SIMPLIFYING INFECTION CONTROL:
Surface Disinfection and Protective Barriers
**Surface Disinfectants**

**What you need to know:**

The EPA has a list of registered disinfectants (List N) that meet its criteria for use against SARS-CoV-2, the virus that causes COVID-19. EPA expects listed products to work, as most have proven data that their product kills stronger viruses.

- Many disinfectants are sold under a different name, but are the same product and have the same EPA number.
- Surface disinfectant products on List N have not been tested specifically against SARS-CoV-2 (the virus that causes COVID-19), but may carry an emerging viral pathogen claim.

### Surface disinfection: The facts

#### Do surface disinfectants work?

- Surface disinfectants are very effective when used properly.
- Instructions for use must be read and followed for a product to be effective as claimed.
- Note the contact time the surface should remain wet. The disinfectant has to have time to kill the virus indicated.
- Intermediate-level disinfectants are strong enough to kill mycobacteria as well as all of the less resistant microorganisms, including viruses.

#### What level of disinfectant is needed?

<table>
<thead>
<tr>
<th>HIGH RISK</th>
<th>Intermediate-level (hospital disinfectant with a tuberculocidal claim (TB))</th>
<th>Low-level (hospital disinfectant)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What it kills:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MYCOBACTERIA</td>
<td>• Mycobacterium tuberculosis</td>
<td>✔</td>
</tr>
<tr>
<td>NONLIPID OR SMALL VIRUSES</td>
<td>• Polio virus</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Coxsackie virus</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Rhinovirus</td>
<td>✔</td>
</tr>
<tr>
<td>FUNGI</td>
<td>• Aspergillus</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Candida</td>
<td>✔</td>
</tr>
<tr>
<td>VEGETATIVE BACTERIA</td>
<td>• Staphylococcus species</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Pseudomonas species</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Salmonella species</td>
<td>✔</td>
</tr>
<tr>
<td>LIPID OR MEDIUM-SIZED VIRUSES</td>
<td>• Human immunodeficiency virus</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Herpes simplex virus</td>
<td>✔</td>
</tr>
<tr>
<td></td>
<td>• Hepatitis B and C</td>
<td>✔</td>
</tr>
<tr>
<td>CORONAVIRUS including SARS-CoV-2 (COVID-19)</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

Adapted from CDC Guidelines for Infection Control in Dental settings
### ABCs of Surface Disinfection:

**A** Clean it First! Any visible debris **must** be cleaned from the surface before disinfecting.

**B** If no blood or OPIM (Other Potentially Infectious Material) is present, disinfect using a low- or intermediate-level of disinfectant. **Surface must stay wet** to be effective against the given microorganism. If your product evaporates before the listed contact time, it will not be effective.

**C** If a surface has visible blood or OPIM, disinfect with an intermediate-level product. Adhere to the same principle: Surfaces must be wet for the entire contact time to be effective.

---

### Classifying areas of the dental practice for disinfection

<table>
<thead>
<tr>
<th>AREAS</th>
<th>TYPES OF SURFACES</th>
<th>EXAMPLES</th>
<th>DISINFECTION METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATORY</strong></td>
<td>Clinical Contact: Surfaces that can be contaminated by spray, spatter or aerosols generated during dental procedures, or by contact with contaminated instruments, objects, gloves or ungloved hands</td>
<td>Light handles, chair controls, equipment controls, radiography equipment, operatory monitors, keyboards and mouse, drawer handles, faucet handles, countertops, pens, door knobs</td>
<td>EPA-registered intermediate- or low-level disinfectant, as indicated</td>
</tr>
<tr>
<td><strong>INSTRUMENT REPROCESSING AREA</strong></td>
<td>Surfaces that <strong>do NOT come into direct contact</strong> with patients but do contain contaminated instruments and patient items that are a high risk for personnel, but not for patients</td>
<td>Cabinet handles, faucet handles, sink, counter top, trash receptacles, exterior surfaces of sterilizer, ultrasonic and instrument washer</td>
<td>Daily with an EPA-registered intermediate- or low-level disinfectant, as indicated. For the exterior surfaces of equipment, perform when soiled and follow the manufacturer’s instructions.</td>
</tr>
<tr>
<td><strong>IN-OFFICE LABORATORY</strong></td>
<td>Surfaces that <strong>do NOT come into direct contact</strong> with patients but may be in contact with contaminated impressions and patient appliances, if not first disinfected in the operatory</td>
<td>Lab handpiece, vacuform, model trimmer, drawer handles, faucet handles</td>
<td>Intermediate- or low-level disinfectant</td>
</tr>
<tr>
<td><strong>RECEPTION AREA</strong></td>
<td>Surfaces that <strong>do come into direct contact</strong> with patients</td>
<td>Countertops, pens, refrigerator, coffee maker, TV remote</td>
<td>Intermediate- or low-level disinfectant</td>
</tr>
<tr>
<td><strong>REST ROOM</strong></td>
<td>Surfaces that <strong>do come into direct contact</strong> with patients</td>
<td>Sinks, faucets, door handles</td>
<td>Intermediate- or low-level disinfectant</td>
</tr>
<tr>
<td><strong>HOUSEKEEPING SURFACES</strong></td>
<td>Surfaces that are not clinical contact surfaces, do not come into direct contact with patients, and are low-risk for cross contamination</td>
<td>Cabinetry, sinks, blinds, floors, walls, ceiling</td>
<td>Wash with detergent and water or use an EPA-registered disinfectant/detergent depending on the nature of the surface, level and type of contamination</td>
</tr>
<tr>
<td><strong>KITCHEN AND/OR MEETING ROOM</strong></td>
<td>Surfaces that <strong>do NOT come into direct contact</strong> with patients, patient-care items or contaminated PPE</td>
<td>Sinks, faucets, door handles, utensils, countertops, pen, refrigerator, coffee maker</td>
<td>Intermediate- or low-level disinfectant</td>
</tr>
</tbody>
</table>
Notes on Cleaning and Disinfection:

CLEANING:
- Some products are cleaners and some products are disinfectants. Other products are a combined cleaner-disinfectant.
- In order for a product to be used for both cleaning and disinfection the product must contain a detergent for cleaning.

DISINFECTION:
- Always wear appropriate PPE when cleaning and disinfecting clinical contact surfaces.
- Check the TB kill time (or, for low-level disinfectant, the HIV and HBV kill time). If the product has a TB kill time, all lower-resistance microorganisms will be killed. (See chart on Page 2)
- For dental chairs (upholstery), always use a cleaner/disinfectant recommended by the chair manufacturer to help avoid damage to the surface.
- Disinfection requires that a surface already be clean.
- One-step products can be used as a one-step ONLY if there is no visible debris on the surface.
- Make sure you use enough product. Surface should remain wet for the contact time and air dry to properly disinfect.
- The number of wipes needed to disinfect clinical contact areas should be listed on the label.
- If you cannot find an EPA registration number the product is not EPA registered and should not be used.
- Chemical sterilant/high-level disinfectant (i.e., cold sterilants) should not be used on clinical contact surfaces.

Ideal features of a disinfectant
- Broad spectrum: Widest possible antimicrobial spectrum
- Fast-acting: Rapidly lethal action on all microorganisms
- Prolonged effect on treated surfaces
- Surface compatibility: Should not compromise integrity of dental equipment and metallic surfaces and should not cause the degradation of upholstery, rubber, plastics, or other materials
- Non-toxic, non-allergenic, eco-friendly
- Odorless
Protective Barriers

KEEPING CLINICAL CONTACT SURFACES SAFE

Using barrier protection in practice

Protective barriers can be used in place of surface disinfectant. Barriers should not be wiped or sprayed with disinfectant, as they are single-use disposable.

- Single-use, disposable FDA-cleared barriers are recommended for use for a single patient only and must then be discarded.

Advantages of single-use, disposable barriers:

- Reduces exposure to chemicals.
- Reduces the need for cleaning and disinfection.
- Protects areas that are hard to access for cleaning and disinfection.
- Protects areas that may be damaged or discolored by disinfectants.
- Using barrier protection on upholstery when possible reduces cumulative long-term exposure of the upholstery to cleaner/disinfectant.

If surfaces are covered with a protective barrier, disinfection is usually not necessary after removing the barrier. Cleaning and disinfecting of the underlying surface is still necessary if visible contamination is seen on clinical contact surface after the protective barrier is removed.

Q & A

Can we use dry cleaning bags to cover our chairs, X-ray heads, and headrests?

No. Dry cleaning bags and trash bags are not FDA-cleared. In studies at DENTAL ADVISOR, it was shown that these do not offer adequate protection and are permeable. Choosing a reliable barrier provides protection from contamination.

Microbiology testing at DENTAL ADVISOR

Over the years DENTAL ADVISOR has studied the effectiveness of surface disinfectants and barriers.

For more information visit dentaladvisor.com