

THE EDITOR'S CORNER

JCO Has a 35th Birthday

This month marks JCO's 35th anniversary. At the beginning, in 1967, orthodontic practice was described as a cottage industry. Fixed appliances consisted of bands and stainless steel archwires. The specialty was not too far removed from a time when the orthodontist fabricated the bands from raw materials—a roll of band material pinched and soldered into bands, to which were soldered brackets and tiny eyelets mesial and distal to the brackets. Within the previous decade, preformed bands had become available; these were usually hammered into position on the teeth or seated with an Eby band driver. It could take two or three visits to separate the teeth and band the two arches. Delegation was still in its early stages, as state dental laws were being modified to permit auxiliary personnel to work in the mouth.

Orthodontic treatment in 1967 was dominated by the edgewise and Begg techniques. Edgewise was still largely under the sway of Dr. Charles Tweed, who famously retreated 300 cases he had treated nonextraction. The relapse he observed led him to advocate bicuspid extraction and to invent the Tweed triangle for diagnosis. Brackets were typically .020" edgewise, and archwires were a succession of round wires leading up to rectangular finishing wires. Attention was paid to setting up anchorage to counteract vigorous Class II mechanics, often with what were called "jawbreaker" elastics. It was estimated that the average practice in 1967 extracted bicuspids 80% or more of the time.

Simultaneously, Dr. P.R. Begg in Australia developed a lightwire technique that used vertical, unipoint brackets. As a result of his anthropological studies, Begg believed that the teeth of humans move mesially associated with proximal attrition. He felt that extraction was a reasonable, if inexact, replication in modern humans, who do not experience the attrition, but experience the mesial tendency. The Begg appliance was able to rapidly open the bite and retract the anterior teeth by tipping, usually following the extraction of bicuspids. Although this first stage of treatment occurred rapidly, the second and third stages were more time-consuming, and the round-

trip nature of the mechanics caused many orthodontists to switch from a pure Begg technique to a Begg-edgewise technique with a combination edgewise-and-vertical-slot bracket.

As time has passed, so have the Tweed technique and the Tweed triangle. While some still use them, they have largely been replaced by preadjusted brackets and straightwire mechanics, and by diagnostic criteria that relate the lower or upper incisors to other landmarks. The Begg technique has all but disappeared.

Compared to modern orthodontics, 1967 orthodontic treatment was primitive. Still, teeth were straightened as straight then as they can be in 2002. It was more difficult for the patient and the doctor, but the basic mechanics were much the same. We still use brackets attached to the teeth and wires attached to the brackets. We still use elastics and headgear. We still use expansion screws, lingual arches, and Hawley retainers. Cephalometers were in common use in 1967 and are a standard diagnostic tool today, with all their imperfections. In fact, diagnosis has not advanced markedly in the past 35 years.

Many of the changes that have occurred have made treatment easier for the doctor and the patient. Bonding didn't change bracket and wire technology, but it did wonders for the ease of strapup, and bonded retainers have reliably replaced removable retainers, especially in the lower arch. Metallurgical advances produced nickel titanium wires with attributes that greatly improved tooth movement and control. Non-compliance appliances removed or greatly reduced dependence on patient cooperation.

Bonded retainers may have had the effect of masking instability, but they leave us with two dilemmas that have yet to be played out. One is the question of the duration of an orthodontist's responsibility for maintaining an orthodontic result. Orthodontists have yet to accept the concept of a growing load of patients on a paid, lifetime retainer-maintenance program. The alternative—eventual removal of fixed retainers, ending the retention responsibility—leaves the orthodontist with a not-entirely-satisfying conclusion

to an otherwise agreeable relationship, and perhaps even a deep-seated feeling of guilt, justified or not. Just like 1967.

The other major dilemma that is, in part, the result of fixed, bonded retainers is the sizable reduction in the amount of tooth extraction and the accompanying increase in expansion. Are we retaining the expanded arches in positions that would not be stable if the teeth were released or, more important, when the teeth are released? Are we doomed to relive Tweed's recall of expanded patients who eventually relapse?

Shortly after 1967, the specialty became concerned about an increasing number of U.S. orthodontists and a decreasing number of potential child patients. Today, the concern, if there is one, has been reversed. Demographics indicate an undiminished supply of patients for the foreseeable future, but zero growth or even a decline in the number of practicing orthodontists. For the moment and, again for the foreseeable future, the "manpower" problem appears to have been avoided by greatly increased productivity. ("Manpower" itself has become an obsolete term, as the number of female orthodontists continues to grow at a rapid rate.)

In 1967, Tweed believed that an orthodontist could and should treat a case load of no more than 100 patients. Because of the increasing number of hands that delegation allows and the lengthening of the interval between visits that various advances in bracket, wire, and force technology allow, the average practice today carries a case load of approximately 600 patients. In fact, the most fundamental change in orthodontic practice in the past 35 years may have been in delegation. Virtually unlimited delegation of operator tasks to auxiliary personnel has changed the face of orthodontics substantially, and it is changing the role of the orthodontist from the wire-bender of 1967 to the manager of 2002. The implication of the huge increase in case loads is that the orthodontist may well outgrow even a managerial role and become CEO of an enterprise that will look more like a business than a profession. ELG