Assessment tools for conducting attestation in discipline «Implantology and reconstructive oral surgery» for students of 2022 year of admission under the educational programme cipher 31.05.03 Dentistry, specialisation (profile) Dentistry (Specialist's), form of study full-time for the 2025-2026 academic year

1. Assessment tools for conducting ongoing assessment in the discipline

The ongoing assessment includes the following types of tasks: testing, solving situational tasks, a test, preparing a report, an interview on control questions, assessment of the development of practical skills (abilities).

1.1. Examples of test tasks

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1

1. The osteoblastic effect is:
   1. transplantation of determined osteogenic progenitor cells
   2. transplantation of a biological or synthetic guide material for the growth of blood vessels and the activation of endogenous determined osteogenic cells
   3. phenotypic transformation of non-specific, low-differentiated cells under the influence of specific substances
   4. the formation of specialized tissue in the defect area that is indistinguishable in its morphological, strength, and other characteristics from the corresponding specialized tissue in the surrounding intact areas

2. Osteointegration is:
   1. A direct structural and functional connection between highly differentiated living bone and the surface of the supporting implant, detected at the level of light microscopy. +
   2. The body's reaction to the introduction of a foreign body, consisting of the formation of a fibrous capsule around it.
   3. The process of the formation of connective tissue on the surface of the implant.
   4. Bone reaction to a foreign body that is encapsulated by a bone scar.
   5. Decreased overall bone volume.

3. Specify the advantage of xenogenic osteoplastic materials:
   1. Absence of additional trauma
   2. Antigenicity
   3. Probability of premature resorption without replacement by newly formed bone
   4. Absence of immunological intolerance reactions.

4. Osteoinduction is:
   1. Phenotypic transformation of non-specific, poorly differentiated cells under the influence of specific substances
   2. Exposure to growth factors to enhance ongoing processes of osteogenesis
   3. Transplantation of a biological or synthetic guide material for the growth of blood vessels and the activation of endogenous osteogenic cells

4. Transplantation of determined osteogenic progenitor cells
formation of specialized tissue in the defect area that is indistinguishable in its morphological, strength, and other characteristics from the corresponding specialized tissue in the surrounding intact areas

5. Local contraindications for dental implantation include:
1. Localized periodontitis.
2. Multiple caries.
3. Pathological wear of hard dental tissues with a decrease in the height of the bite. +
4. Missing one tooth.
5. Complete adentia.

6. Contact osteogenesis is:
1. The process of bone tissue regeneration around an implant.
2. The process of bone tissue regeneration directly on the surface of an implant. +
3. The restoration of bone areas after an injury.
4. Inadequate mineralization of the organic bone matrix, while the skeletal mass remains normal.
5. Reduced functional load on the bone tissue.

7. Osteoconduction is:

1. Transplantation of a biological or synthetic conductor material for the growth of blood vessels and the activation of endogenous determined osteogenic cells.
2. Exposure to growth factors to enhance ongoing processes of osteogenesis.
3. Transplantation of determined osteogenic progenitor cells. Phenotypic transformation of non-specific, poorly differentiated cells under the influence of specific substances
4. formation of a specialized tissue in the defect area that is indistinguishable in its morphological, strength, and other characteristics from the corresponding specialized tissue in the surrounding intact areas

8. What determines the tightening force of the screw that fixes the suprastructure to the implant?
1. The doctor's tactile sensations.
2. The degree of mobility of the suprastructure.
3. The instructions for using the implant system components. +
4. The readings of the torque wrench.
5. Approximately 30-40 dyn/cm

9. What does the "falling through" effect indicate when forming an implant bed on the upper jaw?
1. It indicates a perforation of the maxillary sinus.
2. It indicates a perforation of the nasal cavity.
3. It indicates a perforation of the submucosa of the alveolar process.
4. It indicates that the instrument has passed beyond the bone tissue. +
5. It indicates a fracture of the bur.

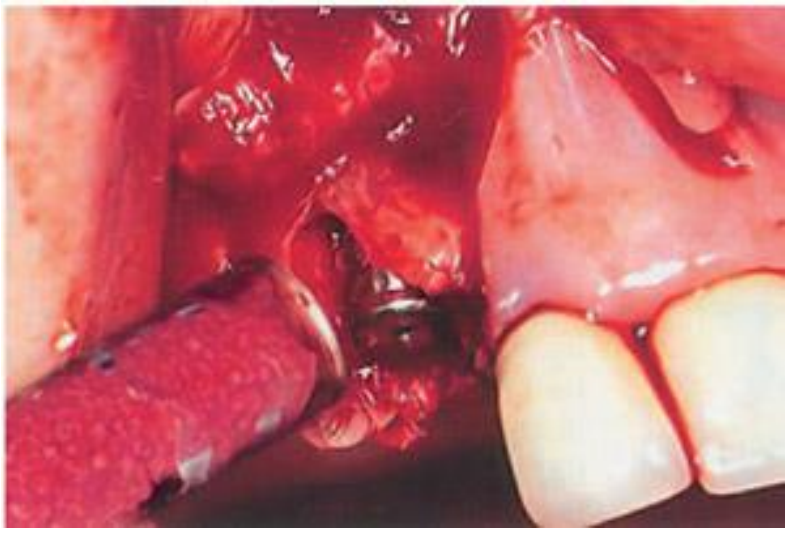
10. What can cause paresthesia of the lower lip after lower jaw implantation?

1. Injury to the inferior alveolar nerve during the formation of the implant bed.
2. Compression of the nerve trunk by the installed implant.
3. Injection injury to the nerve trunk.
4. Injury to the mental nerve by the assistant's hook.
5. All of the above factors. +

1.2. Examples of situational tasks

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

Task 1.

Patient K., 43 years old, came to the dental clinic with complaints of pain in the area of the implant installed three weeks ago. Objectively: the configuration of the face is not impaired, the submandibular lymph node on the right is enlarged, painful on palpation. In the oral cavity: in the area of the implant installed on the upper jaw on the right there is a fistula with serous-purulent exudate, the mucous of the alveolar process in the area of the implant is hyperemic, edematous, painful on palpation. A 4 mm deep implant-gum pocket is detected during probing. 

1. Make a preliminary diagnosis.
2. Name the causes of this pathology.
3. What additional examination methods are necessary to make a final diagnosis?
4. What is the treatment strategy for this pathology, and what is the prognosis?
5. What types of dental implants do you know?
6. Define the term "osteointegration".

1.3. Examples of test questions

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

1. The phenomenon of osteointegration and the factors that affect the optimization of this process.
2. Classification of dental implants.
3. Indications and contraindications for the use of dental implants.
4. Diagnosis and treatment planning for patients using dental implants.
5. Methods of examining patients during treatment using dental implants.

1.4. Examples of report topics

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

1. Features of implantological treatment in case of pronounced bone tissue atrophy in the upper jaw.
2. Features of implantological treatment in an aesthetic significant zone.
3. Distraction osteogenesis.

1.5. Examples of security questions for an interview

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

1. Surgical techniques of dental implantation.
2. Types of surgical templates and methods of their production.
3. Immediate implantation. Indications, contraindications. Features of the surgical stage.
4. Sinus lifting. Indications. Contraindications. Types. Methods of performance.
5. Professional oral hygiene when using dental implants.

1.6. Examples of tasks for assessing the development of practical skills (competencies)

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

1. Preparation of the implant bed on a biological model.

2. Simulation of creating a lateral access during sinus lift surgery on a biological model.

3. Application of sutures around the gingival cuff formator.

2. Assessment tools for students' independent work

Independent work is carried out at the VolgSMU EIOP and involves preparing reports on the thematic plan for independent work for the semester.2.1.

Пример вопросов для самостоятельной работы

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1

№	Вопросы для докладов по самостоятельной работе	Проверяемые индикаторы достижения компетенции
1	Modern concepts of osteoplastic materials. Types, indications for use.	ПК-1.1.1 ПК-1.2.1 ПК-2.1.1 ПК-2.2.1
2	Types of reconstructive interventions on the jawbones and their techniques.	
3	Implantation under unfavorable anatomical conditions.	
4	Errors and Complications in Dental Implantation.	
5	Immediate implantation. Indications and contraindications. Algorithm for making a decision on immediate implantation. Features of the surgical stage.	
6	Tilted implants.	

3. Assessment tools for conducting intermediate certification in the discipline

Intermediate certification is conducted in the form of a test.

Intermediate certification includes the following types of tasks: interview on questions for the test (Rспец_теор), solving a situational task (Rпа).

3.1. Example of questions for the intermediate assessment

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

№	Вопросы для промежуточной аттестации	Проверяемые индикаторы достижения компетенции
1	The history of development, current state, and prospects for dental (dental implant) implantation.	ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1
2	Opportunities for patient rehabilitation using dental implants. Legal aspects of dental implantation	
3	Theoretical justification of the dental implantation method. Anatomical prerequisites for dental implantation.	
4	Causes of bone loss in the area of missing teeth and their consequences.	
5	Morphological features of bone wound healing. Theory of clot retraction.	
6	The phenomenon of osteointegration and the factors that influence its optimization.	
7	Indications and contraindications for dental rehabilitation using dental implants	
8	Diagnosis and implantation planning.	
9	Methods of examining patients during treatment using dental implants.	
10	Types of defects and deformations of the alveolar part of the jaws.	
11	Surgical instruments and medical support for dental implantation.	
12	Features of various implant systems.	
13	Surgical techniques for dental implantation.	
14	One-stage and two-stage approaches to using dental implants.	
15	Types of surgical templates and methods of their production.	
16	Immediate implantation. Indications and contraindications. Features of the surgical stage.	
17	Implantation in complex clinical cases.	
18	Biological foundations of bone grafting.	
19	Modern concepts of osteoplastic materials. Their application in dental implantology and in reconstructive interventions in the oral cavity, tooth-preserving operations.	

20	Types of reconstructive interventions on the jawbones and their technique.	
21	Sinus lifting. Indications. Contraindications. Types. Methods of performance.	
22	The main methods of directed tissue regeneration using membrane technology and titanium frames.	
23	Modern biotechnologies of tissue engineering and their application in bone-plastic surgery.	
24	Possible complications at the stage of dental implants installation. Methods of their prevention and treatment. Prevention and treatment of complications of dental implantation.	
25	Professional oral hygiene when using dental implants.	

3.2. An example of a situational task for an interim assessment

Verifiable indicators of competence achievement: ПК-1.1.1; ПК-1.2.1; ПК-2.1.1; ПК-2.2.1; ПК-2.3.1

Ministry of Health of the Russian Federation
Federal State Budgetary Educational Institution of Higher Education
Volgograd State Medical University of the Ministry of Health of the Russian Federation
Department of Surgical Dentistry and Oral and Maxillofacial Surgery
Test on the discipline "Implantology and Reconstructive Surgery of the Oral Cavity"
for students of the 2022 year of admission
under the educational program 31.05.03 Dentistry,
focus (profile) Dentistry (specialization),
full-time form of study
2025-2026 academic year

SITUATIONAL TASK №
3.

Patient N., 52 years old, came to the clinic with complaints of crown mobility on the implant. Implantological treatment was carried out 1.5 years ago in another medical institution. The patient had an implant installed in the area of the missing tooth 4.6., and later a crown was made on the implant. The crown mobility appeared six months before the appeal and gradually increased. Of the concomitant diseases, the patient notes the presence of hypertension, urolithiasis.

Objectively: the condition is satisfactory. The facial configuration is not changed. The mouth is fully opened. The skin is not changed in color. The regional lymph nodes are not palpable. The oral mucosa is normal. The occlusion is straight. All third molars and tooth 4.6 are missing, and there is an implant with a crown in the area, which is movable relative to the implant in both the vestibular-oral and mesio-distal directions. The implant's neck protrudes above the gum level and is covered with plaque.

Task:
1) Make a preliminary diagnosis. Conduct additional examination methods.
2) What causes can lead to the mobility of the crown together with the suprastructure on the implant.
3) What is the treatment strategy for this pathology, and what is the prognosis of the disease?

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The full set of assessment tools for the discipline is available in the EIOS of VolgSMU at the following link(s):

https://elearning.volgmed.ru/course/view.php?id=1176
https://elearning.volgmed.ru/course/view.php?id=11849
https://elearning.volgmed.ru/enrol/index.php?id=6922

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