



ROTATING INSTRUMENTS IN DENTISTRY

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Abstract

Dental burs are the main tools of any dentist's work. Choosing hogs is one of the most important decisions that a specialist makes. Fast and efficient preparation facilitates the patient's condition, accelerates treatment and increases its effectiveness.

Keywords: rotating instruments in odontopreparation, dental burs, selection of burs.

Introduction:

All rotating instruments currently used in dental practice are standardized according to the ISO standardization system, which has been used since 1986.

Each instrument is assigned a 15-digit numeric code.

The first three digits contain information about the nature of the material from which the working part (head) of the tool is made. Some examples:

310 – chromium-vanadium alloy

312 – chromium-tungsten alloy

500 – carbide burs

806 – diamond burs

The fourth, fifth and sixth digits reflect the characteristics of the shank of the rotating tool and the total length of the tool.

For a straight tip: 103-diameter 2.35mm, length 34mm; 104-diameter 2.35mm, length 44.5mm; 105-diameter 2.35mm, length 64mm; 106-diameter 2.35mm, length 70mm

For the corner tip: 202-diameter 2.35mm, length 16.0mm; 203-diameter 2.35mm, length 18.5mm; 204-diameter 2.35mm, length 22mm; 205-diameter 2.35mm, length 26mm; 206-diameter 2.35mm, length 34mm; 313-diameter 1.6mm, length 16.5mm

For the turbine tip: 314-diameter 1.6mm, length 19mm; 315-diameter 1.6mm, length 21mm; 316-diameter 1.6mm, length 25mm

The seventh, eighth and ninth digits reflect information about the shape of the working part (head). More than 30 types of such forms are produced.

For example: 001-007-spherical, 010-039-inverted, 040-100-wheel-shaped, 107-158-cylindrical, 159-223-conical, 239-252-

flame-shaped, 277-281-ellipsoid, 303-316-lenticular, 320-392- discs, 417 and further-endodontic instrument.





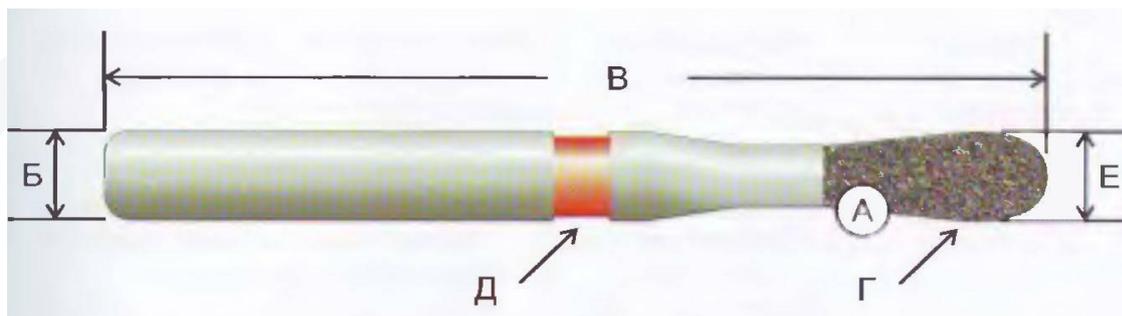
The tenth, eleventh and twelfth digits reflect the type of cutting working part. There are more than 100 varieties of cutting part types.

The thirteenth, fourteenth and fifteenth digits give information about the diameter of the head.

For example: No. 0.05-the diameter of the head is 0.5mm

No. 0.12-the diameter of the head is 1.2mm

All information about boron can be found from its designation, which, according to the ISO 6360 system, consists of four groups of digits - AAA BBB YYY DDD EEE. The first (from left to right) group of digits is the code indicating the material of the working part of the boron (A), the second group of digits is the code indicating the diameter of the shank (B) and the total length (C), the third group of digits is the shape (D) and the grain (abrasiveness) of the working part (E), the fourth is the maximum diameter of the working part in units equal to 0.1 mm (E).



Dental drills are rotating cutting tools for the preparation of hard tooth tissues, consisting of a rod (shank), a neck (for carbide drills, using soldering between the shank and the head) and a working part (head).

In modern odontopreparation, bores for turbine and angular tips are mainly used.

The shank diameter of the turbine tip drills is 1.6 mm, its length can be different. The absolute precision of the concentric rotation of such drills creates ideal working conditions.

In particular, burs with a length of 19 mm, long burs with a length of 21 mm and extra-long burs with a length of 25 mm are available. The end part of the hog shank for the turbine tip can be flat or rounded.

For the angular tip, burs with a shank length of 22, 26 and 34 mm and a diameter of 2.35 mm are produced. At the end of the shank of these hogs, a special circulation and horizontal cutting is applied to fix them in the tip.



Modern odontopreparation implies the knowledge of the orthopedic dentist of various variations of the working part of rotating instruments for a reasonable and competent choice of a particular drill for various manipulations.

For the convenience of recognizing the dispersion of the diamond coating of the working part of the boron, manufacturers use ISO color coding, including reflecting recommendations for the use of borons at different stages of tooth preparation.

Dental preparation is a responsible and extremely important stage in the process of manufacturing orthopedic structures, moreover, it is the preparation (turning) of the tooth that is the most unpleasant moment for the patient. Therefore, understanding and following the sequence in the selection of rotary cutting tools in order to minimize patient discomfort and achieve optimal dissection results should be a top priority for the doctor.

The standard algorithm for the use of turbine bores for preparation for full crowns:

1. Bullet-shaped or peak-shaped diamond burs, black, green or blue markings are used to separate the approximal surfaces of the tooth.

2. For removing chewing (cutting) tissues bores of various configurations are used on the surface with the same degree of granularity of the working surface as in the previous paragraph

3. To remove tooth tissues from the vestibular surface, it is customary at the beginning to use special burs - markers of the depth of preparation. The advantages of using them include accurate marking of the depth of preparation, sufficient for the subsequent manufacture of an artificial crown.

• However, it should be borne in mind that the use of this type of hog is justified only when the tooth being prepared has the correct position in the dentition, is not tilted orally or vestibularly, is not rotated, that is, it is not planned to change its position with an artificial crown. Otherwise, there is a risk of excessive or, conversely, insufficient markup.

4. The removal of hard tooth tissues from the oral surface is performed by wheel-shaped, pear-shaped and flame-shaped bores of the same degree of grain as those described above - blue, green or black ISO markings

5. For the preparation of the ledge, cylindrical bores with a rounded head are used in order to create a certain angle of the ledge and shape, a gradual transition from highly abrasive bores to low-abrasive ones is important, in conclusion, polishing of the ledge is desirable.

6. When finishing the tooth to be prepared, bores with red and yellow markings are used, it is also possible to use bores of the Arkansas stone type for a turbine tip or for an angular one in order to better polish the prepared surface.





To conclude: During the entire preparation process, the orthopedic dentist evaluates the intermediate results and makes the required corrections by selecting the appropriate rotating cutting tool.

References

1. Ruziyeva K. A., Burhonova Z. K. K. Complex Application Of Magnetic Laser Therapy And Propolis Tincture For The Prevention And Treatment Of Chronic Recurrent Aphthous Stomatitis //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – T. 3. – №. 06. – C. 127-130.
2. Sevinch E., Zараfruz B. ETIOLOGICAL TREATMENT FEATURES INFLAMMATORY PERIODONTAL DISEASE //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 03. – C. 241-246.
3. Zараfruz K. S. B. THE ROLE OF ORAL CAVITY MICROORGANISMS IN THE DEVELOPMENT OF INFLAMMATION AND SOMATIC PATHOLOGY //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 8. – C. 192-202.
4. Yusufboy S., Qobilovna B. Z. STUDY THE EFFECT OF HYGIENIC CARE ON THE MICROBIAL LANDSCAPE OF THE ORAL CAVITY IN PATIENTS USING COMBINED SPLINTING STRUCTURES WITH MODERATE PERIODONTITIS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 02. – C. 50-55.
5. Yusufboy S., Qobilovna B. Z. FEATURES OF THE STRUCTURE OF COPD IN ELDERLY PATIENTS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 363-368.
6. Sevinch E., Qobilovna B. Z. A STUDY ON THE MORPHOFUNCTIONAL STATE OF ORAL ORGAN TISSUES DURING THE USE OF NON-REMOVABLE ORTHODONTIC STRUCTURES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 03. – C. 247-253.
7. Shaximardonova E. S., Kobilovna B. Z. RED LICHEN PLANUS OF THE ORAL MUCOSA AND ITS CLINICAL ANALYSIS OF A PATIENT WITH, ASSOCIATED WITH THE EPSTEIN–BARR VIRUS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 01. – C. 272-279.





8. Yusufboy S., Qobilovna B. Z. STUDY OF CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 357-362.
9. Yusufboy S., Qobilovna B. Z. STUDY OF CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 357-362.
10. Yusufboy S., Qobilovna B. Z. SMARTBURS II–A REVIEW OF THE ADVANTAGES OF SMART BOR //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 02. – C. 56-60.
11. Makhmudovna T. M. et al. THE COURSE OF MALFORMATION AND CORNEAL EROSION IN TUBERCULOSIS PATIENTS //Open Access Repository. – 2023. – T. 4. – №. 03. – C. 60-66.
12. Dilafruz K. ROOT CANAL PREPARATION AS A STAGE OF TOOTH RESTORATION //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 9. – C. 100-107.
13. Dilafruz K. COMPREHENSIVE TREATMENT GENERALIZED PERIODONTITIS AND CLINICAL AND RADIOLOGICAL EVALUATION OF EFFECTIVENESS //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 9. – C. 108-116.

