

# Artificial Nails in the Healthcare Environment

## Why We Care!

Wearing artificial nails or nail enhancements is associated with carrying higher amounts of pathogenic bacteria and yeast which can be transmitted to patients and lead to healthcare-associated infections<sup>1</sup>

Should you have any questions regarding the information in the Hand Hygiene Policy and Procedure please contact the Policy and Forms Department at [policy@ahs.ca](mailto:policy@ahs.ca).

## Artificial Nails Hand Hygiene Policy and Procedure

As per Alberta Health Services [Hand Hygiene Policy](#) and [Procedure](#) artificial nails and/or nail enhancements (e.g., fibreglass or silk wraps, decals, rhinestones, gel polish), shall not be worn by AHS peoples who provide direct patient care or perform other related tasks that require hand hygiene. Natural nails shall be clean and short; nail polish, if worn, shall be freshly applied and not be chipped.

## Evidence

Studies have demonstrated strong experimental, clinical and epidemiological evidence that artificial nails can contribute to healthcare-associated infections, for example:

- A prolonged outbreak of *Pseudomonas aeruginosa* in a neonatal intensive care unit resulted in 16 deaths. Evidence suggested association with exposure to two nurses with a possible link to artificial fingernails.<sup>2</sup>
- A cluster of five cases of *Serratia marcescens* bacteremia in hemodialysis patients was linked to a nurse who used an artificial fingernail to open a vial of heparin used to make a flush solution.<sup>3</sup>
- An outbreak of extended-spectrum beta-lactamase-producing (ESBL) *Klebsiella pneumoniae* in a neonatal ICU was linked to a healthcare provider with artificial nails.<sup>4</sup>
- A cluster of *Candida* osteomyelitis and diskitis infections after spinal surgery was linked to an operating room technician with artificial nails.<sup>5</sup>
- An outbreak of post-operative wound infections caused by *Serratia marcescens* was linked to a scrub nurse with artificial nails.<sup>6</sup>

### Bacterial growth after hand hygiene

Hand hygiene is effective in removing potentially harmful microorganisms from your hands; however, artificial nails can hinder effectiveness of hand hygiene. Numerous studies have shown that healthcare providers with artificial nails or nail enhancements have a greater amount and diversity of bacteria **both before and after hand hygiene** than healthcare providers with natural nails.<sup>7</sup>



### References

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4. Gupta A, et al. Outbreak of extended-spectrum beta-lactamase-producing *Klebsiella pneumoniae* in a neonatal intensive care unit linked to artificial nails. *Infect Control and Hosp Epidemiol*. 2004; 25:210-215.
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6. Passaro DJ, et al. Postoperative *Serratia marcescens* wound infections traced to an out-of-hospital source. *J Infect Dis*. 1997; 175(4):992-5.
7. McNeil SA, Foster CL, Hedderwick SA, Kauffman CA. Effect of hand cleansing with antimicrobial soap or alcohol-based gel on microbial colonization of artificial fingernails worn by healthcare workers. *Clin Infect Dis*. 2001; 32:326.

### Additional literature on artificial nails in healthcare

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3. Moolenaar RL, et al. A prolonged outbreak of Pseudomonas aeruginosa in a neonatal intensive care unit: did staff fingernails play a role in disease transmission? Infect Control Hosp Epidemiol. 2000; 21:80-85.
4. Pottinger J, Burns S, Manske C. Bacterial carriage by artificial versus natural nails. Am J of Infect Control. 1989; 17:340–344.



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