

**Section 7: Principles of Cleaning and
Disinfecting Environmental Surfaces**

Policy number: **7.3**

Subject: **Selection of Finishes and
Surfaces in Client Care Areas**

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1 PURPOSE

- 1.1 High-touch environmental surfaces of the health care setting hold a greater risk of becoming contaminated with infectious agents than do public areas of non-health care organizations. Health care settings are complex environments due to the nature of activities and assessments performed, and the activities, interactions and behaviors of health care providers (HCP), with clients and visitors within the health care setting. This increases the likelihood of direct and indirect contact with infectious agents and contaminated surfaces, many of which may constitute a risk to HCP, clients, and visitors in the environment.
- 1.2 Some of these infectious agents can survive for extended periods of time on environmental surfaces. Clients using these same surfaces may also shed microorganisms into the health care environment and these surfaces may subsequently be touched by other health care providers and clients.
- 1.3 Health care professionals (HCP) may also inadvertently contaminate surfaces when performing assessments or procedures. Therefore as a result of cross contamination, health care facilities may contribute to the spread of infections.
- 1.4 Environmental cleaning disrupts the transfer of infectious agents to HCPs' hands and to other clients.
- 1.5 Therefore, when selecting items for the health care facility all finishes and surfaces of all equipment, furnishings, floors, ceiling, walls, need to be carefully considered for ease of cleaning. There also needs to be a review process in place to identify when items must be discarded, when they can no longer be cleaned due to permanent damage or general wear and tear.

2 POLICY

- 2.1 When choosing or replacing furnishings, equipment, and finishes in a health facility, infection prevention and control principles (IPAC) must be considered. In addition, staff from Occupational Health and Safety must be involved in the decision-making process regarding the best and most practical choices for these items.

3 PROCEDURE

3.1 Surfaces in the Health Care Centre/Nursing Station

- 3.1.1 When choosing furnishings, equipment, and selecting surfaces in client areas seek IPAC expertise when choosing materials
- 3.1.2 The following criteria should be included in the decision-making process:
 - 3.1.2.1 Ease of maintenance and repair:
 - 3.1.2.1.1 Fabrics that are permeable, or vinyl fabrics that are easy to tear allow for entry of infectious agents and cannot be properly cleaned
 - 3.1.2.1.2 Items that are scratched or chipped allow for accumulation of infectious agents and are more difficult to clean and disinfect
 - 3.1.2.2 Cleanable:
 - 3.1.2.2.1 Furnishings, walls and equipment must be able to withstand cleaning and be compatible with hospital-grade detergents, cleaners and disinfectants
 - 3.1.2.2.2 Upholstered furniture in care areas must be covered with fabrics that are fluid-resistant, non-porous and can withstand cleaning with hospital-grade disinfectants
 - 3.1.2.3 Inability to support microbial growth:
 - 3.1.2.3.1 Materials that hold moisture are more likely to support microbial growth
 - 3.1.2.3.2 Materials such as metals and hard plastics are less likely to support microbial growth
 - 3.1.2.4 Surface porosity:
 - 3.1.2.4.1 Infectious agents have been shown to survive on porous fabrics such as cotton, cotton terry, nylon and polyester, and on plastics such as polyurethane and polypropylene
 - 3.1.2.4.2 Porous upholstered furniture and furnishings should not be used in care areas
 - 3.1.2.5 Absence of seams
 - 3.1.2.5.1 Seams may trap bacteria and are difficult areas to clean

NOTE: Surfaces treated with antimicrobials are not recommended as their usage is not currently supported by research

3.2 Walls and Flooring In the Health Facility

3.2.1 All wall treatments and floor finishes in clinical areas should be chosen with cleaning in mind especially where contamination with blood or body fluid/substances is a possibility. The followed surface characteristics should be considered:

- 3.2.1.1 Ease of maintenance/repair and cleanability
- 3.2.1.2 Resistant to microbial spread and growth
- 3.2.1.3 Smoothness (non-porous)
- 3.2.1.4 Good sound absorption/acoustics
- 3.2.1.5 Inflammability (Class 1 fire rating)
- 3.2.1.6 Durability
- 3.2.1.7 Sustainability
- 3.2.1.8 Presence of low levels of volatile organic compounds (VOC) to reduce off-gassing
- 3.2.1.9 Low smoke toxicity
- 3.2.1.10 Initial and life cycle cost-effectiveness
- 3.2.1.11 Slip-resistance
- 3.2.1.12 Ease of installation, demolition and replacement
- 3.2.1.13 Seamlessness
- 3.2.1.14 Resilience and impact resistance non-toxic and non-allergenic
- 3.2.1.15 Water impermeable in areas where water or dampness can occur

3.3 Cloth and Soft Furnishing in the Health Facility

3.3.1 Cloth furnishings have been shown to harbour higher concentrations of fungi than non-porous furnishings. When they are replaced due to wear, soil or inability to clean, an alternative to cloth surfaces should be selected.

3.3.2 Cloth items such as curtains, pillows, mattresses and soft furnishings should:

- 3.3.2.1 Be seamless where possible or have double-stitched seams
- 3.3.2.2 Be easily accessed for cleaning
- 3.3.2.3 Have removable covers for cleaning
- 3.3.2.4 Have foam cores that are resistant to mould
- 3.3.2.5 Not be damaged by hospital grade detergents and disinfectants

- 3.3.2.6 Be quick-drying
- 3.3.2.7 Be maintained in good repair
- 3.3.3 A regular cleaning regimen should be in place. Any item that is visibly contaminated with blood or body fluids must be immediately cleaned and disinfected or removed from the setting.
- 3.3.4 The coverings on soft furniture must be cleanable with a hospital-grade disinfectant.
- 3.3.5 Replace worn, stained or torn items as soon as possible.
- 3.3.6 Do not use upholstered furniture and other cloth or soft furnishings that cannot be cleaned in care areas.
- 3.4 Carpeting in the Health Facility
 - 3.4.1 The choice of whether to use carpeting in a particular care areas should be based upon the likelihood of spills of blood and body substances, contaminated liquids or alcohol-based hand rub which could pose a flammability risk.
 - 3.4.2 If carpeting is used in other areas, the following must be considered:
 - 3.4.2.1 Carpet must be cleanable with hospital-grade cleaners and disinfectants
 - 3.4.2.2 Carpet tiles have the advantage of being easily removed, discarded and replaced
 - 3.4.2.3 Water-resistant backing allows for better drying of carpet with reduced likelihood of mould accumulation under the carpet. If carpeting is still wet after 48 hours, the risk of mould increases. **Carpeting that remains wet after 72 hours must be removed.**
 - 3.4.2.4 The type of material may influence the efficacy of disinfectants
 - 3.4.2.5 Trained staff and specialized cleaning equipment and procedures are required for adequate carpet cleaning
 - 3.4.2.6 Carpet age – older carpets accumulate deep dust which becomes surface and airborne dust after activity on the carpet.
- 3.5 Plastic Coverings Health Facility
 - 3.5.1 Safe practices for plastic coverings, including mattress covers and pillow covers, include:
 - 3.5.1.1 Clean plastic coverings on a regular basis
 - 3.5.1.2 Inspect for damage:
 - 3.5.1.2.1 Replace mattress and pillow covers when torn, cracked as well as when there is evidence of liquid penetration.
 - 3.5.1.2.2 The mattress or pillow should be replaced if it is visibly stained.

- 3.5.2 Clean plastic coverings (e.g. mattress covers, keyboard covers) with hospital-grade disinfectants that are compatible with the covering. (Check manufacturer's instructions for cleaning).

3.6 Electronic Equipment in the Health Facility

- 3.6.1 When purchasing new equipment, only keypads, mouse and monitoring screens that may be easily cleaned and disinfected should be considered and should be compatible with cleaning and disinfecting products.
- 3.6.2 Plastic skins may be effective to cover computer keyboards, allowing ease of cleaning. (See above).
- 3.6.3 Electronic equipment that cannot be adequately cleaned, disinfected or covered to allow appropriate cleaning should not enter the immediate care environment.

4 REFERENCES

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