

Non-sterile gloves in minor lacerations and excisions?

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Clinical question

Do non-sterile (clean) gloves for minor laceration repair and office-based excisions cause more infections than sterile gloves do?

Bottom line

Using non-sterile gloves does not increase the number of infections compared with sterile gloves for outpatient minor or uncomplicated skin excisions (not flap excisions) and laceration repair in immune-competent adults. The current standard of care of using sterile gloves for these procedures is likely unnecessary and is more costly. It is unclear if this applies to sebaceous cyst excisions, as these were not studied.

Evidence

Minor excision procedures:

- An Australian primary care RCT (N=493, mean age 65 years) of mean 2-cm excisions (33% head or neck)¹ found an infection rate of 8.7% for non-sterile gloves versus 9.3% for sterile gloves (not statistically different).
- A small RCT of 60 Mohs patients (mean age 73 years) with mean 2.2-cm excisions (85% head or neck)² found an infection rate of 3% for non-sterile gloves versus 7% for sterile gloves (not statistically different).
- A cohort study of 3071 simple excisions³ found an infection rate of 1.7% for non-sterile gloves versus 1.6% for sterile gloves (not statistically different).
–Among 420 reconstructive (flap) procedures, infections were statistically significantly more likely with non-sterile than with sterile gloves (14.7% vs 1.6%).
- Two cohort studies of Mohs procedures (1400 and 2025 procedures) found no difference in infection rates.^{4,5} In one cohort (20821 procedures)⁶ sterile gloves reduced the infection rate by 0.47% compared with non-sterile gloves ($P=.04$).

Lacerations:

- An RCT⁷ (N=816 patients, aged ≥ 1 year) in Canadian emergency departments compared sterile with non-sterile gloves in suture repair of lacerations and found an infection rate of 4.3% for non-sterile gloves versus 6% for sterile gloves (not statistically different).
- Two older (randomization unclear) studies (N=50, N=408)^{8,9} compared no gloves to sterile gloves and infections did not differ. The studies had substantial limitations and suturing without gloves is clearly inappropriate.

Context

- Exclusion criteria included sebaceous cyst excision^{1,3} (possibly owing to existing infection²), complex

procedures (such as closure requiring flaps)¹ or increased infection risk,³ and immunocompromise.^{1,2,7}

- Other limitations: inclusion of Mohs excisions, which are often more complex, with potentially multiple glove changes (possibly less primary care relevance),^{2,4-6} and cohort studies, which have lower-level evidence.³⁻⁶

Implementation

Sterile gloves cost 3.5 to 16 times more than non-sterile gloves do.^{1,2,4,5} Non-sterile, clean gloves are appropriate for minor procedures (eg, punch or shave biopsy, ellipse excision, simple laceration repair). Exclusion criteria leave uncertainty around sebaceous cyst excision or procedures in immunocompromised patients. Other research suggests keeping wounds dry beyond 12 hours does not reduce infection rates (patients can shower after 12 hours),¹⁰ punch biopsies 4 mm or smaller do not require suturing for patient satisfaction or appearance,¹¹ and absorbable sutures can be used (no need for suture removal follow-up).¹²

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Competing interests

None declared

The opinions expressed in Tools for Practice articles are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

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