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Digital imaging of cephalometric radiographs, part 2: image quality

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ABSTRACT

The aim of this study was to compare the diagnostic quality of conventional cephalometric radiographs with that of digital image counterparts. The random error associated with angular and linear measurements recorded on the digital images was greater than on the conventional radiographs. In addition, there was a systematic error producing statistically significant differences in the majority of angular and linear measurements between the digital images and the conventional radiographs. The errors that occurred with some measurements were of sufficient magnitude to be of clinical significance, particularly in a cephalometric situation where a high degree of accuracy is required. It is therefore suggested that, for digital imaging of cephalometric radiographs, a pixel matrix larger than 512 × 512 with more than 64 gray levels is required to maintain the diagnostic quality of the original radiograph.

KEY WORDS: Cephalometry, Digital imaging, Image quality.

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