Sri Aurobindo College of Dentistry

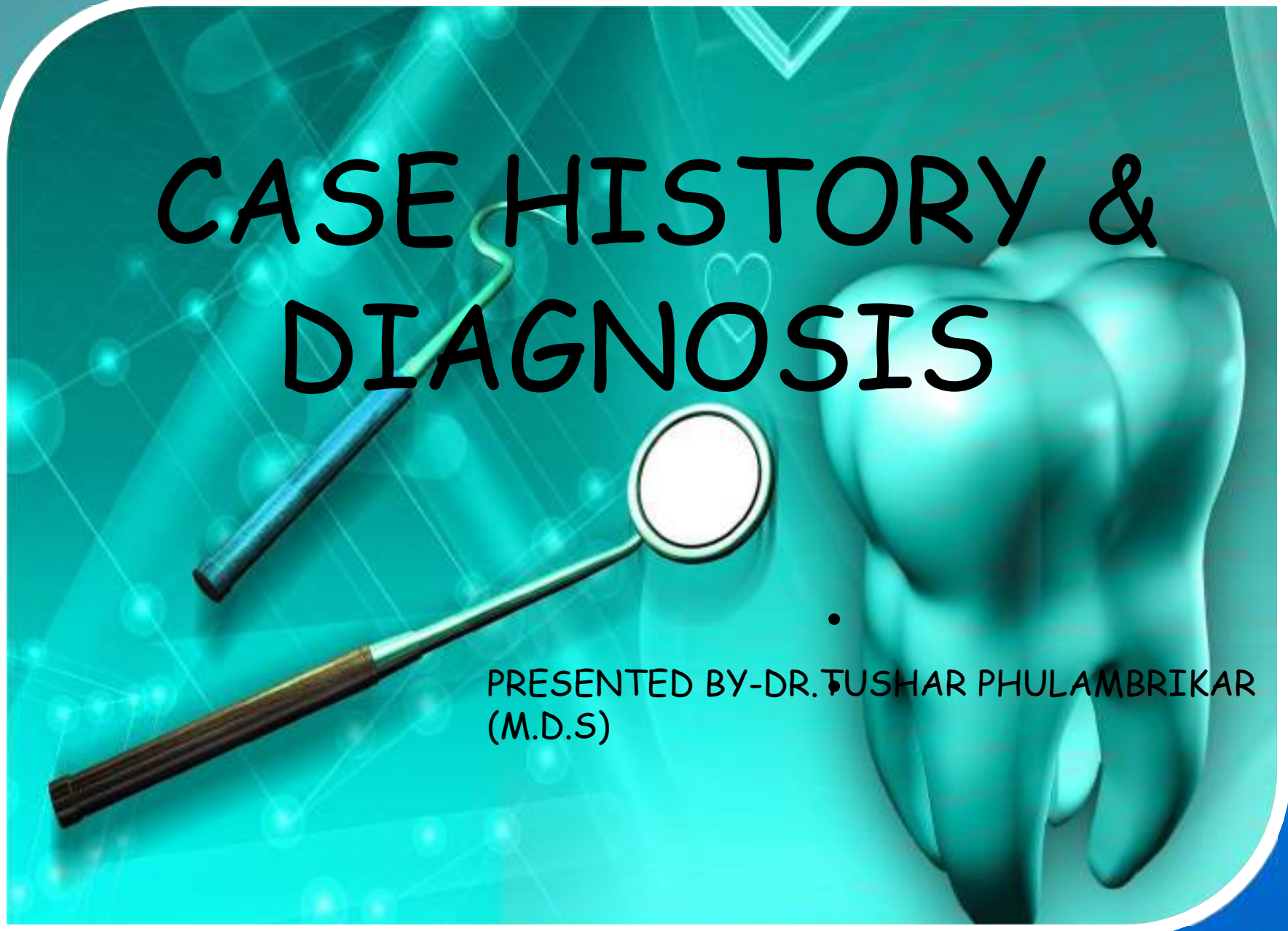
Indore, Madhya Pradesh

INDIA

MODULE PLAN

- TOPIC :CASE HISTORY & DIAGNOSIS
- SUBJECT:OMDR
- TARGET GROUP: UNDERGRADUATE DENTISTRY
- MODE: POWERPOINT – WEBINAR
- PLATFORM: INSTITUTIONAL LMS
- PRESENTER: BY-DR.TUSHAR PHULAMBRIKAR

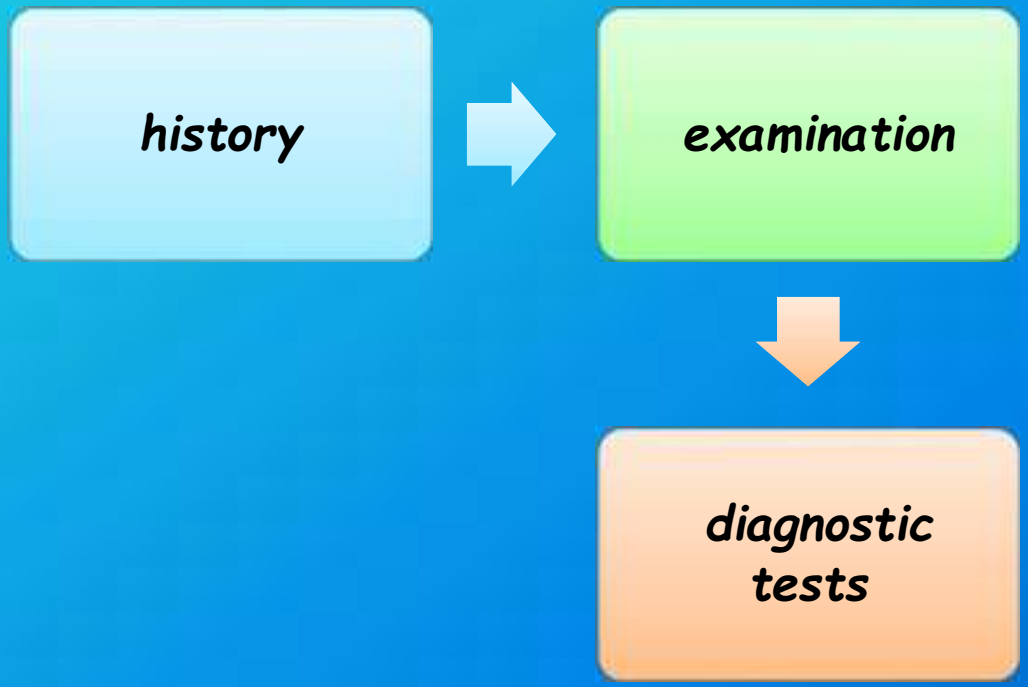
CASE HISTORY & DIAGNOSIS



PRESENTED BY-DR. TUSHAR PHULAMBRIKAR
(M.D.S)

Diagnosis means understanding through knowledge

The system of diagnosis involves three main elements:



CASE HISTORY

Case history taking is a planned professional conversation that enables the patient to communicate his symptoms, feelings and fears to the Clinician so that the nature of the patient, real or suspected illness and mental attitude may be determined.

IMPORTANCE OF CASE HISTORY

It frequently affords a lead in the **right direction** or clue to diagnosis.

It rules out or **eliminates** certain diagnostic possibilities.

It suggests further avenues of **investigation**.

It helps to **focus** the observer's attention to the system or systems involved.

OBJECTIVES

- To establish **rapport** between patient and dentist.
- To detect any **medical problem** & underlying systemic problems.
- Gather sufficient information for **provisional diagnosis**.
- For effective **treatment plan**.

DIAGNOSTIC PROCEDURE

- Personal information.
- Taking and recording history.
- Examining the patient.
- Establishing a provisional diagnosis on the basis of history and examination.
- Conducting the necessary investigation.
- Formulation of final diagnosis on the basis of the result of diagnosis.
- Making a plan of treatment and medical risk assessment for dental patient.

CLINICAL DIAGNOSIS

- Diagnosis obtained based on history and physical examination alone, without the help of laboratory tests and radiological examination

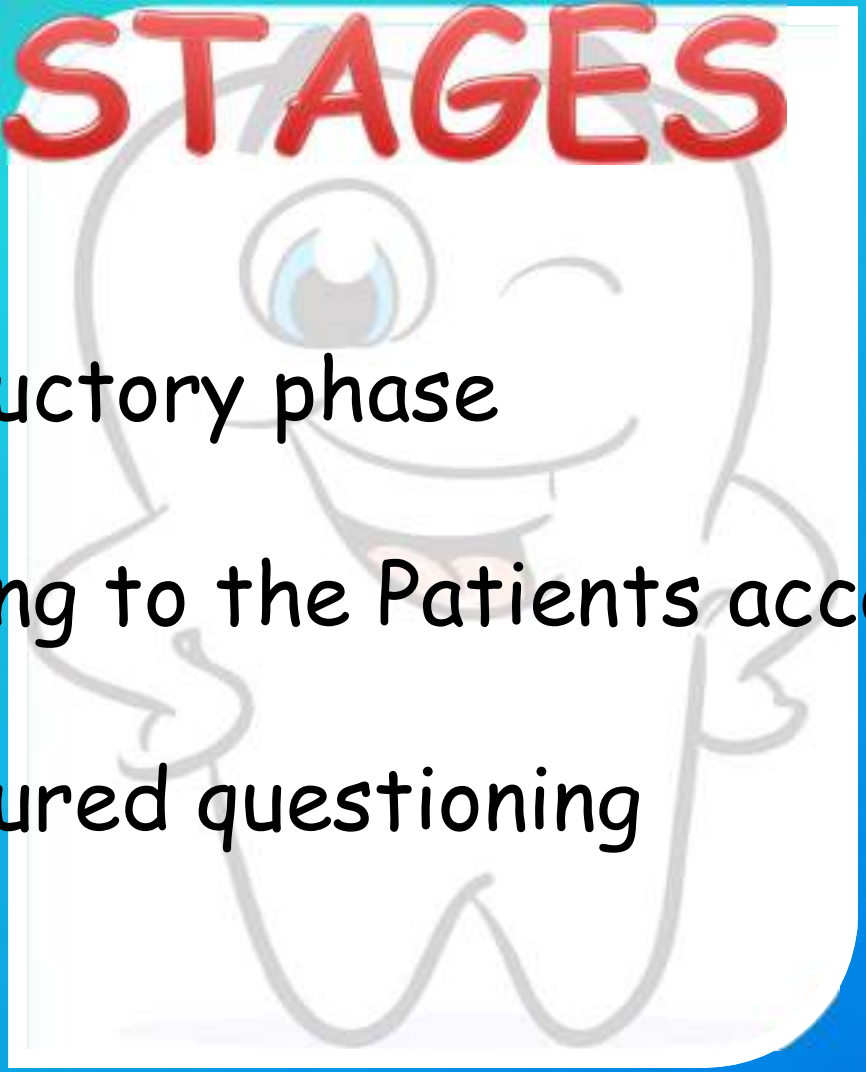
DIFFERENTIAL DIAGNOSIS

- This involves a list of diseases or conditions in order of diagnostic probability. The disease share common features.

FINAL DIAGNOSIS

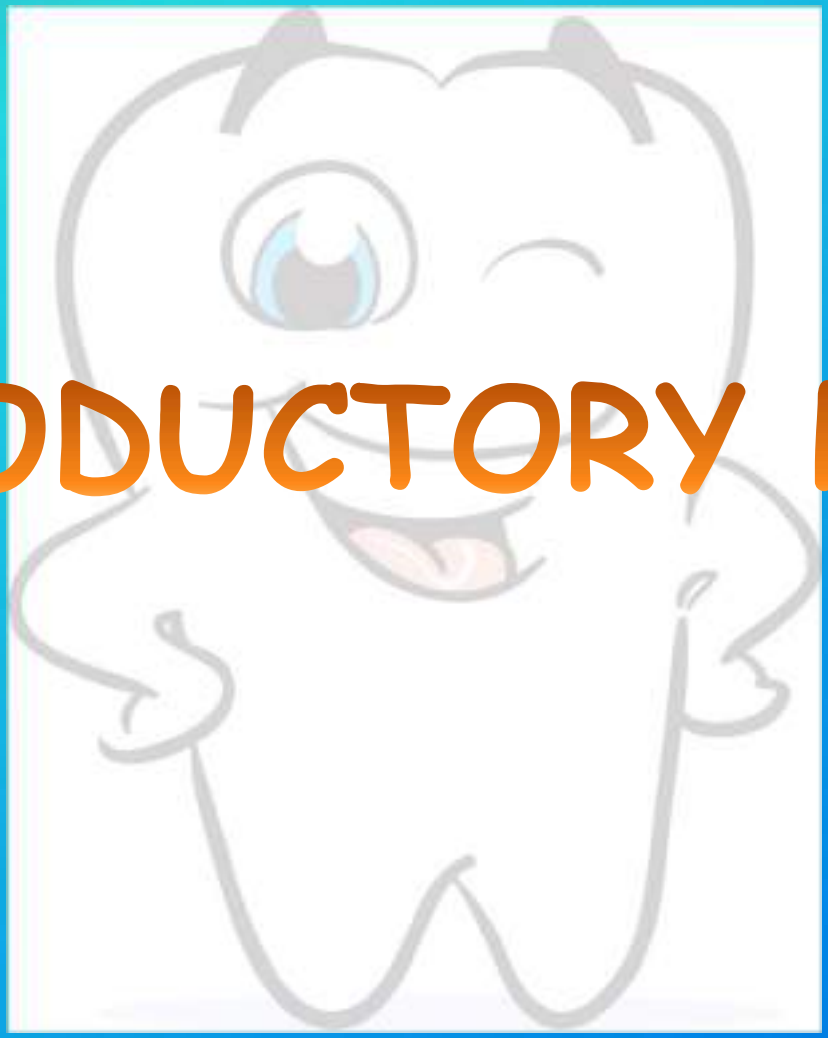
- Diagnosis made on the basis of all available observations and laboratory investigations

STAGES



- ✓Introductory phase
- ✓Listening to the Patients account
- ✓Structured questioning

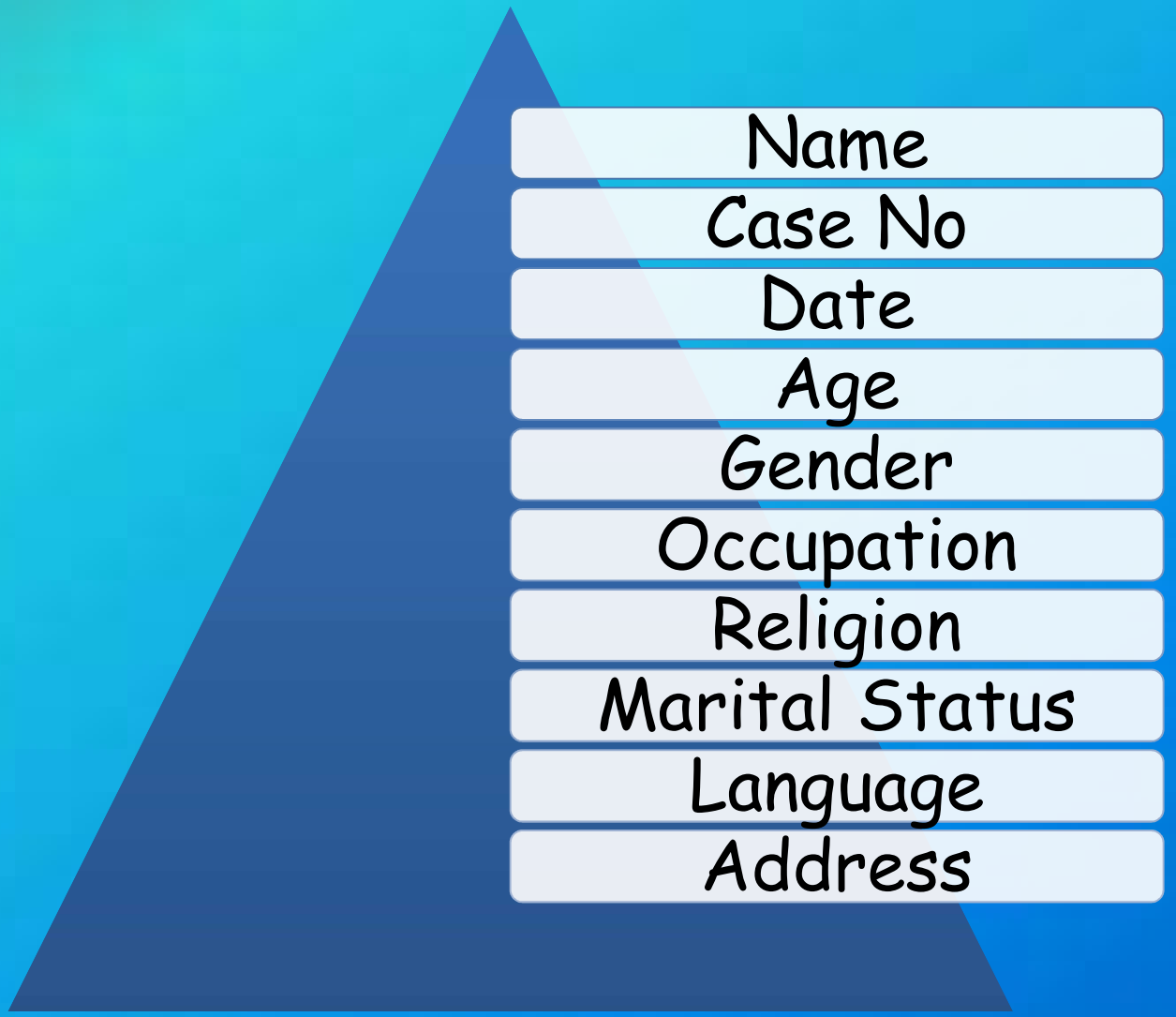
INTRODUCTORY PHASE



Sequence of taking case history

- **Personal information**
- Chief complaint
- History of present illness
- Past medical history
- Past dental history
- Personal history
- Family history
- General examination
- Extra oral examination
- Intra oral examination
- Examination of cranial nerves
- Provisional diagnosis
- Investigations
- Final diagnosis

PERSONAL DATA



Name:

1) Identification

2) Maintaining records

3) Better Communication

4) Pychological Benefit

5) Forming a rapport

Case No:

1) Maintaining records

2) Medico legal purposes

Date:

Maintaining records

Age:

1) Certain diseases are common at certain ages

At birth- Cleft lip and palate, ankylogossia, agnathia, hemophilia, erythroblastis foetalis etc.

In infants- Palatal cyst of newborn, haemangiona, infantile type-fibrosarcoma etc.

- **In children and young adults-** nursing bottle caries, eruption cyst, dental caries, juvenile periodontitis, scarlet fever, etc.

- **In adults and older patients-** attrition, abrasion, gingival recession, root resorption, periodontitis, Sjogren's syndrome (over 40 years), etc.

2) For behavior management techniques

It differs according to the age of the patient. In case of pediatric patient, the dentist has to deal with the parent; hence in pediatric dentistry ,the dentist has to deal with the child as well as with the parent; hence the approach is 1:2.

3) Mentally retarded patients should be handled appropriately

Gender:

Some diseases are more common in particular gender.

For eg-

- **MALES:** attrition, oral carcinoma, leukoplakia, keratoacanthoma, basal cell carcinoma etc.

- **FEMALES:** iron deficiency anemia, Sjogren's syndrome, caries adenoameloblastoma .lichen planus
- **Radiation exposure should be minimized in women of reproductive age.**

Occupation:

Education

Socio-economic status

Occupation related diseases

For Example

- Carcinomas in patients exposed to sunlight, etc.
- Attrition - certain occupations, in which the worker are exposed to abrasive dust
- Habitual opening of the pins may result in notching of the incisal edge.
- Abrasion - is commonly noted in carpenters, shoemakers,or tailors who hold pins or tacks between their teeth.

- Hepatitis B- more common in health care workers.

- Bismuth line-the dark stippling of the marginal gingiva in lead, bismuth exposure.

- Varicose veins- is common in bus conductors and traffic policemen.

- Carcinoma of lips is commonly seen in persons who have to do outdoor work and is called "COUNTRYMAN'S LIP".

- Truck drivers and seamen have increased chances of contracting STD'S

Religion:

- For record of festive periods.
- Predilection of diseases in particular religion.

  For eg.- Vitamin D deficiency in Burkha-wearing Muslim women.

  Sindhi's and punjabi's have predelection for thalasemia

Parsi's have increased chance of G6PD deficiency

Address :

1) Future correspondence

2) Geographical prevalence
of oral/medical diseases

GEOGRAPHICAL PREVALENCE OF DENTAL/ORAL DISEASES

- Dental caries and mottling are dependent on the fluoride content of the domestic water.
- In India cancer of lip is not common but cancer of tongue and buccal mucosa consitute the bulk of oral cancer.
- Dental caries is more common in modern industralized areas while periodontal diseases are common in rural areas.

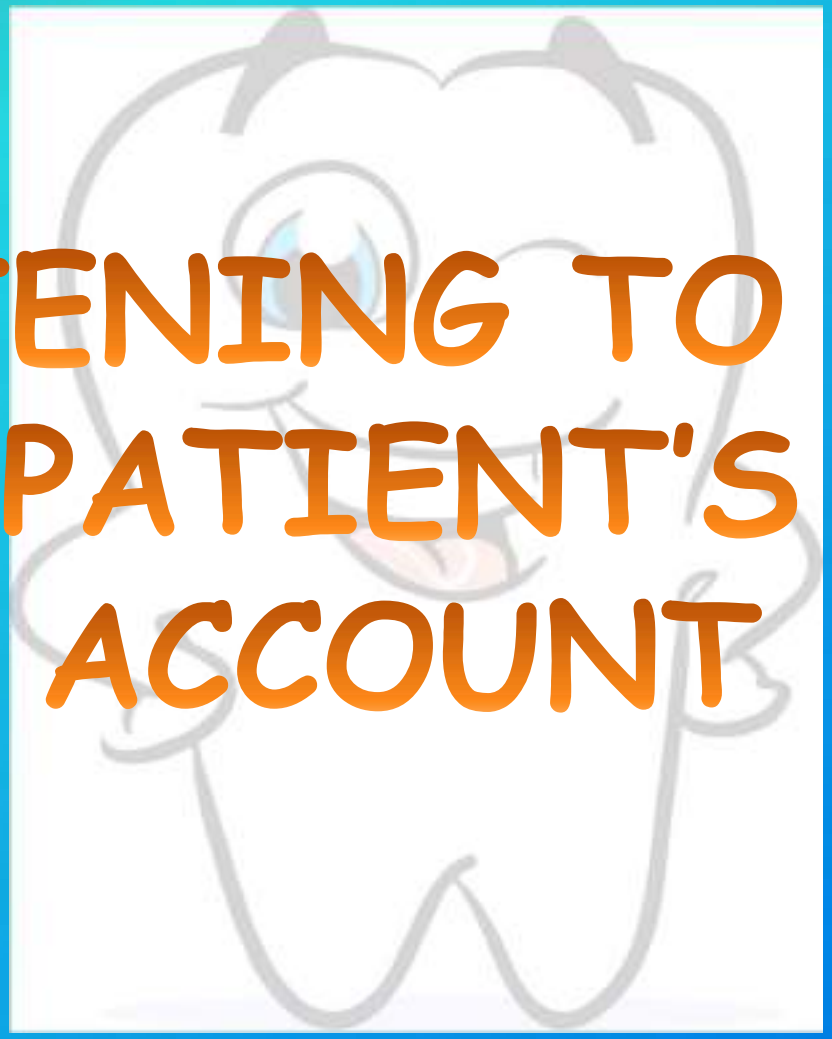
GEOGRAPHICAL PRESENTATION OF MEDICAL DISEASES

- Filariasis is common in Orissa.
- Leprosy in Bankura district of West Bengal.
- Gallbladder diseases in West Bengal and Bangladesh.
- Peptic ulcer in north western and southern parts of India.
- Anemia and malnourishment are common in rural areas.

STAGES

- ✓Introductory phase
- ✓**Listening to the Patient's account**
- ✓Structured questioning

LISTENING TO THE PATIENT'S ACCOUNT



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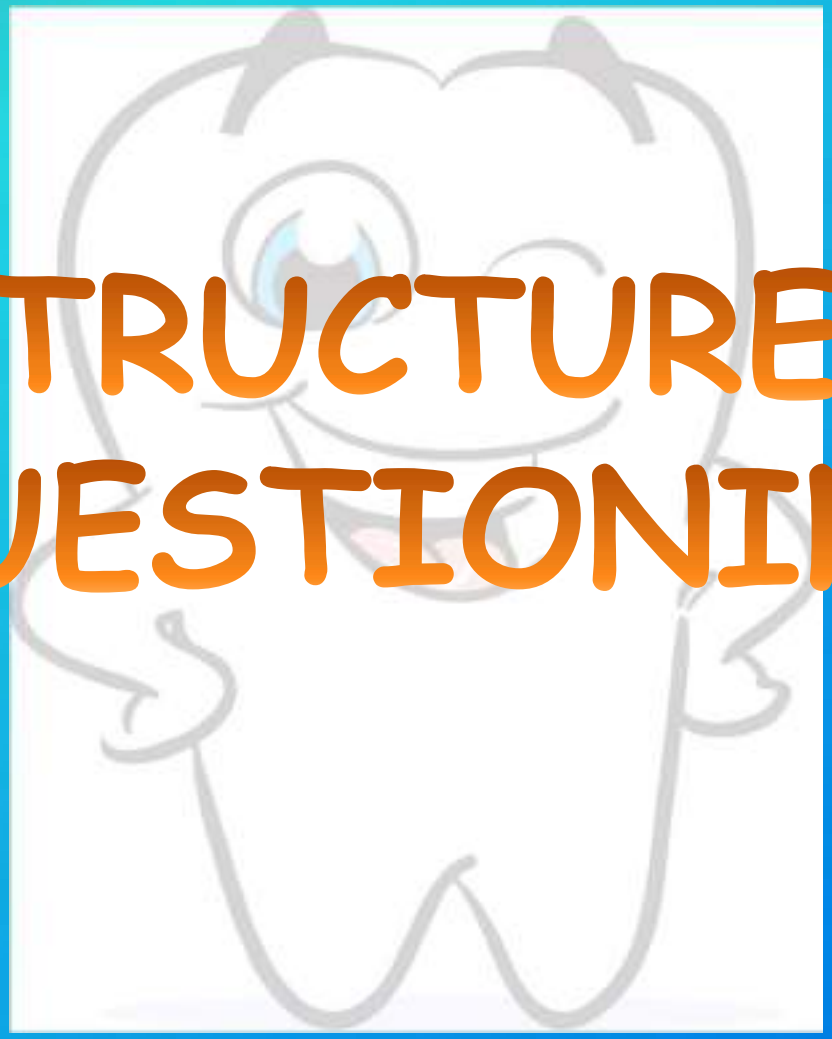
Chief Complaint

Is the reason for which the patient is seeking care.

- Record the complaint in patients own words, particularly in medico legal cases.
- Record symptoms in order of severity.
- Encourage the patient to describe their problem, do not interrupt the patient.

STRUCTURED QUESTIONING



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HISTORY OF PRESENT ILLNESS

- Onset
- Duration
- Progress
- Aggravating Factors
- Relieving Factors
- Details of past treatment
- Incidence
- Precipitating Factors
- Prodromal symptoms
- Secondary changes

- **Onset** - WHEN did you first notice the problem? For eg.-sudden or gradual.

- **Duration** - HOW many days since complaint was present. For eg.- Number of days/months.

- **Progress** - How has it changed since?
  For eg.-intermittent, recurrent, constant, increasing or decreasing in severity.

- **Aggravating Factors** - Did(or does) anything cause the problem or make it worse?
  For eg.- heat, cold or eating may aggravate toothache

- **Relieving Factors** - Does anything relieve the problem? For eg.-non-prescription analgesics might relieve mild to moderately severe dental pain.

- **Prodromal Symptoms** – Early set of symptoms that might indicate the start of a disease before specific symptoms occur.
  For eg.- Fever, malaise, headache, lack of appetite.

- **Secondary Changes** – changes occurring after the disease has occurred.
  For eg.- ulceration, inflammatory changes, etc

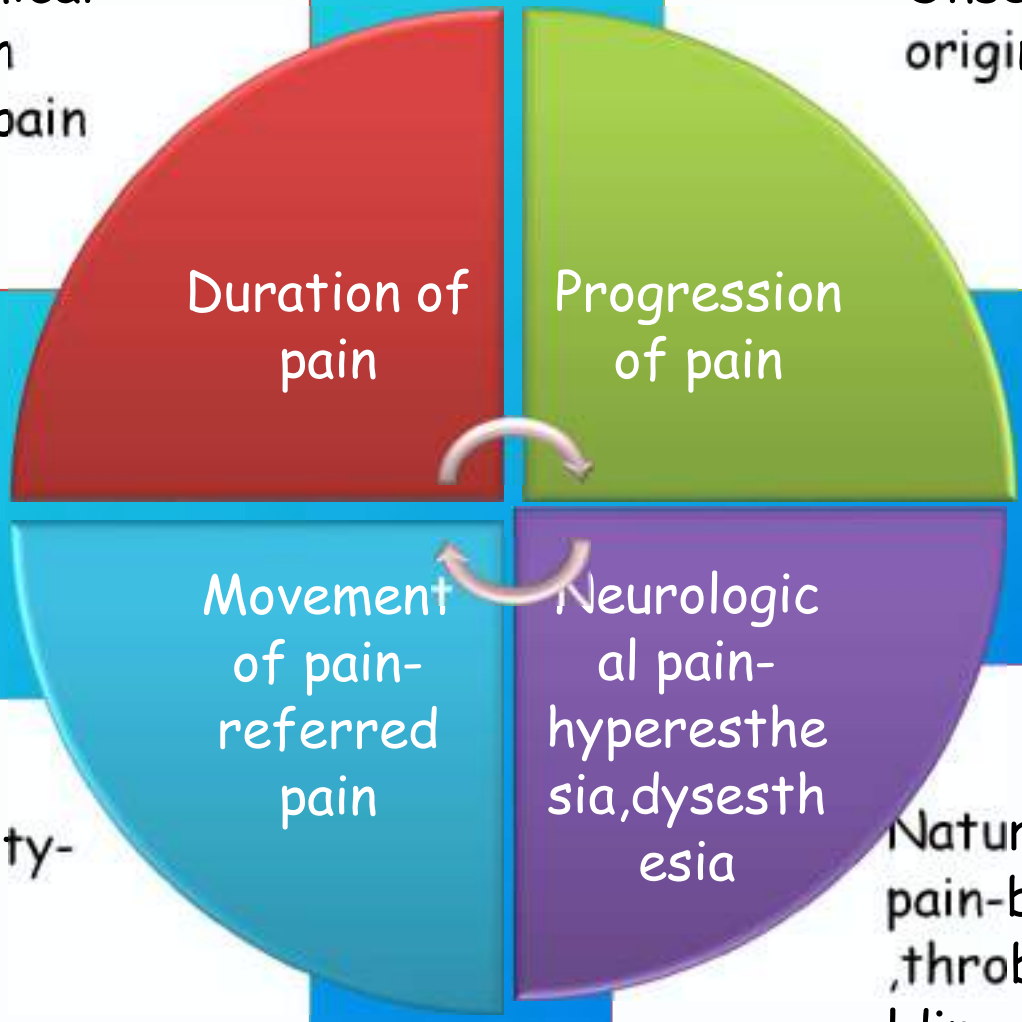
HISTORY WITH PARTICULAR REFERENCE OR THE FOLLOWING

- PAIN
- SWELLING
- ULCER

PAIN

- Anatomical location where pain is felt

- Onset and origin



- Intensity-mild or severe

Nature of pain-burning ,throbbing,scalding,shooting

Swelling


Mode of onset
Duration- acute or chron
Progress of swelling
Associated features

ULCER

Mode of onset and duration of the ulcer should be asked.

Pain-ulcers associated with inflammation are painful; ulcers associated with epithelial or basal cell carcinoma are painless.

Associated diseases-tuberculosis, nephritis, diabetes and syphilis

PAST MEDICAL HISTORY

- All the diseases suffered by the patient should be recorded in chronological order.
- Patient should be asked for Family Physician's name & contact details.
- Before proceeding for dental treatment, Physician's Consent is of utmost importance.
- May provide important clues to diagnosis.
- May greatly modify any treatment plan.
- Inadequate medical history may put the health of the patient, the dentist and support staff at risk.
- Mandatory for medico legal reasons.

Check-List of Medical History (by Scully and Cawson)

- Anemia
- Bleeding disorders
- Cardio respiratory disorders
- Drug treatment and allergies
- Endocrine disorders
- Fits and faints
- Gastrointestinal disorders
- Hospital admissions and surgeries
- Infections
- Jaundice
- Kidney disease

PAST DENTAL HISTORY

- Nature of treatment
- Past Dentist
- Any complications

The dental history will provide insight into…

1) Regularity of attendance for dental care.
2) Attitude towards dental treatment.
3) Recent relevant dental problems.
4) Recent restorative treatment.

FAMILY HISTORY

- If diagnosis involving hereditary conditions are suspected, include details of the health, age and medical history of parents, siblings and children/.

- Some diseases are notably hereditary, for instance, Hemophilia, so asking family medical history becomes important.

- Some diseases might have a hereditary disposition:
  - Non-insulin dependent Diabetes
  - Hypertension
  - Heart disease
  - Some types of Epilepsy
  - Psychiatric conditions
  - Malignancies

FAMILY HISTORY

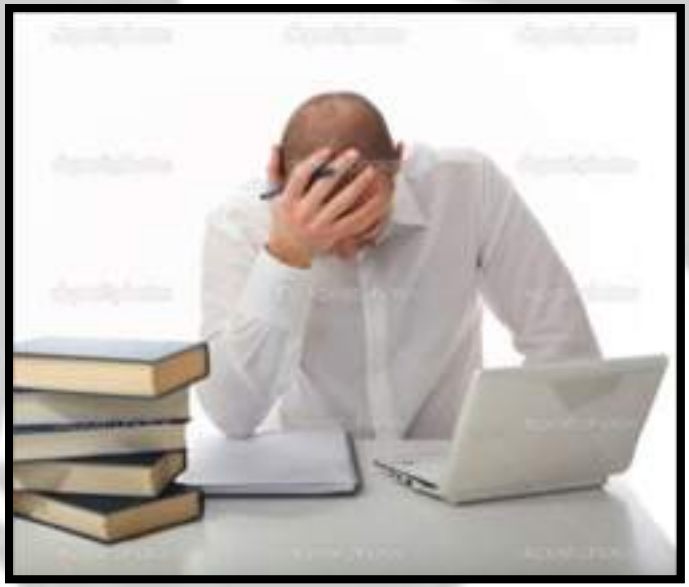
- **Prenatal history**: history of nourishment, usage of drugs etc.
  - tetracycline staining of teeth
  - phenytoin sodium – cleft lips in child

- **Natal history**
  - Birth injuries
  - Forceps delivery
  - Premature delivery
  - Neonatal jaundice
  - Rh incompatibility between mother (Rh –) and father (Rh +)

LIFESTYLE EVALUATION

- Habits
  - Smoking, Tobacco products (periodontal diseases, ANUG, increased risk of oral carcinomas, etc.)
  - Alcohol (liver cirrhosis, bleeding risk)
  - Alcohol & Smoking frequencies and duration of consumption should be recorded.

Stress – Physical and/or Mental (Home, Work, etc.)



LIFESTYLE EVALUATION

- Diet
  - Veg. vs. Non-Veg. consumption
  - Spicy/non-spicy
  - Regular/irregular food intake
- Diet provides insight into acid content of food intake (tea, coffee, aerated beverages, soda, tomatoes, oranges, eggs, cheese, etc.)
- Cariogenicity of different food items
- Increased carbohydrate intake leads to increased prevalence of dental caries
- Increased phospate diet leads to prevention of dental caries

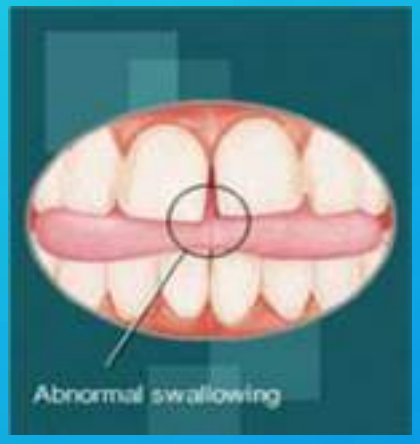
LIFESTYLE EVALUATION

- Teeth Cleaning Habits
  - Check if the patient uses dentifrice powder instead of paste. Dentifrice powders cause more abrasive action on teeth
  - Technique used: horizontal / circular.
    - Horizontal technique is mostly practiced (causes cervical abrasion)
  - Frequency
  - Tongue Cleaning Habit
  - Flossing

LIFESTYLE EVALUATION

NAIL BITING

TONGUE THRUST



ABNORMAL SWALLOWING

MOUTH BREATHING

EXAMINATION

- General examination
- Extraoral examination
- Intraoral examination

GENERAL EXAMINATION

GENERAL ASSESSMENT

PHYSICAL MEASUREMENTS

- HEIGHT
- WEIGHT

VITAL PARAMETERS

- PULSE
- TEMPERATURE
- BLOOD PRESSURE
- RESPIRATIRY RATE
- PALLOR
- CLUBBING
- CYANOSIS
- ICTERUS

GENERAL EXAMINATION

- General condition
  - Good/fair/poor
- General assessment
  - Conscious/unconscious
  - co-operative/non co-operative
- Physical measurements
  - Height, weight, gait, posture.
- Vital parameters
  - Pulse, blood pressure, body temperc respiratory rate
  - Pallor, clubbing, cyanosis, icterus

General Examination

- Physical Examination
  - Very low body weight (eating disorder, anorexia nervosa, tuberculosis, malignancy, HIV infection, etc.)
  - Excessive weight (over eating, hypothyroidism, and it may increase the risk of heart attack or stroke)
  - Physical deformity : present / absent.

General Examination

Pulse:

- Important index of severity of illness, abnormalities of heart and vascular system, e.g. Hypertension and hypotension ,shock , fever and thyrotoxicosis.
- Rate - fast or slow (normal 60-100 beats/min).
- Rhythm - regular or irregular.
- Volume - High, low and normal.
- Tension and Force - Indicates tension and force.
- .

- The pulse can be measured manually or automatically. The pulse can be recorded from any artery but in particular from the following sites:-

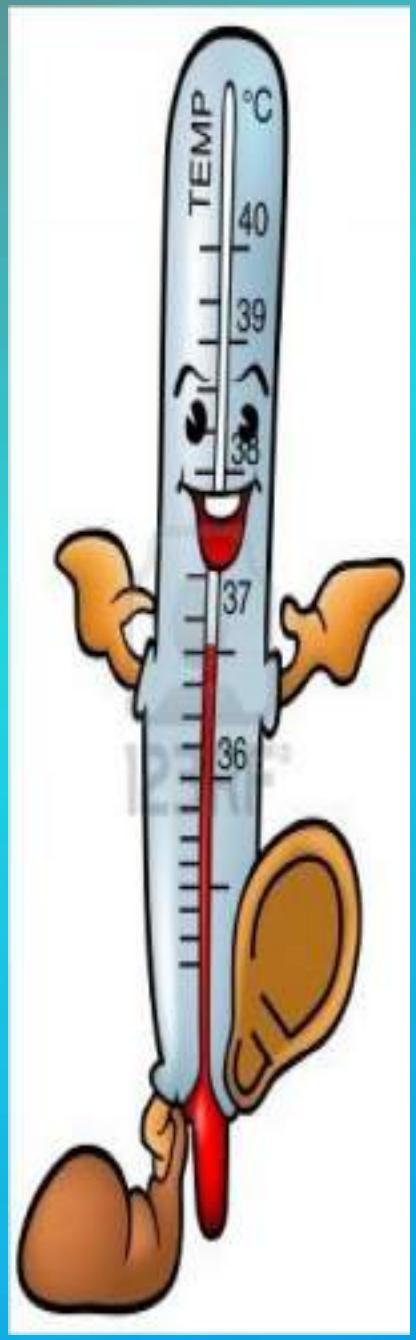
  the radial artery, on the thumb side of the flexor surface of the wrist.

  the carotid artery,just anterior to the mid-third of the sternocleidomastoid muscle.

  the superficial temporal artery ,just in front of the ear.

Blood Pressure:

- Systolic 120 to 140 mm of Hg and diastolic 80 mm of Hg (any above 90 is abnormal). Normal 120/80 mm of Hg.
- It is measured using sphygmomanometer and stethoscope.
- Conditions diagnosed- hypertension, hypotension.
- Systolic BP- Stroke volume of the heart and stiffness of the arterial walls.
- Diastolic BP- Peripheral resistance.



Temperature:

- The temperature is traditionally taken with a thermometer ,but temperature-sensitive strips and sensors are available.
- The normal body temperature are : oral,36.6°c ; rectal,37.4°c ; and axillary,36.5°c and 98.0 F
- Body temperature is usually higher in the evenings.

Respiratory rate:

- Used to assess the condition of the patient under anesthesia and in early postoperative days.
- Normal rate - 14 to 20 breaths per minute.
- Tachypnoea - fever, shock, hypoxia, cerebral disturbances, metabolic acidosis, tetany, etc.
- Bradypnoea - cerebral compression.
- It is faster in infants and slower in old age.

PALLOR

Reduced amount of oxyhaemoglobin in skin or mucous membrane

a pale color which can be caused by illness, emotional stress, anaemia or genetics

seen in the lower conjuctivae of the eye.

CLUBBING

bulbous enlargement of soft part of the terminal phalanges of the nail

seen mainly in cardiac or respiratory disorders

Cyanosis

Bluish discoloration of nails due to increased amount of reduced Hb (> 5mg%) in capillary blood.

Causes-

1) Central: CCHD,CCF,COPD, collapse and fibrosis of lung, pulmonary obstruction and high altitude due to low pressure of oxygen
2) Peripheral - cold, increased viscosity of blood and shock.
3) Mixed-acute LVF, MS, etc

Icterus

In jaundice,there is icteric tint of the skin, due to the presence of bilirubin, which varies from faint yellow of viral hepatitis to dark olive greenish yellow of obstructive jaundice.

The places where one should look for icterus are sclera of the eyeball, nail bed, lobule of ear, tip of the nose and undersurface of tongue.

EXTRA-ORAL EXAMINATION

EXTRA-ORAL EXAMINATION

HEAD, FACE AND NECK
EYES
LIPS
LYMPH NODES
SALIVARY GLANDS
TMJ
MUSCLES OF MASTICATION
CRANIAL NERVE ASSESSMENT

Extra-oral examination

- Adequate knowledge of the anatomy of the region to be able to recognize normal structures and common variations

- Enhances the knowledge of the variety of diseases that can affect the superficial structures of the head, neck, and oral cavity.

Head, face and neck:

1) Visually examine the face and neck from the front.
2) Look for obvious lumps , defects ,skin blemishes, moles, gross facial asymmetry or facial palsy.

To visually examine the neck ask the patient to tilt the head back slightly to extend the swelling or other abnormality, which is clearly seen in this position. Watch the patient swallow; thyroid swellings move on swallowing.

The patient should then turn the head, still with the neck extended, first to the left and then to the right, to allow visual examination of the sub-mandibular region of each side.

The neck should then be relaxed to allow bilateral examination of the region of parotid glands.

Unilateral swelling of the parotid salivary gland:

a) Obstruction of the duct
b) Tumor
c) Abscess

Bilateral swelling of the parotid salivary gland:

a) Viral infection eg.
   Mumps.
b) Degenerative changes
 eg. Sialosis

Nose, paranasal sinus, alae, external ear and nasal mucosa

- Severe nasal obstruction leads to breathing through mouth which leads to dryness of mouth which results in persistent sore throat.
- Apical tooth abscess of the upper jaw may drain in to maxillary sinus causing acute sinusitis.
- Deviated nasal septum
- Saddle nose seen in congenital syphilis.

Eyes:

Look for

Blinking rate-

a) Low frequency

b) High frequency - anxiety, dryness of the eyes ,eg. Sjogren's syndrome

Limitation of ocular movement or strabismus (fractured zygoma)

Exopthalmos (tumors of orbit, cavernous sinus thrombosis)

Bilateral exopthalmos

- hyperthyroidism (Grave's disease)

- Subconjuctival hemorrhage (fractured zygoma or nasal arch)
- Ulceration of conjunctiva (Mucous membrane pemphigoid)
- Conjunctiva Pallor (anemia)
- Blue sclera (osteogenesis imperfecta)
- Yllow sclera (jaundice)
- Corneal scarring (mucous membrane pemphigoid)
- Dry eyes, Conjunctivitis (Sjogren's syndrome)
- Other indicators of the anaemia and jaundice.

Skin

* Appearance-changes in appearance, rashes, sores, lumps or itching, history of sun exposure is taken.
* Colour – It is seen in anemia and jaundice; Pallor is seen in hypopituitarism, shock syncope, left heart failure.
* Texture – thickened, greasy and loose in acromegaly; dry and inelastic in dehydration.
* Signs - petechial hemorrhage indicating blood disorders;

Macule, pustule, vesicle, bulla; Pigmentation - Addision's Disease and Von Recklinghausen's Disease

Lips:

1) Note muscle tone – e.g. drooping of the commisure and inability to purse the lips (Bell's palsy)

2) Changes in color or texture, ulcerations, patches, herpetic lesions, angular chelitis

3) Note also lip competancy/Noncompetancy.

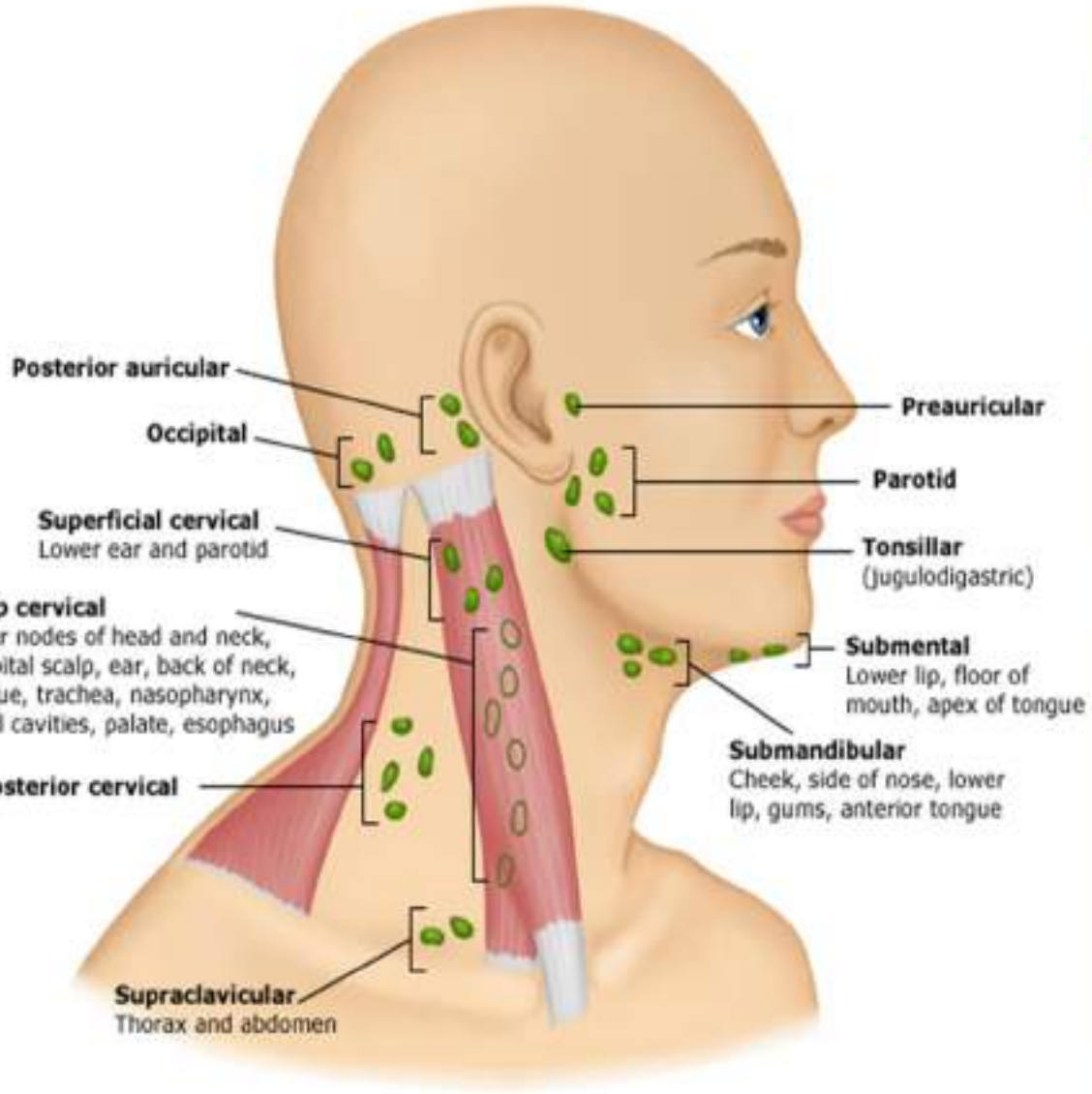
4) Bimanual palpation : palpate for lumps, using thumb and forefinger – one intraoral and other extra oral.

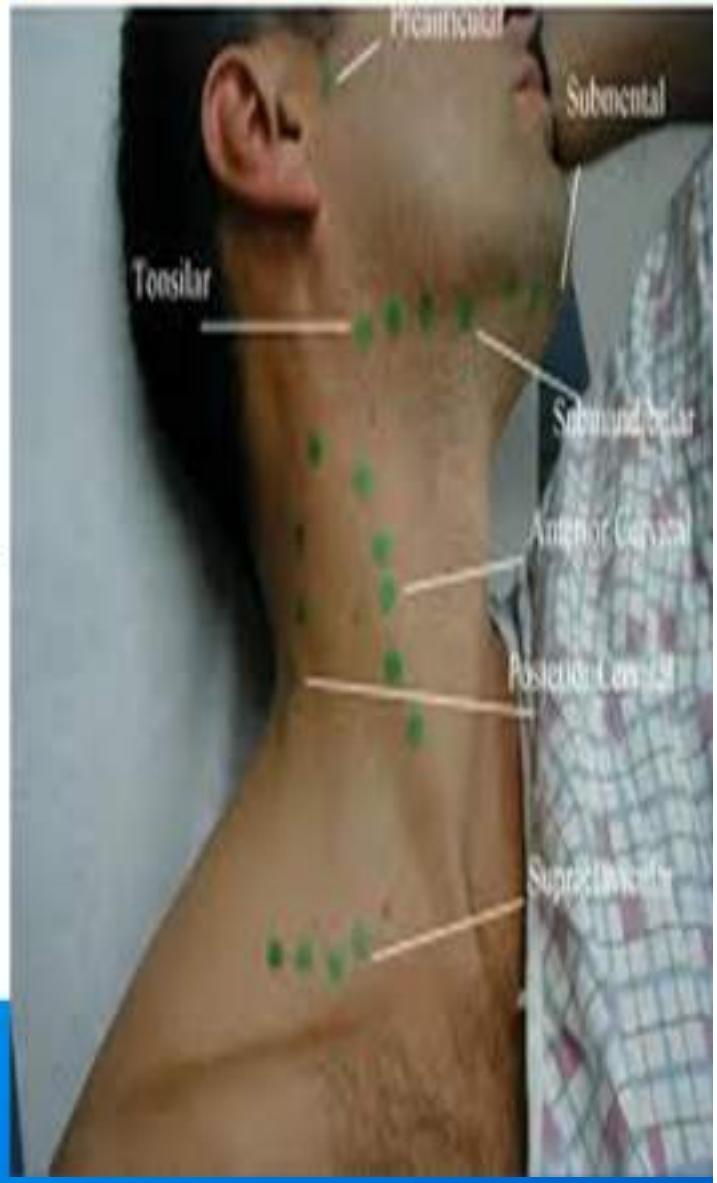
Lymph nodes

Normal lymph node cannot be felt. If a node is palpable, it must be abnormal.

The lymph nodes of the head and neck are divided into two main groups:

a) Circular group.
b) Cervical group.


Posterior auricular
Occipital
Superficial cervical
Lower ear and parotid
Deep cervical
Other nodes of head and neck, occipital scalp, ear, back of neck, tongue, trachea, nasopharynx, nasal cavities, palate, esophagus
Posterior cervical
Supraclavicular
Thorax and abdomen
Preauricular
Parotid
Tonsillar
(jugulodigastric)
Submental
Lower lip, floor of mouth, apex of tongue
Submandibular
Cheek, side of nose, lower lip, gums, anterior tongue

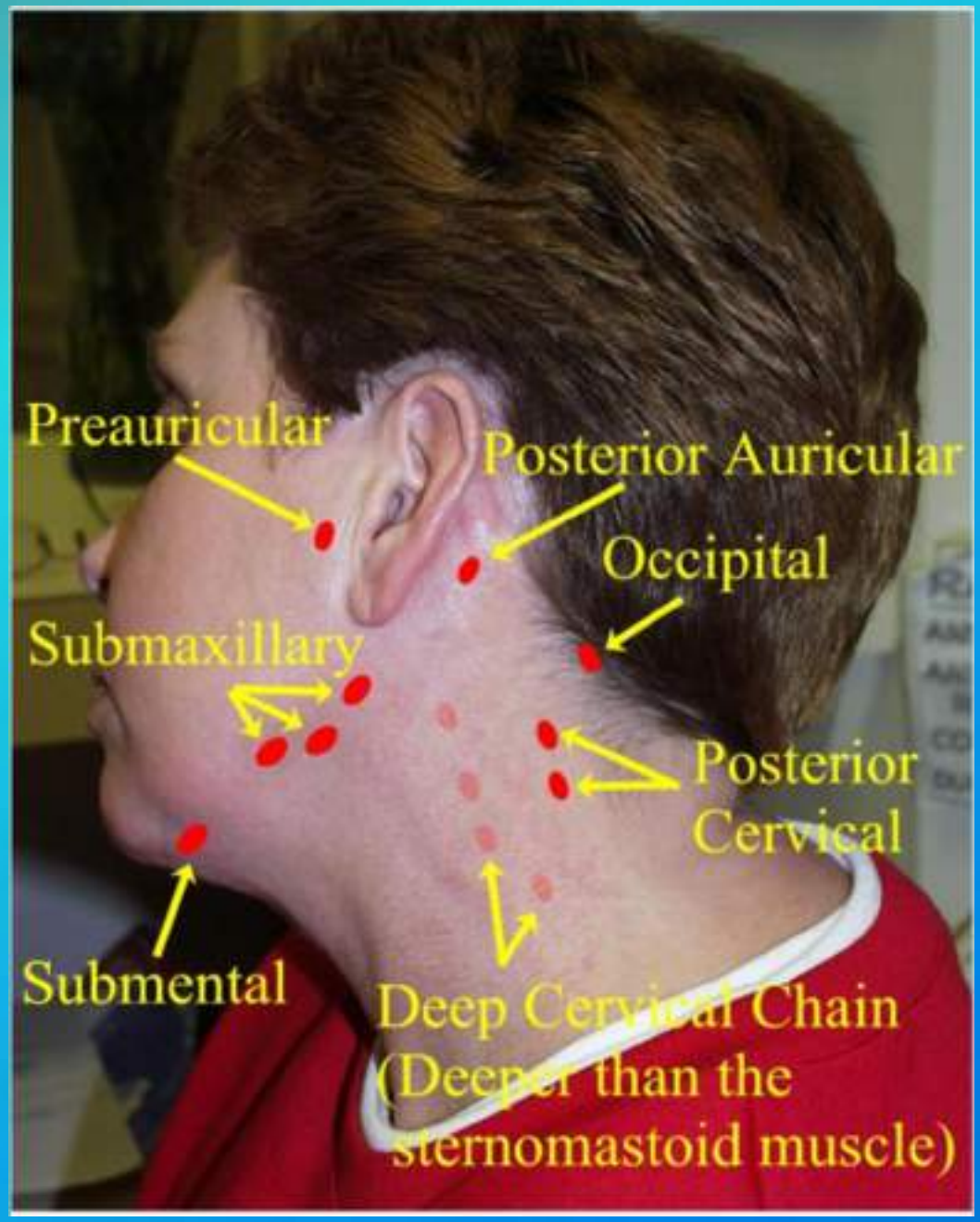

Preauricular
Subencntal
Tonsilar

- SUBMENTAL
  - SUBMANDIBULAR
  - FACIAL
  - MASTOID
  - PAROTID
  - OCCIPITAL
- RETROPHARYNGEAL
  - PRE-TRACHEAL
  - PARA-TRACHEAL

SUPERFICIAL | DEEPDEEP | JUGULODIGASTRIC | JUGULO-OMOHYOID

AREA	DRAINING LYMPH NODE
SCALP, TEMPORAL REGION	SUPERFICIAL PAROTID
SCALP, POSTERIOR REGION	OCCIPITAL
SCALP, PARIETAL REGION	MASTOID
EAR, EXTERNAL	SUPERFICIAL CERVICAL OVER UPPER PART OF STERNOMASTOID REGION
EAR, MIDDLE	PAROTID
OVER ANGLE OF MANDIBLE	SUPERFICIAL CERVICAL OVER UPPER PART OF STERNOMASTOID REGION
MEDIAL PART OF FRONTAL REGION,MEDIAL EYELIDS,SKIN OF NOSE	SUBMANDIBULAR
LATERAL PART OF FRONTAL REGION,LATERAL PART OF EYELIDS	PAROTID
CHEEK	SUBMANDIBULAR
UPPER LIP	SUBMANDIBULAR
LOWER LIP	SUBMENTAL

LOWER LIP,LATERALPART	SUBMANDIBULAR
MANDIBULAR GINGIVAE	SUBMANDIBULAR
MAXILLARY TEETH	DEEP CERVIAL
MAXILLARY GINGIVAE	DEEP CERVICAL
TONGUE TIP	SUBMENTAL,REMAINDER DRAINS TO SUBMANDIBULAR NODES
TONGUE,ANTERIOR TWO-THIRDS	SUBMANDIBULAR,SOME MIDLINE CROSS-OVER OF LYMPHATIC DRAINAGE
TONGUE, POSTERIOR THIRD	DEEP CERVICAL
TONGUE VENTRUM	DEEP CERVICAL
FLOOR OF MOUTH	SUBMANDIBULAR
PALATE,HARD	DEEP CERVICAL
PALATE,SOFT	RETROPHARYNGEAL AND DEEP CERVICAL
TONSIL	JUGULODIGASTRIC


Preauricular
Posterior Auricular
Occipital
Submaxillary
Posterior
Cervical
Submental
Deep Cervical Chain
(Deeper than the
sternomastoid muscle)

1) Sub-mental – tip the CHIN forward and try to roll the node against the inner aspect of the mandible.

2) Sub-mandibular – same as above but the head is tipped to the side being examined.

3) Parotid, mastoid and occipital lymph nodes can be palpated simultaneously using both hands.

4) Jugulo-digastric - move the anterior border of sternocleidomastoid back. This is the common lymph node involved in tonsillar infections and oral cancer.

5) Jugulo-omohyoid - move the posterior border of sternocleidomastoid forward.

6) Superficial cervical nodes - examined with lighter fingers as they can only be compressed against the softer sternomastoid muscle.

7) Deep cervical nodes - Ask the patient to sit erect and turn the head to one side to relax the sternomastoid muscle. Use thumb and finger to palpate under the anterior and posterior border of the relaxed muscle. Palpate the posterior nodes in the posterior triangle close to the anterior border of the trapezius muscle.

8) Check for supraclavicular nodes just above the clavicle, lateral to the attachment of sternomastoid muscle.

If a node is palpable, record the:

a) Site/Location
b) Size
c) Texture – soft (infective)
- rubbery hard (Hodgkin's)
- stony hard (secondary carcinoma).

d) Tenderness to palpation (infection)

e) Fixation to surrounding tissues (may suggest metastasis)

f) Coalescence (tuberculosis)

g) Number of nodes enlarged – if more than one, generalized lymphadenopathy (lymphatic leukemia, lymphosarcoma) may be suspect

Characteristics of Palpable nodes:

a) Acute infection – soft, large, painful, mobile, discrete, rapid onset.

b) Chronic infection – large, firm, less tender, mobile.

c) Lymphoma – rubbery hard, matted, painless,multiple.

d) Metastatic cancer – stony hard, fixed to underlying tissues.

Causes of Palpabe Lymph Nodes

a) Inflammatory - acute lymphadenitis, chronic lymphadenitis, septic, TB, syphilis, filariasis and lymphogranuloma inguinale.

b) Neoplastic - primary (lymphosarcoma), secondary (carcinoma, sarcoma, malignant melanoma).

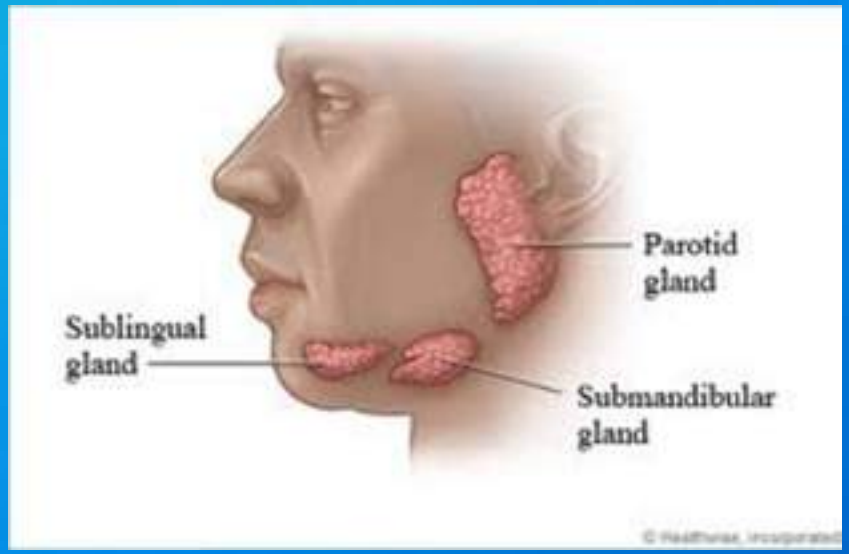
c) Hematological – Hodgkin's disease, non-Hodgkin's Lymphoma, CLL.

d) Immunological - AIDS, serum sickness, drug reaction, SLE and RA.

Salivary glands:

The major salivary gland should be inspected and palpated for:

1) Facial symmetry.
2)Evidence of enlarged glands.
3) Evidence of salivary flow from salivary ducts.
4) Saliva appearance



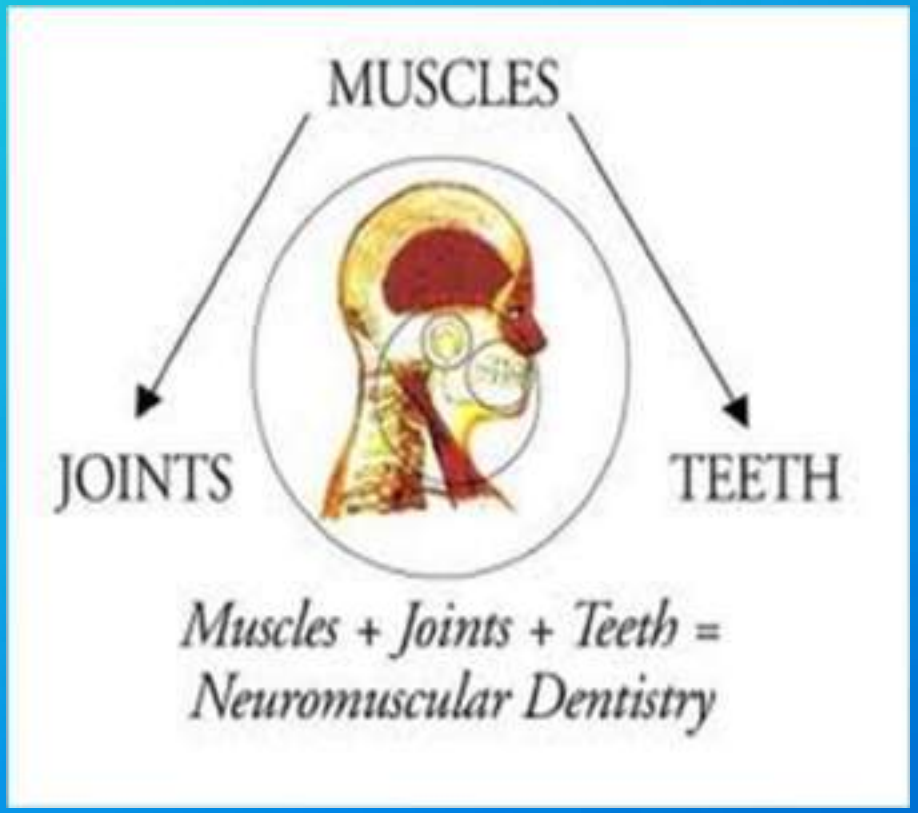
Parotid glands are palpated by using fingers placed over the glands in front of the ears, to detect pain or swelling. Early enlargement of the parotid gland is characterised by outward deflection of the lower part of the ear lobe, which is best observed by looking at the patient from behind. The parotid duct (Stensons duct)is most readily palpated with the jaws clenched firmly, since it runs horizontally across the upper masseter where it can be gently rolled;the duct then opens at a papilla on the buccal mucosa opposite the upper molars.

Submandibular glands are palpated bimanually between fingers inside the mouth and extraorally. The submandibular gland is best palpated bimanually with a finger of one hand in the floor of the mouth lingual to the lower molar teeth, and a finger of the other hand placed over the submandibular triangle. The submandibular duct(Whartons duct) runs anteromedially across the floor of the mouth to open at the side of the lingual frenum.

Temporo-Mandibular Joint:

Investigate the following:

1) Range of movement
2) Tenderness
3) Sounds
4) Locking
5) Muscle tenderness
6) Bruxism
7) Occlusion



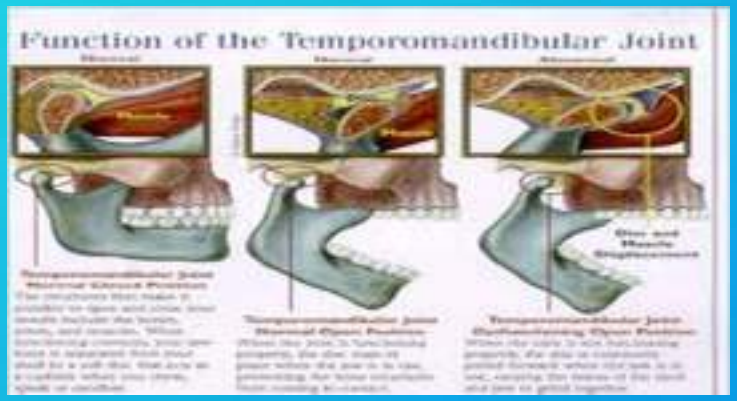
Examination of Temporo-Mandibular Joint

1. **Palpation of pretragus area** - the patient should be requested to slowly open and close the mouth while the doctor bilaterally palpates the pretragus depression with his/her index finger.

2. **Intra –auricular palpation** - it is performed by inserting the small finger into ear canal and pressing anteriorly.

- It is important to perceive, during the pretragus and intra-auricular palpation ,wheather the condyle moves symmetrically ,with the rotation and translation phase being evident.
- Palpation is also used to detect tenderness ,clicking and crepitus.
- Subluxation of the joint is also recorded.

Range of movement:



1) Measure the maximum pain free jaw opening. Maximum interincisal opening is 35mm.Any lateral deviation on opening is usually towards the affected side.
2) Next, measure the extent of lateral excursion, both pain-free and forced. The lower limit for normal lateral excursion is 8 mm, in either direction. If the left TMJ is painful, the right lateral excursion is usually reduced.
3) Trismus is the inability to open the mouth.
4) Mandibular movements may be limited by trauma, infection, scar tissue formation, CNS disorders, Parkinson's disease, Medications/poisons , neoplasms, psychological.

TMJ SOUNDS-

- Joints sounds are usually heard due to displacement of the articular disc in antero-medial direction.

- The disc displacement occurs due to injury to the bilaminar zone
Disc or its attachment .

- As the tension in the bilaminar zone exceeds,the disc suddenly moves backwards Sudden distraction of the opposing wet surfaces produces sounds.

Muscles of masticatio

Examine the tenderness.

Muscles should be tested where they attach to bone.

1) **Temporalis** – Orignates from the superior and inferior temporal lines above the ear and inserts into the coronoid process and anterior border of the ascending ramus.Palpate over the temporal region while asking the patient to clench the teeth. Note tenderness.

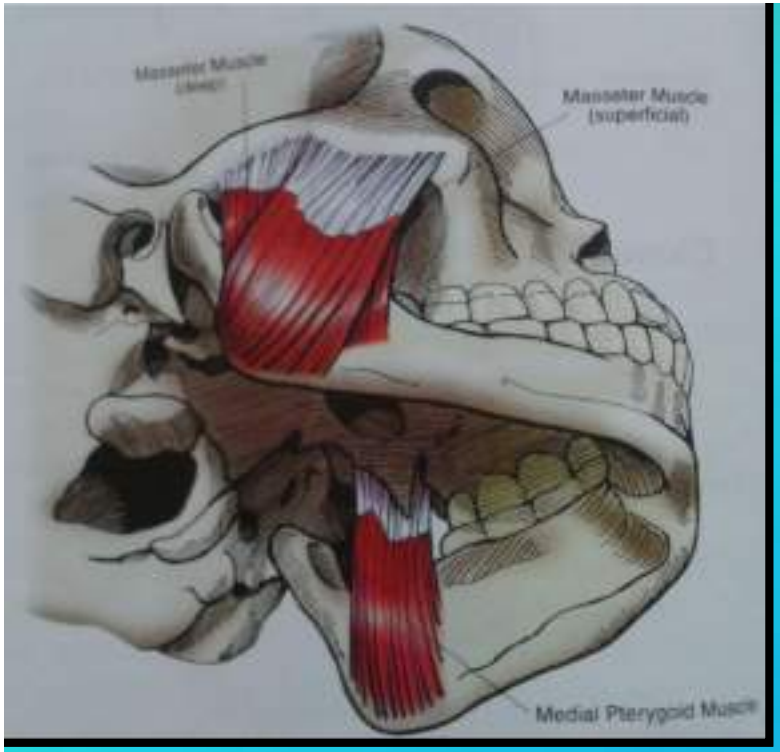
2) **Masseter** – Orignates from the anterior two-thirds of the zygomatic arch and inserts into the outer aspect of the angle of the mandible.Use bimanual palpation, with the finger of one hand intra oral, index and mid finger of the other hand on the cheek.

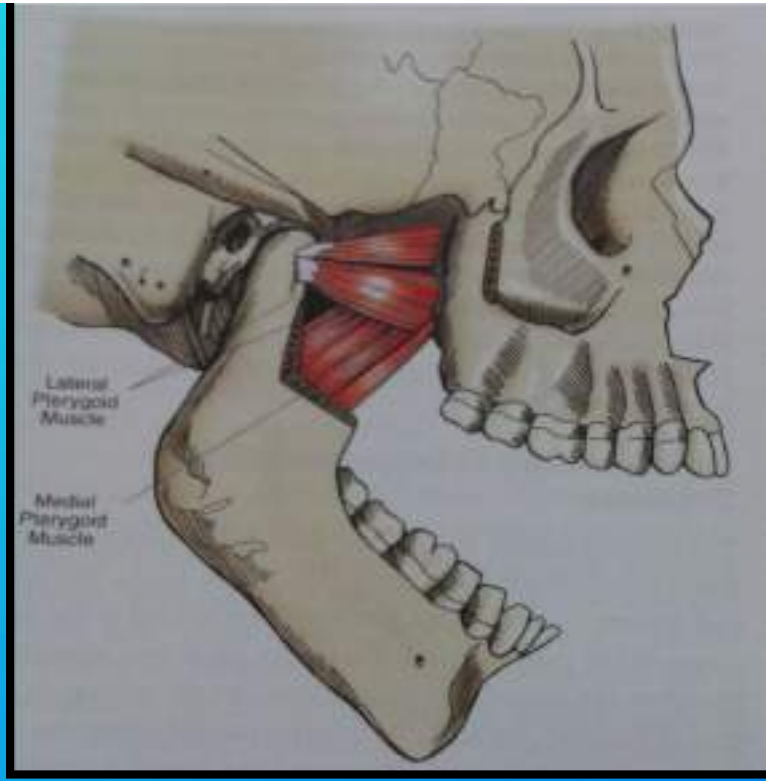
MASSETER

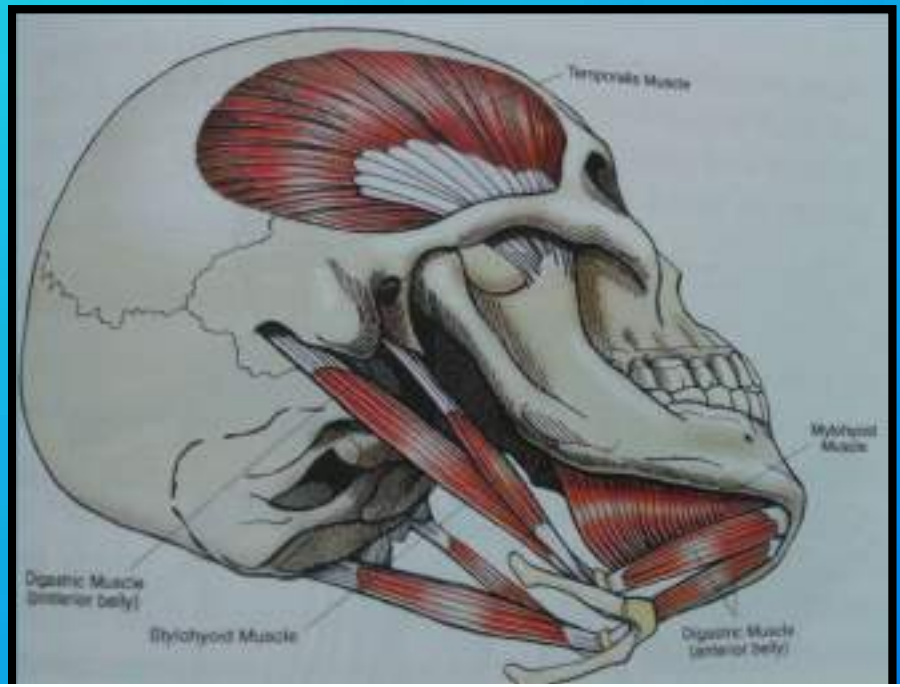
TEMPORALIS

3)**Lateral pterygoid** - Orignates from the lateral surface of the lateral pterygoid plate and inserts into the anterior border of the condyle and disc.Attempts to palpate the behind the maxillary tuberosity is unreliable.resistance provided by the operator's hand to attempted lateral excursion by the patient may elicit muscle pain, and is a reliable guide.

4)**Medial pterygoid** - Orignates between the medial and lateral pterygoid plates and inserts into the medial surface of the angle of the mandible.Palpate over pterygomandibular ligament and medial aspect of anterior faucial pillar with the patients mouth open. Difficult to palpate.


Masseter Muscle
(deep)
Masseter Muscle
(superficial)
Medial Pterygoid Muscle


Lateral
Pterygoid
Muscle
Medial
Pterygoid
Muscle

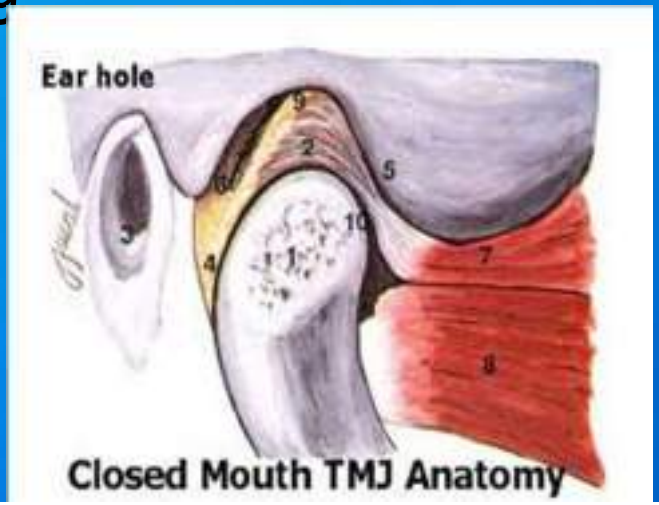

Temporalis Muscle
Mylohyoid
Muscle
Digastric Muscle
(posterior belly)
Stylohyoid Muscle
Digastric Muscle
(anterior belly)

TMJ Locking:

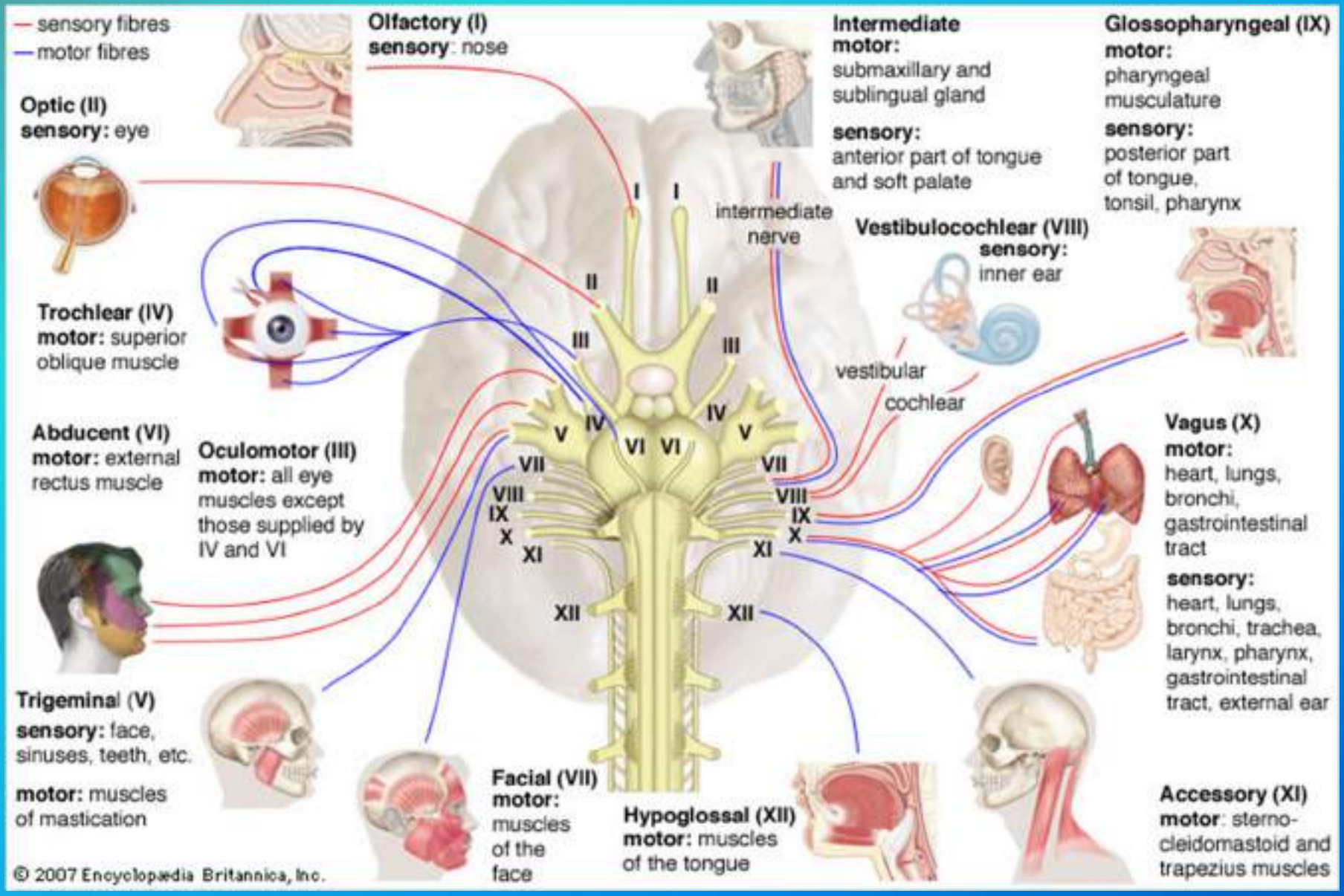
1) Malposition and distortion of the disc,that allows the condyle to rotate but not translate.
2) Jaw may open up to 20mm and then 'stick'.
3) Rarely, jaw may open but fail to close easily.

TMJ Dislocation:

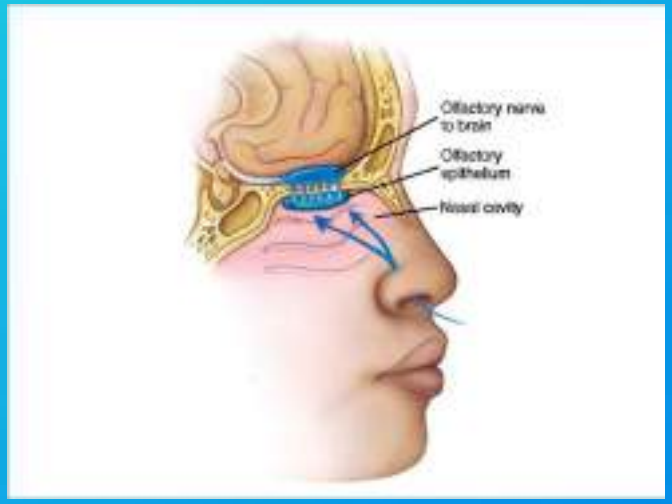
1) The condyle is displaced over the articular eminence.
2) Causes: trauma, rarely on yawning



Cranial nerve examination



Cranial nerve examination



Olfactory nerve:

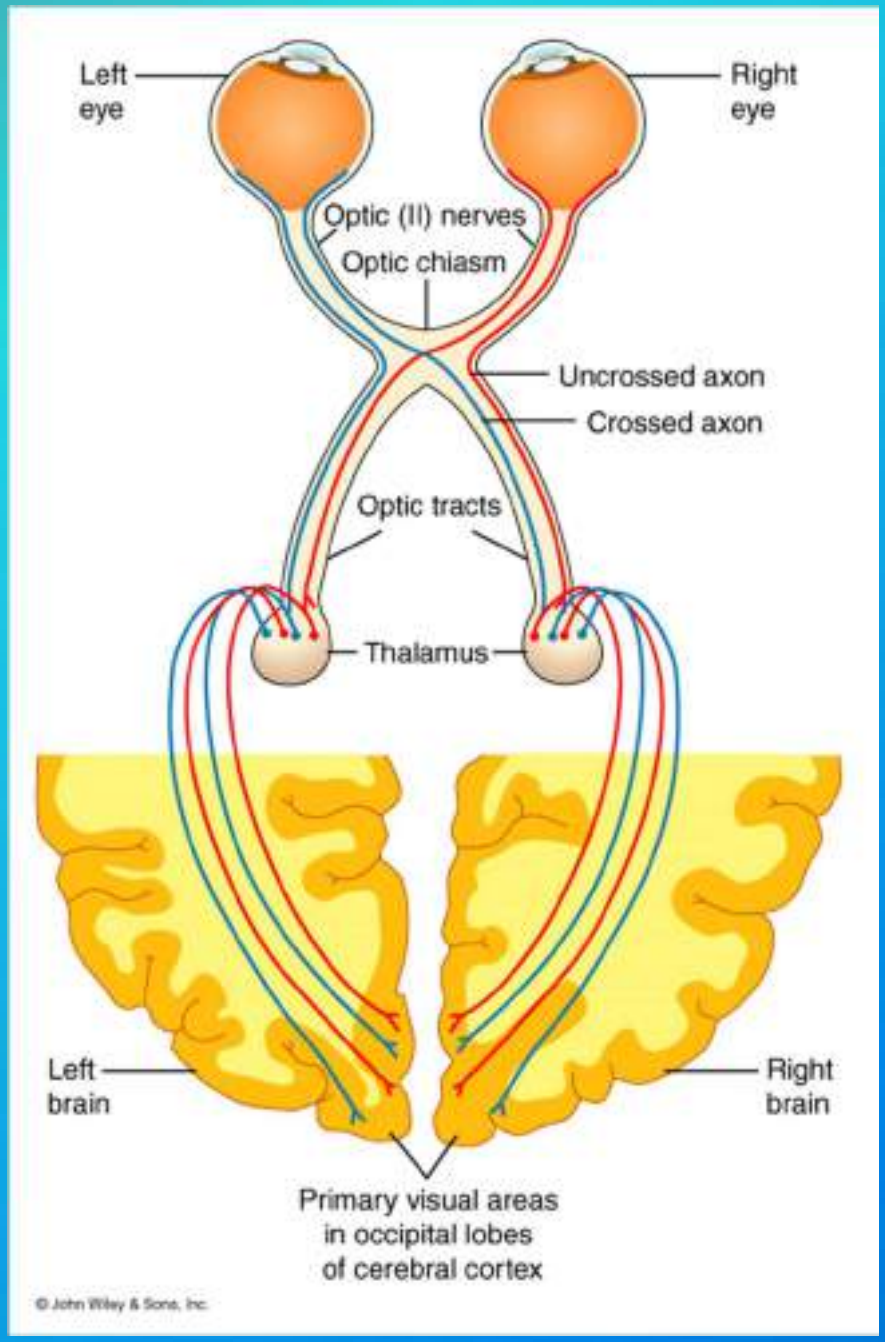
1)Function- Smell.

2)It is tested by closing one of the patients nostrils with a finger and asking if the patient can smell a strongly scented volatile substance such as coffee or lemon extract. The test is repeated for the other nostril.

3)Head injuries can result in loss of smell- ANOSMIA

Optic nerve:

1)Function – Vision.
2)It is tested by investigation of visual acuity and visual fields.
3)Visual activity can be tested with the familiar wall chart but can also be evaluated by asking the patient to read print of various sizes in a book or newspaper held at various distance from the patients eye
4)Confrontation test: hold the pencil 2-3 feet to one side of the patients face while patient covers the other eye. Move the pencil in turn along the main axes of the field of vision until the patient can see it.


Left eye
Right eye
Optic (II) nerves
Optic chiasm
Uncrossed axon
Crossed axon
Optic tracts
Thalamus
Left brain
Right brain
Primary visual areas in occipital lobes of cerebral cortex
© John Wiley & Sons, Inc.

Occulomotor nerve, Trochlear Nerve, Abducens Nerve:

1)Function – eye movement.

2)They are tested simultaneously by examining the size, and reaction of each pupil to light and dark, and to accommodation to near and far vision.

3)Bilateral eye movements are tested by having the patient follow the path of a pencil held at a distance and close up.

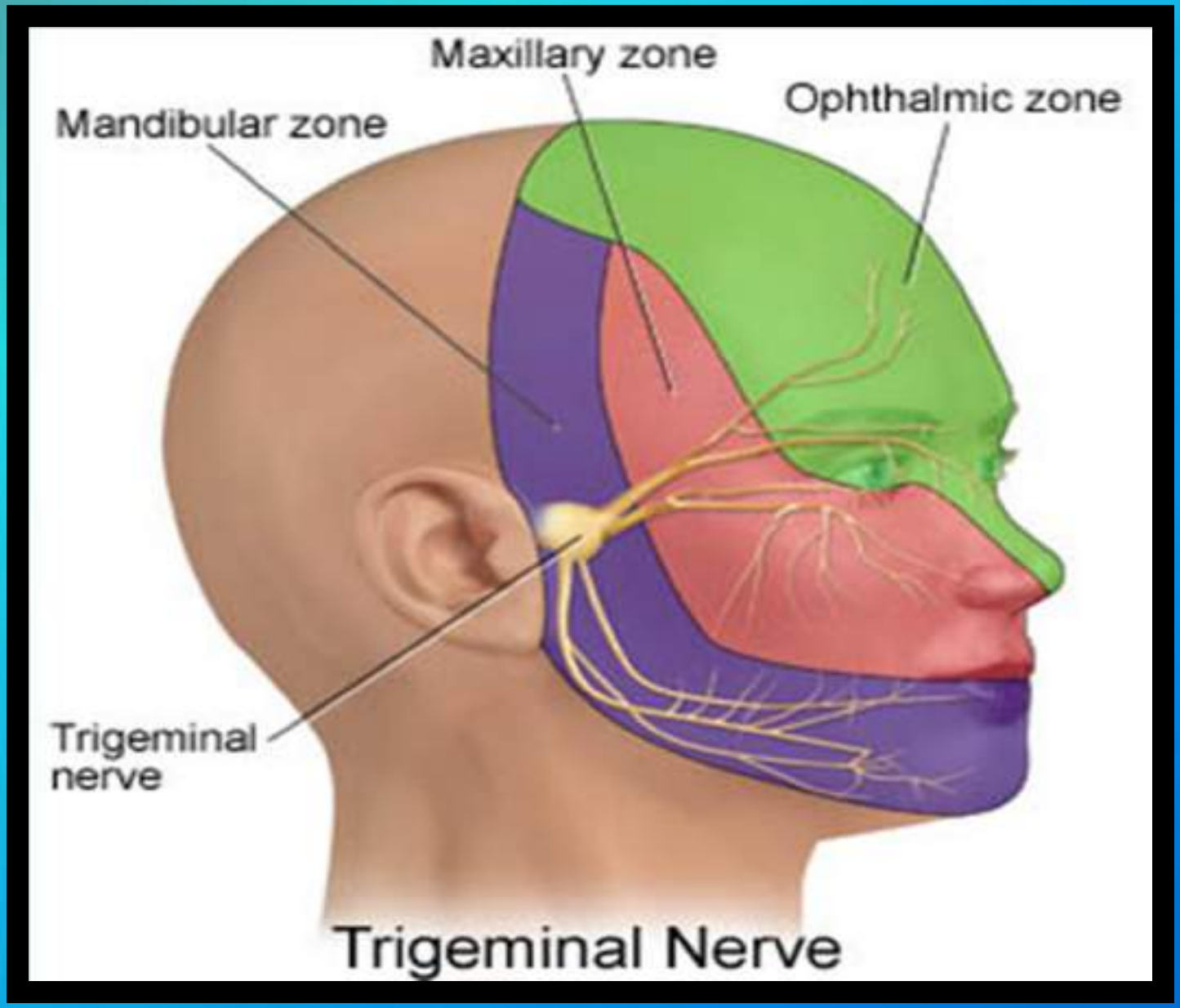
4)Any damage may result in-

- Double vision
- Impaired roatation of the eye(upward,downward,internal and medial)
- Droopingof upper eyelid
- Inability to constrict the eye

Trigeminal nerve:

1)Function-facial, nasal, and oral function. jaw movement.
2)It is tested for both motor and sensory functions. A small motor branch of this nerve supplies the muscles of mastication
3)The test used for motor power of the masticatory muscles: place your thumb on the lower molar table with fingers externally about the body and ramus. The patient moves the jaw forward, sideways, and upward, his head steadied by your other hand.

4)Sensory function of the trigeminal nerve – opthalmic, maxillary and mandible.
5)Testing is done by touch and pin prick sensation on the facial skin.


Maxillary zone
Ophthalmic zone
Mandibular zone
Trigeminal nerve
Trigeminal Nerve

Facial nerve:

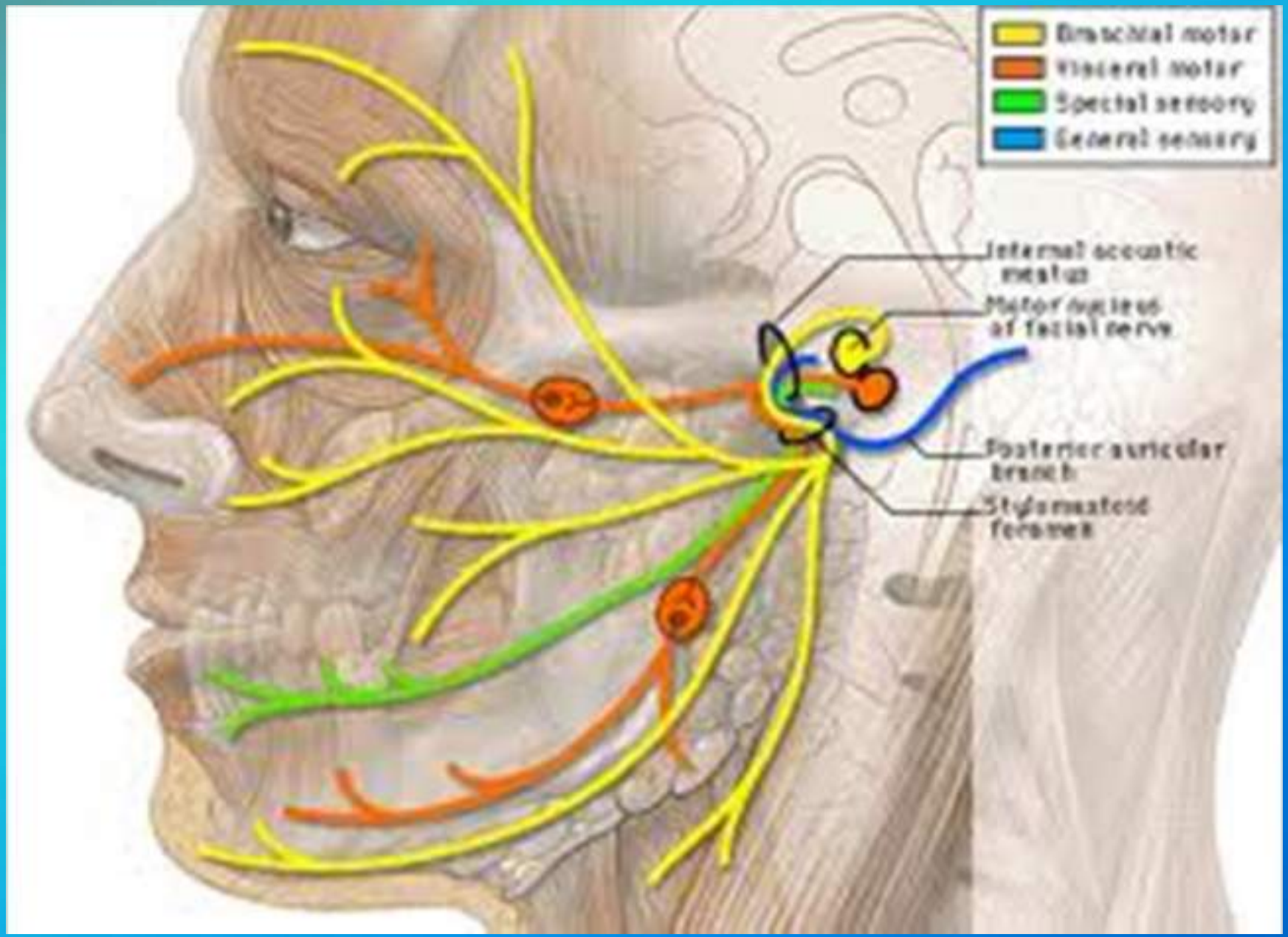
1)Function-facial movement.

2)This muscle innervates the muscles of facial expression.

3)It carries the taste sensation from anterior two-third of the tongue via the chorda tymani branch.

4)It carries secretomotor nerves to the submandibular and sublingual salivary glands and to the lacrimal glands and nerves to the stapedius muscle of the middle ear.

5)Tested by observing facial muscle function in response to requests to wrinkle the forehead, frown, close the eyelids tightly, wink, open the mouth, retract the mouth, blow out the cheeks, screw up the nose, whistle and speak


Branchial motor
Visceral motor
Special sensory
General sensory
Internal acoustic meatus
Motor nucleus of facial nerve
Posterior auricular branch
Stylomastoid foramen

- The lower face is supplied by upper motor neurons from contralateral motor cortex
- Upper face is supplied by bilateral upper motor neurons and because of bilateral representation there is unilateral involvement of the face in facila palsy.

Auditory nerve:

1)Function-hearing & balance.

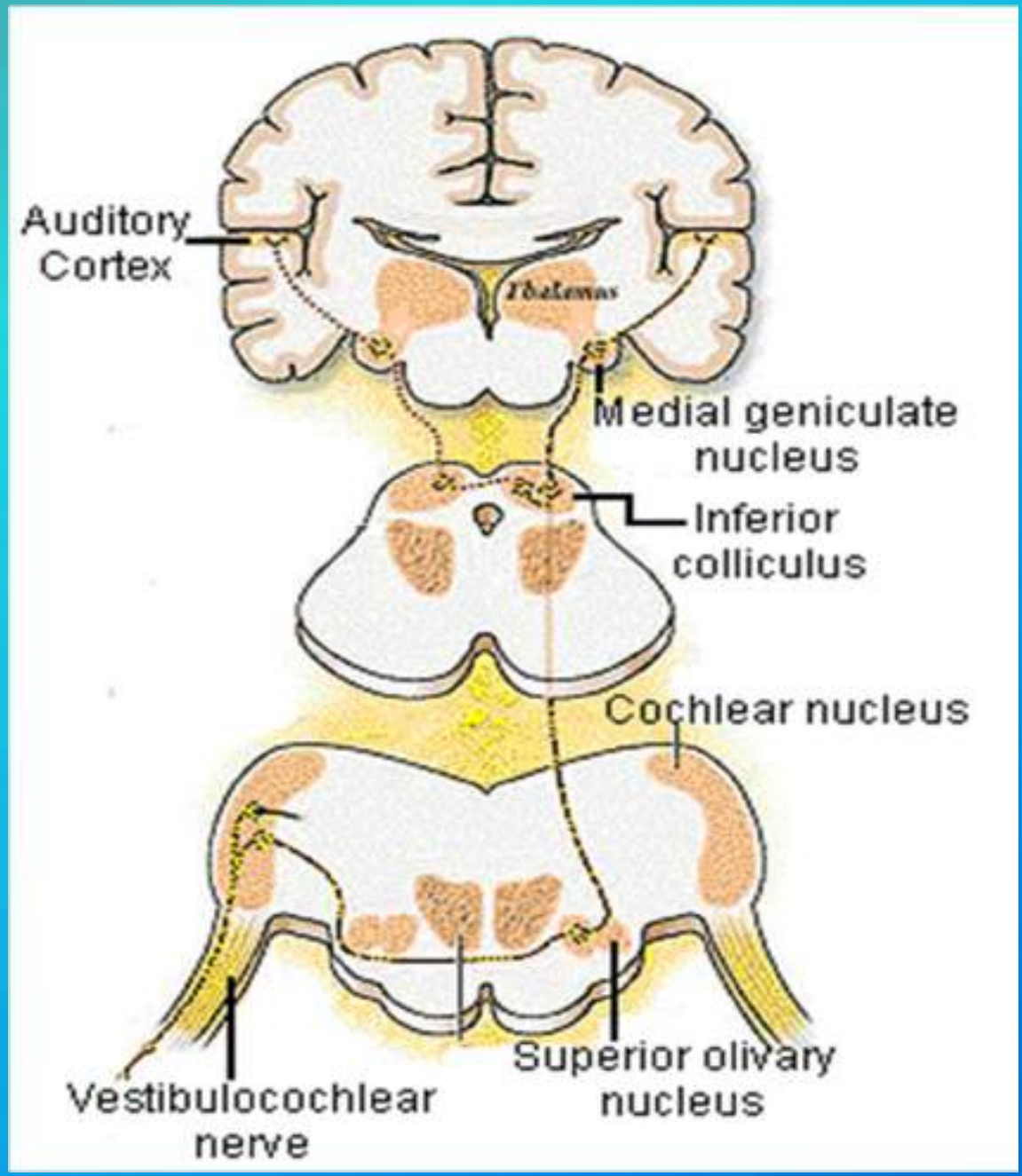
2)Hearing test and nystagmus.

3)Hearing is tested by: Observe the patient's ability to hear normal speech and a whisper, or the ticking of a watch held at varying distances from each ear.

4)Audiometric testing

5)Observation for the eye movements characteristic of nystagmus, when the patient is asked to look to one side and then upward.

6)Nystagmus will cause a fast jerk to the direction indicated followed by a slow return to the midline, with or without rotary movements of the eyeball.


Auditory Cortex
Thalamus
Medial geniculate nucleus
Inferior colliculus
Cochlear nucleus
Vestibulocochlear nerve
Superior olivary nucleus

Glossopharyngeal nerve :

1)Function-taste.

2)It provides taste fibers to the posterior aspect of the tongue, somatic sensory fibers to the same area of the tongue as well as pharynx and soft palate and motor fibers to the stylopharangeus muscle.

3)Clinical taste testing depends on the patient's subjective response to the stimulus.

4)These tests sometimes fails to detect an abnormality completely.

5)Newer techniques like tongue mapping, electrogustometry, etc are also used.

Vagus nerve :

1)Function -Palatal movement
Vocal cords.

2)It is the Chief motor nerve for pharynx and larynx and provides, sensory fibers to pharyngeal mucous membrane.

3)Testing by observation of pharyngeal movement ie. symmetrical elevation of the soft palate and shortening of the uvula when the patient says 'ah' and pharyngeal and gag reflex.

4)The laryngeal part of this nerve is tested by inspection of larynx with indirect laryngoscopy (using a head lamp and dental mirror with the patient's tongue extended).

Spinal accessory nerve:

1)Function-turns neck.

2)It is tested through its motor supply to trapezius and sternomastoid muscles.

3)For trapezius, ask the patient to shrug his shoulders against the resistance of your hands.

4)For sternomastoid, have the patient turn and flex the head against the same resistance.

Hypoglossal nerve :

1)Function-moves tongue.

2)It provides Motor supply to tongue.

3)Hypoglossal paralysis causes deviation of the tongue when the patient extrudes it.

INTRA-ORAL EXAMINATION

EXAMINE IN SEQUENCE

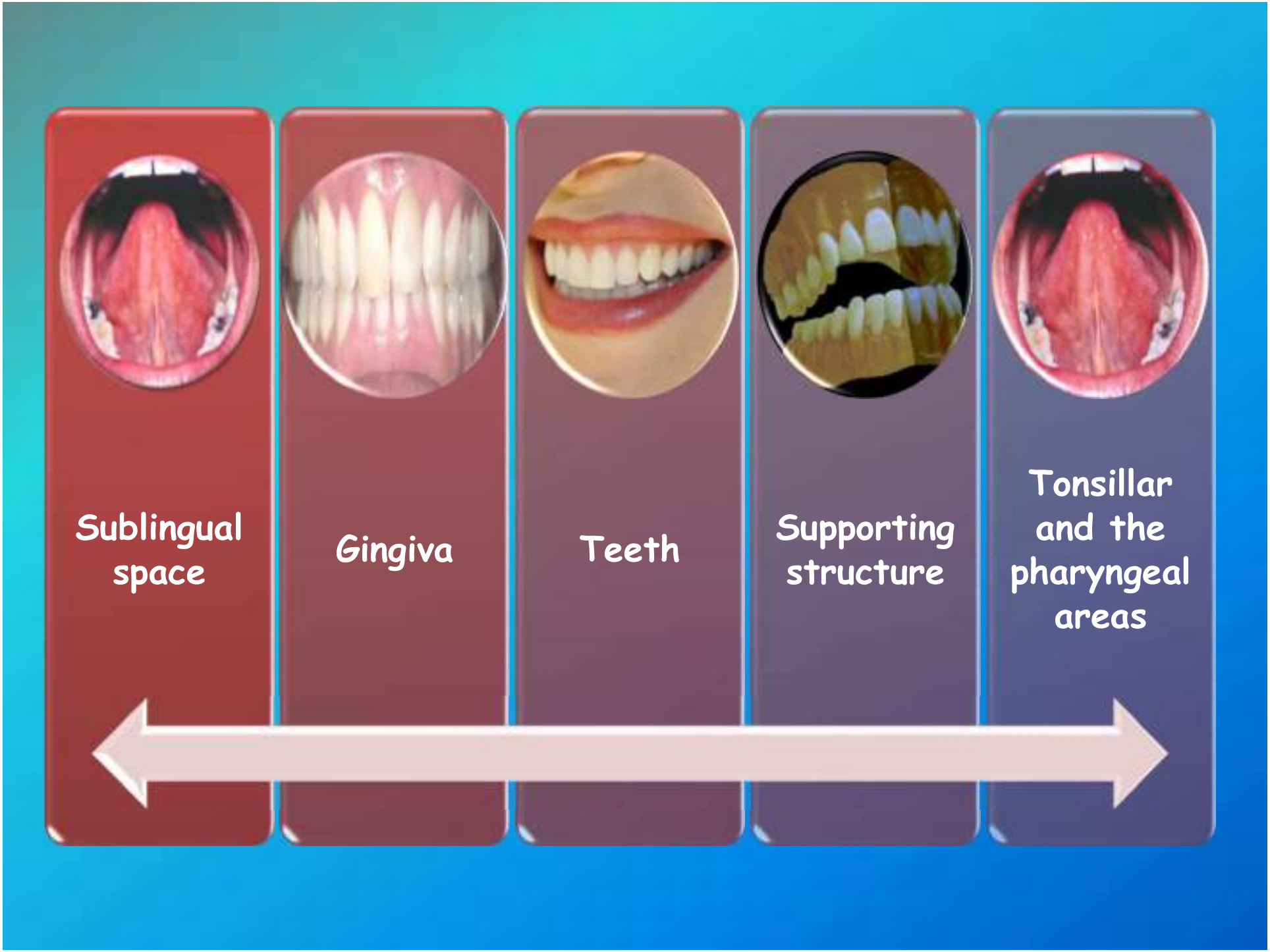
Lips

Mucosa of the cheeks

Maxillary and mandibular muco-buccal folds

Palate

Tongue


Sublingual space
Gingiva
Teeth
Supporting structure
Tonsillar and the pharyngeal areas

LIPS

- Examination of the labial mucosa and labial sulcus with the mouth half open, lip retracted.

- Note the lip color, texture, and any surface abnormalities as well as angular or vertical fissures, lip pits, ulcers, scabs, nodules, keratotic plaques and scars.

- Palpate upper lip and lower lip for any thickening (induration) or swelling.

- Note orifices of minor salivary glands and the presence of Fordyce's granules.

NORMAL LIP WITHOUT PATHOLOGY

LIP INVOLVEMENT IN ANUG

TRAUMATIC ULCER

ANGULAR CHELITIS

RECURRENT APTHOUS ULCER

MUCOCELE

RECURRENT HERPES LABIALIS

OTHER LESIONS ON LIP

- PYOGENIC GRANULOMA
- CHANCRE
- SALIVARY ADENOMA
- BASAL CELL CA
- KERATOSES
- CANDIDIASIS
- LICHEN PLANUS
- ANGIOEDEMA
- CHELITIS GRANDULARIS
- LYPHANGIOMA
- CLEFT LIP

BUCCAL MUCOSA

- With the mouth wide open, retract the cheek and examine buccal mucosa, then mouth half wide open examine the maxillary and mandibular sulci. Repeat for other side.

Note any changes

- Pigmentation,
- Elasticity of the mucosa,
- Linea alba,
- Leukoedema,
- Hyper-keratotic patches,
- Ulcers,
- Nodules,
- Scars,
- Red or white patches,
- Fordyce's granules.

- Observe openings of Stensen's ducts,
- Establish their patency by first drying the mucosa with gauze
- Observe the character and extent of salivary flow from duct openings, with and without milking of the gland.

NORMAL BUCCAL MUCOSA

LINEA ALBA

LICHEN PLANUS

LEUKOPLAKIA

CARCINOMA OF BUCCAL MUCOSA

HAEMANGIOMA

MAXILLARY & MANDIBULAR MUCO-BUCCAL FOLDS

- Observe color, texture, any swellings and any fistulae

- Palpate for swellings and tenderness over the roots of the teeth.

LICHEN PLANUS INVOLVING VESTIBULE

HARD AND SOFT PALATE

- Illuminate the palate, ask the patient to look up.
- Inspect for discoloration,
- swellings,
- fistulae,
- papillary hyperplasia,
- tori,
- ulcers,
- recent burns,
- Leukoplakia, and
- asymmetry of structure or function.
- Examine the orifices of minor salivary glands.
- Palpate the palate for swellings and tenderness.

NORMAL PALATE

CLEFT PALATE

FIBROUS EPULIS

THRUSH

RECURRENT HERPES

SMOKER'S PALATE

CARCINOMA ARISING FROM MAXILLARY SINUS

PLEOMORPHIC ADENOMA

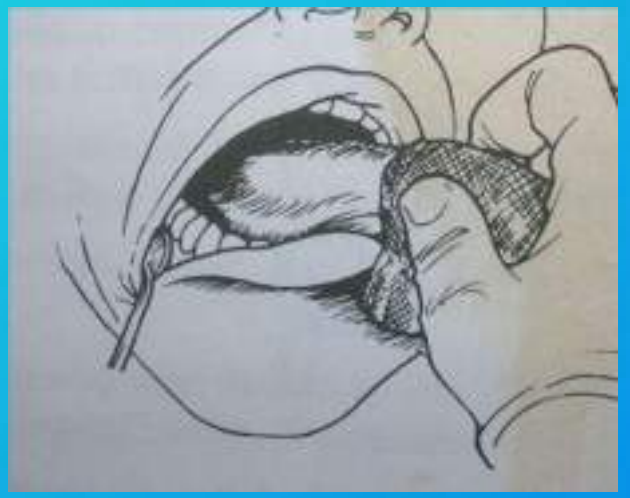
OTHER LESIONS ON PALATE

- DENTAL CYSTS
- CARCINOMAS
- LYMPHOMAS
- INVASIVE CARCINOMA FROM MAXILLARY SINUS
- PETECHIAE AND ECCHYMOSIS
- PAPILLARY HYPERPLASIA
- MALIGNANT MELANOMAS
- HERPANGINA

TONGUE

- THE TONGUE -
- Have the patient extend the tongue for examination of the dorsum.
- Inspect the dorsum of the tongue (while it is at rest) for
- swelling,
- ulcers,
- coating, or
- variation in size, color and texture.

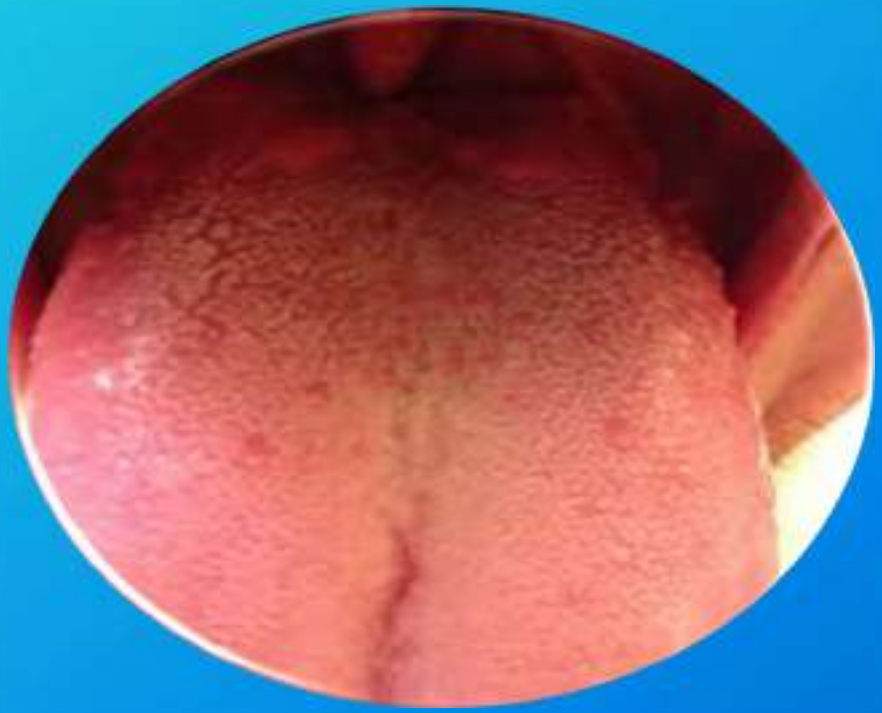
Ventral surface of the tongue and lateral borders of tongue.



- The patient should extend the tongue forcibly out to the right and left sides of the mouth to permit good visualization of the sublingual space and to permit careful examination of the left and right margins.

- Observe the margins of the tongue and note the distribution of filiform and fungiform papillae, crenations and fasciculation, depapillated areas, fissures, ulcers, and keratotic areas.

- Gently palpate the muscles of the tongue for nodules and tumors, extending the finger on to the base of the tongue and pressing forward if this has been poorly visualized or if any ulcers or masses are suspected.



ANKYLOGLOSSIA

BENIGN MIGRATORY GLOSSITIS

FISSURED TONGUE

MEDIAN RHOMBOID GLOSSITIS

ATROPIC GLOSSITIS

HAIRY LEUKOPLAKIA

CARCINOMA ON LATERAL BORDER AND FLOOR

FLOOR OF THE MOUTH

- With the tongue elevated, observe the openings of Wharton's ducts, the salivary pool, the character and the extent of right and left secretions, and any swellings, ulcers, or red or white patches.

- Gently explore and display the extent of lateral sublingual space, again noting ulcers and red or white patches.

Ventral surface of the tongue and floor of the mouth

The patient raises the tongue to the palate to permit good visualization of the sublingual space. Note any varicosities, tight frenal attachments, stones in Wharton's ducts, ulcers, swellings and red or white patches.

Hard tissue examination:

a)Teeth

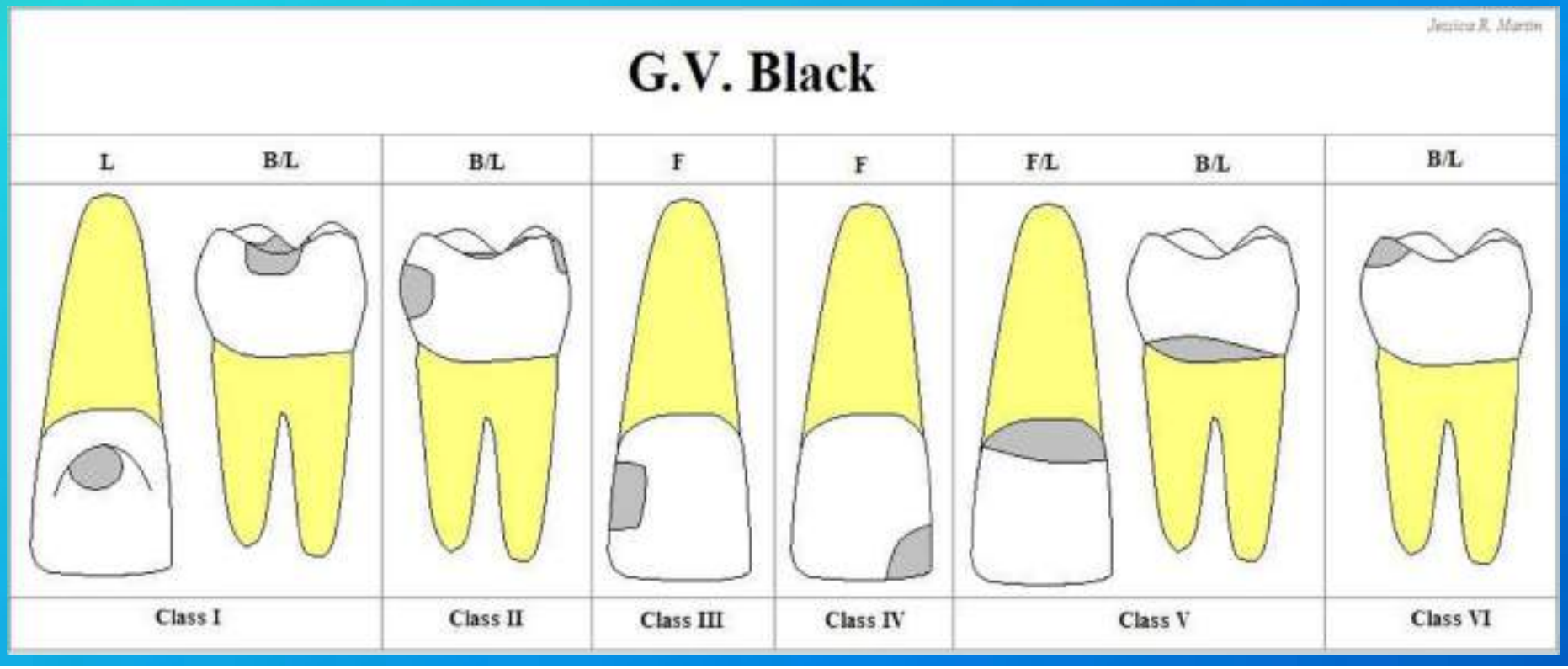
- Teeth present.
- Teeth Missing.
- Caries.
- Developmental defects.
- Attrition.
- Abrasion.
- Erosion.
- Discoloration.
- Root pieces.
- Filled teeth.
- Fractured teeth.
- Migration.
- Supernumerary/Supplementary teeth
- Hypoplasia.
- Over retained teeth.
- Any restorations / crown / bridge / any prosthesis.

Examination of caries :

- Teeth must be cleaned, isolated and dried.
- Tactile examination using sharp probe and a mirror.
- Good light is essential.
- Transillumination test should be used for detection of proximal surface caries.
- Look for cavitations, chalkiness, brown / blue / grey discoloration radiating peripherally under enamel from a pit or fissure.

Classification of dental caries G.V. Black)

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Class 6

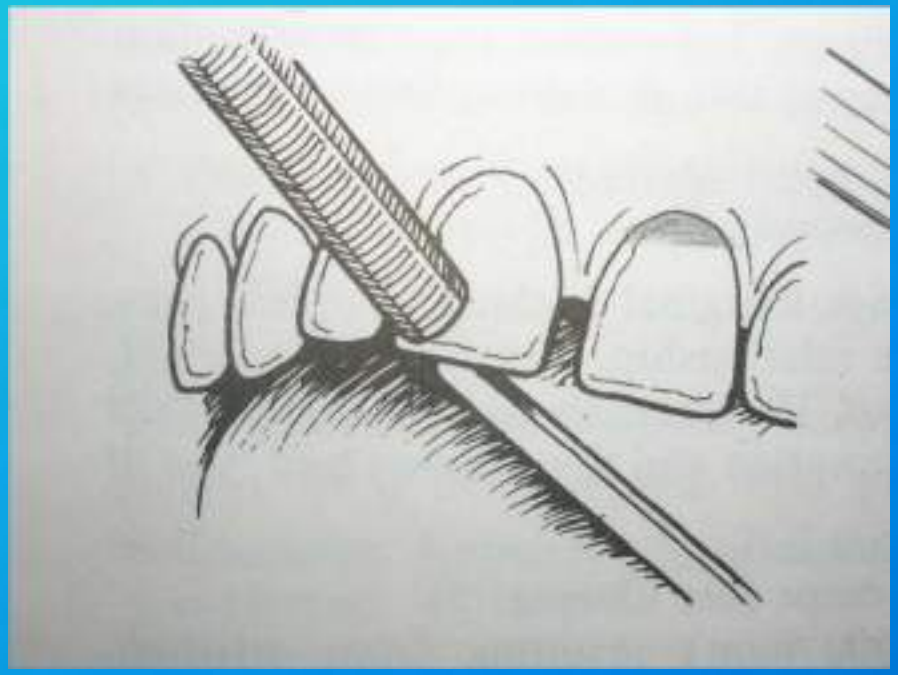


Examination of existing restorations:

- Look for overhanging & fractured restorations.
- Examine any cracked cusps.
- Tooth surface loss, due to attrition, abrasion or erosion.

Examination of mobility :

- Can be physiologic or pathologic.
- Examined by using two mirrors. Kept on buccal and lingual surfaces of tooth.
- Or a mirror (handle) and finger can be used.



MILLER S CLASSIFICATION-

1)Class 1 – physiological mobility.
2)Class 2 – up to 1mm transverse direction.
3)Class 3 – more than 1mm in transverse direction and the ability to depress the tooth. bility to depress the tooth.

Occlusion :

Angle's classification (Molar relationship).

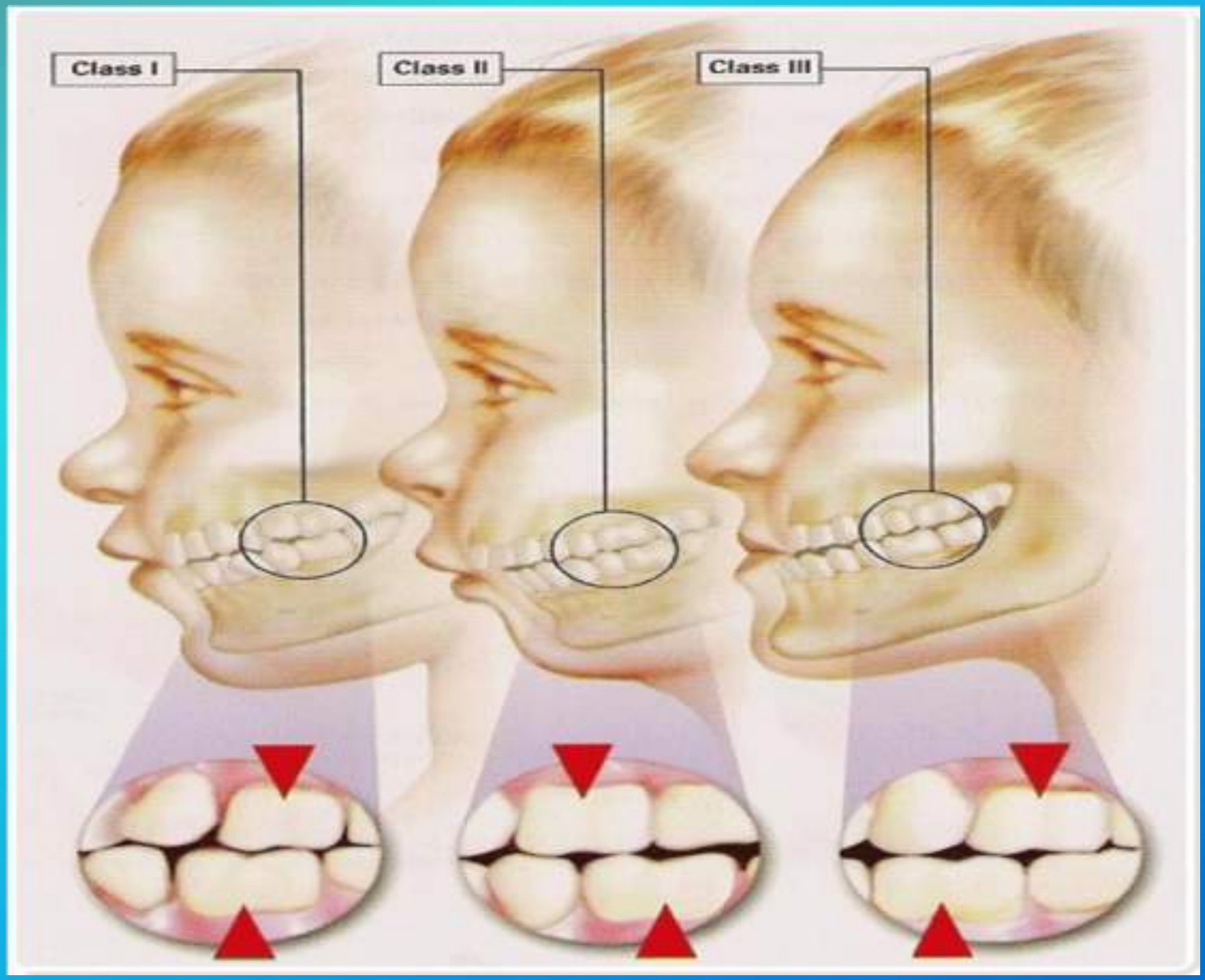
Class I-mesiobuccal cusp of the maxillary first permanent molar occuldes in the buccal groove of mandibular first permanent molar.

Dewey's modification of class 1-

- TYPE 1-crowded anterior teeth
- TYPE 2-proclinated maxillary incisors
- TYPE 3-anterior cross bite
- TYPE 4-posterior cross bite
- TYPE 5-the permanent molar has drifed mesially due to exaction of second decidous molar or second premolar.

Class II - mandibular arc distal to normal in its relation to the maxillary arch i.e distobuccal cuasp of upper frist permanent molar occuldes in the buccal groove of lower frist permanent molar.
Class III- mesiobuccal cusp of maxillary first permanent molar occulding in interdental space between mandibular first and second molar.

Note Crowding, Rotation, Malposition, Protrusion
Note : Over jet (normal 2-3 mm),
: Over bite
: Cross bite.


Class I
Class II
Class III

GINGIVA AND PERIODONTIUM

- Size,
- Shape,
- Surface texture,
- Color,
- position,
- Contour,
- Consistency,
- Bleeding on probing,
- Periodontal pocket,
- Furcation involvement,
- Stillman's clefts, hyperplasia, nodules, swellings, and fistulae.

EXAMINATION OF GINGIVA

- **SIZE OF THE GINGIVA**

- **Any alteration in size of gingival tissue is a common feature of gingival disease.**

EXAMINATION OF GINGIVA

- **SHAPE OF GINGIVA**

- **Interdental papilla- shape of the gingiva in interdental papilla is governed by the shape of the interdental embrasures.**

- **marginal gingiva - rolled, knife edge.**

EXAMINATION OF GINGIVA

- **SURFACE TEXTURE**

- **Normal gingiva- "Orange peel"/ Stippled**
- **Stippling is best viewed by drying the gingiva.**
- **The attached gingiva is stippled not the marginal gingiva.**
- **It is a feature of healthy gingiva, and reduction or loss of stippling is a common sign of gingival disease.**

EXAMINATION OF GINGIVA

- **COLOR**

- Normal healthy gingiva- **Coral pink**
- Change in color of gingiva is one of the early sign of gingival disease.
- Normal variation may be seen in case of physiologic melanin pigmentation.

EXAMINATION OF GINGIVA

- **POSITION**

- It is referred to the level at which the gingival margin is attached to the tooth.
- In normal healthy gingiva, it is mostly above the CEJ.
- Exposure of the tooth by the apical migration of the gingiva is called gingival recession.
- Physiologic recession
- Pathologic recession

EXAMINATION OF GINGIVA

- **CONTOUR**

- **Marginal gingiva-** scalloped on facial and lingual surface.

- Flat or straight on flat surface of the tooth.

EXAMINATION OF GINGIVA

- **CONSISTENCY**

- Normal gingiva- firm and resilient except with marginal gingiva.
- In case of gingival inflammation - it is soft and edematous,
- In case of fibrous enlargement - it is fibrous.

EXAMINATION OF GINGIVA

- **BLEEDING ON PROBING**

- **Is an earlier sign of inflammation than change in color.**

- **Pocket elicits Bleeding if the gingiva is inflamed and the pocket epithelium is atrophic and ulcerated.**

EXAMINATION OF GINGIVA

- **BLEEDING ON PROBING**

- **How to test??**

- **Carefully introduce the probe to the bottom of the pocket and gently move laterally along pocket wall.**

EXAMINATION OF GINGIVA

- **PERIODONTAL POCKET**

- **Is a deepening of gingival sulcus.**

- **The only accurate method of detecting and measuring periodontal pockets is careful exploration with periodontal probe.**

EXAMINATION OF GINGIVA

- **FURCATION INVOLVEMENT**

- **Careful probing is required to determine the presence and extent of the furcation involvement,**

- **Most commonly seen with multi rooted teeth.**

EXAMINATION OF GINGIVA

- Glickman's classification:
- Grade I
- Grade II
- Grade III
- Grade IV

MARGINAL GINGIVITIS FROM LOCAL FRACTORS

PERICORONITIS

PERIODONTITIS

PREGNANCY GINGIVITIS

PREGNANCY GINGIVAL EPULIS

DESQUAMATIVE GINGIVITIS

MOST COMMONLY SEEN IN PHEMPHIGOID/ LICHEN PLANUS

PHENYTOIN INDUCED GINGIVAL HYPERPLASIA

CYCLOSPORIN INDUCED GINGIVAL HYPERPLASIA

NIFEDIPINE INDUCED GINGIVAL HYPERPLASIA

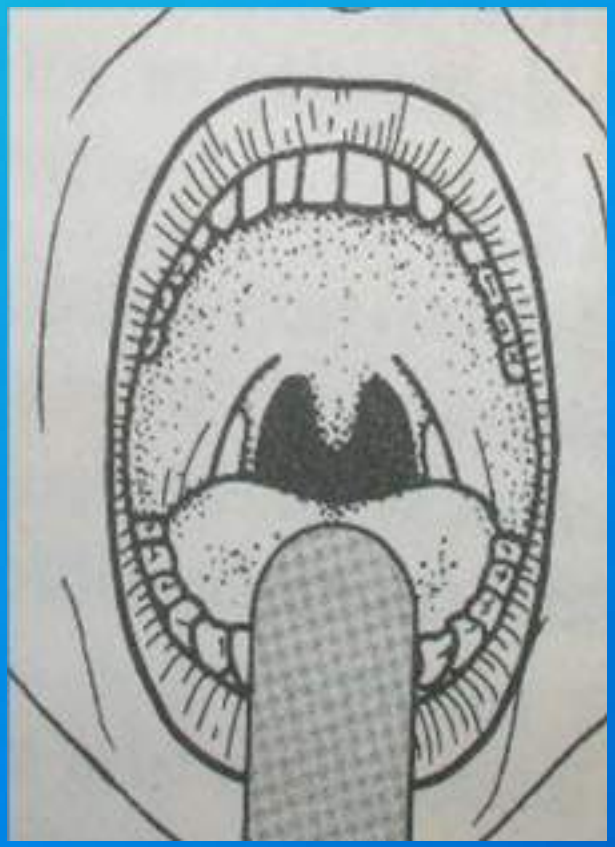
TONSILLAR FOSSA

- Use tongue depressor to show hard and soft palate.

- To observe the base of the tongue and vallate papillae.

- Examine the tonsillar fossae and the oropharynx.

Check for-
•Color /Tonsillitis / Restriction of oropharynx
•Ulcers / Nodules / Red and White lesions.



DENTURE BEARING AREAS

Check for-

- Root pieces
- Bony spicules
- Healing socket
- Inflammation
- Opposing teeth Normal/Supraocclusion/Infraocclusion/Migration
- Conditions of alveolar ridge Resorbed/Knife edged/Rounded
- Any lesions.

EXAMINATION OF AREA OF CHIEF COMPLAINT:

1) Tooth:

- Crown
- Pulp exposure
- Pain on percussion
- Mobility
- Pockets
- Furcation involvement
- Tenderness over Root Apices

2) Swelling:

Inspection –

- Location.
- Color
- Shape
- Size
- Surface
- Edge
- Pedunclated/Sessile
- Number
- Pain
- Pulsation
- Skin over swelling ,Presence of scar
- Presence of other swelling
- Pressure effect
- Translucency
- Surrounding Area

LOCATION:

A few swellings are peculiar in their positions.

For eg.

Median mandibular cyst in the midline of mandible.

Mucocele is commonly seen in lower lip.

Median palatal cyst is located in midline of the hard palate.

Globulomaxillary cyst is found in the bone at the junction of the globular nasal process and the maxillary fissure usually between the maxillary lateral incisor and canine.

Notice the color of the swelling because it can gives clue to the diagnosis.

For eg.

Black – melanoma, benign nevus

Red-Hemangioma

Blue – ranula

Yellow – fordyce's granules.

Red / pink / etc.

SHAPE:

Shape must be noted.
Ovoid / pear / kidney shaped / spherical / irregular.

SIZE:

Vertical and horizontal extensions must be noted.

SURFACE:

- Normal mucosa is soft and glistening.
- Pathogical areas : smooth / papillomatous/ eroded/ keratinised/ necrotic/ bosselated/ulcerated.
- Masses that areise beneath the stratified squamous epithelium are smooth.For eg.- fibroma, osteoma, chondroma, hemangioma,etc.
- Malignant counterparts of aboves lesions are initially smooth but later become ulcerated and necrotic.
- Masses that arise in the stratified squamous epithelium have Corrugated / irregular surface. For eg.-papilloma, verruca vulgaris, verrucous carcimoma, etc.
- Cauliflower : squamous cell carcinoma, papilloma.

EDGE:

- Clearly defined / diffuse indistinct / Smooth / Irregular.

It may be **PEDUNCULATED / SESSILE.**

NUMBER:

- Multiple / solitary.
- For eg.-
  Multiple swelling neurofibromatosis.
  Solitary : e.g. lipoma, dermoid cyst, etc.

PULSATION

- The swellings arising from the arteries are pulsatile like aneurysms and vascular growths such as carotid body tumor.
- Swellings which lie just superficial to the artery in close relation with it will pulsate "transmitted pulsation".
- Swellings which originate in the arterial wall will give rise to"expansible pulsation"

SKIN OVER SWELLING:

- Red or oedematous : inflammation.
- Skin becomes tense, glossy with venous prominence : Sarcoma with rapid growth
- Black punctum over a cutaneous swelling: sebaceous cyst.
- "peel of an orange" skin on the region - oedematous swelling (blockage of small lymphatics draining the skin)

SIZE, SHAPE & EXTENT :

- Deeper dimensions of the swelling remain unknown during inspection.
- Tissue surrounding and underlying bases should carefully be palpated to determine the maximum extension of lesion into the surrounding tissue.
- Poorly defined/ moderately / well defined.

SURFACE:

- Surface of the swelling should be palpated by the palmar surface of the fingers.
- For eg.-

Smooth : cyst.

Irregular and rough : carcinoma.

Lobular with smooth bumps : lipoma.

Nodular : a mass of matted lymph nodes.

EDGES:

- Margins are palpated with the help of the tip of the finger.
- Acute inflammatory swellings and Malignant tumors have ill defined or indistinct margins.
- Benign tumors and chronic inflammatory swellings have well defined margins.

CONSISTENCY:

- soft : easily compressible.
  For eg.-Lipoma , mucocele.,cyst
- cheesy : finer tissue with granular sensation.
- rubbery : firm tissue and is compressible.
- firm : tissues that cannot be compressed.
- bony hard : osteoma, carcinoma.

TEMPERATURE :

- Is examined best by dorsal aspect of the hand.
- Increased in the area of inflammation due to increased vascularity and metabolic rate
- For eg.-superficial aneurysms, arteriovenous shunt,large recent hematoma.

TENDERNESS:

- When the patient complains of pain due to pressure exerted by the clinician, the swelling is said to be tender.
- Inflammatory swellings are mostly tender.
- Neoplastic swellings are non tender.

FLUCTUATION:

- Swelling fluctuates when it contains liquid or gas.
- Test carried out by one finger on each side of the swelling.
- Sudden pressure is applied to one pole of the swelling, this will increase the pressure within the swelling and will be transmitted to the opposite pole of the swelling.
- If another finger is placed on the other side of the swelling, the finger will raise passively due to increased pressure within the swelling.
- In case of very small swelling, single finger can be placed at the center of the swelling.
- *Pagets test* : swelling containing fluid is softer at the center than the periphery, whereas, solid swelling is firmer at its center than the periphery.

FLUID THRILL:

- Seen in case of swelling containing fluid.
- A percussion wave is seen to be conducted to its other poles when one pole is tapped.

TRANSLUCENCY:

- This is when the swelling can transmit light through it.
- Contains clear fluid like water, serum, lymph or plasma.
- Darkness is essential for this test. In daytime this can be done by using roll of paper which is held on one side of the swelling while the torch light is held on the other side of the swelling.
- Torch is used for the test.

REDUCIBILITY:

- Swelling can be reduced and disappear on pressing.
- For eg.-hernia, varicocele, meningoceleetc.

COMPRESSIBILITY:

- Swelling can be compressed but does not disappear completely.
- Ex. Arterial, capillary, or venous hemangioma.

FIXITY TO UNDERLYING TISSUES:

- The swelling can be fixed to underlying structures such as skin or bone.
- The skin over the swelling is made to move.
- If the swelling is fixed to the skin, the skin will not move.
- For eg.- Sebaceous cyst is freely movable over the underlying tissue but is bound to skin.
- Swelling may be fixed in :

  Fibrosis after previous inflammation.

  Malignancy
- Those originating from bone, will be fixed to underlying bone.

3) Ulcer :

- Location
- Shape
- Size
- Edge
- Number
- Base
- Discharge
- Surrounding area
- Presence of tissue tags
- Covering over ulcer

LOCATION:

- Often gives a clue to diagnosis.
- Rodent ulcers - upper part of the face, frequently occurring near to the inner canthus of the eye.
- Non healing ulcers - floor of the mouth / lateral border of tongue - malignant lesions.
- Freely movable mucosa – apthous ulcers

SIZE AND SHAPE:

- Oval / circular / irregular / semi lunar / punched out / serpiginous.
- Oval ulcers – tubercular ulcers.But their coalescence may give an irregular border.
- Circular / semilunar ulcers – syphilitic ulcers.
- Irregular - Carcinomatous ulcers
- The size of the ulcer is important in deciding the time required for healing.

NUMBER:

- Tuberculosis, gummatous, varicose and soft chancre may be more than one in number.

EDGE:

- inflamed & oedematous- ***Spreading ulcer***
- undermined edge- ***Tuberculous ulcer***
- Punched out edge- ***deep trophic ulcer.***
- Sloping edge- ***healing traumatic ulcer*** or ***venous ulcers***.
- Raised edges – ***rodent ulcer***. (pearly white beaded edge)
- Rolled (everted) ulcer – ***squamous cell carcinoma***.
- Healing ulcer shows blue zone of thin growing mucosa and a white zone of fibrosis of scar.

FLOOR:

- Exposed surface of the ulcer.
- Carefully note what is there at the floor of the ulcer.
- For eg.-Floor covered with red, smooth granulation tissue – healthy and healing ulcer.

  pale and smooth granulation tissue indicates healing ulcer.

  Wash leather slough-gummatous ulcer

  Black mass at the floor – malignant melanoma.

DISCHARGE :

- The character of the discharge is of prime importance.
- Note : Character.
  Amount.
  Smell.
- Scanty serous discharge - healing ulcer.
- Purulent discharge – spreading and inflamed ulcer.
- Sero sanguineous discharge – malignant ulcer.

SURROUNDING AREA :

- Surrounding area can be erythematous / indurated / oedematous / pigmented /Impaired sensation.
- Red, glossy and oedematous area : acutely inflamed ulcer.
- Surrounding skin of varicose ulcer is eczematous and pigmented.
- A scar or wrinkling in the surrounding a skin of an ulcer may well indicate an old caseof TB.
- Fixity of surrounding area indicate malignant nature of the ulcer.

PROVISIONAL DIAGNOSIS

- This is the more usually made diagnosis from which further investigations may be planned.
- All the records and clinical findings from the history should be clubbed together, in order to reach to a provisional diagnosis.
- The dentist should keep in mind the differential diagnosis.
- The positive findings are listed down and the possibility of a specific diagnosis is evaluated.
- It is important for appropriate management of the planned treatment.

INVESTIGAT

1) Laboratory investigations:

- Routine Blood Examination- CBC/RBC/ Total WBC/ Hb/ESR/ Bleeding time/Clotting time.
- Biopsy- Excisional/ Incisional/ Punch/ Wedge/ Aspiration/ Exfoliative cytology/ Curettage.
- SMEAR

- Additional blood and Serological tests- Glucose tolerance test, Blood Glucose, Blood Urea, Serum Uric Acid, Serum Alkaline Phosphatase, Serum Acid Phosphatase, Serum Ca, Na, K, Cl ,Cholesterol, Inorganic Phosphates, Triglycerides,Paul Bunnel Test,Serological test for syphilis, SGPT,SGOT,Serum, Bilirubin,albumin,Proteins,BUN
- Urine Examination
- Sensitivity Tests
- Stool examination.

Radiological Investigations:

- Intra oral radiographs- IOPA, Bitewing, Occlusal
- Extra oral radiography- PA Waters, PA Mandible, AP Skull, Lateral Oblique ,Transcranial, Transorbital, Transpharyngeal, OPG,Tomography, Reverse towne, Submentovertex, Bregma Menton, Soft tissue, X-ray Chest.
- Sialography Angiography
- Radiographic interpretation

FINAL DIAGNOSIS.

- Final diagnosis can be reached following chronologic organization and critical evaluation of the information gained from patient history, and result of radiological and laboratory investigations.

- For reaching to the final diagnosis, the clinician must be not only aware of the signs and symptoms, but should also carry knowledge of each disease entity.

TREATMENT PLAN

- Immediate Treatment
- Medication : Dental extraction
  Drainage
  Cauterization
- Planned treatment : Medical
  :Dental