DENT-1431: HEAD AND NECK ANATOMY

Cuyahoga Community College

Viewing: DENT-1431 : Head and Neck Anatomy

Board of Trustees:
June 2022

Academic Term:
Fall 2022

Subject Code
DENT - Dental Hygiene

Course Number:
1431

Title:
Head and Neck Anatomy

Catalog Description:
Study of structure and function of head and neck. General anatomy of the skull, related muscles, vascular and nerve supply and lymphatics of the region considered. Focus on muscles of mastication and their relationship to the temporomandibular joint; facial and trigeminal nerves and their relationships to dental injections. Discussion on spread of infection and its clinical manifestations.

Credit Hour(s):
2

Lecture Hour(s):
2

Lab Hour(s):
0

Other Hour(s):
0

Requisites

Prerequisite and Corequisite
DENT-1300 Preventive Oral Health Services I

Outcomes

Course Outcome(s):
Apply the foundational knowledge of anatomical landmarks and nerve innervation toward successful mastery of local anesthesia and pain management concepts and skills.

Objective(s):
1. Identify on a skull, diagram, and by narrative description the bones, sutures, foramina, soft tissue and muscles of the head that are associated with dental injections.
2. Name the divisions of the Trigeminal Nerve, its exit from the cranium, branches and areas of supply.
3. Indicate the tissues anesthetized by each type of dental injection and indicate the target area and possible complications of those injections.

Course Outcome(s):
Utilize knowledge of head and neck examination techniques in clinical practice to differentiate between healthy conditions and possible pathologies.

Objective(s):
1. Name and locate on a diagram or by narrative description, the muscles of facial expression and their origin, insertion, action, innervation and clinical significance.
2. Locate the anatomical sites to be assessed and demonstrate correct methods of palpation of these sites in clinical practice.

3. Correlate the lymphatic drainage of tissue areas to the associated lymph nodes and identify an enlarged lymph node in clinical practice.
4. Identify the location and secretion of each gland of the head and neck region and their associated disorders.
5. Integrate the knowledge of the Temporomandibular Joint's anatomy and function and its associated muscles of mastication to assess Temporomandibular Joint Disorders in clinical practice.
6. Recognize enlarged musculature and relate to bruxism in clinical practice.

Course Outcome(s):

Research and create patient educational brochures for two conditions encountered in dental hygiene: Facial Paralysis and Trigeminal Neuralgia.

Essential Learning Outcome Mapping:

Information Literacy: Acquire, evaluate, and use information from credible sources in order to meet information needs for a specific research purpose.
Written Communication: Demonstrate effective written communication for an intended audience that follows genre/disciplinary conventions that reflect clarity, organization, and editing skills.

Objective(s):

1. Locate and identify the branches of the Facial Nerve on a picture, diagram and by narrative description.
2. Locate and identify all landmarks pertaining to the Temporomandibular Joint on a picture, diagram, skull, narrative description and a patient.
3. Discuss the movements of the Mandible, Temporomandibular Joint and associated muscles during mastication.
4. Integrate knowledge of the Temporomandibular Joint with a physical examination of the joint to assess for any disorders.
5. State areas of supply by the Facial Nerve; muscles of facial expression and structures of the oral cavity.
6. Research Facial Paralysis as to the causes, symptoms, possible treatment and the dental hygienist's role and dental considerations for this condition.
7. Locate and identify the branches of the Trigeminal Nerve on a picture, diagram and by narrative description. and the dental hygienist's role and dental considerations for this condition.
8. State areas of supply by the Trigeminal Nerve.
9. Research Trigeminal Neuralgia as to the causes, symptoms, possible treatment and the dental hygienist's role and dental considerations for this condition.

Course Outcome(s):

Apply the knowledge of the vascular system of the head and neck into clinical practice.

Objective(s):

1. Locate and identify branches of the arteries and veins of the head and neck on a diagram and by narrative description.
2. Distinguish between the main and sub-branches of the External Carotid Artery and identify the location and areas it supplies.
3. Discuss the Venous drainage of the Head & Neck, specifically the Facial and Retromandibular Veins and the location and areas they supply.
4. Discuss the clinical significance of the Pterygoid Plexus of Veins and the Cavernous Venous Sinuses.
5. Discuss the clinical significance of blood vessel lesions.

Course Outcome(s):

Apply the knowledge of the spaces of the head with the spread of dental infections within the oral cavity for preliminary assessment in clinical practice.

Objective(s):

1. Define fascia and spaces.
2. Describe and differentiate the three types of oral infection.
3. Describe and differentiate the four routes of the spread of oral infections.
4. Trace the route of infection in the maxillary arch and in the mandibular arch.

Methods of Evaluation:

1. Tests
2. Comprehensive Final Examination
3. Chapter Diagrams
4. SoftChalk Activities

5. P&G Online Continuing Education Assignment
6. Patient Education Brochures

Course Content Outline:

1. Skull
   a. Bones
   b. Sutures
   c. Foramens
   d. Fossae
2. Muscles of the head and neck
   a. Muscles of facial expression
   b. Muscles of mastication
   c. Hyoid muscles
   d. Muscles of the tongue and pharynx
3. Temporomandibular joint
   a. Anatomy: bones and ligaments
   b. Jaw movement with muscle relationships
   c. Disorders
4. Nerves
   a. Cranial nerves
   b. Facial nerve
   c. Trigeminal nerve
5. Vascular System
   a. Arteries
   b. Veins
   c. Blood vessel lesions
6. Lymphatics
   a. Location of lymph nodes
   b. Drainage pattern
   c. Methods of palpation
7. Glandular tissue
   a. Parotid
   b. Submandibular
   c. Sublingual
   d. Thyroid, parathyroid and thymus
   e. Sialoth formation
   f. Methods of palpation
8. Spread of dental infections
   a. Fascia and spaces
   b. Abscesses
   c. Cellulitis
   d. Osteomyelitis
   e. Spread by blood system, lymphatics and spaces

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Resources

Fehrenbach, Margaret J., and Susan W. Herring. (2021) *Illustrated Anatomy of the Head and Neck*, (6th ed.). St. Louis: Elsevier.

Boyd, L. D., Mallonee, L. F., & Wyche, C.J. (2021) *Wilkins' Clinical Practice of the Dental Hygienist*, (13th ed.). Jones & Bartlett Learning.

Langais, R.P., Miller, C. & Gehrig, J . (2017) *Color Atlas of Common Oral Diseases*, (5th ed.). Philadelphia, PA: Wolters Kluwer.

Malamed, S. (2019) *Handbook of Local Anesthesia*, (7th ed.). St. Louis: Elsevier Mosby.

Resources Other

1. http:evolve.elsevier.com/Fehrenback/headneck: *Required Textbook"s Web Site*
2. http://owl.english.purdue.edu/owl/resource/589/1/: *Purdue Online Writing Lab*
3. http://journals.ohiolink.edu: *Electronic Journal Center (EJC)*
4. www.dentalcare.com: *Proctor & Gamble/Student-Professional Area*

5. http://library.camdenrutgers.edu/EducationalModule/Plariarism/: *Video on Plagiarism*
6. https://www.lib.ncsu.edu/citationbuilder/ NSCU Citation Builder
7. http://libguides.tri-c.edu/dental (http://libguides.tri-c.edu/dental/) *Tri-c Dental Hygiene Program's dedicated site*
8. http://scholar.google.com: *Broad search engine for scholarly literature*

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