**Title**

Risk factors for surgical site infection after minor dermatological surgery. A meta-analysis of individual participant data.

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**Background**

Surgical site infection (SSI) after minor dermatological procedures is associated with poor outcomes including increased recovery time, poor cosmesis and repeat visits to general practitioners. Prophylactic antibiotics are prescribed to reduce these adverse outcomes. Identifying risk factors for developing SSI allows patients to be stratified into ‘at-risk’ groups and encourage antimicrobial stewardship.

**Aims**

The purpose of this study was to identify risk factors for SSI after minor dermatological surgery in a large patient cohort.

**Method**

This was an individual-participant-data meta-analysis of four randomised controlled trials performed in a regional centre of North Queensland, Australia.

**Results**

A total of 298 infections occurred in a population of 3819 patients, resulting in an overall incidence of 7.8% (95% CI 5.8-9.6), differing across the four studies (p=0.042). The risk factors identified were age (Relative Risk (RR) 1.01, 95% CI 1.001-1.020, p=0.008), excisions from the upper limbs (RR 3.03, 95% CI 1.76-5.22, p=0.007), lower limbs (RR 3.99, 95% CI 1.93-8.23, p=0.009) and flap/2-layer procedures (RR 3.23, 95% CI 1.79-5.85, p=0.008). Histology of the excised lesion was not an independent significant risk factor for infection.

**Conclusion**

This study has demonstrated that older patients, patients receiving complicated excisions (flap/2-layer), and excisions on the upper or lower limbs, are at higher risk of developing an SSI. An awareness of such risk factors will guide evidence based and targeted use of antibiotic prophylaxis.