Disinfection Process

Area	Hand Sanitiser	Wearing of Face Mask	Use of N95 mask	Gloves	Face shield	Soap solution & Clean Water	Alcohol swab / Savlon Wipes	Availability 1% concentrate Sodium Hypochlorite
Waiting Area/ Symptomatic Screening	Once - All customers	Always (Staff+ Customer)	NA	NA	Staff -Always if not using Goggles	NA	NA	On each furniture before outreach start and at end of outreach. On each furniture and customer touched surface after customer contact.
Registration	Once - All customers	Always (Staff+ Customer)	NA	NA	Staff -Always if not using Goggles	NA	NA	On each furniture before outreach start and at end of outreach.
Unaided DV	Once - All customers	Always (Staff+ Customer)	NA	NA	Staff -Always if not using Goggles	NA	NA	NA
Refraction	Staff- After each customer	Always (Customer)	Staff during examination	Staff during examination	Staff -Always if not using Goggles	Used Trial frame- after each customer Used Trial lens- every hour	Wipe retinoscope's handle after every customer Wipe trial frame nose bridge/ temples and ear piece after each customer's use.	On each chair/ stool / NV Chart after each customer contact
Counselling & Payment collection	Staff- After each customer	Always (Customer)	Staff during examination	NA	Staff -Always if not using Goggles	NA	NA	On each chair/ stool / NV Chart after each customer contact

Dispensing (Frames)	NA	Always (Staff+ Customer)	NA	NA	Staff -Always if not using Goggles	All USED frames- after each customer	NA	NA
Dispensing (Readers)	NA	Always (Staff+ Customer)	NA	NA	Staff -Always if not using Goggles	All USED readers- after each customer	NA	On each chair/ stool / NV Chart after each customer contact

Annexure 9: How to disinfect

List of Disinfectants	Specification	Where to use it	How to use it
Hand Sanitiser	At least 70% Alcohol based. Preferably use the gel based so that there is no spillage.	All Stations - for customer and employee hand sanitation	Self: 1. Apply enough of the sanitiser to the palm of your hand to wet your hands completely. 2. Rub your hands together, covering all surfaces- front, back of hands and in between fingers, for up to 25 seconds or until they're dry. 3. Do not wipe with a towel. Customer: 1. Ask customer to open palms, drop few drops/ required amount of sanitiser on customer's palms. 2. Instruct customer to rub the sanitiser on palms, back of hands and between fingers, completely covering the hands 3. Allow customer's hands to air dry before allowing inside the outreach or using the hands for covering eyes.

Alcohol Swab/ Wipes	Containing 70% Iso propyl alcohol	Refraction station - For wiping nose bridge, temples and ear pieces of Trail frame and trial lens	1. Open the swab packet only when the items to b cleaned are kept in front of you. 2. Remove swab, unfold it and rub the area to be disinfected with the wet swab. 3. Rub for 5-6 second after that keep the instrument for alcohol evaporation. 4. Throw the used swab and cover in a closed dustbin 5. Sanitise or wash hands
Sodium Hypochlorite solution	1% Sodium hypochlorite Concentration to be used in a spray bottle	To clean furniture and customer's touched surfaces.	1. Spray the chair/ table 2. Allow it to stay for 1-2 minutes 3. Wipe the sprayed area with a clean dry cloth 4. Wash cloth in clean water and spread before next use 5. Clean hands with water before touching anything else 6. Throw away the cloth along with bio waste at the end of outreach
Dish wash Solution and Water	Diluted dish wash gel and clean water. Use at least one-part liquid soap to 100 parts water	To clean customer's used Trial frame, Trail lens, Readers, frames.	1. Fill two bowl with clean water. 2. In red bowl drop few drops of dishwash liquid and gently stir not to foam up 3. Dip the "used" frames and readers in soapy water for 30 seconds 4. Remove dipped items from red bowl and dip in clean water bowl in green 5. Use hands to clean off the soap water. 6. Keep cleaned items in "Unused" Tray. 7. Wipe with a soft cloth. Return items to original position . 8. Dispose the soapy and clean water and refill the bowl after each use. Put the wiping cloth to dry.

Why disinfectant:

Reducing the risk of exposure to COVID-19 by cleaning and disinfection is an important part of reopening public spaces and interactions and that will require careful planning. Each individual has been called upon to slow the spread of the virus through social distancing and prevention hygiene, such as frequently washing your hands and wearing masks. Everyone also has a role in making sure our communities are as safe as possible to reopen and remain open. Disinfectants kill germs on surfaces. By killing germs on a surface after cleaning, you can further lower the risk of spreading infection.

The virus that causes COVID-19 can be killed if you use the right products. Normal routine cleaning with soap and water will decrease how much of the virus is on surfaces and objects, which reduces the risk of exposure. Disinfection using approved disinfectants against COVID-19 can also help reduce the risk. Frequent disinfection of surfaces and objects touched by multiple people is important.

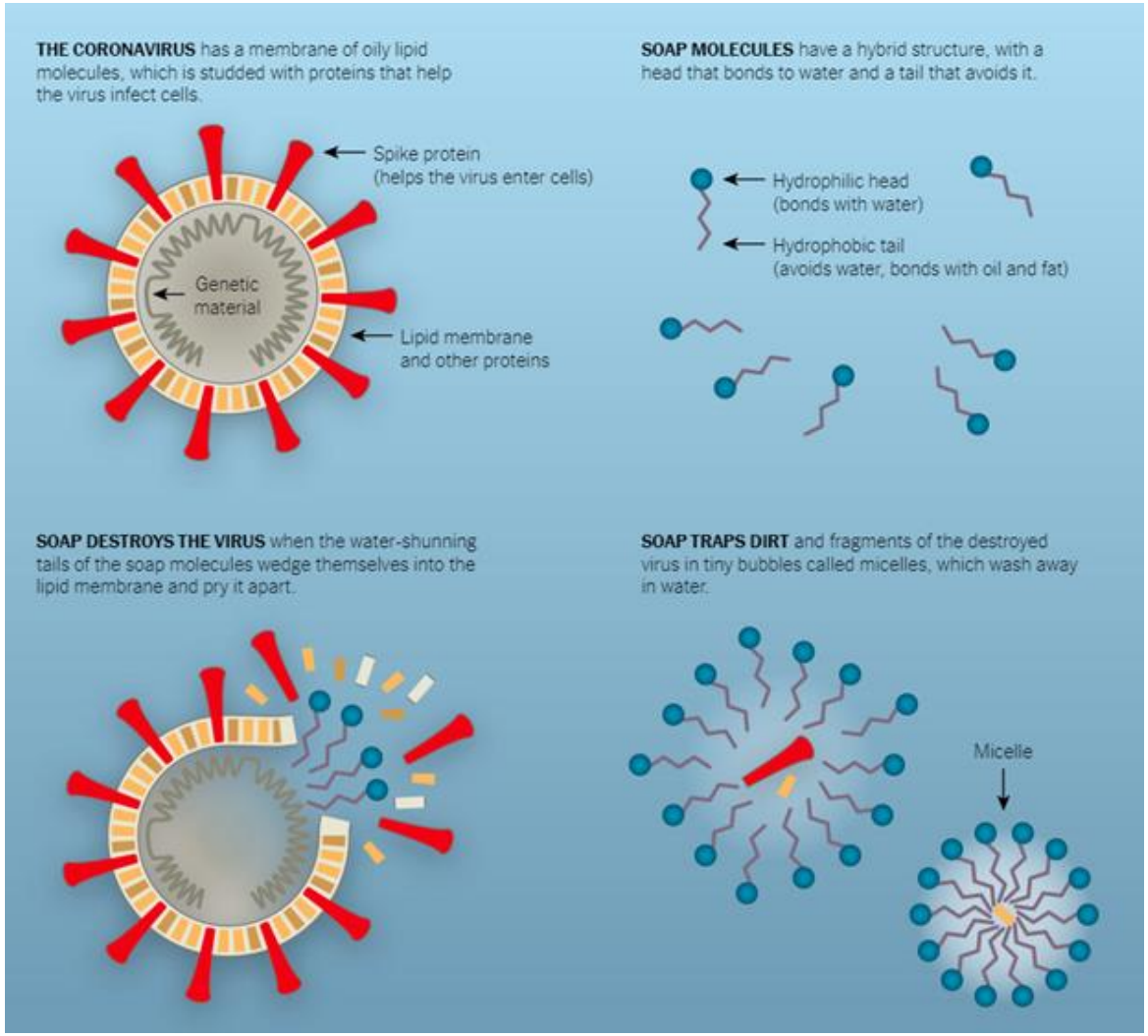
Use of soapy water or dishwash liquid:

The grime on our hands contains innumerable viruses and bacteria. Washing with water without using soap helps reduce the number of microbes but does not remove most of the virus and bacteria completely. Using soap, therefore, becomes far more effective in removing microbes.

Viruses such as coronavirus, influenza-causing viruses, Ebola, Zika have their genetic material encased in a layer of fat called the lipid envelop. Soap molecules are pin-shaped with a head that is water-loving (hydrophilic) and a tail that is oil-loving (oleophilic). Being oleophilic, the tail portion of the molecule tends to have an affinity for and ‘competes’ with the lipids in the virus envelope. Since the chemical bonds holding the virus together are not very strong, the long oleophilic tail gets inserted into the envelope and tends to have a ‘crowbar’ effect that breaks the lipid envelope of the virus. The tail also competes with the bond that binds the RNA and the lipid envelop thus dissolving the virus into its components which are then removed by water.

Washing with soap and water is an effective way to destroy and dislodge many microbes, including the new Coronavirus.

In outreach we use the soapy water solution at refraction and dispensing stations to clean Trial frame, lens, reader glasses and frames which have come in contact with customer. Each of these items are dipped in the soapy water solution and after a dwell time of 30 seconds, washed in clean water and dried before use.



Source:https://globalhandwashing.org/how-washing-hands-with-soap-destroys-the-coronavirus/

Use of Alcohol Based sanitizer:

Like soap, the alcohol present in hand sanitisers dissolve the lipid envelop, thus inactivating the virus. In addition, the alcohol also tends to change the shape or denature the mushroom-shaped protein structures that stick out of the lipid envelop. The mushroom-shaped protein structures help the virus to bind to special structures found on human cells and enter the cells. To be effective, the sanitisers should contain at least 70% alcohol.

Unlike soap lather, the alcohol does not come in contact with all parts of the hand. So care needs to be taken to use sufficient amount of sanitiser to increase the coverage. Unlike water, alcohol run does not remove the dead viruses from the hand. While a sanitiser can quickly reduce the number of microbes, it does not get rid of all types of germs and is “not as effective when hands are visibly dirty or greasy”.

Sanitisers are supposed to be used only for hand sansitisation and not for any other surface cleaning. Do not allow customers to use the sanitiser bottle by themselves. Always drop some drops of sanitiser on customer’s hands and instruct them proper method of using the alcohol rub.

Use of Sodium Hypochlorite:

Bleach is a strong and effective disinfectant, but it is readily inactivated in the presence of organic material. Its active ingredient, sodium hypochlorite, is effective in killing bacteria, fungi and viruses, including influenza virus. Diluted household bleach disinfects within 10–60 minutes contact time, is widely available at a low cost, and may be recommended for surface disinfection in healthcare facilities. However, bleach irritates mucous membranes, the skin and the airways, decomposes under heat and light, and reacts readily with other chemicals. Therefore, caution is advised when bleach is used. Ventilation should be adequate and consistent with relevant occupational health and safety guidance. Improper use of bleach, including deviation from recommended dilutions (either stronger or weaker), may reduce its effectiveness for disinfection and can result in injury.

High contact surfaces such tables, chairs, handles and call buttons, escalator handrails, public counters, intercom systems, equipment like telephone, printers/scanners, and other office machines should be cleaned twice daily by mopping with a linen/absorbable cloth soaked in 1% sodium hypochlorite. Frequently touched areas like table tops, chair handles, pens, diary files, keyboards, mouse, mouse pad, tea/coffee dispensing machines etc. should specially be cleaned.

Sodium Hypochlorite diluted solution should be used in a spray bottle. Diluted solution should be freshly prepared. The solution prepared should be discarded after 3-4 hours. **The solution should be of 1% concentration.**

Recommended Dilution: 1:100 dilution. Use 1 part bleach to 99 parts cold tap water (1:100 dilution) for disinfection of surfaces. (1 Part 5 % Sodium hypochlorite : 9 Parts distilled water in ambient/ room Temp 62º– 72ºF

Guidelines for preparation of 1% sodium hypochlorite.

Product	Available chlorine	1percent
Sodium hypochlorite – liquid bleach	3.5%	1 part bleach to 2.5 parts water
Sodium hypochlorite – liquid	5%	1 part bleach to 4 parts water
NaDCC (sodium dichloro-isocyanurate) powder	60%	17 grams to 1 litre water
NaDCC (1.5 g/ tablet) – tablets	60%	11 tablets to 1 litre water
Chloramine – powder	25%	80 g to 1 litre water
Bleaching powder	70%	7g g to 1 litre water
Any other	As per manufacturer's Instructions	

Usage guidelines

- Store and use disinfectants in a responsible and appropriate manner according to the label. Keep the lid tightly closed while storing or travelling.
- Store and use chemicals out of the reach of children and pets.
- Do not mix disinfectants or other cleaning and disinfection products together. This can cause fumes that may be very dangerous to breathe in.
- Never spray any of the disinfectants on very hot surface or an open flame. Keep the bottles containing the disinfectants away from direct sunlight.
- Use water at room temperature for dilution.
- Label diluted cleaning solutions.
- You should never eat, drink, breathe or inject these products into your body or apply directly to your skin as they can cause serious harm
- Always use freshly prepared 1% sodium hypochlorite
- To prevent cross contamination, discard cleaning material made of cloth (mop and wiping cloth) in appropriate bags after cleaning and disinfecting
- Disinfect all cleaning equipment after use and before using in other area
- Disinfect buckets and bowls by soaking in sodium hypochlorite solution or washing with soap and water.

Reference: https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf

Reference: https://www.epa.gov/sites/production/files/2020-04/documents/316485-c_reopeningamerica_guidance_4.19_6pm.pdf

Reference: https://www.ipswichma.gov/DocumentCenter/View/10072/50ppm-Guidelines-on-the-Use-of-Disinfectants#:~:text=Recommended%20dilution%201%3A100%20dilution,dilution)%20for%20disinfection%20of%20surfaces.