Examination of the nose and sinus cavities

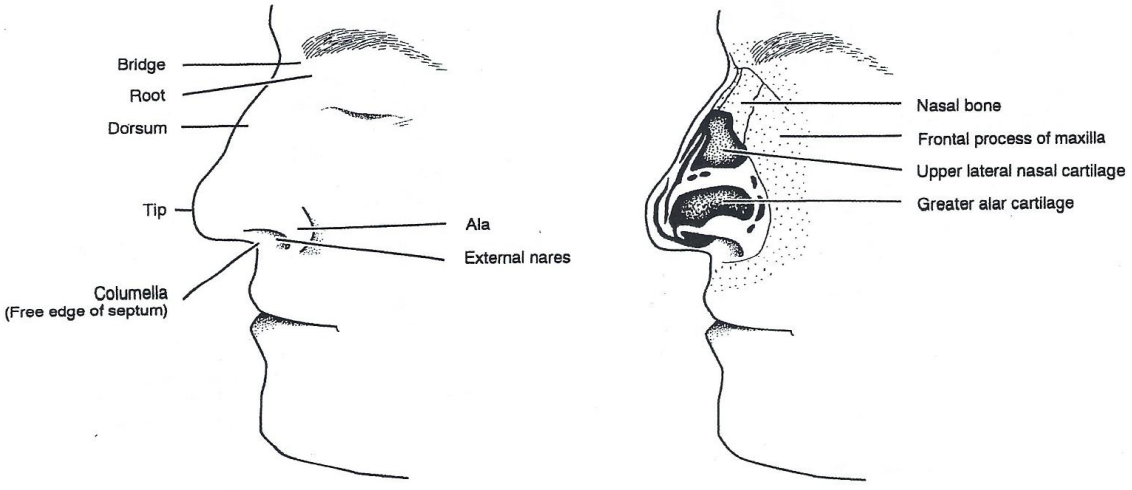
- Review of the basic anatomy
- How to examine the external and internal nose
- Limitations – what can your ENT do?

General points

- Personal protective equipment
- Proper light
    - Whether using a head light or otoscope, it should be bright
    - Preferable the ambient light should not be overly bright
- Use two hands
- Be sure to examine all the nooks and crannies
- Be sensitive regarding the position in which you examine a patient
    - Sitting in front or to the side of a patient
- Be sensitive regarding the examination of a child
    - First try to make a bond

Normal anatomy (also under anatomy and physiology of the nose and PNS)

Nose – External



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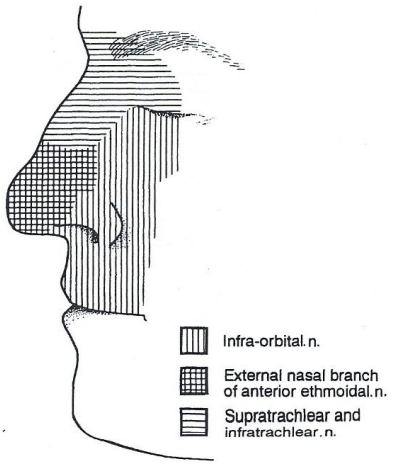
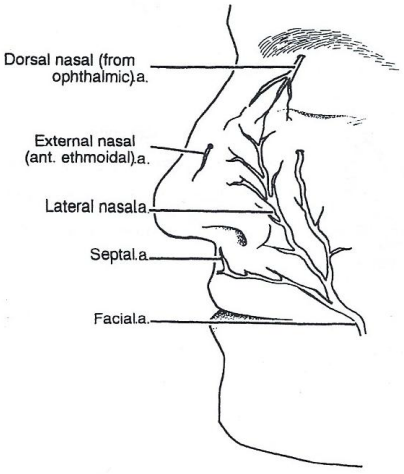
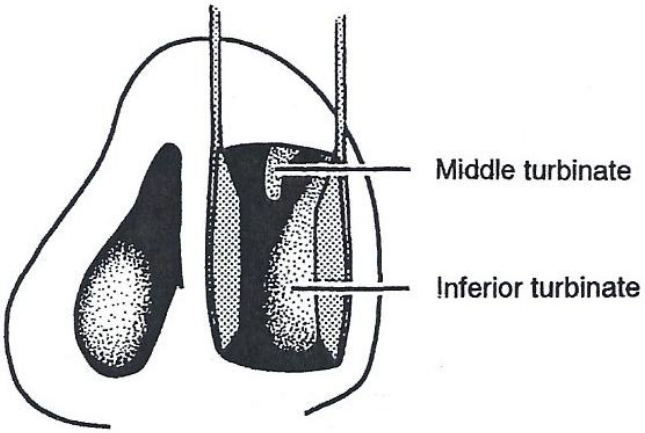


Innervation of the skin of the nose



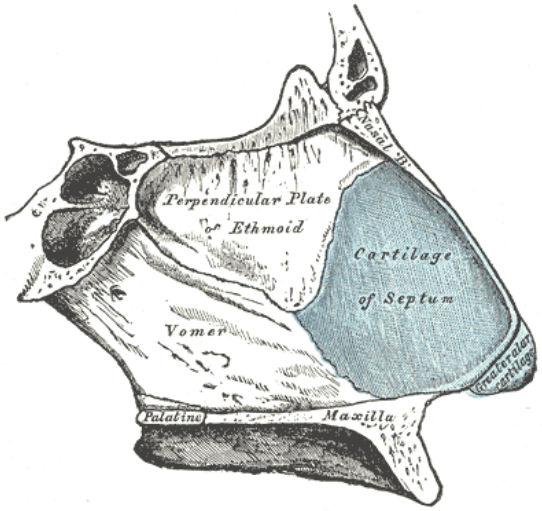
Chief arteries about the external nose

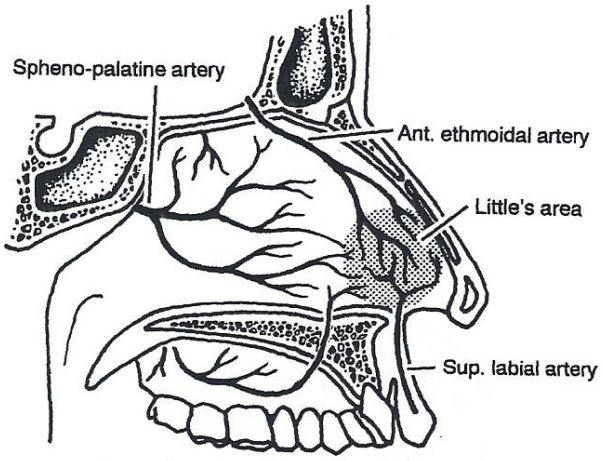
Nose – Bottom view (dog's view)



The turbinates are frequently misdiagnosed as polyps (see normal videos below).

Nose – Internal midline





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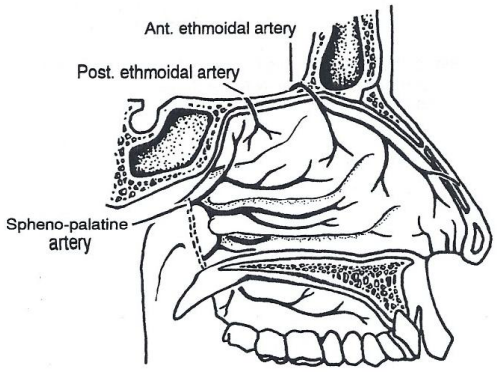
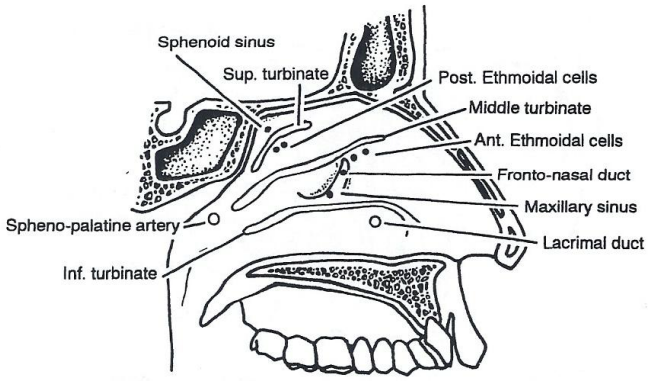
Nose – Internal lateral wall

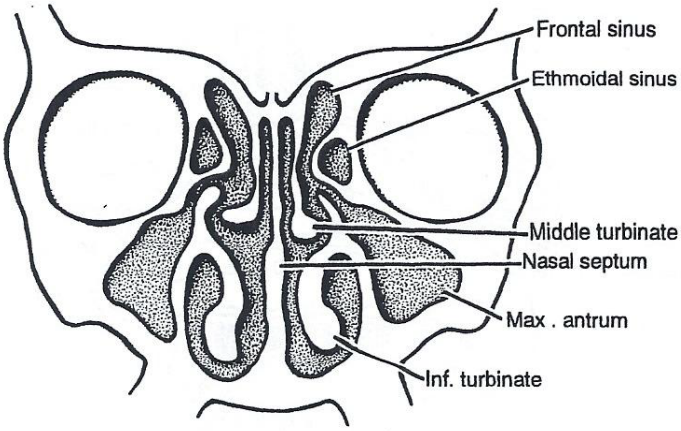


Blood supply to the lateral nasal wall



Lateral wall of nose illustrating important apertures and the attachment of the turbinates

Nose – sinus cavities and adjacent structures



Examination

- Inspection
  - Front
  - Side
  - Bottom
- Palpate
  - Skin
    - Loose over bony part
    - Fixed over cartilage part
- Structure
  - Symmetry / asymmetry
- Internal (Use a speculum or otoscope. If using an otoscope close to ventilation port on the side)
  - Vestibule
  - Septum
  - Floor of nose
  - Inferior turbinate anterior end
  - Middle turbinate anterior end – not always possible
  - Airway – space between septum and turbinates
- Function
  - Misting test

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        - Use any metallic object, like a spatula, and hold it below the nostrils and check for misting
        - Bilateral misting implies that both nostrils are open
    - Maximum inspiration through nose with mouth closed
        - Look for collapse of ala and external valve
- Adjacent structures
    - Eyes
    - Sinuses
        - Percuss
    - Teeth
    - (Brain)

Limitation

- The nose is like an iceberg – you can only examine the external nose and a small portion of the anterior internal part
- With endoscopy an ENT can examine the nose and nasopharynx
    - The video below shows a rigid endoscopy:
        - https://youtu.be/6ttFlcb4Ybo
    - The video below shows a flexible scope:
        - https://youtu.be/tSJFTdh_hLk

Special investigations

Special investigations in patients with rhinological symptoms are frequently requested. Below follows a brief description of some of the tests:

- Allergy testing
    - Type
        - Inhalant
        - Foods
        - Preservatives
        - Colourants
    - Methods
        - Skin prick testing
        - Blood
        - In vivo (nasal stimulation)
- Radiological
    - XR
        - Mostly of no value but unfortunately frequently requested
    - Ultrasound
        - Especially for sinusitis in European countries
    - CT / Cone beam CT
        - Best for bony delineations
        - CTs are generally indicated if
            - An acute RS does not respond to medications in 48-72 hours
            - Any sign(s) of extra-sinus complications
            - Suspected tumours

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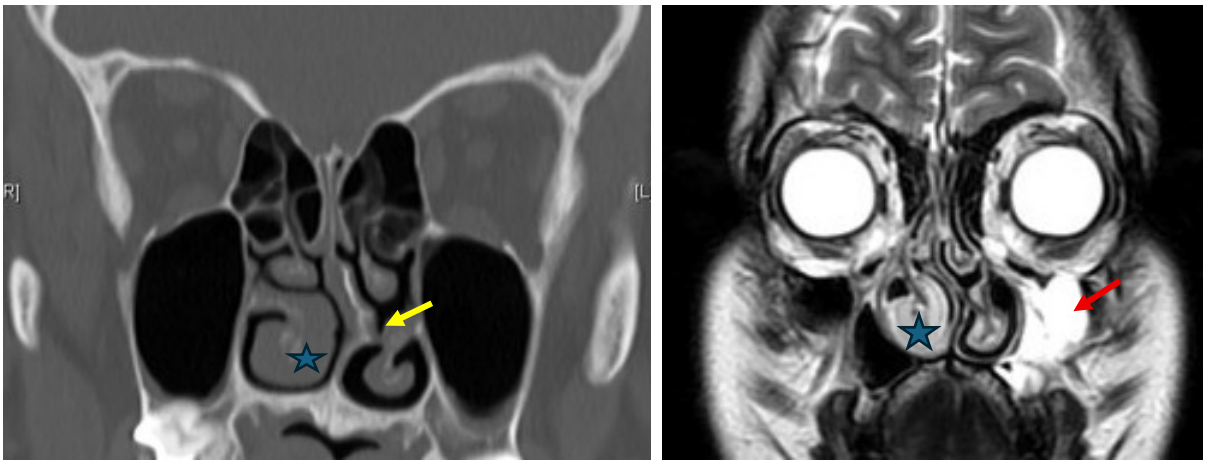
- Pre-operative
- MRI
  - Better than CT for possible dural / brain involvement as well as nerve involvement



The image on the left shows a CT demonstrating a septal spur (yellow arrow) to the left and an enlarge inferior turbinate on the right (star). On the right is a T2 weighted MRI demonstrating a fluid filled left maxillary sinus on the left (red arrow) and also an enlarge inferior turbinate on the right (star).

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