Head and Neck Examination

Statement of Goals

Understand and perform an examination of the head and neck.

Learning Objectives

A. Describe the anatomy of the head, including regions of the skull, temporomandibular joint (TMJ), salivary glands, and temporal artery.
B. Describe the anatomy of the external, middle and inner compartments of the ear.
   Describe the appearance of the normal eardrum and the pathways of hearing.
C. Describe the anatomy of the nose and paranasal sinuses, mouth and pharynx.
D. Describe the anatomy of the neck, including cervical spine, muscles, blood vessels, trachea, lymph nodes and thyroid.
E. Describe and demonstrate the use of the otoscope, the pneumatic otoscope, and the tuning fork.
F. Demonstrate the examination of the head and neck including:

Head

- examination of the hair, scalp, skull, face and skin
- palpation of temporal artery
- palpation and range of motion of TMJ

Ears

- evaluation of hearing, using voice or rubbing fingers
- test air and bone conduction with tuning fork
- inspection and palpation of the auricle
- inspection of the ear canal and eardrum (use pneumatic otoscope if indicated)

Nose

- inspection of the nose (external and internal)
- assess patency of each nostril

Sinus

- palpation or percussion of paranasal sinuses

Mouth

- inspection of the lips, mouth and pharynx
- palpation of the tongue
Neck

- inspection, palpation and range of motion of the cervical spine
- inspection and palpation of the trachea
- inspection and palpation of the lymph nodes and salivary glands
- inspection and palpation of the thyroid.

G. List usual biological changes of the aging process and how they affect the physical findings in the head and neck exam.
H. Describe aspects of the head & neck exam unique to children.
I. Document the head and neck examination in the format of a medical record.

**Student’s Preparation for the Unit**

Special Instructions:

Students will use penlights, otoscopes and pneumatic otoscopes. Equipment will be available in class.

Additional portions of the head and neck examination will be taught in future units (Eye Exam, Cranial Nerves, and Cardiovascular Exam.)

Students should be prepared to practice exam skills on classmates.

**Curriculum Comments**

**Objective F:**

**Auditory Acuity:**

Bates describes the use of a whispered voice to test auditory acuity, occluding the opposite ear. An alternative sound may be produced by rubbing the thumb and middle finger together (not required to occlude the opposite ear). Ask the patient to close his/her eyes. Gradually move the rubbing fingers closer to the ear that is being tested, and ask the patient to tell you when the sound is first detected.

(The exact distance from the ear is not important. You will learn what to expect from a patient with normal auditory acuity. Note any difference between the two ears.)
**Paranasal Sinuses:**

Bates describes palpation of maxillary and frontal sinuses. Percussion with a flexed middle finger is another effective technique.

**Objective G:**

In older adults auditory acuity is often diminished, especially at high frequencies (presbycusis.) The chewing surface of teeth may be worn down. Changes in laryngeal muscles lead to a higher pitched, more tremulous voice.

**Objective H:**

**Head and Neck**

a. Fontanelles - The anterior and posterior fontanelles are membranous spaces formed from the sutures that separate the cranial bones. The sutures and fontanelles allow the brain to grow. The infant’s brain doubles in volume in the first six months of life! The posterior fontanelles can be palpated at birth and closes first, by 2 months of age. The anterior fontanelles can also be felt at birth and closes later, by two years of age. Know how to examine the fontanel's, their importance and when they close. Bates pp 702-703 (picture); pp. 703 (below picture); 705

b. Neck – Commonly see "shotty" (0.5-1cm) lymph nodes in children. Enlarged nodes are very common due to local infections. Malignant nodes are usually >2cm, hard, and fixed. Bates p 705-706 (up to Eye); 750 (up to Neck Mobility)

c. Ear - The ear examination, including use of a pneumatic otoscope to check mobility of the tympanic membrane, is important in pediatrics. Otitis media, infection of the middle ear, is a common childhood problem and can affect a child’s language development. Bates 753-756, (early childhood)

d. Nose and Throat - The palate should be examined in all newborns to make sure there is not a cleft palate. Bates pp 709-711;757-760

e. Dental Exam - The first teeth usually erupt at 6-9 months of age and appear in an orderly fashion. By three years all the primary teeth are present. The permanent teeth usually began to appear at 6 years of age.

**Objective I:**

Examples of the documentation of a head and neck examination are given in Bates on pages 19 and 203. Your documentation will vary based on the patient's physical findings.
Apply Your Skills

Observe your preceptor performing head and neck examinations. If possible, perform examinations yourself, with supervision and independently. You may find it easier to practice individual components of the exam (ear, nose, neck, etc.) on selected patients. Include the head and neck examination in one of your patient encounter notes.

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### Head and Neck Examination Checklist

**Equipment:** Otoscope with specula, pneumatic otoscope, tuning fork, penlight, tongue blade, gloves, gauze, glass of water and stethoscope. (Nasal speculum optional.)

- [ ] Appropriate guidance given to the patient throughout the exam
- [ ] Examine the hair, scalp, skull, face and skin
- [ ] Palpate the temporal arteries
- [ ] Palpate and test range of motion of the temporomandibular joints
- [ ] Evaluate hearing, using voice (occlude the opposite ear) or rubbing fingers (not required to occlude the opposite ear)
- [ ] Test air and bone conduction with tuning fork (if hearing is impaired).
- [ ] Inspect and palpate the auricles
- [ ] Inspect the ear canals and tympanic membranes (use pneumatic otoscope, if indicated.)
- [ ] Inspect the external and internal nose.
- [ ] Assess patency of each nostril
- [ ] Palpate or percuss frontal and maxillary sinuses.
- [ ] Inspect the lips.
- [ ] Using a light and tongue blade, inspect the oral mucosa, gums and teeth, palate, tongue, floor of the mouth, and pharynx.
- [ ] Using gloves and gauze, move the tongue laterally for inspection and palpation.
- [ ] Palpate gums, teeth, floor of mouth or other structures
- [ ] Inspect the neck.
- [ ] Inspect, palpate and test range of motion of the cervical spine.
- [ ] Inspect and palpate the trachea.
- [ ] Inspect and palpate the lymph nodes, parotids and submandibular glands.
- [ ] Inspect and palpate the thyroid
**Study Questions:**

1. Review the Head and Neck Exam checklist. Do you know how to do all of these things.

2. Can you describe normal findings for each of these components of the exam?

3. Do you know which areas of the head and neck drain to which lymph nodes?

4. How do you locate the temporomandibular joint?

5. What are the Weber and Rinne tests?

6. How do you use a pneumatic otoscope? What does it check?