ADDENDUM TO POLICY: CLEANING AND DISINFECTION: BED AND PATIENT ENVIRONMENT

DISINFECTION BY HYDROGEN PEROXIDE DRY FOGGING

PURPOSE

The purpose of this addendum is to describe the process for the disinfection of a room with hydrogen peroxide (H_2O_2) dry fogging.

It includes a description of the steps to use the equipment in a safe manner that does not pose a risk to the environment or other human beings and to ensure that the environment is effectively disinfected.

NOTE: The use of hydrogen peroxide fogging is an enhancement of the room decontamination process and should only be used during outbreaks of multidrug resistant organisms or infectious diseases such as COVID-19.

APPLICABILITY

This addendum applies to:

- Nursing personnel
- Cleaning services personnel

RESPONSIBILITIES

Person	Responsibility
Cleaning Services Supervisor	• Competent in the use of the technology • Adhere to the cleaning guidelines
Infection Prevention and Control Manager	• Advise on when it is indicated to use hydrogen peroxide fogging in addition to the normal environmental cleaning and disinfection processes
Services Manager	• Ensure that only an approved product is used and that the service provider is competent to use the product
Unit Manager	• Ensure that the room is effectively cleaned and disinfected by the cleaning service provider as per normal terminal cleaning procedure • Ensure that the hydrogen peroxide dry fogging disinfection procedure is completed and the area is safe and well aerated before a new patient is admitted to the room

GUIDELINES ON THE IMPLEMENTATION OF THE TECHNOLOGY

1. Ensue that the environment has been adequately terminally cleaned with a detergent and water and disinfected with hypochlorite 1:1000 ppm according to the Corporate Policy: Cleaning and disinfection: bed and patient environment.
2. Ensure that all curtains are removed as part of the terminal cleaning process to prevent the potential absorption of the H_2O_2.
3. Turn off all equipment not in use, switch off power supply and remove from the electricity sockets.
4. Leave the room and surfaces to dry properly after cleaning and disinfection. Wet surfaces tend to react with the H_2O_2 spray and leave a white powder residue.
5. Open all drawers and cupboards to ensure that H_2O_2 reaches all surfaces.
6. Turn and expose bed mattress for maximum contact with the H_2O_2.
7. Turn off air conditioner to prevent any air currents or leakages.
8. Ensure that enough of the H_2O_2 is available to ensure adequate disinfection of the area. The volume of the room in cubic meters ($m^{3)}$ has to be calculated according to the size of the room and may not exceed a volume of 200m^3 to ensure effective disinfection and prevent harm.
9. Ensure that the setting of the device is adjusted according to the cubic meters (m3) of the area.
10. Place the device on the floor in the centre of the room or slightly off centre and ensure that there are no direct obstacles in its way to enable the vapour to reach most surfaces.
11. Close any gaps or spaces (windows and doors/exits) as far as possible prior to turning on the device, but leave a door to exit the area after it has been switched on. Any gap or opening may result in ineffective disinfection per volume and to prevent the escape of the chemical irritant to surrounding areas.
12. Once switched on, leave the room immediately.
13. Close and seal off door and door frame (on the outside) with masking tape or use linen savers at the bottom if there are big gaps. Do not leave any open spaces to outside environment.
14. Put up a sign indicating that H_2O_2 is in progress and nobody may enter the area.
15. Leave the room closed and sealed for at least 30 minutes after the device has stopped spraying.
16. Write on the signage the time the doors may be open.
17. Remove masking tape and open door after 30 minutes.
18. Ventilate/aerate room for at least 10 minutes.
19. Inspect areas in the room and for any visible residue. If the air in the room burns the eyes or nose, it is not aerated long enough. Abnormal residue on surfaces may indicate malfunctioning. Be careful to touch residue with bare hands and clean with gloved hands and a cloth.
20. Remove signage when the room is regarded safe.
21. The room is ready for use and renewal of linen.
22. Ensure that the process has been documented.

SAFETY MEASURES

1. Fogging should only be performed in individual rooms or cubicles that can be sealed adequately.
2. Hydrogen peroxide fogging may not be used in an open ICU without cubicles, nor in sealed off areas in an ICU.
3. Never use hydrogen fogging if there are patients or healthcare workers in the room. The room must be completely empty and sealed off.
4. Nobody is allowed to enter the room during the process.
5. Ensure adequate time for the room to “air” after the fogging according to the manufacturers guidelines.

NOTE

- Cleaning is the first and most important step in the decontamination process and all areas first have to be cleaned and disinfected prior to the use of hydrogen peroxide fogging.
- Hydrogen peroxide fogging does not replace the normal cleaning process and is an additional measure that can be taken during outbreaks of multidrug resistant organisms or COVID-19.
- Hydrogen peroxide is the only disinfectant that is approved for the use of fogging.

REFERENCES

1. Association for Professionals in Infection Prevention (APIC), Society for Healthcare Epidemiology of America (SHEA), Association for the Healthcare Environment (AHE) position paper. January 2011

ACKNOWLEDGEMENT

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