

### 34. IMPORTANCE OF AN IMAGISTIC EXAMINATION OF TEMPOROMANDIBULAR JOINT



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**Introduction.** Medical imagistic techniques have evolved significantly in recent years, which has led to an increase in both the quality of the images obtained and the quality and accuracy of diagnosis. Therefore, imagistic examination of the TMJ (temporomandibular joint) remains a subject of interest in dentistry and is expected to continue to evolve in the near future as a result of the development of medical technologies. Imagistic examination of the TMJ is mandatory for the diagnosis of conditions such as arthritis, temporomandibular dysfunction, joint dislocation and soft tissue tumors. Using various medical imagistic techniques such as CBCT (cone-beam computed tomography), MRI (magnetic resonance imaging), or USG (ultrasonography), it is possible to obtain a detailed picture of the anatomy and structure of the TMJ.

**Aim of study.** To determine the indications and contraindications, as well as the possibilities of using different types of imagistic examinations of the temporomandibular joint.

**Methods and materials.** In this study, such imagistic examinations as panoramic radiography, CBCT (cone-beam computed tomography), USG (ultrasonography) and MRI (nuclear magnetic resonance) were evaluated and compared, along with the particularities of each method, their advantages and disadvantages, and their importance in relation to TMJ disorders. Examples of comparative physiological and pathological anatomical aspects of TMJ were presented.

**Results.** After reviewing the articles, it was found that the selection of the imagistic technique should be carefully made by the practitioner in correlation with the clinical signs and symptoms. Each method has its own indications, and by correctly understanding the tissue biology, we can distinguish when one method or another would be preferable. CBCT and MRI are currently the most commonly used imagistic techniques. CBCT is effective in the diagnosis of bone changes, and MRI is effective in the examination of the articular disc. High-resolution USG is indicated in the evaluation of articular disc position.

**Conclusion.** TMJ disorders have a high prevalence rate among the population and because these disorders are often accompanied by pain, they can significantly affect the quality of life. Therefore, it is of great importance to accurately and timely diagnose these disorders in order to achieve effective treatment or at least to mitigate the consequences.