Guidance: Automated Room Decontamination

The following recommendations are based on a systematic review of research evidence encompassing ultraviolet light (either as ultraviolet C or pulsed-xenon ultraviolet systems) and hydrogen peroxide (either as hydrogen peroxide vapour or aerosolized hydrogen peroxide, which are distinguished by the concentration of the hydrogen peroxide used as a fumigant).

- Consider use of an automated decontamination device as a supplement to manual cleaning in the context of rising or high prevalence of nosocomial infection, such as *Clostridioides difficile*, meticillin-resistant *Staphylococcus aureus* or vancomycin-resistant enterococcus.

- Consider use of hydrogen peroxide vapour or pulsed-xenon ultraviolet light in room surface decontamination during an outbreak of *C. difficile* infection when other modalities have failed to reduce acquisition.

The following good practice points refer to areas where research evidence was lacking and are based on the Working Party’s collective experience and expertise.

- Manual cleaning should be completed to the same high standard regardless of the subsequent use of automated cleaning devices.

- On first use of a fumigant or ultraviolet light in a specific room design, efficacy of sealing should be monitored to ensure safety.

- Prioritize different cleaning systems to the type of infection of the most recent room occupant by use of a red/amber/green rating based on local nosocomial infection rates.

- Remove foam materials from the room if fumigant is used unless sealed under an impervious cover.

- Before purchasing or renting a system run a mock decontamination cycle in a hospital room to determine turnaround times.

- After purchasing an ultraviolet-light decontamination system, consider the impact on surface finishes such as whitened polyvinyl chloride before purchasing other equipment, and ask the equipment supplier to confirm compatibility.

- Monitor levels of fumigant or ultraviolet light at regular intervals during the contract to ensure efficacy.

- When adopting a new automated system or disinfecting a new room design, conduct microbiological culture tests (if permitted in the hospital) or take in-use environmental swab tests before and after disinfection to confirm efficacy.

To read the full guidance visit: bit.ly/HIS-auto