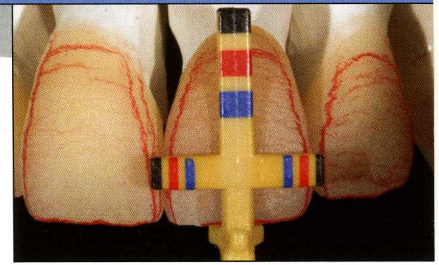


# CLINICAL APPLICATION OF INNOVATIVE MEASUREMENT GAUGES FOR PREDICTABLE CORRECTION OF TOOTH SIZE/PROPORTION AND GINGIVAL ARCHITECTURE DISCREPANCIES



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Dental professionals have long been guided by mathematical principles when interpreting esthetic proportions for their patients, whether it involves tooth-to-tooth smile arrangement or creating proper tooth dimensions.<sup>1-4</sup> While many acknowledge that such principles are merely initiation points for a given smile design or reconstructive procedure, their very existence appears to indicate practitioners' desire for some predictable, objective, and reproducible means of achieving success in esthetic dentistry.

The belief that the Golden Proportion unequivocally defines the standard by which anterior teeth

should be arranged has been perpetuated by authors such as Lombardi, Levin, and Rufenacht, who wrote intellectually stimulating articles and books, respectively, on esthetics and design.<sup>1,2,5</sup> These concepts have been developed into usable tools such as the Golden Proportion Ruler (Bayview Dental Lab, Chesapeake, VA, USA) and the Golden Proportion waxing templates (Panadent, Grand Terrace, CA, USA). The clinical reality, however, is that intra-arch tooth arrangement guidelines such as the Golden Proportion are only applicable to a minority segment of the patient population and pose some difficulty in their implementation.<sup>6-8</sup>

In the 1990s, Preston demonstrated that the Golden Proportion existed in the relationship between the maxillary central and lateral incisors in only 17% of patients studied.<sup>9</sup> Studies by Ward also suggest that the Golden Proportion should not be considered the intra-arch tooth proportion standard.<sup>10</sup> Since 2001, Ward has done a significant amount of "perception-based" research comparing dental professionals' and patients' preferred choice of smile design based on the results of smiles created using the Recurring Esthetic Dental (RED) Proportion, the

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