



## Case illustrated

## Hand hygiene sprayed into eye

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## ABSTRACT

Hand hygiene is a practical, affordable, acceptable, reliable, and effective strategy to mitigate nosocomial infection risks in hospitals. Here we provide an image of clinical medicine that documents a potential error related to hand sanitizer dispenser malfunction. An awareness of this adverse event can lead to immediate modifiable changes in healthcare settings to reduce the risks of nosocomial infections.

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A 45-year-old healthcare worker reached for a hand sanitizer dispenser as a routine practice to prevent nosocomial disease. Because the nozzle was partly clogged from congealed additive ingredients (Acrylate Crosspolymer, Aloe Extract), an ejected side-stream of fluid hit the right eye causing immediate pain, redness, and blurred vision [1]. Subsequent irrigation led to improved symptoms within 1 h and full resolution after 3 h. No abnormalities were found on examination the next day. Follow-up testing a week later replicated the hand sanitizer overspray (Fig. 1).

Hand hygiene is a practical, affordable, acceptable, and reliable strategy to reduce nosocomial infection risks inside hospitals [2]. The COVID-19 pandemic has led to increased numbers of hand sanitizer dispensers in public places [3]. These are retrofitted onto existing infrastructure with typical nozzle heights 5 feet (1.5 m) above floor level. Such positioning tends to be more convenient for taller (DAR) rather than shorter (DT) persons [4]. We suggest a lower dispenser positioning might be another easily addressed form of structural bias that can be modified for less inequity in modern healthcare [5].

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**Fig. 1.** Hand Sanitizer Overspray.

Series of photographs of healthcare worker using hand sanitizer dispenser in hospital corridor. Upper image shows ejection stream extending above eye level. Lower three images show replication of ejection stream on three subsequent usages of hand sanitizer dispenser. Orange arrows identify mid-point of ejection stream in each image.

Health Research. The views expressed are those of the authors and do not necessarily reflect the Ontario Ministry of Health.

### Consent

Formal consent obtained and documented in attached form.

### Author contribution

All authors contributed to the design, conduct, analysis, and reporting of the manuscript. The first author wrote the first draft. All authors gave consent for publication. No others contributed in other ways.

### Data access

DAR and DT had full access to all data in the study.

### Role in writing

DAR and DT both contributed to writing, revision, and submission.

### Declaration of Competing Interest

The authors report no declarations of interest.

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