

Symmetry of healthy adult feet: role of orthostatic footprint at computerized baropodometry and of digital formula *

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SUMMARY

Morphological aspects of orthostatic footprints (anterior heel, isthmus, posterior heel), using computerized baropodometry and of the digital formula were studied in 97 subjects (37 males, 60 females; median age: 20.9 ± 1.56) at the Medical School of Palermo, Italy. The aim of this study was to contribute to our knowledge of the bilateral symmetry and asymmetry of the human feet in ethnically similar groups. We evaluated the length of the footprints (FL) and the widths of the anterior heel (AHW), isthmus (IW), and the posterior heel (PHW). Values were compared in the left and right feet of each subjects. The general morphology of the footprints was considered to determine bilateral correspondence or divergence. We also evaluated the digital formula to verify any bilateral correspondence. The linear measurements of the footprints did not show any particular bilateral conformity. The general morphology of the footprint showed bilateral correspondence in 76 subjects (78%); in 21 subjects (22%) it did not show any. Typological results of the bilateral orthostatic footprints showed *normal footprints* in 54 subjects (55.5%); the isthmus included 1/3 to 2/3 of the AHW. *Hollow footprints* were found in 20 subjects (20.5%); the isthmus was less than 1/3 of the AHW. At clinical examination, using the digital formula, we found that Egyptian foot ($1^\circ > 2^\circ$) was the most frequent (68%). The *standard foot* ($1^\circ = 2^\circ$) and the *Greek foot* ($1^\circ < 2^\circ$) were both present in 16% of the feet examined. Seventy-nine subjects (82%) presented bilaterally correspondent digital formulas: $1^\circ > 2^\circ$ in 59 subjects (62%), $1^\circ = 2^\circ$ in 9 subjects (9%), and $1^\circ < 2^\circ$ in 11 (11%).

While comparison of the bilateral linear measurements studied showed that there was primarily no bilateral correspondence, the morphological aspects of the footprints and of the digital formulas showed that bilateral correspondence was prevalent.