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The Angle Orthodontist: Vol. 65, No. 5, pp. 321–326.

The validity of maxillary expansion indices

Yupares Nimkarn, DDS, MS; Peter G. Miles, BDS^c, MDS;^a Maria T. O'Reilly, DMD, MDS, PhD; Robert J. Weyant, DMD, Dr PH

^a18 Carrara Street, Gold Coast Q4217, Australia

ABSTRACT

Numerous indices have been proposed to help the clinician decide how much maxillary expansion will be required to alleviate crowding. The purpose of this investigation was to examine the validity of Pont's index, Schwarz's analysis and McNamara's rule of thumb. Records of 40 patients (20 females and 20 males) were selected from 155 consecutive pretreatment records. The discrepancy between actual intermolar/interterpremolar widths and the index-generated widths were correlated against measures of crowding, and linear regressions were computed. Statistical analysis revealed that (1) males had more significant correlations between arch width and crowding than females, (2) interpremolar widths were more strongly correlated than intermolar widths, (3) Pont's index and McNamara's rule of thumb overestimated required arch width by 2.5 mm to 4.7 mm and 2.7 mm to 3.7 mm respectively, and (4) Schwarz's analysis overestimated interpremolar width by 2.5 mm to 4.3 mm but was reasonably accurate for intermolar width in males. The results suggest that these indices potentially overestimate the arch expansion required to alleviate crowding.

Yupares Nimkarn is an orthodontist in Bangkok, Thailand

Peter G. Miles is an orthodontist in Gold Coast, Australia

Maria T. O'Reilly is an associate professor, Dept. of Orthodontics, University of Pittsburgh, School of Dental Medicine

Robert J. Weyant is an assistant professor, Dept. of Public Health and Community Dentistry, University of Pittsburgh, School of Dental Medicine

KEY WORDS: Maxilla, Expansion, Pont, Schwarz, McNamara.