



WOUND HEALING

## FACTORS ASSOCIATED WITH WOUND DEHISCENCE FOLLOWING CUTANEOUS EXCISIONS PERFORMED BY OVER 400 DERMATOLOGY PROVIDERS

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**Introduction:** Surgical wound dehiscence (SWD) describes separation of wound edges due to mechanical failure of a healing wound. The rate of SWD following dermatology office-based surgery and factors associated with its occurrence are poorly characterized in the current literature.

**Objective:** This study aims to elucidate factors contributing to SWD following cutaneous excisions through a novel data mining methodology. The utility of this methodology in quality assurance and risk management applications will be concomitantly explored.

**Materials and Methods:** For quality assurance purposes, ongoing queries for all instances of cutaneous excision are performed monthly within the electronic medical record (EMR) database of a large national dermatology practice employing over 400 providers. Executed utilizing software produced by the EMR platform developer, these queries will yield an estimated 12,000 qualifying procedures over a four-month period; ~36,000 yearly. Outcomes of each qualifying procedure will be tracked over eight-week intervals. Procedures notable for SWD will be statistically analyzed in aggregate to elucidate factors associated with SWD. Intracompany protocols mandating uniform documentation of procedures ensures widescale comparability of data.

**Results:** Preliminary data from 2 January to 19 January 2019 identified 1,712 instances of cutaneous excision, with a SWD rate of 1.8 percent (three procedures). All three procedures were significant for a current or past history of smoking. Forthcoming data will allow for further exploration of this trend, as well as other factors predicted to correlate with the rate with SWD: patient age and gender, anatomical location, suture method and material,





immunosuppression, anticoagulation therapy, and comorbidities (e.g. diabetes). Data collected through 31 April 2019 will be presented.

Conclusions: Ongoing EMR-based clinical data analysis can be used to characterize both the rate and network of factors contributing to SWD. Results may be used to guide the development of this investigative model with the purpose of improving patient outcomes.

