ADVANCEMENT OF THE SELECTIVE TOOTH GRINDING PROTOCOL FOR PATIENTS

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Intention. The purpose is to improve the efficacy of full treatment for patients who have widespread periodontitis. This will be accomplished by improving the selective tooth grinding technique based on an objective study of occlusal connections using the T-Scan digital occlusal analysis technology.

The materials and the procedures. The investigation was carried out with the participation of twenty persons between the ages of 35 and 55 who were in the remission phase of Stage I–II generalised periodontitis. When the patients were receiving supportive therapy, their teeth were crushed specifically for each individual patient. The following were the components of the examination procedure:

Assessment of the condition of periodontal tissue in a clinical setting (including the PMA index, the PI index, and the periodontal pocket depth).

The identification of premature contacts and occlusal interferences is accomplished by the use of the standard method, which involves the utilisation of articulating paper with a thickness ranging from 40 to 100 μm.

The digital occlusal analysis performed by T-Scan Novus. The Jankelson procedure was adapted for the purpose of occlusal correction, with the

primary focus being placed on normalising the masticatory load vector and eliminating traumatic occlusion before proceeding.

results obtained. One hundred percent of the people exhibited hypercontacts that were apparent, as determined by the main T-Scan study, with thirty-five percent of them being undetected with traditional articulating paper. A mean occlusion length of 1.8 ± 0.4 seconds prior to rectification demonstrates that the focal connection was unstable, as shown by the aforementioned data. The automated control and optimised selective grinding are responsible for the following:

A weight distribution of fifty percent plus or minus three percent was observed between the left and right sides. It was determined that the occlusion duration should be reduced to less than 0.2 seconds, which is the physiological rule.

The elimination of the "lever effect" in the molar region resulted in a reduction in pathological tooth mobility as measured by the Miller scale by one to two degrees in seventy-five percent of the patients.

According to the radiological data, the height of the alveolar crest had stabilised by the time the patient was examined six months later, and there was no indication of inflammation in the marginal periodontium.

Conclusions are drawn. Utilising the T-Scan technology inside the selective tooth grinding protocol, which eliminates the possibility of operator subjectivity, is one way in which the occlusal correction technique may be made more objective. By optimising occlusal connections, the duration of remission in generalised periodontitis may be extended, microcirculation in periodontal tissues can be normalised, and symptoms of traumatic articulation can be alleviated. In order to achieve a state of functional balance within the stomatognathic system, it is necessary to include computerised monitoring into the conventional occlusal markers.

References

1. Shomurodov KE, Buzrukzoda JD, Yusupova SS. Digital occlusal analysis using the T-Scan system in the comprehensive treatment of inflammatory periodontal diseases. *Stomatologiia*. 2025;104(2):41-47. (In Russ.)

2. Kerstein RB. Handbook of Research on Computerized Occlusal Analysis Technology Applications in Dental Medicine. 2nd ed. Hershey, PA: Medical Information Science Reference; 2024. 1120 p. doi:10.4018/978-1-6684-6543-1.

3. Suyunov ND, Burkhonova ZQ. Rationale for the role of occlusal trauma and epithelial-mesenchymal transition in the pathogenesis of chronic periodontitis. *Journal of Samarkand State Medical University*. 2026;5(1):78-85.

4. Pozdnyakov NN, Voronov AS, Medvedev DV. Evaluation of the effectiveness of selective tooth grinding under the control of computer-aided occlusion analysis in patients with generalized periodontitis. *Prosthetic Dentistry (Russia)*. 2024;23(3):194-201. (In Russ.)

5. Baldini A, Nota A, Cozza P. Digital analysis of occlusion with T-Scan system in periodontal patients: a systematic review and clinical guidelines. *Journal of Periodontal Research*. 2023;58(4):655-667. doi:10.1111/jre.13112