TITLE
The Kyte Latissimus Dorsi flap in breast reconstruction; a technique modification attempt to reduce axillary bulging

AUTHORS
Pinto DG, Gouveia P, Magalhães AT, Bastos Martins J, Moura A, Oliveira HP, Cardoso MJ, Mavioso C, Correia Anacleto J,

Breast Unit, Champalimaud Cancer Center, Champalimaud Foundation
Lisbon, Portugal
Trindade Hospital, Porto, Portugal
INESC TEC and Faculty of Engineering, Porto University, Porto, Portugal

BACKGROUND
The Latissimus Dorsi (LD) flap is a commonly used tissue transfer technique for volume replacement after breast cancer surgery. The harvesting of the flap has been addressed in several ways, trying to improve the final result, and reducing morbidity. Axillary bulging under the arm is one of the most frequent patient complaints, due to the transposed muscle over the lateral chest wall, associated to the conventional technique. Aiming at minimizing this deformity we developed the kLD (kyte Latissimus Dorsi): a perforator flap style pedicle dissection, from the muscle, until the external limit of the breast to be reconstructed, leaving no unnecessary bulging under the axilla. The purpose of this study is to evaluate the aesthetic outcome and patient satisfaction with this new approach.

METHODS
A retrospective study was performed comparing two different patient cohorts. Thirty one patients underwent the kLD technique and were compared with a previous group of 20 patients submitted to the conventional technique (cLD) with a complete section of the proximal insertion of the LD flap. Procedures were undertaken by the same oncoplastic team (Level III Oncoplastic Training Unit – EJSO 33 (2007) S1-S23). After informed consent, frontal views RGB and depth-map images were captured in 19 patients using the BCCT.core® software in 13 kLD and 6 cLD. The Breast Q® post-operative module was answered by 24 kLD patients and 12 cLD. Statistic analysis was performed using the SPSS v21 and the Qui-square test (statistical significance $p \leq 0.005$).

RESULTS
The cosmetic analysis using the BCCT.core® software showed no differences with statistical significance between the two groups. Concerning the Breast-Q® questionnaire, results were only statistically significant regarding the sensation of contraction of the muscle in the breast (feeling of lateral pull). Of the 31 patients submitted to the kLD only 24% of the patients felt the contraction of the muscle compared with 73% of those submitted to the cLD.

CONCLUSION
While the cosmetic evaluation showed no differences using the BCCT.core® software probably due to the use of frontal views only, this new technique seems to improve the feeling of contraction reported by patients in the breast area probably due to the fixation of the proximal border of the flap to the lateral edge of the breast.