

# Radiographic and periodontal requirements of the American Board of Orthodontics: A modification in the case display requirements for adult and periodontally involved adolescent and preadolescent patients

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The increased number of adults undergoing orthodontic treatment is one of the most dramatic changes in our specialty, at least partially due to the population's elevated awareness of dental esthetics.<sup>1</sup> Studies have shown an 800% increase in the number of adult orthodontic patients starting treatment between 1970 and 1990.<sup>2</sup> In conjunction with the rise in the adult patient pool, orthodontic treatment complexity has likewise increased. Periodontal involvement in adults as young as 18 years has been documented in over 50% of subjects and in most adult patients over 45 years of age.<sup>3</sup> Documentation of advanced periodontal disease has been shown to affect approximately 8% to 30% of the adult population, and many of these patients are unaware of it.<sup>4,5</sup> It is logical that some patients who are prone to periodontal involvement will proceed with orthodontic therapy.

Periodontal disease is site specific and usually occurs cyclically over the lifetime of a susceptible person. This site specificity is most common in the interdental areas, which are readily seen on appropriate radiographs.<sup>6</sup> Studies have shown that over two-thirds of adults have radiographic bone loss even before orthodontic therapy, indicating an elevated susceptibility toward periodontal involvement.<sup>7,8</sup> In a 2-year adult treatment course, it is therefore probable that exacer-

bation of periodontal involvement will occur in at least 1 region of the mouth. In patients who are periodontally susceptible, these areas can undergo significant attachment loss in a short time. Periodontally susceptible adults must therefore be identified before tooth movement starts and referred for specialty evaluation and cotherapy. The management of these patients must continue during active therapy, with frequent maintenance visits. One study reported that as many as 8% of 1400 consecutively examined adults in a private practice required combined orthodontic-periodontic treatment beyond that of routine inflammation control.<sup>9</sup>

The number of case displays presented for the American Board of Orthodontics (ABO) Clinical Examination involving patients over age 18 has paralleled the increase in the number of adults in active treatment. The board is aware that these adults reflect the same susceptibility to periodontal involvement as the literature has reported for untreated subjects. Therefore, in March 2007, the ABO announced its requirement of at least 6 additional intraoral radiographs (maxillary and mandibular periapical as well as bitewing films to augment a panoramic film, or a full-mouth series of radiographs) for comparison of pretreatment and post-treatment crestal bone levels and root statuses.

Since periodontal involvement has been well documented in some preadolescents and adolescents as well as adults,\* the board has now extended this

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\*Localized periodontitis in juveniles, teenagers, and young adults. The onset occurs during the circumpubertal period, but the diagnosis can be made beyond puberty. Lesions are confined predominantly to the first permanent molars or incisors, and the distribution of lesions is usually symmetrical. The gingiva might appear normal. The lesions are highly active immediately after puberty, but destruction can slow or cease spontaneously. The disease is 3 times more prevalent in girls than in boys, and more prevalent in black patients than in other races or ethnic groups.<sup>11</sup>

requirement to complement the announcement published in 2007.<sup>10</sup> The board has also modified the age at which a patient achieves adult status to 18 years because clinical evidence has documented the common onset of periodontal involvement in late adolescence. These requirements will be in effect for periodontally involved adolescents and all adults for whom pretreatment records were produced in March 2007 or thereafter. Any records made before that date are not subject to this requirement.

#### **THE ABO'S REQUIREMENTS FOR PATIENTS 18 YEARS OR OLDER AND YOUNGER PATIENTS WITH SIGNS OR SYMPTOMS OF PERIODONTAL INVOLVEMENT (MAY 2008)**

The examinee must document that the patient's periodontal status was amenable to orthodontic treatment before starting care by using at least 1 of the following methodologies:

1. Full-mouth periodontal probing recorded by the examinee prior to initiating orthodontic therapy.
2. Written documentation of pretreatment periodontal status including a full periodontal charting received from a periodontist, general or pediatric dentist.
3. Pretreatment panoramic, vertical or conventional bitewings, and maxillary and mandibular periapical radiographs.
4. Full-mouth series of periapical and bitewing radiographs.

Posttreatment documentation of similar format must be submitted for comparison of the patient's initial and final periodontal status.

The board believes that a contemporary orthodontist must be able to recognize periodontal susceptibility and involvement, and collaborate with adjunctive specialty care providers to preserve the attachment apparatus or to enhance its integrity via therapy. Without

such recognition of the disease potential, the health of our patients is in jeopardy.

#### **REFERENCES**

1. Proffit W. Special considerations in comprehensive treatment for adults. In: Proffit W, Fields HW, editors. Contemporary orthodontics. 3rd ed. St Louis: Mosby; 2000. p. 644-74.
2. Vanarsdall RL, Musich DR. Adult interdisciplinary therapy: diagnosis and treatment. In: Graber TM, Vanarsdall RL, Vig KWL, editors. Orthodontics: current principles and techniques. 4th ed. St Louis: Elsevier-Mosby; 2005. p. 937-92.
3. Miller AJ, Brunelle JA, Carlos JP, Brown LJ, Loe H. Oral health of United States adults. NIH publication 97-2868. Bethesda, Md: National Institute of Dental Research; 1987.
4. Papapanou PN, Wennström JL, Gröndahl K. A 10-year retrospective study of periodontal disease progression. *J Clin Periodontol* 1989;16:403-11.
5. Loe H, Anerud A, Boysen H, Morrison E. Natural history of periodontal disease in man. Rapid, moderate and no loss of attachment in Sri Lankan laborers 14 to 46 years of age. *J Clin Periodontol* 1986;13:431-45.
6. Amsterdam M. The diagnosis and prognosis of the advanced periodontally involved dentition. *J Calif Dent Assoc*. 1989;17:13-24.
7. Muhammed AH, Manson-Hing LR, Ala B. A comparison of panoramic and intraoral radiographic surveys in evaluating a dental clinic population. *Oral Surg Oral Med Oral Pathol* 1982;54:108-17.
8. Rohlin M, Kullendorff B, Ahlqwist M, Henrikson CO, Hollender L, Stenström B. Comparison between panoramic and periapical radiography in the diagnosis of periapical bone lesions. *Dentomaxillofac Radiol* 1989;18:151-5.
9. Musich DR. Assessment and description of the treatment needs of adult patients evaluated for orthodontic therapy: characteristics of the solo provider group (I). *Int J Adult Orthod Orthognath Surg* 1986;1:55-67.
10. Dykhouse V, Moffitt, A, Grubb J, Greco P, English J, Briss B, et al. A revision of the adult orthodontic intraoral radiographic protocol for ABO clinical examinations. *Am J Orthod Dentofacial Orthop* 2007;131:303-4.
11. Jenkins WM, Papapanou PN. Epidemiology of periodontal disease in children and adolescents. *Periodontol* 2000 2001;26:16-32.