

3D MODEL FOR AESTHETIC OBJECTIVE EVALUATION AFTER BREAST CANCER SURGERY USING INFRARED LASER PROJECTOR

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Aims: Recently some groups have been using 3D methodology but at higher costs and not yet generally accepted. Our objective was to evaluate the value of a less expensive and user friendly tool using infrared laser projector to obtain 3D images.

Methods: 42 patients after mastectomy and immediate reconstruction accepted to enter the study. 3D measures were captured by Kinect[®] (Xbox[®]). It has a depth sensor based in infrared laser projector and was possible to obtain a disparity map in gray intensity that represented depth information; this was converted in metric values to obtain 3D measures; after capturing these measures from both breasts, a ratio was calculated to estimate volume differences. Another ratio of the distance of the medial projection of the nipple to the sternum (taken manually with 2 rulers) in both breasts was obtained. Finally, we used a robust error measure (mean squared error) to compare the 2 ratios – manual and 3D [zero means no error].

Results: The error between the two measures was 0,056 which can be considered good.

Conclusions: Although results are only preliminary we believe there is potential for the use of this, low cost and user friendly, infrared laser projector, to obtain 3D images.