Infection control and COVID-19 factsheet
June 2020

This factsheet is provided by Optometry Australia and is intended as a guide only. Every effort has been made to ensure this information is evidence-based and correct at time of printing.

For the latest information on COVID-19 and infection control visit optometry.org.au.
1. Introduction

There has been significant disruption to the world and to the healthcare profession, with the COVID-19 global pandemic. This has significantly changed the optometry practice landscape. As the profession has had to escalate infection control from standard precautions to transmission-based precautions, it has afforded an opportunity to reflect on current infection-control policies and procedures. This quick-guide aims to provide updated, evidence-based information for optometrists, their staff and their practices on pertinent pandemic infection control procedures.

2. Background

COVID-19 (SARS-CoV-2) is a novel coronavirus that is an enveloped, single-stranded RNA virus believed to spread person to person via respiratory droplets. This occurs when an infected person coughs or sneezes, or when people touch a surface with the virus present from an infected person, then touch their eyes, mouth or nose. Patients may be asymptomatic and infected, and potentially have viral shedding for 20 days. Symptomatic patients typically present with respiratory illness such as cough, shortness of breath and fever. Other patients may have eye pain, headaches and fatigue. The incubation period averages 5-7 days.

2.1 Conjunctivitis link:
The American Academy of Ophthalmology acknowledged that 'several reports suggest the virus can cause a mild follicular conjunctivitis otherwise indistinguishable from other viral causes, and possibly be transmitted by aerosol contact with conjunctiva.'

Patients who present to optometry or ophthalmology for conjunctivitis, who also have: upper respiratory tract symptoms, fever, shortness of breath or who have recently travelled, could represent cases of COVID-19. It is suspected from some reports, that while conjunctivitis or red eye is unusual and not part of ‘classic’ COVID-19, up to 1-3% of patients with COVID may have some form of red eye/conjunctivitis.

It is unlikely that a red eye will be the initial symptom of a COVID-19 patient, and it is not currently listed as a symptom by the Australian Department of Health. Patients are far more likely to present to a general practitioner or emergency department (ED) with respiratory symptoms, but a high degree of suspicion of red eyes is still required.

2.2 Risk to optometrist/staff/patients:
While conjunctivitis is an uncommon event as it relates to COVID-19, other forms of conjunctivitis are common. Affected patients frequently present to eye clinics or an ED. This increases the likelihood that eye-care professionals may be the first providers to evaluate patients possibly infected with COVID-19.
3.1 PPE during a pandemic
During a pandemic, advice around PPE changes quickly and is often contradictory. This occurs because as infection rates rise, PPE shortages occur and should be prioritised to frontline health care workers treating suspected or confirmed cases. The risk to optometrists increases as infection rates rise in the community due to their close proximity to patients, and it is suggested by some associations that face masks should be worn when seeing patients at distances closer than 1.5m.1,12,13

The World Health Organization (WHO) and the Australian Department of Health maintains that wearing a face mask while seeing healthy, asymptomatic, low risk patients is unnecessary.14,15 Nevertheless, the WHO go on to say: ‘Wearing a medical mask is one of the prevention measures that can limit the spread of certain respiratory viral diseases, including COVID-19. However, the use of a mask alone is insufficient to provide an adequate level of protection, and other measures should also be adopted.’16

3.2 Hand hygiene
Carefully observe the ‘five moments of hand hygiene’ (available at https://www.hha.org.au/hand-hygiene/5-moments-for-hand-hygiene):
1- Before touching a patient
2- Before a procedure
3- After a procedure or body fluid exposure risk
4- After touching a patient
5- After touching a patient’s surroundings

Perform the correct hand hygiene technique, which is illustrated below. More information is available at https://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf.

3.3 Cleaning protocols9,17-19
Optometry practices should be prepared to carry out enhanced cleaning and disinfection of the patient environment (e.g. using sodium hypochlorite or an appropriate Therapeutic Goods and Administration [TGA]-listed hospital-grade disinfectant).9,10 Some examples of surface disinfectants are given in Table 1.

Table 1: Surface disinfection options

<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viraclean10</td>
<td>A hospital grade disinfectant; the first product in Australia to receive TGA approval for killing the SARS-CoV-2 virus on surfaces.</td>
</tr>
<tr>
<td>Clinell</td>
<td>Ideal for use on both surfaces and non-invasive medical devices. TGA registered as a Class IIB Low-Level Instrument Grade Disinfectant, compliant with AS/NZ 4187 Australian Standard. Can be used on frames, including acetate.</td>
</tr>
<tr>
<td>Bleach Solution</td>
<td>Mix 5 tablespoons (1/3 cup) bleach per 4.5L of water</td>
</tr>
<tr>
<td>Alcohol solutions</td>
<td>Should be at least 70% alcohol</td>
</tr>
<tr>
<td>Disinfectant wipes</td>
<td>Use in accordance with Department of Health</td>
</tr>
<tr>
<td>Household disinfectants</td>
<td>Mostly appropriate, see manufacturers’ instructions</td>
</tr>
</tbody>
</table>

All staff and clinicians should:
– Greet people with a wave, not a handshake
– Practise the five moments of hand hygiene
– Keep social distancing of 1.5m between staff, and between patients

Some further considerations for various areas of the practice are given in Table 2, on the following page.
Table 2: Optometry practice considerations

<table>
<thead>
<tr>
<th>Area</th>
<th>Considerations</th>
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</thead>
<tbody>
<tr>
<td>Reception</td>
<td>– Screen patients before they attend the practice on the phone&lt;br&gt;– Ask patients to use hand sanitiser before entering the practice&lt;br&gt;– Consider social distancing and encourage patients to remain 1.5m from the desk&lt;br&gt;– Keep front desk clear of clutter&lt;br&gt;– Clean EFTPOS terminals with an appropriate disinfectant between patients and encourage contactless payments over cash&lt;br&gt;– Minimise patient use of pens, and if required, sanitise in front of patient before providing the pen and then after use&lt;br&gt;– Keep a daily log of patients/people in the practice in case contact tracing needs to occur&lt;br&gt;– Unless the patient is a child or someone who requires a guardian, strongly discourage family or friends attending the appointment</td>
</tr>
<tr>
<td>Waiting room</td>
<td>– Wipe down all surfaces (door handles, tabletops, light switches, chairs) and front desk morning, midday and evening with appropriate disinfectant&lt;br&gt;– Remove all flowers, tea/coffee facilities and toys&lt;br&gt;– Make tissues and face masks available&lt;br&gt;– Enforce social distancing in waiting areas by removing chairs so no two chairs are next to each other</td>
</tr>
<tr>
<td>Consulting room</td>
<td>– Clean and disinfect frequently touched surfaces between each episode of patient care e.g.: slit-lamp, phoropter, trial frame, chair, keyboard, desk&lt;br&gt;– While taking history and speaking with patient, attempt to remain 1.5m away. Move your chair, computer and keyboard to achieve this&lt;br&gt;– Reduce all non-urgent close contact procedures such as direct ophthalmoscopy and contact lens fitting&lt;br&gt;– Use slit-lamp shields to reduce potential droplet transmission&lt;br&gt;– Sinks and basins should be cleaned regularly</td>
</tr>
<tr>
<td>Dispensing</td>
<td>– Clean rulers, pupilometers, pen torches and other equipment in front of patient before and after use&lt;br&gt;– Practice selection when trying on frames: patient doesn’t touch frame and staff initially collect the frame for the patient to try on. Post trying on frames, separate the touched frames and clean them with a suitable disinfectant to reduce viral load</td>
</tr>
</tbody>
</table>

3.4 Instrument disinfection - Tonometry

Note: If you elect not to perform contact tonometry / gonioscopy etc. on a patient you suspect might have COVID-19 then make appropriate notes on the patient record and ensure you follow-up for retest when they are well.

If tonometry cannot be deferred

Options for measuring IOP include:

1- Using a disposable applanation tonometry prism
2- Using an iCare tonometer with disposable probe
3- High-level disinfection of reusable applanation prisms

In order to adhere to the recommendation that semi-critical devices (tonometer probes) require high-level disinfection, the gold standard for disinfection would involve either sodium hydrochlorite or Tristel Duo OPH.

Sodium hypochlorite

4- Clean with mild pH neutral detergent or soap
5- Rinse with sterile water/saline before disinfecting
6- Soak in sodium hypochlorite (5000ppm) for 10 minutes
7- Rinse with sterile water/saline
8- Air dry or dry with sterile, soft disposable cloth

Note: The appropriate concentration of sodium hypochlorite is 5000ppm, approximately 0.5%. Household bleach is 5-6% sodium hypochlorite, so a 1:10 dilution of bleach (1 part bleach, 9 parts water) equals 5000ppm.
This is a new product using chlorine dioxide as the active agent, approved by TGA for high level disinfection of instrument grade surfaces compliant with the ASNZ 4187 Australian Standard.

1. Dispense 2 doses of Tristel Duo onto a Tristel Dry Wipe or directly onto the instrument
2. Spread the foam over the surface of the instrument
3. Wait two minutes
4. Rinse with sterile water/saline
5. Air dry or dry with sterile, soft disposable cloth

When in doubt, it is important to refer to manufacturers' instructions regarding specific instruments.

Some sources have suggested caution over micro-aerosol generating techniques such as non-contact tonometry (NCT) being performed during pandemic conditions due to ‘splash-back.’ Thus, it would be prudent to avoid NCT on patients with conjunctivitis or flu-like symptoms and to follow stringent disinfection protocols at all times.

3.5 Instrument disinfection - visual field

Infection control practices suggest using an appropriate disinfectant to reduce potential surface contamination on the chin rest, forehead rest, trigger and bowl. However, it may be impractical to clean the interior of the perimeter bowl without damaging the machine and the virus could remain airborne in the enclosed space for an unknown length of time. As a consequence, some hospitals and ophthalmology practices have ceased doing visual field testing unless urgent. Consider having ‘suspect’ or ‘confirmed’ COVID-19 patients wear masks during testing if visual field is unavoidable.

3.6 Instrument disinfection - contact lenses

There is no evidence to date that contact lens (CL) wear should be avoided by healthy individuals, or that CL wearers are more at risk of a coronavirus infection compared to those wearing spectacles. However, it may be impractical to clean the interior of the perimeter bowl without damaging the machine and the virus could remain airborne in the enclosed space for an unknown length of time. As a consequence, some hospitals and ophthalmology practices have ceased doing visual field testing unless urgent. Consider having ‘suspect’ or ‘confirmed’ COVID-19 patients wear masks during testing if visual field is unavoidable.

Table 3: Contact lens disinfection protocols

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning</td>
<td>Rub with a daily surfactant cleaner for RGP lenses or multipurpose solution (MPS) for soft and hybrid lenses</td>
</tr>
<tr>
<td>Rinsing</td>
<td>Rinse with sterile saline or MPS for at least 30 seconds</td>
</tr>
<tr>
<td>Inspection</td>
<td>Inspect lens for damage/defect and dispose of appropriately if necessary</td>
</tr>
<tr>
<td>Preparation</td>
<td>Fill a non-neutralising CL case with 3% hydrogen peroxide</td>
</tr>
<tr>
<td>Disinfection</td>
<td>Soak lens for at least 3 hours without neutralising</td>
</tr>
<tr>
<td>Neutralisation</td>
<td>For soft and hybrid lenses, refill a neutralising case with fresh hydrogen peroxide and add neutralising tablet/disk. Soak for recommended neutralisation time (e.g. 6 hours)</td>
</tr>
<tr>
<td>Rinsing</td>
<td>Rinse with sterile saline (or MPS)</td>
</tr>
<tr>
<td>Storing</td>
<td>Store RGP lens dry after wiping with clean, lint-free tissue. Use disinfected tweezers to store soft or hybrid lens in MPS. For soft or hybrid lenses, it is recommended to repeat the full disinfection process every 28 days.</td>
</tr>
</tbody>
</table>

Note: Soft contact lenses can also be sterilised in autoclave at 134°C for at least 3 minutes or 121°C for at least 10 minutes.

References for this factsheet are listed on the following page.
4. References


