

# Optimizing Cleaning Efficacy Using the WATCH Principle

*by Ron Aubé*

So what is **cleaning**? Webster defines cleaning as: Make something or someone free of dirt, marks, or mess, esp. by washing, wiping, or brushing.

In its simplest form, frictional cleaning or scrubbing is the best way to physically remove dirt, debris and microorganisms. To optimize results, sanitation workers should follow the proven W.A.T.C.H. principle:

W ater  
A ction  
T ime  
C hemical  
H eat

**W**ater is the universal solvent and is the most important ingredient in the cleaning process. It is important for the cleaning staff to use clean and sanitary water and substitutes cleaning solution often to prevent adding soiled water to surfaces or objects. Make source of water used for the chemical solution has low bacterial count – ideally, a purified source of water should be used for sensitive areas especially in the healthcare sector. Other factors to consider: water hardness; turbidity; pH.

**A**ction in the cleaning process refers to any form of frictional cleaning, scrubbing, high pressure washing, brushing and other similar mechanical actions.

**T**ime is an important factor and it relates primarily to the amount of dwell time the chemical affects soil on a surface. Similarly, a sufficient length of time is necessary to remove dirt and soil prior to disinfecting.

**C**hemical is the catalyst in the cleaning cycle; it is the ingredient that helps remove soil, biofilms, proteins, microbial residues and other contaminants. Organic soils typically are dissolved and dispersed using alkaline cleaners, while inorganic deposits are dealt with utilizing acidic cleaners. Biocides, also called sanitizers or disinfectants, are used in the final step of the cleaning process to provide the microbial “killing” activity and insure a bacteria-free environment.

**H**eat, while not always an essential parameter in the cleaning process is very helpful (and sometimes critical) to provide the cleaning punch necessary for the surface-active agents (surfactants) to dissolve and disperse soils in a heavily contaminated environment. In Cleaning-In-Place (CIP) system, heat is a crucial element of the process, especially when in the presence of high-temperature application such as pasteurization, HTST, and other applications where extremely hot water is required.

Tips for effective cleaning:

- Cleaning is required prior to any disinfection process because dirt, debris and other materials can decrease the effectiveness of many chemical disinfectants.
- Cleaning products should be selected on the basis of their use, efficacy, safety and cost.
- Cleaning should be performed from the least soiled areas to the most soiled areas and from high to low areas, so that the dirtiest areas and debris that fall on the floor will be cleaned up last.
- Dry sweeping, mopping and dusting should be avoided to prevent dust, debris and microorganisms from getting into the air and landing on clean surfaces. Airborne fungal spores are especially

important as they can cause fatal infections in immunosuppressed patients.

- Mixing (dilution) instructions should be followed when using disinfectants. (Too much or too little water may reduce the effectiveness of disinfectants).
- Cleaning methods and written cleaning schedules should be based on the type of surface, amount and type of soil present and the purpose of the area.
- Routine cleaning is necessary to maintain a standard of care. Schedules and procedures should be consistent and posted.

NOTE: *The process of physical cleaning of environmental surfaces using detergent (soap), water, and friction is the critical step required prior to surface disinfection. The combination of the cleaning and disinfection processes is designed to remove and kill vegetative microorganisms on surfaces. Disinfection will not be effective in the presence of dirt, blood, or other bio burden. The goal of the cleaning step is to remove bio burden and with it, the majority of pathogens. Disinfection is designed to be a synergistic and somewhat redundant step to ensure comprehensive removal/kill of pathogens on surfaces.*

- The Center for Diseases Control and Prevention’s *Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008*, states that, “noncritical surfaces (e.g., dialysis bed or chair, countertops, external surfaces of dialysis machines) should be disinfected with an EPA-registered disinfectant unless the item is visibly contaminated with blood. In that case, an EPA-registered tuberculocidal agent with specific label claims for HBV and HIV should be used.”<sup>1</sup> the commonly used disinfectant for blood contaminated environmental surfaces is a 1:100 dilution of bleach (500–600 parts per million [ppm] free chlorine).
- The environmental surfaces in HD settings at highest risk of transmitting germs are described using different terms. From the perspective of the patient, the term “patient zone” is used to refer to the surfaces, which the patient can touch, or can touch the patient, including the chair, armrests, bedside table top/counter, and drawer/cupboard handles. From the HCW or dialysis staff perspective, the term “high touch surfaces” is used to describe surfaces which are frequently touched by HCWs. These include the same surfaces in the patient zone in addition to others such as the exterior surfaces of the HD machine, computer screens, and keyboards. Cleaning and disinfection of these surfaces (patient zone/high touch surfaces) should be performed between all patient treatments in order to prevent spread of environmentally transmitted pathogens. Microorganisms can live for varying periods of time in the environment. MRSA has been documented as viable at 38 weeks on external sterile packaging and VRE at 6 months on a wheelchair. HBV can survive for 7 days in dried blood.
- ❖ Perform hand hygiene before and after cleaning the patient station.
- ❖ Wear protective latex gloves when using cleaner/disinfectants.
- ❖ Use one set of cleaning cloths or disposable germicidal wipes for each patient station.
- ❖ Use microfiber cloths and mops if possible (more effective cleaning products than regular cotton cleaning cloths).
- ❖ Clean all frequently touched or “high touch” surfaces in the “patient zone” between patient treatments (chair, armrests, counters, drawer/cupboard handles, exterior surface of the HD machine)—please note that some of these high touch surfaces may be right outside the patient zone (e.g., computer stations), and must also be cleaned between patient treatments.
- ❖ Clean the top of an object first and work down to avoid soiling surfaces just cleaned.
- ❖ If using cleaning cloths instead of disposable germicidal wipes:
- ❖ When using a disinfectant cleaner, wet the surface, use friction to clean, and allow to air dry.
- ❖ Fold the cleaning cloth in a series of squares to provide a number of potential cleaning surfaces. A wadded cloth does not clean efficiently.
- ❖ Replace cloth as needed. More than one cloth may be required for a patient station.

- ❖ Never use the same cleaning cloth for more than one patient unit.
- ❖ Never re-dip used cloth into clean disinfectant solution.

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