Oral Medicine

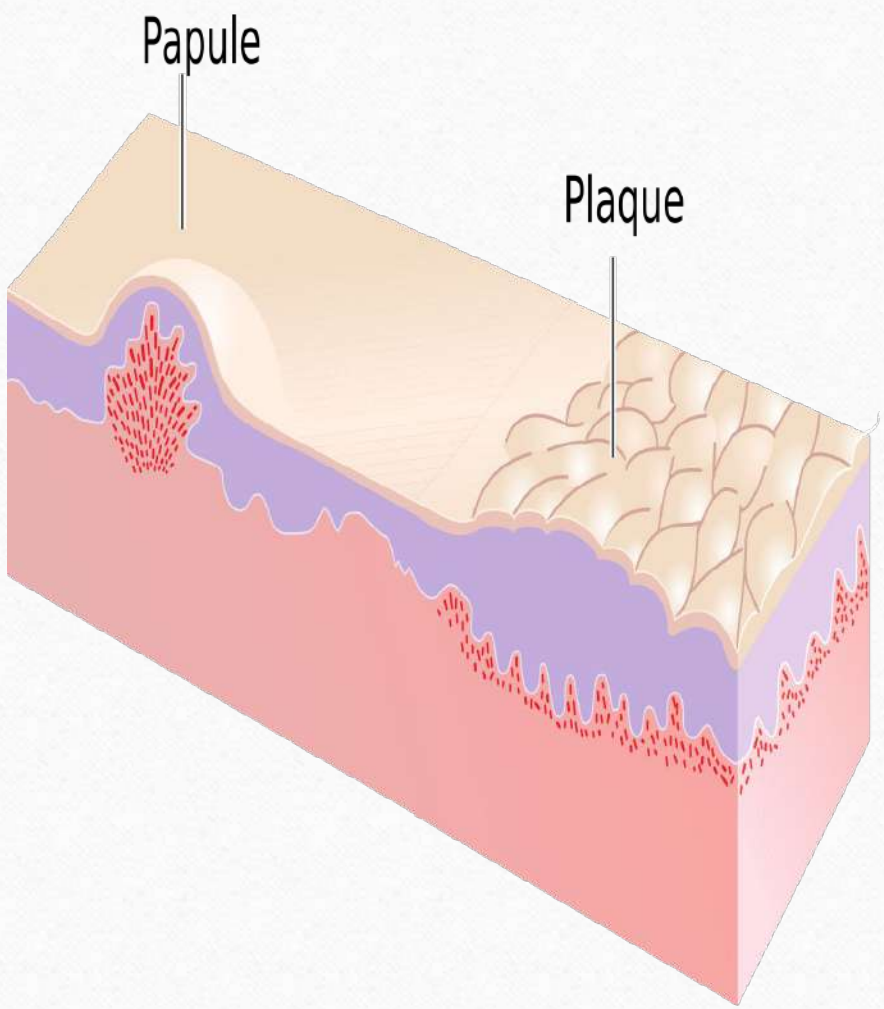
Lecture 4

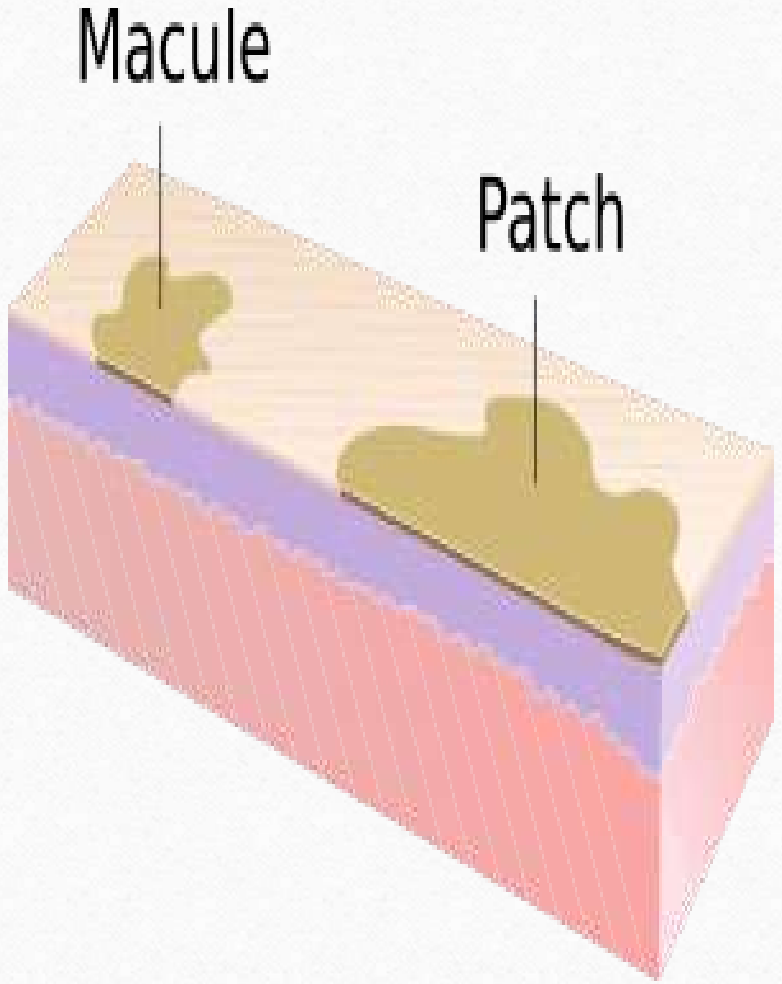
The Examination of the patient
Extra Oral (head and neck examination)

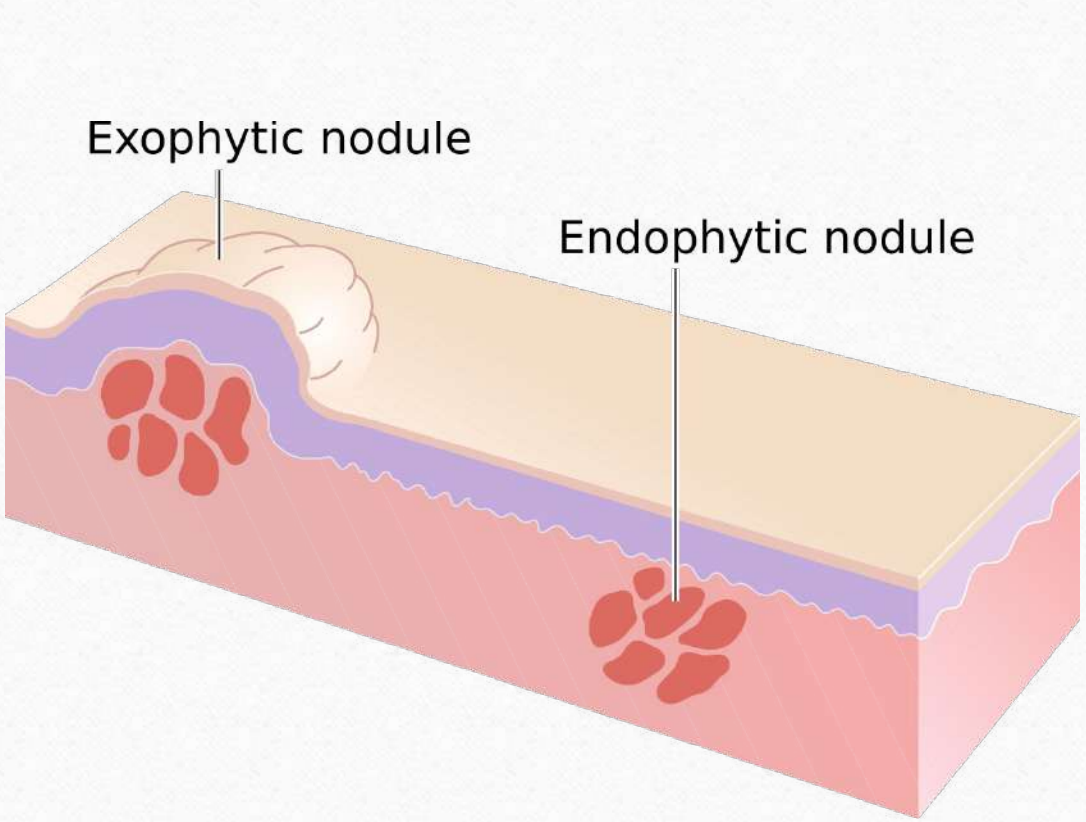
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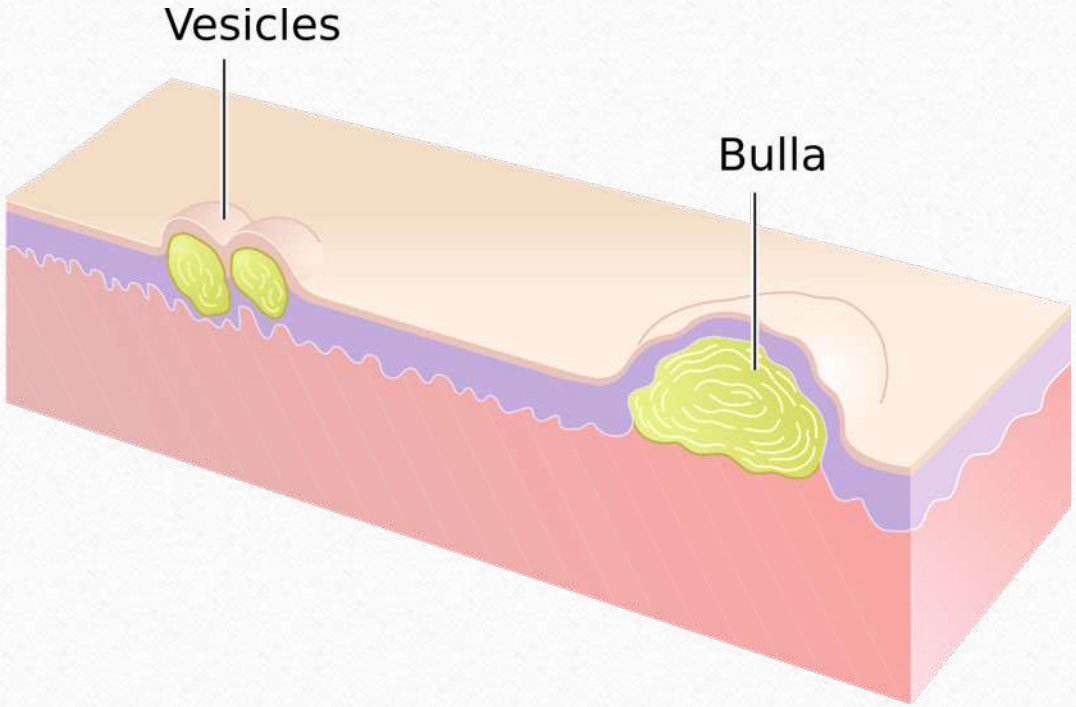
The examination of the skin.

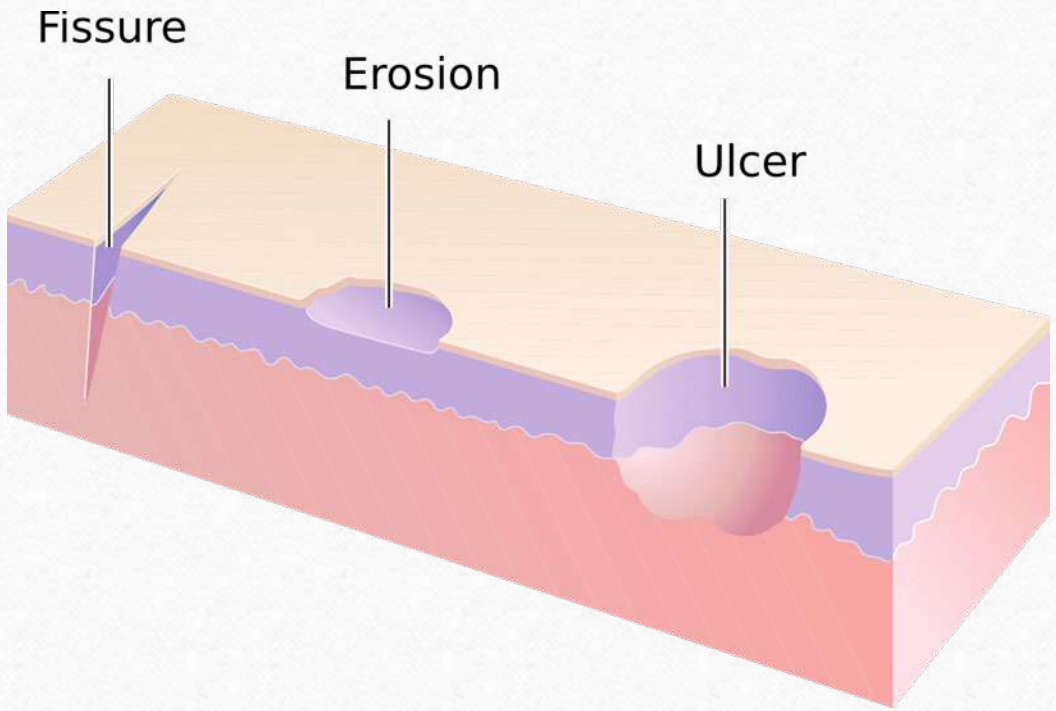
- The Examination of the Eye.
- The examination of the thyroid gland
- The examination of the salivary gland .
- The common terminology which are used in the oral medicine for skin and oral examination


Papule
Plaque


Macule
Patch


Exophytic nodule
Endophytic nodule

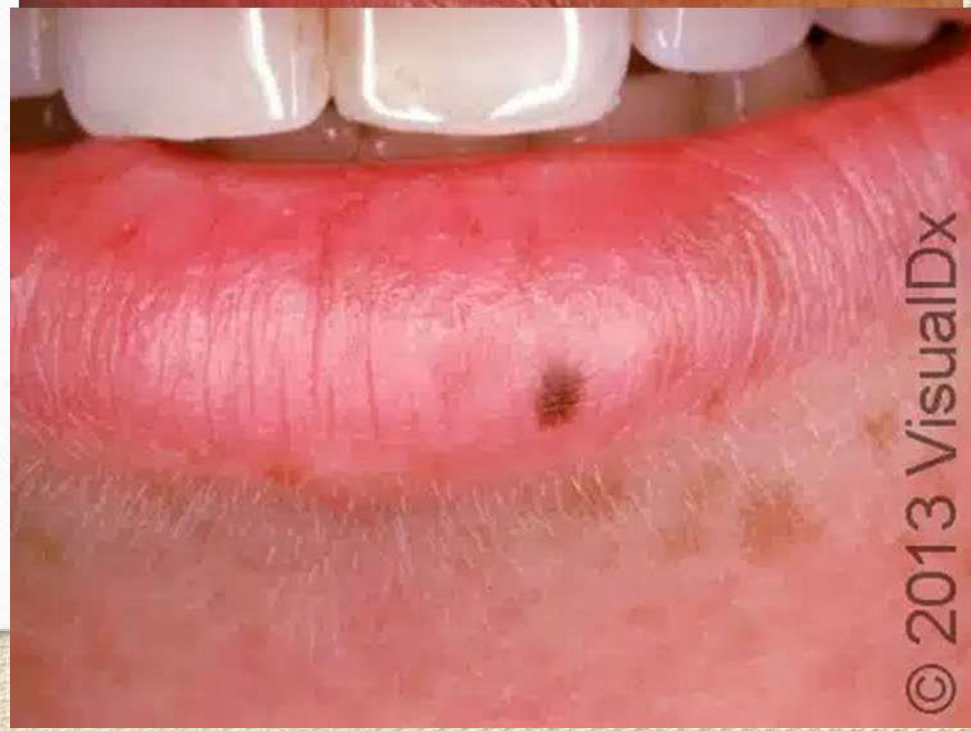

Vesicles
Bulla


Fissure
Erosion
Ulcer

The common terminology which are used in the oral medicine for skin and oral examination

Macule: A macule is a change in surface color, without elevation or depression and, therefore, non palpable, well or ill-defined, variously sized, but generally considered less than either 5 or 10 mm in diameter at the widest point.

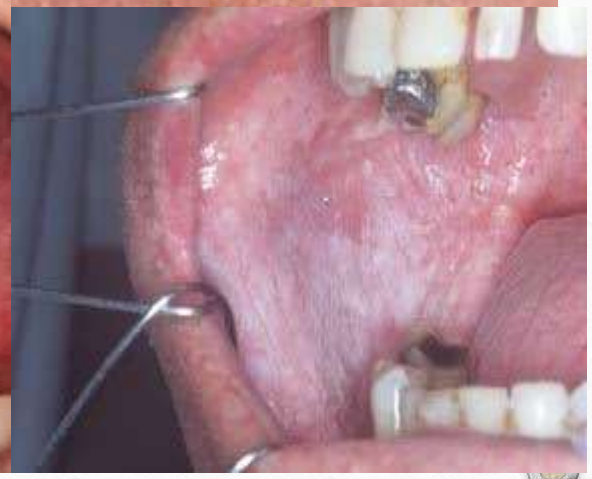




Patch: A patch is a large macule equal to or greater than either 5 or 10 mm across, depending on one's definition of a macule Patches may have some subtle surface change, such as a fine scale or wrinkling, but although the consistency of the surface is changed, the lesion itself is not palpable



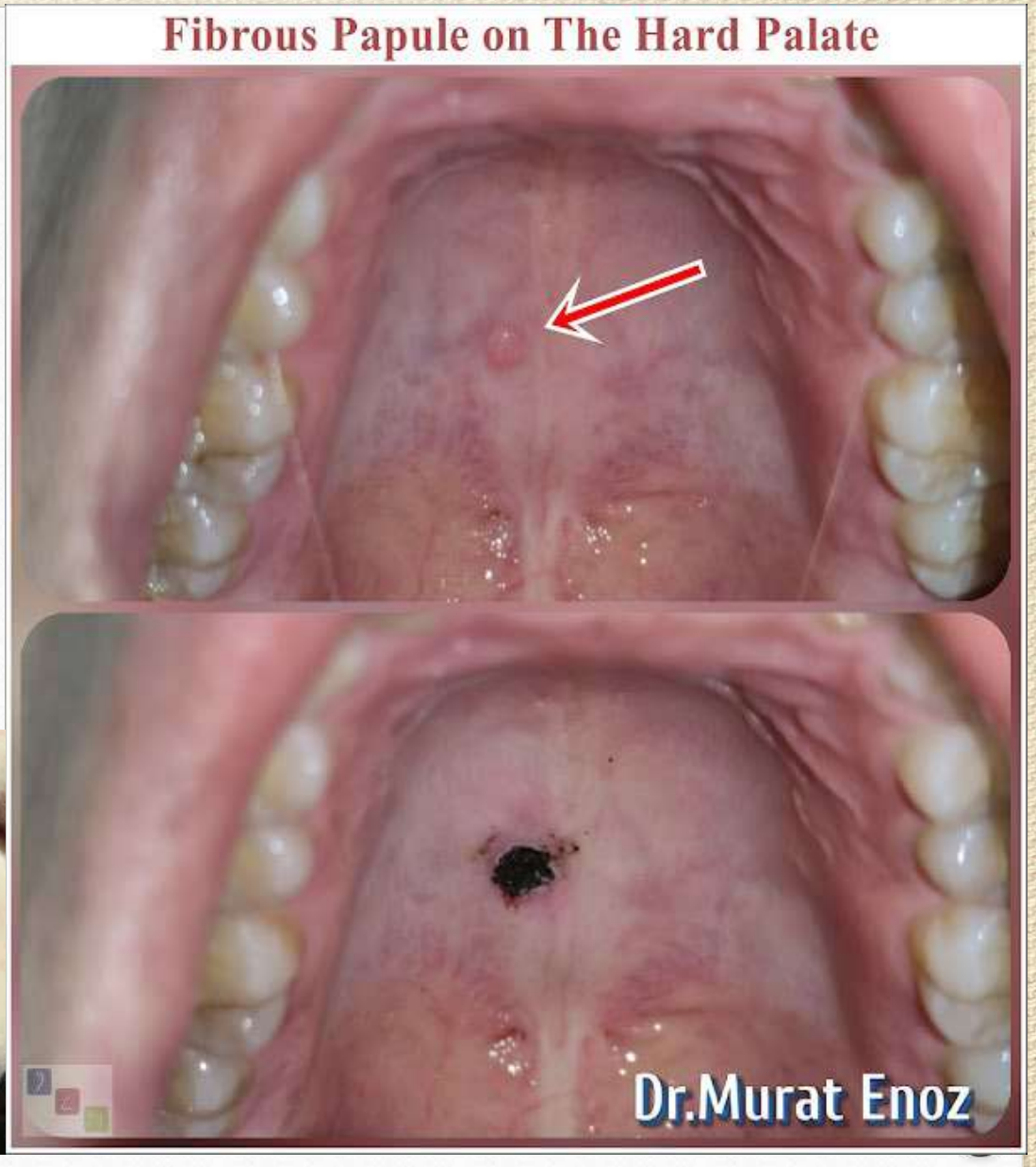




Papule :

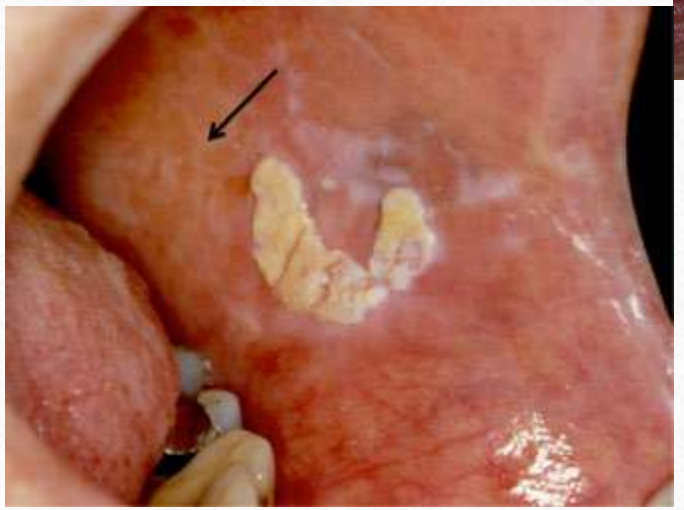
A papule is a circumscribed, solid elevation of skin with no visible fluid, varying in size from a pinhead to less than either 5 or 10 mm in diameter at the widest point





Plaque: A plaque has been described as a broad papule, or confluence of papules equal to or greater than 1 cm or alternatively as an elevated, plateau like lesion that is greater in its diameter than in its depth





Nodule: A nodule is morphologically similar to a papule in that it is also a palpable spherical lesion less than 1 cm in diameter. However, it is differentiated by being centered deeper in the dermis or subcutis.





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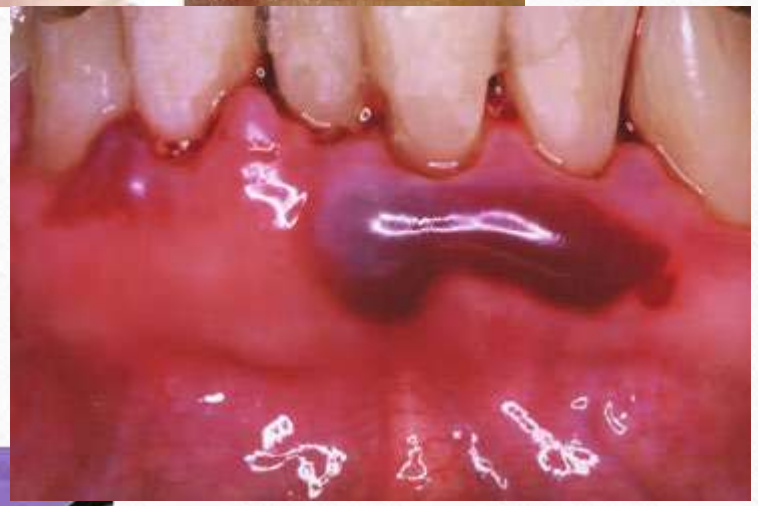
Tumors: Similar to a nodule but larger than 1 cm in diameter.



Vesicle: A vesicle is small blister, a circumscribed, fluid-containing, epidermal elevation generally considered less than either 5 or 10 mm in diameter at the widest point .The fluid is clear serous fluid.



Bulla: A bulla is a large blister, a rounded or irregularly shaped blister containing serous or seropurulent fluid, equal to or greater than either 5 or 10 mm, depending on one's definition of a vesicle.





Pustule: A pustule is a small elevation of the skin(mucous membrane) containing cloudy or purulent material (pus) usually consisting of necrotic inflammatory cells. These can be either white or red.





Cyst: A cyst is an epithelial-lined cavity containing liquid, semi-solid, or solid material

•





Wheal: A wheal is a rounded or flat-topped, pale red papule or plaque that is characteristically evanescent, disappearing within 24 to 48 hours. The temporary raised bubble of taut skin on the site of a properly-delivered intradermal injection is also called a welt.



Burrow: A burrow appears as a slightly elevated, grayish, tortuous line in the skin, and is caused by burrowing organisms.



Telangiectasia: A telangiectasia represents an enlargement of superficial blood vessels to the point of being visible

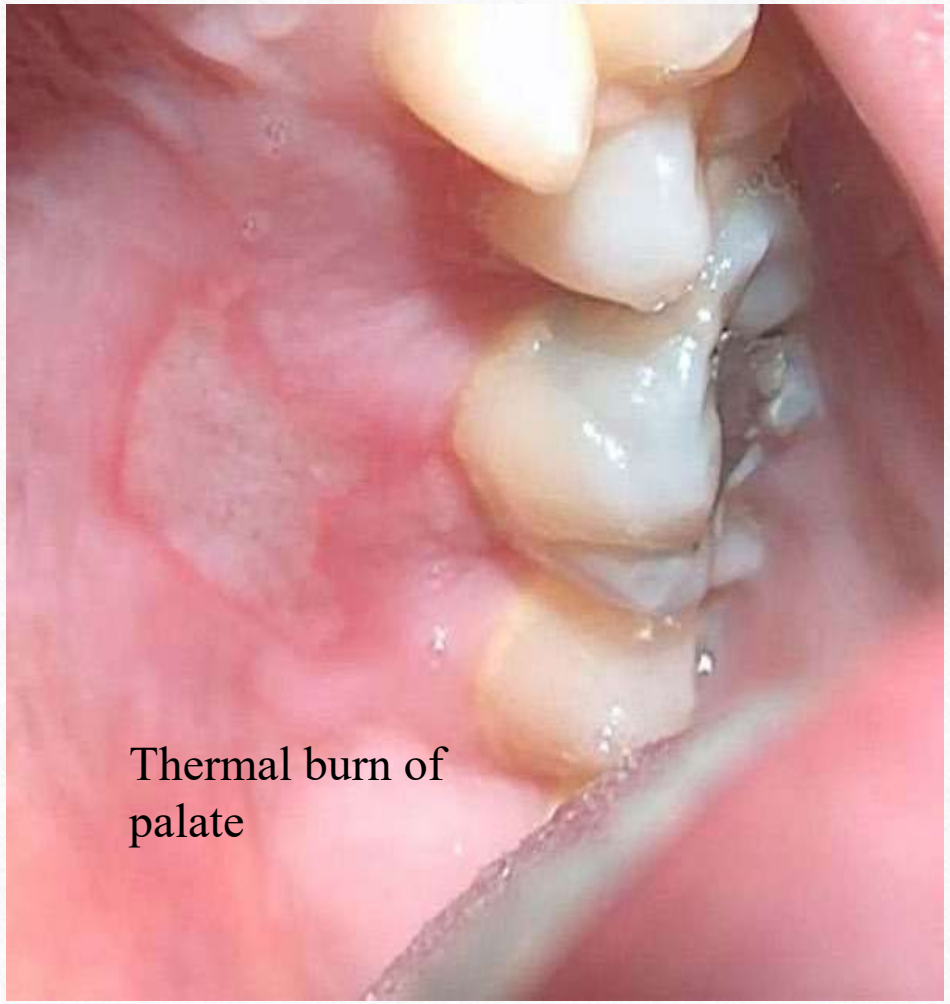






Erosion: An erosion is a discontinuity of the skin exhibiting incomplete loss of the epidermis, a lesion that is moist, circumscribed, and usually depressed





Thermal burn of palate

Ulcer: An ulcer is a discontinuity of the skin exhibiting complete loss of the epidermis and often portions of the dermis and even subcutaneous fat.







Fissure: A fissure is a crack in the skin that is usually narrow but deep.



Secondary lesions

• **Scale**: dry or greasy laminated masses of keratin that represent thickened stratum corneum.





Secondary lesions

• **Crust**: dried serum, pus, or blood usually mixed with epithelial and sometimes bacterial debris.



Lichenification: epidermal thickening characterized by visible and palpable thickening of the skin with accentuated skin markings





Secondary lesions

Excoriation: a punctate or linear abrasion produced by mechanical means (often scratching), usually involving only the epidermis, but commonly reaching the papillary dermis.



Induration: dermal thickening causing the cutaneous surface to feel thicker and firmer





Secondary lesions

- **Atrophy**: refers to a loss of tissue, and can be epidermal, dermal, or subcutaneous. With epidermal atrophy, the skin appears thin, translucent, and wrinkled. Dermal or subcutaneous atrophy is represented by depression of the skin.





Umbilication: formation of a depression at the top of a papule, vesicle, or pustule ."



Maceration: softening and turning white of the skin due to being consistently wet.



Configuration" refers to how lesions are locally grouped ("organized"), which contrasts with how they are distributed .

These terminology is important to understand the different forms of the diseases in the later lectures

- **Agminate**: in clusters
- **Annular** or **circinate**: ring-shaped
- **Arciform** or **arcuate**: arc-shaped
- **Digitate**: with finger-like projections
- **Discoid** or **nummular**: round or disc-shaped
- **Figurate**: with a particular shape



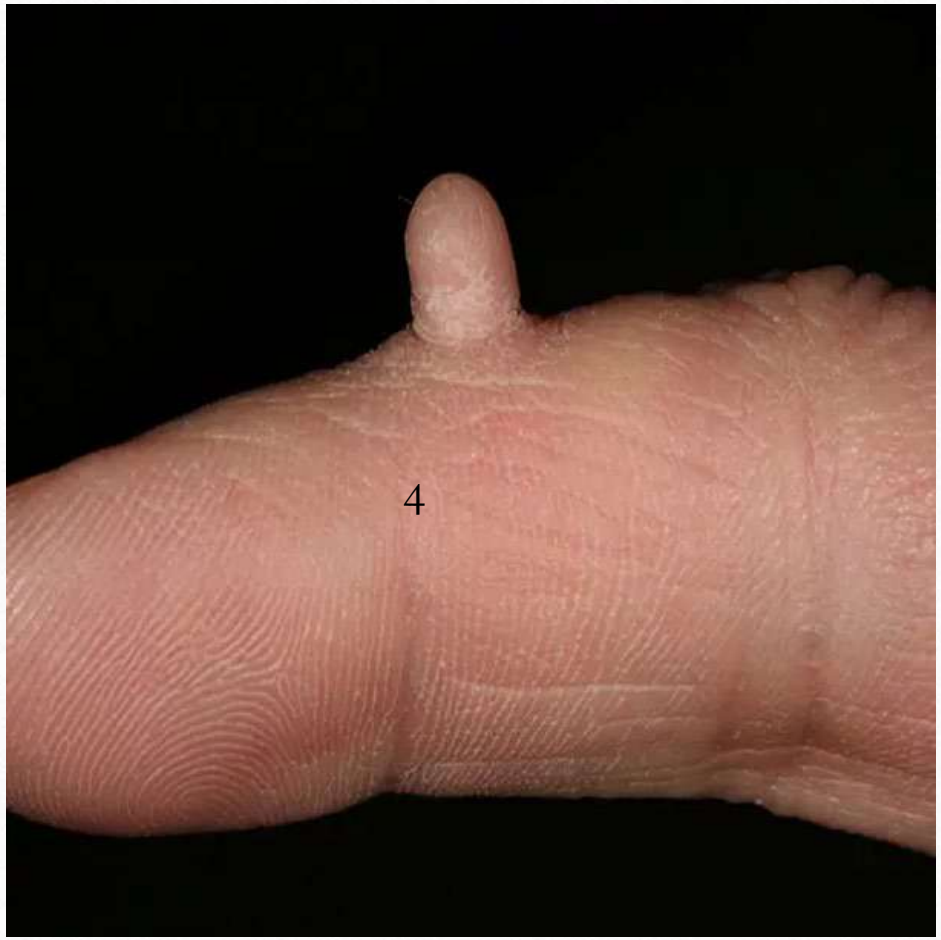
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Abnormal Color of the Skin

Brown (melanin). Melanin, however, is the major component of skin color; it is the presence or absence of melanin in the melanosomes in melanocytes and melanin in keratinocytes that is responsible for epidermal pigmentation.

The presence of melanin in macrophages or melanocytes in the dermis that is responsible for dermal pigmentation.

Two groups of pigmentary disorders are commonly distinguished:

- the disorders of the quantitative and qualitative distribution of normal pigment and -the abnormal presence of exogenous or endogenous pigments in the skin.
- The first group includes hyperpigmentations, which clinically manifest by darkening of the skin color, and leukodermia, which is characterized by lightening of the skin.

Hypermelanosis corresponds to an overload of melanin or an abnormal distribution of melanin in the skin.



Depending on the color, melanodermia (brown/black) and ceruloderma (blue/grey) are distinguished.
- Melanodermia correspond to epidermal hypermelanocytosis (an increased number of melanocytes) or epidermal hypermelanosis (an increase in the quantity of melanin in the epidermis with no modification of the number of melanocytes).

yellowish of the skin
brownish skin and
earthy in color

Other points to be noticed in the skin

- ✓ Sweating usually in hyperthyroidism ,psychoneuroses
- ✓ Cold clammy skin dry skin mostly in fever, hypothyroidism, dehydration.
- ✓ Pigmentation of the skin in the Addison disease ,adrenal insufficiency

Also may occur in the followings:

- Arsenic poising
- Chronic liver disease
- Therapeutic irradiation
- Intestinal irradiation
- Intestinal malabsorption
- Malignant cachexia
- Gangrene may lead to blackness
- Flashings of the skin may be occurred due to emotional causes hormone imbalance ,fever hyperthyroidism

THE EXAMINATION OF THE EYE

Common systemic diseases problems and their association with the eye

1. Diabetes

The underlying cause of diabetic retinopathy is microvascular

Leakage leading to exudation which occurs in the layers of retina affecting vision. Excess glucose interferes with normal metabolism of the lens and result in premature cataracts.

2 .Hypertension

Hypertension may produce no abnormalities if detected early but assessment of fundus is essential to detect such changes.

Treatment for hypertension may result in resolution of retinal signs if left unattended for too long. Permanent damage to vision may occur because of optic nerve and retinal circulation being affected by hypertension.

Both diabetes and hypertension may also affect nerves of the eye leading to muscle paralysis causing squint, double vision,...etc.

2. Thyrotoxicosis

Excessive thyroid levels may cause protruding eyes, limitation of eye movements, double vision and corneal disease due to exposure and dryness. In severe form, the optic nerve may get damaged resulting in permanent loss of vision. Symptoms in the eye may appear before any other systemic features .

Also, the dentist should notice the exophthalmos ,which is bulging of the eye anteriorly out of the orbit it could be bilateral as in Graves' disease or unilateral often seen in orbital tumor ,complete or partial dislocation from the orbit is possible from trauma or swelling from the surrounding tissue.



Cancer

Cancer can start in the eye or spread from anywhere in the body. Cancer can occur in any part of the eye and depending upon its location it may or may not affect vision. It especially holds true in children who can have cancer called retinoblastoma.

The cancer may be evident as a white reflex, squint, recurrent redness, vision loss and in advanced cases may threaten life.

The dentist could make a diagnosis by the following's methods :

Pay close attention to **the color of the sclera**

1- Yellow sclera is associated with jaundice and may indicate an undiagnosed case of hepatitis (A or B), other liver dysfunction or a blood disorder.

2-Blue sclera is associated with osteogenesis imperfecta which may include alteration of the structure of dentin.

3-Pupil size may help identify patients who are at risk for medical emergencies due to illegal drug use.

Simple how-to exam the eyes clinically by the dentist :

Naffzigers methods Stand behind the seated patient. Tilt the head backwards and observe the eye ball our plane of vision should be on the superciliary ridges by the examination the globes in this manor it will be possible to confirm or eliminate the presence the protruism


Naffziger's method
Worm's view

Enophthalmous mean the recession of the eye usually occur in serious wasting disease
affect the followings may affected the eye like

- Sjogrens syndrome
- Reiters disease
- Stevens Johnson syndrome
- Behcets disease
- Lichen planus

Physical Examination of the Thyroid Gland

Normally, the whole thyroid gland and the trachea to which it is attached can be easily moved sideways over the surface of the prevertebral fascia.

The mobility of a thyroid nodule, is best determined by its degree of fixation to the tracheal fascia.

A thyroid nodule that is not adherent to the tracheal fascia is usually movable.

If the thyroid nodule has involved the tracheal fascia or at times even the prevertebral fascia, then chances are it is fixed on palpation. Thus, mobility of a thyroid gland pathology is best determined by its degree of fixation to either the tracheal fascia or the prevertebral fascia, or both.

Accurate physical examination of the thyroid gland and the neck, together with a palpation of the radial pulse and a look at the patient, determining the size of the thyroid gland, whether it is enlarged or not , Detecting nodules in the thyroid gland whether solitary or multiple.

• Consistency of an enlarged thyroid gland as well as the consistency of the nodules, ***whether cystic, soft, firm, or hard.***

• Determining the presence of enlarged cervical lymph nodes, their size, and their consistency.



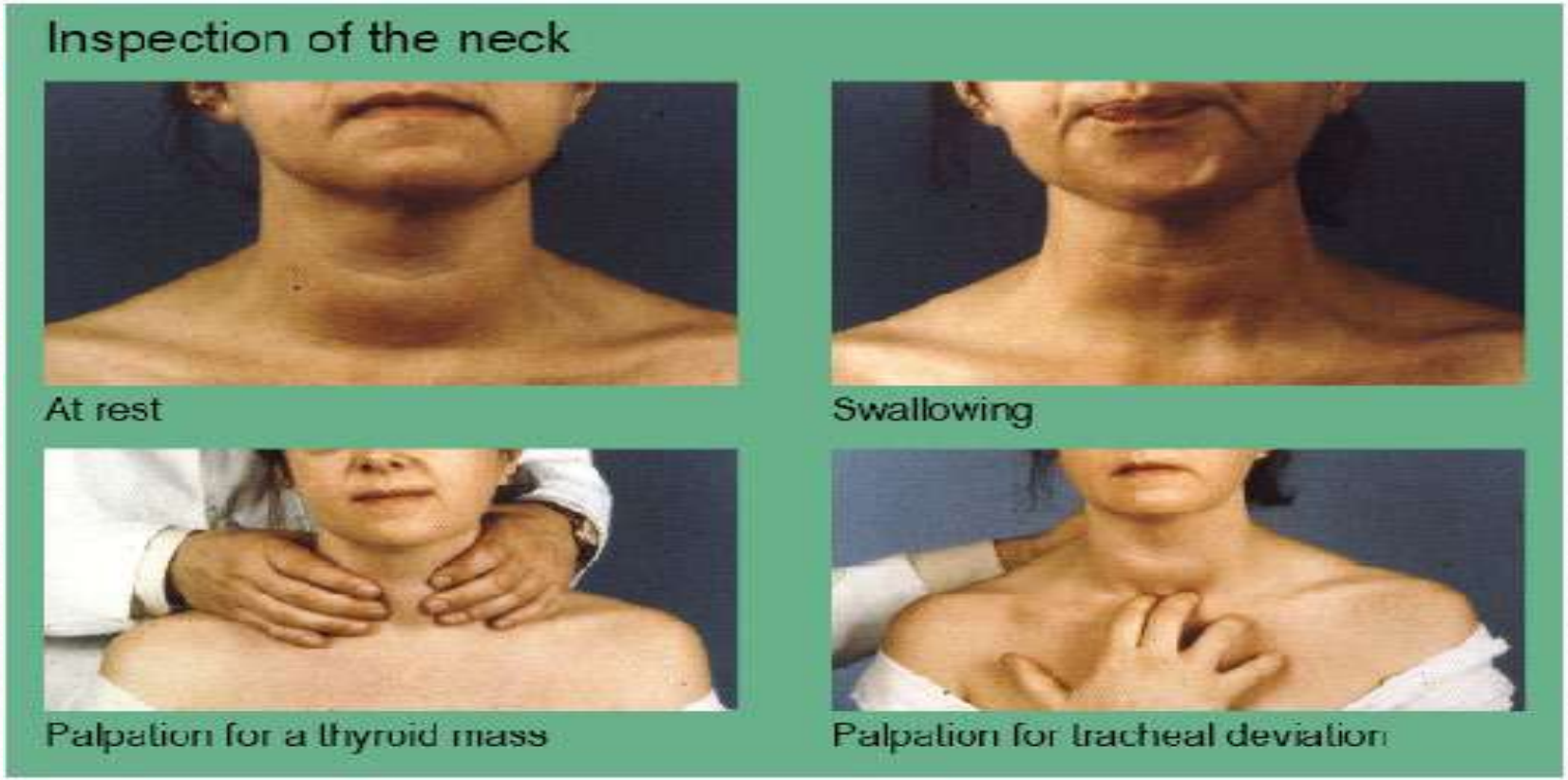


Figure 2. Inspection and palpation of the neck

What are the requirement from the dentist in order to have an accurate diagnosis?

• Gentleness in palpation.
• Care in detecting and describing all possible abnormalities in the thyroid gland and in the neck.
• A clinicopathological correlation to achieve accuracy.
• Inspection and palpation examination of the neck. In front of the patient, the dentist inspects and palpates the neck. From behind, palpates the neck. The dentist inspects the neck for gross diffuse enlargement,
• Asymmetry, skin changes, signs of inflammation, or gross nodularity.

The patient is asked to swallow saliva or small quantities of fluid repeatedly during the examination.

- A normal thyroid gland is rarely palpable. An enlarged thyroid gland is readily palpable.
- Any nodule on the neck near the area where the thyroid gland is normally located and which moves with deglutition can be said to constitute part of a primary thyroid pathology.
- Consistency of a diffusely enlarged thyroid gland in terms of hard, firm, and soft, clinically, a cystic thyroid nodule is usually soft on palpation. However, it may be firm if it is tensely filled with fluid. A solid thyroid nodule, on the other hand, may be soft, firm, or hard on palpation.

The dentist will exam down the mobility of the enlarged thyroid gland and the nodules. Mobility of a diffusely enlarged thyroid gland is best determined not so much by its movement with deglutition but by its degree of fixation to the underlying prevertebral fascia.

Thyroid gland palpable

A. Diffuse glandular enlargement

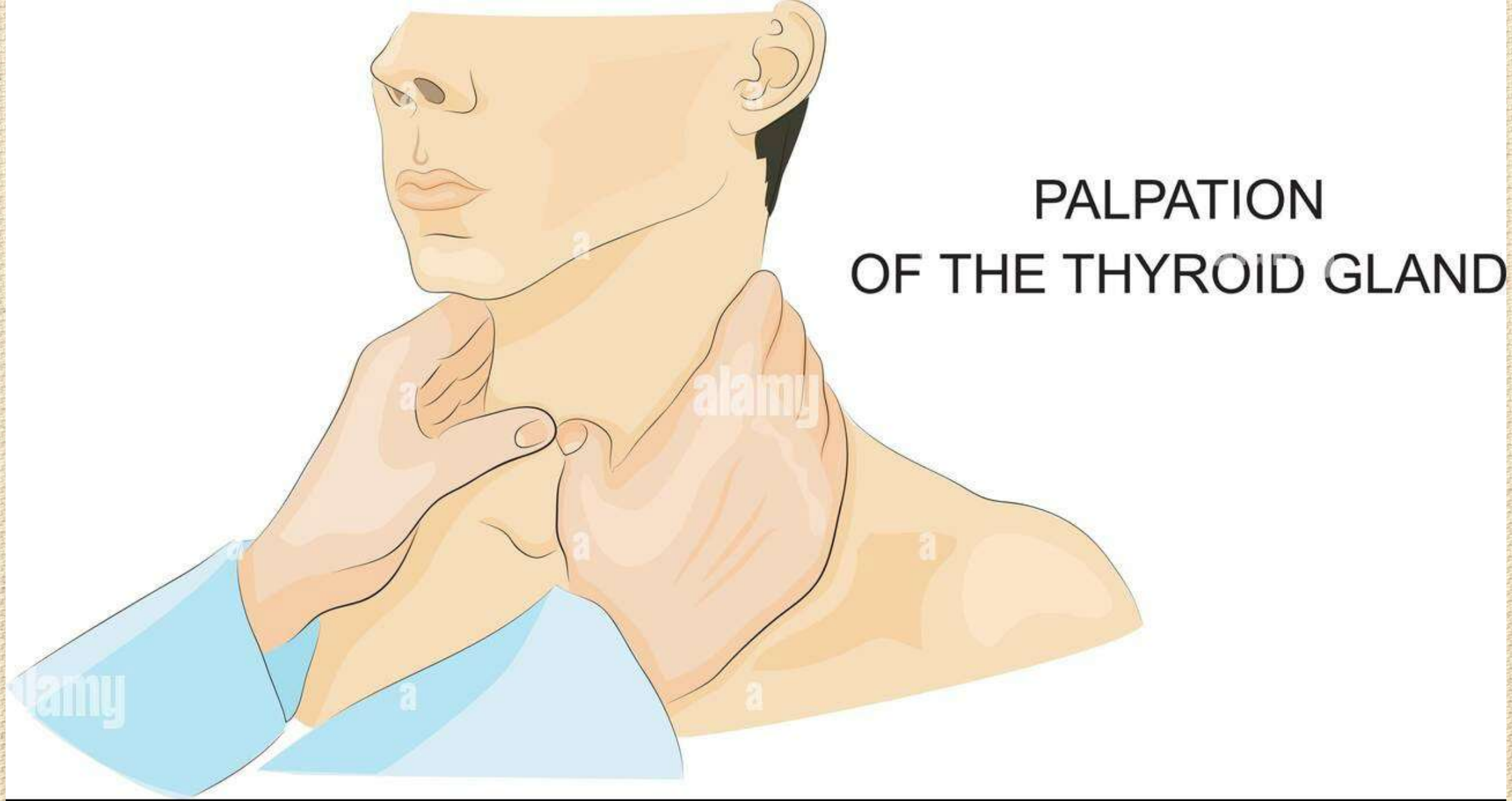
- Size
- Consistency
- Mobility

B. Nodular glandular enlargement

- Location
- Number
- Size
- Consistency
- Mobility

C. Enlarged cervical lymph nodes

- Location
- Number
- Size
- Consistency



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The examination of the salivary gland

Ascertain the following from the history:

• Which of the glands is affected? Most commonly, it is the parotid ,If there is swelling, is it unilateral or bilateral? Is it constant or does it come and go? Is the swelling painful? Pain may be referred to the ear or throat.

• How long has the patient experienced symptoms? Has any mass increased in size since it was first noticed?

• Are symptoms affected by eating?

• Is there a feeling of dry mouth?

• Are there systemic symptoms suggestive of infection, autoimmune disease, sarcoidosis or malignancy?

• Is there anything of relevance in the current medical and dental history, or medication and immunization record?

Examine the major salivary glands:
The parotid glands:
• Swellings of the parotid are apparent as a loss of the angle of the jaw. The accessory lobe may also cause a lump anterior to the ear.

The deep lobe needs to be inspected and palpated through the mouth. Swelling can displace the ipsilateral tonsil. Try to differentiate between generalized swelling of the gland, which tends to be due to obstruction of the duct or inflammatory disease, or localized lumps, which are more likely to be tumors

Ask the patient to clench their teeth to allow palpation of the masseter. The anterior part of the parotid duct can be felt as it crosses the anterior border of the masseter muscle and occasionally a stone can be palpated in this part of the duct.

• Inspect the orifice of the duct in the mouth opposite the second upper molar by retracting the cheek with a spatula. Pressure on the body of the gland may lead to the extrusion of pus at the orifice in patients with parotitis.

• Examine the facial nerve. Any facial weakness or asymmetry is highly suggestive of malignancy.

Differentiating a swollen parotid gland and cervical lymphadenopathy may be very difficult clinically. Usually, it is possible to feel in front of lymph nodes but it is impossible to get in front of the parotid to be inspected and palpated through the mouth.

The submandibular gland

• Submandibular gland pathology usually involves swelling beneath and anterior to the angle of the jaw.

• Inspect the orifices of the duct by asking the patient to lift their tongue to the roof of the mouth, noting the presence of inflammation or pus or indeed a visible impacted stone.

• Examine bimanually with the index finger of one hand inside the mouth and fingers of the other hand over the outer surface of the lump in the neck. Under normal circumstances, the gland is not palpable but, if enlarged, can be felt 2-3 cm anterior to sternomastoid, below the horizontal ramus of the mandible. The gland has a rubbery consistency. The gland should not be fixed to the floor of the mouth or tongue. Check the course of the duct for a stone

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The sublingual glands lie just beneath the mucosa in the floor of the mouth and empty directly into the mouth or into the submandibular duct. The gland is not discretely palpable, and the duct openings usually visible.

Terminology

• Sialadenitis refers to inflammation of a salivary gland and may be acute or chronic, infective or autoimmune.

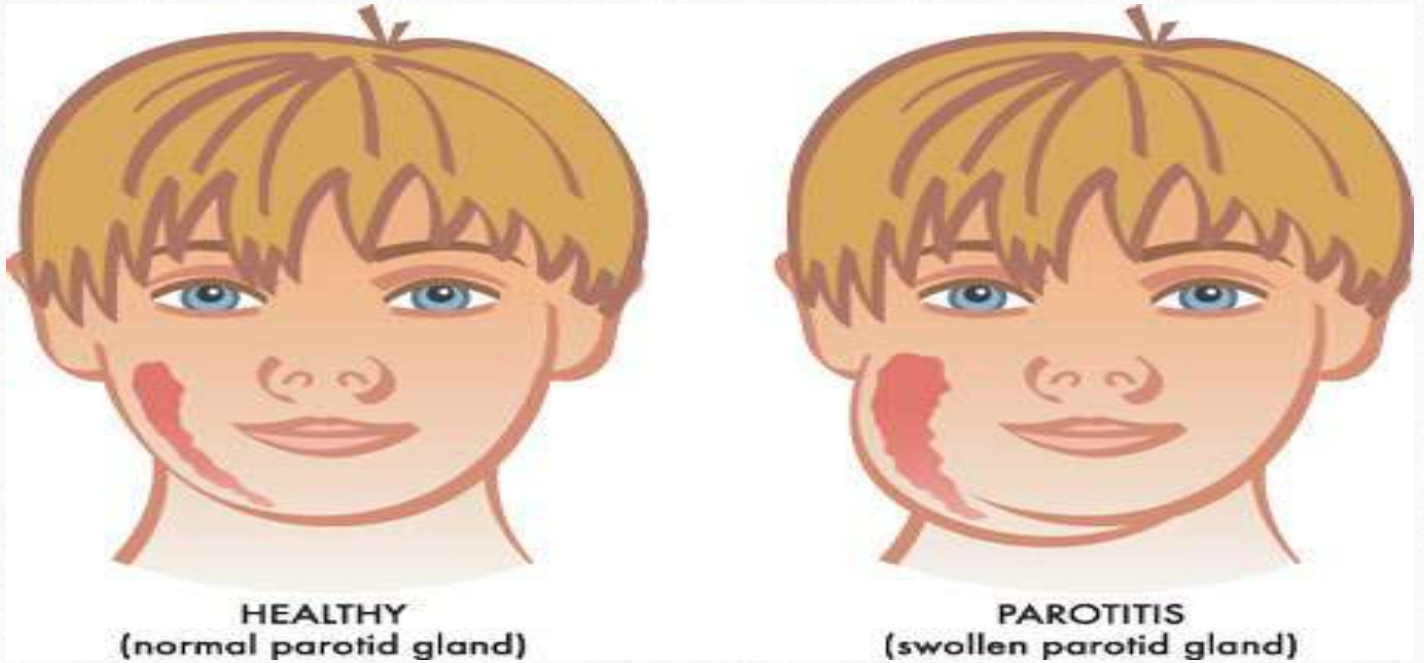
• Sialolithiasis refers to stone-related disease within the ductal systems of a gland.

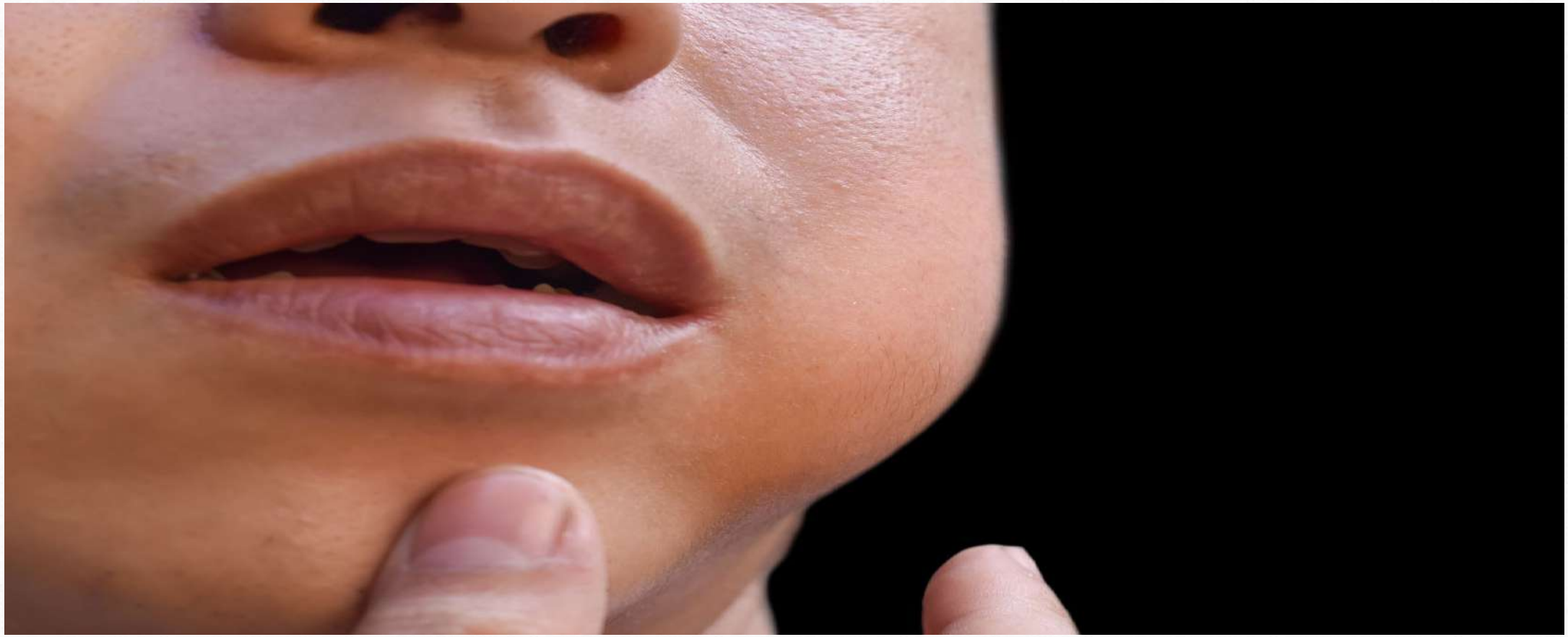
• Sialectasis refers to the dilation of a duct due to stones or strictures.

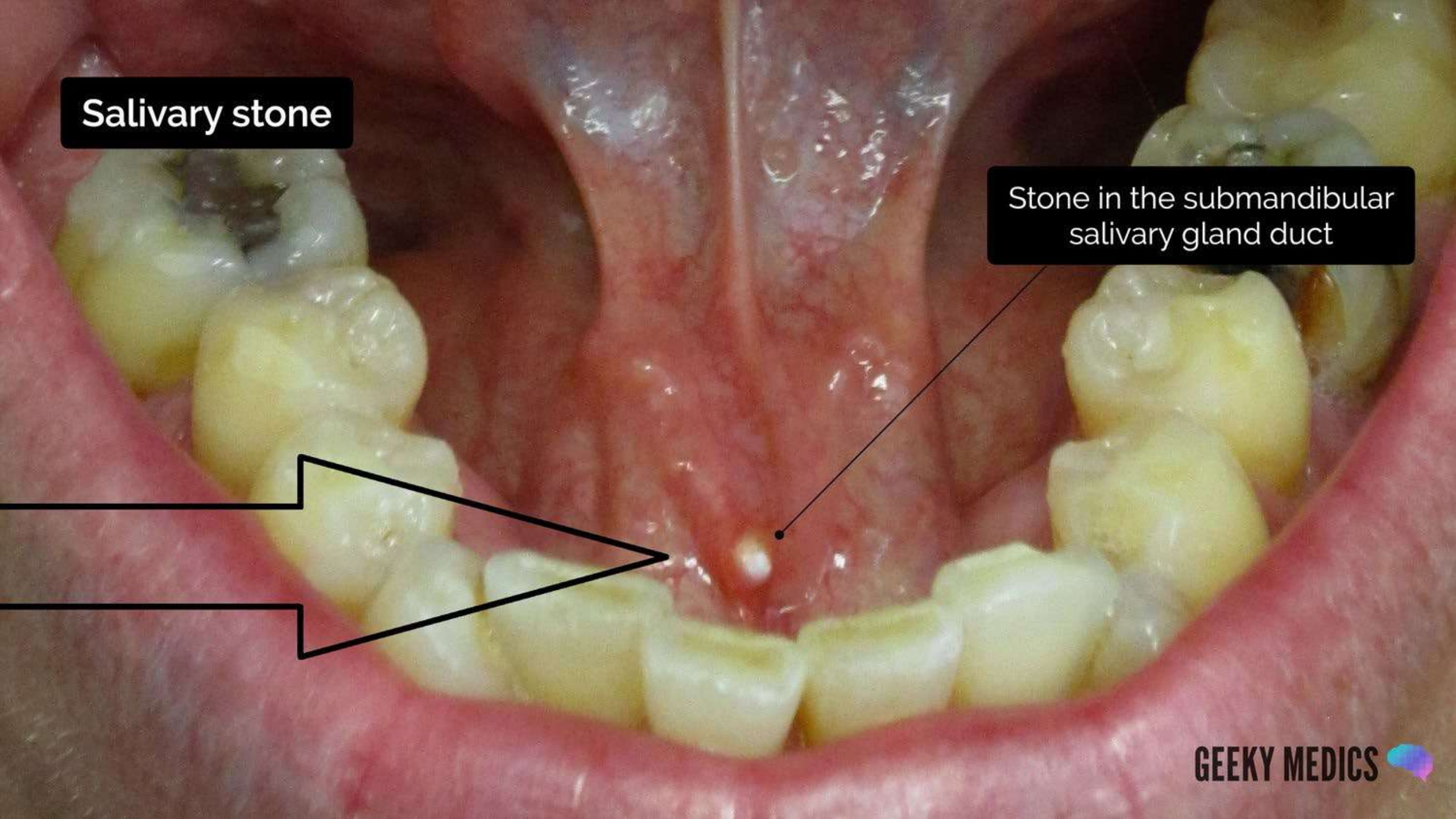
• Sialadenosis refers to non-neoplastic non-inflammatory swelling with acinar hypertrophy and ductal atrophy.



Bimanual examination of the parotid and submandibular salivary glands


HEALTHY
(normal parotid gland)
PAROTITIS
(swollen parotid gland)




Salivary stone
Stone in the submandibular salivary gland duct
GEEKY MEDICS

THANK YOU