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Tele motion tracking for the study of cranio-facial development

Simona Tecco Vita-Salute San Raffaele University, Italy

The 3D Tele Motion Tracking (TMT) is able to detect the movement in space of passive markers and to calculate geometric relationships derived from the positions of the markers, thanks to the associated software that reconstruct the figure in three dimensions and graphically represent its movement. The equipment is also able to calculate angles, distances and associated kinetic variables. This study aimed to evaluate the reliability of 3D-TMT in a static cephalometric evaluation. A group of 40 patients (20 males and 20 females; mean age 14.2+/-1.2 years) in permanent dentition was included in the study. For each subject, measurements were compared by the 3D TMT cephalometric analysis with a conventional cephalometric analysis carried out on radiographs in the frontal view. Nine passive markers were positioned on the face skin for the detection of the profile of the patient. Through the acquisition of these points were found corresponding plans for three-dimensional posterior-anterior cephalometric analysis. The cephalometric results carried out with 3D TMT and with traditional posterior-anterior cephalometric showed that 3D TMT system values was slightly higher than the values measured on radiographs. These differences are statistically significant, nevertheless their correlation is very high. The recorded values obtained using the 3D-TMT analysis were highly correlated to cephalometric analysis. 3D TMT is a non invasive tool that can be used for cranio-facial development research to monitor the control group.

## **Biography**

Simona Tecco has completed her PhD in Oral Science at G D'Annunzio University and a second PhD in Physiology of Occlusion and Dental Materials at the University of Torino. She completed her Orthodontic specialization from the Catholic University of Rom. She is a Researcher at the University Vita-Salute San Raffaele, Milan, Italy. She has published more than 80 papers in reputed journals and has been serving as an Editorial Board Member of repute.

simtecc@gmail.com

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