



METHODS OF DETERMINING CENTRAL OCCLUSION.

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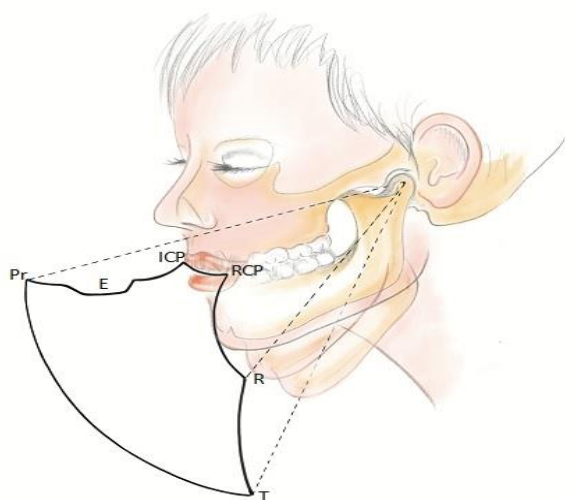
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ABSTRACT

Clinical observations suggest that of all the factors that determine the success of orthopedic treatment in general, and related to the preservation of a healthy and normal functioning maxillofacial system, nothing affects the efficiency of full prosthesis as the correct determination of centric jaw relation. Central occlusion and its symptoms (articular, muscular, dental). Method for determining central occlusion. Different methods of determining dentures in central occlusion. Casting the models to the occluder and articulator. Central occlusion - the articular heads are located in the thinnest avascular part of the articular discs in the front of the fossa opposite the base of the articular tubercles, several fissure-tubercular contacts of the tooth with simultaneous and equal contraction of the masticatory muscles.

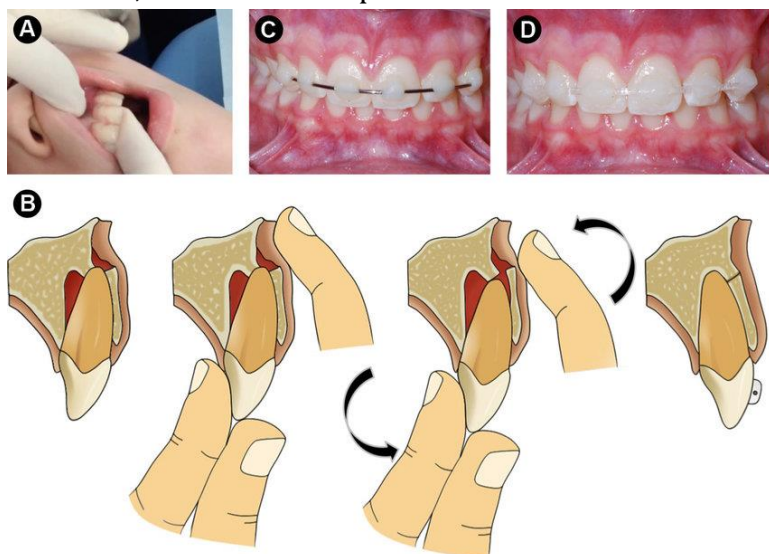


Method for determining central occlusion. For the production of prostheses, it is necessary to install a dental prosthesis in the central occlusion and transfer the appropriate marks to the model. Creation of models in central occlusion is carried out taking into account the presence and location of antagonizing teeth. In the presence of defects in the position of the tooth, there are three typical options, in which the central occlusion is set in different

ways. The first option. Prostheses with many antagonizing teeth on the right and left. Central occlusion is established without the use of bite roll wax templates depending on the maximum number of contact points between the arches. The second option. It is characterized by the presence of three occlusion points between the opposing teeth, but the number of antagonistic teeth and their topography do not allow plaster models to be placed in the central occlusion position without using wax bases with bite rolls. A wax base prepared with an occlusal roller is placed over the jaw and the patient is asked to close the teeth. In this way impressions of opposing teeth are taken. If there is no occlusal contact between the natural teeth, then the wax cylinder is cut until there is the same contact between them and the occlusal roller in the missing areas of the antagonistic teeth. The contact points formed on the occlusal rolls facilitate the accurate positioning of the models in the central occlusion of the teeth. The third option. It is characterized by the absence of opposite pairs of teeth. In this case, the central ratio of the jaws is set as follows. First, the height of the lower part of the face is set in a relative resting position (physiological resting height). For this, the prosthetist is asked to lower the lower jaw so that the facial muscles are completely relaxed and the lips are closed without tension. This position is established with a spatula or ruler and continues to determine the central occlusion. An occlusal roller wax base is inserted into the oral cavity and the patient is asked to slowly close the denture. When closing a tooth, patients often set the lower jaw incorrectly - they move forward or to the side. Different methods are used to determine the correct position of the tooth in the central occlusion: In the presence of antagonistic teeth, the position of the central occlusion is checked by closing the teeth. After that, a line of wax is placed on the occlusal surface of the implanted cylinder, glued and then softened while hot. Without cooling the wax, the templates are inserted into the mouth and the patient is asked to cover his teeth. Tooth marks remain on the softened surface of the wax - they serve as a guide for building models in central proportions. If the occlusal surface of the upper and lower occlusal ridges is closed, then wedge-shaped incisions are made on the occlusal surface of the upper occlusal ridge. A thin layer is removed from the lower roll opposite the cuts and a heated wax strip is attached to it. Then the patient is asked to close the jaws, and the heated wax of the lower roll enters the incisions in the upper part in the form of wedge-shaped projections. The rollers are removed from the mouth cavity, cooled and installed on the model.

For orthopedic purposes, it is important to know two dimensions for the height of the lower face: First, when the tooth is closed in central occlusion, the height of the lower face is measured when it is called morphological or occlusal; The latter is determined when the chewing muscles are functionally resting, when the lower jaw is lowered and there is a gap between the teeth, which is a functional height. The anatomical and physiological method of determining the alveolar height is as follows: the patient makes various movements of the lower jaw, then raises the lower jaw until the lower and upper lips touch each other. In this position, the orthopedic surgeon measures the lower part of the face (in a physiological state of rest). We subtract 2-3 mm from the obtained value - this is the alveolar height in the case of central occlusion. The following methods are used to properly set the lower jaw: 1) ask the patient to swallow saliva while closing the jaws; 2) ask the patient to rest the tip of the tongue against the soft palate. In addition to these techniques, trying not to correct the central occlusion, while closing the mouth, place the palm of the right hand on the chin and press the

jaw from behind. When the dentition is closed, the antagonizing teeth leave traces in the occlusal roles, which are a guide for making models. Then the occlusal height is checked: it should be 2-3 mm less than the physiological resting height. After setting the central occlusion, the models are placed on the occluder or articulator.



Among the common manipulations that must be addressed in the design of various prostheses is the definition of central occlusion. Without taking this into account, no structure can function normally (from crowns to removable dentures). Central closure of the tooth (central occlusion) is characterized by a certain relationship of the jaws in the vertical, sagittal and transverse directions. The relationship in the vertical direction is usually called the height of the central occlusion or the height of the bite, and the relationship in the sagittal and transverse direction is the horizontal position of the lower jaw relative to the upper part. When determining central occlusion in people with partial loss of teeth, three groups of dental prosthesis defects are distinguished. The first group is characterized by the presence of at least three pairs of articulating teeth located symmetrically in the oral cavity in the frontal and lateral areas of the jaws. The second group is characterized by the presence of one or more pairs of closing teeth located in one or two areas of the jaw. In the third group of defects in the oral cavity, there is no pair of antagonizing teeth, that is, despite the presence of teeth in both jaws, the central occlusion is not installed on them. The model of the jaw with defects of the first group can be fixed to the central closure (occlusion) along the closed occlusal surfaces of the teeth. Articulated teeth in the second group of defects determine the height of the central occlusion and the horizontal position of the lower jaw, so these connections of the teeth must be transferred to the occluder using bite rollers made in the prosthetic laboratory or plaster blocks. Depending on the clinical situation, templates are made with bite rolls for one or both jaws. Round templates are inserted into the mouth, trimmed or enlarged, until the antagonizing teeth are closed as without rolls. A sticky wax tape is attached to the occlusal surface of one of the rollers, the roller is inserted into the oral cavity, and the patient is offered to close his teeth in central occlusion. In occlusal roles, traces of non-antagonistic teeth are formed. Templates with a bite roller are removed from the mouth, transferred to the model, and according to the impressions of the teeth on the bite rollers, the jaw model is folded in the central occlusion. Correction of central occlusion in this group of defects is also carried out by inserting a plaster test with closed teeth in areas of the jaw where there are no antagonizing

teeth. After the crystallization of the plaster, the patient is asked to open his mouth and remove the plaster blocks from the mouth, on which the alveolar areas and the teeth of the upper jaw are fixed on one side, and the opposite areas of the lower jaw on the other. The blocks are cut and placed in the corresponding places of the models of the jaws, and then the models are folded over them and thrown into the occluder. In the third group of defects, the definition of central occlusion is reduced to determining the height of the central occlusion and the horizontal position of the teeth. The most common anatomical and physiological method of determining the height of the central occlusion. It is measured on the basis of the anatomical features of the face (nasolabial folds, lip closure, corners of the mouth, height of the lower end of the face), which are evaluated after some functional tests (speech, mouth opening and closing). These tests are performed when the patient is distracted from extending the lower jaw forward and in a relatively physiological state of rest, when the lips are closed without tension, when the nasolabial folds are moderately expressed, the corners of the mouth are not lowered, and the lower end of the face is not shortened. The distance between the jaws in the physiological resting position of each jaw is 2-3 mm greater than when the teeth are closed in central occlusion, which is the basis of the anatomical and physiological method, which consists of: two arbitrarily defined points on the upper and lower jaw in the middle (in the area of the tip of the nose, upper lip and jaw), points are marked during the physiological relative rest of the muscles, the distance between them is measured with a spatula or ruler. If 2.5-3 mm is subtracted from the obtained distance, the height of the central occlusion is obtained. The bite block template is inserted into the mouth and cut to the desired height. If there are 3-4 teeth located in different parts of the jaw, you can limit yourself to a bite roller made on the opposite jaw with one template. The anthropometric method of determining the height of the bite based on the law of the golden ratio (using Hering's compass) is only of historical importance, since antique faces are rare, especially in old age.

Method for determining central occlusion and central jaw ratio. Fixation of dentition in central occlusion using occlusion registers. Devices that reproduce the movements of the lower jaw-occluders, articulators. The principle of working with them.

Anatomical method is based on determining the correct configuration of the lower third of the face. Giziand Keller points to the following anatomical features that must be followed:

- 1 - the lips should move and without tension touch each other all the way and should not be sunken, the circular muscle of the mouth should function normally;
 - 2 - The corners of the mouth should be raised, nasolabial folds should be clearly expressed.
- This method is very subjective.

Anatomical method

based on the study of the proportionality of parts of the human body. Harringen invented a compass that solves the problem of the golden section, freeing the physician from algebraic calculations and geometric constructions. This method is not accurate enough.

State of relative physiological rest

Anatomical and physiological method-is based on the fact that the relative physiological (functional) rest of the mandible is 2-4 mm higher than the height of the central occlusion. First, determine the height of the relative physiological rest (determined by muscle tone, myotatic reflex and passive forces that hold the lower jaw in space, as well as the elasticity

and elasticity of the epithelial tissues). This height is measured with a spatula or ruler. Then fit the record blocks, so that the height when closing the blocks was 2-4 mm lower.

The stages of determining the central relation

Devices that reproduce the movements of the lower jaw-occluders

Dental articulators are mechanical instruments that allow you to recreate the relationship of the temporomandibular joint (TMJ) with the jaws, by mounting the upper and lower impression models on the instrument.

The articulator simulates the patient's mandibular movements; providing the static and dynamic relationships in order to observe malocclusions or dysfunctions extraorally. Thanks to this, the dentist can study the treatment guidelines without causing fatigue or discomfort for the patient. types of dental articulators exist?

Non-adjustable articulators (Class I)

Also known as hinged occluders or hinges, they cannot really be considered articulators, as they are simple support instruments. They only reproduce the static relationship with the mounted model, their advantage is that they are small instruments and allow an easy and quick organization of the models.

References:

1. Kurlyandsky V. Atlas of Orthopaedic Stomatology / V. Kurlyandsky. – M.: Mir Publishers, 1973. – 647 p.
 2. Contemporary Fixed Prosthodontics. 4th edition / S.F. Rosentiel, M.F. Land, J. Fujimoto. – Mosby Elsevier, 2006. – 1130 p.
 3. Nallaswamy D. Textbook of prosthodontics. / D.Nallaswamy - Jaypee brothers. – New Delhi, 2007. – 844 p.
 4. Dvornyk V. Clinical and Laboratory Stages of Making Complete Removable Dentures / V. Dvornyk, V. Novikov. – Poltava, 2008. – 93 p.
 5. Dvornyk V. Orthopedic treatment of odontolous / V. Dvornyk, V. Novikov. – Poltava, 2008. – 68 p. Internet resource
1. http://dental-ss.org.ua/load/kniga_stomatologia/ortopedicheskaja/11
 2. http://kingmed.info/knigi/Stomatologiya/Ortopedicheskaya_stomatologiya
 3. http://stomatbook.blogspot.com/p/blog-page_5667.html
 4. http://galdent.com.ua/catalog_books/ortopedicheskaya_stomatologiya/
 5. <http://www.medliter.ru/?page=list&id=0>