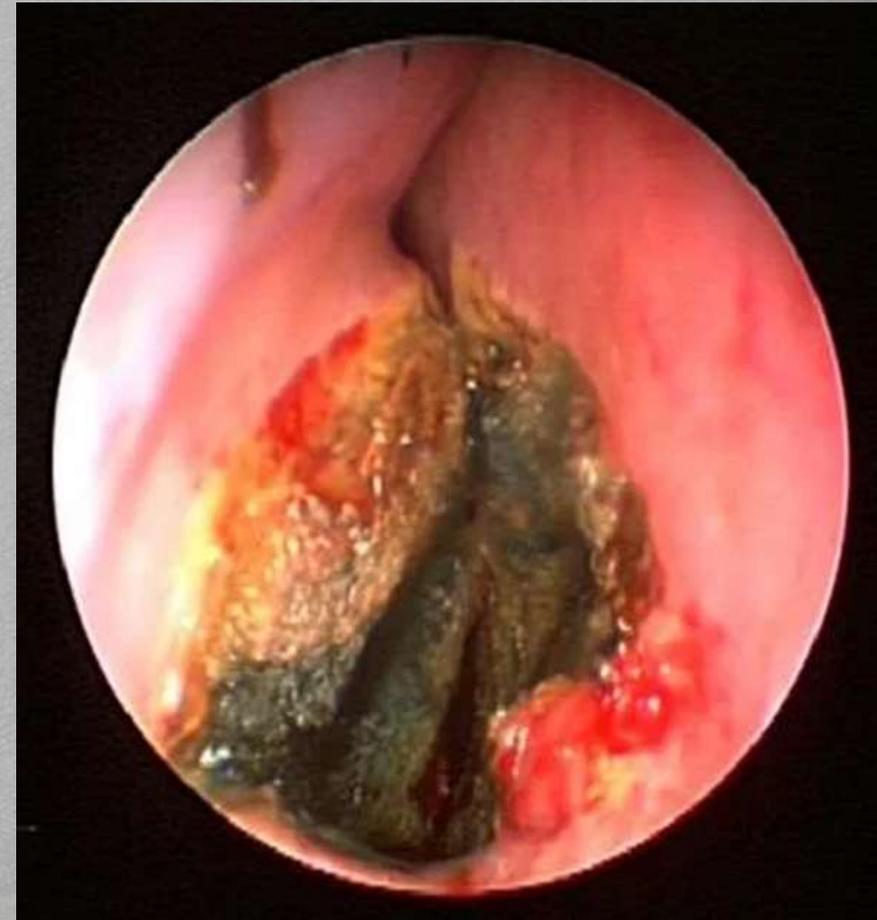


- **Bleeding** is the most common
- Local inflammation from NFBs can result in pressure necrosis.
- **Sinusitis** (The swelling can cause obstruction to sinus drainage and lead to a secondary sinusitis.)
- **Organic foreign bodies** tend to swell and are usually more symptomatic than are inorganic foreign bodies.
- **Acute otitis media**
- **Nasal septal perforation**
- **Periorbital cellulitis**
- **Septal abscess**

Metallic button batteries



- Once inserted into the nose, they cause destruction via **low-voltage electrical currents**, **electrolysis-induced release of sodium hydroxide and chlorine gas**, and even **liquefactive necrosis** if **their alkaline contents leak out**.



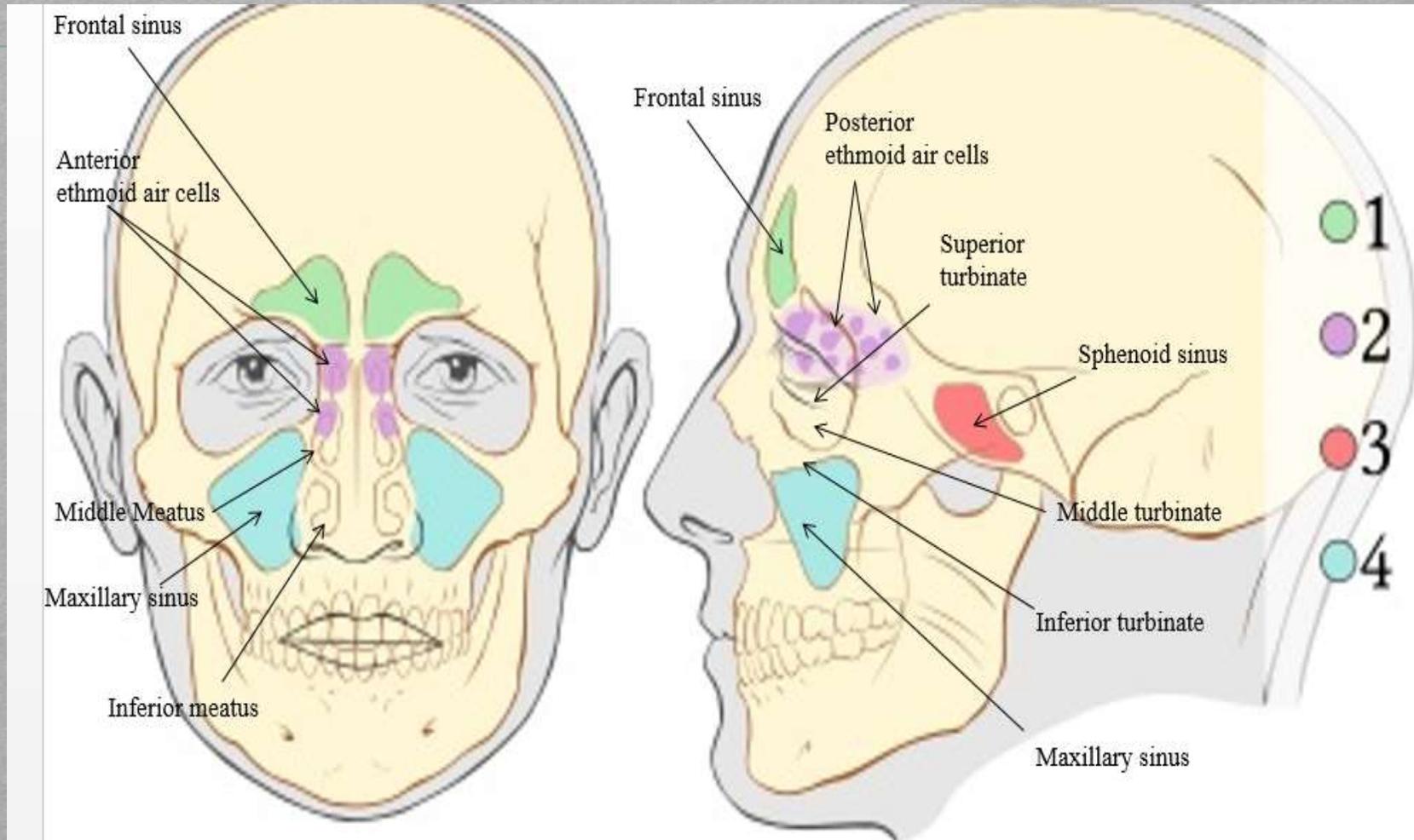
Metallic button batteries



- nasal cavity burns from a battery in a nose for only **12 hours**.
- require prompt removal and a thorough inspection of the nasal cavity for complications.
- It is particularly important not to irrigate the nasal cavities in order to avoid spreading alkaline content that may have leaked out.



Location of Sinuses



Rhinosinusitis



∞ ARS & CRS.

∞ **acute rhinosinusitis lasts for up to 4 weeks**

∞ The diagnosis of **ABRS** is usually based on clinical presentation, such as symptoms of a viral URTI that persist **for more than 10 days** or that have **worsened after 5 to 7 days**.

∞ CRS lasts for ≥ 12 weeks & Classification system divides CRS into (CRSsNP) and (CRSwNP) based on nasal endoscopy.

RS SYMPTOMS

TABLE 46-1. Rhinosinusitis Symptoms

Major

Facial pain/pressure
Facial congestion/fullness
Nasal obstruction/blockage
Nasal discharge/purulence,
discolored posterior drainage
Hyposmia/anosmia
Purulence on nasal exam
Fever (acute rhinosinusitis only)

Minor

Headache
Fever (nonacute)
Halitosis
Fatigue
Dental pain
Cough
Ear pain, pressure,
and/or fullness

Diagnosis of rhinosinusitis requires two major or one major and two minor symptoms.

Clinical definition of RS



Box 46-1. CLINICAL DEFINITION OF RHINOSINUSITIS IN ADULTS

Inflammation of the nose and the paranasal sinuses characterized by two or more symptoms:

- Either nasal blockage/obstruction/congestion or anterior/posterior nasal discharge:
 - ± Facial pain/pressure
 - ± Reduction or loss of smell (± cough in children)
- And either:
 - Endoscopic signs of:
 - Nasal polyps, and/or
 - Mucopurulent discharge primarily from middle meatus and/or
 - Edema/mucosal obstruction primarily in the middle meatus
 - And/or:
 - CT changes that include:
 - Mucosal changes within the ostiomeatal complex and/or the sinuses

Rhinosinusitis



✧ In ABRS, *Streptococcus pneumoniae* (20% to 45%), *Haemophilus influenzae* (20% to 43%), and *Moraxella catarrhalis* (14% to 28%) are the predominant organism.

Complication of ARS

TABLE 46-2. Signs and Symptoms of the Complications of Acute Rhinosinusitis

Complication	Clinical Findings
Preseptal cellulitis	Eyelid edema, erythema, and tenderness Unrestricted extraocular movement Normal visual acuity
Subperiosteal abscess	Proptosis and impaired extraocular muscle movement
Orbital cellulitis	Eyelid edema and erythema, proptosis, and chemosis No limited impairment of extraocular movements Normal visual acuity
Orbital abscess	Significant exophthalmos, chemosis, ophthalmoplegia, and visual impairment
Cavernous sinus thrombosis	Bilateral orbital pain, chemosis, proptosis, and ophthalmoplegia
Meningitis	Headache, neck stiffness, and high fever
Epidural abscess	Headache, fever, altered mental status, and local tenderness Unenhanced CT reveals a hypodense or isodense crescent-shaped collection in the epidural space
Subdural abscess	Headache, fever, meningismus, focal neurologic deficits, and lethargy with rapid deterioration CT reveals a hypodense collection along a hemisphere or along the falx MRI demonstrates low signal on T1 and high signal on T2 images with peripheral contrast enhancement
Intracerebral abscess	Fever, headache, vomiting, lethargy, seizures, and focal neurologic deficits Frontal deficits can include changes in mood and behavior MRI demonstrates a cystic lesion with a distinct hypointense, strongly enhancing capsule on T2 images
Frontal bone osteomyelitis (Pott's puffy tumor)	Fluctuant forehead swelling

CT, computed tomography; MRI, magnetic resonance imaging.

complications



- Approximately 75% of orbital or periorbital infections are the result of extending sinusitis. Untreated, inadequately treated, or partially treated rhinosinusitis may lead to chronic rhinosinusitis, meningitis, brain abscess, or other extra-sinus complications.
- Orbital complications are the most common complications encountered with acute bacterial sinusitis.
- Infection can spread **directly through the thin bone** separating the ethmoid or frontal sinuses from the orbit or **by thrombophlebitis of the ethmoid veins**.

complications



- ❧ Diagnosis should be based on an accurate physical examination, including ophthalmological evaluation and appropriate radiological studies.
- ❧ CT scanning is the most sensitive means of diagnosing an orbital abscess, although ultrasound has been found to be 90% effective for diagnosing anterior abscesses.



classification by Chandler, which is based on ph/E

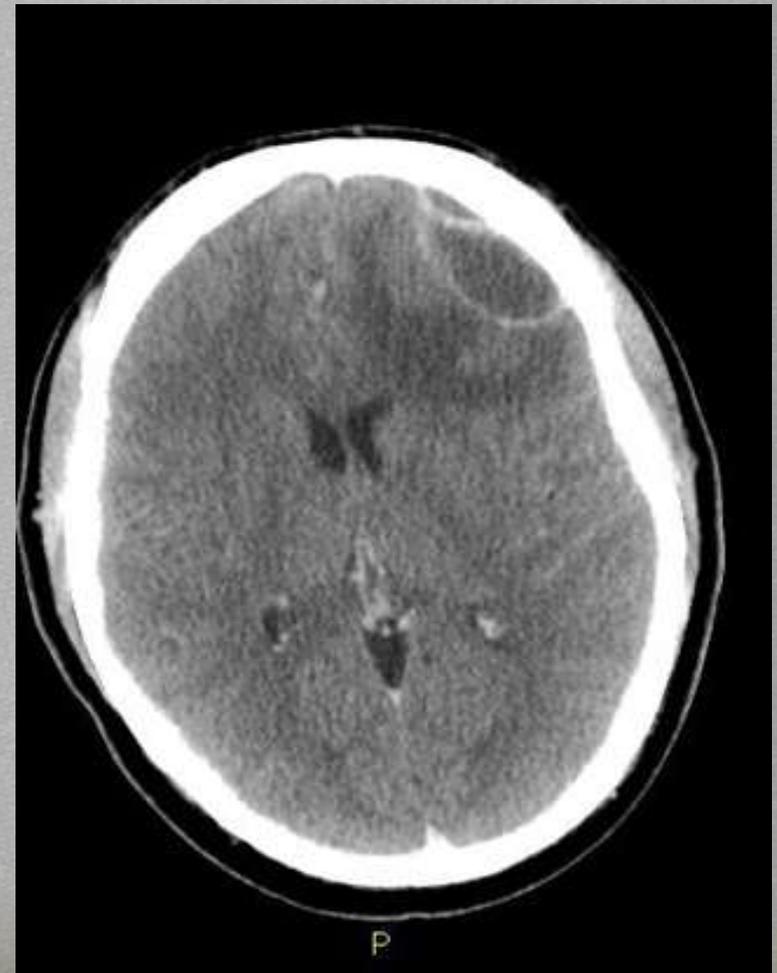


- ❧ Group 1 - Inflammatory edema (preseptal cellulitis) with normal visual acuity and extraocular movement
- ❧ Group 2 - Orbital cellulitis with diffuse orbital edema but no discrete abscess
- ❧ Group 3 - Subperiosteal abscess beneath the periosteum of the lamina papyracea resulting in downward and lateral globe displacement
- ❧ Group 4 - Orbital abscess with chemosis, ophthalmoplegia, and decreased visual acuity
- ❧ Group 5 - Cavernous sinus thrombosis with rapidly progressive bilateral chemosis, ophthalmoplegia, retinal engorgement, and loss of visual acuity; possible meningeal signs and high fever

Intracranial complications



- Intracranial complications may occur as a result of **direct extension through** the posterior frontal sinus wall or through **retrograde thrombophlebitis** of the **ophthalmic veins**.
- **Subdural abscess** is the most common intracranial complication, although cerebral abscesses and infarction that result in seizures, focal neurological deficits, and coma may occur



Thank You



