

Revising Nightingale's legacy

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Sir,

The recent editorial from this Journal does well to highlight the benefits of hand hygiene once again.¹ It is entirely appropriate to support the need for clean hands, especially during an ongoing pandemic. But there is another message that seems to have got lost. This message is about cleaning the surfaces that hands touch, since hands only require attention because of their capacity for contact with a host of contaminated sites.² Why is there this perpetual disconnect between hands and hand-touch sites? Does it not make sense to tackle the cleaning aspects of both?

Any hand-touch site that escapes cleaning offers a potential reservoir for transmissible microbes. Even good hand hygiene is rendered obsolete if people then touch a contaminated site.² In hospitals, patients are increased risk of acquiring a pathogen if admitted into a room previously occupied by a patient infected with the same pathogen.³ This risk persists, despite comprehensive terminal cleaning, and it gives us irrefutable evidence for the role of the environment in hospital-acquired infection (HAI). Staff can religiously clean their hands with laudable compliance but this will not alleviate the risk from environmental reservoirs. Hand hygiene is not the universal answer for infection prevention.^{2,3}

Let us consider the pandemic sweeping across the world. We already know that viral transmission occurs through spread of particles into the air from an infected patient.⁴ These may be acquired directly from the air or indirectly from the surfaces that they contaminate. Depending upon ambient temperature, humidity and surface properties, these particles will survive on surfaces for days.⁵ Subsequent handling offers a direct route to the respiratory tract of the next victim. This means that items and surfaces that people touch in public places present a comparable risk of contracting this virus, just as they would in hospitals.

How do we know which sites provide the highest risk for transmission? Our communities are varied and complex, with shops, supermarkets, schools, churches, restaurants, concert halls, gyms and football stadiums, to name just a few. Which buildings do people frequent most, and more importantly, what do they touch when they visit? While a cross-transmission audit would immediately highlight the danger spots, the urgency for containment means that common sense can, and should, prevail.² Those responsible for managing a public venue, for whatever function, have a responsibility for keeping the premises clean. This doesn't necessarily mean the exhaustive 'deep' cleaning, as universally reported after community incidents. Indeed, it only takes seconds to remove potential pathogens from a supermarket trolley handle with a moistened wipe, provided the correct principles of dirt removal are applied: namely, 'one wipe; one site; one direction'.⁶ The innovative enhanced cleaning implemented by London Underground offers not just reassurance for travellers but might also encourage targeted cleaning interventions in other public places (<https://www.bbc.co.uk/news/uk-england-london-51822317>). Cleaning the highest risk sites now, before cases really do escalate, makes a lot of sense.

Mapping the sequence of hand-touch practices by people in the community allows a theoretical demonstration of how organisms spread from one environmental site to another. Visualising this risk has already been used for educational purposes and could form the basis of a pictorial guide for members of the public.⁷ Despite the fact that no one has yet devised a jingle for wiping over a door handle or lift buttons, cleaning activities can target these high-touch sites and reduce transmission risk, particularly if repeated at frequent intervals. Do not rely upon clean hands in isolation because some sections of the population, e.g. disabled, homeless, children, etc., will not necessarily understand, remember, or receive help, to practice hand hygiene. Even the informed individual cannot always control what he or she touches, nor develop that sixth sense designed to taunt the subconscious until realisation sets in. This means that blitzing the hand-touch sites across the wider community offers a belt-and-braces approach for everyone's benefit. It is likely that Florence Nightingale would have agreed, given that her book, 'Notes on Nursing', clearly emphasizes

environmental cleanliness, rather than hand hygiene

(<https://digital.library.upenn.edu/women/nightingale/nursing/nursing.html>). Her 200th year anniversary falls on 12th May this year and it is hoped that any memorial provides a balanced view of her legacy rather than hijacking her name for yet more flag waving on hand hygiene.

There is no doubt that the '**hand = hand-touch site**' equation is equal and opposite and both hand hygiene and cleaning are needed to reduce the risk of infection.² The effectiveness of such a strategy regarding transmission of a notable hospital pathogen has already been demonstrated.⁸ In view of the current global situation, public venues would benefit from targeted cleaning just as much as continued emphasis on hand hygiene. Managers of public assets, please take note; spot the most frequently handled sites, organise frequent decontamination, and make us all grateful for Miss Nightingale's legacy.

Declarations

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