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THE EDITOR'S CORNER

The Eye of the Beholder

Over the years, like many other orthodontists, I have developed a habit of subconsciously evaluating the overall esthetics of practically every face I see. Whenever I am in a crowded setting—such as a mall during peak shopping season or a large airport during the holiday rush—hundreds, if not thousands, of faces are involved in my subliminal beauty pageant. I'll admit to finding beauty in a wide variety of facial types and profile configurations. Just as we were all taught in our residencies, the classical straight profile with a square, tapering frontal outline always seems appealing. In fact, a number of authors have referred to Michelangelo's statue of David as a standard of facial esthetics. As I stood in front of the statue in Florence last summer, however, it occurred to me how unattractive that face seemed when judged against contemporary standards. Given the right symmetry and proportion, a longer, thinner face with a touch of convexity can be quite striking. Likewise, the shorter, squarer face with either a slight convexity or a slight concavity can be appealing, as evidenced by the myriad of attractive models of both sexes that populate consumer advertisements. Beauty can be found in a wide spectrum of faces, from high-angle, vertical cases to much lower, horizontal patterns. To augment an old saying, beauty—and ugliness—are in the eye of the beholder.

Of course, the farther we get from facial norms, the more difficult it is to stay within proportions that anyone could comfortably describe as pleasant. And if there is one facial configuration that has always struck my eyes as unattractive, it is the bimaxillary protrusion. I have heard several lecturers describe bimaxillary protrusion as an evolutionary anachronism—a throwback to our cavemen ancestors. When you look at the skulls and reconstructed faces of prehuman hominids, that's hard to argue against.

Reduction of bimaxillary protrusion has always been one of the most challenging and rewarding objectives of orthodontic treatment. Although a great many pioneers contributed to the recognition and correction of this condition, Charles Tweed probably did more than any other

single individual. His famous Z-line is still a useful and easily applicable diagnostic reference, and his legacy of treatment techniques continues to the present. One need only flip through a copy of the Tweed Foundation's *Profile* to appreciate the remarkable improvement that can be made in a growing patient's face when bimaxillary protrusion is successfully addressed. Historically, the principles of anchorage preparation, anterior retraction in conjunction with maximal anchorage auxiliaries such as high-pull headgear, and upward and backward or counterclockwise rotation of the occlusal plane have produced facial results that are beautiful to practically every beholder's eyes.

Any practicing orthodontist knows what is meant by bimaxillary protrusion, but there are different ways to describe it cephalometrically. In 1985, Keating compared various morphologic features of a sample of bimaxillary protrusive Caucasian patients to those of a Class I control group.¹ He found that the bimaxillary protrusive faces "had an average interincisal angle of 115° vs. the controls' 135°, and showed the following morphological features which persisted over a five-year growth period: A shorter posterior cranial base. A longer and more prognathic maxilla. Similar mandibular dimensions and prognathism. A mild Class II skeletal pattern. A smaller upper and posterior face height. Diverging facial planes. A procumbent soft tissue profile with a low lip line." Two decades later, Bills, Handelman, and BeGole examined a more ethnically diverse group of 48 patients with bimaxillary protrusion, all treated with four premolar extractions and anterior retraction.² They found that "patients with bimaxillary protrusion demonstrated increased incisor proclination and protrusion, a vertical facial pattern, increased procumbency of the lips, a decreased nasolabial angle, and thin and elongated upper and lower anterior alveoli." Further, these authors showed that successful treatment of bimaxillary protrusion in-

involved "a significant increase in interincisal angle, a significant decrease in upper and lower incisor inclination, and a significant decrease in the anteroposterior position of the upper and lower incisors." Their findings suggested that "extraction of four premolars can be extremely successful in reducing the dental and soft tissue procumbency seen in patients with bimaxillary protrusion."

In this issue of JCO, three different teams of authors describe new approaches to the correction of bimaxillary protrusion. Daniel Celli, Daniele Garcovich, Enrico Gasperoni, and Roberto Deli present a case treated through the expedient of third-molar vs. first-premolar extractions, combined with full-arch retraction. Flavio Uribe and our Associate Editor, Ravindra Nanda, demonstrate "an innovative intrusion-retraction method using fiber-reinforced composite (FRC) to provide a completely rigid anchor unit for controlled retraction of the anterior teeth." Of course, skeletal anchorage devices have also given us a new and effective means of achieving near-absolute anchorage. Eduardo Yugo Suzuki and Boonsiva Suzuki describe an adjustable traction hook, used in conjunction with miniscrews, that helps control torque—an inevitable side effect of anterior retraction—in bimaxillary protrusion cases.

As I said at the outset, bimaxillary protrusion remains one of our greatest challenges in orthodontic treatment. Clinicians such as the ones writing in this issue enhance our ability to provide patients with beautiful solutions to that challenge. RGK

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