



## **A normal data-base of posteroanterior radiographic measurements of the wrist in healthy Egyptians**

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### **Abstract:**

The roentgenographic morphology of the wrist has been described in textbooks and in articles but no ethnographic differences were reported. This study aims to identify normal radiographic anthropometry reference values and variations according to age and sex of carpal bones and joints in healthy Egyptians that might be useful in clinical practice. Selected landmarks were digitized on 300 postero-anterior wrist radiographs of asymptomatic volunteers. Men and women were equally represented as were two age groups (twenty to forty years and above forty to sixty years). The roentgenograms were made, with standard exposure with the wrist and forearm in the neutral positions. It was found that in all age groups, males showed higher values than females in most of the measurements. The width of the distal radio-ulnar joint space, ulnar variance and length of the 3<sup>rd</sup> metacarpal were reduced in older subjects while radius of radio-carpal joint arc, carpal height, carpal-ulnar ratio and radial inclination were increased in older subjects. In ulnar variance and radial inclination, there were differences with respect to those reported in Mexicans and in Japanese. Information regarding normal values in wrist measurements could be used as the normal reference value for the evaluation of surgical management and follow-up of the wrist abnormalities.

**Key words:** Wrist - Carpal bones - Radiography - Anthropometry – Anatomy- Egyptians



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