

THE MINISTRY OF HEALTH OF UKRAINE
THE HIGHER STATE EDUCATIONAL INSTITUTION OF UKRAINE
"UKRAINIAN MEDICAL STOMATOLOGICAL ACADEMY"

Approved
at the meeting of orthodontics department
« ____ » _____ 20 ____ y.
protocol № ____ by _____
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METHODICAL RECOMMENDATION
for independent work of students during the preparation
to practical lessons and on the lessons

Academic discipline	Orthodontics
Module №3	Children's dental prosthetics.
The theme of the lesson № 15	The control meaningful module №2
Course	V
Faculty	Preparation of foreign students

Poltava 2017

1. The relevance of the topic. In modern conditions, people pay more and more attention on facial aesthetics, harmony of its structure. Violations of the dento-alveolar region can be prevented by using preventive measures, using the knowledge of morphological and functional age-related peculiarities of formation and development of dento-alveolar region. Rational orthodontic treatment is possible only after performing a comprehensive differential diagnosis, it is therefore important that the doctor possessed the necessary knowledge for the effective clinical assessment of orthodontic status of the patient.

The dental system is a part of the body, a dynamically changing in the process of development and growth. Relationship between local violations in dento-facial region in children and adolescents with general diseases allows considering dento-facial anomalies and deformations as multyorganic, socially significant pathology. Therefore, diagnosis, treatment and prevention of dento-jaw anomalies and deformations must be considered in the context of the integrity of the emerging body of the child, interrelation of forms and functions of its organs and systems.

Orthodontic treatment is a complex of measures directed at the normalization of morphological functional and aesthetic condition of the dentition. Therefore, knowledge of the characteristics of orthodontic examination, diagnosis and choice of treatment method is important in the preparation of the dentist-orthodontist.

2. Specific objectives:

To know the definition of "normal", "optimal individual norm" in orthodontics.
To analyze the periods of child development and bite.
To classify the types of physiological pathology that bites.
To explain the extra-oral and intraoral signs of physiological occlusion.
Interpreted the anatomical and physiological features of the oral cavity and the temporomandibular joint of the newborn.
To explain the morphological features of the formation of temporary, removable, permanent occlusion.
To explain the function of the formation of a temporary, removable, permanent occlusion.
To analyze the clinical manifestations of the major periods of becoming of height of bite.
To explain methods of diagnostics of malocclusion.
To explain clinical methods of diagnostics of malocclusion.
To explain anthropometric, biometric and graphic methods of diagnostics of malocclusion.
To explain functional methods of diagnostics of malocclusion.
To explain X-ray methods of diagnostics of malocclusion.
To explain the features of objective examination of the orthodontic patient.
To explain methods of functional diagnostics used in orthodontics.
To explain the somatic diseases, which can lead to changes in dento-facial system.
To explain the influence of the malocclusion on the overall condition of the body.
To explain the influence of the respiratory and cardiovascular systems violation on malocclusion formation.
To explain the endocrine disorders that influence on dento-facial deformation.
To explain the violation of the functions of the musculoskeletal system.
To explain the anhidrotic ectodermal dysplasia syndrome.
Features of orthodontic examination of the patient.
Age-related features of orthodontic treatment.
Indications for orthodontic treatment.
Contraindications to orthodontic treatment.
Principles and methods of the clinical examination of the orthodontic patient.
interpretation of the results of the clinical examination of the orthodontic patient.
Principles and methods of assisted methods of research in orthodontics.
interpretation of the results of auxiliary methods of research orthodontic patient.
Principles of construction of orthodontic diagnosis.
Methods of orthodontic treatment; fundamentals of design removable orthodontic appliances mechanical, functional and combined action.

3. Basic knowledge's, abilities, skills necessary for studying the topic (interdisciplinary integration)

Name of previous disciplines	Skills
1. Anatomy	Describe the structure of the cerebral and facial departments of skull, jaws, attachment of the facial and masticatory muscles. To assess the development and the proportionality of the size of the face, jaws.
2. Normal physiology	Describe the physiological act of a mastication, swallowing, speaking, breathing.
3. Radiology	To know radiology diagnostic, cephalometrics. To determine the form of malocclusion according to the lateral cephalometric.
4. Pediatric dentistry	To know the growth and development of the facial skeleton and of muscles in the age aspect, the timing of teething. To master principles of rehabilitation of the oral cavity in the prevention of a vertical malocclusions.
5. Prophylaxis of stomatological diseases	To write down the tooth formula (clinical, anatomic, by WHO), determine bite period and dental age.
6. Propedeutics of a therapeutic odontology	To define teeth according to the bite: temporary or constant occlusion.
7. Orthodontics (intra-subject)	To know construction of orthodontic appliance, principles of their design To choose a rational orthodontic appliances for the treatment of deep bite.

4 Tasks for independent work during preparation to the lesson and on the lesson

1 A list of the main terms, parameters, characteristics that need to learn by the student during the preparation to the lesson:

Terms	Definition
1. Optimal norm in orthodontics.	The state guaranteed in time morphological, functional and aesthetic balance in dento-facial system and facial skeleton in general, has to be pursued in the process of orthodontic treatment.
2. Dento-facial anomaly	It is a disease that is characterized by not only morphological changes in the structure of the bite, but functional and esthetic disorders of varying severity, which force the patient to seek help from a specialist.
3. The state compensation.	Mobilization of protective forces to maintain a dynamic equilibrium with the environment; the state of decompensation – defenses are exhausted, but the adaptation is preserved.
4. Key of occlusion according to Angle.	Cusp-to-groove contact between the first permanent molars of the upper and lower jaws at the correct inclination of the longitudinal axes of these teeth to the occlusal plane.
5. Pathological bite.	Bite, that characterized by the malposition of individual teeth, deformity of the dental arches and their abnormal ratio (a shift in the sagittal, vertical, or transversal directions).
6. Subjective examination.	A stage of clinical survey in which interview of the patient.
7. Passport (chronological or calendar) age.	This is the period from birth to any particular moment of life.
8. Biological or anatomical and physiological age.	Is determined by the set of metabolic, structural, functional, and regulatory characteristics of adaptive opportunities of an organism and is a required function of time, but unlike a passport, is characterized by less distinct intervals of time, during which irreversible age-related biological changes in the body.
9. Bone age.	The age of a person is determined by the condition of the bone system.
10. Objective examination	A stage of clinical survey in which carried out examination of the patient (posture, face, maxillofacial area). The main admission objective of the examination of the orthodontic patient includes a general examination, determination of Constitution and characteristics of the face structure, the examination of the oral cavity.
11. A clinical examination.	Clinical examination of patients with dento-alveolar anomalies is the main method in the determination of orthodontic diagnosis and consists of subjective and

	objective studies.
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12. Subjective study.	Subjective research is the elucidation of passport data of the patient; gathering of complaints, anamnesis of life and disease. Is carried out by probing the patient or his parents.
13. Passport (chronological or calendar) age.	This is the period from birth to any particular moment of life.
14. Biological or anatomical and physiological age.	Is determined by the set of metabolic, structural, functional, and regulatory characteristics of adaptive opportunities of an organism and is a required function of time, but unlike the passport is characterized by less distinct intervals of time, during which irreversible age-related biological changes in the body. Biological age can meet the chronological (passport), to get ahead or be left behind.
15. Objective examination.	A stage of clinical survey in which carried out examination of the patient (posture, face) and his oral and maxillofacial region.
16. Inspection.	The main admission objective of the examination of the orthodontic patient includes: overview, definition, build and features of the structure of the face, examination of the oral cavity.
17. Posture.	The usual posture that a person takes standing or sitting without excessive muscle tension.
18. Signs of correct posture:	The middle line the entire length of the spine is vertical, head looking straight. The symmetrical arrangement of the blades, shoulders, nipples. Both clavicular bones are connected by a horizontal line. Both buttocks are located on the same level. On the back there is no asymmetric skin folds. All the physiological curves of the spine are in a normal range of values (no pathological lordosis, kyphosis). No lateral curvature of the spine (scoliosis). Both legs have the same length.
19. The dysontogenesis.	This is a condition in which there is a deviation from normal personality development in a certain period of life. It can appear at any age. There are several types of this condition: asynchrony, retardation and regression.
20. Bone age.	The age of the person, defined by the skeletal system. To determine bone age are more likely to use radiographs of the hand.
21. Anthropometric measurements of the face and head of the patient.	While conducting additional diagnostic methods in orthodontics using anthropo-metric examination of the face and head of the patient (metering). These planes are

	located mutually perpendicular to each other. With regard to their studying variations in the structure of the face and malocclusion have transverse-flax, sagittal and vertical directions.
22. Oriented plane by Simon.	While studing head are used 3 oriented plane by Simon: mid-sagittal, ear-orbital and frontal.
23. Index by Izard (IFM).	The shape of the face can be determined using the index (IFM) – morphological facial index. $IFM = \frac{oph-gn}{zy-zy} \times 100\%$. The value of the index 104 or more characterizes a narrow face, from 97 to 103 – average, 96 I less– wide face.
24. The principle of "Golden section".	"The Golden section" is called two parts of the segment, in which the smaller part refers to bigger like a big to the entire segment.
25. Anthropometric measurement models of the jaws.	Anthropometric measurement models of the jaws are held in three planes: mid-sagittal; vertical; transversal. To define the diagnostic criteria during the period of temporary, mixed and permanent dentition are used as traditional methods of anthropometry KDM and special.
26. The x-rays.	Radiological methods of research of patients with DMD are required to clarify the etiopathogenetic aspects, diagnostic criteria, planning orthodontic treatment, prediction and monitoring of its results.
27. Anhydrotic ectodermal dysplasia	Amitotically ectodermal dysplasia – a hereditary disease that develops due to violations of the formation of the ectoderm (germ layer). Another name of this condition is a syndrome Krista-Siemens.
28.Objective examination	Stage clinical examination, during which examine the patient (posture, face) and maxillofacial region.
29.Inspection	Main reception of objective examination of the orthodontic patient consists of: an overview, definition of physique and structural features of the person, the inspection of the oral cavity.
30.Radiography	Method of roentgenologic examination, which with the help of x-ray radiation sensitive to it material (x-ray film) receive fixed image of the investigated object.
31. Methods of treatment of dento-facial anomalies.	Biological, instrumental, surgical, prosthetic, complex (combination of several methods of treatment).
32. Plan of orthodontic treatment	Reflect the therapeutic actions to achieve the same goals by different methods.

4.2. Theoretical questions to the lesson:

1. List and expand the anatomic-physiological features of the oral cavity and the temporomandibular joint in the newborn.
2. List the functional features of the formation of temporary, removable, permanent occlusion.
3. List the morphological features of the formation of temporary, removable, permanent occlusion.
4. What are the basic principles of clinical assessment of orthodontic status in different age periods?
5. What parts do clinical methods of examination consist of?
6. What is the biological age of a person?
7. The dates of determining the bone age of a person.
8. What etiological factors influence the development of the dento-gnathic apparatus in the antenatal period
9. Features of function of closing of lips at children.
10. Clinical signs of parafunction closing of lips.
11. Special methods of determination of parafunction closing of lips.
12. Features of function of mastication at children.
13. Clinical signs of parafunction mastication at children.
14. Clinical signs of parafunction swallowing at children.
15. Determination of parafunction swallowing at children.
16. Clinical signs of parafunction breathing.
17. Special methods of determination of parafunction breathing at children.
18. Clinical signs of parafunction speech at children.
19. Determination of parafunction speech at children.
20. What are the stages of objective examination of orthodontic patients?
21. What are the peculiarities of the general inspection of orthodontic patients?
22. What are the features of determining the structure of the face?
23. What are the methods of functional diagnostics used in orthodontics?
24. What are the methods of determination of a violation of the functions of DFS?
25. What are the methods of determination of a violation of the functions of the musculoskeletal system?
26. What are the methods for determination of disorders of the respiratory system?
27. What is anhidrotic ectodermal dysplasia Syndrome?
28. List the stages of objective examination of orthodontic patient.
29. Description of the bite in three planes.
30. List additional methods of research in orthodontics.
31. Indications for the cephalometrics.
32. Contraindications for orthodontic treatment.
33. List the methods of orthodontic treatment.

4.3. Practical works (task) which are executed at the lesson:

To determine the period of the formation of occlusion.

Describe the methodology of conducting clinical functional tests in patients during periods of temporary, mixed, permanent occlusion.

To inspect the face, vestibule of the oral cavity, the oral cavity of patients during the period of temporary, mixed, permanent occlusion.

Describe the dentition in three planes for patients in periods of temporary, mixed, permanent occlusion.

To be able to take impressions of patients during periods of temporary, mixed, permanent occlusion.

To determine the period of the formation of occlusion.

Describe the methodology of conducting clinical functional tests in patients during periods of temporary, mixed, permanent occlusion.

To inspect the face, vestibule of the oral cavity, the oral cavity of patients during the period of temporary, mixed, permanent occlusion.

Describe the dentition in three planes for patients in periods of temporary, mixed, permanent occlusion.

To be able to take impressions of patients during periods of temporary, mixed, permanent occlusion.

To make a clinical examination of the orthodontic patient.

Conduct a survey of the patient and / or his or her parents.

To define the basic data of the anamnesis of life and history of the disease.

To determine the type of posture.

To write clinical functional tests.

To put a diagnosis regarding the classification of malocclusion.

To decode extra-oral radiographs of the TMJ.

To decode panoramic x-rays, cephalometrics.

To determine bone age of radiograph of the hand.

To make the impression, cast model.

A clinical examination of the orthodontic patient.

Define the basic data of the anamnesis of life and history of the disease.

Determine the aesthetic forecast orthodontic treatment of the patient with dento-alveolar anomalies on the basis of the anthropo- and photometric studies.

Be able to choose the most suitable design orthodontic apparatus for treatment of different types of dento-maxillary anomalies and deformations bite.

Assign appropriate x-ray study at different types of dento-maxillary anomalies and deformations of the bite.

Build in the abstract of the logical structure of the stages of the clinical examination.

Make a plan of orthodontic treatment according to model, panoramix, photo of the patient.

The content of the topic:

Methodical recommendation 11-14.

Materials for self-control:

A. Tasks for self-control (tables, diagrams, drawings, graphs):

1. Write down the periods of mixed occlusion.
2. To draw in albums the sequence scheme of teeth eruption.
3. Write down the periods of physiological increasing of the bite.
4. To draw in albums the 4 variants of eruption and correct position in the bite of the first permanent molars.
5. Write down the factors, that influence on the grows and eruption of permanent teeth.
6. Write down the features of the permanent teeth structure, difference between permanent and temporary.
7. Write down the morphological features of permanent bite 3 periods.
8. Write down in album the scheme of methods of diagnostics according to certain type of malocclusion and age.
9. Write in the album the abstract graph of the logical structure of the stages of clinical examination.
10. Write in the album abstract graph of the logical structure of the stages of additional examination.
11. Write down the graphological structure of the planning stages of orthodontic treatment.
12. Write in the abstract of the graphological structure of the choice of methods of treatment given the patient's age, the severity of the anomalies, complexity of treatment and type of behavior of the patient.

B. Tasks for self-control:

1.I period of temporary occlusion continues?

from 6 months to 2.5 years

from birth to 6 months

from 1 to 3 years

from 1.5 to 3.5 years

from 2 to 4 years

2.I period of temporary occlusion entitled?

formation period

aging period

stable period

abrasion period

early period

3.The main feature of the first period of temporary occlusion are?

the eruption of deciduous teeth

no diastem and thremas

lack of occlusal curves

the presence of gaps between teeth

the signs of temporary molars abrasion

4.The 1st stage of the physiological height bite increasing corresponds eruption of?
temporary molars
temporary central incisors
temporary canines
temporary central incisors
temporary lateral incisors

5.The physiological height of bite increasing helps?
to increase the volume of the oral cavity
growth maxilla
growth of the mandible
growth maxillary sinus
growth of the nose

6.II period of temporary occlusion entitled?
stable period
formation period
aging period
abrasion period
late period

7.Distal surface of the second temporary molars in the first period of temporary occlusion are as follows?
located in the same vertical plane
have sagittal step
have a vertical step
have transversal step
without contact

8.The Tsylin'sky' symptom to predict the development of occlusion in this plane?
sagittal
vertical
orbital
transversal
Frankfurt

9.The features of the second temporary molars contact in the first period of temporary occlusion depends on?
their size medio-dystal sizes
heredity
cusps abrasion
the presence of spaces between teeth
chewing efficiency

10.The II period temporary occlusion is characterized by?
dense of approximal teeth contacts, 1/3 incisors covering, no signs of teeth abrasion, distal surfaces v / v in a vertical plane
dense of approximal teeth contacts
lower incisors overlap the upper 1/3
no signs of teeth abrasion
there is no answer

11.The occlusion curve in the mixed dentition is modified in such planes?
sagittal and transversal
sagittal and vertical
vertical and transversal
orbital and vertical
orbital and transversal

12.The space for eruption of permanent molars in the upper jaw is formed by?
alveolar bone growth in length and resorption in the maxillary hill region
medial displacement of the mandible
the presence of diastema and thremas
eruption of premolars
the difference between the mesio-distal sizes of temporary and permanent teeth

13.Morphological characteristics of malocclusion are described in such planes?
in the sagittal, vertical and transversal planes
in the sagittal and vertical planes
in the sagittal and vertical planes
in the sagittal, orbital and nasal planes
in the sagittal, transversal and orbital planes

14.Orthognatic bite from orthogenic bite differs in next plane?
vertical
sagittal
transversal
frankfurt
nasal

15.Orthognatic bite from orthogenic bite by relation of such teeth group differs?
incisors
canines
premolars
the first permanent molars
lateral teeth

16.Sagital occlusal curve formed by?

different height of teeth crowns (1 to 8)
the presence of gaps between teeth
different heights of posterior teeth cusps
the teeth inclination
the posterior teeth cusps abrasion

17. Transversal occlusal curve formed by?

Different side of the teeth inclination
Different widths of buccal and oral cusps of posterior teeth
Different heights of the posterior teeth crowns
The posterior teeth cusps abrasion
The presence of spaces between teeth.

18. One antagonist has the following teeth?

the lower central incisor and upper last molars
the upper central incisor and lower last molar
the lower lateral incisor and the lower “wisdom” tooth
the upper lateral incisor and the upper “wisdom” tooth
the upper canine and lower “wisdom” tooth.

19. Sagittal occlusal curve formed by?

different height of teeth crowns (1 to 8)
the presence of spaces between teeth
different heights of posterior teeth cusps
the inclination of the teeth

the abrasion of the posterior teeth cusps

20. Transversal occlusal curve formed by?

in different side inclination of the teeth

different widths of buccal and oral posterior teeth cusps

different heights of the posterior teeth crowns

the abrasion of the posterior teeth cusps

the presence of spaces between teeth

21. In normal permanent dentition incisors covering is?

1/3 of the height of the crown

to 2/3 the height of crown

on the whole height of the crowns

more than the whole height of the crowns

1/4 the height of the crowns

22. The anterior buccal cusp of upper first permanent molar in normal occlusion located is?

between the medial and distal buccal cusps of the same lower

same name contact of molars

between the cusps of the first lower molar and the second premolar

between the cusps of the first and second lower molars

mesiobuccal cusp of upper 6 contact with lower second molar

23. The upper dental arch at the permanent orthognathic occlusion is?

semi-oval form
semi-circle form
parabola form
trapezoid form
triangular form

24.The lower dental arch at the permanent orthognathic occlusion is?

parabola form
semi-circle form
semi-oval form
trapezoid form
triangular form

25.Physiological types of occlusion in orthodontics believe?

Orthognathic and orthogenic
Orthognathic and prognatic
Orthognathic and progenic
Orthognathic and open
Orthognathic and deep

26.Bite is?

the teeth relation in central occlusion
the teeth relation in the anterior occlusion
the teeth relation in lateral occlusion

the teeth relation in a constructive occlusion
the teeth relation in normal occlusion

27. Physiological permanent occlusion includes the following number of teeth?

28-32

24

20

30

16

28. The fourth stage of physiological height bite increasing occurs when erupted?

third permanent molars

the first permanent molars

second permanent molars

permanent canines

permanent incisors

29. In what periods of child development the jaws of frontal area mostly?

6-12 months 6-9 years

12-20 months and 9-10 years

2-2,5 years and 10-14 years

10-16 months and 8-10 years

1-2 years and 4-6 years

30.To determine the age of the child in the following dental formula: 16, 55, 14, 53, 12, 11, 21, 22, 63, 24, 65, 26, 46, 85, 44, 83, 42, 41, 31, 32, 73, 34, 75, 36?

9 years

6 years

7 years

8 years

11 years.

31.To determine the age of the child when there are teeth: 16, 55, 14, 13, 12, 11, 21, 22, 23, 24, 65, 26, 36, 35, 34, 33, 32, 31, 41, 42, 43, 44, 85, 46?

11 years

7 years

8 years

9 years

13 years

32.The second period of physiological height bite increasing is?

permanent first molars eruption

temporary first molars eruption

temporary second molars eruption

permanent second molars eruption

permanent canines eruption.

33.The third period of physiological height bite increasing is?

permanent second molars, canines and premolars eruption

temporary first molars eruption

temporary second molars eruption
permanent first molars eruption
permanent canines eruption

34.To determine the age of the child when there are teeth: 16, 55, 54, 53, 12, 11, 21, 22, 63, 64, 65, 26, 36, 75, 74, 73, 32, 31, 41, 42, 83, 84, 85, 46?

8 years

7 years

11 years

9 years

13 years

35.Who offered the keys to a perfect orthognathic occlusion?

Andrews

Angle

Betelman

Kalvelis

Malygin.

36.How many keys of “ideal occlusion” do you know?

6

7

10

2

4

37. The 1-th key which characterizes optimal occlusion by L. Andrews is?

the correct 6|6 teeth relation

the correct angulation

the correct torque

the presence of dense contacts between teeth

the Spee curve concavity

38. The 6-th key which characterizes optimal occlusion by L. Andrews is?

the Spee curve concavity

the correct 6|6 teeth relation

the correct angulation

the correct torque

the presence of dense contacts between teeth

1. "Dental age" can be determined as?

a) type of child's development

b) the sex of the child the number of temporary teeth

c) status of root resorption of deciduous teeth

d) the middle part and two semi-circular bending

e) status of crowns resorption of deciduous teeth

2. The first clinical functional test by Ilyina-Markosyan is?

a) the study of a face at physiological rest

- b) the study of the habitual occlusion of the jaws
- c) the study of lateral displacements of the mandible
- d) comparative study of the habitual and central occlusion
- e) the study of tmj' x-ray of open and deep bite

3. Normal or simple lip frenulum must be located at such distance from the gingival margin?

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

4. According clinical examination we define the following parts of the diagnosis

- a) morphological, etiological and aesthetic
- b) morphological
- c) aesthetic
- d) functional
- e) etiological

5. What method is used to determine the width of the dentition?

- a) Pont
- b) Korkhaus
- c) Tonn
- d) Gerlach

e) Howes

6. What method is used to determine the length of the front part of the dentition?

- a) Korkhaus
- b) Pont
- c) Tonn
- d) Gerlach
- e) Hawlay

7. Length of the front part of the lower jaw in orthognathic bite more on:

- a) 2 mm
- b) 3 mm
- c) 4 mm
- d) 5 mm
- e) 8 mm

8. The proportionality of size of the upper and lower incisors in normal overbite is determined by?

- a) Tonn
- b) Gerlach
- c) Pont
- d) Korkhaus
- e) Howes

9. The fourth clinical functional test by Ilyina-Markosyan is?

- a) comparative study of the habitual and central occlusion
- b) the study of TMJ' X-ray of open and deep bite
- c) the study of a face at physiological rest
- d) the study of the habitual occlusion of the jaws
- e) the study of lateral displacements of the mandible

10.To determine the correct form of the dentition we build a diagram according to the method of?

- a) Hawley-Herber-Herbst
- b) Howes –Snagina
- c) Tonn-Gerlach
- d) Nance-Korkhaus
- e) Howes

11.Diagnostic clinical test by Eshler-Bitner is used for?

- a) differential diagnosis of various forms of distal occlusion
- b) differential diagnosis of displacement of the lower jaw
- c) differential diagnosis of various forms of mesial occlusion
- d) diagnosis of disorders of the maxillofacial region
- e) differential diagnosis of the varieties deep bite

13.Radiography of palatal suture prescribed for such orthodontic pathology?

- a) diastema
- b) anomalies of position of individual teeth
- c) malocclusion in the sagittal plane

- d) malocclusion in the vertical plane
- e) malocclusion in transversal plane

14. Indications for X-ray of the TMJ is?

- a) the presence of complaints related to TMJ, malocclusion associated with the displacement of the lower jaw
- b) anomalies of position of individual teeth
- c) diastema
- d) spacing
- e) rotation

15. "Bone age" is determined by?

- a) X-ray of the wrist
- b) contact internally oral radiogram
- c) panoramic radiogram
- d) occlusal radiogram
- e) frontal cephalometrics

16. Panoramic X-ray shows?

- a) dental arches, nasal cavity, maxillary sinuses, TMJ heads
- b) cervical spine
- c) bone age
- d) the frontal sinuses
- e) biological age.

17. Physiological root resorption occurs in such cases?

- a) in milky teeth during physiological change
- b) chronic periodontitis
- c) osteomyelitis
- d) abscess
- e) cysts

18. There are the following types of physiological root resorption?

- a) even, uneven, at the bifurcation
- b) idiopathic
- c) physiological
- d) pathological
- e) microbiological

19. Tight closing of the lips is clinically defined by symptom?

- a) "Thimble or lemon crest"
- b) adenoid face
- c) mesial step
- d) heart symptom
- e) distal step

20. Masticatiography is a method of registration?

- a) movements of the lower jaw
- b) TMJ

- c) biopotentials of muscles
- d) muscle tone
- e) occlusal plane

21. Myotonometry is a method of definitionion?

- a) muscle tone
- b) biopotentials of muscles
- c) movements of the lower jaw
- d) movements of the TMJ
- e) occlusal plane

22. Electromyography is a method of definitionion?

- a) biopotentials of muscles
- b) muscle tone
- c) movements of the lower jaw
- d) movements of the TMJ
- e) occlusal plane

23. To determine the type of swallowing function in the clinic is used a test?

- a) with a sip of water
- b) with cotton fibrils
- c) with nuts
- d) with toast
- e) with ruler

24. The lateral cephalometric is indicated for malocclusions in such planes?

- a) sagittal and vertical
- b) sagittal and transversal
- c) sagittal and occlusal
- d) sagittal and Frankfurt
- e) transversal

25. The increasing of the facial angle (F) by Schwartz is called?

- a) anteposition
- b) retroposition
- c) middle position
- d) infroposition
- e) supraposition

26. The decreasing of the facial angle (F) by Schwartz is called?

- a) displacement of the upper jaw backward
- b) displacement of the upper jaw forward
- c) displacement of the upper jaw side
- d) move the upper jaw down
- e) displacement of the upper jaw upwards

27. The size of the basal angle (B) is?

- a) the angle between the bases of the jaws

- b) the angle of inclination of the maxilla base to the cranial plane
- c) the angle of inclination of the mandible to the nasal plane
- d) the angle of inclination of upper jaw to occlusion plane
- e) the angle of inclination of the mandible to occlusion plane

28. Clinical functional tests by Ilyina-Markosyan apply to?

- a) differential diagnosis of displacement of the lower jaw in transversal plane
- b) differential diagnosis of various forms of distal occlusion
- c) differential diagnosis of various forms of deep occlusion
- d) diagnosis of disorders of the maxillofacial region
- e) the differential diagnosis of the varieties open bite

29. At what value of angle T profile according to Schwartz is considered ideal?

- a) 10
- b) 5
- c) 15
- d) 20
- e) 25

30. Using the Izard index (IFM) we determine?

- a) the shape of the face
- b) the length of the face
- c) the profile of the person
- d) facial symmetry

e) proportionality of the face

31. Frontal cephalometrics indicated for the study?

- a) facial growth in transversal direction
- b) the location of the TMJ in relation to the plane of the skull base
- c) length of anterior cranial fossa
- d) the location of the jaws relative to the skull base in the sagittal direction
- e) influence of craniometric ratios on the profile type

32. The study of parafunction of orbicular oris muscles is possible when you study?

- a) patient face while talking with him
- b) photos of the patient face and profile
- c) diagnostic models of the jaws
- d) orthopantomogram
- e) cephalometrics

33. Biometric studies are made on?

- a) models of the jaws
- b) cephalogram
- c) orthopantomogram
- d) the patient's face
- e) radiograph of the bones of the hand

34. The study of the typical position of the lips during orthognathic and sagittal malocclusions helps to determine?

- a) profile configuration that can be achieved as a result of treatment
- b) the tone of the circular muscles of the mouth
- c) violation of chewing function
- d) Inflammatory diseases of the red lip line
- e) fungal diseases of the corners of the mouth

35. Bruxism is a symptom of?

- a) increased tone of muscle, that raising lower jaw
- b) reduced tone of muscle, that raising lower jaw
- c) increased tone of muscles, that lowering the lower jaw
- d) reduced tone of the muscles that lowering the mandible
- e) increased tone of the facial muscles

36. The ratio of the sizes of segments of dental arches was determined by?

- a) Gerlach
- b) Tonn
- c) Howes
- d) Korkhaus
- e) Ponn.

37. The second clinical functional test by Ilyina-Markosyan is?

- a) the study of the habitual occlusion of the jaws
- b) the study of a face at physiological rest

- c) the study of lateral displacements of the mandible
- d) comparative study of the habitual and central occlusion
- e) the study of TMJ' X-ray of open and deep bite

38. The third clinical functional test by Ilyina-Markosyan is?

- a) the study of lateral displacements of the mandible
- b) comparative study of the habitual and central occlusion
- c) the study of TMJ' X-ray of open and deep bite
- d) the study of a face at physiological rest
- e) the study of the habitual occlusion of the jaws

39. In the study of the TMJ heads extrusion is used the method?

- a) palpation
- b) auscultation
- c) percussion
- d) sensing
- e) visual observation

1. To diseases of the endocrine system include?

- a) hypothyroidism
- b) rickets
- c) measles
- d) hypovitaminosis
- e) rubella

1. Diseases of the endocrine system include?

- a) diabetes mellitus
- b) rubella
- c) scarlet fever
- d) avitaminosis.
- e) hypervitaminosis

2. Diseases of the endocrine system include?

- a) hyperthyroidism
- b) measles
- c) rubella
- d) rickets
- e) avitaminosis

3. The metabolic disorders include?

- a) avitaminosis
- b) scarlet fever
- c) measles
- d) Addison's Disease
- e) diabetes mellitus

4. The metabolic disorders include?

- a) rickets

- b) hyperthyroidism
- c) rubella
- d) hypothyroidism
- e) addison's Disease

5. The metabolic disorders include?

- a) hypervitaminosis
- b) diffuse toxic goiter
- c) measles
- d) congenital adrenogenital syndrome
- e) scarlet fever

6. Open bite can lead to disorders of what functions?

- a) digestive
- b) respiratory
- c) genitourinary
- d) endocrine
- e) musculoskeletal

7. The oral type of breathing leads to such deformation of the upper dentition?

- a) v shape dental arch form, gothic palate
- b) expansion of dental arch
- c) flattening of palate
- d) shortened upper lip frenulum

e) spacing in lateral areas

8. Clinical manifestations of ectodermal dysplasia?

- a) hypoplasia of the sweat glands, hypotrichs, multiple adentia, dysplasia of the face and skull
- b) TMJ dysfunction
- c) respiratory disorder
- d) enamel hypoplasia
- e) multiple caries

9. Scoliotic posture leads to the formation of a pathological occlusion?

- a) cross bite
- b) deep bite
- c) open bite
- d) orthognetic bite
- e) distal bite

10. Deep bite leads to?

- a) TMJ dysfunction
- b) face asymmetry
- c) flat foots
- d) respiratory disorder
- e) speech disorder

11. Rachitic lower jaw has the form?

- a) trapezoid
- b) semicircles
- c) semiellips
- d) triangle
- e) parabolic

12. Signs of diffuse toxic goiter are?

- a) early mineralization of crowns in permanent teeth
- b) delay of dental age, chronological
- c) delayed eruption of teeth
- d) multiple cavities.
- e) hyperplasia of enamel

13. In violation of the respiratory function of the lower dental arch often has the following form?

- a) shortened in the front and expanded in the lateral region
- b) narrowed in the frontal area
- c) asymmetrically narrowed
- d) symmetrically narrowed and elongated
- e) increase in the size of the base of the upper jaw.

14. To the orthodontist asked parents with a boy 6,5 years about not closing the front teeth. The child has the habit of sucking languages. About-but: observed symptom of "thimble" at the closing of the lips, speech impaired, between the front teeth there is a vertical gap up to 7 mm. In anamnesis - rickets. What is the diagnose?

- a) open bite
- b) mesial bite
- c) cross-bite

- d) distal to the occlusion
- e) deep bite

15. The muscles of the maxillofacial are divided into?

- a) facial and chewing
- b) muscles of the tongue
- c) masticatory and tongue muscles
- d) dental enamel hypoplasia
- e) muscles that move the lower jaw

16. What disease is characterized by disturbance of speech with pronunciation through nose?

- a) cleft palate
- b) arthrosis
- c) periodontitis
- d) retention
- e) diseases of ENT-organs

17. Etiological factors of violation of a pronunciation with whistling sounds are?

- a) open bite
- b) deep bite
- c) supernumerary teeth
- d) fused teeth
- e) cross-bite

18. Destruction of the chewing surfaces of crowns of permanent molars due to enamel hypoplasia leads to?

- a) decrease of the height of the bite
- b) lengthening of the dental arch
- c) oral inclination of the front teeth
- d) vestibular inclination of the front teeth
- e) increasing the height of the bite

19. The most usual lesion of the teeth` hard tissue during hypofunction of parathyroid gland is?

- a) enamel hypoplasia
- b) caries
- c) wedge-shaped defect
- d) hyperplasia of the enamel
- e) fluorosis of the teeth

20. In patients with acromegaly the deformation of the bite is?

- a) increase of the dimensions of the base of the upper jaw
- b) decrease in the size of the branches of the lower jaw
- c) decrease in the size of the lower jaw
- d) decrease in the body and angle of mandible
- e) decrease in the size of the body of the mandible

21. Functional abnormalities due progenic bite are characterized by?

- a) violation of food biting process and blocking of lateral movements of the lower jaw
- b) lock the vertical movements of the lower jaw

- c) violation of respiratory function
- d) violation of the pronunciation of the whistling sounds
- e) formation of vertical cracks

22. In the normalization of respiratory function is primary important to?

- a) treatment of the nasopharynx
- b) exercises for training of circular muscle of the mouth
- c) normalization of posture, head position
- d) normalization of tongue position
- e) breathing exercises

23. If there are defects of dentition in lateral areas what harmful habits can appears?

- a) putting the soft tissue of tongue and cheeks in the area of the defect
- b) tongue sucking
- c) incorrect swallowing
- d) thumb sucking
- e) biting of the lips

24. What is the most preferred occlusion in a patient with the syndrome of Franceschetti?

- a) mesial
- b) open
- c) distal
- d) neutral
- e) cross

25. What is the most preferred occlusion in a patient with Crouzon syndrome?
- a) cross
 - b) deep
 - c) open
 - d) mesial
 - e) distal
26. Hereditary disorder of enamel and dentin structure?
- a) Stanton-Capdepon
 - b) Scheithauer-Marie-Santana
 - c) Papillon-Lefevre
 - d) Fibromatosis
 - e) Crouzon
27. Specify the primary symptom what is typical for the syndrome Pierre Robin?
- a) multiple impacted teeth
 - b) hypoplasia and deformity of the upper jaw
 - c) hypoplasia and deformity of the mandible
 - d) congenital absence of teeth
 - e) cranial deformation in the form of a trefoil
28. What syndrome is characterized by deformity of the skull in the form of a trefoil?
- a) Stanton-Capdepon

- b) Williams
- c) Crouzon
- d) Papillon-Lefevre
- e) Pierre Robin

29. The occurrence of Crouzon syndrome caused by impaired fetal development in the period?

- a) 12th – beginning of 13th week
- b) 3rd – beginning of 4th week
- c) 6th – beginning of 7th week
- d) 9 th – early 10 th week
- e) 15 th – early 16 th week

30. General myopathy observed in the syndrome?

- a) Stanton-Capdepon
- b) Williams
- c) Chondrodystrophy
- d) Albright
- e) Pierre Robin

31. What syndrome is observed in newborn glossoptosis?

- a) Crouzon
- b) Williams
- c) Pierre Robin
- d) Franceschetti

e) Shereshevsky–Turner

32. Vitamin synthesis function of the skin is the synthesis of vitamin?

- a) vitamin D
- b) vitamin A
- c) vitamin B
- d) vitamin C
- e) vitamin E

33. To the defining characteristics of mental health include?

- a) neuro-mental development corresponds to age
- b) presence of mental disorders in relatives
- c) decrease in professional abilities
- d) increase motor activity
- e) advance mental development relative to age

36. Average value of Turkish saddle in the newborn?

- a) 2.5 - 3 mm
- b) 4-5 mm
- c) 9 - 11 mm
- d) 6-7 mm
- e) 13 mm

1. What investigation method is used to confirm the diagnosis "dental retention"?

- a) x-ray diagnostics
- b) Pont's method
- c) gnathodynamometry
- d) electromyography
- e) Korkhaus method

2. With the help of what diagnostic test is it possible to diagnose distal occlusion?

- a) Eschler- Bittner
- b) 1st and 2nd Jlyina- Markosian's tests
- c) 3rd Jlyina- Markosian's tests
- d) 2nd Jlyina- Markosian's tests
- e) 4th Jlyina- Markosian's tests

3. At what age Frankel's appliance be indicated for distal occlusion treatment can be indicated?

- a) 6-9 years
- b) 29-30 years
- c) 15-17 years
- d) 3 years
- e) 11-13 years

4. What type of Frankel's appliance may be indicated for the treatment of distal occlusion complicated with deep bite?

- a) the 2nd type
- b) the 4th type
- c) the 1st type

- d) the 3rd type
- e) the 1-a type

5. What kind of treatment of distal occlusion is used in the primary dentition?

- a) functional appliance
- b) all answers are right
- c) surgical treatment
- d) prophylactic measures
- e) treatment by using the mechanical action devices

6. A 14-year-old patient complains of cosmetic defect. X-ray examination revealed that the 23 tooth has vestibular position in dental arch, it is enough space for it. Data of the biometrical measurements on the models: the distance between the 22 and the 24 teeth is $\frac{1}{3}$ the width of 23 tooth. Make treatment plan.

- a) extraction the first premolars and move 23 tooth in the correct position
- b) myogymnastics
- c) Shonher's appliance
- d) move 23 tooth into correct position
- e) extraction the first premolars.

7. A patient is 11 years old. During the examination it was diagnosed symmetrically narrowed upper dental arch. What removable appliance is indicated in this case?

- a) removable appliance on the upper dental arch with a screw
- b) Frankel's function regulator
- c) removable appliance on the upper dental arch with inclined plane
- d) appliance with functionally directing action
- e) removable appliance on the upper dental arch with biting platform

8. The most common cause of narrowing indicated in this case?

- a) mouth breathing
- b) calcium dysbolism
- c) bruxism
- d) infantile type of swallowing
- e) adentia

9. An 18-year-old patient has upper frontal teeth protrusion with diastema and sagittal gap more than 5 mm. What treatment is indicated in this case?

- a) combined treatment (orthodontic combined with surgical)
- b) surgical treatment
- c) myogymnastics treatment
- d) prophylactic appliances treatment
- e) physiotherapeutic treatment

10. A 20-year-old patient has upper frontal teeth protrusion, sagittal gap 6 mm. Orthodontist decided to treat this patient with combined methods. Which teeth must be removed?

- a) first premolars
- b) second premolars
- c) second molars
- d) lower central incisor
- e) upper canine

11. A 7-year-old patient comes to the orthodontist. Objectively: there is a protrusion of frontal teeth in the upper jaw and the lower jaw has distal position. What treatment is indicated in this case?

- a) complex treatment (myogymnastics and Frankel's 1st type appliance)
- b) removable appliance with functionally directing action

- c) muellemans propulsor
- d) myogimnastics
- e) Osadchyi or Aisenberg appliances.

12. An 8 year-old patient complains of cosmetic defect. During intraoral examination it was revealed that the prognathic occlusion is complicated with open bite. What apparatus may you use for normalization of the breathing and swallowing functions?

- a) Kraus appliance
- b) vestibular shield
- c) Frankel's 3rd type
- d) blue preorthodontic trainer
- e) Bynins gum shield

13. 10-year-old patient complains of cosmetic defect. During the intraoral examination it was revealed that lower jaw is undeveloped and upper jaw is overgrowing, with the narrowing of both jaws. Such patient can be treated with?

- a) Andresen- Houpl's appliance
- b) Craus vestibular plane
- c) Bynin's gum shield
- d) Kalvelis
- e) blue preorthodontic trainer

14. During the intraoral examination 9-year-old patient it was revealed that the posterior occlusion is complicated with deep overbite. What type of apparatus may be offered for this treatment?

- a) removable appliance with functionally directing action
- b) Shonnchere's vestibular plane
- c) mechanical action
- d) functionally acting
- e) Kraus vestibular plane

15. A 9-year-old girl appealed to the orthodontist with complaints on moving her chin forward. Objectively: increasing of lower third of a person's face. Nasolabial folds are deep. In the frontal area there is anterior crossbite, overjet is of 4 mm. There are spaces between lower frontal teeth. Relationship of posterior teeth - I Class by Angle. Put a diagnosis?

- a) False progenia
- b) protrusion of upper incisors
- c) real progenia
- d) joint progenia
- e) spacing on lower jaw

16. During routine examination of a 7 year-old boy was revealed mesial occlusion with undevelopment upper jaw, diastema are absent. What type of appliance may be offered for this treatment?

- a) Frankel's III
- b) Frankel's II
- c) Frankel's IV
- d) Frankel's IV
- e) Frankel's I

17. During the examination of 5 year-old patient was revealed that lower teeth covering the upper ones in the area of incisors and canines. Cutting edges without signs of abrasion. What method of treatment would be most effective in this age?

- a) abrasion of the cutting edges of canines
- b) surgical treatment
- c) physiotherapeutic treatment
- d) prophylactic appliances treatment
- e) myogymnastics

18. When patient has the shortened tongue frenulum, what treatment is indicated in this case?

- a) frenulum plastic surgery

- b) combined treatment(orthodontic combined with surgical)
- c) physiotherapeutic treatment
- d) myogimnastics treatment
- e) prophylactic appliances treatment

19.A 8-year-old child during examination were found that all temporary molars of the upper dental row were removed. The lower incisors are in contact with mucous membranes of the palate, crowns of 35 and 45 teeth are affected by caries. Marked signs of formation of deep bite. History: milk molars on the upper jaw were removed from the complications of caries in 4 years . What is the reason for the formation of anomalies?

- a) premature extraction of 54, 55, 64, 65 teeth
- b) premature extraction of 85, 84, 75, 74 teeth
- c) hereditary factor
- d) bad habits
- e) carious lesions of 35, 45 teeth

20.A 5- year-old boy observed of absence thremas and diastema on the lower jaw. Temporary occlusion period. The upper jaw - small thremas between incisors. Deep overjet in the frontal area. What are the basic principles of prevention to be applied in this case?

- a) stimulation of the growth of lower jaw
- b) removable orthodontic apparatus
- c) non-removable orthodontic appliances
- d) remove one milk tooth
- e) suppression of growth of the upper jaw

21.A 9 year-old patient addressed to the orthodontist. During the examination it was revealed deep bite combined with mesial occlusion. For the treatment of mesial deep bite it can be used?

- a) Brukle's appliance
- b) plate with loops Rudolph
- c) vestibular shield
- d) physiotherapevtic treatment

e) myogymnestic

22. A 10 year-old child complains of bad chewing of food. From the dental history it was revealed milk molars in the mandible have been erupted with caries complications at the age of 3 year-old. Objectively: the lower third of the face is shortened, symmetrical, face is not proportional. Choose the correct device for the treatment of deep bite during the change of teeth?

- a) Andresen-Haupl's activator
- b) Blue preorthodontic trainer
- c) Frenkel's
- d) Hinz's plate
- e) surgical treatment

23. For the treatment of deep occlusion complicated prognathic which appeared due to biting of lower lip during temporary occlusion?

- a) Muellemans propulsor
- b) Andresen-Haupl's activator
- c) Plate with loops Rudolph
- d) Brucke's appliance
- e) RF-IV

24. A 8 year-old child was referred to the orthodontist. During the examination it was revealed that all temporary molars of the upper dental arch have been removed. The lower incisors are in contact with mucous membrane of the palate. Where must the biting platform be located during the treatment of deep bite?

- a) in the frontal area
- b) in the lateral area
- c) in the frontal and in the lateral areas
- d) in the buccal area
- e) there is no correct answer

25. For the treatment of deep bite the appliance consists of?

- a) biting plane in the frontal region
- b) occlusal side plates in lateral areas
- c) an inclined plane
- d) vestibular arches
- e) occlusal side plates lining in lateral areas with teeth prints

26. A 10-year-old girl complains of an aesthetic flaw. The anamnesis states, that she had been sucking her right thumb up to the age of 7. Objectively: the face lower third is somewhat reduced. The sagittal fissure between the upper and lower incisors, is 9 mm wide, class 2 according to the Angle classification. Eshler-Bittner test leads to initial temporary improvement of the girl's face, followed by renewed deterioration. What clinical malocclusion is the most probable in this case?

- a) mandibular micrognathia
- b) maxillary macrognathia
- c) maxillary macrognathia and mandibular micrognathia
- d) maxillary prognathism with lateral compression
- e) mandibular retrognathia

27. A 5 year-old boy orthodontist revealed deep bite. For treatment of this pathology one must use miogymnastic. Do the exercise for the muscles, moving the lower jaw?

- a) the lower jaw slowly move forward to the incisor overlap
- b) click the tongue
- c) count with the tongue teeth without opening the jaws
- d) there is no correct answer
- e) play on the wind instruments, sing

28. What is the tactics of treating deep bite in period of temporary occlusion?

- a) oral cavity sanitation, hard food chewing, pernicious habits elimination, functional appliance
- b) pernicious habits elimination, mechanically acting devices
- c) does not require treatment at this stage

- d) oral cavity sanitation, soft food function devices
- e) oral cavity sanitation, soft food, mechanically acting devices

29. Development of prognathic occlusion's gnathic forms is assisted by the following factors?

- a) distal position of the mandible with temporomandibular joint relative to the upper jaw and the plane of the base of the skull
- b) changes in the inclination of the upper incisors to the upper jaw plane
- c) change of lower incisors inclination to the mandible plane
- d) resize of incisors angle
- e) increase in the basal angle.

30. Parents of an 8 year old boy complain about a cosmetic defect, inability to bite off food. The child often suffers from acute viral respiratory infections. Objectively: chin skewness, mental fold is most evident. The lower lip is averted, superior central incisor lies on it, nasolabial fold is flattened. In the oral cavity: occlusion period is early exfoliation period. The upper jaw is narrowed, there is gothic palate. Frontal teeth have fan-shaped position. Sagittal fissure is 6 mm. In the lateral parts contact of homonymous teeth is present. What is the most probable cause of dentoalveolar deformity?

- a) pathology of upper airways
- b) missing of Tselinsky step
- c) endocrinal diseases
- d) untimely sanitation of oral cavity
- e) gestational toxicities

31. A 8-year-old child complains of : adenoid growths second degree. The child adenoid type face, in the mouth - narrowing and shortening of the lower jaw, narrow upper jaw, gothic palate between frontal teeth vertical slit 3 mm. What is the main cause of such symptoms?

- a) mouth breathing
- b) sucking of the lower lip
- c) heredity
- d) prolonged sucking of the finger
- e) laying of the tongue between tooth rows in the frontal area

32. A 5-year-old boy complains of deformation of the face. On examination revealed smoothing of nasolabial folds and a chin, closing lips with stress. In the oral cavity there is no front group of teeth. Type of swallowing - infantile. What pathological bite can develop in the child in the future?

- a) open bite
- b) retrusion of the front teeth
- c) deep bite
- d) vestibular position of the canines
- e) anomalies in the formation of dental arch

33. What is the tactic of cross bite treatment in the period of temporary occlusion?

- a) oral cavity sanitation, bad habits elimination
- b) functional apparatus
- c) does not require treatment at this stage
- d) hard food mastication
- e) oral cavity sanitation, soft food, mechanically acting devices

34. What appliances are used to treat open bite in the period of permanent occlusion?

- a) bracket system
- b) appliance on the upper jaw with an inclined plane in the frontal part
- c) Bruckl's device
- d) preorthodontic trainer
- e) Andresen-Houpl's device

35. Parents of a 8-year-old child appeared to a hospital with complaints of aesthetic defect. Objectively: smoothed nasolabial and chin folds, lips nanclosed in the quiescence (elongated lower part of face). During the intraoral observation you can see vertical gap between teeth and dental arches closure which appeared as a result of pernicious habits of sucking fingers and tongue. What appliances would you to wean a child bad habits?

- a) preorthodontic trainer
- b) FR I

- c) Angel's appliances
- d) bracket system
- e) appliances with Rudolph loops

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