

POLTAVA STATE MEDICAL UNIVERSITY
Chair of propaedeutics of therapeutic stomatology

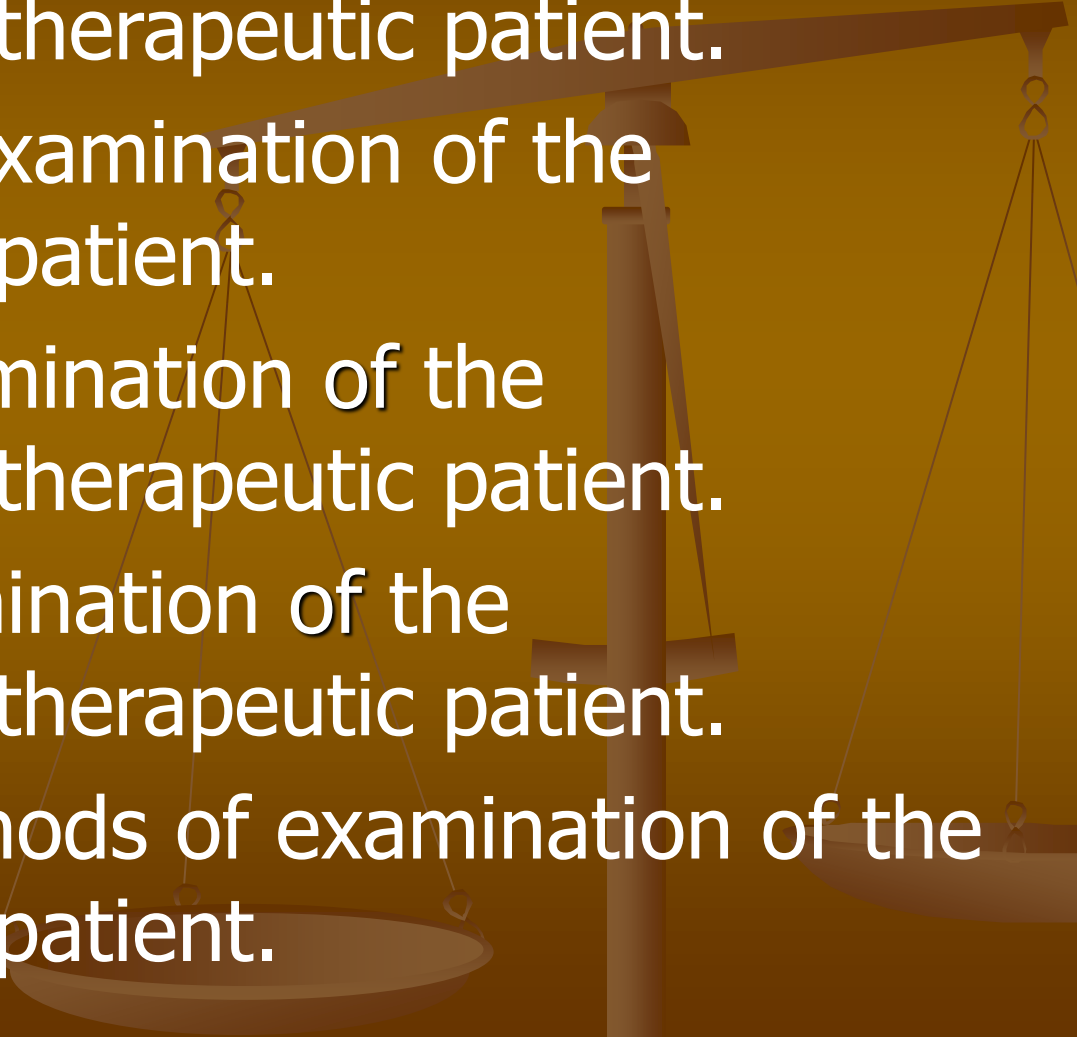
Methods of examination of the stomatological patient



Lecture for 3-rd year students
of international faculty

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Sciences,
Associate Professor
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The lecture plan

1. General principles of examination of the stomatological therapeutic patient.
 2. The circuit of examination of the stomatological patient.
 3. Subjective examination of the stomatological therapeutic patient.
 4. Objective examination of the stomatological therapeutic patient.
 5. Additional methods of examination of the stomatological patient.
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Principles of examination of the stomatological patient.

- **Ethical and deontological** principle provides use of certain professional, moral, rules of law during performance of the duties.
- **Anaesthesiological** principle provides painless realization of inspection and therapeutic manipulations.
- **The principle of technical rationality** consists in an individualization of the circuit of inspection, techniques of treatment, and also ergonomic maintenance of job.
- **The principle of a sequence and uniform strategy** provides use of the uniform circuit of inspection and standard classifications, of modern well-known methods of treatment.

The circuit of examination of the stomatologic patient

I. Subjective inspection (*status presens subjectivus*).

1. Passport part.
2. Complaint of the patient (*molestiae*).
3. Anamnesis of disease (*anamnesis morbi*)
4. Anamnesis of life (*anamnesis vitae*).

II. Objective inspection (*status presens objectivus*).

1. External survey of the patient.
2. Survey of the face of the patient.
3. Palpation of regional lymphatic nodes and thyroid glands.
4. Survey of a vestibule of an oral cavity.
5. Survey actually oral cavities.

The circuit of examination of the stomatologic patient

6. Inspection of a place of disease (*locus morbi*).

- Survey of a tooth and environmental tissues (*inspectio*);
- Probing;
- Percussion (vertical, horizontal) (*percussio*);
- Palpation of a mucosa in the field of a projection of an apex of a root (*palpatio*).

III. The previous diagnosis (*diagnosis probabilis*).

IV. The plan and results of additional inspection of the patient (*methodi explorationis succenturiati*).

V. Differential diagnostics (*diagnostica differentialis*).

VI. The clinical diagnosis (*diagnosis clinica*).

SUBJECTIVE EXAMINATION

(status presens subjectivus)

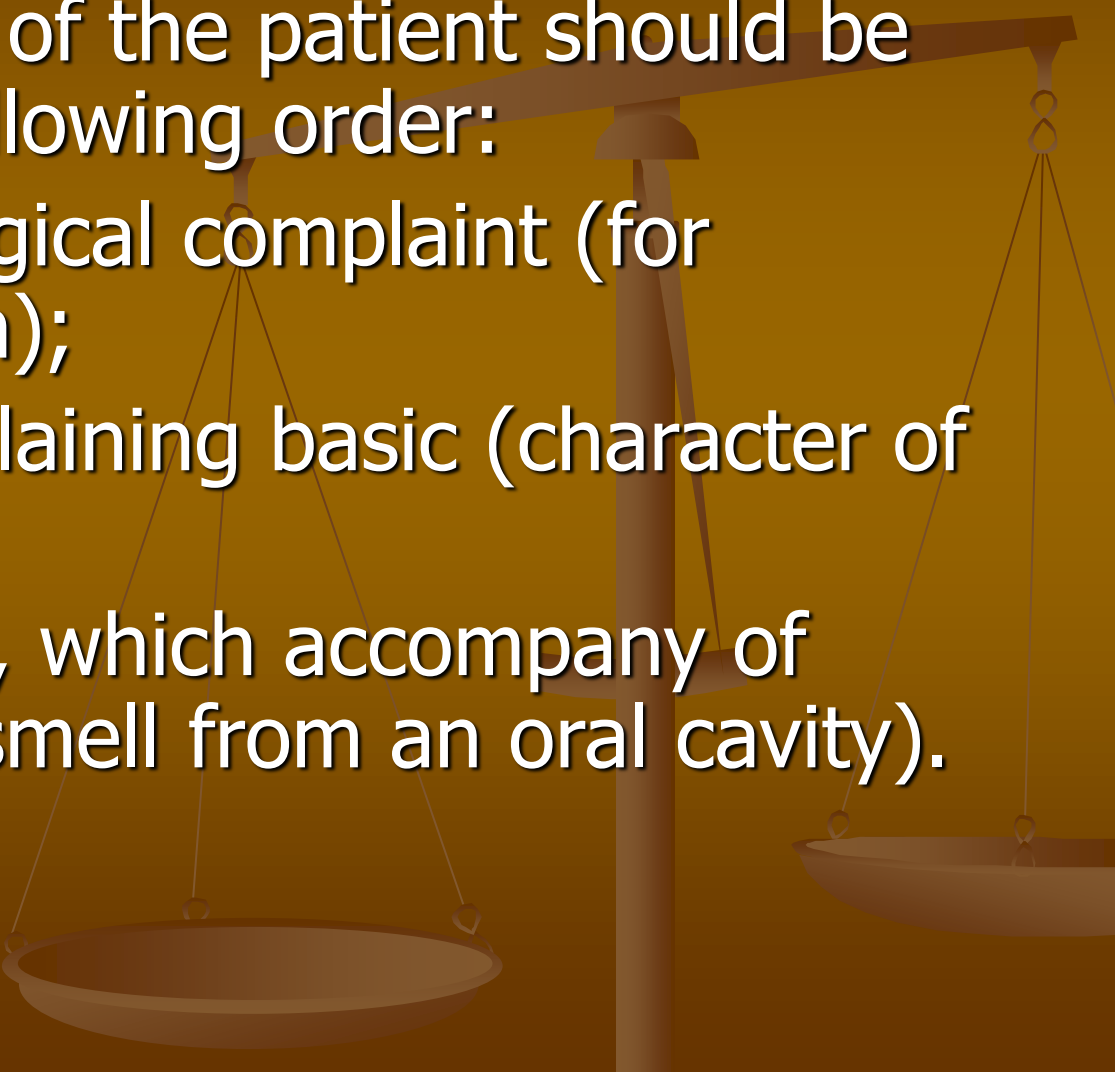
Is carry out with the help of inquiry (question) of the patients. In time of making inquiries it is necessary to establish confiding contact with the patient, to define his psychological status, intelligence and on this basis to analyse the complaints, course of development of disease. The doctor by inducing accessible questions should help the patient to state a case-history.

Passport part

- 1) Surname, name;
- 2) Age; 3) Sex;
- 4) Home address;
- 5) Place of job;
- 6) Trade.



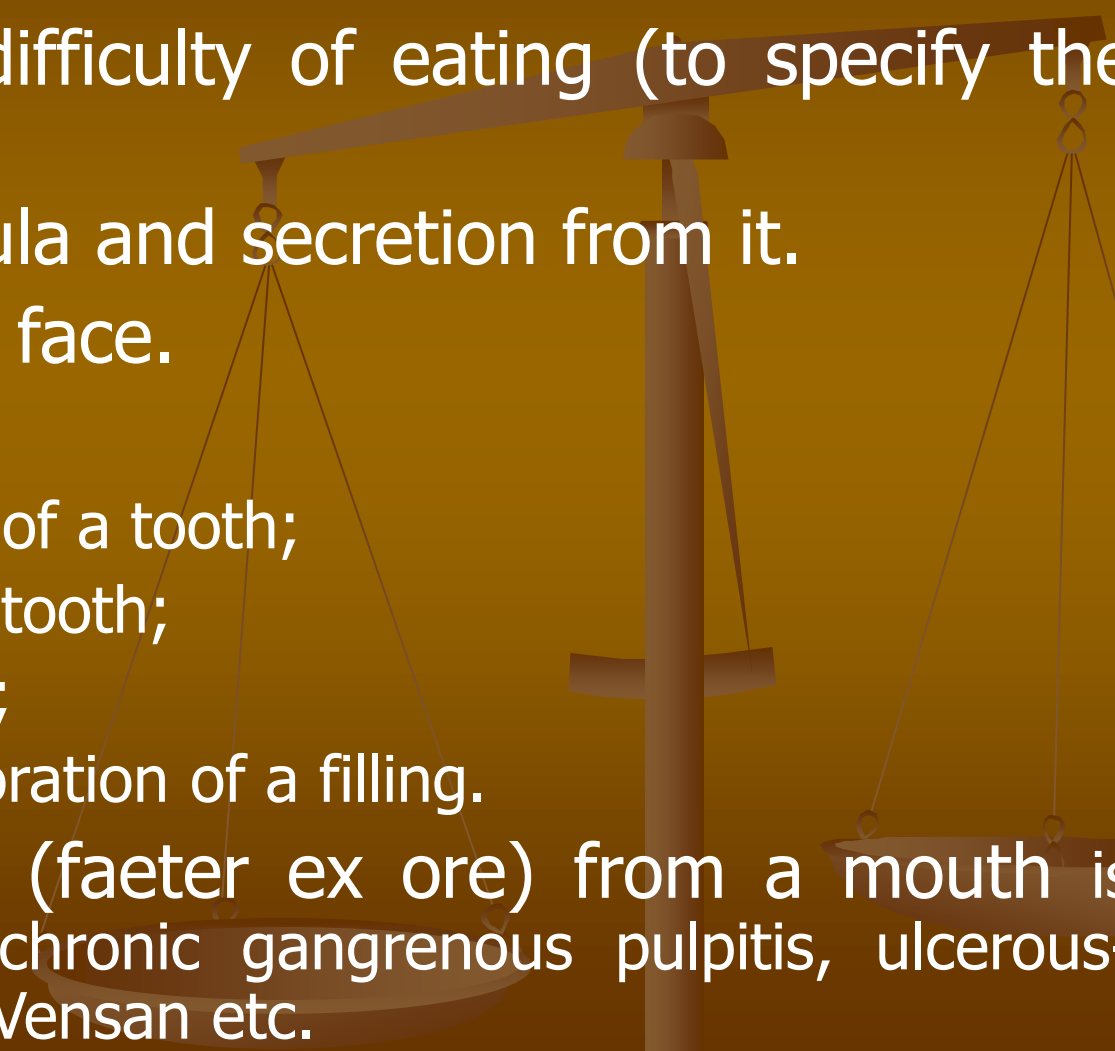
The complaints of the patient (molestia)

- The complaints of the patient should be stated in the following order:
 - a) basic odontological complaint (for example: a pain);
 - b) additional, explaining basic (character of a pain);
 - c) the complaints, which accompany of odontological (smell from an oral cavity).
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Character of a pain:

- a) Acute, blunt, nagging;
- b) causal or spontaneous:
 - if a pain is causal - to specify the reason: thermal (from cold, warm), chemical (sweet, salty), mechanical irritants, at biting on a tooth, at moving a body ;
 - if spontaneous - to specify character and time of arising: constant or paroxysmal, night or by day.
- c) Short-term or long:
 - after elimination of irritant the pain: stops, lingers over, there is a new attack of a pain;
 - at spontaneous pain it is necessary to specify duration of pain attacks and intermissions;
- d) localized (with the indicating of a jaw and party of a defeat) or irradiating (wide-spread):
 - to specify zones irradiation.

Another complaints:

2. Presence of a carious cavity or defect of hard tissues of a tooth.
 3. Impossibility or difficulty of eating (to specify the reason).
 4. Presence of a fistula and secretion from it.
 5. Asymmetry of the face.
 6. Cosmetic defect:
 - The atypical form of a tooth;
 - Discoloration of a tooth;
 - Defect of a crown;
 - Defect and discoloration of a filling.
 7. Unpleasant smell (faeter ex ore) from a mouth is characteristic for a chronic gangrenous pulpitis, ulcerous-necrotic gingivitis by Vensan etc.
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Anamnesis of disease

(anamnesis morbi)

- The inquiry can be carry out as a free statement by the patient of development of disease or as the answers to questions of the doctor. In an anamnesis of disease it is necessary to find out:
 - ✓ condition of a tooth before occurrence of the complaints (tooth earlier was treated or not);
 - ✓ time of beginning (year, month, day) of first attributes of disease, their reason;
 - ✓ features of current of illness (dynamics of pain symptoms: frequency of arising exacerbations and complication);
 - ✓ information about character of treatment and its efficiency;
 - ✓ information about self-treatment.

Anamnesis of life

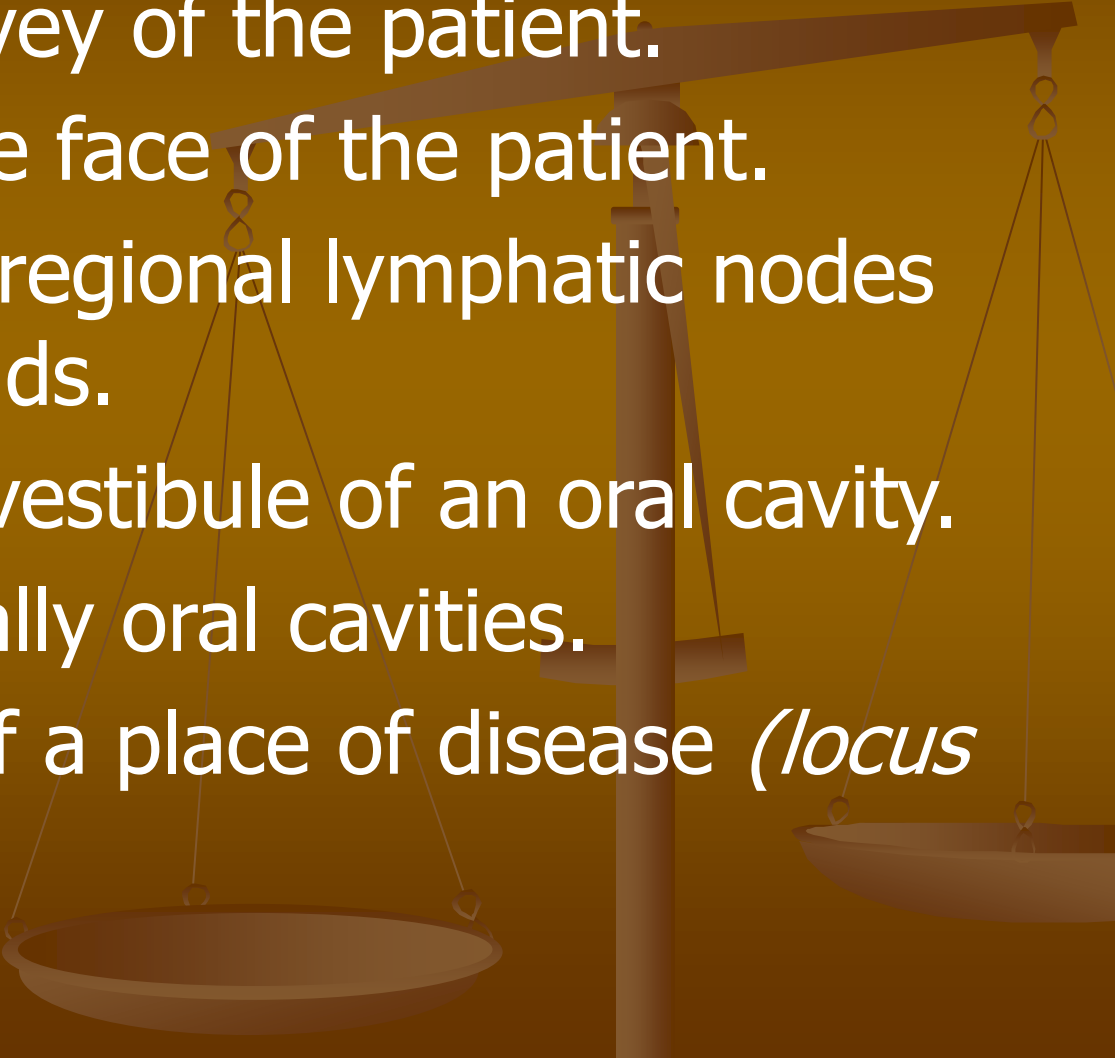
(anamnesis vitae)

- Shortly to state:
 - ✓ household anamnesis (condition of life, full value of a feed);
 - ✓ labour anamnesis (condition of job, industrial harmfulnesses, their character);
 - ✓ allergological anamnesis (presence of allergic reactions on medicament preparations, products of a feed etc.);
 - ✓ presence of harmful habits.
 - ✓ the endurable and accompanying diseases;
 - ✓ complications in a course of their treatment;
 - ✓ whether the patient is on the account at the profile experts.

The anamnesis of life of the patient can be investigated with the help of questionnaire. It will enable the patient to be more frank and relieves the doctor of necessity to ask difficult facial questions.

OBJECTIVE EXAMINATION

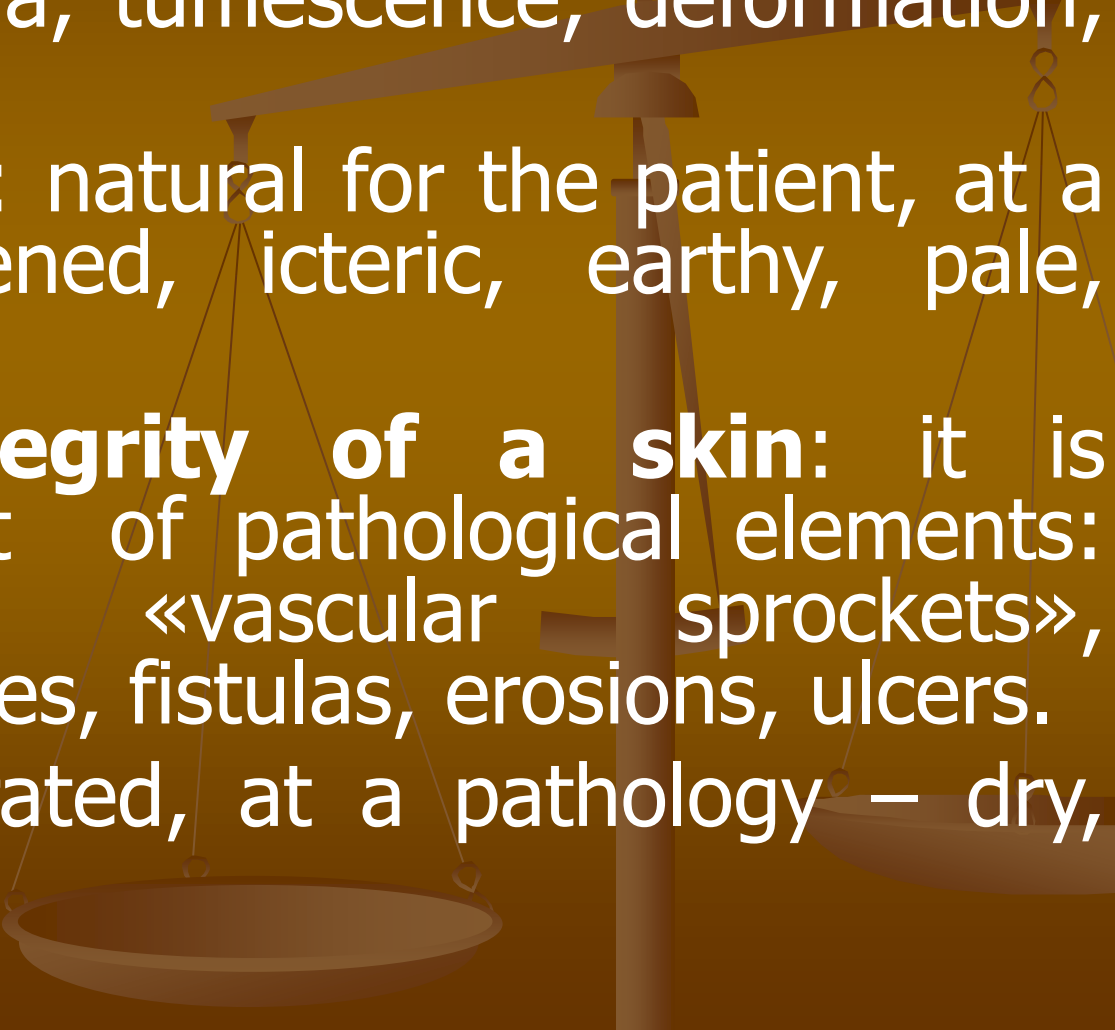
(status present objectivus).

1. External survey of the patient.
 2. Survey of the face of the patient.
 3. Palpation of regional lymphatic nodes and thyroid glands.
 4. Survey of a vestibule of an oral cavity.
 5. Survey actually oral cavities.
 6. Inspection of a place of disease (*locus morbi*).
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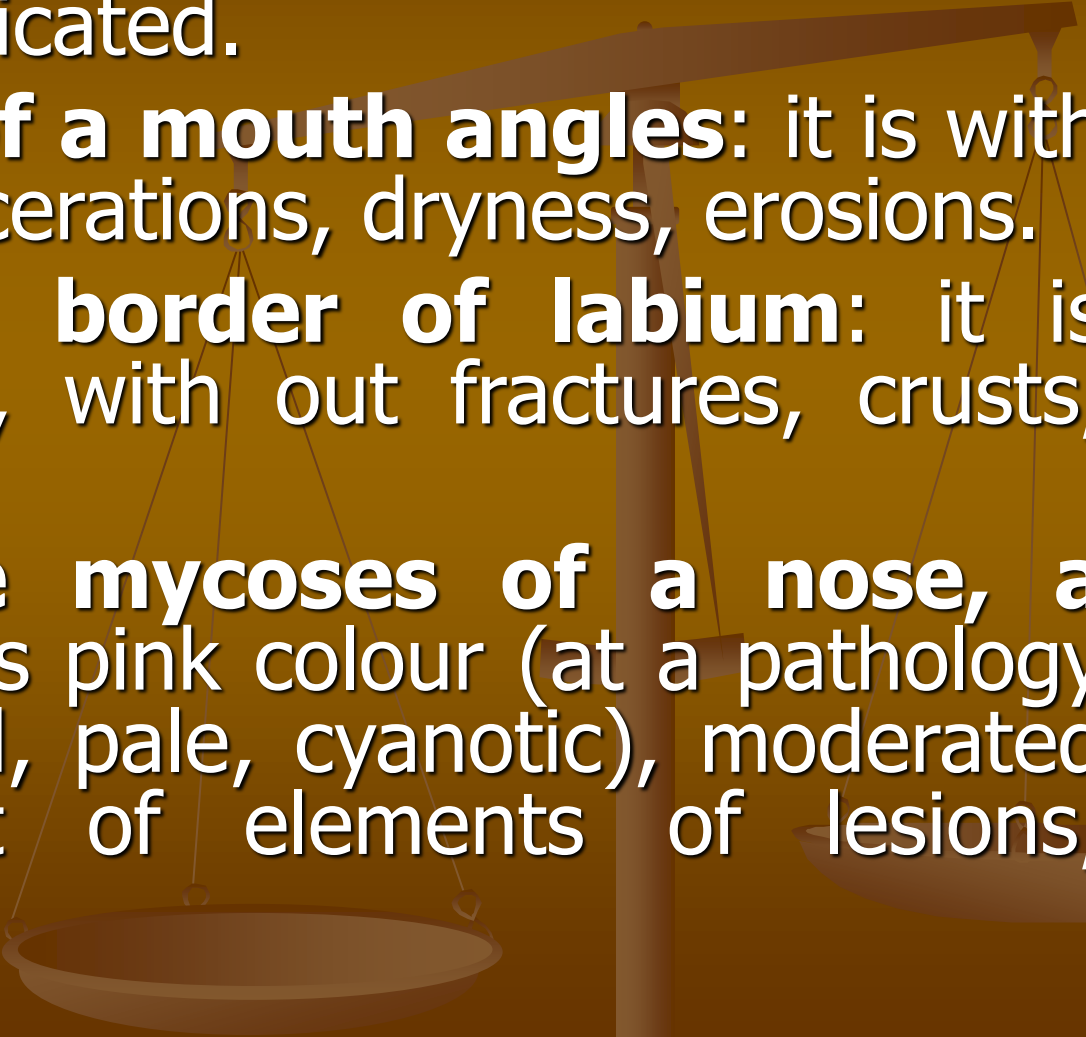
External survey of the patient

- **General state: satisfactory**, moderate, heavy.
- **The state of consciousness: a clear**, black out, confusion, stupor, stupor, unconscious, irritative disorders (hallucinations, obsessions).
- **Facial expression: calm**, cheerful, excited, suffering, indifference, mask-like.
- **Posture: active**, passive, involuntary.
- **Growth:** high, medium (160-180 cm for males 155-170 cm for women), low, dwarf (up to 135 cm), giant (over 200 cm for men, 190 cm - for women).
- **Body weight (kg).**
- **Fatness: satisfactory**, excessive (the degree of obesity: I - the index of Brock's borders 110-125%, II - 125-150%, III - 150-200%, IV - more than 200%); reduced - Brock's index below 90%; exhaustion (cachexia).
- **Constitutional type: normostenic**, asthenic, hypersthenic.

Survey of the face of the patient

- ✓ **Symmetry** of the right and left half of face: in norm it is symmetric, at asymmetry - to specify the cause (an edema, tumescence, deformation, an infiltrate)
 - ✓ **Colour of a skin:** natural for the patient, at a pathology – reddened, icteric, earthy, pale, cyanotic.
 - ✓ **Cleanliness, integrity of a skin:** it is conserved, with out of pathological elements: bruises, rashes, «vascular sprockets», exanthemas, cicatrices, fistulas, erosions, ulcers.
 - ✓ **Humidity:** moderated, at a pathology – dry, wet.
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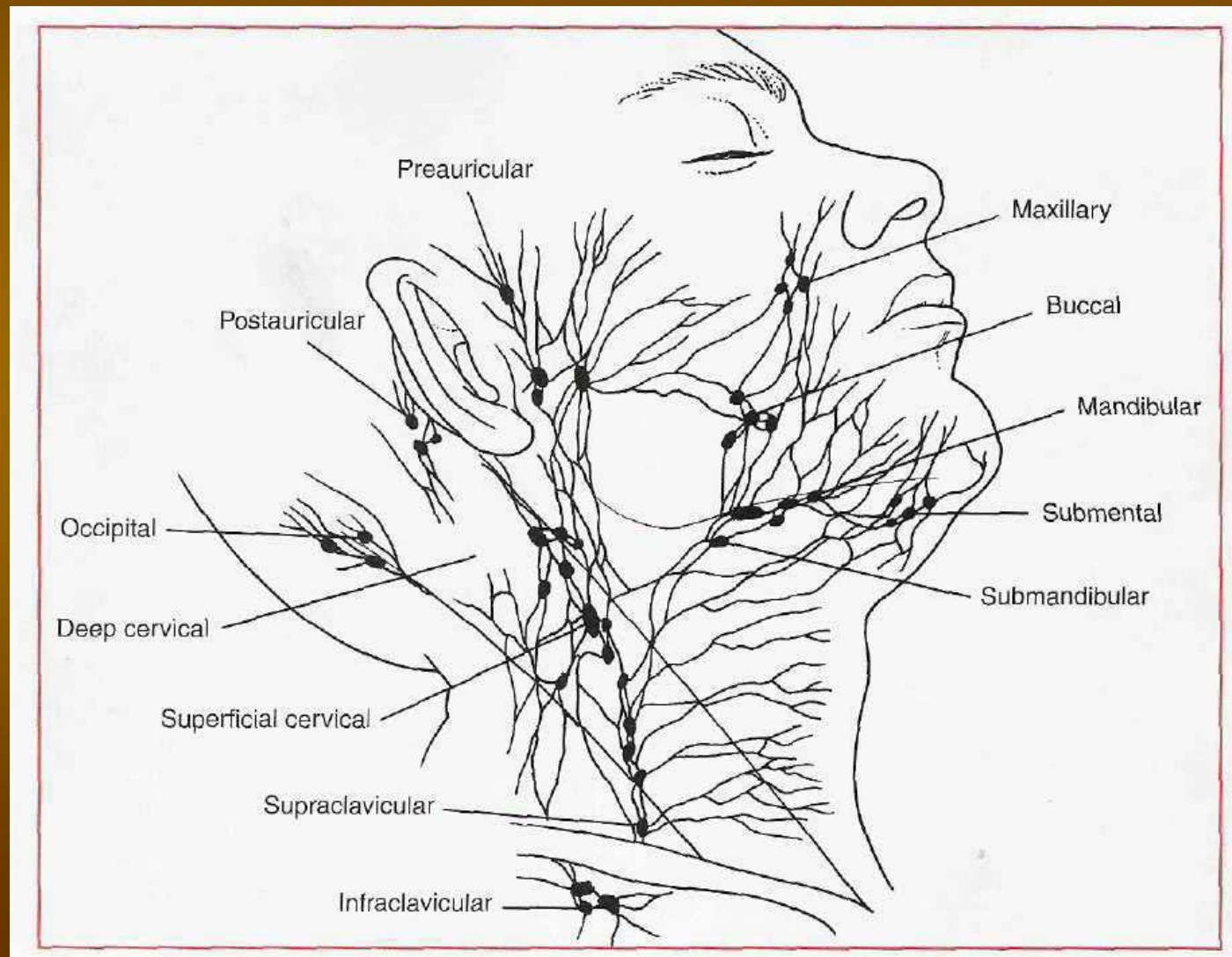
Survey of the face of the patient

- ✓ **Elasticity and a skin turgor** (ability to pleat and straighten after that): it is conserved; can be reduced, complicated.
 - ✓ **State of a skin of a mouth angles:** it is without fractures, macerations, dryness, erosions.
 - ✓ **State of a red border of labium:** it is moderated humid, without fractures, crusts, rashes.
 - ✓ **State of visible mycoses of a nose, a lower eyelid:** it is pink colour (at a pathology - icteric, reddened, pale, cyanotic), moderated humid, without elements of lesions, hemorrhages.
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Inspection of lymph nodi

- Regional lymph nodes concern: submandibular, mental, buccal, superficial and deep cervical, near ears, occipital.
- Estimate the dimension, the form, a consistence, morbidity, mutual relation with surrounding tissues.
- **Healthy** lymphonodi have size from lentil to a fine pea, soft-elastic consistence, are individual (solitary), mobile (are not soldered to surrounding tissues), are painless.
- **At an inflammation** of periapecal tissues of tooth, bone, periost, mucosa membrane the palpation is defined an augmentation of lymphonodi dimension, densities, and morbidities on the side of lesion.

Anatomic location of cervicofacial lymph nodes.



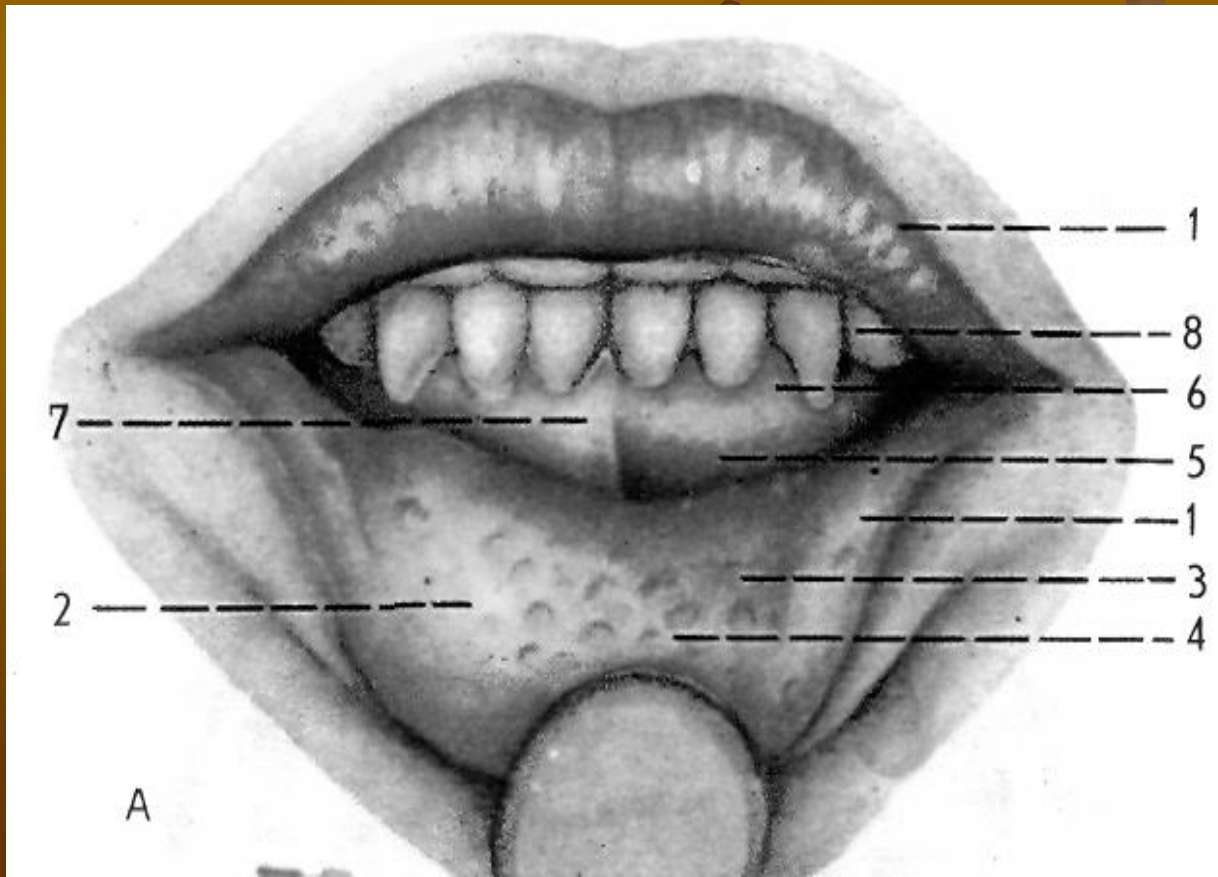
Submandibular nodi



- Submandibular nodi are located in number of 6-10 in trigonous submandibulares (their part lies in a depth of a submandibular salivary gland).

Survey of a vestibule of an oral cavity

It is carried out at a close teeth and the relaxed lips, having taken away a lower, top lips and holding cheeks with a stomatological mirror.



Survey of a vestibule of an oral cavity

- Depth of a vestibule: in norm – middle, can be shallow, deep (profound).
- Affixing of bridles of a top and lower labium: in norm - on the middle an alveolar process, can be high - it is close to an interdental papilla or intertwined in it, low - it is close to a transverse pleat.
- Interrelation of dentitions (occlusion): physiological - orthognathic, ortogenic; pathological (disgnatic).
- Mucosa of lips and cheeks:
- Colour: in norm - pink, at a pathology – reddened (hyperemia), cyanotic, pale, icteric;
- Puffiness: it is defined on presence of impresses of teeth on the line of clamping of teeth;
- Wetness: in norm – moderately, can be wet, dry;

Survey of a vestibule of an oral cavity

- Presence of elements of a lesion: in norm – is absent, at a pathology - primary (maculae, a nodule, a hillock, knot, a blister, a pustule, bladder, a cyst), secondary (erosion, an ulcer, a fracture, a crust, a scale, cicatrix, pigmentation);
- State of fine salivary glands and their lead-out ducts: in norm - an insignificant tuberos with point lead-out ducts; or a hyperplasia, a heterotopias of salivary glands with expanded ostium of lead-out ducts, a "dew" symptom in region Klein;
- Forday's glands (sebaceous glands): pale yellow nodules in diameter of 1-2 mm which is not towering over a mucosa;
- State of papillae of lead-out ducts parotid salivary glands: the dimension, colour, quantity and composition of excreted saliva at its massaging.

Survey of a vestibule of an oral cavity

- Mucosa of an alveolar process (gum): in norm - light pink, not hydropic, the marginal edge densely envelop necks of teeth, gingival papillae have the correct triangular form, occupies interdentally interspaces, depth of a gingival sulcus - no more than 0,5 mm.



Survey of a vestibule of an oral cavity

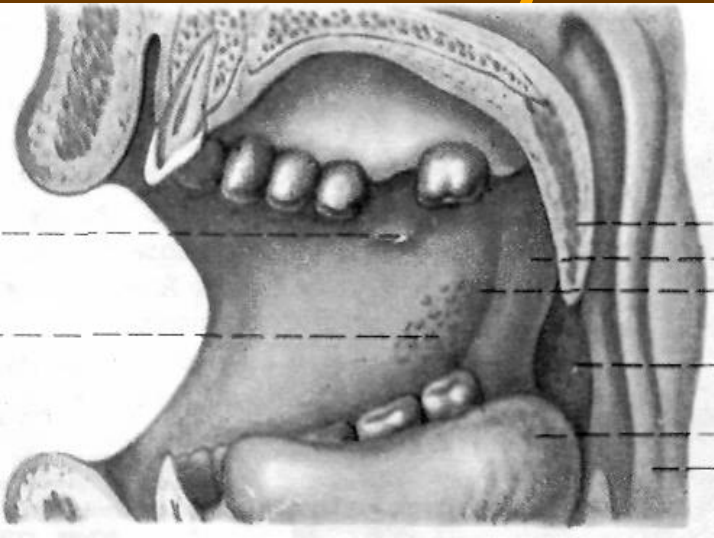
- At a pathology - reddening, cyanosis of a gum, an edema, a bleeding at probing, a hypertrophy, an atrophy of interdentally papillae, efface their peak, an ulcer of gingival edges, presence pathological gingival pocket, gum fistulas.



Survey actually oral cavities

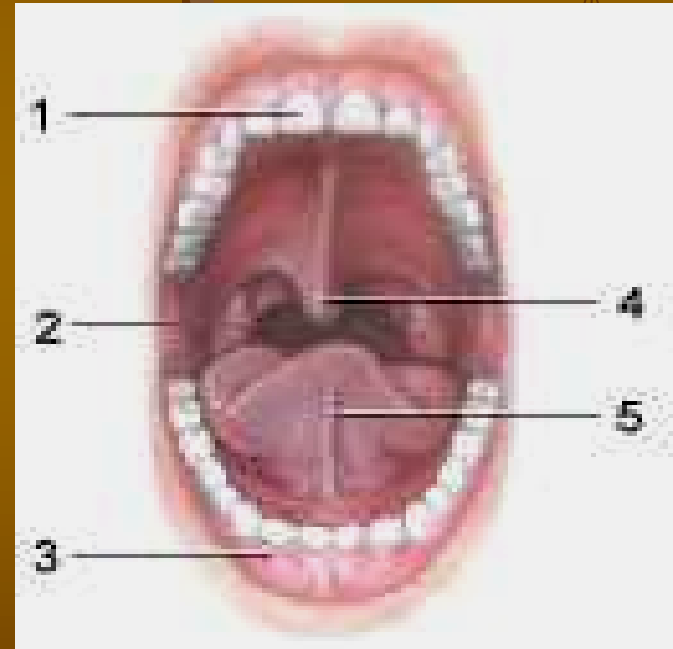


Survey actually oral cavities

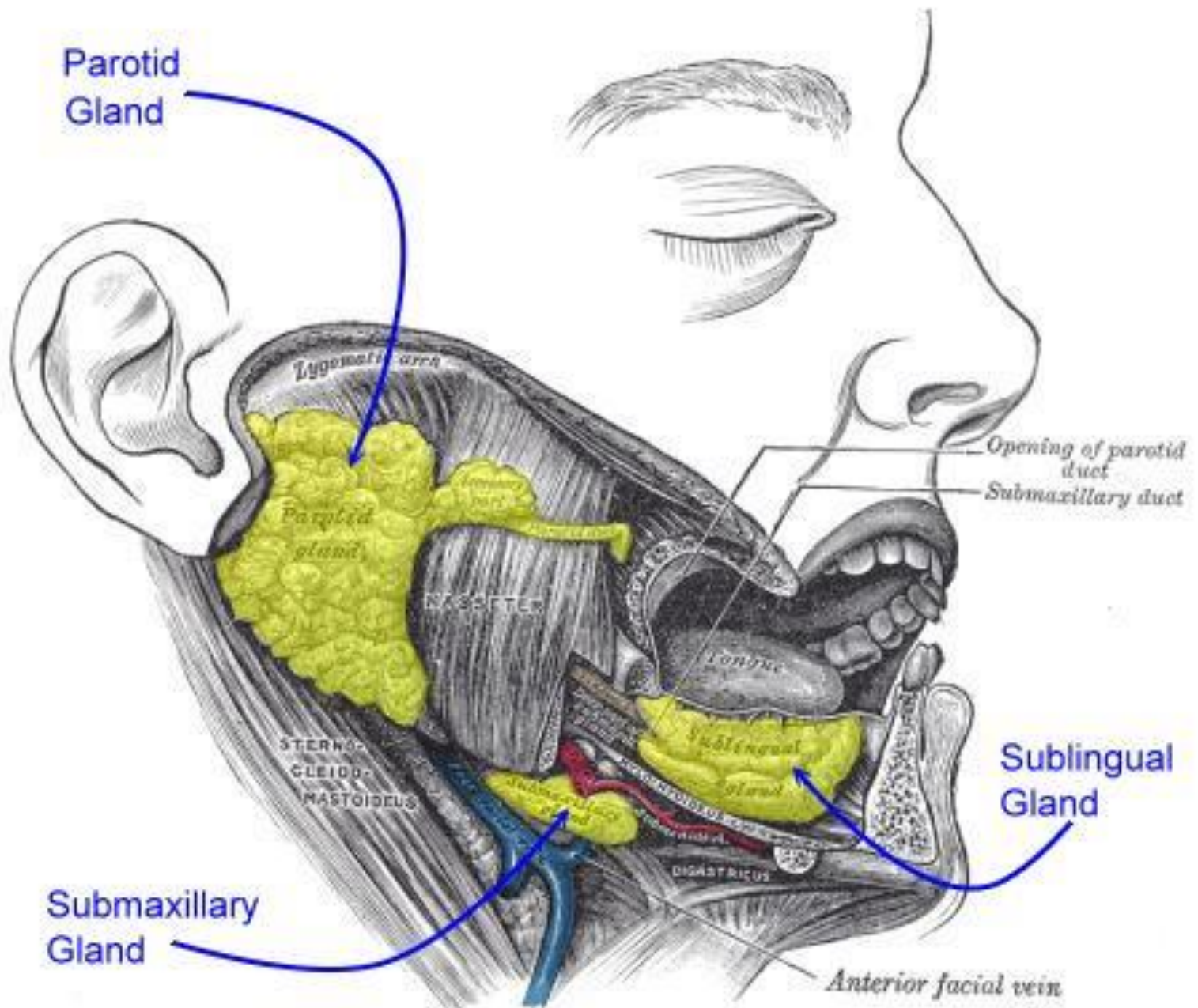


Mucosa hard and a soft palate, forward and back palatal handles, palatine tonsils, a uvula, a back side of a pharynx:

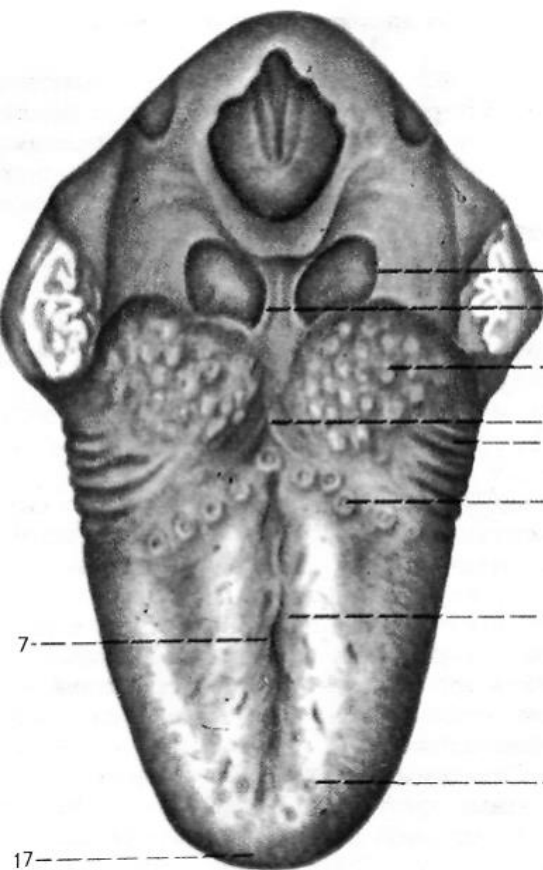
Colour: pink,
at a pathology – hyperemia, icteric;
Humidity: moderately wet,
at a pathology - dryness;
Puffiness: in norm - is absent;
Lesion element: in norm - is absent, at a pathology -
presence vesicles, pustules, erosions, ulcers, turbidity of
an epithelium, a papule, etc.



Salivary glands



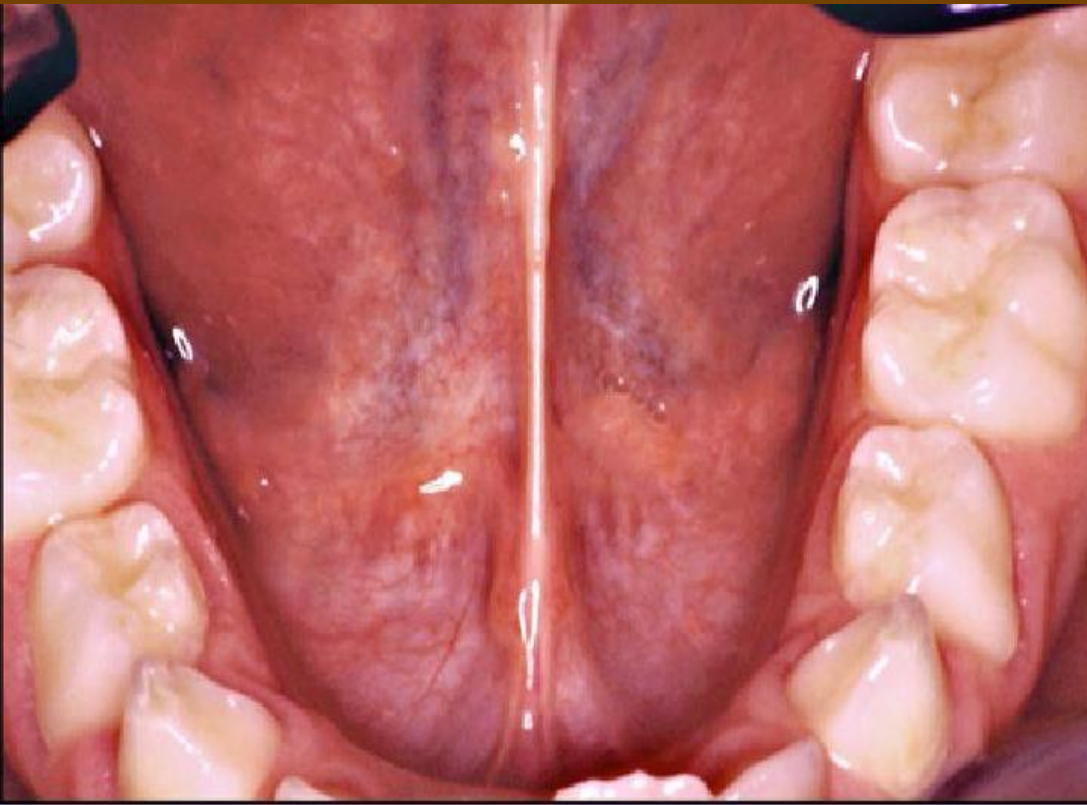
Tongue:



- The dimension: middle, micro-, macroglossia
- Colour: in norm - pink, another - at staining medicinal preparations or foodstuff; at a pathology (for example anaemia - crimson (Gunter's tongue) ;
- Pleating: moderated, strongly expressed penetrating longitudinal and cross-section sulcus;

- State of papillae (threadlike, funguslike, foliate, gutterlike): are expressed moderately, at a pathology: atrophy - the "glazed" tongue, a keratinization and a hyperplasia of threadlike papillae - "hairy" tongue, a desquamation of papillae of tongue - "geographic" tongue;
- Scurf: in norm – is absent or insignificant hazy at a tongue root, at a pathology: caseous scurf or white-grey scurf on all surface.

Mouth floor:



- Colour, mucosa relief: pink, without the focus of a keratinization, turbidity;
- State of a bridle of tongue: it is expressed moderately, can be short.

- Lead-out ducts of submandibular and sublingual salivary glands: with out changes.

Teeth:

It is effected by means of a stomatological mirror and an acute angle probe from right to left, since teeth of the top jaw (molar teeth), and then from left to right, examining mandible teeth. Estimate:

- Colour: natural - shades from yellow to bluish;
- Transparency - alive gloss of enamel;
- The form, size, position of teeth in tooth arch;
- Integrity of hard tissues of teeth: in intact teeth the probe freely slips on its surface, detain (hold on) in excavations and fissures;

Teeth:

- Stripping (bareness) of teeth necks: in norm – is absent;
- Mobility (it is defined by a forceps or a probe (in lateral dens) by rocking): 1 degree - shift in a vestibule-oral direction, 2 - shift in vestibule-oral and lateral directions, 3 - shift and on an axis of tooth (in a vertical direction);
- Presence of not carious lesions (an enamel hypoplasia, a fluorosis, wedge defect, abrasion, enamel erosion, traumatic damages);
- Tooth scurf: not mineralized (pellicle, the food rests, a soft debris, a tooth plaque); mineralized (over - and undergum an odontolith (calculus); localization. In norm - is absent.



Odontolith over
- and undergum



Inspection of a place of disease (Locus morbi)



Survey affected tooth:

- Colour of tooth: natural (shades from yellow to blue) or its changes (grayish at a gangrenous pulpitis, at a pulp necrosis; brick-red, pink - at impregnation by resorcinol-formalin, etc.);
- Gloss (transparency of enamel): it is conserved in teeth with an alive pulp;
- Present the filling;

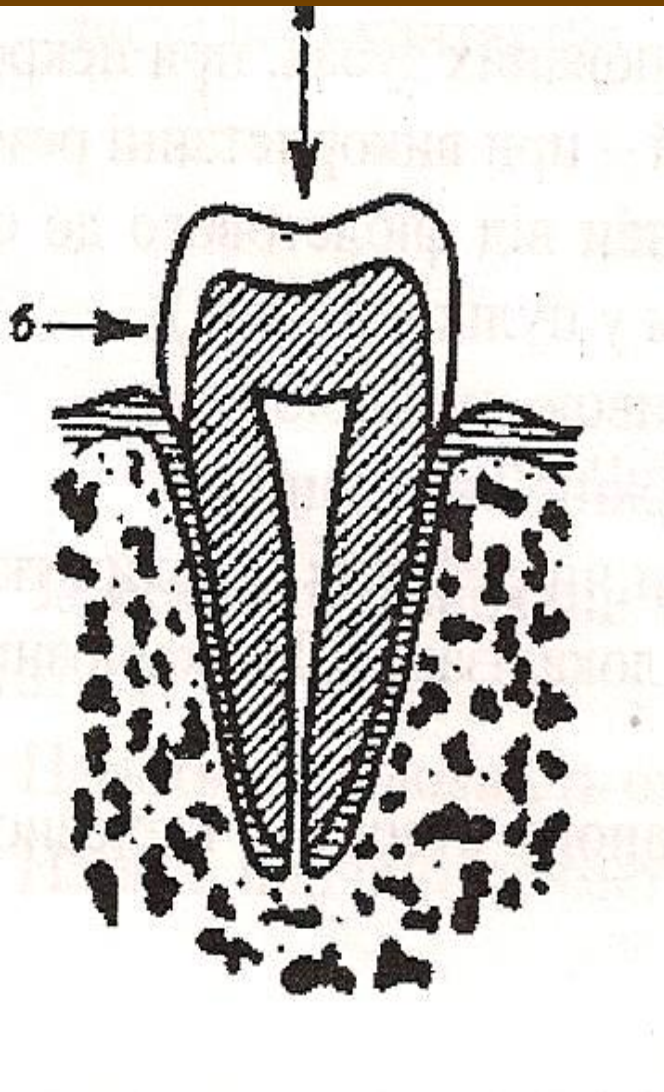
Inspection of a place of disease (Locus morbi)

- Present the carious cavities or defect of hard tissues of tooth: its form (shape), surface of localization with indicating of class by Black;
- Interrelation of the dimensions of an inlet opening (entrance aperture) with a carious cavity: narrow, wide;
- State of edges of an enamel: colour, fragility;
- Colour of carious cavity walls (at a wide inlet opening: pigmented or not).

Probing:

- Depth of a carious cavity: within an enamel, cloak or nearpulpul dentine. It is sometimes specified after disclosing of a carious cavity;
- Consistence of a dentine on a bottom and walls of a carious cavity: dense or soft;
- Present or absent of perforation of a pulp cavity: in the field of a pulp horn, the wide perforation ;
- Morbidity presence: on walls of a carious cavity in range a dentine-enamel border, on a bottom, in point of perforation, in ostium of root canals;

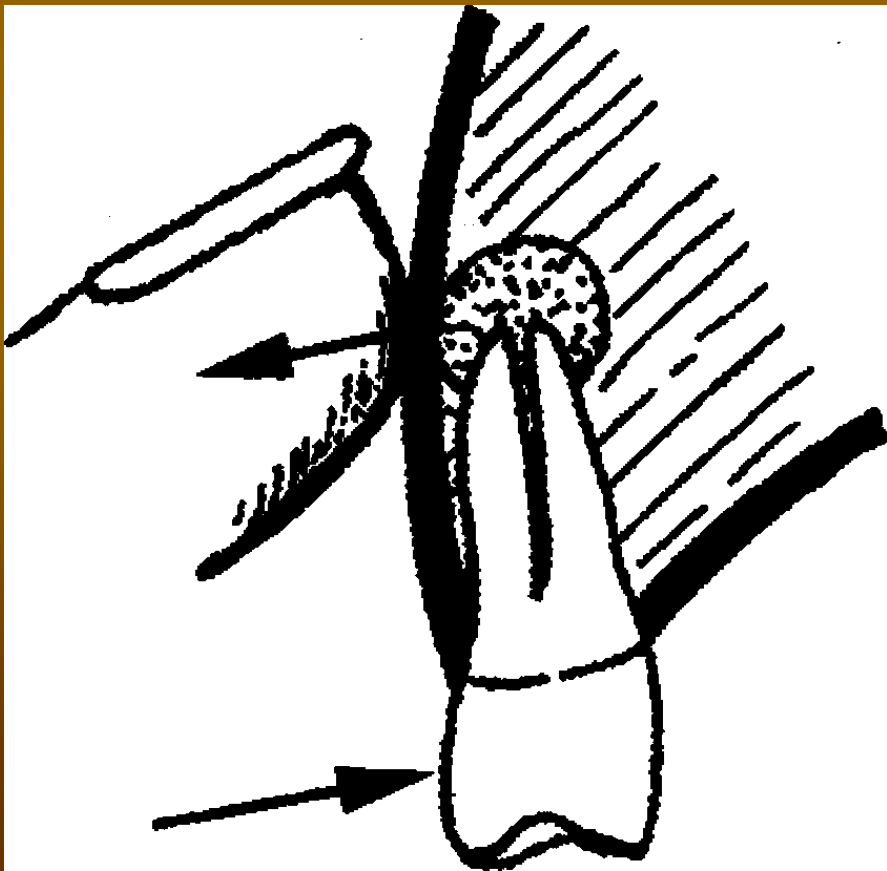
Percussion



- It is performed by percussion by the tool handle (a probe, a mirror) on a tooth crown.
- The comparative horizontal and vertical percussion for definition of a state of a marginal and apical periodontium accordingly is made. In intact teeth it is painless, in affected teeth - sensitive, painful, sharply painful.

Palpation of a mucosa membrane in the field of a projection of an apex of a tooth root.

It is carry out by a forefinger of the right hand or big and forefingers simultaneously from the vestibular and oral sides of an alveolar process.



Estimate:

- Morbidity;
- Protrusion (protuberance)
- Presence of an obvious hyperemia and edema;
- Presence of cicatrices;
- Presence of fistulas, with the indicating of character of discharged exudates.

Palpation of a mucosa membrane in the field of a projection of an apex of a root of tooth

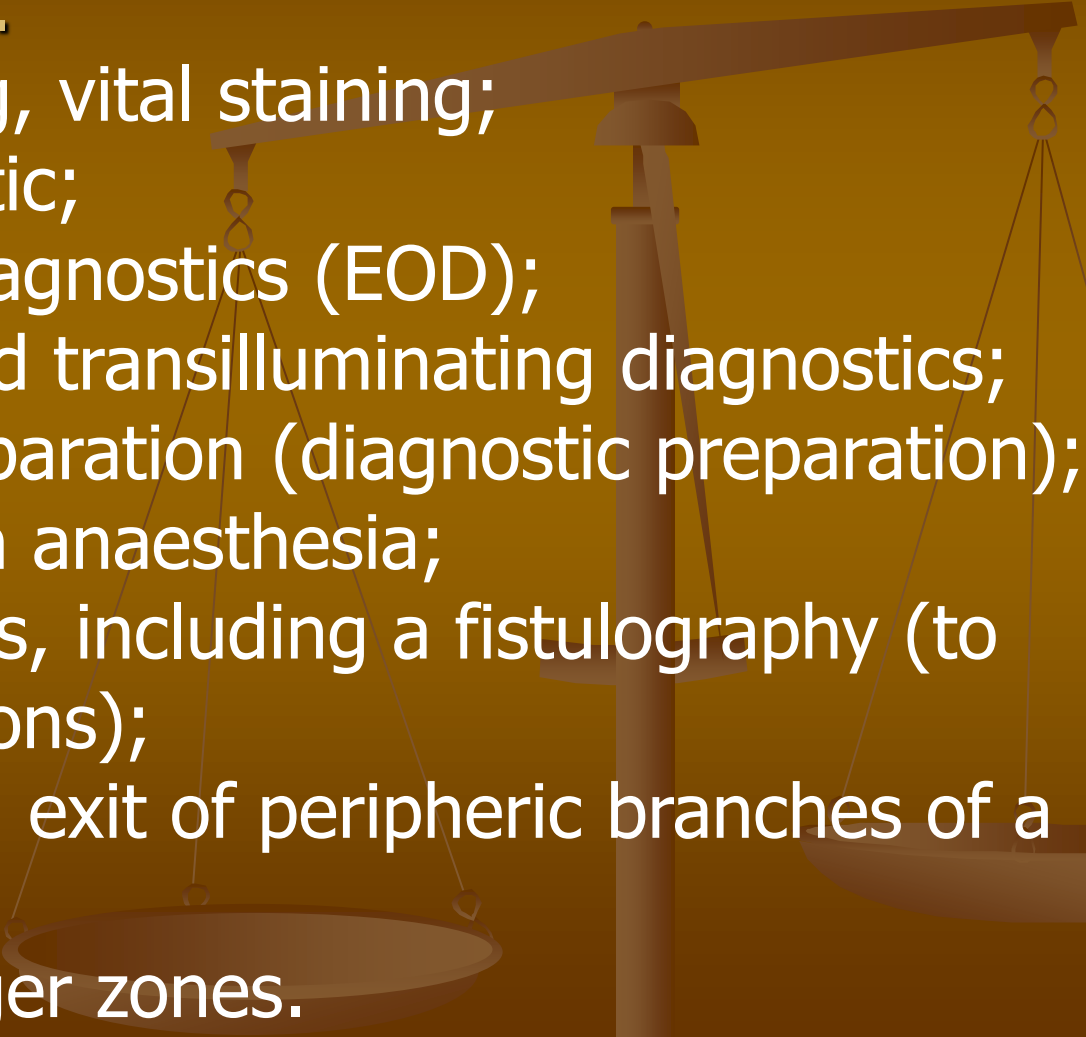


*Swelling at the gum
(testify about inflammation
periapical field)*



ADDITIONAL METHODS OF EXAMINATION

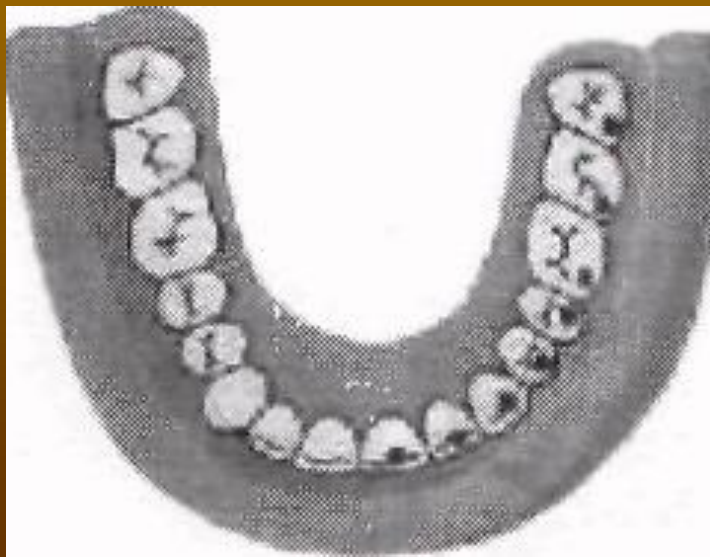
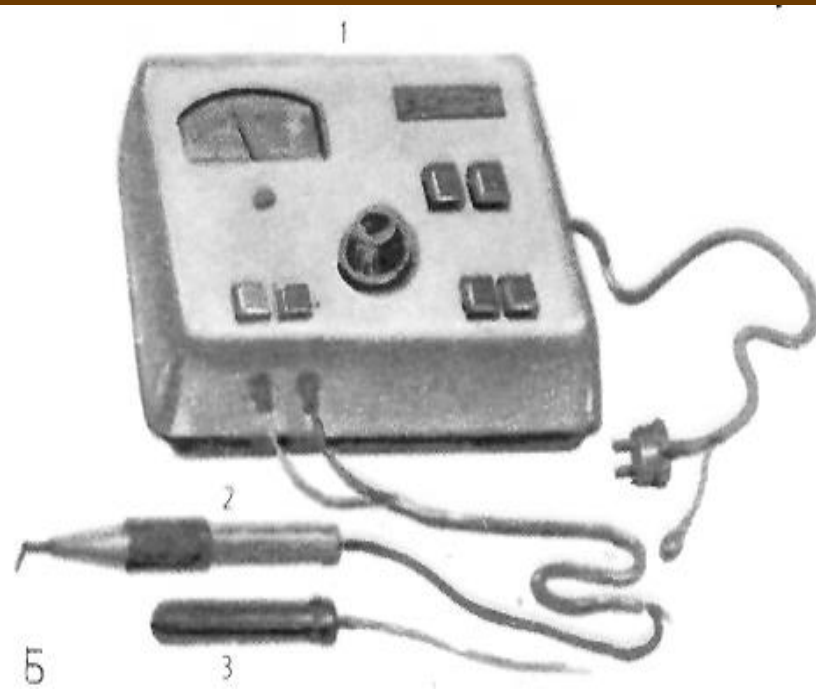
Carry out for specification of the form, stages, degree, current of disease, research of its etiology and pathogenesis.

- Caries - marking, vital staining;
 - Thermodiagnostic;
 - Electroodontodiagnostics (EOD);
 - Luminescent and transilluminating diagnostics;
 - The test on preparation (diagnostic preparation);
 - The test with an anaesthesia;
 - X-ray diagnostics, including a fistulography (to prove the indications);
 - Inspection of an exit of peripheral branches of a trigeminal nerve;
 - Definition of trigger zones.
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Thermodiagnostic

- The intact tooth does not react by a pain to appreciable temperature deviations.
- Indifferent zone (the zone of absence of a pain reaction) for lateral teeth makes from $+5-7^{\circ}\text{C}$ up to $+60-70^{\circ}\text{C}$, for frontal teeth - from $+12-17^{\circ}\text{C}$ up to $+50-52^{\circ}\text{C}$.
- At the acute forms of a caries indifferent zone is narrowed and there is in borders from $+25^{\circ}\text{C}$ up to $+50^{\circ}\text{C}$. Thermodiagnostic by water with temperature above or below of indifferent zone causes acute or nagging, but quickly ending, pain.
- At pulpites the border of this zone are even more narrowed (deviation from temperature of a body on $5-7^{\circ}\text{C}$ causes an attack of a pain). That is the indifferent zone at pulpites is in borders from 30 up to 40°C , and sometimes absolutely is absent. The thermodiagnostic thus provokes an attack of long intensive or nagging pain.
- At periodontites (owing to destruction and disintegration of a pulp) thermal irritant does not cause the appropriate tooth reaction.

EOD

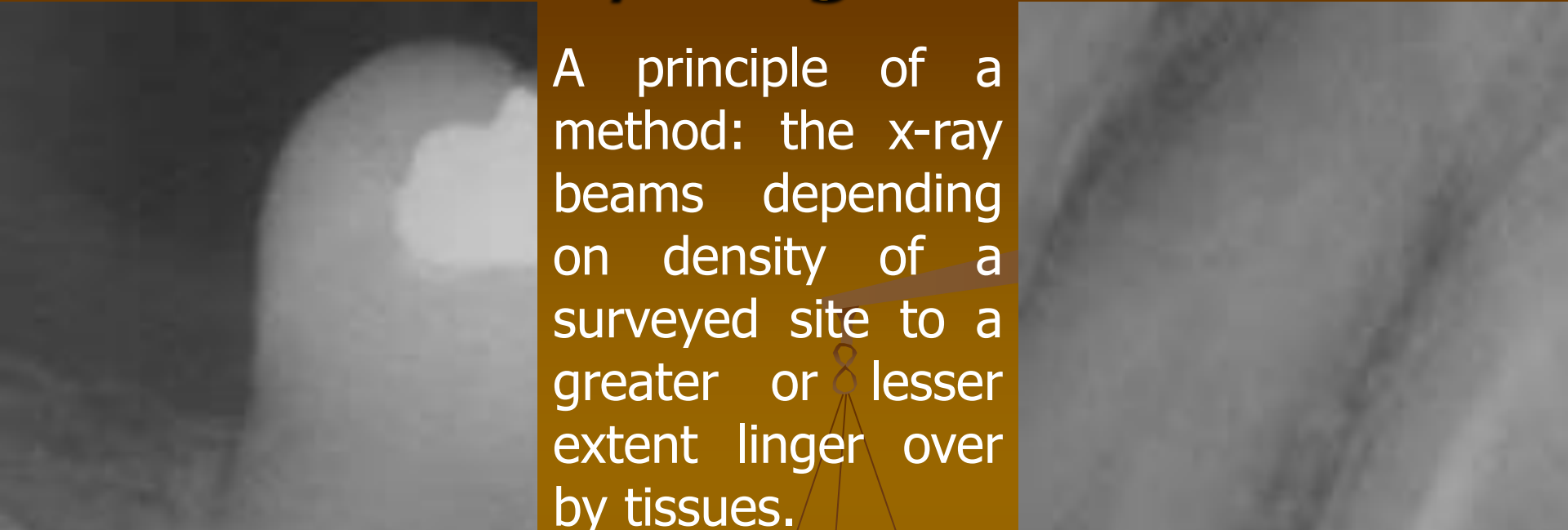


It is a method of definition of a state of sensitivity of a pulp by means of an electric current.

Approximate parameters of sensitivity of a pulp at EOD:

- a) an intact tooth - 2-6 μA ;
- b) a deep carious - 10-15 μA ;
- c) an acute pulpitis - 20-50 μA ;
- d) a chronic gangrenous pulpitis - 60-90 μA ;
- e) apical periodontitis - it is more than 100 μA .

X-ray diagnostics



A principle of a method: the x-ray beams depending on density of a surveyed site to a greater or lesser extent linger over by tissues.

In places, where on ways of beams there are hard tissues will be a light site. In places, where absorption smaller, the beams reach a film and on a picture there will be a dark image. The enamel of a tooth gives a dense shadow, dentine and cement - less dense, than enamel. The pulp cavity is distinguished on outlines of a contour of a dentine, the periodontal cleft looks even more dark strip of width 0,2-0,25 mm, that formed by contours of an alveolus and cement of a root.

Diagnostic tests

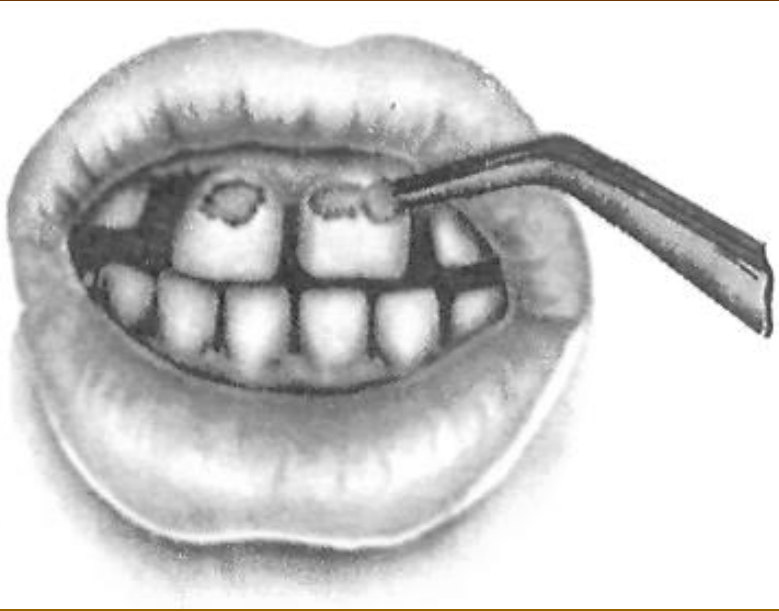
The test on preparation

- Is used for definition of a state of a pulp on sensitivity at diagnostic preparation. It carry out by way of preparation without a previous anesthesia in the field of dentin-enamel border. In teeth with an alive pulp there is a pain with more or less expressed intensity, preparation of dead teeth - painless.

The test with an anesthesia

- At impossibility to define a sick tooth, which is a source of an acute pain, it is possible to applied intraligamental (subperiosteal) anesthesia serially of any "suspicious" tooth, entering no more than 0,25 ml of anesthetic solution. As this kind of an anesthesia provides an anesthesia only of one tooth, the stoppage of a pain during 2-3 minutes can testify that sick is just anaesthetized tooth.

The caries-marking



At a caries - marking the dye-stuffs fast and exact (during 5-10 s.) shows the demineralized area, painting affected frame of a tooth. It permits to speed up and to simplify process of diagnostics, preparation of carious tissues and to define volume of a bacterial penetration in a tooth tissue. At the present stage for caries-marking use "Caries-Marker" (firm VOCO, Germany), "Caries-Finders" (USA), "Cari-d-Test" (Greece), "Snoop" (firm Pulpdent, the USA), "Tu Dye For" (firm Roudent, Canada). Last solution can be used and for detection of root canal ostiums.



Indication to caries-marking:

1. Diagnostic of acute initial caries;
2. Check quality of necrotomy;
3. For understandable how the dentin can be repaired by remineralization;
4. For find of ostium root canal.

Luminescent diagnostics

- Based on ability of tissues and their cellular elements under action of ultra-violet beams to change the natural colour. The researches carry out in the blacked out premise (room) after acclimatization of an eyes to darkness with the help of devices equipped with a quartz lamp with the filter from a dark - violet glass. In beams of Vud healthy teeth shine by a gentle - white shade, and the struck sites look more dark with precise contours.

Transilluminating diagnostics

- With the help of this method estimate of shade-making ability, which are observed at passage through object of research of a cold beam of light, harmless to an organism. The method can be used for diagnostics of a caries, pulpitis, cracks of enamel, lines of fracture of roots, control of preparation of cavities to filling, applying of a seal, revealing and qualities of erosion of undergingival tooth adjournment.
- The researches carry out in a dark room with the help of a light guide from an organic glass attached to stomatological mirror.
- At a caries - the hemisphere, circumscribed from healthy tissues, of brown colour is defined, at the acute forms of a pulpitis the crown of the struck tooth looks more darkly of crowns of healthy teeth, at chronic - dim luminescence of hard tissues of a tooth (effect " of the extinct star") is observed, at a gangrenous pulpitis, at periodontites - blackout of all crown (effect " of a black hole ").



THANKS FOR ATTENTION!