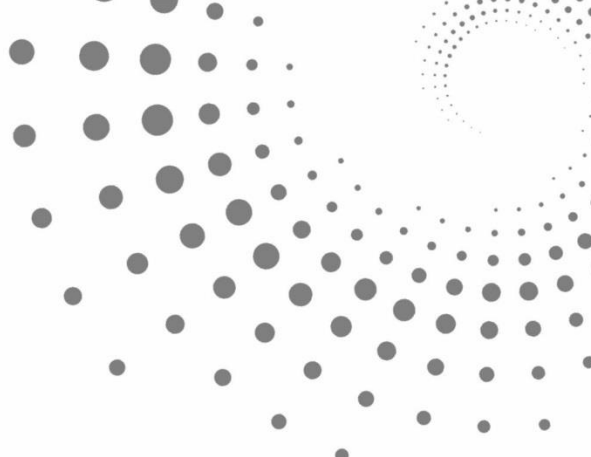




Workbook for self-preparation and control of mastering the competencies of residents studying in the specialty 31.08.77 – “Orthodontics”

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Orthodontics: workbook for self-preparation and control of mastering the competencies of residents studying in the specialty 31.08.77 – “Orthodontics”; direction of education: 60910100 - "Dentistry" / S.V. Averyanov, D.Kh. Akhmetova, R.N. Nigmatov, I.M. Nigmatova – Ufa: BSMU Ministry of Health of the Russian Federation, Tashkent State Dental Institute, Ministry of Education, Republic of Uzbekistan, 2025. – 101 p.

The manual has been prepared in accordance with the work program of the basic professional program of postgraduate professional education for independent training and control of the assimilation of the competencies of residents. It has been developed in accordance with the Federal State Educational Standard for Higher Education (Order of the Ministry of National Science of Russia dated 27.08.2014 N 1128 "On Approval of the Federal State Educational standard of higher Education in the specialty 31.08.77 "Orthodontics" (staff training level highly qualified)" (Registered with the Ministry of Justice of Russia on 23.10.2014 N 34421) and by order of the Ministry of Education and Science of the Russian Federation Russian Federation No. 1061 dated September 12, 2013 "On Approval of the lists of specialties and areas of higher education training"; direction of education: 60910100 - "Dentistry".

The tasks for the independent training of residents and the control of the assimilation of the module's competence in the specialty 31.08.77 - "Orthodontics", direction of education: 60910100 - "Dentistry" as well as test tasks and situational tasks with answers are presented. It is intended for classroom work of residents studying in the specialty 31.08.77 – "Orthodontics; direction of education: 60910100 - "Dentistry".

Recommended by the Coordinating Scientific and Methodological Council and approved by the decision of the Editorial and Publishing Council of the Federal State Budgetary Educational Institution of Higher Medical Education of the Ministry of Health of the Russian Federation

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INTRODUCTION

Orthodontics - the science that studies the organization of orthodontic care, anatomical and morphological features of the maxillofacial region in different age periods, the etiology and pathogenesis of maxillofacial anomalies, modern methods for diagnosing morphological and functional disorders of the maxillofacial region in dental anomalies, the use of computers in orthodontics, modern methods for the treatment of maxillofacial anomalies, dental anomalies and deformities, features of orthodontic care for congenital malformations of the face and jaws, prevention of dental anomalies, features of dental prosthetics in children and adolescents, morphological and functional restructuring of the maxillary system under the influence of orthodontic appliances, orthodontic laboratory technology, retention of the results of treatment of maxillary-facial anomalies, recurrence of maxillary-facial anomalies. The study of these sections is necessary for mastering the basic educational program of higher education – the level of training of highly qualified personnel in the clinical residency in the specialty 31.08.77 "Orthodontics".

An orthodontist with professional competencies (PC) in preventive healthcare: willingness to implement a set of measures aimed at preserving and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of dental diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects of environmental factors on human health (PC–1); In diagnostics, willingness for the diagnosis of dental diseases and emergency conditions in accordance with the International Statistical Classification of Diseases and Health-Related Problems (PC–5); in psychological and pedagogical activity, the willingness to form motivation among the population, patients and their family members aimed at preserving and strengthening their own health and the health of others, teaching patients basic hygienic measures of a health-improving nature that contribute to the preservation and strengthening of health, and the prevention of dental diseases (PC-10).

PART I. ORGANIZATION OF ORTHODONTIC CARE

According to which order are conventional units of labor intensity of work of dental doctors calculated?

How many conventional units of labor intensity of work of doctors during the manipulations performed by an orthodontist :

1. Comprehensive initial medical examination, consultation on bad habits, study of the functions of the dentoalveolar system _____

2. Elastic mass impression (2) after 7 years of age _____

3. Casting of control and diagnostic models (2) _____

4. Activation of the orthodontic appliance _____

5. Fitting a removable appliance (single-jawed one) _____

6. Storage of a removable device (bimaxillary) _____

7. Acquaintance parents with the design of the appliance _____

8. Constructive bite type up to 7 years old _____

9. Grinding of temporary teeth (4 teeth) _____

10. Myotherapy _____

11. Massage _____

What does the order of the Ministry of Health and Social Development of the Russian Federation No. 289 of April 14, 2006 indicate? _____

According to the order of the Ministry of Health and Social Development of the Russian Federation No. 289 of April 14, 2006 "Recommended staffing standards for medical and other personnel of children's dental clinics".

1. Positions of orthodontists are established at the rate of ____ positions per 1000 children.

2. Positions of dental surgeons are established at the rate of 1 position ____ positions of children's dentists.

3. The position of the head of a children's dental department of any profile is established for every ____positions for each position of a dentists provided for in the polyclinic by these recommended staff standards.

4. Positions of nurses of medical offices are established at the rate of ____position for each position of a pediatric dentist, a dental surgeon and an orthodontist.

What does the order of the Ministry of Health of the Russian Federation No. 910n of November 13, 2012 indicate?

According to Order No. 910n of November 13, 2012, recommended staffing standards for children's dental clinics (departments): 1 position of an orthodontist is established for 10 dentists of children.

Order of the Ministry of Health of the Republic of Bashkortostan No. 976-d dated March 31, 2015 indicate that _____

What order approved the medical record of an orthodontic patient?

PART II. ANATOMICAL AND MORPHOLOGICAL FEATURES OF THE MAXILLOFACIAL REGION AT DIFFERENT AGE PERIODS

The period of intrauterine development of the fetus

At ____ week, the oral and nasal cavities are separated by the development of two palatine processes, which, growing together with each other and with the nasal septum, form a primary palate. At ____ week, temporary teeth are laid. There is a high position of the tongue and a prognathic ratio of the jaws.

At ____ week, the two mandibular processes are fused together.

At ____ week, the alveolar process of the upper jaw and the rudiments of incisors (central and lateral), canines and the first permanent molars are laid.

During the _____ week, enamel organs and dental papillae of the rudiments of teeth are formed.

Oral cavity of newborns and infants

This period of development is characterized by the following age features:

- A vertical gap of _____ mm remains in the frontal part;
- infant _____;
- sagittal gap between the alveolar processes of the upper and lower jaws within _____;
- by the time the baby is born, the temporomandibular joints are formed _____.

In a child under six months of age, the physiological state is _____ type of swallowing. After incisor eruption, the physiological type is gradually transformed into a physiological one: _____.

Characteristics of the maxillofacial region in preschool age

Write dental eruption schedule of primary teeth:

Tooth	Eruption (in months)
I	
II	
III	
IV	
V	

The dental arches of the upper and lower jaws have the next type of shape

_____.

Bite – closing of the dentition with the usual position of the lower jaw – in children of this age_____.

In the central closure, the distal surfaces of the molars are located in

_____.

Characteristics of the maxillofacial region in preschool age (from 3 to 6 years)

On the upper jaw, the dental arch has the next type of shape: _____,
and on the lower jaw –_____.

The most characteristic symptom is

both front teeth and molars.

Due to the development of permanent incisor rudiments,

_____ occurs.

The maxillofacial region of a person during the period of junior and senior school age

Write dental eruption schedule of permanent teeth:

Tooth	Eruption (in years)
1	
2	
3	
4	
5	
6	
7	
8	

Write the main signs of the following physiological bites:

Orthognathic occlusion:

1. _____

_____.

2. _____

_____.

3. _____

_____.

Edge-to-edge occlusion:

1. _____

_____.

2. _____

_____.

Maxillary and mandibular prognathism (Bimaxillary prognathism):

1. _____

2. _____

Opisthognathia:

1. _____

_____.

2. _____

_____.

Write the six keys to normal occlusion (Andrews, 1972):

Key I: _____

_____.

Key II: _____

_____.

Key III: _____

_____.

Key IV: _____

_____.

Key V: _____

_____.

Key VI: _____

_____.

PART III. ETIOLOGY AND PATHOGENESIS OF DENTOFACIAL ANOMALIES

Hypofunction of the pituitary gland can lead to _____

_____.

Breathing disorders can lead to _____

_____.

Write three groups of bad habits by V.P. Okushko

1) _____;

2) _____;

3) _____.

What does bad habits mean in dentistry?

_____.

Types of chewing dysfunction:

1. _____.

2. _____.

3. _____.

What the types of swallowing do you know?

_____.

Reasons of mouth breathing: _____;

_____;

_____;

_____;

_____.

Macroglossia– _____.

Signs of a short lingual frenulum (ankyloglossia, tongue-tie):i

There are _____ types frenulum of the tongue that limit tongue mobility (Khoroshilkina F.Ya., 1965, 1986).

The first type is _____

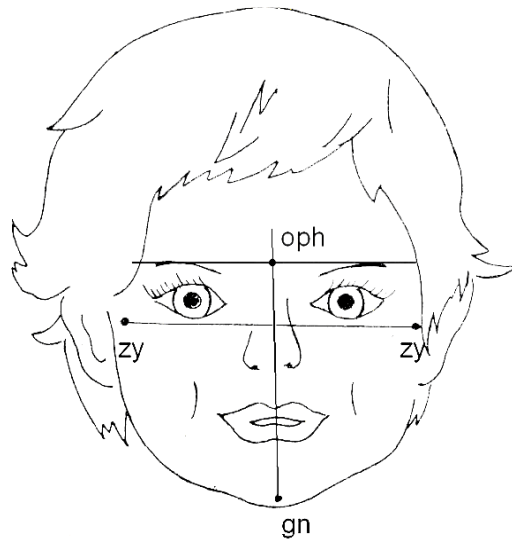
The second type is _____

The third type is _____

The fourth type is _____

The fifth type is _____

PART IV. MODERN METHODS OF DIAGNOSTICS OF MORPHOLOGICAL AND FUNCTIONAL DISORDERS OF THE MAXILLOFACIAL REGION



According to the Facial Morphological Index (IFM), G.. Izard (1930) the length of the face is measured by_____

_____,
and the width_____

What data on the length and width of the face is used to calculate the facial index of Izard?_____

_____.

The ratio of length and width of the face from 104 and more characterizes the_____ face, 97-103 – _____, 97 and less– _____.

The form of a person's profile is determined by _____, which is formed as follows _____.

The value of the angle $170-190^\circ$ characterizes _____ face profile, more than 190° – _____, less than 170° – _____ face profile.



With a healthy TMJ, the mouth opens at _____

_____.

When evaluating the soft tissues of the vestibule of the mouth, it is necessary to study the condition of the frenulum of the lips. There are 3 main types of abnormal lip frenulum.

Type I _____

_____;

Type II _____

_____;

Type III _____

_____.

Normally, the frenulum of the upper lip is attached at the distance _____ from the interdental papilla, it has a sufficient length and does not limit the mobility of the lip.

Normally, the depth of the vestibule varies _____. The shallow vestibule has depth _____.

Study of plaster models of jaws

Dental measurements.

The width is determined by _____,
at the lower incisors _____.

The height of the crown part of permanent teeth is measured _____

_____.

The thickness of the crown part of the tooth is _____

_____.

Relationships between tooth sizes.

Tonn revealed _____

_____.

The Tonn Index is equal to _____.

Pont (1907) derived the relationship between _____
_____. The width of the dentition is measured in the area of the pre-
molars at the points suggested by Pont:

- on the upper jaw _____

_____;
- on the lower jaw _____

_____.

The width of the dentition is also measured between the first permanent molars at the points:

– on the upper jaw _____

_____;

– on the lower jaw _____

_____.

Pont derived the premolar and molar indices:

Premolar index = _____;

Molar index = _____.

Korkhaus proposed to determine the length of the anterior segment of the dental arch depending on _____

_____.

Measurements are carried out _____

_____.

Measuring the size of apical bases

Apical basis _____

_____.

The size of the apical base is studied in the transversal and sagittal directions using the *Howes methods* _____

_____.

The width of the apical base on the upper jaw is measured between _____
_____ on
the lower jaw _____

_____.

Normally, the width of the apical base of the upper jaw is _____ of the lower
- _____ from the sum of the mesiodistal dimensions of 12 permanent teeth in each
jaw.

The length of the apical base of the upper jaw is measured from the point

_____.

Normally, the length of the apical base of the upper jaw is _____ of the lower
one— _____ from the sum of the mesiodistal dimensions of 12 permanent teeth in
each jaw.

Orthopantomography, or panoramic tomography, provides the following re-
sults: _____

_____.

When deciphering the TRG in the lateral projection, it is advisable to follow the
scheme proposed by *L. S. Persin* (1996), which contains the estimate: _____

_____.

When decoding telereöntgenograms in the side projection, the following lines and
points are used:

A— _____

_____.

B— _____

DT (skin point pogonion) _____

Gn (gnathion) – _____

Go (gonion) – _____

EN – _____

L L – _____

Me (menton) – _____

N (nasion) – _____

Or (orbital) – _____

Pm (pterygomaxillary), a synonym for PNS (spina nasalis partrior) – _____

Po (porion) – _____

Se (setla) – _____

S (sella) – _____

SNA (spina nasalis anterior) – _____

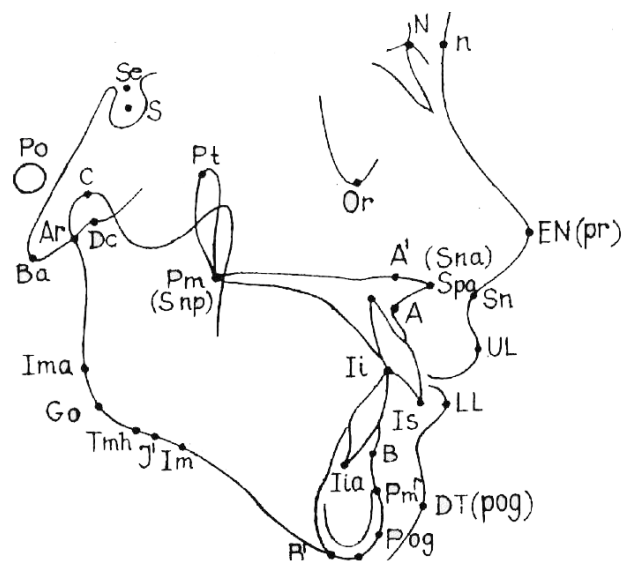
UL _____

EN-DT – _____

FN – _____

NL – _____

ML – _____



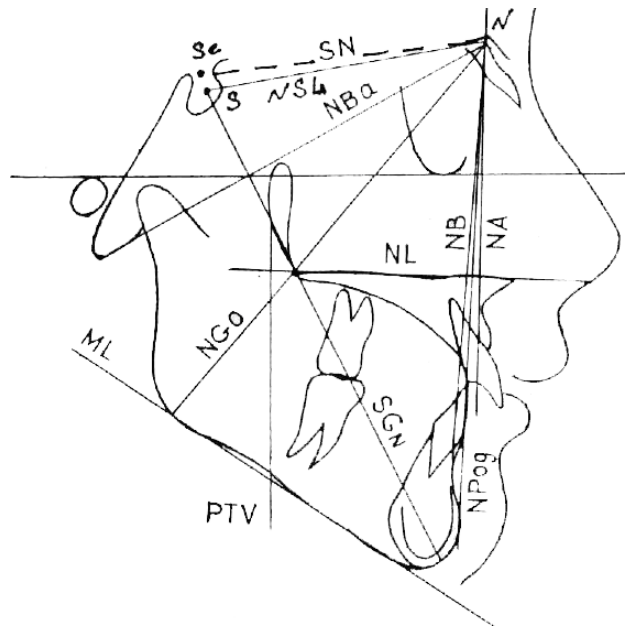
Cephalometric anthropometric points

Angle SNA characterizes the position _____

Its average value is _____. *An increase in the angle SNA* characterizes _____
_____ (forward position). *A decrease of the angle SNA* characterizes _____

the upper retroposition (distal position). *Угол* The *SNB angle* characterizes the position

_____. Its average value is _____. *Increasing the SNB angle* characterizes _____. *Reducing the SNB angle* characterizes _____.



Cephalometric lines and planes

NSL – _____

N-Se – _____

OcP – _____

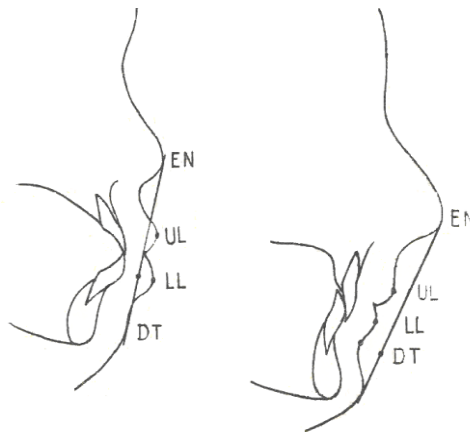
Face profiles are distinguished by the *Ricketts method*:

A person's profile is determined by evaluating _____

_____. The upper lip point (*UL*) must be located at _____

_____.

The protrusion of the lower lip anteriorly from the aesthetic plane by 1-2 mm corresponds to _____. *The concave profile of the face* is determined when the lower lip is located posteriorly from the aesthetic plane. _____.



Convex and concave profile types according to Ricketts

Functional diagnostic methods

Rheography– _____

Photoplethysmography-method _____

Electromyography- _____

A functional chewing test allows you to determine _____

Masticationography– _____

PART V. USE OF COMPUTERS IN ORTHODONTICS

Electromyography allows you to _____

Arthrophonography– _____

Axiography– _____

In orthodontics, the method allows you to evaluate _____

Rheography allows you to study _____

Orthopantomography (panoramic zonography) allows you to get _____

To evaluate the orthopantomogram, it is recommended to study five topographic areas sequentially:

Intraoral radiography of teeth allows you to get a detailed, high-quality image:

_____;

_____.

Digital intraoral radiography (radiovisiography), based on obtaining an image of an object _____

_____.

Radiography of the palatine suture is performed using dental X-ray machines using a direct close-focus method in order to determine:

_____;

_____;

_____;

_____;

_____.

Tomography allows you to study the following characteristics of the TMJ:

_____.

Indications for the use of MRI in orthodontics are: _____

_____.

Cone-beam computed tomography (CBCT). Indications for the use of this method are _____

_____.

Radiography of the hand is used in the following cases:

Cephalometry allows you to:

The CEREC system in orthodontics is used to create _____

Areas of application of T-Scan III: _____

Occlusion analysis with the T-Scan III device allows the dentist to:

- _____;
- _____;
- _____;
- _____;

PART VI. MODERN METHODS OF TREATMENT

DENTAL ANOMALIES

In orthodontic practice, the following treatment methods are used:

Myogymnastics—

Surgical methods of treatment include:

The purpose of orthopedic treatment is to

Orthodontic appliances are divided by:

for medical purposes:

-
-
-

by place of overlay:

-
-

by location in the oral cavity:

- _____,
- _____,
- _____.

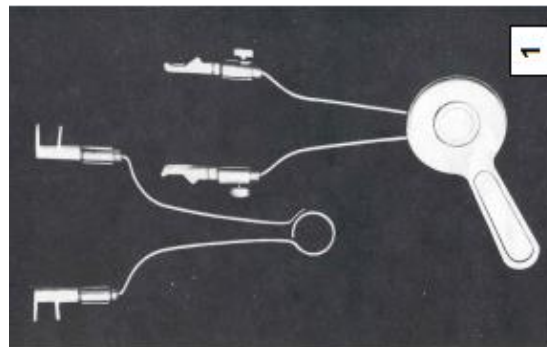
by function:

- _____;
- _____;
- _____.

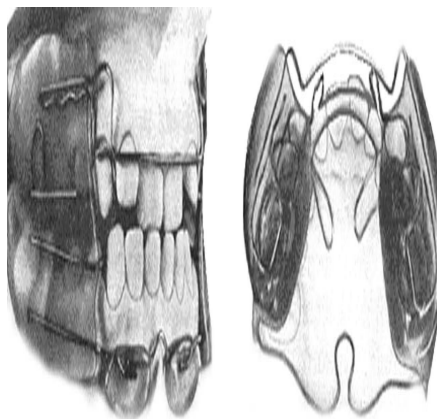
The element base of edgewise equipment includes locking appliances:

- _____;
- _____;
- _____.

Write the device names:



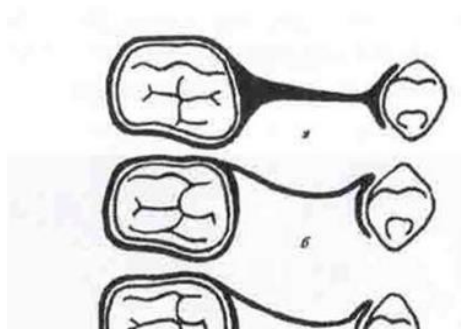
- _____.

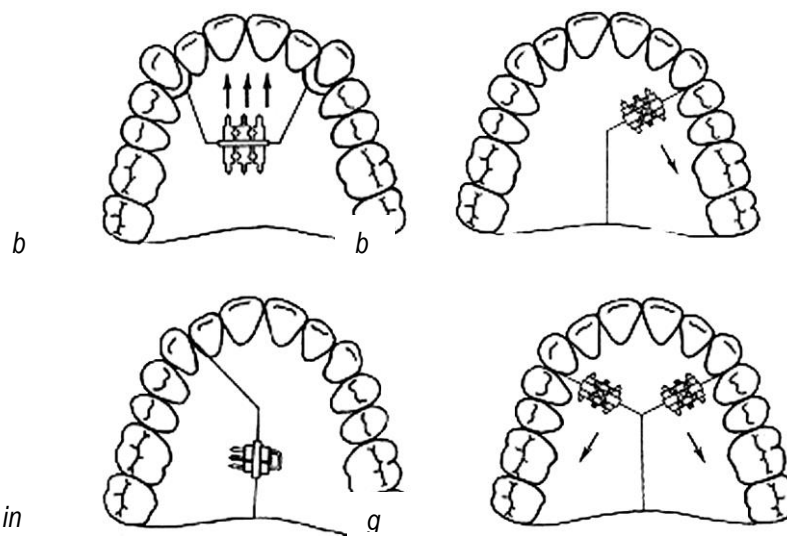
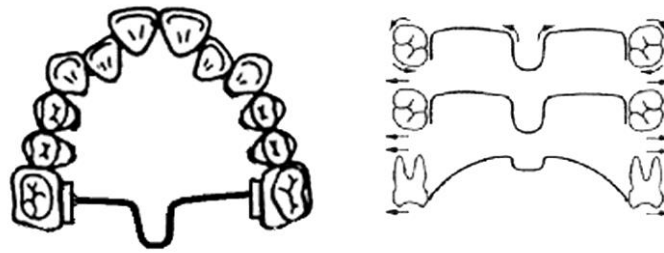


- _____.



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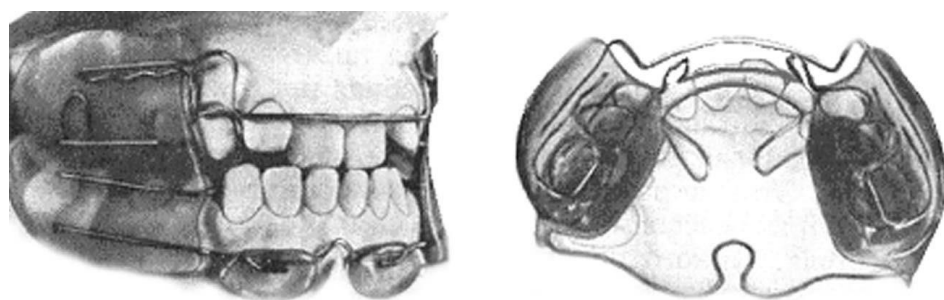
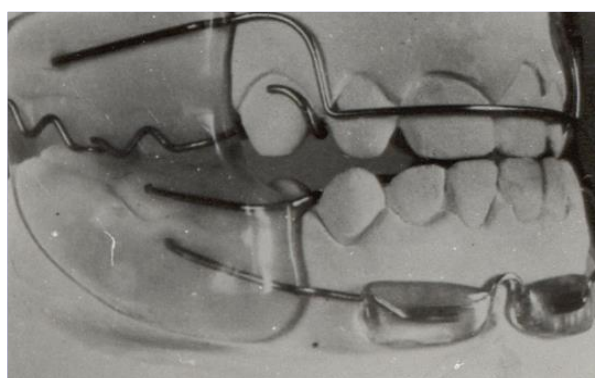
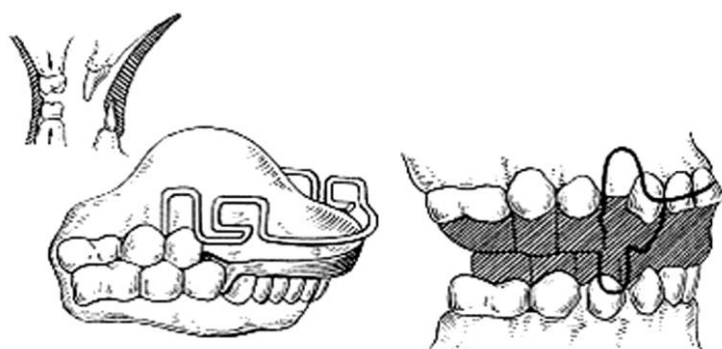
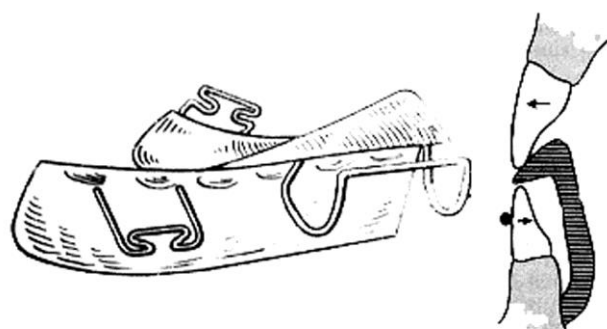
Plates _____ :

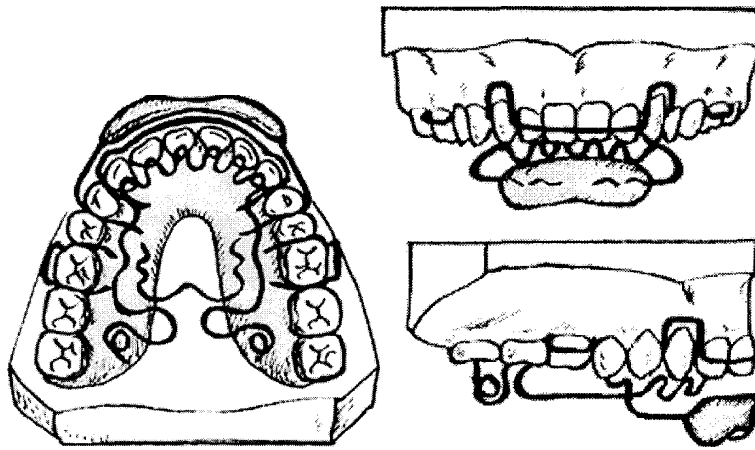
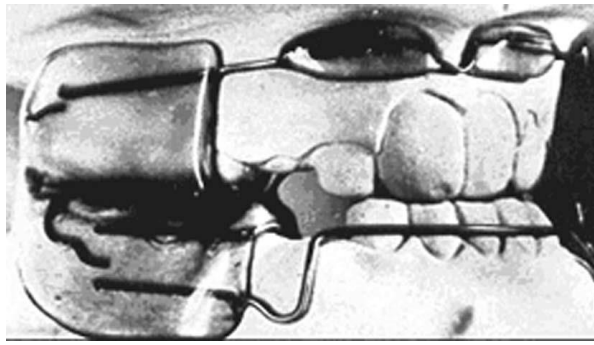
a— _____ ;

b— _____ ;

c— _____ ;

d— _____ .





PART VII. DENTAL ANOMALIES AND DEFORMATIONS

Complete the definitions.

Anomaly– _____

_____.

Deformity– _____

_____.

The Angle classification is based on _____

_____.

The first class is characterized by _____.

The mesial-buccal cusp of the first molar of the upper jaw is located

_____.

The second class is characterized as

_____.

This class is divided into:

Division I– _____

_____;

Division II– _____

_____.

The third class is characterized by

_____.

According to the classification of dental anomalies of D. A. Kalvelis, there are:

1. Anomalies in the amount of teeth:

- _____;
- _____.

2. Anomalies in the size and shape of teeth:

3. Anomalies of the structure of hard tissues of the teeth:

- _____;
- _____;
- _____.

4. Violations of the teething process:

- _____;
- _____.

Abnormal position of individual teeth:

- _____;
- _____;
- _____;
- _____;
- _____;
- _____;
- _____;
- _____.

Anomalies of the dentition shape:

- _____;
- _____;
- _____;
- _____;
- _____.

Sagittal anomalies:

- _____;
- _____.

Transversal anomalies:

- _____;
- _____.

Vertical anomalies: _____

Write the definition of occlusion– _____

Specify the type of occlusion corresponding to the plane of the anomaly and the area of the dentition.

Plane of anomaly	Area of the dentition	Type of occlusion
Sagittal	Lateral	1.1. _____.
		1.2. _____.
	Front	1.3. _____.
		1.4. _____.
		1.5. _____.
Vertical	Lateral	2.1. _____.
	Front	2.2. _____.
		2.3. _____.
		2.4. _____.
		2.5. _____.
Transversal	Lateral	3.1. _____.
		3.1.1. _____.
		3.1.2. _____.
		3.1.3. _____.

	Front	3.2. _____ _____.
		3.3. _____.

The first group of A.J.Katz classification is characterized by a change in the structure of the dentition in front of the first molars as a result of _____.

The second group of classification by A.J.Katz is characterized by the morphological structure of Class II by Angle, and from the point of view of function—

_____.

The third group of A. J. Katz's classification corresponds to the morphological structure of Class III by Angle, which, according to Katz, is related to

_____.

PART VIII. FEATURES OF RENDERING SERVICES OF ORTHODONTIC CARE FOR CONGENITAL MALFORMATIONS OF THE FACE AND JAWS

Specialized rehabilitation centers for children with congenital malformations of the maxillofacial region are divided into _____

_____.

Republican and inter-district centers for diagnosis and treatment of children with congenital cleft upper lip and palate should include the following specialists:

_____.

Morphological disorders _____

_____.

Functional disorders _____

_____.

The objectives of surgical treatment for congenital cleft upper lip are:

_____.

In uranoplasty, the main tasks are: _____

_____.

In the treatment of this group of patients, interdisciplinary cooperation of dentists of various profiles is necessary, such as _____

_____.

In case of congenital isolated cleft of the upper lip and alveolar process, orthodontic treatment in the period of temporary and mixed bites is used

Orthodontic treatment for congenital isolated cleft palate:

Orthodontic treatment for congenital end-to-end unilateral cleft lip, alveolar process and palate: _____

Expansion of the upper jaw with a pronounced narrowing is performed using fixed orthodontic appliance: —

PART IX. PREVENTION OF DENTAL ANOMALIES

Prevention—

Preventive measures during the first year of life:

-
-
-
-
-

Preventive measures during the period of mixed bite:

-
-
-
-
-
-

Dispensary group	Status and diseases in which children are subject to dispensary observation
0 (I)	_____.
I (II)	_____

	_____.
	— _____
	— _____
— _____	
— _____	

	— — — — — — —
IIa (III)	
IIb (IV)	

PART X. FEATURES OF DENTOFACIAL PROSTHETICS IN CHILDREN AND ADOLESCENTS

Indications for dental prosthetics during the period of temporary occlusion:

1. _____

_____.

2. _____

_____.

3. _____

_____.

4. _____

_____.

5. _____

_____.

6. _____

_____.

7. _____

_____.

8. _____

_____.

9. _____

_____.

10. _____

_____.

11. _____

12. _____

13. _____

Indications for dental prosthetics during the period of mixed dentition:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9.

10.

11.

Indications for dental prosthetics during the period of permanent occlusion:

1.

2.

3.

4.

5.

6.

7.

Write the types of orthopedic structures used in children's dental prosthetics

Fixed prosthesis

1. _____.

2. _____.

3. _____:

3.1. _____;

3.2. _____

4. _____

5. _____:

5.1. _____.

5.2. _____

5.3. _____

5.4. _____

5.5. _____

Removable prosthesis:

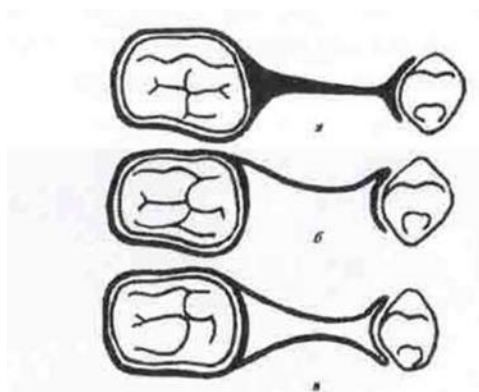
1. _____

2. _____

Classification of dentition defects in children

Class	Subclass	
I	1 2 3	
II	1 2 3	
III	1 2	
IV		
V		
VI		

Write the name of the appliances.



a) _____
_____;

b) _____
_____;

c) _____
_____.

Removable dentures are fixed1.

2. _____
_____.

3. _____
_____.

The main structural elements of removable dentures:

1. _____.

2. _____.

3. _____.

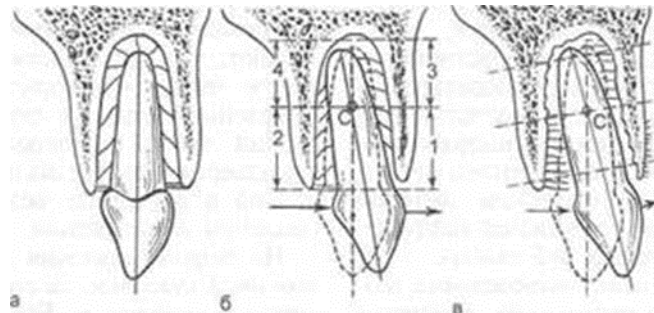
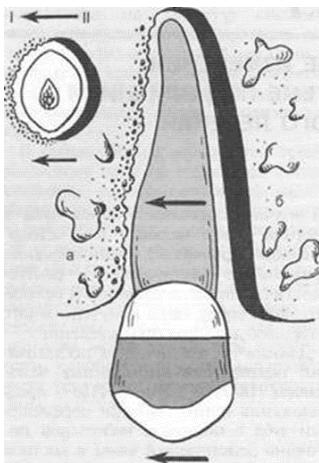


PART XI. MORPHOLOGICAL AND FUNCTIONAL RESTRUCTURING OF THE DENTAL SYSTEM UNDER THE INFLUENCE OF ORTHODONTIC APPLIANCES

When the tooth is displaced on different sides of its fit to the alveolus, forces arise _____.

The side in which the tooth is displaced (in the direction of the force) is _____, and the opposite side, from which the tooth is displaced, _____.

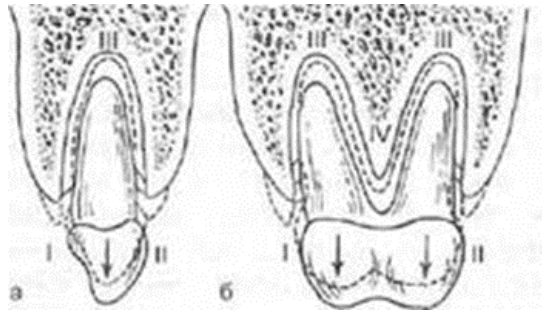
On the pressure side, there is a periodontal fissure _____, on the tension side— _____.



Biomechanics of orthodontic horizontal movement of teeth in a longitudinal section:

a— _____
— ;
b— _____;
1 and 4 — _____,
2 and 3 — _____,
b— _____;
c— _____
— .

Arrows indicate the direction of force and movement of the tooth. Bone resorption and neoplasm (Calvelis).



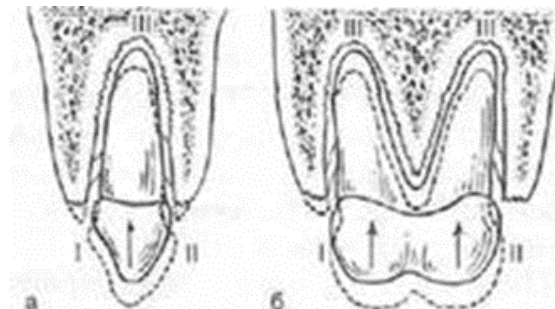
Biomorphology of dental alveolar elongation:

a— _____;

b— _____.

In zones I, II, III, and IV, the following events occur: _____.

Arrows indicate the direction of the current force (Calvelis).



Biomorphology of tooth intrusion in the alveolus.

In zones I and II, the following occurs: _____,

and in the III zone _____.

Intrusion the single-root (a) and double-root (b) teeth. Arrows indicate the direction of force (Calvelis).

Body movement implies _____

_____.

Oblique-rotational movement of the tooth implies _____

_____.

_____.

Depending on the condition of the capillaries, capillary pressure:

I degree – the pressure forces are so small that they do not cause any reactions from the periodontal tissues – _____ g / cm²;

II degree – the force is slightly less than capillary pressure, but when it is applied to the tooth, possible changes in periodontal tissues (_____g/cm²);

III degree – the force greater than capillary pressure causes the appearance of anemia on the compression side, blood stagnation, the patient complains of soreness like the initial stages of periodontitis;

IV degree – the efforts of orthodontic action (up to _____ g / cm²) are so significant that it causes compression and crushing of the surface layers of periodontal tissues.

In orthodontics, there are several main types of tooth movement:

Rotation– _____

Intrusion– _____

Extrusion– _____

Tipping– _____

Efforts to move the teeth:

- oblique-rotational movement of a single-root tooth _____ g / cm²;
- body movement of a single-root tooth _____ g /cm²;
- body movement of a multi-root tooth _____ g / cm²;
- for the movement of the root of the tooth ("torque") _____ g / cm²;
- for tooth extrusion _____ g / cm².

Movement of one or several teeth is carried out in the sagittal, vertical, transversal directions or in several directions simultaneously. In the transversal dentition

In the sagittal direction, the teeth are moved _____.

In the vertical direction, , the teeth are move _____

When the sutures are compressed, there is _____, since the sutures are adapted to resist compression; when stretched,

_____ occurs faster, as the sutures are adapted to its construction when the collagen structures are stretched. The speed of opening of seams depends on the applied _____.

PART XII. ORTHODONTIC LABORATORY EQUIPMENT

In the manufacture of orthodontic appliances used _____ methods of plastering.

Specify the manufacturing steps for one-jaw orthodontic appliance:

1. Clinical stage:

2. Laboratory stage:

3. Clinical stage:

Clinical and laboratory stages of making a bi-maxillary device:

1. Clinical stage:

2. Laboratory stage:

3. Clinical stage:

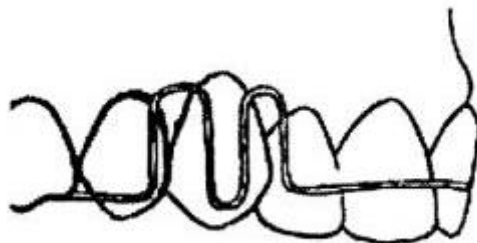
4. Laboratory stage:

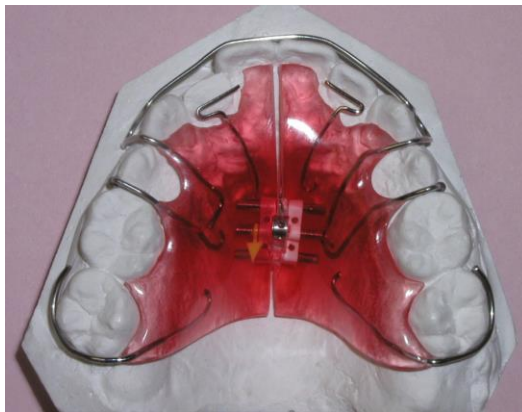
5. Clinical stage:



Write the name of the orthodontic appliances to each one.









PART XIII. RETENTION OF THE RESULTS OF TREATMENT OF MAXILLOFACIAL ANOMALIES. RELAPSE OF MAXILLOFACIAL ANOMALIES

What the types of retainers do you know?

An acrylic base plate with a wire individually attached to the teeth.

Advantages:

Disadvantages:



a



б



в

Vacuum-formed retainers

Advantages:

Disadvantages:



Most adhesive retainers are made from _____

Orthodontic relapse _____

There are several situations known for a particular tendency to relapse:

TEST TASKS

Choose one correct answer

Part I. Organization of orthodontic care (PC-1, PC-2, PC-5, PC-6)

1. ACCORDING TO THE STAFF STANDARD, ONE POSITION OF AN ORTHODONTIST IS ASSIGNED

- a) for 5 children's dentists
- b) for 7 children's dentists
- c) for 8 children's dentists
- d) for 9 children's dentists
- e) for 10 children's dentists

2. HOW MANY GROUPS ARE CHILDREN ASSIGNED FOR ORTHODONTIC INDICATIONS DURING MEDICAL EXAMINATIONS?

- a) 1 group
- b) 2 groups
- c) 3 groups
- d) 4 groups
- e) 5 groups

3. THE MOST EFFECTIVE ORGANIZATIONAL FORM OF TREATMENT OF CHILDREN WITH CONGENITAL PATHOLOGY OF THE MAXILLOFACIAL REGION IS TREATMENT

- a) in children's somatic polyclinics
- b) in children's dental clinics
- c) in specialized centers for the treatment of congenital pathologies
- d) in the surgical departments of general hospitals
- e) in orthodontic centers

4. FOR THE PREVENTION OF MALOCCLUSION, DENTAL THERAPISTS SHOULD INCLUDE:

- a) elimination of bad habits
- b) plastic of frenulum of the tongue

- c) orthodontic appliance
- d) myotherapy, massage

5. THE WORK OF AN ORTHODONTIST WITH CHILDREN OF THE FIRST DISPENSARY GROUP CONSISTS OF

- a) in hardware orthodontic treatment
- b) in the elimination of bad habits
- c) normalization of functional disorders
- d) in prosthetics
- e) in sanitary and educational work on the education of hygiene skills and other issues

**Part II. Anatomical and morphological features of the maxillofacial region
in different age periods (PC-5)**

1. THE UPPER AND LOWER JAWS ARE FORMED FROM A PAIR OF THE BRANCHIAL ARCHES

- a) 1st
- b) 2nd
- c) 3rd
- d) 4th

2. THE 1ST PAIR OF THE BRANCHIAL ARCHES IS CALLED

- a) mandibular
- b) hyoid
- c) oral fossa
- d) rudimentary tooth

3. THE UPPER JAW IS FORMED WHEN THE NASAL PROCESSES GROW TOGETHER

- a) maxillary and medial
- b) maxillary and lateral
- c) lateral and medial
- d) frontal

4. IN THE PERIOD OF EMBRYONIC DEVELOPMENT, OSSIFICATION POINTS IN THE UPPER AND LOWER JAW REGION APPEAR ON THE UPPER AND LOWER JAW ON

- a) the 1st month
- b) the 2nd month
- c) the 3rd month
- d) postnatally

5. HOW MANY PAIRS OF THE BRANCHIAL ARCHES ARE LAID IN THE PROCESS OF FETAL DEVELOPMENT?

- a) two
- b) four
- c) six
- d) eight

Part III. Etiology and pathogenesis of dentofacial anomalies (PC-1, PC-2)

1. RESPIRATORY FAILURE CAN LEAD

- a) to narrowing of the upper dentition
- b) to macrodentia
- c) to microdentia
- d) to retention

2. WHAT LEADS TO THE FORMATION OF DISTAL OCCLUSION OF THE DENTITION?

- a) uneven enamel abrasion
- b) pulpitis of baby teeth
- c) breastfeeding problem
- d) enlargement of the lingual tonsil

3. INFANTILE SWALLOWING LEADS TO

- a) to protrusion of incisors
- b) to tooth transposition
- c) canine dystopia
- d) loss of lower incisors

4. HYPOFUNCTION OF THE PITUITARY GLAND CAN LEAD TO THE OCCURRENCE OF

- a) super-complete teeth
- b) diastema, gaps between teeth
- c) adentia of the teeth
- d) underdevelopment of the upper and lower jaws, disruption of the timing of teeth-ing

5. THE FORMATION OF MESIAL OCCLUSION DUE TO THE DISPLACEMENT OF THE LOWER JAW FORWARD CAN CONTRIBUTE TO

- a) oral respiration
- b) sucking on the lower lip
- c) head thrown back during sleep
- d) uneven abrasion of baby teeth
- e) hypofunction of the thyroid gland

Part IV. Modern methods of diagnostics of morphological and functional disorders of the maxillofacial region (PC-7, PC-9)

1. THE FUNCTIONAL CONDITION OF THE MUSCLES OF THE MAXILLOFACIAL REGION IS DETERMINED BY THE METHOD OF

- a) electromyography, electromyotonometry
- b) rheoparodontography
- c) arthrophonography

2. RHEOGRAPHY OF THE TMJ REGION ALLOWS TO DETERMINE

- a) contractility of the muscles of the maxillofacial region
- b) hemodynamic state of TMJ vessels
- c) movement of the mandibular heads

3. ELECTROMYOTONOMETRY ALLOWS DETERMINE

- a) bioelectric activity of the masticatory muscles
- b) contractility of the masticatory muscles
- c) contractility of only the temporal muscles

4. SPECIAL DIAGNOSTIC METHODS IN ORTHODONTICS INCLUDE

- a) examination of the oral cavity, functional tests
- b) anthropometric, x-ray, functional, graphic
- c) survey, examination, measurement of plaster models of jaws

5. THE SYMMETRY OF THE DEVELOPMENT OF THE RIGHT AND LEFT HALVES OF THE LOWER JAW CAN BE FOUND ON

- a) panoramic radiograph
- b) TRG-side projection
- c) TRG-direct projection and orthopantomogram

Part V. Use of computers in orthodontics (PC-1, PC-5, PC-6)

1. WHAT METHOD IS USED TO DETERMINE THE SIZE AND POSITION OF THE JAW BONES?

- a) OPTG
- b) TRG
- c) panoramic radiography
- d) tomography of the TMJ

2. DETERMINE THE WIDTH OF THE HEAD OF THE LOWER JAW CAN BE TOMOGRAMS OF THE TMJ

- a) with open mouth
- b) with closed mouth
- c) when the lower jaw is displaced laterally
- d) when the lower jaw is shifted back

3. DETERMINE THE SIZE OF JOINT GAPS CAN BE ON THE TOMOGRAMS OF THE TMJ

- a) with open mouth
- b) with closed mouth
- c) when the lower jaw is displaced laterally
- d) when the lower jaw is shifted back

4. ORTHOPANTOMOGRAM ALLOWS TO ASSESS THE CONDITION OF PERIODONTAL DISEASE OF

- a) the anterior group of teeth
- b) the lateral group of teeth
- c) all teeth of one dentition
- d) all teeth of two dentition

5. THE ANGLE OF ANB IN PHYSIOLOGICAL OCCLUSION IS EQUAL TO

- a) 0°
- b) 2°
- c) 4°
- d) 5°

Part VI. Modern methods of treatment of dental anomalies (PC-1, PC-2, PC-5)

1. THE BRACKET CONSISTS OF

- a) base, slot and wings
- b) base and tube
- c) base, slot, hooks and tube

2. BRACKET SLOT SIZE

- a) 0.14 inches
- b) 0.26 inches
- c) 0.18 inches

3. THE AMOUNT OF THE TORQUE IS INCORPORATED INTO THE DESIGN OF BRACES, WHICH ELIMINATES THE NEED FOR _____BENDING

- a) first order

- b) second order
- c) of the third order

4. ACCORDING TO THE METHOD OF FIXING THE ORTHODONTIC ARCH IN THE SLOT OF BRACES, THERE ARE

- a) ligature and self-ligating braces
- b) ligature and vestibular braces
- c) lingual and vestibular braces

5. ORTHODONTIC ARCHES HAVE NEXT CROSS-SECTION

- a) round, triangular and square
- b) round, rectangular, square and twisted
- c) round, rectangular and oval

Part VII. Dental anomalies and deformations (PC-1, PC-2, PC-5)

1. DENTITION IN THE BITE OF TEMPORARY TEETH HAVE THE SHAPE OF

- a) half-ellipse
- b) semicircles
- c) parabolas

2. THE SHAPE OF THE UPPER DENTITION OF AN ADULT IS NORMAL HAS THE _____ FORM

- a) semicircle
- b) half-ellipse
- c) a parabola

3. THE SHAPE OF THE LOWER DENTITION OF AN ADULT IS NORMAL HAS THE _____ FORM

- a) semicircle
- b) half-ellipse
- c) a parabola

4. THE DEPTH OF THE INCISOR OVERLAP NORMALLY DOES NOT EXCEED

- a) $\frac{1}{3}$ crown heights of the lower incisors
- b) $\frac{1}{2}$ crown height of the lower incisors

c) $\frac{2}{3}$ crown heights of the lower incisors

5. THE UPPER INCISORS ARE NORMALLY IN CONTACT WITH THE LOWER INCISORS BY

- a) palatal surface
- b) cutting edge
- c) the vestibular surface

Part VIII. Features of rendering services of orthodontic care for congenital malformations of the face and jaws (PC-1, PC-2, PC-5, PC-6)

1. AT WHAT WEEK OF EMBRYO DEVELOPMENT DOES LIP AND PALATE FORMATION BEGIN?

- a) in the 3rd week
- b) about the 6th week
- c) about the 8th week

2. THE JAWBONE PROTRUDES 12 MM FROM THE EDGE OF THE ALVEOLAR PROCESS. MAKE A DIAGNOSIS

- 1) congenital isolated cleft palate IA degree
- 2) congenital unilateral cleft lip and palate of the III degree
- 3) congenital bilateral cleft lip and palate of the III degree

3. THE CLEFT COVERS THE UPPER LIP, ALVEOLAR PROCESS AND PALATE, THE WIDTH OF THE GAP IN THE AREA OF FRAGMENTS OF THE ALVEOLAR PROCESS IS 7 MM. MAKE A DIAGNOSIS

- a) congenital unilateral cleft lip and palate of the III degree
- b) congenital bilateral cleft lip and palate, grade II
- c) congenital unilateral cleft lip and palate of the I degree

4. THE CHILD AFTER URANOPLASTY STILL HAS RHINOLALIA. OFTEN HAD OTITIS. CURRENTLY, WHICH SPECIALIST SHOULD TREAT THE CHILD

- a) at the surgeon's office
- b) a speech therapist

c) an otorhinolaryngologist

5. AT WHAT AGE IS DISPENSARY OBSERVATION OF A CHILD WITH UNILATERAL CLEFT LIP, PALATE AND ALVEOLAR PROCESS PERFORMED?

- a) 0-7 years old
- b) 1-14 years old
- c) 0-14 years old
- d) 1-12 years old
- e) 1-3 years old

Part IX. Prevention of dental anomalies. (PC-2, PC-9)

1. FOR ELIMINATION A BAD HABIT USED

- a) the Andreasen Activator
- b) the Reichenbach-Bruckle plate
- c) Persin's appliance for the treatment of distal occlusion
- d) the vestibular plate

2. IF THE PATIENT HAVE A HABIT OF PUTTING TONGUE BETWEEN TEETH, THE FOLLOWING ARE INDICATED

- a) medical and preventive measures
- b) surgical treatment
- c) observation
- d) preventive measures

3. IF PATIENT HAVE A FINGER-SUCKING HABIT, THE FOLLOWING ARE INDICATED

- a) therapeutic measures
- b) surgical treatment
- c) observation
- d) preventive measures

4. HINZ'S VESTIBULAR PLATE ALLOWS TO

- a) eliminate bad habits
- b) move the lateral teeth distally

- c) change the slope of the molars
- d) prevent mesial displacement of molars

5. PATIENT CAN ELIMINATE BAD HABITS BY USING

- a) plates with protruding springs
- b) Bruckle's appliance
- c) Hinz's vestibular plate
- d) Frankel Function Regulator

**Part X. Features of dentofacial prosthetics
in children and adolescents (PC-2, PC-6)**

1. THE MOST COMMON CAUSE OF TOOTH LOSS IN CHILDHOOD IS

- a) injury
- b) tooth decay
- c) periodontal diseases
- d) primary adentia

2. THE FOUNDER OF THE SECTION OF ORTHOPEDIC DENTISTRY-CHILDREN'S PROSTHETICS IN RUSSIA IS

- a) L. V. Iliina-Markosyan
- b) D. A. Kalvelis
- c) T. F. Vinogradova
- d) L. S. Persin

3. THE MAIN TASK OF PROSTHETICS IN CHILDHOOD IS

- a) prevention of masticatory function disorders
- b) prevention of the formation of dentoalveolar disease
- c) prevention of caries
- d) prevention of periodontal diseases

4. REMOVABLE CHILDREN'S DENTURES ARE USED FOR

- a) bite correction
- b) stimulating the growth of toothless areas of the jaws
- c) treatment of diastema
- d) do not apply

5. A SPECIAL FEATURE OF THE DESIGN OF REMOVABLE CHILDREN'S PROSTHESES IS

- a) mandatory presence of a clasp
- b) placement of artificial teeth in the frontal part on the adjustment
- c) large basis
- d) the presence of a vestibular arch

**Part XI. Morphological and functional restructuring of the dental system
under the influence of orthodontic appliances (PC-6, PC-9)**

1. THE OPTIMAL VALUE OF THE ORTHODONTIC FORCE DURING THE OBLIQUE-TRANSLATIONAL MOVEMENT OF THE TOOTH SHOULD BE:

- a) 3-5 g / cm²
- b) 10-12 g / cm²
- c) 15-20 g / cm²
- g) 30-40 g / cm²
- e) 60-70 g / cm²

2. OPTIMAL VALUE OF ORTHODONTIC FORCE FOR BODY MOVEMENT OF THE TOOTH

- a) 3-5 g / cm²
- b) 10-12 g / cm²
- c) 15-20 g / cm²
- d) 40-50 g / cm²
- e) 60-70 g / cm²

3. SCHWARTZ SYSTEMATIZED ORTHODONTIC FORCES ACCORDING TO THE FOLLOWING PRINCIPLE

- a) by time of exposure
- b) at the place of exposure
- c) by power source
- d) by type
- e) by the amount of exposure

4. THE CRITERION FOR CHOOSING THE STRENGTH OF THE ORTHODONTIC DEVICE IS

- a) the stage of root formation of the displaced teeth
- b) type of anomaly
- c) the value of intracapillary pressure
- d) the stage of bite formation
- e) the severity of the anomaly

5. WITH PROLONGED USE OF THE DEVICE WITH A FORCE OF 50–70G/cm², MORPHOLOGICAL CHANGES MAY OCCUR IN PERIODONTAL TISSUES IN THE FORM OF

- a) there will be no changes
- b) fully reversible occurrence in the zones of resorption and opposition
- c) residual morphological occurrence in the resorption zone in the form of lacunae
- d) fusion of root cement with the alveolar wall
- e) dislocation of the tooth

Part XII. Orthodontic laboratory equipment (PC-6)

1. THE MAIN ELEMENTS OF THE PERSIN APPLIANCE FOR THE TREATMENT OF DISTAL OCCLUSION ARE

- a) base plate, inclined plane
- b) basal plate, bite block, vestibular arch
- c) basal plate, vestibular arch, labial bumper for the upper lip
- d) basal plate, lingual arch, labial bumper for the lower lip

2. ORTHODONTIC APPLIANCES THAT ALLOW OPENING THE MEDIAN PALATINE SUTURE BELONG

- a) to the functional and operational ones
- b) to functional guides
- c) to appliances of combined action
- d) to mechanically active
- e) to retention services

3. A MECHANICALLY OPERATING DEVICE IS CHARACTERIZED BY THE PRESENCE OF

- a) bite block
- b) the screw
- c) an inclined plane
- d) occlusal plane

4. THE BRUCKLE APPLIANCE CAN BE USED TO TREAT THE

- a) mesial occlusion
- b) distal occlusion
- c) cross-occlusion
- d) open-bite
- e) over-bite

5. IN THE PERSIN APPLIANCE FOR THE TREATMENT OF DISTAL OCCLUSION, LABIAL BUMPERS ARE LOCATED IN THE AREA OF

- a) upper lip
- b) lower lip
- c) upper and lower lip
- d) do not have

Part XIII. Retention of results of treatment of maxillofacial anomalies.

Relapse of maxillofacial anomalies (PC-1, PC-2, PC-6, PC-9)

1. RETENTION IN ORTHODONTICS IS

- a) stabilization of the obtained results of orthodontic treatment with the help of removable and non-removable appliances
- b) prevention of recurrent dentoalveolar disease
- c) orthodontic appliance for preserving the achieved results of treatment
- d) repeated treatment on orthodontic appliances

2. RETENTION APPLIANCES CAN BE USED

- a) to prevent bad habits
- b) consolidation of the achieved treatment results
- c) prevention of the development of dental anomalies

d) to consolidate the results of orthodontic treatment and prevent relapses

3. WHAT PURPOSES ARE RETENTION APPLIANCES USED?

- a) to consolidate the achieved results of treatment
- b) to prevent the development of dental anomalies
- c) to prevent the development of relapses

4. RELAPSE OF A DENTAL ANOMALY IS DEFINED AS:

- a) change in the position of the teeth after completion of orthodontic treatment
- b) functional impairment
- c) deterioration of facial aesthetics

5. THE OCCURRENCE OF RELAPSES IS A CONSEQUENCE OF

- a) continued growth of the jaws
- b) effects of elastic gingival fibers
- c) untreated pathology of the maxillary system
- d) everything is correct

SITUATIONAL TASKS

Part I. Organization of orthodontic care (PC-1, PC-2)

TASK №1. In city N, the child population is 240 thousand people.

Calculate the required number of orthodontists to provide orthodontic care in a city N.

TASK №2. During the routine examination at school, dental anomalies were diagnosed in 360 children. The school has a total of 425 students.

What is the prevalence of dental anomalies among students of this educational institution?

TASK №3. The preventive examination of the 8-year-old child revealed a disruption of nasal breathing, narrowing of the upper jaw, crowding of the frontal teeth of the upper jaw.

Which dispensary group does this patient belong to?

TASK №4. The 4.5-year-old child was found to have a bad habit during a routine checkup: finger sucking. In the oral cavity, protrusion of the incisors of the upper jaw, retrusion of the incisors of the lower jaw.

Which dispensary group does this patient belong to?

TASK № 5. The dental department of the polyclinic has 2 orthodontists, 20 pediatric therapeutic dentists, 3 pediatric surgical dentists.

Calculate the required number of secondary and junior medical personnel for the staff of polyclinic doctors (according to Order No. 910N of 13.11.2012)

Part II. Anatomical and morphological features of the maxillofacial region in different age periods (PC-2, PC-6)

TASK № 1. The mother and a 5-year-old child came to the clinic with complaints about the gaps between the central incisors. Make a diagnosis. Is this situation the normal?

TASK № 2. The 4-year-old patient complained about a cosmetic defect. On external examination: the face has no visible changes. From the side of the oral cavity: on the upper jaw there is a tight contact between the teeth in the dentition. On the lower jaw, there are gaps and diastema between the teeth. The protuberances of 53 and 63

teeth are pronounced. The ratio of dentition in the frontal area according to the type of edge-to-edge bite. The ratio of teeth in the lateral areas is neutral. What medical and preventive measures does the child need?

TASK № 3. The mother and her 2-year-old daughter came to the clinic. During the examination, the dental formula is compiled:

54535251|61626364
84838281|71727374

Does the dental formula match the age of 2 years?

TASK № 4. When examined in the maternity hospital, the child was found to have retrogenia. Is this diagnosis a pathology?

TASK № 5. The 20-year-old man came to the clinic. On examination, a diagnosis of deep bite was made, the depth of incisor overlap is $\frac{2}{3}$ of the height of the crown.

What depth of incisor overlap should be normal?

Part III. Etiology and pathogenesis of dentofacial anomalies (PC-6, PC-7)

TASK № 1. Examination of the 7-year-old child revealed disfunction of nasal breathing, "infantile" type of swallowing.

What changes in the dentoalveolar system will these disfunctions lead to?

TASK № 2. The 11-year-old patient complains of a cosmetic defect on the upper dentition. On examination the oral cavity, the gap 5.0 mm between 11 and 21 teeth is determined. The frenulum of the upper lip is low and starts from the gingival papilla. Dentition has normal shape. 16, 26 teeth are positioned neutrally.

Write the possible cause of the anomaly of 11, 21 teeth.

TASK № 3. The 4-year-old child, an external examination shows a protrusion of the chin. The tongue is located between the lips and protrudes from the mouth. Nasolabial creases are smoothed out. On examination the oral cavity, there are diastemas and gaps between the teeth of the upper and lower jaw. The front teeth of the upper and lower jaw are protruded, and on the lower jaw it is much more significant than on the upper jaw. There are tooth marks on the lateral sides of the tongue. Attempts to remove the tongue towards the mouth were unsuccessful.

Write the preliminary diagnosis?

Make a diagnosis.

What are the possible consequences of an injury?

TASK № 1. The child of 6 years old has a history of frequent colds, eats slowly, (lazy chewing) prefers soft food, washing it down with water. When examining the oral cavity, the dental formula:

What functional disorders have been identified, and what the methods to eliminate them?

Write the etiological factors of the existing pathology, functional disorders and methods of their elimination.

TASK № 3. The 12-year-old child went to the orthodontic office of the children dental clinic for an "incorrect" bite, difficulty biting of food, bleeding gums when eating and brushing teeth.

External examination: the face is symmetrical, the upper lip sinks, the chin protrudes forward, the oral slit is wider than usual, the lower part of the face is shortened, nasolabial creases are pronounced.

Examination of the oral cavity. The dental formula is age-appropriate. The frontal part of the upper dentition is flattened. The lower front teeth are located in front of the upper ones with a deep overlap. The ratio of permanent molars according to class I. The frenulum of the tongue and lips in norma. The gums in the area of 2.1, 1.2 teeth are swollen, hyperemic.

Write the preliminary diagnosis indicating functional disorders.

TASK № 4. The 9-year-old patient. Complaints (according to the mother) about refusal of solid food, difficult biting, indistinct pronunciation of sounds, constantly open mouth, often suffers from respiratory diseases. Examination revealed: enlargement of the lower part of the face, smoothness of the chin and nasolabial creases, half-open mouth, angle of the jaw is 130 degrees, the oral mucosa is pale pink, moist. Protrusion of the upper incisors. Steep narrowing of the upper dentition, its shape is saddle-shaped, high and narrow palatine arch. Trapezoid shape of the lower dentition. When closing the dentitions in the central occlusion, a vertical gap between the front teeth of 3 mm is determined. Its length is from 83 to 73.

Write the preliminary diagnosis indicating possible functional disorders. What diagnostic methods should use?

TASK № 5. The 12-year-old patient. Complaints about the incorrect position of the 1.3 tooth. On examination of the oral cavity, it was found that 1.3 had vestibular position and above the occlusal plane. There is no place in the dentition for it. Occlusion of the first molars is Class II according to Engle. The ratio of the lateral teeth on the left is correct.

What research methods need to be carried out additionally in order to make a diagnosis?

Part V. Use of computers in orthodontics (PC-6, PC-7)

TASK № 1. The 14-year-old patient complained of an aesthetic defect, difficulty biting and chewing food. External examination shows an increase in the volume of the lower third of the face. The lower jaw is located mesially relative to the upper jaw. The body of the lower jaw is within the normal range. The angle of the lower jaw is 140 degrees. The lower lip is in front of the upper lip. When patient close the mouth, the tension of the muscles of the mouth area is determined. From the side of the oral cavity: the upper jaw is within the normal range; the lower jaw shows the presence of gaps and diastemas. Dentogingival papillae in the area of 3.1, 3.2, 4.2, 4.1 teeth are hyperemic and edematous. With the ratio of dentitions, the anterior buccal cusps 1.6, 2.6 are located between 3.7, 3.6, 4.6, 4.7 teeth. Sagittal gap between incisors is 8.0 mm.

Perform additional and roentgenological examinations.

TASK № 2. The patient is 11 years old. Complaints about a cosmetic defect.

On external examination, there is a slight shortening of the lower third of the face. From the side of the oral cavity: on the upper jaw 1.1, 2.1 are located in palatal direction, on the lower jaw there is crowding in the area of 3.1, 4.1 teeth.

With the ratio of dentition, the frontal group of teeth of the upper jaw overlaps the teeth of the lower jaw by 2/3. 1.6, 2.6 teeth are closed according to Class II.

What additional roentgenological examination methods should be used to clarify the diagnosis?

TASK № 3. The patient is 13 years old that had aesthetic defect, difficulty biting and chewing food. During the examination, a diagnosis was made: "distal bite, combined with over-bite".

What additional roentgenological methods should be used to select the treatment method?

TASK № 4. The girl came to the clinic with complaints about the crowded position of the teeth in the frontal part, the presence of gaps.

What roentgenological diagnostic methods should be used?

TASK № 5. The mother and the 15-year-old child came to see an orthodontist. On examination: protrusion of the upper incisors, distal position of the lower jaw.

What class does this pathology belong to according to Angle?

What roentgenological diagnostic methods should be used?

Part VI. Modern methods of treatment of dental anomalies (PC-5, PC-6)

TASK № 1. Patient O., 12 years old. Complaints about the incorrect position of the canine on the upper jaw on the left side.

Objectively: in the oral cavity: the dental formula corresponds to the age, the upper frontal teeth overlap the lower ones by 1/3, the central line coincides, the ratio of the first permanent molars according to Angle is Class I, tooth 1.3 is located vestibular, above the occlusal plane.

What additional research methods should be used?

Write the preliminary diagnosis. Specify the stages of orthodontic treatment.

TASK № 2. Patient K., 14 years old. Diagnosis: teeth 1.2, 2.2 with palatal position, crowding of the front teeth of the lower jaw. It is planned to conduct orthodontic treatment with a fixed orthodontic technique (brace system).

Write the sequence of steps and the procedure for fixing braces.

TASK № 3. Patient S., 11 years old. Diagnosis: mesial occlusion.

Patient is undergoing orthodontic treatment with a fixed orthodontic technique (brace system). It is planned to use a face mask in addition to braces.

Write the types of face masks and how to apply them.

TASK № 4. Patient N., 16 years old. It is planned to conduct orthodontic treatment with a fixed orthodontic technique (braces system) with fixing orthodontic ring on teeth 16, 26.

Write the sequence and methodology of this stage.

TASK № 5. Patient L., 14 years old. Diagnosis: teeth 1.1, 1.2 have rotation, crowding of the front teeth of the lower jaw, tooth 3.3 with vestibular position.

He is undergoing orthodontic treatment with a fixed orthodontic technique (braces system). Orthodontic rings and braces were fixed. He came to put the first orthodontic arch.

Write the stages of orthodontic treatment with the type of orthodontic arches used on each of them.

Part VII. Dental anomalies and deformations (PC-7, PC-9)

TASK № 1. The 14-year-old child came to dental clinic with complaints of aesthetic dissatisfaction. In the oral cavity: molar ratio according to Angle Class II.

There is a sagittal gap of 9 mm. Frontal group of teeth – with the presence of diastema, gaps.

Write the diagnosis.

TASK № 2. The parents of the 12-year-old child came to the clinic for a preventive examination. In the oral cavity: The ratio of molars according to Angle Class III. There is a reverse horizontal overjet (3 mm). Crowding of mandibular teeth, 3.3, 4.3 teeth displaced in vestibular direction, 100% space deficit.

Write the diagnosis.

TASK № 3. The parents of the 11-year-old child came to the clinic for a preventive examination. In the oral cavity: molar ratio according to Angle Class I, reverse incisor overlap, teeth 1.3, 2.3 in the eruption stage and had vestibular position. Diastema, gaps of the front teeth of the lower jaw. In the anamnesis – bad habit of biting the upper lip.

Write the diagnosis.

TASK № 4. The parents of the 10-year-old child came to the clinic for a preventive examination. The lower third of the face is enlarged, the lips close with difficulty. In the oral cavity: buccal cusps of molars are located in the longitudinal fissures of the corresponding teeth of the lower jaw, protrusion of the central incisors of the upper jaw, displacement of 1.2, 2.2 teeth palatine, deficit of space for 1.3, 2.3 teeth – 100 %. In the anamnesis-adenoids of the III degree, bad habit of biting the lower lip.

Write the diagnosis.

TASK № 5. The clinic was contacted by the parents of the 8-year-old child with complaints about the delay in the eruption of permanent teeth.

In the oral cavity:

	C	C	C	C	C	C	C	C	C	C	
16	55	54	53	52	51	61	62	63	64	65	26
46	85	84	83	42	41	31	32	73	74	75	36
	C	C	C					C	C	C	

There are no physiological gaps and diastemas, no mobility of 5.2, 5.1, 6.1, 6.2 teeth. Soft white plaque covers up to 2/3 of the crowns.

Parents complain about their child's refusal of solid food, demands to pass all food through a blender, and unwillingness to brush his teeth.

Write the diagnosis.

Part VIII. Features of rendering services of orthodontic care for congenital malformations of the face and jaws (PC-1, PC-2, PC-5, PC-6)

TASK № 1. The 2-year-old child, diagnosed with congenital cleft soft palate. Determine the anatomical boundaries of the cleft.

TASK № 2. The 3-year-old child, diagnosed with congenital complete cleft soft and hard palate. Write the main anatomical disorders associated with cleft palate.

TASK № 3. The 2-year-old child, diagnosis: congenital complete left-sided cleft of the alveolar process, soft and hard palate. Write the main functional disorders in this case.

TASK № 4. The child, 1 year 6 months, diagnosis: congenital median complete cleft of the soft and hard palate without any treatment before. Write the plan for child's examination and treatment.

TASK № 5. The 4-month-old child, diagnosed with congenital latent left-sided cleft upper lip. Give the anatomical description of this pathology.

Part IX. Prevention of dental anomalies (PC-5, PC-6)

TASK № 1. Parents with the 4-year-old child came to the dentist. The configuration of the face is not disturbed, regional lymph nodes are not palpable. From the medical history, it is established that the teeth on the lower jaw were removed six months ago due to complicated caries. Write the diagnosis.

What functions of the maxillary system are impaired?

Write the treatment and prevention plan.

TASK № 2. Mother with the 7-year-old child turned to an orthodontist with complaints about incorrectly erupted front teeth in the lower jaw. The configuration of the face is not disturbed, regional lymph nodes are not palpable.

Write the diagnosis.

Write the treatment and prevention plan.

TASK № 3. Parents of the 8-year-old child complained of a dense swelling in the lower jaw area on the left side. When examining the child, a violation of the configuration of the face is determined due to deformation of the lower jaw on the left.

Skin of physiological color, submandibular lymph nodes are enlarged on the left, painful on palpation. Opening the mouth is not difficult. Temporomandibular joint without pathological changes. The oral mucosa is pale pink, moist and shiny. The upper and lower lip frenulums are not shortened. Mouths of the excretory ducts of the salivary glands without pathological changes. Protrusion of the upper incisors with the formation of gaps between them was established. When talking to the child, you can see that the tip of the tongue fits between the upper and lower incisors. The Green - Vermillion oral hygiene index is 2.5 points.

Write the diagnosis.

Justify your choice of treatment methods.

Write the treatment and prevention plan.

TASK № 4. The 12-year-old girl complains of an unusual appearance of gums on the upper and lower jaws, and bleeding. According to her parents, she had rachitis in early childhood. Currently healthy.

Objectively: in terms of physical and intellectual development, the girl corresponds to her age. Face configuration changed by enlarging the lower third of the face. The lips don't close. The skin is clean. Submandibular lymph nodes are not palpable. Mouths of the excretory ducts of the salivary glands without pathological changes. Low attachment of the frenulum of the upper lip is determined. The frenulum of the lower lip and tongue is not shortened. The gingival papillae in the area of the frontal teeth on the upper and lower jaws are cyanotic, enlarged in volume, their shape is changed, they float on the teeth, there are false gingival pockets with a depth of 2 to 4 mm, significant bleeding of the gums is noted when the Schiller-Pisarev test is positive. There is no tooth mobility. In the frontal part there is a vertical slit measuring 4 mm, an infantile type of swallowing.

Write and justify the diagnosis.

Write the treatment and prevention plan.

TASK № 5. Parents with the 5-year-old child went to the dentist with complaints of malocclusion, impaired pronunciation of hissing sounds. During pregnancy, mother had an exacerbation of the cardiovascular system. The child was born on time, from 6 months on artificial feeding. Also, he had otitis media, acute respiratory viral infections, and tonsillitis. Bad habits-sucking the upper lip and toys.

Objectively: the upper lip sinks in relation to the lower lip, the red border of the lower lip is wide, the chin protrudes forward. In the corners of the mouth, the skin is hyperemic, swollen, and there are deep cracks on the red border, covered with a whitish coating. Submandibular lymph nodes are enlarged, mobile, painful on palpation. The function of the temporomandibular joint is not impaired. Examination of the oral cavity revealed an inverse incisor overlap (1 mm) in the frontal part, the ratio of the first permanent molars according to Angle Class III. Enlarged pharyngeal tonsils. The child can move the lower jaw back, set the front teeth in the marginal closure.

Write and justify the diagnosis.

What additional survey methods should be used?

Write and justify a treatment plan.

Part X. Features of dentofacial prosthetics in children and adolescents (PC-5, PC-6)

TASK № 1. The 11-year-old girl complained about the ugly shape of her upper teeth. Objectively, 1.2, 2.2 teeth are awl-shaped. CPD=2. GI=0.5.

Write the diagnosis.

What kind of deformity can be assumed in this clinical situation?

Determine the indications for prosthetics.

Choose the suggested prosthesis design.

Give recommendations for oral care when using orthopedic structures.

TASK № 2. The 7-year-old child, as a result of an injury, the crowns of the central upper incisors were fractured at the level of enamel and dentin, the tooth pulp was not opened, the reaction to cold is painful for a short time, percussion is painless.

Write the diagnosis.

What kind of deformity can be assumed in this clinical situation?

Determine the indications for prosthetics.

Choose the suggested prosthesis design.

Give recommendations for oral care when using orthopedic structures.

TASK № 3. The 13-year-old patient complained about the loss of a filling from the lower chewing tooth. Objectively: 3.6 teeth were depulped. on the radiograph, there

are no pathological changes in the periapical tissues, index of destruction of the occlusal surface of the tooth =0.5.

Write the diagnosis.

What kind of deformity can be assumed in this clinical situation?

Determine the indications for prosthetics.

Choose the suggested prosthesis design.

Give recommendations for oral care when using orthopedic structures.

TASK № 4. The 12-year-old female patient complained of discoloration and visible fillings of 1.1,1.2 teeth. 2 years ago, 1.1,1.2 teeth were injured, the crown was broken off with the opening of the dental pulp, endodontic treatment was performed, composite fillings were installed.

Write the diagnosis.

What kind of deformity can be assumed in this clinical situation?

Determine the indications for prosthetics.

Choose the suggested prosthesis design.

Give recommendations for oral care when using orthopedic structures.

TASK № 5. The 4-year-old patient: crown destruction of 5.1, 6.1 teeth as a result of carious process. Therapeutic treatment was carried out, massive fillings fall out every 2 months.

Write the diagnosis.

What kind of deformity can be assumed in this clinical situation?

Determine the indications for prosthetics.

Choose the suggested prosthesis design.

Give recommendations for oral care when using orthopedic structures.

Part XI. Morphological and functional restructuring of the dental system under the influence of orthodontic appliances (PC-5, PC-6)

TASK № 1. Patient O., 12 years old. Complaints about the incorrect position of the canine on the upper jaw on the left. Objectively: in the oral cavity: the dental formula corresponds to the age, the upper frontal teeth overlap the lower ones by 1/3, the

central line coincides, the ratio of the first permanent molars according to Angle class I, tooth 1.3 is located vestibular, above the occlusal plane.

What additional research methods should be used?

Write the preliminary diagnosis.

Specify the stages of orthodontic treatment.

TASK № 2. Patient K., 14 years old. Diagnosis: teeth 1.2, 2.2-palatal position, crowding of the front teeth of the lower jaw. It is planned to conduct orthodontic treatment with a fixed orthodontic technique (braces system).

Write the the sequence of steps and the procedure for fixing braces.

TASK № 3. Patient S., 11 years old. Diagnosis: mesial occlusion.

He was undergoing orthodontic treatment with the fixed orthodontic technique (bracest system). It is planned to use a face mask in addition to braces.

Specify the types of face masks and how to apply them.

TASK № 4. Patient N., 16 years old. It is planned to start orthodontic treatment with the fixed orthodontic technique (braces system). It is intended for fixing the orthodontic ring on teeth 1.6, 2.6.

Write the sequence and methodology of this stage.

TASK № 5. Patient L., 14 years old. Diagnosis: teeth 1.1, 1.2 are rotated, crowding of the front teeth of the lower jaw, tooth 3.3-vestibular position.

He was undergoing orthodontic treatment with the fixed orthodontic technique (braces system). Orthodontic rings and braces were fixed. He came to put the first orthodontic arch.

Write the stages of orthodontic treatment with the type of orthodontic arches used on each of them.

Part XII. Orthodontic laboratory equipment (PC-5, PC-6)

TASK № 1. The child is 9 years old. There is a diastema on the upper jaw with a distal slope of the upper incisors. The distance between the incisors at the level of the cutting surfaces is 5 mm.

Write the device to treat this anomaly and activation mode?

TASK № 2. The child is 11 years old. Palatine position of the left upper first incisor, there is the place in the dentition for it, overlap of teeth in the frontal part by 1/3 of the crown size.

Write the device to treat this anomaly and activation mode?

TASK № 3. The child is 8 years old. There is a flattening of the anterior part of the upper dental arch, the reverse overlap in the area of the frontal teeth: the lower incisors overlap the upper ones by 1 mm.

Suggest a device for treating this anomaly and specify its activation mode.

TASK № 4. The child is 7 years old. Diagnosis: distal occlusion, over-bite, fan-shaped arrangement of the upper front teeth.

What design of Frenkle device can be used to treat this child?

TASK № 5. The 12-year-old child applied to the children's dental clinic for incorrect position of the canine on the right side of the upper jaw. On examination of the oral cavity, it was found that the 1.3 tooth is located vestibularly and above the occlusal plane. There is no place for him in the dentition. Closure of the first molars on the right according to Angle class II. The ratio of the lateral teeth on the left is correct.

What additional diagnostic methods should use?

Suggest treatment options.

Part XIII. Retention of the results of treatment of maxillofacial anomalies.

Relapse of maxillofacial anomalies (PC-1, PC-2, PC-6, PC-9)

TASK № 1. The 25-year-old patient came to see an orthodontist. Previously, he underwent orthodontic treatment on a braces system. A month ago, he noticed that the lateral incisor moved inwards. On examination, it was revealed that the retainer had come loose from the incisor. Could this have led to a relapse?

TASK № 2. The patient was treated on a fixed orthodontic technique for 2 years.

What retention appliances are available for fixing the treatment?

TASK № 3. The patient was treated by an orthodontist using a fixed orthodontic technique.

Do you need to use retention appliances after completing treatment?

Write the classification of retention appliances.

TASK № 4. On examination by an orthodontist, the patient was found to have a relapse of the disease-rotation of the tooth 2.3. On examination, it was found that the canine blocks the movement of the lower jaw.

What could have led to the relapse?

TASK № 5. The patient was treated with a fixed orthodontic technique.

Do you need to use retention appliances after completing treatment with a braces system?

What the appliances for fixing treatment do you know?

CORRECT RESPONSES TO TEST TASKS AND SITUATIONAL TASKS

Test tasks

<i>Part</i>	<i>Question</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>I</i>	<i>e</i>	<i>d</i>	<i>c</i>	<i>a</i>	<i>e</i>
<i>II</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>b</i>
<i>III</i>	<i>a</i>	<i>c</i>	<i>a</i>	<i>d</i>	<i>d</i>
<i>IV</i>	<i>a</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>c</i>
<i>V</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>d</i>	<i>b</i>
<i>VI</i>	<i>a</i>	<i>c</i>	<i>c</i>	<i>c</i>	<i>b</i>
<i>VII</i>	<i>b</i>	<i>b</i>	<i>c</i>	<i>b</i>	<i>a</i>
<i>VIII</i>	<i>b</i>	<i>c</i>	<i>a</i>	<i>c</i>	<i>c</i>
<i>IX</i>	<i>d</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>c</i>
<i>X</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>b</i>	<i>b</i>
<i>XI</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>c</i>	<i>c</i>
<i>XII</i>	<i>d</i>	<i>d</i>	<i>b</i>	<i>a</i>	<i>b</i>
<i>XIII</i>	<i>a</i>	<i>d</i>	<i>a</i>	<i>a</i>	<i>d</i>

Situational tasks

Part I.

TASK No. 1. According to Order No. 910 of 13.11.2012, the staff standards are set at the rate of 1 orthodontist for 10 dentists of children's therapists. 192 pediatric dentists and 19 orthodontists are needed for 240 thousand children's population.

TASK № 2. The prevalence of dentoalveolar anomalies is 84.7 %.

TASK № 3. Group II b (IV). Elimination of etiological factors, respiratory and corrective gymnastics, special gymnastics, hardware orthodontic treatment.

TASK № 4. I (II) dispensary group. Elimination of bad habits.

TASK № 5. 20 nurses; 1 nurse for two orthodontists, 3 nurses for 3 dental surgeons, 7 nurses for 20 children's dentists.

Part II.

TASK №1. Diastema. In this age period, the appearance of diastema is the norm, as preparation for the change of teeth takes place.

TASK №2. Grinding cusps of temporary canines, myogymnastics.

TASK №3. Respond.

TASK №4. By the time of birth, children develop physiological retrogenia.

TASK №5. Normally, the incisor overlap depth is 1/3 of the crown height.

Part III.

TASK № 1. Dysfunction of breathing and swallowing leads to deformities of the dentoalveolar system in three planes (vertical, sagittal, horizontal).

TASK № 2. Shortened and wide frenulum of the upper lip.

TASK № 3. Macroglossia, progenia in combination with open bite.

TASK № 4. Open bite.

TASK № 5. Inclination of crowns 1.2, 2.2 medially, dentoalveolar elongation in the area of 3.1, 4.1 on the lower jaw and their protrusion.

Part IV.

TASK № 1. The patient was found to have the following functional disorders: dysfunction of breathing, chewing, blocking occlusion.

Recommended for:

- consultation and treatment by otolaryngologist;
- increasing the chewing load (eating hard food) and learning how to chew properly;
- grinding unsteady cusps 5.3, 6.3, 7.3, 8.3 with following coating with fluoride-containing preparations.

TASK № 2. Etiological factor — early removal of baby teeth. Functional disorders: impaired chewing of food, respiratory and swallowing functions.

Recommended for:

- consultation and treatment with an otolaryngologist;
- creating a partial removable prosthesis with the placement of missing teeth;
- myogymnastic for normalization of swallowing function.

TASK № 3. Diagnosis: reverse incisor overlap, underdevelopment of the upper jaw, catarrhal gingivitis. The functions of biting, chewing food and speech are impaired.

TASK № 4. Diagnosis: incisive disocclusion, protrusion of the upper incisors, narrowing of the upper and lower dentition. The functions of chewing and biting off food, speech, breathing, and infantile swallowing are impaired.

Needs to be done:

- investigation of the degree of dysfunctions of the dentoalveolar system using additional methods;
- study of control and diagnostic models (the method of Pont, Snagina);
- x-ray methods of research (OPTG, TRG);
- otolaryngologist doctor's consultation.

TASK № 5. To make a diagnosis, the following research methods should be performed:

- examination;
- study of dental plaster model (Pont, Gerlach, Snagina method, place balance calculation);
- OPTG.

Part V.

TASK № 1. X-ray examination (OPTG, TRG).

TASK № 2. X-ray examination (OPTG, TRG).

TASK № 3. X-ray examination (OPTG, TRG).

TASK № 4. X-ray examination (OPTG, TRG).

TASK № 5. 2 class 1 subclass. OPTG. TRG.

Part VI.

TASK № 1. In this case, to make a final diagnosis and determine the orthodontic treatment plan, the following special diagnostic methods should be performed:

- study of dental plaster model (place balance calculation, Pont and Snagina methods);
- x-ray methods (OPTG).

Orthodontic treatment can be performed using a fixed orthodontic technique (a braces system). Stages of orthodontic treatment:

- leveling of teeth;
- placing the teeth in the correct vertical position;
- creating a place for a tooth 1.3;
- moving the 1.3 tooth into the dentition;
- adjusting the position of the teeth;
- retention of the achieved result.

TASK № 2. The sequence of stages of orthodontic treatment with fixed orthodontic equipment:

- leveling the location of teeth;
- installation of the longitudinal axes of the teeth in the correct vertical position;
- elimination of gaps between teeth by their body movement;
- adjusting the position of the teeth;
- retention of achieved results of orthodontic treatment.

In this case, you can use the direct method of fixing braces:

- thorough cleaning teeth with a brush or elastic band;
- applying a etching gel to the vestibular surface of the teeth (point-by-point in the places where braces are fixed) for 30-60 seconds;
- washing the etched enamel surface (with a jet of water);
- drying of the etched enamel surface with a jet of compressed air;
- applying adhesive to tooth enamel;
- applying adhesive to the base of the bracket;
- placement (positioning) of the bracket on the tooth surface in the desired position (using reverse tweezers and positioner);
- removing excess material (with a scaler).
- when using a light-cured adhesive, polymerization with a halogen lamp is required.

TASK № 3. In the treatment of mesial occlusion, in addition to non-removable orthodontic technique, a face mask (Tubinger, Dilard, Petit, individual face mask) can be used.

Application:

1. On the upper jaw, install a steel arch measuring 0.016 x 0.022 inches (or more).
2. Bend the ends of the arch distally.
3. The arch should have hooks located distal to the canines.
4. Put on the face mask.
5. Check the rubber traction hooks at the level of the occlusal plane.
6. Stretch the corresponding elastics between the fixing hooks and the hooks of the face mask (force: 3-4H = 300-400 G).

TASK № 5. Pre-separation of teeth is always mandatory with tightly placed teeth. The maximum separation time is 2-5 days (carried out using brass wire or separators).

The sequence of steps for fixing rings:

1. Removal of separation wires.
2. Selection of rings on the model.
3. Fitting of rings in the patient's oral cavity and their correction.
4. Preparation of the selected ring for cementing:
 - carefully remove the ring from the tooth with ring removal forceps, clean the ring with water, dry it, wash it with 96% alcohol, dry it;
 - put the dry ring on a strip of adhesive plaster (the adhesive side of the adhesive plaster faces the ring, and the gingival edge of the ring is directed upwards);
 - cover the attachment on the ring with wax or vaseline;
 - apply freshly mixed cement to the inner surface of the ring.
5. Preparation of the tooth for cementing:
 - dry the cleaned tooth, wash the tooth with 96% alcohol, dry the tooth with a jet of air.
6. Putting on the rings:
 - finally adapt the rings in the oral cavity (using an adapter or a spatula for biting);
 - remove the band-aid strip, remove excess cement, and isolate the tooth from saliva (using tin foil).
 - ask the patient to bite the inserted dry cotton roller and leave it to dry for 5-10 minutes.

- remove cotton pads and foil, thoroughly clean the tooth with a scaler from excess cement.

Part VII.

TASK № 1. Distal occlusion. Protrusion, diastema, and gaps.

Recommended: X-ray examination-OPTG.

TASK № 2. Mesial occlusion. Crowding of the lower jaw teeth, vestibular position of 3.3, 4.3 teeth.

TASK № 3. Diagnosis: mesial occlusion, vestibular position of teeth 1.3, 2.3, diastema, gaps of the lower jaw teeth.

Recommended: X-ray examination-OPTG.

TASK № 4. Diagnosis: cross occlusion, narrowing of the upper jaw, crowding of the upper jaw teeth.

Recommended: X-ray examination-OPTG.

TASK № 5. Delay in changing permanent teeth.

Part VIII.

TASK № 1. Anatomical boundaries: from the uvula to the transition of the hard palate to the soft one.

TASK № 2. Anatomical disorders: expansion of the pharyngeal ring, communication of the oral and nasal cavities.

TASK № 3. Functional disorders: speech, breathing, chewing, swallowing.

TASK № 4. Tasks: adjust nutrition, put on dispensary registration in the Republican Dental Center. Surgical treatment in 4-5 years. Classes with a speech therapist for speech production.

TASK № 5. Cosmetic disorders with or without deformity of the nasal wing.

Part IX.

TASK № 1. Diagnosis: decompensated form of caries, 74.75-chronic granulating periodontitis, secondary adentia of 84-85 teeth.

In this case, the function of chewing is impaired, since two adjacent teeth on the lower jaw are missing.

Chewing of food is mainly carried out on the left side or "sluggish" chewing (rubbing food with the tongue) prevails.

Recommendations:

- sanitation of the oral cavity;
- rational oral hygiene (using a soft toothbrush, fluoride-or calcium-containing toothpaste;
- preventive prosthetics (referral for consultation to an orthodontist);
- increased chewing activity (hard food intake, two-way active chewing);
- routine check-up 2 times a year.

TASK № 2. Diagnosis: decompensated form of caries, short frenulum of the tongue, infantile swallowing, lingual position 3.2, 4.2.

The intensity of caries was determined by the CPD cp index. In this case, the reasons for the formation of a dentoalveolar anomaly are a short frenulum of the tongue, infantile swallowing (changing the position of the tongue during swallowing and insufficient pressure on the frontal part of the lower jaw).

Recommendations:

- plastic frenulum of the tongue, removal of 8.4, 8.5 teeth;
- myogymnastics of the tongue muscles to normalize the swallowing function;
- referral to a speech therapist for consultation (to normalize sound pronunciation);
- 2 times a year finger massage for 3.2, 4.2 teeth for 1 minute 2-3 times a day, in the absence of positive dynamics-an instrumental method of treatment to move 3.2, 4.2 teeth into the dentition;
- professional examination of the oral cavity 2 times a year.

TASK № 3. Diagnosis: radicular cyst of the lower jaw on the left. Compensated form of dental caries. Protrusion of the frontal teeth of the upper jaw. Infantile type of swallowing.

Treatment and prevention plan:

1. Surgical treatment in a hospital. General anesthesia - intubation anesthesia. Cystotomy in the lower jaw area on the left. Remove 7.5, save the 3.5 the rudiment of the tooth.
2. After discharge from the hospital, teach the method of brushing teeth under the control of the Fedorov – Volodkina hygiene index.
3. Anti-cariou toothpastes.
4. Training in the rules of using a toothbrush.

5. Recommendations for a healthy diet with a restriction of sweets.
6. Sanitation of the oral cavity once a year.
7. Covering permanent teeth with fluoride 2 times a year until the age of 14.
8. Orthodontist treatment-hardware treatment is recommended (palatine plate with a vestibular arch with a serpentine bend, tongue flap, clamps for 1.6 and 2.6 teeth). Activation of the vestibular arch 1 time per week.

9. Myogymnastics:

- a set of exercises for the circular muscle of the mouth;
- a set of exercises to normalize the function of swallowing;
- a set of exercises to normalize the function of breathing. Each set of exercises is performed for 5-7 minutes 3 times a day.

TASK № 4. Based on complaints, objective examination data, and X-ray results, a diagnosis was made: Localized, hypertrophic gingivitis, edematous form. Open bite of 2 degrees of severity. Infantile type of swallowing. Short bridle of the upper lip.

Treatment and prevention plan:

1. Training in rational oral hygiene using anti-inflammatory toothpastes and a soft-bristled toothbrush. Control of brushing your teeth using tableted "Dinal" product.
2. Liquid oral hygiene products are recommended.
3. The use of anti-inflammatory drugs for applications on the gums or in the form of a therapeutic bandage. Non-steroidal anti-inflammatory drugs and ointments that normalize microcirculation (butadiene, heparin ointment with acetylsalicylic acid) are recommended.
4. To reduce gum hypertrophy, medications, surgical methods and physical factors are used (massage, heparin electrophoresis). In a girl during puberty, you should refrain from surgical methods of treatment (gingivectomy), because reactive gum growths decrease or disappear completely after the elimination of the arrhythmia of the hormonal cycle.

5. Hardware treatment of open bite:

- palatal plate that separates the bite from the tongue flap and vestibular arch (activation 1 time in 3 weeks by layering plastic);
- use of non-removable equipment-edgewise equipment.

Myogymnastics:

- for training the circular muscle of the mouth;
- to normalize swallowing. Each set of exercises is performed for 7-10 minutes 3 times a day.

6. Plastic frenulum of the upper lip. Under local anesthesia of 2% novocaine 5.0 solution, the frenulum of the upper lip is plasticized with counter triangular flaps. Remove the stitches after 5-7 days.

TASK № 5. Based on complaints and objective examination data, a diagnosis is formulated: False progenia, underdevelopment of the upper jaw. Decompensated form of caries. 7.5-chronic granulating periodontitis. Mycotic jamming. To confirm the diagnosis of mycotic congestion, it is necessary to conduct a bacteriological study.

Treatment:

1. Treatment of the red border and corners of the mouth with alkaline solutions (soda solution).

2. Application of antifungal ointments (levortsin, decamine, canesten, etc.).

3. A full-fledged diet with a restriction of carbohydrate foods.

4. Sanitation of the oral cavity 3 times a year. Treatment of children with decompensated dental caries:

- training in oral hygiene rules;
- appointment of fluoride-containing toothpastes;
- recommendations for a healthy diet with a restriction of sweets;
- remineralizing therapy 3 times a year.

5. Orthodontist treatment:

- elimination of bad habits (sucking on the upper lip, toys);
- myogymnastics – a set of exercises to move the lower jaw back;
- finger massage of the alveolar process of the lower jaw (5-7 minutes 3 times a day);
- consultation and treatment with an otolaryngologist.

6. It is recommended to remove 7.5 teeth under mandibular anesthesia with lidocaine solution 2 %-4.0. Features of removing baby teeth-there are no stages: syndesmotomy, curettage.

Part X.

TASK № 1. Diagnosis: anomaly of the shape of 1.2, 2.2 teeth. There is no deformation. There are aesthetic indications for prosthetics.

Ceramic veneers.

When young people use non-removable orthopedic structures as veneers brushing teeth should be done after each meal. Before cleaning the teeth with a toothbrush, flossing is performed: the interdental spaces are cleaned of abundant plaque and large food residues using waxed flosses impregnated with fluoride compounds. you can recommend the use of mouthwashes that promote loosening of plaque. The next step is brushing: using a preventive brush with a small head and soft bristles, all tooth surfaces are cleaned. For children under 14 years of age, it is recommended to use a small amount of toothpaste containing fluoride compounds to prevent the development of dental caries. At the end of the procedure, the oral cavity is rinsed using fluoride-containing rinses. At least once every six months, it is necessary to conduct professional oral hygiene with mandatory polishing and elimination of defects in orthopedic structures and fillings.

TASK № 2. Diagnosis: broken crown of 1.1, 2.1 teeth at the dentine level without opening the tooth cavity. There is no deformation. - The aesthetics of the smile is disturbed, chewing efficiency is reduced.

Inlay or ceramic veneers.

When using non-removable orthopedic structures such as veneers for young people, the dental cleaning procedure should be performed after each meal. Before cleaning the teeth with a toothbrush, flossing is performed: the interdental spaces are cleaned of abundant plaque and large food residues using waxed floss impregnated with fluoride compounds, it is recommended to use rinses that promote loosening of plaque. The next step is brushing: using a preventive brush with a small head and soft bristles, all tooth surfaces are cleaned. For children under 14 years of age, it is recommended to use a small amount of toothpaste containing fluoride compounds to prevent the development of dental caries. At the end of the procedure, the oral cavity is rinsed using fluoride-containing mouthwash. Professional oral hygiene should be performed at least once every two years, with mandatory polishing and removal of defects in orthopedic structures and fillings.

TASK № 3. Diagnosis: crown defect of the depulped 3.6 tooth. There is no deformation. There is a decrease in chewing efficiency, violation of occlusal contacts in the 3.6 tooth area.

Inlay

When using orthopedic structures for young people, the procedure of brushing teeth should be carried out after each meal. Before cleaning the teeth with a toothbrush, flossing is performed: the interdental spaces are cleaned of abundant plaque and large food residues using waxed floss impregnated with fluoride compounds, it is recommended to use rinses that promote loosening of plaque. The next step is brushing: using a preventive brush with a small head and soft bristles, all tooth surfaces are cleaned. For children under 14 years of age, it is recommended to use a small amount of toothpaste containing fluoride compounds to prevent the development of dental caries. At the end of the procedure, the oral cavity is rinsed using fluoride-containing rinses. Professional oral hygiene should be performed at least once every six months, with mandatory polishing and removal of defects in orthopedic structures and fillings.

TASK № 4. Diagnosis: discoloritis, defect in the crowns of depulped 1.1, 1.2 teeth. There is no deformation. There is a decrease in the aesthetic characteristics of the restoration and discoloration of the teeth.

Metal-ceramic crowns.

When using orthopedic structures for young people, the procedure of brushing teeth should be carried out after each meal. Before cleaning the teeth with a toothbrush, flossing is performed: the interdental spaces are cleaned of copious plaque and large food residues using waxed flosses soaked in fluoride compounds, you can recommend the use of rinses that help loosen the dental plaque. The next step is brushing: using a preventive brush with a small head and soft bristles, all tooth surfaces are cleaned. For children under 14 years of age, it is recommended to use a small amount of toothpaste containing fluoride compounds to prevent the development of dental caries. At the end of the procedure, the oral cavity is rinsed using fluoride-containing rinses. At least once every six months, it is necessary to conduct professional oral hygiene with mandatory polishing and elimination of defects in orthopedic structures and fillings.

TASK № 5. Diagnosis: defect of crowns of 5.1, 6.1 teeth. There is no deformation. There is a decrease in chewing efficiency, a decrease in the aesthetics of the smile.

Composite strip crowns.

When using orthopedic structures for young people, the procedure of brushing teeth should be carried out after each meal. Before cleaning the teeth with a toothbrush, flossing is performed: the interdental spaces are cleaned of abundant plaque and large food residues using waxed floss impregnated with fluoride compounds, it is recommended to use rinses that promote loosening of plaque. The next step is brushing: using a preventive brush with a small head and soft bristles, all tooth surfaces are cleaned. For children under 14 years of age, it is recommended to use a small amount of toothpaste containing fluoride compounds to prevent the development of dental caries. At the end of the procedure, the oral cavity is rinsed using fluoride-containing rinses. At least once every six months, it is necessary to conduct professional oral hygiene with mandatory polishing and elimination of defects in orthopedic structures and fillings.

Part XI.

TASK № 1. In this case, to make a final diagnosis and determine the orthodontic treatment plan, the following special diagnostic methods should be performed:

- KDM measurement (place balance calculation, Pont and Snagina methods);
- x-ray methods (OPTG). Orthodontic treatment can be performed using a fixed orthodontic technique (a braces system).

Stages of orthodontic treatment:

- leveling of teeth;
- placing the teeth in the correct vertical position;
- creating a place for a tooth 1.3;
- moving the 1.3 tooth into the dentition;
- adjusting the position of the teeth;
- retention of the achieved result.

TASK № 2. The sequence of stages of orthodontic treatment with fixed orthodontic equipment:

- leveling the location of teeth;
- installation of the longitudinal axes of the teeth in the correct vertical position;

- elimination of gaps between teeth by their body movement;
- adjusting the position of the teeth;
- retention of achieved results of orthodontic treatment.

In this case, you can use the direct method of fixing braces:

- thorough cleaning of teeth with a brush or elastic band;
- applying a etching gel to the vestibular surface of the teeth (point-by-point in the places where braces are fixed) for 30-60 seconds;
- washing the etched enamel surface (with a jet of water);
- drying of the etched enamel surface with a jet of compressed air;
- applying adhesive to tooth enamel;
- applying adhesive to the base of the bracket;
- placement (positioning) of the bracket on the tooth surface in the desired position (using reverse tweezers and positioner);
- removing excess material (with a scaler).
- when using a light-cured adhesive, polymerization with a halogen lamp is required.

TASK № 3. In the treatment of mesial occlusion, in addition to non-removable orthodontic technique, a face mask (Tubinger, Dilard, Petit, individual face mask) can be used.

Application:

1. On the upper jaw, install a steel arch measuring 0.016 x 0.022 inches (or more).
2. Bend the ends of the arch distally.
3. The arch should have hooks located distal to the canines.
4. Put on the face mask.
5. Check the rubber traction hooks at the level of the occlusal plane.
6. Stretch the corresponding elastics between the fixing hooks and the hooks of the face mask (force: 3-4H = 300-400 g / cm²).

TASK № 4. Preliminary separation of teeth is always mandatory with tightly placed teeth. The maximum separation time is 2-5 days (carried out using brass wire or separators).

The sequence of steps for fixing rings:

1. Removal of separation wires.
2. Selection of rings on the model.
3. Fitting of rings in the patient's oral cavity and their correction.
4. Preparation of the selected ring for cementing:
 - carefully remove the ring from the tooth with ring removal forceps, clean the ring with water, dry it, wash it with 96 % alcohol, dry it;
 - put the dry ring on a band-aid strip (the adhesive side of the band-aid is facing the ring, and the gingival edge of the ring is directed upwards);
 - cover the attachment on the ring with wax or vaseline;
 - apply freshly mixed cement to the inner surface of the ring;
5. Preparation of the tooth for cementing: dry the cleaned tooth, wash the tooth with 96 % alcohol, dry the tooth with a jet of air.
6. Putting on the rings:
 - finally, we adapt the rings in the oral cavity (using an adapter or a spatula for biting);
 - remove the band-aid strip, remove excess cement and isolate the tooth from saliva (using tin foil);
 - ask the patient to bite the inserted dry cotton roller and leave it to dry for 5-10 minutes;
 - remove cotton pads and foil, thoroughly clean the tooth with a scaler from excess cement.

TASK № 5. The sequence of stages of orthodontic treatment with fixed orthodontic equipment:

- leveling the location of teeth ("Resond", "Triplex", "Turbo Wire", "D-Rectt", "Force-9", "Ni-Ti", "CuNi-Ti", round "TMA", round stainless steel of small diameter);
- installation of the longitudinal axes of the teeth in the correct vertical position ("Porce-9", "Ni-Ti", "CuNi-Ti", stainless steel);

- elimination of gaps between teeth by their body movement ("TMA", stainless steel);
- alignment of the teeth position ("D-Rect", "Force-9", "Titanium Niobium", stainless steel);
- retention of the achieved results of orthodontic treatment ("Resond", "Triple-flex").

Part XII.

TASK № 1. To eliminate diastema on the upper jaw, a removable orthodontic device with hand-shaped pushers located on the distal surfaces of the central incisors and clamps is used. The action of hand-shaped pushers can be enhanced by rubber traction. Activation mode of the device: hand-shaped pushers - 1 time a week, replacement of the elastics every 2 days.

TASK № 2. To move the left upper first incisor from the palatal position to the dentition, a removable orthodontic device with a protrusion spring and clamps is used. Activation mode of the device: protrude 1 time a week.

TASK № 3. In this case, a removable orthodontic device can be applied to the upper jaw with occlusal overlays (to separate the bite), a sectoral cut in the area of the front teeth of the upper jaw and a screw. This device will eliminate the flattening of the frontal part of the upper jaw, move the front teeth from the palatine position. Screw activation mode 2 times a week for 1/4 turn. To restrain the growth of the lower jaw, it is advisable to use an extra-oral device - a chin sling with a elastics.

TASK № 4. For the treatment of this patient, a type I Frenkle function regulator can be used, the design of which includes: palatal clasp, buccal shields, bumper located in the lower lip, vestibular arch with U-shaped loops (to eliminate protrusion of the frontal teeth of the upper jaw), clasps, lingual arch for sagittal movement of the lower jaw.

TASK № 5. In this case, you should use the following diagnostic methods:

- biometric methods for measuring control and diagnostic models (Pont, Gerlach method, place balance calculation);
- orthopantomography;
- teleroentgenography

The following treatment methods can be used:

- hardware method (removable or non-removable orthodontic appliances for lengthening the lateral part of the upper jaw on the right);
- surgical method (removal of a permanent tooth).

Part XIII.

TASK № 1. Yes, it could, since the retainer is used to fix the results, when it comes off the teeth can change their position.

TASK № 2. Retention appliances can be removable (plate appliances for the upper or lower jaw with a plastic base with or without clamps, dental mouthguards made of bioplastics) and non-removable (soldered rings, crowns or rings with soldered tangent beams, in some cases industrially manufactured retainers are used).

TASK № 3. Yes. Retention appliances can be removable (plate appliances for the upper or lower jaw with a plastic base with or without clamps, dental mouthguards made of bioplastics) and non-removable (soldered rings, crowns or rings with soldered tangent beams, in some cases industrially manufactured retainers are used).

PROBLEM № 4. A block in the canine region could lead to a relapse.

TASK № 5. Yes. Retention appliances can be removable (plate appliances for the upper or lower jaw with a plastic base with or without clamps, dental mouthguards made of bioplastics) and non-removable (soldered rings, crowns or rings with soldered tangent beams, in some cases industrially manufactured retainers are used).

RECOMMENDED LITERATURE

Main literature:

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4. Orthodontics: National guidelines. In 2 volumes, vol. 1. Diagnosis of dental anomalies / Edited by L.S. Persin. Moscow : GEOTAR-MEDIA, 2020. 304 p.
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6. Modern orthodontics / W.R. Proffitt, G.W. Fields, D.M. Sawyer; Translated from English – Moscow : Publishing house MEDpress-inform, 2019. – 712 p.
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7. Functional research methods in orthodontics [Electronic resource] : textbook / S. V. Chuikin [et al.]. – Electron. text data. Ufa, 2011. on-line. – Access mode: DATABASE "Electronic Educational Library" <https://library.bashgmu.ru/alibdos/alib500.pdf>

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