415

THE METHODS OF THREE-DIMENTIONAL ANTHROPOMETRIC MEASUREMENTS FOR INFANTS / TODDLERS FACE WITH MINOR ANOMALIES

Y. Komazaki[1], T. Fujiwara[2], R. Kosaki[3], T. Ogawa[4], K. Moriyama[4]

[1]National Research Institute for Child Health and Development, Tokyo Medical and Dental University, [2]National Research Institute for Child Health and Development, [3]National Center for Child Health and Development, [4]Tokyo Medical and Dental University, Tokyo, Japan

Background and aims: Due to lack of quantitative data for facial pattern of young children, diagnosis of minor anomalies has to be relied on limited trained dysmorphologists. The aim of this study is to test the reliability of measuring facial parts of young children using three dimensional laser scanner for young children.

Methods: Three dimensional laser scanner VIVID 910® which employs laser-beam light sectioning technology measuring 640×480 individual points in 2.5 seconds in FINE mode, with precision of ±0.008mm and accuracy of ±0.10mm was used. Facial parts (palpebral fissure length and angle (r/l), inner canthal distance, height, length and width of nose, length of philtrum, and width of mouth) of 4 year old boy were measured 10 times by single rater. Coefficients of variation (CV) were calculated based on mean and standard deviation.

Results: All the CV were less than 0.05 (ranged 0.005-0.038). The highest reliability was inner canthal distance, while least reliability was length of nose.

[fig landmarks]

Conclusions: The reliability of measuring facial parts of young children using three dimensional laser scanner for young children was confirmed. The three dimensional laser scanner VIVID 910® can be used for measurement of young children with minor anomalies.