



**College of Opticians of Alberta**

**Infection Control in the Opticians' Practice**

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# Infection Control in the Opticians' Practice

## Introduction

As an optician, it is your responsibility to provide safe and ethical care to the public in compliance with the standards of your profession.

There is a degree of risk to practitioners, support staff and patients from cross-infection of systemic diseases (e.g. HIV, TB, tetanus, meningitis, syphilis, herpes simplex, hepatitis B and C, adenovirus and Chlamydia infection) via skin contact, blood, other body fluids and instruments. These concerns have led to increased awareness of the need to practice strict infection control in clinical work. HIV has been isolated in the tear film it is considered unlikely that this would lead to a risk of cross-infection between patient and practitioner. (See below)

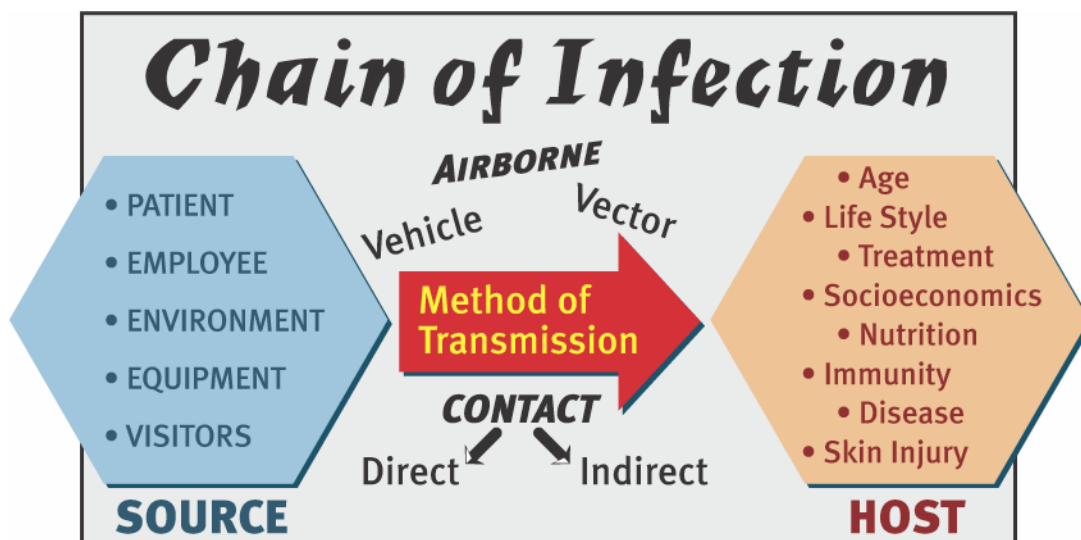
## Recommended Advice

**Immunization** - All practitioners and support staff should be up to date with immunizations against infectious diseases e.g. tetanus, polio, hepatitis B and tuberculosis.

**Barrier Techniques** - All cuts and abrasions should be covered with waterproof sticking plasters. When there is a risk of infectious diseases, surgical gloves should be worn and discarded after each use.

## How Infection Spreads

The chart below provides information on the potential spread of infection in an optical office.



## Hand Washing

Every consulting room should have a sink and clinicians should thoroughly wash their hands between patients and after certain procedures as necessary. Hands should be dried with disposable paper towels or fresh cloth towels.

The most cost effective and the easiest way of preventing the transmission of infection is hand washing? This simple procedure reduces the incidence of health-care associated infections.

### When Should My Hands Be Washed?

- When hands are visibly soiled
- Before fitting or adjusting a patient's eyeglasses
- After fitting or adjusting a patient's eyeglasses
- Before contact with a patient who wears contact lenses
- After contact with a patient who wears contact lenses
- Before handling any contact lens
- After handling a contact lens that has been in a patient's eye
- Between contact with different patients if not just performed
- Before handling, preparing or eating food
- After handling money or other items that may be contaminated
- Immediately, if your skin is contaminated or and injury occurs
- After personal bodily functions, such as using the toilet or blowing one's nose

Consideration is given in the medical profession to three levels of hand washing:

**Social** - Use of liquid or bar soap covers most needs.

**Hygienic** - Use of an antiseptic hand cleanser.

Indications: Before and after contact with any patient

After contact with contaminated articles

Before and after dealing with high risk patients

**Surgical scrub** - Not normally required in dispensing/ophthalmic practice.

## Proper Hand Washing Technique

The most important thing to remember is that in order to be effective, hand washing technique must be performed properly and thoroughly. No matter what agent is used, the essential components of proper hand washing are:

- wet your hands first;
- apply cleaner;
- rub all aspects of your hands vigorously ,including the palms and backs of your hands, thumbs, fingers, nails and wrists. This should be done for at minimum **10 seconds up to 20 seconds**. Then **rinse** and **dry** your hands properly. It is best to turn off the tap with a paper towel after you dry.

Soaps, antimicrobial agent and extra hand washing can be hard on your hands. A very important aspect of infection control is skin integrity. In order to keep your skin healthy dry your hands well and use lotions as needed. Contact lens practitioners must be careful to use appropriate lotions.



You may visit [Clean Hands, Good Health](http://www.ahsc.health.nb.ca/cleanhandsahsc/cleanhandsworlkingahsc.html) for a video tutorial on hand washing:  
<http://www.ahsc.health.nb.ca/cleanhandsahsc/cleanhandsworlkingahsc.html>

## Levels of Cleaning, Disinfection and Sterilization

**Cleaning:** All items of equipment and appliances need regular cleaning and maintenance to ensure maximum safety. Detergents and ultra-sonic cleaners are frequently used for cleaning purposes to remove debris likely to support micro-organisms.

**Disinfection:** Reduces the number of vegetative micro-organisms, but is not necessarily fully effective against bacterial spores or viruses. This is achieved by boiling, pasteurization or chemical means.

**Sterilization:** Completely kills or removes all types of micro-organisms and spores. Autoclaving is the preferred method, which involves three stages: cleaning, autoclaving, and aseptic storage.

In optical practice, not all equipment needs to be sterile before use. The following is a general guideline:

- **Sterile:** equipment or appliances which are invasive or come into contact with damaged skin or mucous membrane.
- **Disinfect:** equipment in contact with healthy body surfaces.
- **Clean:** general instrumentation or working areas and surfaces.

It is up to you to classify the tools and equipment you use in your practice and to determine what level of disinfection is necessary. When using any of the above methods, use safety precautions. Refer to manufacturers' instructions and labels so that you have knowledge of the products being used.

## Contact Lens Solutions

Contact lens opticians must ensure that all contact lens care products used during the examination are carefully maintained and discarded prior to their expiry date. Recent studies have demonstrated that varying levels of contamination exist in the plastic bottles in which contact lens solutions are stored. Clinicians should note when these bottles are opened and discard them in accordance with guidelines (normally 28 days after opening or as determined by manufacturers). All solutions run the risk of infection during the time that caps are removed, consequently caps should be replaced immediately after each use.

## Contact Lens Practice

All contact lens opticians should have the equipment considered necessary to carry out safe contact lens fitting. The contact lens optician has the responsibility of ensuring that his/her equipment is well maintained. All surfaces used for preparation prior to fitting or aftercare should be disinfected regularly. All containers used for temporary storage, while the patient is undergoing an examination, should be cleaned and disinfected before and after use.

For further information you may visit the following websites:

*Health Canada's Infection Control Guideline: Hand Washing, Cleaning, disinfection and Sterilization in Health Care* at:

<http://www.hc-sc.gc.ca/main/lcdc/web/publicat/ccdr/98pdf/cdr24s8e.pdf>

The BC Centre for Disease Control also has a very practical summary entitled *Selection and Use of Disinfectants* which may help you choose the best disinfectant for your practice.

[http://www.bccdc.org/downloads/pdf/epid/reports/CDManual\\_DisinfectntSelectnGuidelines\\_sep2003\\_nov05-03.pdf](http://www.bccdc.org/downloads/pdf/epid/reports/CDManual_DisinfectntSelectnGuidelines_sep2003_nov05-03.pdf)

## Spaulding Classification

Category	Level of Disinfection	Examples
<b>Critical</b> ➤ Items that come in contact with the blood stream or sterile body tissues	➤ Sterilization	<ul style="list-style-type: none"> <li>• Surgical instruments</li> <li>• Acupuncture needles</li> <li>• Foot care instruments</li> </ul>
	➤ <b>High Level</b> Disinfection when sterilization is not possible	<ul style="list-style-type: none"> <li>• Internal scopes</li> </ul>
<b>Semi Critical</b> ➤ Items that come in contact with mucous membranes or non-intact skin	➤ High Level Disinfection (HLD)	<ul style="list-style-type: none"> <li>• Contact lenses</li> <li>• Reusable Peek Flow meters</li> <li>• Mouthpieces</li> </ul>
	➤ <b>Intermediate Level</b> Disinfection (ILD)	<ul style="list-style-type: none"> <li>• Thermometers</li> <li>• Ear syringe nozzles</li> </ul>
<b>Non-critical</b> ➤ items that come in contact with intact skin	➤ Intermediate Level Disinfection (ILD)	<ul style="list-style-type: none"> <li>• Examination tables</li> <li>• Stethoscope</li> <li>• Blood pressure cuff</li> <li>• Skin probes</li> </ul>
➤ items that do not come in contact with the patient's skin	➤ <b>Low Level</b> Disinfection (LLD)	<ul style="list-style-type: none"> <li>• Furnishings</li> <li>• Dishes</li> <li>• Scales</li> </ul>

## Selecting Disinfectants

Low level Disinfectants	Intermediate Level Disinfectants	High Level Disinfectants	Sterilization
Phenolics *careful, can be toxic to infants	Alcohols 60-90%	Boiling for more than 20 minutes	Exposure to steam at high temperature (autoclave)
Quaternary Ammonium Compounds	Hypochlorites household bleach 1:100 dilution	Ortho-phthalaldehyde	Glutaraldehyde 10 hours
	Iodines and Iodophors		Glutaraldehyde for 20 minutes
3% Hydrogen peroxide		Hypochlorites household bleach 1:50 dilution	Hydrogen peroxide, high concentration for 30 minutes
		Hypochlorites household bleach (1:1000 diluted solution)	Hydrogen peroxide 6% for 5 minutes

## Opticianry Considerations

Most of the routine procedures performed by Opticians are clean procedures, as opposed to sterile procedures. As such, most infection control processes involve **cleaning, sanitization and low level disinfection.**

### *Cleaning and Disinfection Check List for Opticianry*

<i>Opticianry Considerations</i>	<i>What to use.</i>	<i>Recommendations</i>
<p><b>Environmental Surfaces/General Housekeeping</b></p> <ul style="list-style-type: none"> <li>➤ Floors</li> <li>➤ Sinks (in the dispensary and other)</li> <li>➤ Counter Tops</li> <li>➤ Storage Shelves and Bins</li> <li>➤ Cash Registers, telephones, computers</li> <li>➤ Washrooms (public and staff)</li> <li>➤ Private Counseling Rooms</li> <li>➤ Water filtration systems (for distilled water)</li> <li>➤ Refrigerator</li> </ul>	<ul style="list-style-type: none"> <li>➤ Cleaning usually involves soap and water, detergents or enzymatic agents to physically remove soil, dust or foreign material.</li> <li>➤ Low level Disinfection</li> <li>➤ Quaternary Ammonium Compounds</li> <li>➤ Iodophores</li> <li>➤ 3% Hydrogen Peroxide</li> <li>➤ Diluted Bleach</li> </ul>	<ul style="list-style-type: none"> <li>➤ Daily and when visibly soiled</li> <li>➤ Clean high traffic areas more frequently i.e. where patients drop off and pick up prescriptions and near the cash register</li> <li>➤ Keep shelves and bins tidy and clean, dust free</li> </ul>
<p><b>Equipment/Tools</b></p> <ul style="list-style-type: none"> <li>➤ adjustment and bench tools;</li> <li>➤ lensometer;</li> <li>➤ lens clock;</li> <li>➤ frame heater;</li> <li>➤ P.D. Ruler;</li> <li>➤ pupilometer and/ or penlight;</li> <li>➤ thickness callipers;</li> <li>➤ vertex distometer;</li> <li>➤ etc...</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Sanitation:</b> a process that reduces microorganisms on an inanimate object to a safe level (e.g., dishes and eating utensils are <b>sanitized</b>)<sup>(9)</sup></li> <li>➤ Cleaning usually involves soap, water, detergents or enzymatic agents to physically remove soil, dust or foreign material</li> </ul>	<ul style="list-style-type: none"> <li>➤ Following use or</li> <li>➤ Prior to use if suspected contamination</li> <li>➤ Care must be taken to ensure residues from the cleaning process itself (e.g., detergents, solvents, etc.) are also removed from equipment</li> </ul>

Considerations	What to use	Recommendations
<p><b>Handwashing</b></p> <ul style="list-style-type: none"> <li>➤ Proper technique</li> <li>➤ No matter what agent you use, the essential components of a proper hand washing technique are to <b>wet hands</b> first, <b>apply cleaner</b>, and vigorously clean (<b>rub</b>) all aspects of your hands including the palms and backs of your hands, thumbs, fingers, nails and wrists for at minimum <b>10 seconds</b>, <b>rinse</b> and then <b>dry</b> your hands properly. Try to turn off the tap with a paper towel after you dry</li> </ul>	<ul style="list-style-type: none"> <li>➤ Plain Soap</li> <li>➤ Antibacterial Soap</li> <li>➤ Hand Sanitizers</li> </ul>	<ul style="list-style-type: none"> <li>➤ After handling money</li> <li>➤ After removing PPE when used</li> </ul>
<p><b>Use of Personal Protective Equipment</b></p> <p>1. Risk Assessment</p>	<ul style="list-style-type: none"> <li>➤ Gloves</li> <li>➤ Surgical Masks</li> </ul>	<ul style="list-style-type: none"> <li>➤ If you have a respiratory infection and must report to work, wear a surgical mask when in close contact (&lt;1m) with patients.</li> <li>➤ Have available enough PPE to use if there is a Health Alert in effect for example: <ul style="list-style-type: none"> <li>○ A respiratory illness such as SARS or</li> <li>○ Pandemic Influenza (recommend 4 weeks worth of supplies)</li> </ul> </li> </ul>

## Containment Communications

### Screening Flowchart

Ask the person if they have any of the following symptoms:

- High fever (or feel feverish and hot)
- Headache
- Fatigue and weakness
- Sore throat, cough, chest discomfort, difficulty in breathing
- Muscle aches and pains
- Been traveling recently
- Been in contact with someone diagnosed with influenza

**If the patient answers yes to two or more symptoms**

#### **Patient should be considered possible case of influenza**

- Take names of contacts (those working within one metre or in enclosed place for more than 60 minutes)
- Advise them where they can find a surgical mask and ask them to leave work immediately
- Advise them to call their doctor by telephone to advise that they have been in contact with a suspected influenza case

- **Advise contacts that they have been in contact with suspect case**
- **Ask contacts to go home and to stay there until they have received further advice**
- **Advise the Crisis Team**

**No Symptoms**

*Arrange for clean up of person's workstation*

Unlikely to be influenza

**Reassure**

**Advise to call again if concerned or visit their doctor**

**Fact Sheet: What is the Difference between Influenza and a Common Cold?**

Symptom	Influenza	Common Cold
Fever	Usual, sudden onset 38°C-40°C and lasts 3-4 days	Rare
Headache	Usual and can be severe	Rare
Aches and pains	Usual and can be severe	Rare
Fatigue and weakness	Usual and can last 2-3 weeks or more after the acute illness	Sometimes, but mild
Debilitating fatigue	Usual, early onset can be severe	Rare
Nausea, vomiting, diarrhoea	In children <5 years old	Rare
Watering of the eyes	Rare	Usual
Runny, stuffy nose	Rare	Usual
Sneezing	Rare in early stages	Usual
Sore throat	Usual	Usual
Chest discomfort	Usual and can be severe	Sometimes, but mild to moderate
Complications	Respiratory failure Can worsen a current chronic condition Can be life threatening	Congestion or ear-ache
Fatalities	Well recognised	Not reported
Prevention	Influenza vaccine Frequent hand-washing Cover your cough	Frequent hand-washing Cover your cough

## Fact Sheet Basic Hand Hygiene

### Protecting Yourself and Others against Respiratory Illness

**Hand washing is the most important thing you can do to protect yourself!**

- Cover your nose and mouth when coughing or sneezing.
- Use a tissue and dispose of this once used in the waste.
- Always wash hands after coughing and sneezing or disposing of tissues.
- Keep your hands away from your mouth, nose and eyes.
- Avoid contact with individuals at risk (e.g. small children or those with underlying or chronic illnesses such as immune suppression or lung disease) until influenza-like symptoms have resolved.
- Avoid contact with people who have influenza-like symptoms.
- Ask people to use a tissue and cover their nose and mouth when coughing or sneezing and to wash their hands afterwards.