Learning Objectives
- Following this presentation the learner will be able to:
  - Perform a complete oral assessment
  - Identify normal and abnormal assessment findings
  - Identify normal assessment findings that may be treated by HCPs
  - Identify oral assessment findings that require referral

Purpose of the oral exam
- Cancer
  - 30,000 new cases/year in US, over 8,000 deaths
  - Early detection increases survival rate
  - 5 year survival rate = 50%
  - Methods to treat are disfiguring

Purpose of the oral exam
- Non-cancerous pathology
  - Periodontal disease
  - Pre-cancerous lesions
  - Dental decay (carious lesions)
  - Temporomandibular joint dysfunction
  - Parafunction including bruxism
The 90 second oral cancer exam

- The extra-oral assessment includes an inspection of the face, head and neck
- Note any asymmetry or lesions on the skin, such as crusts, fissuring and growths
- The regional lymph nodes in the submandibular and neck areas should be bilaterally palpated to detect any enlarged nodes

- Only tools required are adequate light, a 2x2 gauze and a mouth mirror
- 7 basic steps
  - Lips
  - Labial mucosa
  - Buccal mucosa
  - Gingiva and alveolar ridges
  - Tongue
  - Floor of mouth
  - Palate
The 90 second oral cancer exam

- Buccal mucosa
  - Note pigmentation, color changes, texture and any other abnormalities

- Tongue
  - Examine dorsum, lateral aspects, and ventral surface

- Gingiva and alveolar ridges
  - Again, note color, pigmentation changes, texture, or any other abnormalities

- Floor of mouth
  - Visually inspect for swellings, color changes, texture
  - Wiping floor dry with gauze can aid in visualization
The 90 second oral cancer exam

- Floor of mouth
  - Bimanually palpate the floor of the mouth for any abnormalities

Points to remember

- Most oral cancers are located on lateral aspects of tongue, floor of mouth and lips
- Interview patient, if lesion has been present more than 2 weeks, refer for appropriate biopsy and treatment
- Follow up to ensure a definitive diagnosis
- Remove all removable prostheses before starting exam

Extra-oral exam

- Sinuses
- Parotid glands
- Thyroid gland
- Lymph nodes
- Temporomandibular joints
- Muscles of mastication
- Cranial nerves
Non-cancerous pathology
- Vesiculo-Bullous diseases
  - Herpes including Primary Herpetic Gingivostomatitis
  - Hand, foot, and mouth disease
  - Epidermolysis bullosa

Hand, foot and mouth
- Painful ulcers preceded by vesicles on hands, feet, and oral mucosa, usually occurs in children

Non-cancerous pathology
- HSV 1
  - Self limiting
  - Primary herpetic gingivostomatitis
  - Usually occurs in children under 5

Epidemolysis bullosa
- Primarily a skin disease but oral lesions are often present
Ulcerative conditions

- Squamous cell carcinoma
  - Indurated, non-painful ulcer with rolled margins
  - Most common on lateral tongue and floor of mouth
  - Males 2x higher than females
  - Clinically may be a white or red patch or mass

Leukodema

- 50% of whites and 90% of African Americans affected
- Uniform opacification of buccal mucosa bilaterally

White lesions

- Leukodema
- Hyperkeratosis
- Solar Cheilitis
- Leukoplakia
- Hairy Tongue
- Geographic Tongue
- Lichen Planus
- Candidiasis

Hyperkeratosis

- Asymptomatic white patch usually from chronic irritation
Solar Cheilitis
- Lower lip caused by UV light

Leukoplakia
- Asymptomatic white path
- Cannot be wiped off
- May be related to alcohol or tobacco use
- 5% are malignant, 5% become malignant

Hairy Tongue
- Elongation of filiform papillae of tongue
- Improved oral hygiene can decrease
- Benign but may be cosmetically objectionable

Geographic Tongue
- White annular lesions with atrophic red centers
- Pattern migrates over dorsum of tongue
- Common finding
Lichen Planus
- Bilateral white striae
- Seen in middle age
- Buccal mucosa most commonly affected with lesions occasionally on tongue, gingiva and palate
- Usually treated with steroids

Pigmentations of Oral Tissues
- Normal pigmentation
- Amalgam tattoo
- Melanoma

Candidal Infections
- Painful elevated plaques can be wiped off leaving a bleeding surface
- Associated with:
  - Poor oral hygiene
  - Systemic antibiotics
  - Systemic diseases
  - Treated with antifungals
Amalgam tattoo

Melanoma

- Malignancy of pigmentary system
- Oral melanomas may appear on palate and gingiva

Gingival swellings

- Parulis
  - Usually occurs on buccal gingiva of children
  - Caused by periodontal condition or abscessed tooth

- Exostosis
  - Bony hard nodules covered by mucosa
  - Normal and cause is unknown
- Generalized hyperplasia
  - Usually asymptomatic
  - Often caused by dilantin, nifedipine, hormone imbalance, leukemia

- Traumatic Fibroma
  - Firm
  - Represents hyperplastic scar
  - Non-malignant

- Lip and Mucosa Swellings
  - Mucous retention cyst
    - Solitary
    - Asymptomatic
    - Caused by blockage of salivary gland duct
    - Treated by excision

- Diseases of the Teeth
  - Erosion
  - Attrition
  - Food impaction
  - Supernumerary teeth
  - Fractures
  - Pulp exposure
  - Super eruption
  - Abrasion
  - Caries
  - Calculus
- **Erosion**
  - Typically caused by acids
  - Sucking on lemons, excessive carbonated beverages, acid reflux, vomiting

- **Food Impaction**
  - Can occur where teeth do not contact neighboring teeth
  - Leads to periodontal problems and eventual tooth loss

- **Attrition/Abrasion**
  - Most common cause is bruxism or grinding
  - Typically an acid component in cases this severe

- **Supernumerary Teeth**
  - Teeth present above the normal 32 (including 3rd molars)
  - Usual treatment is extraction
- Fractures
  - Typically caused by trauma
  - Frequently young children
  - Treatment depends whether fracture enters the pulp

- Super eruption
  - Teeth that have no opposing tooth in the arch will slowly erupt out of the dental alveolus

- Pulp exposure
  - Dental trauma can lead to exposure of the nerve
  - Treatment is an extraction or root canal therapy

- Abrasion
  - Typically caused by excessive use of an oral hygiene device
  - Destruction can be rapid once it reaches softer underlying dentin
- **Dental Caries**
  - Caused by Strep mutans
  - Once tooth structure is lost, must be restored by a dentist

- **Calculus**
  - Typically forms on lingual of lower incisors due to proximity to sublingual salivary gland
  - Must be scaled and maintained by DDS

- **Baby Bottle Caries**
  - Ask if parent puts child to bed with juice or milk
  - Typically treated with stainless steel crowns to maintain teeth until permanents erupt

- **Disease of the supporting structures of teeth**
  - Periodontal disease
  - Abscesses
Periodontal Disease
- Bacterial byproducts lead to immune response that causes inflammation and subsequent bone loss around teeth
- Treatment involves gross debridement of teeth
- May involve periodontal surgery to access teeth for cleaning and antibiotic therapy

Abscesses
- Typically treated emergently with incision and drainage and an extraction or root canal if dental in origin
- Submandibular space infections require an extra oral approach

Abscesses
- Can be buccal as in the image
- Also can be located palatal, sublingual, buccal, and submandibular
- Can also penetrate into spaces of lower face causing a diffuse and life threatening infection – Ludwig’s Angina

Temporomandibular Joint Disorders
- Typically caused by internal derangement of the articular disk
- Present with and without reduction of the dislocated disc
- Other causes include adhesions within the disc capsule
- Internal derangements can cause a closed lock of mandible
- Open lock is caused by a dislocation of the mandible itself, anterior of articular eminence
Grinding / Bruxing

- Can cause significant premature wear on the teeth
- Can cause fractures of teeth or existing restorations
- Patient may complain of soreness in masseter muscle area in the morning
- May complain that teeth are sore in the morning

Bruxism

- Round areas in cusp tips of teeth are wear facets
- Patient has worn through enamel into softer dentin, causing the cupping
- Most common treatment is a night guard
Non-pathologic Dental Findings

- These are non-pathologic but may warrant a referral to dentist for evaluation
- Significant Class II or III occlusions
- Crossbites
- Thumb sucking
- Severe crowding
- Congenitally missing teeth
- Significant open bites

Posterior crossbite

Anterior crossbite
- **Thumb/digit habits**
  - Much of open bite will typically relapse once habit is ceased
  - If not, can usually be corrected orthodontically

- **Severe crowding**

- **Congenitally missing teeth**

- **Significant open bites**
  - Open bites that are progressive in adults may be indicative of TMJ disorders
References

- The Journal of the American Dental Association November 2001 vol. 132 no. suppl 1 365-405