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A method of magnification correction for posteroanterior radiographic cephalometry

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ABSTRACT

A simple method for magnification correction of width measurements from posteroanterior (PA) cephalograms is presented. Small lead markers were placed on selected landmarks of dry skulls. Lateral and PA cephalograms were obtained for each skull. Seven cephalometric width measurements were selected. Actual widths were deduced from the geometric principle of similar triangles. The magnification factor is the distance between the anode and the transporionic axis, plus or minus the corrected distance of the landmark to the transporionic axis measured from the lateral cephalogram, divided by the distances between the anode and the film. Differences between measurements made directly on the skull and corrected width measurements from the PA films were observed to be very small (<0.50 mm) and statistically insignificant ($P>0.05$). Paired measurements were of high correlation ($r=+0.99$). The present method of magnification correction means cephalometric width measurements can be made that are comparable in accuracy with measurements made directly on the skulls.

KEY WORDS: Cephalometry, Craniometry, Lateral cephalogram, Magnification correction, Posteroanterior cephalogram, Width measurements.

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