

## **HENNT System**

### Inspection

- Inspection of the head
  - With the head straight, inspect for position, symmetry, and abnormal movements
  - Inspect hair for parasites, color, texture, and distribution
  - Inspect the cranium for size, shape, symmetry, lesions, scaliness, and tenderness
  - Inspect the face for shape, symmetry while at rest, moving, during expressions, tics, and unusual facies
  - Inspect sinuses
- Inspection of the neck
  - Inspect the neck for position, symmetry, alignment of the trachea, tracheal tugging, fullness, masses, webbing, skin folds, and vascular prominence
  - Inspect the thyroid gland by placing the neck into mild extension, then observe swallowing and visualize the gland's size, symmetry, and contour as it moves
    - Also observe the hyoid bone and cricoid cartilage
  - Lymph nodes (anterior cervical chain, posterior cervical chain, supraclavicular)
  - Inspect the salivary glands for swelling
- Inspection of the ears
  - External
    - Inspect each auricle and mastoid looking for size, shape, symmetry, erythema, edema, exudates, deformities, and skin lesions
    - Inspect the auditory canal for color, cerumen, discharge, foreign bodies, and lesions
  - Internal/Otoscopic exam
    - Begin by pulling on the auricle in order to straighten the auditory canal
      - In adults pull back and in children pull down and back
    - Examine the left ear with your left hand and the right ear with your right hand
    - Place the ulnar surface of your hand against the patient's head to stabilize the otoscope
      - Some form of **stabilization** is needed!
    - Insert the otoscope 2/3 of the way into the canal taking care **not** to touch the wall and repeat for the opposite side
      - Assess the tympanic membrane assessing for landmarks (i.e. umbo, handle of malleus, and cone of light reflex), color, contour, and perforation
      - Mobility can be assessed by making a seal with a soft tipped insufflator and then applying gentle pressure with an insufflator's bulb
    - Video Link
      - <https://www.youtube.com/watch?v=0BJ2EP3TacU>
- Inspection of the nose
  - External
    - Inspect the external surface of the nose for size, symmetry, and color
    - Inspect the nares for size, shape, symmetry, and discharge
  - Internal Exam
    - Inspect the nasal mucosa for color and discharge
    - Inspect the septum for alignment, perforation, bleeding, crusting, masses, and polyps
    - Inspect the inferior and middle turbinates for color and consistency
    - Video Link
      - <https://www.youtube.com/watch?v=L2rwY1Mud9Y>

- Inspection of the oropharynx
  - Inspect the lips for color, symmetry, edema, and lesions
  - Inspect the teeth for occlusions, missing teeth, loose teeth, and surface abnormalities
  - Inspect the buccal mucosa for color, texture, and moisture
  - Inspect the gingivae for color, lesions, and tenderness
  - Inspect the tongues for color, symmetry, swelling, coating, ulcerations, and size
    - Also inspect the ventral surface of the tongue for swelling, lesions, cysts, and varicosities
  - Inspect the salivary glands
  - Inspect tonsillar placement, color, size, crypts, cratering, and exudates
  - Inspect uvula location
  - Inspect for drainage and irritation in the posterior oropharynx
  - Video Link
    - <https://www.youtube.com/watch?v=fYbleDWEqyc>

## Palpation

- Palpation of the head and scalp
  - Palpate the head in a rotatory movement from front to back assessing for symmetry and tenderness
    - The scalp should move freely
  - Palpate the hair assessing for texture, color, and distribution
  - Palpate over the temporal artery for thickening, hardness, and tenderness
  - Palpate over the salivary glands for enlargement and tenderness
  - Video Link
    - <https://www.youtube.com/watch?v=1DGYeTSw2T4>
- Palpation of the oropharynx
  - With a gloved finger, palpate the gingivae for tenderness, swelling, masses, lesions, and thickening
  - Palpate sublingual area for stones
- Palpation of the sinuses
  - Palpate or gently percuss the frontal and maxillary sinus area
  - Video Link
    - <https://www.youtube.com/watch?v=NO3H7DITpS8>
- Palpation of the nose
  - Palpate the nose for masses, tenderness, and displacement of cartilage or bone
- Palpation of the ear
  - Palpate the auricle, tragus, and mastoid process for tenderness, swelling, and nodules
  - Gently tug the tragus and lobe to assess mobility and tenderness
  - Video Link
    - <https://www.youtube.com/watch?v=SJBdWZQcXww>
- Palpation of the neck
  - Palpate the occipital, posterior auricular, pre-auricular, submandibular, sublingual, submental, anterior cervical, posterior cervical, and supraclavicular lymph nodes
    - Video Link
      - <https://www.youtube.com/watch?v=t54mngOVKtM>
  - Palpate the neck for masses and range of motion
  - Palpate the hyoid bone, thyroid cartilage, and cricoid cartilage for movement with swallowing
  - Palpate the trachea by placing each of your thumbs along the sides of the trachea below the thyroid isthmus, compare the space between the trachea and the sternocleidomastoid muscles, and the spaces should be equal
    - Video Link
      - <https://www.youtube.com/watch?v=YMufMulGnFE>

- Palpate for tracheal pulling by placing your thumb and forefinger of one hand on each side of the trachea below the thyroid isthmus and assess for a tugging sensation that is synchronous with the pulse
  - Video Link
    - [https://www.youtube.com/watch?v=LJI1OID\\_azA](https://www.youtube.com/watch?v=LJI1OID_azA)
- Palpate the thyroid gland by having the neck slightly flexed and sidebent toward the side being examined
  - Gently palpate over the gland for symmetry, size, tenderness, consistency, and masses
  - Ask your patient to swallow a mouthful of water while you assess movement of the thyroid gland
    - Anterior approach
      - Place your thumb over the trachea 3 cm below the prominence of thyroid cartilage and identify the isthmus (by using your thumb or finger) when swallowing
      - Flex and sidebend the patient's head and neck towards the side you are examining
      - To examine the left lobe stand at the patient's left side, press the trachea toward the left with your left thumb placed vertically on the neck
      - Next, place the first three fingers of your right hand in the thyroid bed with your fingertips medial to the sternocleidomastoid muscle
      - Ask the patient to swallow while you palpate the thyroid gland moving beneath your fingers
      - Reverse for the right lobe
        - Video Link
          - <https://www.youtube.com/watch?v=nh1DedZQJ3M>
    - Posterior approach
      - Position 2 fingers on the sides of the trachea below the cricoid cartilage
      - Flex and sidebend the patient's head and neck towards the side you are examining
      - Ask the patient to swallow while you feel for movement of the thyroid isthmus
      - Next, displace the trachea to the left with the first three fingers of your right hand
      - Palpate the left lobe of the thyroid with the first three fingers of your left hand placed just medial to the sternocleidomastoid muscle as the patient swallows
      - Reverse for the right lobe
        - Video Link
          - <https://www.youtube.com/watch?v=DaDYqs4H92U>

### Special Tests

- Whisper Test
  - Positive Sign: inability to hear you whisper
  - Indicates: decreased hearing
    - Stand 1-2 feet behind the patient's ear
    - Softly whisper "1-2-3"
    - Ask the patient to repeat what you said
    - Repeat for the other side

- Weber Test
  - Positive Sign: lateralization of sound
  - Indicates: lateralization to the deaf ear in conductive hearing loss or lateralization to the hearing ear in sensorineural hearing loss
    - Begin with the patient seated
    - Strike a tuning fork with your opposite hand
    - Place the vibrating fork in the center of the patient's head
    - Ask the patient if the sound is heard equally in both ears
      - Video Link
        - <https://www.youtube.com/watch?v=-gObukYTMP8>
- Rinne Test
  - Positive Sign: air conduction is less than 2x bone conduction
  - Indicates: if bone conduction is greater than air conduction the patient has conductive hearing loss and if air conduction is greater than bone conduction the patient has sensorineural hearing loss
    - Begin with the patient seated
    - Strike a tuning fork with your opposite hand
    - Place the base of the handle of the vibrating tuning fork on the patient's mastoid bone
    - Ask the patient to tell you when sound is no longer heard (use a watch to keep time)
    - Quickly move the tuning fork 1-2 cm away from the auditory canal
    - Ask the patient to tell you when sound is no longer heard
    - Air conduction should be heard for twice as long as bone conduction
    - Repeat on the opposite side

Test	Expected Findings	Conductive Hearing Loss	Sensorineural Hearing Loss
<i>Weber</i>	No lateralization, but will lateralize to ear occluded by patient	Lateralization of affected ear unless sensorineural loss	Lateralization to better ear unless conductive loss
<i>Rinne</i>	Air conduction heard longer than bone conduction in 2:1 ratio (Rinne positive)	Bone conduction heard longer than air conduction in affected ear (Rinne negative)	Air conduction heard longer than bone conduction in affected ear, but less than 2:1 ratio