

## CATALOGUE OF COMPETENCE in

### the specialty "Orthodontist" POSTGRADUATE LEVEL

The directory of competence (postgraduate level) specialty "Doctor orthodontist" is organized by the working group : associate Professor Davletov, B. M., Professor G. S. Cholakova. In the development of the catalogue of competence is used the materials of the state educational standard of postgraduate medical education in the specialty "Doctor orthodontist"

Reviewers: doctor of medical Sciences, Professor, Department of prosthodontics KRSU them. B. N. Yeltsin Saleev T. T., PhD, associate Professor in the Department of prosthodontics KSMA them. I. K. Akhunbaeva Choibekova K. M

## CONTENTS

### EXPLANATORY NOTE CHAPTER 1. GENERAL PROVISIONS

1.1. Definition (definition) of the concepts of "orthodontist".

1.2. Basic principles of medical practice of an orthodontist

1.3. Purpose of the document

1.4. Users of the document.

### CHAPTER 2. GENERAL TASKS

2.1. Orthodontist, as a medical specialist/expert

2.2. Communication skills

2.3. Skills of working in cooperation (in a team)

2.4. Management skills (manager)

2.5. Skills in the field of health promotion and promotion of a healthy lifestyle

2.6. Research scientist

2.7. Knowledge in the field of professional ethics.

### CHAPTER 3. SPECIAL TASKS

3.1. Symptoms and syndromes most commonly encountered in the practice as an orthodontist  
(List 1)

3.2. Diseases and conditions encountered in the practice as an orthodontist (List 2)

3.3. Common problems (List 3)

3.4. Medical manipulations and practical skills (List 4)

3.5. The state of emergency (List 5).

Explanatory note

Currently, in the Kyrgyz Republic, an active reform of the medical industry is being carried out, which is aimed at optimizing the work of all levels of health care, as a result of which the system of medical education is undergoing significant changes, as one of the fundamental divisions that provide practical health care with professional personnel.

The task of health education organizations within the framework of the reforms carried out in the health care system and medical education is to improve the quality of training of specialists corresponding to the changing needs of the population.

In this regard, the proposed new catalog of competencies of an orthodontist has been developed. This Catalogue of competence is based on the Standard Curriculum and general education training program for clinical residents in the specialty "orthodontist".

The duration of postgraduate training in the specialty "Orthodontist" in the Kyrgyz Republic is 2 years, based on the program: "Strategy for the development of postgraduate and continuing medical education in the Kyrgyz Republic for 2014-2020", approved by the Order of the Ministry of Health of the Kyrgyz Republic dated 18.05.2015 for

No. 248.

## CHAPTER 1. GENERAL PROVISIONS

1.1. Definition (definition) of the concepts of "orthodontist".

Orthodontics deals with the study of the etiology and pathogenesis of dental anomalies, methods of their diagnosis, the development of methods for the prevention and treatment of anomalies in the position of teeth, the shape of dental arches, bite, the elimination of aesthetic disorders, the study of the influence of dental anomalies on the development of pathology of organs and systems the child's body. The orthodontist plans to conduct orthodontic activities for children with dental anomalies together with a pediatric dentist-therapist and a pediatric dentist-surgeon.

The purpose of the clinical residency in orthodontics is to develop knowledge and practical skills in the basics of pediatric dentistry and orthodontics to help a child with dental diseases and dental anomalies, taking into account the patterns of development of the dental system in different age periods. Preparation for independent professional activity in outpatient practice and performing medical, diagnostic, preventive, consultative, organizational assistance to children with major dental diseases and injuries of the maxillofacial region, taking into account the individual and anatomical and physiological characteristics of the child's body using modern achievements of medical science and practice.

1.2. Basic principles of medical practice

The orthodontist in his work is guided by the following principles:

- free and unrestricted access to medical care, regardless of the age and other characteristics of the patients;
- simultaneous treatment of temporary, removable and permanent bite anomalies;
- preventive focus of care;
- duration and continuity of care based on the needs of each patient;
- coordination of medical care to the patient;
- the principle of economic efficiency and expediency of assistance;
- respect for the rights of the patient and take into account the views of her family members.

### 1.3. Purpose of the document

This list of competence should become part of the regulations for postgraduate training and, therefore, valid for all postgraduate training programs in the specialty "Orthodontics".

Based on this Catalogue :

Defined: the

- purpose and content of postgraduate training of an orthodontist;
- the level of professional competence, knowledge and practical skills of an orthodontist;

Developed: training

- programs - orthodontist;
- criteria for evaluating the quality of training - orthodontist;
- standard requirements for certification-orthodontist;
- standards of examination, treatment, rehabilitation and follow-up of patients;

Organized:

- educational process of training an orthodontist;
- professional orientation of medical graduates;

Conducted:

- certification of an orthodontist

### 1.4. Users of the document

According to the purpose of the document, the users are:

Ministry of Health of the Kyrgyz Republic

- Educational organizations
- Health organizations

- Professional associations
- Medical practitioners
- Residents
- Other stakeholders

## CHAPTER 2. GENERAL TASKS

This chapter lists the general competence that an orthodontist should have. An orthodontist should be not only a professional in their field, but also a manager, a specialist in communication skills, a promoter of a healthy lifestyle, a research scientist (Fig. 1)

### 2.1. Orthodontist, as a medical specialist/expert

An orthodontist is a doctor who has received special training to provide specialized dental care to the population, regardless of the age and other characteristics of the patients. As a specialist, he provides assistance to patients within the limits of his professional competence, observing the principles of deontology and medical ethics.

#### General competence

##### Action of the orthodontist:

conduct a clinical examination of patients; interpret the information obtained during the collection of anamnesis and clinical examination, establish a preliminary and differential diagnosis and develop a patient management plan using the results of an objective examination;

assign appropriate diagnostic and therapeutic measures, explain their essence to patients and interpret the results; perform the necessary diagnostic and therapeutic manipulations, taking into account the ratio of cost to reasonable utility and guarantee the safety of patients, applying the principles of efficiency, expediency and cost-effectiveness;

advise patients and their families on the formation of a healthy lifestyle, prevention of oral diseases;

take care of the health of patients and communities (to assess the risks for the dental health of patients, to give us tips regarding the maintenance and strengthening of dental health, healthy lifestyle, both physically and mentally.);

to advise, accompany and care for patients in collaboration with representatives of other professions, duly respecting their right to self-determination;

take on dispensary records and conduct dispensary monitoring of the patient

store and protect medical information properly;

maintain and expand your professional competence.

### 2.2. Communication skills

The orthodontist, in the interests of effective treatment of the patient and accordance to the situation, in trusting relationship with his family members, contact persons and other specialists

involved in the treatment. It is based under the decisions and communication of information on mutual understanding and trust.

#### Competencies

An orthodontist should:

- get important information from patients and their environment, discuss it, and share elements of the knowledge gained, taking into account the patient's situation;
- communicate the risks and benefits of diagnostic and therapeutic measures in a form that is understandable to the patient and obtain informed consent;
- make a decision about diagnostic and therapeutic procedures for disabled and underage patients, after discussing these procedures with the appropriate representatives of these patient groups;
- document the information received during the consultation and pass it on as soon as necessary;
- empathize by reporting bad news and responsibly report complications and mistakes.
- recognize differences of interest, accept other opinions, and avoid conflicts and resolve them through cooperation.

#### 2.3. Skills of working in cooperation (in a team)

The orthodontist actively cooperates with other specialists in the interests of patients' health, taking into account their opinions and conclusions.

The competence of the "Orthodontist" is capable of:

- cooperate with other specialists and experts from other professional groups, with nurses, especially in providing long-term care to patients;
- recognize differences of interest, accept other opinions, and avoid conflicts and resolve them through cooperation.

#### 2.4. Management skills (manager)

The orthodontist is a member of the health care system and contributes to the optimization of the organization in which he works. It carries out its management tasks within the framework of its inherent functions

#### Competencies

As a manager, an orthodontist is able to:

- use health resources effectively, taking into account adequacy and cost-effectiveness in the interests of patients;
- provide and improve the quality of medical care;
- manage their professional activities and take on management tasks that correspond to their professional position;

## 2.5. Health promotion and healthy lifestyle promotion skills

An orthodontist should constantly actively promote a healthy lifestyle and maintain oral hygiene among the population.

### Competencies

## 2.6. Research Scientist

The orthodontist in the course of his professional activity analyzes the features of the course of diseases of the oral cavity, systematizes the results obtained, identifies patterns, highlights

### Competencies

An orthodontist is able to:

- critically understand specialized medical information and its sources and take it into account when making decisions;
- promote the development, dissemination and introduction of new knowledge and methods of diagnosis, treatment and prevention.
- continuing professional development

## 2.7. Knowledge in the field of professional ethics

The orthodontist carries out his practical activities in accordance with ethical norms and principles, quality standards of medical care and regulatory legal acts in the field of healthcare.

### Competencies

As a professional, an orthodontist should:

to carry out their professional activities in accordance with high quality standards, demonstrating a responsible and careful attitude;

practice ethically and responsibly, while respecting the legal aspects of the activities of medical professionals.

## CHAPTER 3. SPECIAL TASKS (PROFESSIONAL COMPETENCIES)

### Types of activities of an orthodontist

The orthodontist is obliged to master the following types of activities and their corresponding personal tasks to provide specialized dental care to the population in accordance with the legal documents of the Kyrgyz Republic:

diagnosis, treatment, prevention and rehabilitation of the most common dental diseases;

provision of emergency medical care;

performing medical manipulations;

organizational work.

According to the types of activities of an orthodontist, professional competencies are organized into the following categories::

3.1 Common symptoms and syndromes (List 1)

3.2 Common Diseases and conditions (List 2)

3.3 Medical manipulations (List 3)

3.4 Emergency conditions (List 4)

To indicate the level of competence that must be achieved by the end of training in this discipline, the following gradation is used:

Level 1-indicates that the resident can independently diagnose and treat the majority of patients with this disease or condition accordingly; if necessary, determine the indications for hospitalization.

Level 2-indicates that the resident is guided in this clinical situation, makes a preliminary diagnosis and redirects the patient to the secondary or tertiary level for final verification of the diagnosis and selection of therapy; subsequently, controls the prescribed therapy (medical examination).

The letter " H " - means that the condition or disease is urgent and indicates the need for emergency diagnosis and /or treatment. The resident is able to assess the patient's condition and begin to provide emergency care and organize urgent hospitalization.

#### LIST 1-COMMON SYMPTOMS AND SYNDROMES

|  |
|--|
| Symptom/The syndrome                       |
| Headache                                   |
| Toothache from various irritants           |
| Difficult and limited opening of the mouth |
| Enlarged lymph nodes                       |
| Tumors and neoplasms                       |
| Facial pain from various stimuli           |

|  |
|--|
| Tooth hard tissue defect                   |
| Changing the color of teeth                |
| Bleeding gums                              |
| Tooth mobility                             |
| Pathological dentoalveolar pockets         |
| Bad breath                                 |
| Dryness, burning of the oral mucosa        |
| Exposing the necks of the teeth            |
| Marginal periodontal syndrome.             |
| Quincke syndrome.                          |
| Symptom/The syndrome                       |
| Headache                                   |
| Toothache from various irritants           |
| Difficult and limited opening of the mouth |
| Enlarged lymph nodes                       |
| Tumors and neoplasms                       |
| Facial pain from various stimuli           |
| Tooth hard tissue defect                   |
| Changing the color of teeth                |
| Bleeding gums                              |
| Tooth mobility                             |
| Pathological dentoalveolar pockets         |
| Bad breath                                 |
| Dryness, burning of the oral mucosa        |
| Exposing the necks of the teeth            |
| Marginal periodontal syndrome.             |
| Quincke syndrome.                          |
| Xerostomia syndrome.                       |
| Macroglossia syndrome.                     |
| Manganotti syndrome.                       |
| Acquired immunodeficiency syndrome.        |
| Amelogenesis imperfecta syndrome           |
| Imperfect dentinogenesis syndrome          |
| Ectodermal anhidrotic dysplasia syndrome   |
| Robin's Syndrome                           |
| Crewson's Syndrome                         |
| Franceschetti syndrome                     |
| Costen's Syndrome                          |
| Congenital Cleft lip and palate syndrome   |
| Stainton-Capdepon syndrome                 |
| Goldenhar Syndrome                         |
| Shereshevsky-Turner syndrome               |
| Vanderwood Syndrome                        |

LIST 2 COMMON DISEASES AND CONDITIONS.

| <b>Diseases and pathological conditions</b>             | <b>Level</b> | <b>H</b> |
|---|--------------|----------|
| Clinical conditions                                     |              |          |
| Anomalies in the number of teeth:                       |              |          |
| Hypertension (in the presence of extra-complete teeth). | 1            |          |

|  |   |  |
|--|---|--|
| Hypodontia (reduction of the number of teeth)  | 1 |  |
| Adentia (adentia of the teeth-primary and secondary)   | 1 |  |
| <b>Anomalies in the shape and size of teeth:</b>   |   |  |
| Anomalies in the shape of teeth  | 1 |  |
| Tooth color abnormality  | 1 |  |
| Anomalies of the tooth size (height, width, thickness)   | 1 |  |
| Anomalies of the structure of the hard tissues of the tooth  | 1 |  |
| Hyperplasia of the hard tissues of the tooth   | 1 |  |
| Macrodentia  | 1 |  |
| Microdentia  | 1 |  |
| <b>Anomalies of the position of the teeth(in one, two, three directions)</b>   |   |  |
| Crowding   | 1 |  |
| Diastema   | 1 |  |
| Offset   | 1 |  |
| Tortoanomalialia   | 1 |  |
| Trens  | 1 |  |
| Transposition  | 2 |  |
| Retented or impacted teeth with an incorrect position of their or adjacent teeth   | 2 |  |
| <b>Anomalies of the dentition:</b>   |   |  |
| Form violation   | 2 |  |
| Violation of the size (in the transversal direction-narrowing, expansion; in the sagittal direction-elongation, shortening)  | 2 |  |
| Violation of the sequence of teeth, violation of the symmetry of the position  | 2 |  |
| Violation of contact between adjacent teeth (crowding or sparse position)  | 2 |  |
| <b>Anomalies of the jaws:</b>  |   |  |
| Violation of the shape   | 2 |  |
| Violation of the size (in the sagittal direction-shortening, elongation, transversal direction-narrowing, expansion; in the vertical direction-increasing and decreasing height; combined in 2 and 3 directions) | 2 |  |
| Violation of the relative position of the parts of the jaw, violation of the position of the jaws  | 2 |  |
| <b>Anomalies of occlusion of the dentition:</b>  |   |  |
| In the sagittal direction (distal, medial)   | 2 |  |
| In the vertical direction (incisor disocclusion, direct occlusion, deep incisor occlusion, deep incisor disocclusion)  | 2 |  |
| In the transversal direction (cross-occlusion, vestibulo-occlusion, lingvo-occlusion, palato-occlusion)  | 2 |  |

The list of listed diseases and conditions is not exhaustive. Tasks are classified according to the competencies that must be achieved by the end of training in this discipline.

### LIST 3. MEDICAL MANIPULATIONS /SKILLS

An orthodontist should be able to perform the following manipulations independently.

General manipulations:

1. Intramuscular injection.
2. Intravenous injection.
3. Subcutaneous injection.
4. Determination of the blood group by the ABO system with monoclonal antibodies.
5. Determination of the blood group according to the Rh system by monoclonal antibodies
6. Conducting and decoding an ECG
7. Be able to interpret the results of an X-ray examination.
8. Be able to interpret the results of an ultrasound examination.
9. Stop external bleeding.
10. Blood pressure measurement.
11. Use of personal protective equipment (type 1 anti-plague suit)

Manipulations for emergency care:

12. Cardiopulmonary resuscitation:
  - a. - Indirect heart massage
  - b. - Mouth-to-mouth, mouth-to-nose breathing
  - c. - Restoration of airway patency
  - d. - Use of the ambulatory bag
  - e. - Tongue fixation and air duct insertion
13. Defibrillation
14. Heimlich's Reception
15. Direct laryngoscopy

Special manipulations:

1. palpatory examination of soft tissues, teeth and bone structures of CHLO,
2. selection of spoons for the upper and lower jaws.

3. taking casts from the upper and lower jaws.
4. casting of diagnostic models.
5. correction and activation of fixing elements of removable orthodontic devices;
6. application of arc transpalatal orthodontic devices (Gozhgarian arc, Quadhelix arc, Farel arc);
7. direct fixation of the bracket system.
8. selection and fixation of orthodontic rings.
9. application of the separation ring
10. installation of removable and non-removable retainers
11. performing activation bends and loops on steel and titanium-molybdenum arcs;
12. setting up and working with the articulator; performing occlusal and approximal grinding of temporary and permanent teeth on phantoms
13. performing activation bends and stops on nickel-titanium arcs;
14. virtual simulation of the results of orthodontic treatment in the adopted software;
15. packing, fixing of removable and non-removable retention devices;
16. fitting and fixing of orthodontic crowns and bandage rings;
17. fixing the mini screws on the phantoms

#### LIST 4. URGENT (EMERGENCY) STATES

The orthodontist should be able to independently diagnose and provide emergency (emergency) care at the pre-hospital stage, as well as determine the tactics of providing further medical care in the following emergency conditions, as well as determine the tactics of providing further medical care – promptly refer to hospitalization or to consult a specialist.

1. General medical issues
  - 1.1. Fainting.
  - 1.2. Collapse.
  - 1.3. Shock (anaphylactic, toxic, traumatic, hemorrhagic, cardiogenic, hypovolemic, septic, etc.).
  - 1.4. Coma (anemic, hypoglycemic, diabetic, brain, liver, unknown etiology, etc.).
  - 1.5. Asphyxia (dislocation, obturation, stenotic, valvular, aspiration)
  - 1.6. Edema and stenosis of the larynx.
  - 1.7. Quincke's edema.

- 1.8. Hypertensive crisis.
- 1.9. Myocardial infarction.
- 1.10. External bleeding.
- 1.11. Acute urinary retention.
- 1.12. Concussions, bruises, compression of the brain.
- 1.13. Pulmonary edema.
- 1.14. Convulsive states, epileptic status.
- 1.15. Psychomotor agitation (panic attack, acute reaction to stress).
- 1.16. Chemical and thermal burns
- 1.17. Electric shock, lightning, heat and sunstroke.
- 1.18. Poisoning.
- 1.19. Drowning, suffocation.
- 1.20. Bites and stings.
- 1.21. Traumatic eye injuries, including foreign bodies.
- 1.22. Clinical death.

#### LITERATURE

1. Aleksandrov N. M. Clinical operative maxillofacial surgery. - M., 1985.
2. Afanasyev V. V. Ostanin A. A. Military dentistry and maxillofacial surgery. - M., 2008
3. Bezrukov V. M. Manual of surgical dentistry and maxillofacial surgery. - M., 2001.
4. Diseases of the mucous membrane of the mouth and lips-L. A. Tsvetkova-Aksamit, S. D. Arutyunov, L. V. Petrova, Yu. N. Perlamutrov.
5. Diseases of the oral mucosa: O. A. Uspenskaya, E. N. Zhuleva publishing house NizhGMA-2017.
6. Kalamkarov Kh. A. Metal-ceramic fixed prostheses-M., 2005.
7. Kalamkarov H. A. Orthopedic treatment with the use of metal-ceramic prostheses. - M., 2005.
8. Kopeikin V. N. Manual of orthopedic dentistry. M., 2001
9. Kryshchab S. I. Orthopedic dentistry. Kiev. Higher School, 2007
10. Kulakov A. A. Surgical dentistry and maxillofacial surgery. - M., 2010
11. Kozlov V. A., Kagan I. I. Operative maxillofacial surgery and dentistry.- M., 2014

12. Naumovich S. A. et al. Orthopedic dentistry. Treatment with fixed prostheses: studies. stipend. Minsk. BSMU, 2009.
13. Syndromes and symptoms in dentistry: Handbook of A. I. Rybakov, V. A. Epishev, T. A. Rybakova. Medicine, 1990.
14. Trezubov V. N., Mishnev L. M., Neznanova N. Yu. Orthopedic dentistry. Manufacturing technology of medical and preventive devices. St. Petersburg, 2001.
15. Trezubov V. N., Shteyngard M. Z., Mishnev L. M. Orthopedic dentistry. Applied materials science. St. Petersburg, 2009.
16. Trezubov V. N., Shcherbakov A. S., Mishnev L. M. Orthopedic dentistry. Propaedeutics and the basics of a private course St. Petersburg, 2009
17. Timofeev A. A. Maxillofacial surgery. - M., 2010
18. Topol'nitskiy O. Z. Children's surgical dentistry and maxillofacial surgery. -M., 2007
19. Therapeutic Dentistry: textbook for medical students in 3 volumes, barer G. M, GEOTAR-Media - 2005.
20. Therapeutic dentistry: J. M. Frank, L. N. Maksimovskaya, L. Y. Orekhova Medicine, 2002.