



Where innovation
and knowledge
are our most
important products.

SPRAY-WAIT-WIPE

THE PROPER METHOD TO APPLY SURFACE DISINFECTANTS TO MEDICAL, DENTAL AND SURGICAL EQUIPMENT, AND FIXTURE SURFACES Jack Wagner, B.Sc., MPH

There is an old saying, "Anything worth doing, is worth doing right."

All too many advertisements and even journal articles regarding the use of disinfection products for use on medical, dental, and surgical surfaces inappropriately refer to following a "Spray-Wipe-Spray" method of application as opposed to the more appropriate "Spray-Wait-Wipe" method for the disinfection of surfaces.

Why anybody would want to leave a toxic chemical, whose very purpose is to kill living cells, on a surface that will make direct contact with skin cells is certainly a mystery. Applying a liquid disinfectant to a surface and then leaving it to air dry leaves behind the toxic components within the formula that's very purpose is to kill living cells. Residual chemicals left on surfaces can produce untoward effects to humans, animals, and even equipment surfaces.

In addition to the potential toxic effects of residual chemicals left on surfaces, allowing chemical disinfectants to remain on certain equipment surfaces can cause deleterious effects to the device including the clouding or crazing of plastics and the corrosion of certain metals. Serious incidents involving injury and even death of patients caused by equipment failure during use has been related to inappropriate cleaning and disinfection practices. For that very reason alone, once the chemical disinfection process is completed (that is at the end of the required contact time) the chemical solution along with the freshly killed microorganisms should be thoroughly rinsed or wiped from the surface.

THE "SPRAY - WAIT - WIPE" METHOD OF APPLICATION

SPRAY

An appropriate disinfection process mandates thoroughly wetting the target surface with the disinfectant solution. Application of the disinfectant from a spray bottle provides the best method, bar none, of applying the disinfectant for several reasons. First, it always provides fresh, unadulterated solution to the target area. Second, it forces solution into reservoirs such as cracks, crevices, and corners where soil and microorganisms can hide and flushes them out into the open. Third, spraying can provide as much solution as one needs to thoroughly drench the area with a sufficient amount of the solution to keep the surface wet long enough to do the job. The newer, large droplet type sprayers will produce the correct spray pattern so as to not produce an airborne mist that can be aspirated during application. Larger droplets are simply too heavy to remain airborne.

Pre-moistened, commercially available wipes may be suited for routine damp dusting and low-level sanitation, but certainly not for the stringent cleaning and disinfection required of medical, dental, and surgical surfaces simply because they do not, and cannot, penetrate into areas that a pressurized spray from a spray bottle can reach. Not to mention, pre-moistened wipes simply cannot lay down

enough solution to keep a surface wet long enough to produce the required antimicrobial action.

WAIT

Unlike using ordinary household products, healthcare facilities must disinfect against a broad range of environmentally transmitted pathogens. Not only is the selection of an appropriate disinfectant important, but the method by which it is used is just as important.

The next step after thoroughly wetting the surface is to wait. Keep in mind that all disinfectant formulas have a specified contact waiting time before the solution is rinsed or removed from the surface. The specified waiting time is important because it takes time for the solution to soak through and penetrate the cell wall of the microorganism. Killing living microorganisms with a chemical surface disinfectant takes time. Actual contact times can range anywhere from 3 minutes to 20 minutes depending on the individual product formulation. The appropriate wait time for any one particular disinfectant solution is the longest length of time listed on its product label for the destruction of all of the listed microorganisms. For example, if a particular product label states that it takes only seconds to kill some viruses and ten minutes to kill mycobacterium (tb), then the minimum required contact time for that particular chemical disinfect to provide the required level of 100 percent disinfection for a health-care facility is the full ten minutes.

WIPE

At the end of wait time, the solution along with it all of the freshly killed microorganisms should be thoroughly rinsed or wiped from the surface using a clean cloth or paper towel. Never leave chemical disinfectants on surfaces to air dry.

CONCLUSION

Disinfectants intended for use in hospitals and healthcare facilities should be fast acting and non-corrosive to all equipment surfaces including plastics, metal, hard rubber, vinyl, etc. It should be easy to use and 100 percent effective against environmentally transmitted pathogenic bacteria, viruses, mycobacteria (tb), and fungus. Using one that contains surfactants and good cleaning agents will also assist in the physical removal of certain microorganisms such as spores that may have escaped the disinfection process. Last, reading and following the label instructions and using the "Spray-Wait-Wipe" method is the best way to guarantee the germicide will accomplish the objective to provide a clean and disinfected surface, one that will not harbor disease-causing microorganisms that can be spread to patients, staff members, and even carried home to family members at the end of the work day.