



Conquering the Oral Cavity:

Tips and Tricks for Diagnosing and Managing Oral Disease

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UNC
SCHOOL OF MEDICINE



Disclosures

Consultant/Advisory Board – Argenx, Regeneron, Sanofi, Sitala, Priovant, Novartis

Principal Investigator – Regeneron, Cabaletta, Incyte, Lilly, Pfizer, Priovant

Royalties – UpToDate

I will discuss the off-label use of medications.

“I hate the mouth”

- You can't see in there
- Everything looks the same
 - erythema, erosions/ulcerations
- It's hard to do a biopsy
- We prescribe topicals, but it is hard for patients to use them
- Bleh...



We could do better...

- Oral disease is common
- Falls between dental and medical specialties
- Surveys suggest we don't feel very confident in the mouth
 - Survey of British Association of Dermatologists
 - 52% felt confident recognizing normal oral variants
 - 42% felt confident recognizing different forms of oral ulcerations
 - 61% felt their training in oral medicine was not adequate for their job
 - 66% felt they had not been taught oral anatomy or exam
 - 70% had never performed an oral biopsy (only 11% felt confident they could)

We could do better...

- Oral disease is common
- Falls between dental and medical specialties
- Surveys suggest we don't feel very confident in the mouth
 - Survey of US dermatology residency program directors in 2023
 - 38% felt residents could diagnose oral diseases
 - 41% felt residents could carry out procedures in the oral mucosa
 - Only 19% of programs had a faculty member specializing in oral diseases
 - Only 3% of programs had a specialty clinic focusing on oral diseases

Agenda

- Clinical clues to differentiate oral manifestations of different diseases
- Procedural tips
- Diagnosis and management pearls

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Top ten tips!

I. Get a good oral exam

- Bring your own light source – headlamps!
- Wear a mask
- Look first
- Use two long cotton tipped swabs to examine
- Consider pre-exam topical anesthesia (+/-)



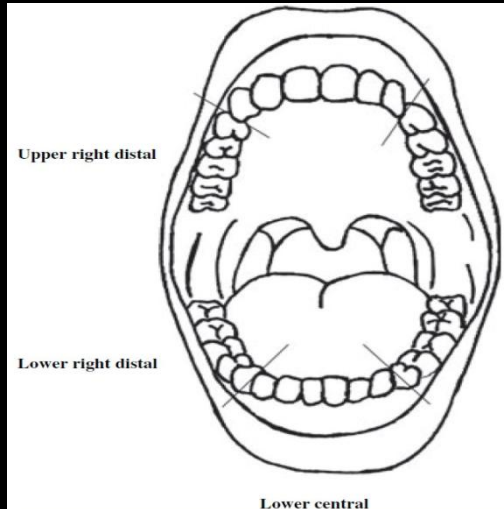
I. Get a good oral exam

- Instruct the patient to allow for a better exam with less pain
- Narrate what you see and gently touch with cotton tipped swab to determine sensitivity and or assess for Nikolsky sign
- Use proper terminology



I. Get a good oral exam

- Be systematic in your exam; consider using the Oral Disease Severity Score



Site	Site Score	Activity Score / Unit of Site (0-3)*
Outer lips (1)		
Inner lips (1)		
R Buccal mucosa (1 or 2)		
L Buccal mucosa (1 or 2)		
Gingivae (1 each segment)		
Lower R (from 1 st premolar)		
Lower central (canine to canine)		
Lower L (from 1 st premolar)		
Upper R (from 1 st premolar)		
Upper central (canine to canine)		
Upper L (from 1 st premolar)		
Dorsum of tongue (1 or 2)		
R Ventral tongue (1)		
L Ventral tongue (1)		
Floor of mouth (1 or 2)		
Hard palate (1 or 2)		
Soft palate (1 or 2)		
Oropharynx (1 or 2)		
Total		

Total Score = Site Score + Activity Score + Pain Score (1-10) (Maximum 106)

Site Score

- 0 if no lesion
- 1 if lesion

For the buccal mucosa:

- 1 if less than 50% of area affected
- 2 if greater than 50% of area affected

For the dorsum of tongue, floor of mouth, hard or soft palate or oropharynx:

- 1 unilateral
- 2 bilateral

Activity Score

- 1 mild erythema
- 2 marked erythema without erosion
- 3 erosion or ulceration

*where a site has a score of 2, each site unit is allocated an activity score, which are then added together

Pain Score

Analogue scale from 0 (no discomfort) to 10 (the most severe pain they have encountered with this condition so far)

The patient is asked to provide a score reflecting their pain / discomfort as an average of the preceding week

2. Know signs of oral pathology



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- Erythema
 - Sign of inflammation or irritation
- Erosion
 - Partial thickness loss of epithelium
 - Desquamative gingivitis – if limited to the gingivae
- Ulceration
 - Full thickness loss of epithelium
 - Often covered with a pseudomembrane



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3. Clinical clues to differentiate

- Erosive and ulcerative conditions
 - Inflammatory/autoimmune – Pemphigus, pemphigoid, oral lichen planus
 - Reactive – RIME (MIRM, EM), SJS/TEN
 - Infectious – HSV, candida?, CMV, syphilis
 - Other – neutropenic ulcers, osteonecrosis, traumatic
- Clues
 - History – acute vs subacute
 - Clinical – lesion morphology and distribution, other sites of involvement

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Biopsy!

3. Clinical clues to differentiate

- Intact vesicles in the oral cavity are almost always MMP



3. Clinical clues to differentiate

Lichen planus

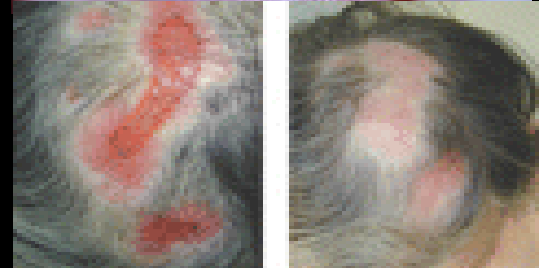
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Mucous membrane pemphigoid

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- Concurrent cicatricial ocular or scalp involvement strongly favors MMP



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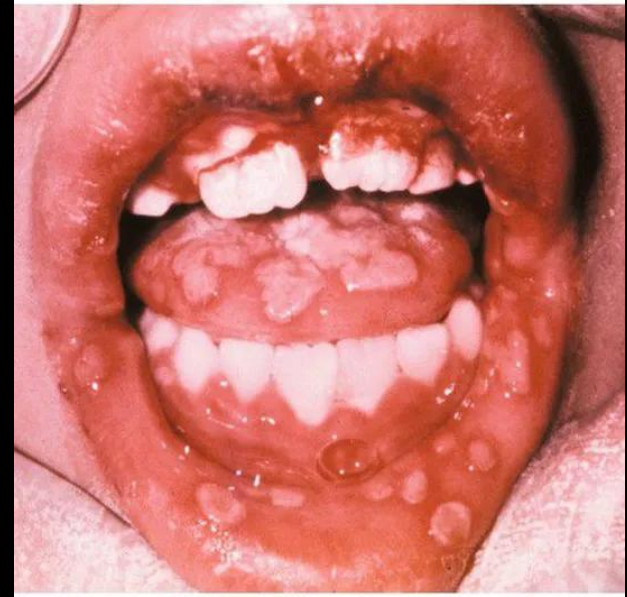
- Intact vesicles in the oral cavity are almost always MMP
- Desquamative gingivitis can have many underlying etiologies – need DIF!
- Concurrent cicatricial ocular or scalp involvement strongly favors MMP
- Severe flares with near complete remission in between more likely to be OLP and EM



4. Consider Infection/Superinfection

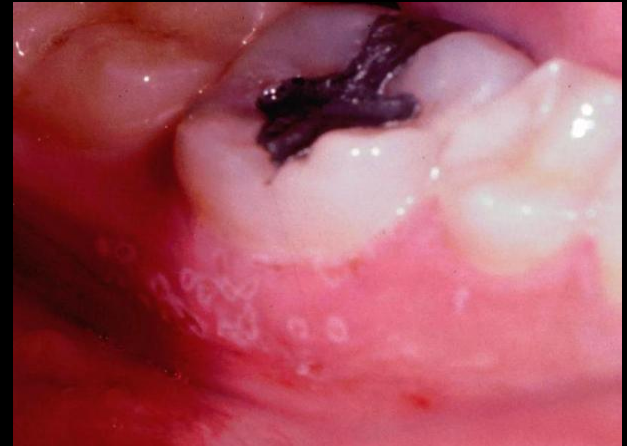
- HSV

- Primary herpetic gingivostomatitis
 - Oral symptoms within days of systemic
 - Painful, erythematous, swollen gingivae, occasional vermillion lip or border, tongue, palate, buccal mucosa +/- vesicles/erosions
 - Both keratinized and non-keratinized mucosa can be affected



4. Consider Infection/Superinfection

- HSV
 - Primary herpetic gingivostomatitis
 - Recurrent herpetic gingivostomatitis
 - Grouped erosions of keratinized mucosa



4. Consider Infection/Superinfection

- HSV
 - Primary herpetic gingivostomatitis
 - Recurrent herpetic gingivostomatitis
 - Herpetic glossitis
 - Crater like ulcers +/- pseudomembranes, papules and nodules



4. Consider Infection/Superinfection

- HSV

- Primary herpetic gingivostomatitis
- Recurrent herpetic gingivostomatitis
- Herpetic glossitis
- Herpetic geometric glossitis
 - Dorsal tongue with linear and geometric striations



4. Consider Infection/Superinfection

- HSV superinfection in pemphigus is common
 - 38-57% of pemphigus patients positive for HSV (the latter used PCR)
- Predictors of HSV superinfection include male sex, clinical findings of fissures, hemorrhagic crusts, erosions with angulated margins, linear erosions, and elevated ESR
- HSV PCR positivity at time of PV diagnosis associated with higher PDAI at baseline and shorter time to disease relapse

4. Consider Infection/Superinfection

- Diagnosis - PCR
- Treatment
 - Valacyclovir 1g bid x 10 days
 - Followed by suppressive dosing (1g daily if on immunosuppressive therapy)

4. Consider Infection/Superinfection

- Candida
 - Normal flora/commensal in ~50% of population
 - 150 species isolated from oral cavity
 - *C. albicans* – 80%, alone or in combination
 - *C. glabrata* and *C. tropicalis* – 7% of healthy, 80% of patients with candidiasis
 - *C. dubliniensis* – HIV patients, associated with more severe mucositis, esophageal involvement and resistance

4. Consider Infection/Superinfection

- Candidal presentations
 - Pseudomembranous (acute and chronic)
 - Curdlike soft white plaques that can be wiped off to reveal intact, but erythematous mucosa



4. Consider Infection/Superinfection

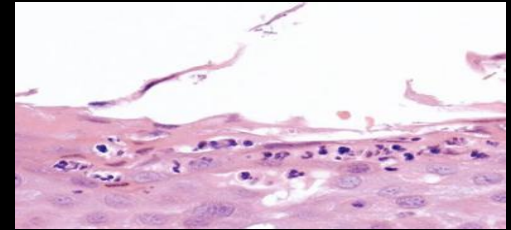
- Candidal presentations
 - Pseudomembranous (acute and chronic)
 - Erythematous (acute and chronic)
 - Most common form!
 - Localized or generalized erythema, burning, and atrophy of the filiform papilla, complication of abx, most common



4. Consider Infection/Superinfection

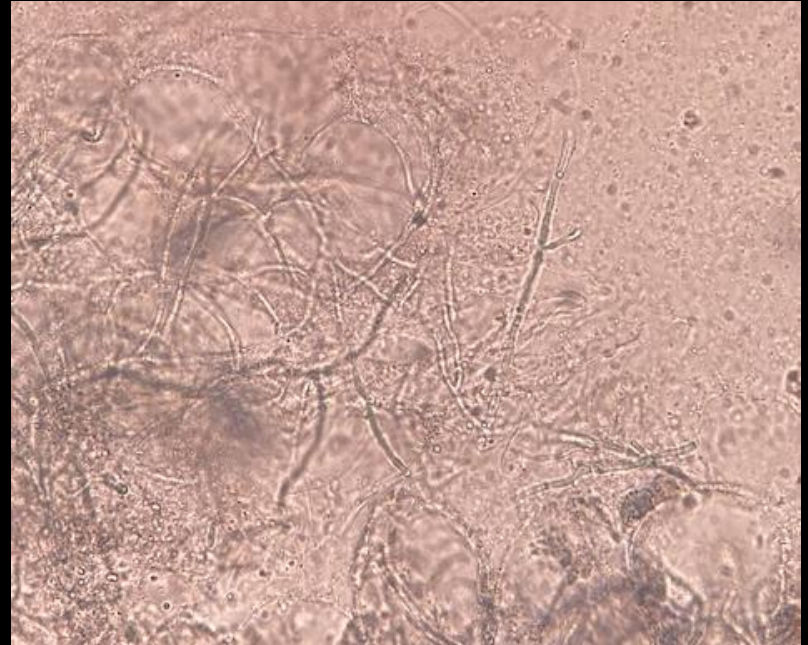
- Candidal presentations

- Pseudomembranous (acute and chronic)
- Erythematous (acute and chronic)
- Hyperplastic
 - White plaques that do not detach upon rasping, buccal mucosa at bilateral retro-commissures and tongue, superficial invasion, KOH neg, systemic tx



4. Consider Infection/Superinfection

- Diagnosis – KOH!



4. Consider Infection/Superinfection

- Diagnosis – KOH!
- Treatment
 - Nystatin ointment – for lips
 - Clotrimazole troches – watch the sugar
 - Fluconazole daily for 2 weeks, then weekly (fluconazole Fridays!)



5. Consider nutritional deficiencies

- Poor nutrition due to pain with eating and swallowing

Clinical finding	Vitamin deficiency
Lips (angular cheilitis, cheilosis)	Niacin, B1, B2, B6, B12, iron, zinc
Tongue (atrophic glossitis, glossitis)	Niacin, folate, B1, B2, B6, B12, iron, zinc
Gingivitis	B complex, C
Oral ulcers	Folate, B6, B12, iron

*B vitamins are water soluble – high risk of deficiency

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Gingivitis	B complex, C
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*B vitamins are water soluble – high risk of deficiency

6. Improve oral health

- Recommend a small head soft bristled brush
- Water pik
- Avoid sodium lauryl sulfate in dental products
- Cleanings every 4 months
- Prednisone pulse around dental cleanings (40mg/day x 5 days)
- Consider local anesthetic
- Caution re: sugar content in topical oral treatments

7. Biopsy the oral mucosa

When to consider an oral biopsy:

- Patient has a clinical diagnosis and has failed conservative treatments
- Patient has seen numerous doctors
- Prior to systemic therapy
- Medical vs dental coverage (periodontist)
- You can never be certain if they will have active disease and/or if the ENT/OMFS will do the biopsy in the right location
 - Biopsy site selection is critical, and we are the best

7. Biopsy the oral mucosa

- Don't biopsy a pseudomembrane
- Take multiple biopsies to increase yield
- Perilesional should be 1cm away in the oral mucosa
- Consider the vestibule for perilesional biopsy in patients with desquamative gingivitis
- Stay away from high-risk areas



7. Biopsy the oral mucosa

- Safe areas
 - Anterior buccal mucosa, labial mucosa, vestibule, lateral tongue, dorsal tongue +/- (okay if lesion is exophytic)
- Areas to avoid
 - Posterior buccal mucosa (Stensen's duct), attached gingivae, gingival margin, hard and soft palate, tongue (dorsal or ventral), floor of mouth
- Lesions to avoid
 - Vascular appearing lesions



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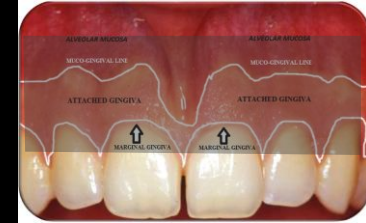
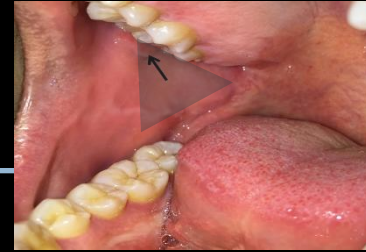
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7. Biopsy the oral mucosa

- Things to have on hand:
 - Good lighting (headlamp)
 - Gauze, dental rolls, cotton tipped swabs, punch tool/scalpel, forceps, curved fine tip scissors, formalin and/or Michel's media, extra hands



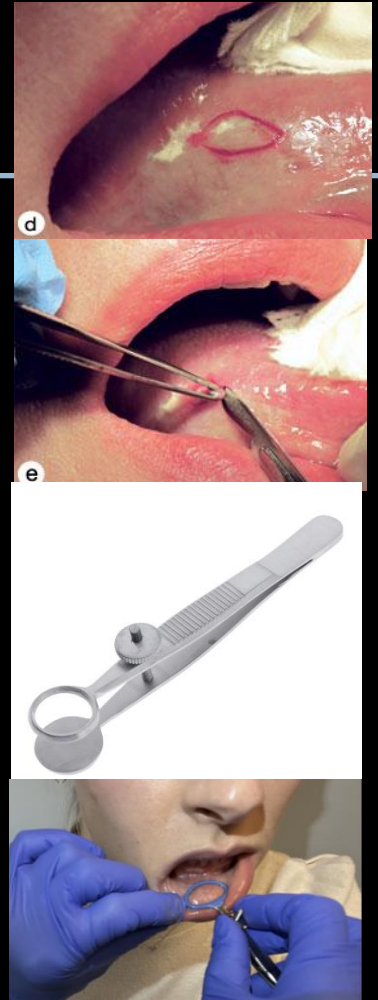
7. Biopsy the oral mucosa

- Evert lip or tongue using gauze
- Anesthetize
- 4mm punch (or scalpel)...no need to go deep, just score ...unless exophytic or hypertrophic



7. Biopsy the oral mucosa

- Gently grasp tissue with forceps and snip with curved scissors
- Tenting and snip can also be used
- Chalazion clamp – meh...
- Apply pressure with gauze or dental roll
- No closure necessary for most biopsies



7. Biopsy the oral mucosa

- H&E
 - Avoid eroded/ulcerated mucosa
 - Edge of lesion is best
- DIF
 - Intact mucosa
 - Perilesional in the mucosa is 1cm away from the ulcer or vesicle





8. Interpret your pathology

- H&E can be nonspecific
 - Consider multiple biopsies to increase yield
- Candida can mask other inflammatory conditions
 - When pathologists see candida and inflammation they can't tell if the inflammation is a response to candida OR some underlying process
 - If you suspect candida superinfection treat aggressively and bring back for biopsy while ON fluconazole
- DIF is critical
 - 18% of mucous membrane pemphigoid cases will have lichenoid features histologically
 - Lower sensitivity in OLP (66% in OLP vs 95% in MMP)
 - MMP will often have multiple immunoreactants (IgG 97%, IgA 27%, and C3 78%)

9. Management pearls

- Fast onset of action

- Topical steroids – okay to use in the mouth, beware of candida, under occlusion!
- Widespread disease – prednisone, cyclosporine, IVIg
- Localized disease – ILK
- Metronidazole 1st line for OLP – 30% CR, 30% PR, 40% no change (4 - 6 weeks)
- JAK inhibitors: 4 weeks for OLP

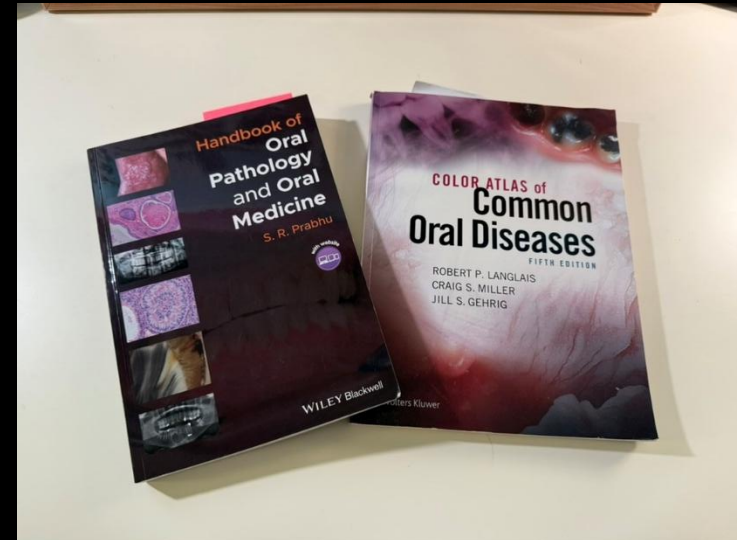
- Slower onset of action

- Rituximab: 6-8 weeks for pemphigus, 12 months (2-3 cycles for MMP)
 - Median time to disease control 7.1 months, CR 12.2 months
- Immunomodulatory agents (methotrexate, azathioprine, mycophenolate): 3+ months

- Prophylaxis for superinfections

10. Be humble, stay curious, make friends

- Oral health partners in crime
 - Oral medicine, oral surgery, oral pathology, periodontists
- Medical specialties
 - ENT, OB/Gyn, Ophthalmology



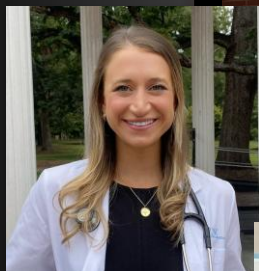
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Thank you!

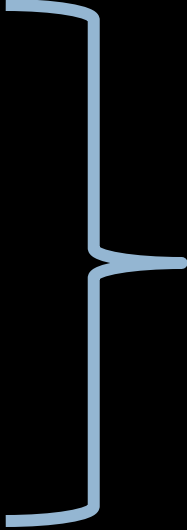


The Dermatology Foundation
has supported & advanced my career.



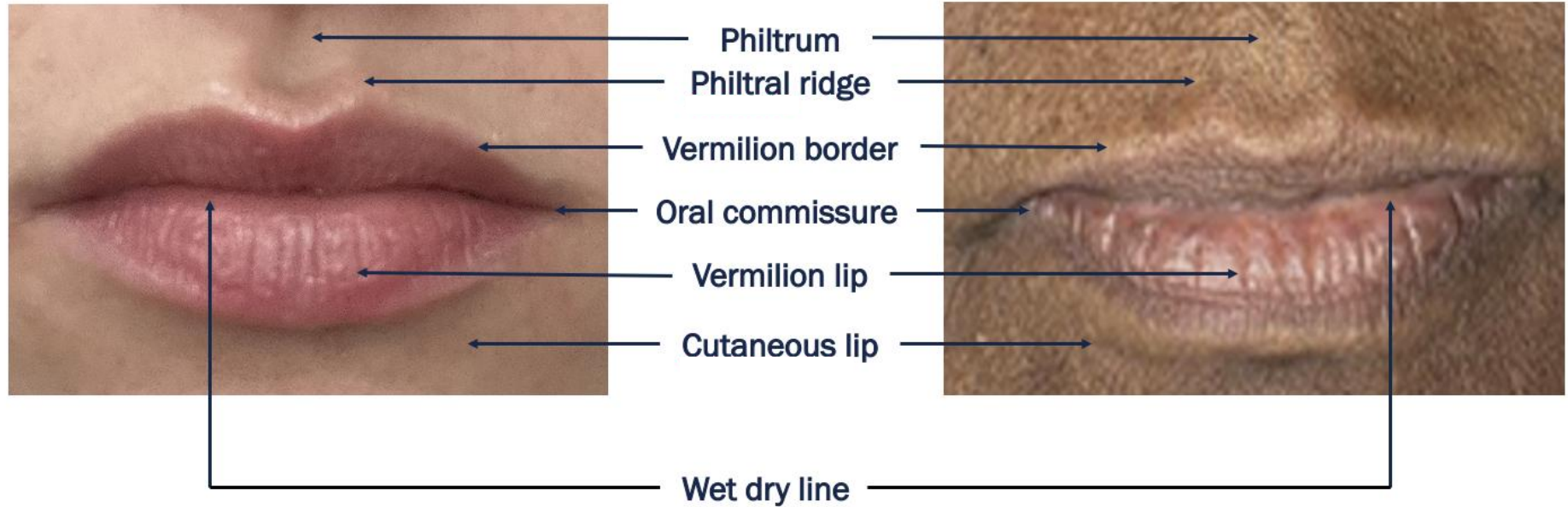
Oral anatomy

- Extraoral exam
- Intraoral exam
 - Buccal and labial mucosa
 - Facial gingiva
 - Palate, palatal gingiva, pharynx
 - Tongue and lingual gingiva



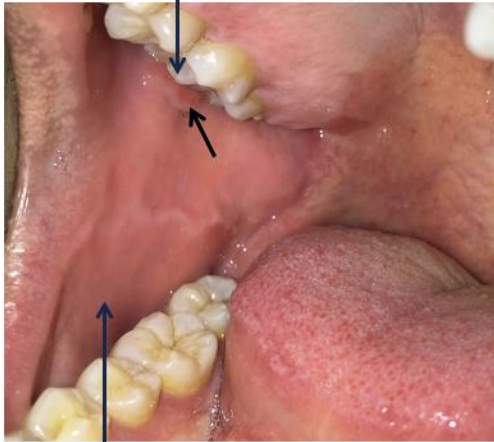
Have a systematic approach!

Normal anatomy – extraoral



Normal anatomy – intraoral

Stensen's duct – 2nd maxillary molar



Buccal mucosa



Mucosal lip (labial mucosa)

Normal anatomy – intraoral



Alveolar ridge

Alveolar mucosa

Vestibule (alveolar sulcus)



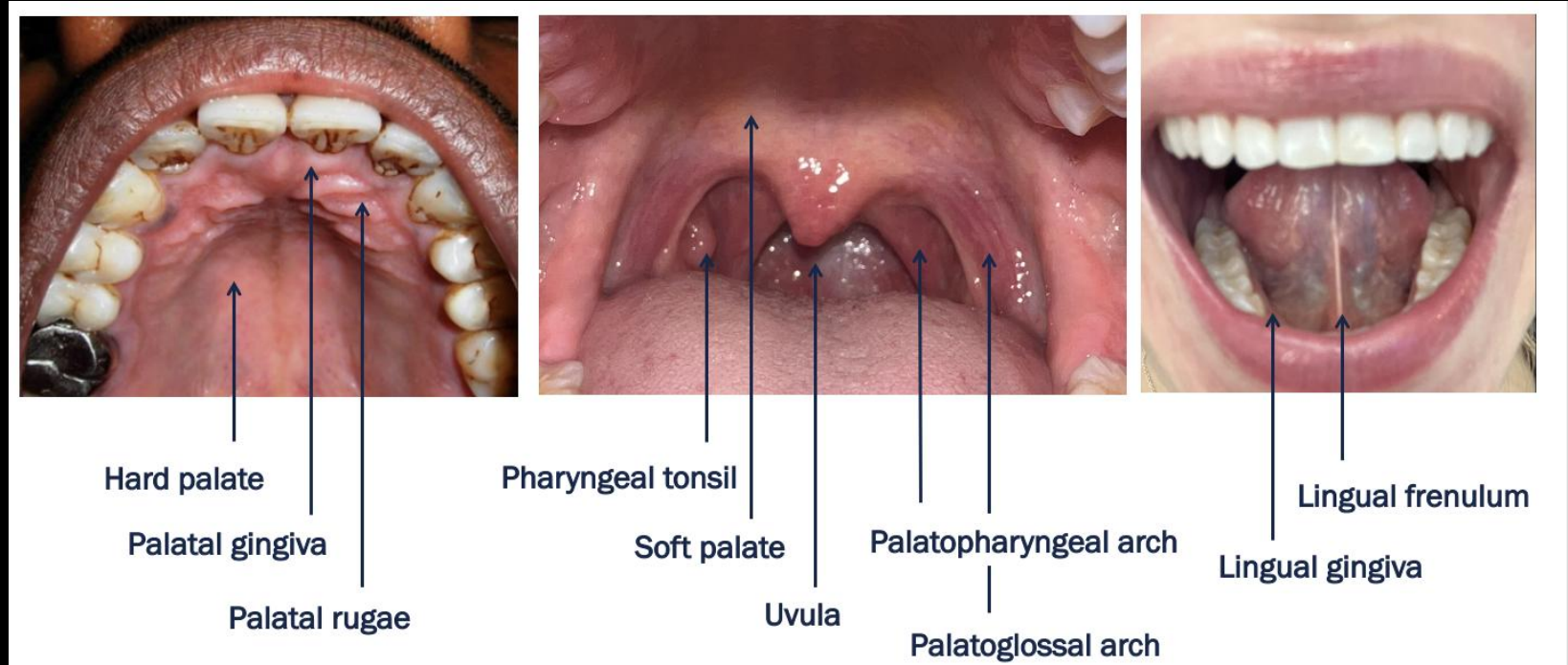
Free gingiva/
gingival margin

Interdigital
papilla

Improving your descriptions of gingival lesions:

- Maxillary vs mandibular facial
- Palatal (hard palate) vs lingual (adjacent to tongue)

Normal anatomy – intraoral



Normal anatomy – intraoral

