



## Cleaning and disinfecting environmental surfaces in health care: Toward an integrated framework for infection and occupational illness prevention (AJIC 43, 2015 424-34)

### Abstract

Hospitals and healthcare institutions are considering new innovative technologies such as Accelerated Hydrogen Peroxide® (AHP®) that achieve germicidal efficacy without compromising the safety of hospital staff in an effort to win the war against microbes. Health care associated infections (HAIs) are of particular concern to infection prevention professionals because many of these are caused by rapidly developing strains of multidrug-resistant organisms (MDROs) which can cause serious illness in both patients and health care workers. Therefore, cleaning and disinfecting are important parts of a comprehensive infection prevention strategy. While demand for more effective cleaning and disinfecting is growing, there is also increasing evidence that exposure to cleaning and disinfecting agents can result in acute and chronic health effects, particularly respiratory illness.

### Background

Currently, there has been limited collaboration between the disciplines of infection prevention and occupational health to coordinate and optimize efforts to provide effective cleaning and disinfecting practices for HAI prevention while protecting the respiratory health of healthcare workers, patients, volunteers, visitors and other building occupants. This lack of coordination has led to gaps in knowledge and practice guidelines.

### Objectives

This article provides a multidisciplinary summary of current knowledge and knowledge gaps that can impact professionals, workers, researchers, and policymakers involved in infection prevention, control, and occupational health and safety in all types of health care settings.

### Methods

The Cleaning and Disinfecting in Healthcare (CDHC) Working Group was assembled in accordance with the goals of the National Occupational Research Agenda (NORA), a partnership program to stimulate innovative research and improve workplace practices. The CDHC Working Group included >40 participants from four countries.

### Results

#### **Effectiveness of Cleaning and Disinfecting Products and Procedures**

The Working Group determined that enhanced guidance and research is needed to understand:

- The contribution of surface contamination to the risk of infectious diseases among health care workers and patients.

- Which types of chemicals and products to use on different types of equipment and surface materials is needed.
- The effectiveness and safety of newer chemical disinfectants and research on the impact of biofilms or surface soil and its ability to interfere with the efficacy of disinfectants applied to environmental surfaces.
- Whether the conditions under which a 1-step process using a combined detergent-disinfectant product can be as effective for reducing contamination on surfaces as a 2-step process in which cleaning is followed by disinfection.
- The extent to which thorough disinfecting practices that do not follow contact time recommendations can be effective for infection prevention.
- The hazards of environmental surface cleaning and disinfecting and the effectiveness of potential safer alternatives.

### **Safer Alternatives**

It was revealed by the Working Group that improved guidance is needed to:

- Assist healthcare institutions in selecting from a range of effective and safe products and practices.
- Effectively engage all levels of staff in a health care organization in the selection and safe use of cleaning and disinfecting products, including regular training and evaluation of the training.
- Create new communication strategies to reach healthcare workers with information regarding potential health effects of cleaning and disinfecting strategies.
- Create standardized criteria to define green cleaning, green cleaning health effects evaluation, green cleaning infection prevention evaluation, nonchemical technologies evaluation for cleaning and disinfection and prevention through design implementation.

### **Conclusion**

There is a desire and a necessity for a more integrated approach to infection and occupational illness prevention. Professional organizations in infection prevention and occupational health are well-positioned to take leadership in this effort by establishing joint committees and engage with funders to set priorities and a time table to move the research and improved practice guidance forward.

### **Implications for AHP**

We share in the understanding of the need for additional information regarding environmental cleaning and disinfection, and are invested in the creation of clinical studies and educational tools in order to

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reduce these knowledge gaps. As the healthcare industry continues to push for greener and less toxic cleaners and disinfectants, we invest in the incessant development of our AHP technology, ensuring it will continue to be recognized as an industry leader that remains to be supported by its pillars of strength.

### **AHP Disinfectants are One-Step Disinfectant Cleaners**

- AHP has proven cleaning efficiency resulting in lower costs and faster results as well as added confidence that disinfection can occur

### **AHP Disinfectants provide the perfect balance between safety and efficacy**

- AHP is designed to be easier on employees and occupants resulting in protocol compliance
- AHP provides a HMIS rating of "0", meaning it has been proven to be non-toxic, non-irritating to eyes and skin and non-skin sensitizing and does not require the use of personal protective equipment to handle

### **AHP Disinfectants are environmentally sustainable**

- AHP's active ingredient, hydrogen peroxide, breaks down into water and oxygen leaving no active residues
- AHP is formulated to ensure that it will not negatively impact indoor air quality and has been approved as an asthma-safe product

### **AHP Disinfectants have realistic contact times**

- Short contact times ensure surfaces remain wet for the required contact time, providing comfort and confidence that disinfection has occurred
- AHP has been proven through peer reviewed studies to reduce HAIs

### **AHP Disinfectants are compatible**

- AHP formulations are tested to ensure compatibility that preserve your investments in equipment, furniture and building surfaces by reducing corrosion and wear

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