

# **Fibrin glue reduces seroma formation in the rat after mastectomy.**

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## **Abstract:**

Fibrin glue is a biologic tissue adhesive that has been found to be useful in several areas of surgical treatment. Little has been written in the English literature, however, on its use in preventing postoperative fluid collections. We performed a prospective randomized trial to determine if fibrin glue could reduce postoperative fluid collections after mastectomy in a rat. Bilateral mastectomies and axillary lymph node dissections were performed upon 42 rats, one-half of which were treated with fibrin glue and one-half of which served as controls. The rats were sacrificed after seven days and inspected for quantity of fluid and adhesion formation. The mean plus or minus standard error of the mean fluid collections were  $0.71 \pm 0.26$  milliliter and  $3.75 \pm 0.65$  milliliter for the rats treated with fibrin glue and control rats, respectively. This was statistically significant ( $p < 0.0001$ ). Seventeen of 21 rats treated with fibrin glue and four of 21 control rats were found to have fluid collections of less than 1 milliliter, again statistically significant ( $p = 0.00006$ ). Furthermore, greater adhesion formation between the skin flap and chest wall was noted in the rats treated with fibrin glue. The results support the use of fibrin glue in clinical investigations to reduce postoperative fluid collections and also support the need to develop a standard reproducible method of producing fibrin glue or a commercial product free of transmissible disease.