Healthcare Infection Society

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