

Authors: Robert J. Wilson M.D. (robert.j.wilson@vanderbilt.edu), Jessica R. Wilson M.D. (Jessica.r.wilson@vanderbilt.edu), Jennifer L. Halpern M.D. (jennifer.halpern@vanderbilt.edu), Herbert S. Schwartz M.D. (herbert.s.schwartz@vanderbilt.edu), Ginger E. Holt M.D. (ginger.e.holt@vanderbilt.edu).

Investigation performed at Vanderbilt University Medical Center

The Rate and Causes of 90-day Unplanned Re-admission after Soft-Tissue Sarcoma Resection.

Background: The United States government and private insurance companies are increasing emphasis on reducing unplanned hospital re-admissions. There are no previous studies of unplanned re-admissions after extremity soft-tissue sarcoma (STS) resection.

Purpose: To evaluate the rate and causes of 90-day unplanned hospital re-admission after extremity STS resection.

Patients and Methods: 394 patients undergoing extremity STS resection from a single-center were retrospectively reviewed from 2001-2008. Demographic and oncologic data were recorded and analyzed. Unplanned re-admission to any institution for any reason within 90 days of resection was the primary endpoint. Mann-Whitney U and chi-square tests were used for univariate analysis. Multivariate analysis was performed using logistic regression. Statistical significance was defined as $p < 0.05$.

Results: Overall 90-day re-admission rate was 9.9% (n=39). The most common reasons for re-admission were wound infection (n=13) and flap failure (n=11). On univariate analysis, presence of rotational or free flap ($p < 0.001$), pre-operative radiation ($p = 0.002$), tumor size > 10 cm ($p = 0.032$), diagnosis of diabetes ($p = 0.037$) and higher American Society of Anesthesiologists (ASA) class ($p = 0.046$) were associated with 90-day re-admission. Re-excision of an incompletely excised STS was not significant ($p = 0.477$). On multivariate analysis, rotational or free flap coverage was significantly associated with 90-day re-admission ($p < 0.001$). Diabetes, tumor size > 10 cm, and pre-operative radiation were not significant. Subgroup analysis of 298 patients resected without a flap found pre-operative radiation was significantly associated with 90-day re-admission ($p = 0.045$).

Conclusions: STS resection patients requiring rotational or free flaps or pre-operative radiation were significantly more likely to have a 90-day unplanned re-admission.