Poltava State Medical University Department Propaedeutics of Orthopedic Dentistry stomatolog-umsa.poltava.ua

Introduction to the subject: "Orthopedic dentistry": stages of development, sections, tasks, general principles, problems.

Module 1.

Lecture 1.

Introduction to subject

" Propedeuvtics of orthopedic Stomatology "

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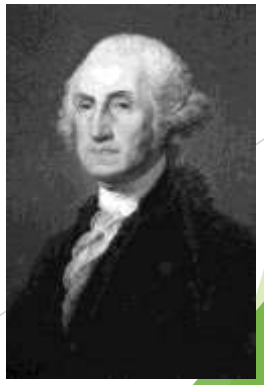
lecture plan

1. Introduction. The concept of orthopedic dentistry.
2. Formation and development of orthopedic dentistry.
3. The structure of orthopedic dentistry.
4. Tasks of orthopedic dentistry.
5. Principles of orthopedic dentistry.
6. Organization of orthopedic service in Ukraine.
7. Problems of orthopedic dentistry.

Introduction with the subject" Orthopedic Stomatology": stages of development sections, tasks, general principles and problems.

orthos – «Direct»

paideie – «Correct»



Prosthetic Dentistry - This area of dentistry, dedicated to the study, diagnosis, treatment and prevention of various morphological and functional disorders in tooth-maxillofacial .

Prosthetic dentistry is developing a treatment strategy breaches of integrity and restoration of function dentoalveolar system with application mechanotherapeutic agents (artificial limbs, tires, static-dynamic regulatory apparatus, etc.).

Orthopedic dentistry - a field of clinical medicine that studies the etiology and pathogenesis of diseases, deformities and damage to teeth, jaws and other organs of the oral cavity and maxillofacial region, developing methods for their diagnosis, treatment and prevention through the use of orthopedic devices and prostheses.

Structure Ortopedic Stomatology

General preparatory course (propaedeutics)

Special (clinical) course

Structure Orthopedic Stomatology

Anatomical , physiological features of the masticatory system

Symptoms and semiotics diseases

Clinical materials

Laboratory and prosthetic appliances

Structure Orthopedic Stomatology

Special (clinical) course

Dental prosthesis

Maxillofacial Orthopedics

Orthodontics

The fundamental theoretical principles Orthopedic Stomatology

1.orthopedist-dentist should have the higher medical education.

2.asserts that prosthetics, elimination of deformations (anomalies) are spent most effectively only in orthopedic clinics and the big orthopedic units of stomatological out-patient departments;(treatment is carried out only in clinics)

3.principle embodies idea of unity of different systems of an organism (the body is one system).

4.testifies that prosthetics is medical and preventive action which is based on the strong base (The principle of prevention is one of the most important in dentistry)

5.principle asserts that any prosthesis or an orthotics is surveyed as a medical agent which has, except therapeutic, also undesirable (collateral) properties.(orthopedic prosthesis may have a negative effect)

6.called “a principle of stages”(any treatment should go through stages)

7.demands to observe the patient until there will be completely solved tasks provided by a treatment planning;(you need to look after the patient until the treatment is over)

8.a principle of complex therapy of different diseases. (Treatment should be complex)

9. preventive maintenance principle;

10 .observance of rules of medical ethics and a deontology

Historical of the development of Orthopedic Stomatology

Archaeological stage:

Egypt - 3000 BC

Culture Maya, Inca and Aztec States

Culture Etruscans - 9 - 6 century BC

Roman Empire - 5 century BC

Historical of the development of Orthopedic Stomatology

Abul Kasim (936 – 1013)

- Principles ligature splinting mobile teeth..

Ambroise Pare(1510 – 1590)

- Making dentures in a monoblock artificial teeth.
- First palatal stoppers.

Pier Foshar (1678 – 1761)

- Fixing complete dentures plastynkovyh springs
- The concept of of pin tumbler teeth

Historical of the development of Orthopedic Stomatology

Purman(1721)

- Begin to use beeswax for the imprinting

Pfaff (1756)

- Applies for founging of models

Dushato (1774)

- Usage porcelain for making prosthetik

Fanci1808 p.)

- Making of porcelain teeth with metallikpins(crampons)

General and specific diagnostic methods

- Primary oral examination

- X-ray methods

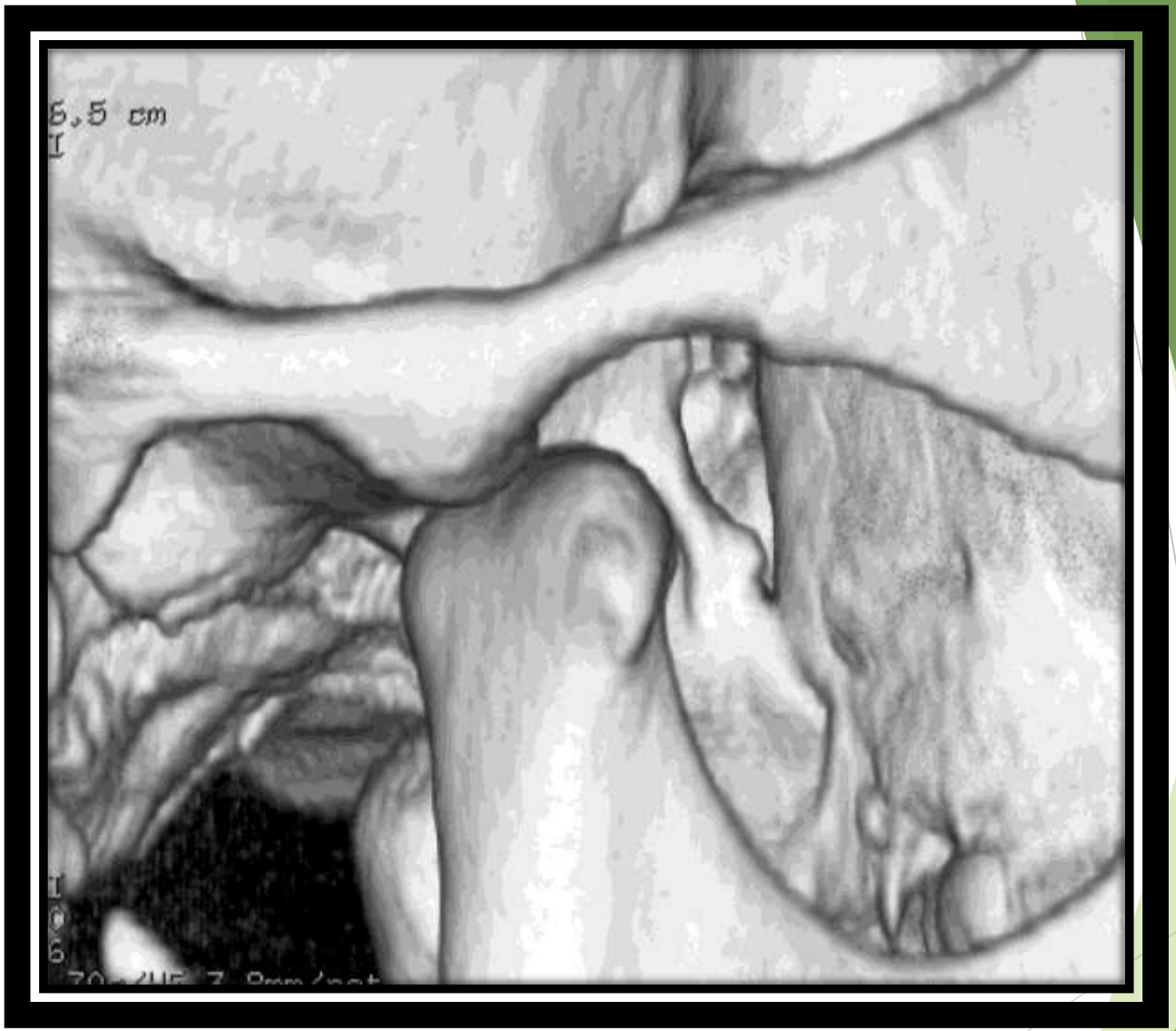
Primary oral examination

probe

mirror

tweezers

cone beam computed tomography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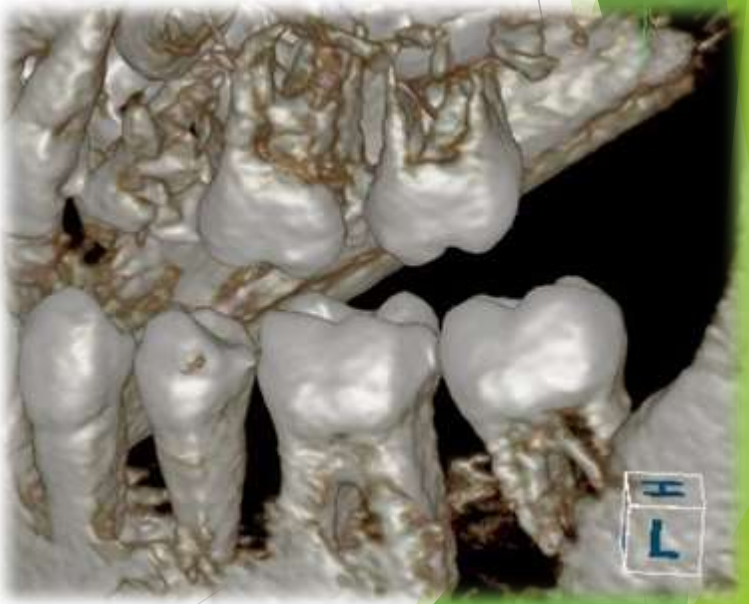
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STOMATOLOGICAL ROOM

- In clinical halls of chair pedagogical process is carried out, diagnostic and treatment-and-prophylactic work with patients is spent.

The area of the premise calculated on one stomatological armchair, should make not less than 23 м2. In halls at the equipment of each following armchair it is allocated in addition 7 м2.

The clinic equipment consists of the stomatological equipments, a little table, on which located medicines and fine toolkit, a little table for work with a gypsum and others impression materials, cases for storage of designs of prostheses, a table of the teacher.


6eyes LED
sensor light
X-ray install with
dental chair
microscope made
in Taiwan
Italian operation tray
with 3 memory program
handmade lether
cushion 2.2m long
TAOS1600
foot pedal for
the microscope
Multi-functional
panda foot pedal
Big backrest
dentist stool

dental turbine tip

dental polish tip

direct tip

ultrasonic scaler

METHODS OF STERILIZATION

- THE STEAM AUTOCLAVE
- CHEMICLAVE
- DRY HEAT OVENS
- OTHERS

  -EXPOSURE TO ETHYLENE OXIDE GAS

  -BOILING WATER

  -IONIZING RADIATION

METHODS OF STERILIZATION AND DISINFECTION

PHYSICAL METHODS	CHEMICAL METHODS
• SUNLIGHT • DRYING • DRY HEAT • MOIST HEAT • FILTRATION • RADIATION • ULTRASONIC AND SONIC VIBRATIONS	• ALCOHOLS • ALDEHYDES • DYES • HALOGENS • PHENOLS • SURFACE-ACTIVE AGENTS • METALLIC SALTS • GASES

- **STERILIZATION** **Sterilization** (or **sterilisation**) is a term referring to any process that eliminates or kills all forms of life and other biological agents including transmissible agents (such as fungi, bacteria, viruses, prions, spore forms, unicellular eukaryotic organisms such as Plasmodium, etc.) present in a specified region, such as a surface, a volume of fluid, medication, or in a compound such as biological culture media.

  (WHO Glossary)

- **STERILE**: Free from all living microorganisms; usually described as a probability (e.g., the probability of a surviving microorganism being 1 in 1 million).(CDC guidelines 2008)

- **DISINFECTION:** Destruction of pathogenic and other kinds of microorganisms by physical or chemical means. Disinfection is less lethal than sterilization, because it destroys the majority of recognized pathogenic microorganisms, but not necessarily all microbial forms (e.g., bacterial spores).(CDC guidelines 2008)

- Disinfection is a process of removing or killing most, but not all, viable organisms.

MIMS-PLAYFAIR,5th

- **Impression trays** are sterilized as follows

  metallic - autoclave

  plastic – ethylene oxide

- **Disinfection of alginate impressions** –

  Methods

  - Spraying

  - Immersion

  Iodophors, sodium hypochlorite (1:10 concentration) , phenols, formaldehyde, glutaraldehyde.

Orthopedic dentistry. Prosthetic.

Orthopedic stomatology (prosthetic) – section of dentistry, which is study restoration of lost tooth or group of tooth. The base of orthopedic dentistry has been prosthetics. Besides restoration of masticatory function, nowadays is very popular esthetic direction in orthopaedic, when with help of crowns and veneers the patient can change color and shape of his tooth, to change size and position of tooth. Are available fixed and removal dentures.

Fixed dentures are: **inlays, veneers,** and also **crowns** и **dental bridges**. Removal denture – partial removal denture, **laminar dental prosthesis**, full denture and и **clasp dental prosthesis**.

Inlays

Inlays, inherently, are fillings, but they aren't made in the patient's mouth, but in laboratory, and after it the dentist glues inlays down into beforehand treated tooth with help of adhesive composition. Inlays are made of ceramic or synthetic materials.

THE DENTAL BRIDGE WITH INLAY'S SUPPORT

The bridge with inlays – full ceramic restoration, which is applied for restoration of one missing tooth. This dental bridge consists of two inlays and intermediate part.

When next with defects, teeth have carious cavities and these cavities are closely to defect, in this case, we got well done bed for inlay thanks to removal of caries, on the created bed is fixed artificial crown, which restores missed tooth. There you can find pictures below

Veneers (adherent layer) – is ceramic «side plate», which are fixed on the frontal surface of teeth. Usually veneers are used for face improvement of frontal group of teeth (inborn or gained changes of enamel surface that spoil its face; erasibility, color changing).

Dental crowns – orthopedic constructions, which are made by laboratorial way.

The crown covers tooth from every quarter, and fixed by cement. Tooth crown becomes new outside surface of tooth. Tooth crowns are way of restoration for strongly destroyed tooth, and in such way the shape, function and face of tooth are restored. The crowns strengthen lacks of tooth tissues

The main reason for prosthetics with dental bridge is defects of denture – lack of one or more teeth.

The dentist define tipe of dental bridge and material, it will be made according to patient's teeth

Nowadays there are many offers of different kinds of prosthetics in the modern dentistry

missed teeth can be restored with different materials and with different ways, but very often there happen such situations, when removal prosthesis is sole acceptable variant. For example, when tis patient doesn’t have abutment - posterior teeth, or when implants are contra-indicated in some reason

Last few years, the clasp prosthesis, or also sometimes it is called bugle, is in the lead position (among removable prosthesis). So what is it? Clasp denture is based like arc, and in contrast to other prosthesis, it uses for support not only gum, but also patient’s teeth

The modern orthopedic dentistry offers different constructions for restoration of masticatory efficiency. The choice of construction depends on medical indications with individual patient’s features. On the face of it, fixed prosthesis, particularly, metal-porcelain with implantology, must to extrude considerably fixed prosthesis, but because of noticed earlier reasons, this kind of prosthesis even now is considerable part of all orthopedic construction

Conceptual framework

Orthopedic Stomatology - a dialectical unity and interconnections form and function.

Acquaintance with orthopedic laboratory.

The orthopedic laboratory has the core and subsidiary premises. In the basic premise there are desktops for the tooth technicians, equipped with the equipment and toolkit for technical manufacturing of the tooth prostheses, a separate premise with apparatus "Samson", a fuming board and equipment for the soldering of metal prostheses.

Besides, there are subsidiary premises: plaster, polisher, forming, foundry, a separate premise for manufacturing of gold prostheses

Teeth and dentitions

Teeth is basic structural unit of the chewing apparatus of the person. The first and the major is their chewing function. Teeth also carries out sensory function by perception and transfer of chewing pressure by periodontium receptors. Between teeth, peridental tissues and an oral cavity exist the conditioned reflector t communications regulating secretion of sialadens and peristaltic of a gastroenteric tract. Teeth and dentitions take part in formation of sounds.

In each tooth it is accepted to distinguish: an anatomic crown (the part of tooth covered with an enamel), a clinical crown (the part of tooth acting over a gum), anatomic a neck (a place of transition of an enamel in root cement), a clinical neck (a transition place overgum tooth parts in intraalveolar) and a root located in a tooth socket.

The tooth crown has 5 surfaces: occlusal, vestibular, lingual (on a mandible) or palatal (on the top jaw) and the contact surfaces turned to the next teeth. The root and a tooth neck are constructed of a dentine. In a tooth crown, outside from a dentine, the firmest tissue of a human body - an enamel is located.

Depending on the form of a crown of tooth distinguish: incisors, canines, small radical and big molars. At adult people happens thirty two teeth which name constants, and at children - 20 so-called milk teeth forming a temporary occlusion is more often. Both milk, and a second teeth is cut through in post-natal the period in a certain order and time.

Conclusion

- Occupational diseases arise exclusively or mainly as a result of influence on an organism of adverse working conditions and a professional harmfulness. The irrational working pose and an inconvenient workplace during reception of patients can lead to occurrence of diseases of a locomotorium.

- The organization and structure of the orthopedic stomatological help.

- Stomatological service in our state will organize, plan, refer and supervise Ministry of Health, regional, city, regional managements of public health services. At all administrative levels of management of public health services the chief specialist on stomatology is prescribed.

- The stomatological help to the population give in treatment-and-prophylactic institutions of Ministry of Health of Ukraine, in treatment-and-prophylactic institutions of different departments

Thank you for your attention