Expand your treatment options with new materials...and old possibilities

David L Turpin, DDS, MSD

When was the last time you added to your list of treatment considerations the possibility that a patient's malocclusion might improve without any treatment? Do malocclusions ever reduce in severity as a result of normal growth and development?

In an attempt to answer this question, Feldmann, Lundström, and Peck examined a sample of 47 Swedish children with Class II deep-overbite malocclusion, and they report their findings in this issue (1999;69(1):33-38). Orthodontic records were gathered an average of 11.5 years after the subjects were first examined and determined to be in need of treatment. For a variety of reasons orthodontic treatment was declined and neither treatment nor extractions were performed during the observation period that followed. The findings of this study indicate that Class II Division 1 occlusal conditions do not necessarily lead to age-changes that worsen the sagittal dental relationships or deepen the bite. Overbite reduced significantly, representing the possibility of a functional improvement by adulthood. In all fairness, it should be pointed out that the average subject in this sample had no crowding initially. Analysis of the data indicated the development of mild crowding in both jaws during the observation period.

With the increased use of nickel-titanium archwires, fixed functional appliances, and new bracket designs, do you ever wonder if patients receive better treatment now than was possible before the advent of these new materials and techniques? In another paper found in this issue (1999;69(1);19-26), Firestone, Häsler, and Ingervall compared the treatment results achieved in two groups of patients treated 10 years apart at the same dental school. Patients in the first group were discharged from the university clinic in 1983, and the second group 10 years later, in 1993. The IOTN and PAR Index were used to evaluate pre- and posttreatment study casts. Patients in the later group showed significantly greater reductions in the IOTN and PAR scores at the end of treatment than a similar group of patients in the earlier group. The authors believe that the differences in treatment results are most likely due to changes in materials and techniques that occurred in the 10 intervening years. These include the introduction of Nitinol and titanium-molybdenum alloy archwires, as well as changes in treatment techniques such as the use of preadjusted brackets, segmented arches and the Jasper Jumper. In this study, improvement in occlusion and alignment was primarily the result of a reduction in overjet, an increase in the alignment of the maxillary anterior teeth, and a reduction in overbite.

Although this conclusion may be obvious to most clinicians, it reinforces my belief that we all need to keep abreast of advances in material science. You can start by checking out several other papers in this issue reporting on the properties of new orthodontic materials now on the market (see pages 39, 45, 49, 58, 65 and 71).

The American Board of Orthodontics is also developing an objective grading system for dental casts and panoramic radiographs (Am J Orthod Dentofac Orthop 1998;114:589-599) to be used in the examination of candidates' clinical case reports. When fully tested, this grading system might become another tool to help the clinician determine whether treatment results are improving over time...as new materials, brackets and techniques are incorporated into the practice of orthodontics. What do you think?

The Angle Orthodontist

Volume 69 Number 1 February 1999