

Assessment of the orthodontic knowledge demonstrated by dental school undergraduates: recognizing the key features of Angle Class II, Division 1 malocclusion

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Abstract

Objective: To investigate the ability of undergraduate students in diagnosing Angle Class II malocclusion and evaluate the clinical approach of these students toward a patient displaying this condition. **Methods:** The sample consisted of 138 students attending the last semester of 10 dental schools in the State of Rio de Janeiro/Brazil assessed by questionnaires with closed questions. They were presented with photographs and dental casts of a patient in the mixed dentition, with Angle Class II malocclusion, increased overjet and overbite, deviated dental midlines and anterior diastemas in the upper arch. **Results:** It was found that students easily identified increased overjet (92% of students), followed by the presence of diastemas (89%), midline deviation (84.7%) and increased overbite (77.3%). Conversely, approximately half the sample (n=70 or 51% of the students) were able to identify bilateral Angle Class II malocclusion. Nearly all agreed on the need for treatment and that it should be provided by a specialist (n=131 or 95%), but found it difficult to determine the ideal moment to start orthodontic treatment: 48.9% of the sample would begin treatment at the end of the mixed dentition, 41.7% would indicate treatment during deciduous dentition and 7.9% during permanent dentition. **Conclusions:** On completion of their undergraduate courses, students encounter difficulties in diagnosing Class II and even find it hard to articulate ideas about a basic treatment protocol to correct this malocclusion.

Keywords: Interceptive orthodontics. Angle Class II malocclusion. Diagnosis.

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Editor's abstract

The diagnosis of the alterations on the sagittal and vertical maxillomandibular components, either isolated or combined, requires theoretical knowledge and practical training. The aim of this study was to evaluate the capacity to diagnose and elaborate a treatment plan for Class II malocclusion in dental school undergraduate students. The sample was composed by 138 undergraduate students in their last semester at the university, selected from 10 different dental schools in

the state of Rio de Janeiro/Brazil. A standardized technique for data collection was used, through the application of questionnaires. Each questionnaire was attached to a clinical case (Figs 1 and 2). No radiographs were shown, with the purpose of simulating a routine clinical appointment. After analyzing the material presented to them, the students were questioned about Angle classification, the existence of intra-arch problems, the ideal phase to start treatment and their possible referral to a specialist. The data collected was



FIGURE 1 - Extraoral photographs of the patient whose clinical case was presented to the students.

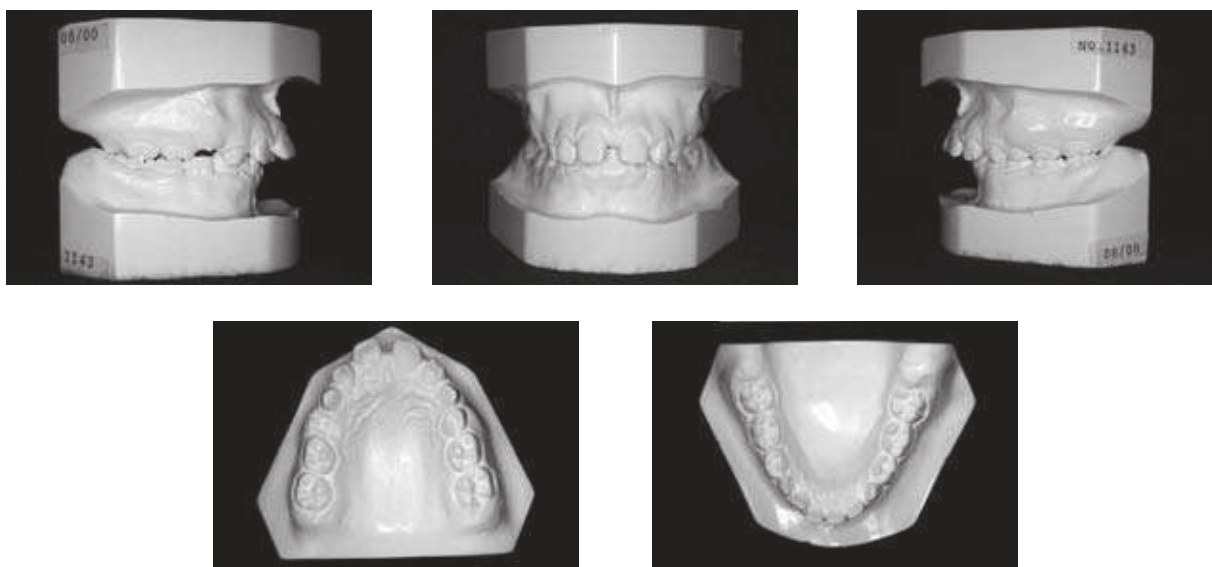


FIGURE 2 - Photographs of the dental cast presented to the students.

processed and analyzed using EpiInfo 6.04 software, and graphics were obtained using Microsoft Excel 2004. The results showed that the students found it easy to identify an increased overjet (92% of the students), the presence of diastemas (89%), midline deviation (84.7%) and an increased overbite (77.3%). On the other hand, only half of the sample (n=70, or 51% of the students) was able to recognize bilaterally the Angle Class II malocclusion. Almost all of the students agreed to the necessity of treatment and that it should be

made by a specialist (n=131, or 95%), however they found it hard to recognize the ideal moment to start the orthodontic treatment: 48.9% of the sample chose to start treatment at the end of the mixed dentition, 41.7% at the deciduous dentition, and 7.9% at the permanent dentition. The authors conclude that the students finish the undergraduate course with some difficulties in the diagnosis of Class II malocclusion, and knowledge deficiency to structure a treatment plan to correct this malocclusion.

Questions for the authors

1) To what do you attribute the fact that only 50% of the questioned students were able to recognize Class II, division 1 malocclusion?

We understand that the educational curriculum can be quite different when it comes to analyzing 10 different institutions. Some schools rely only on theoretical classes and lab activities, while others have also a specific clinic for orthodontics. Clinical activity helps, undoubtedly, on the apprehension of the knowledge by the student.

Another important matter to be considered is the fact that the undergraduate orthodontics course is usually given two semesters ahead of the last semester (the exact moment when the study was conducted) and many students think of past disciplines as useless, dropping this knowledge.

2) In the authors' opinion, which knowledge on orthodontics should a general practitioner dominate?

In our opinion a general practitioner should dominate the following subjects: Normal development of the dentition in children and adolescents, diagnosis and classification of malocclusions, and prevention and interception of malocclusions during the development of occlusion. We also consider important to have the basic

knowledge regarding appliance installation and the materials used in this procedure, so they can guide their patients, though on a superficial manner, and diagnose orthodontic treatments that might be poorly conducted.

3) What is the solution that the authors could propose to improve the quality of the undergraduate courses in orthodontics in Brazil?

Excluding external factors related to the selection of students when entering dental schools, which seems out of our field of action, we would propose the setting of a wider and more homogeneous educational curriculum in orthodontics amongst dental schools. The inclusion of clinical activities in all universities would help settling the theoretical learning.

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