

Coronavirus disease 2019 (COVID-19)

Case and contact management guidelines for health
services and general practitioners

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Background

Coronavirus disease 2019 (COVID-19) was first diagnosed in Wuhan City, Hubei Province, China in December 2019. Updated epidemiological information is available from the World Health Organization (WHO) and other sources. Current information on novel coronavirus is summarised in a section at the end of this guideline entitled 'The disease'.

These guidelines and a range of other resources for health services and general practitioners can be found at the department's novel coronavirus website: <https://www.dhhs.vic.gov.au/novelcoronavirus>

A hotline is available for the general public who have questions or concerns – 1800 675 398.

Public health response objectives

This situation is evolving rapidly with new clinical and epidemiological information and intelligence. At the present time, the Department of Health and Human Services' (the department) public health response remains in an 'initial containment' stage, whereby there will be an inclusive approach to identifying cases and a precautionary approach to the management of cases and contacts.

The overall objectives of the public health response are to:

1. Reduce the morbidity and mortality associated with COVID-19 infection through an organised response that focuses on containment of infection.
2. Rapidly identify, isolate and treat cases, to reduce transmission to contacts, including health care, household and community contacts.
3. Characterise the clinical and epidemiological features of cases in order to adjust required control measures in a proportionate manner.
4. Minimise risk of transmission in healthcare environments.

Checklist for general practitioners

The following actions should be undertaken when a patient presents to a general practice or community health service who may be a suspected case of COVID-19:

1. Place a single-use surgical mask on the patient.
2. Isolate the patient in a single room with the door closed.
3. Any person entering the room should don droplet and contact precautions personal protective equipment (single-use surgical mask, eye protection, gown and gloves).
4. Conduct a medical assessment, and focus on:
 - (a) The date of onset of illness and especially whether there are symptoms or signs of pneumonia.
 - (b) Precise travel history
 - (c) History of contact with sick travellers or people, overseas health care facilities and outdoor markets.
5. Consider the case definition. Does the patient fit the suspected case definition?
6. Call the department to notify any suspected case urgently on 1300 651 160, 24 hours a day.
7. In discussion with the department, determine:
 - (a) Does the patient need testing for COVID-19?
 - (b) Does the patient require further assessment in an emergency department? Where there is suspicion of pneumonia, a suspected case of COVID-19 should be managed in hospital.
 - (c) If further assessment is required, how will the patient be transferred?
8. When a suspected case of COVID-19 is stable, it is preferred that ambulance transfers to hospital are organised by the department. However, if the patient is extremely unwell and requires immediate critical care, call Triple Zero (000) in the normal manner but advise that the patient may have suspected COVID-19 infection.
9. Remember to provide a surgical face mask for the patient if being transferred to an emergency department by any means.
10. If it is agreed that a patient is tested in the community by a general practitioner, the general practitioner should **undertake testing** as indicated in this guide.
11. **Advise a suspected case they must self-isolate at home**, and provide a factsheet for suspected cases from the department's novel coronavirus website at <https://www.dhhs.vic.gov.au/information-health-services-and-general-practitioners-novel-coronavirus>.
12. Undertake **cleaning and disinfection** of the room as detailed in this guide.
13. When the test result is available:
 - a) **If the test is negative** for COVID-19 provide the negative result from the laboratory (VIDRL) to the patient and manage any other cause of illness you have assessed as requiring treatment. Consider advising the patient in the normal manner that admission to hospital and further testing may be required if they deteriorate or the illness persists beyond 72 hours and no other cause is found.
 - b) **If the test is positive** for COVID-19, call the department on 1300 651 160 to confirm that the department is aware of the result and agree on next steps for management of the patient.

Checklist for health services

The following actions should be undertaken when a patient presents to an emergency department or urgent care centre who may be a suspected case of COVID-19:

1. Place a single-use surgical mask on the patient.
2. Isolate the patient in a single room with the door closed.
3. Any person entering the room should don droplet and contact precautions personal protective equipment (single-use surgical mask, eye protection, gown and gloves).
4. Conduct a medical assessment, and focus on:
 - (a) The date of onset of illness and especially whether there are symptoms or signs of pneumonia.
 - (b) Precise travel history.
 - (c) History of contact with sick travellers or people, overseas health care facilities and outdoor markets.
5. Consider the case definition. Does the patient fit the suspected case definition?
6. Call the department to notify any suspected case urgently on 1300 651 160, 24 hours a day.
7. In discussion with the department, determine if the patient needs testing for COVID-19.
8. If admission is not required and the patient can return to the community:
 - a) The notifying clinician should **advise the patient to self-isolate at home** (if not already) and minimise contact with other people, and provide a factsheet for suspected cases from the department's novel coronavirus website at <https://www.dhhs.vic.gov.au/information-health-services-and-general-practitioners-novel-coronavirus>
 - b) Consider advising the patient in the normal manner that admission to hospital and further testing may be required if they deteriorate or the illness persists beyond 72 hours and no other cause is found.
 - c) Ensure arrangements are in place for the patient to be contacted with the test result – this is the responsibility of the testing clinician and health service.
9. If admission is required:
 - a) Maintain infection control precautions and actively consider multiple samples including from lower respiratory tract specimens.
10. When the test result is available:
 - a) **If the test is positive** for COVID-19, the health service infectious diseases lead, or senior clinician should call the department on 1300 651 160 to agree on an urgent management plan for the confirmed case. If the patient is in the community, admission or management under Hospital in the Home is likely to be required by the department.
 - b) **If the test is negative** for COVID-19, provide the negative result from the laboratory (VIDRL) to the patient and manage any other cause of illness you have assessed as requiring treatment. Consider advising the patient in the normal manner that admission to hospital and further testing may be required if they deteriorate or the illness persists beyond 72 hours and no other cause is found.

Case definitions

The following case definitions apply in Victoria:

1. Confirmed case

A person who tests positive to a validated SARS-CoV-2 nucleic acid test or has the virus identified by electron microscopy or viral culture.

2. Suspected case

A. If the patient satisfies both clinical and epidemiological criteria, they are classified as a suspected case:

Clinical criteria:

Fever

OR

Acute respiratory infection (for example, shortness of breath or cough) with or without fever

AND

Epidemiological criteria:

International travel in the 14 days before the onset of illness

OR

Close or casual contact in the 14 days before illness onset with a confirmed case of COVID-19.

B. If the patient has severe community-acquired pneumonia (critically ill*) and no other cause is identified, with or without recent international travel, they are classified as a suspect case.

C. If the patient has moderate or severe community-acquired pneumonia (hospitalised) and is a healthcare worker, with or without international travel, they are classified as a suspect case.

Cases meeting the suspected case definition for COVID-19 must be tested and notified to the department as soon as practicable by calling 1300 651 160, 24 hours a day. Testing of patients who have been notified to the department and meet the suspected case definition will be prioritised.

Clinicians may choose to test any patient, particularly healthcare workers with compatible symptoms, if it is felt to be clinically necessary. Notification to the department is not necessary for these patients. Primary laboratories should forward these tests directly to VIDRL for testing.

Definition of close contact

For the purposes of the suspected case definition, the department advises a precautionary understanding of close contact. In keeping with definitions of close contact developed in other jurisdictions, close contact means greater than 15 minutes face-to-face or the sharing of a closed space for more than two hours with a confirmed case without recommended personal protective equipment (PPE) which is droplet and contact precautions for the definition of contact.

Contact needs to have occurred during the period of 24 hours prior to onset of symptoms in the confirmed case until the confirmed case is no longer considered infectious to be deemed close contact.

Examples of close contact include:

- living in the same household or household-like setting (for example, a boarding school or hostel)
- direct contact with the body fluids or laboratory specimens of a confirmed case without recommended PPE (droplet and contact precautions)

- a person who spent two hours or longer in the same room (such as a GP clinic or ED waiting room, a school classroom; an aged care facility)
- a person in the same hospital room when an aerosol generating procedure (AGP) is undertaken on the case, without recommended PPE for an AGP (airborne and contact precautions)
- Aircraft passengers who were seated in the same row as the case, or in the two rows in front or two rows behind a confirmed COVID-19 case. Contact tracing of people who may have had close contact on long bus or train trips should also be attempted where possible, using similar seating/proximity criteria.
- For aircraft crew exposed to a confirmed case, a case-by-case risk assessment should be conducted by the airline to identify which crew member(s) should be managed as close contacts. This will include:
 - Proximity of crew to confirmed case
 - Duration of exposure to confirmed case
 - Size of the compartment in which the crew member and confirmed case interacted
 - Precautions taken, including PPE worn, when in close proximity to the confirmed case
- If an aircraft crew member is the COVID-19 case, contact tracing efforts should concentrate on passengers seated in the area where the crew member was working during the flight and all of the other members of the crew.
- Close contacts on cruise ships can be difficult to identify, and a case-by-case risk assessment should be conducted to identify which passengers and crew should be managed as close contacts.
- Face-to-face contact for more than 15 minutes with the case in any other setting not listed above.

Healthcare workers (HCWs) and other contacts who have taken recommended infection control precautions, including the use of recommended PPE (droplet and contact precautions for the purposes of this contact definition), while caring for a suspected or confirmed case of COVID-19 are **not** considered to be close contacts.

Definition of casual contact

Casual contact is defined as any person having less than 15 minutes face-to-face contact or sharing a closed space with a confirmed case for less than two hours. This includes HCWs, other patients, or visitors who were in the same closed healthcare space as a case, but for shorter periods than those required for a close contact. Other closed settings might include schools or offices.

Note that HCWs and other contacts who have taken recommended infection control precautions, including the use of full PPE, while caring for a symptomatic confirmed COVID-19 case are not considered to be close contacts. However, these people should be advised to self-monitor and if they develop symptoms consistent with COVID-19 infection they should isolate themselves and notify the department on 1300 651 160 so they can be tested and managed as a suspected COVID-19 case (see recommendations below under Management of symptomatic contacts).

Because casual contact is likely to carry a much lower risk of transmission, contact needs to have occurred during the period from the onset of symptoms in the confirmed case until the confirmed case is no longer considered infectious, in order to be considered a casual contact.

For the purposes of public health contact tracing, other casual contacts may include:

- Extended family groups, for example, in an Aboriginal community.
- Contact tracing of people who may have had close contact on long bus or train trips should also be attempted where possible, using similar seating/proximity criteria.
- All crew members on an aircraft who worked in the same cabin area as a suspected or confirmed case of COVID-19. If a crew member is the COVID-19 case, contact tracing efforts should concentrate on passengers seated in the area where the crew member was working during the flight and all of the other members of the crew.

Case management

Assessment and notification of suspected cases

A checklist above indicates key actions for the assessment of potential suspected cases.

Victorian health services and general practitioners must notify the department of any individual who meets the criteria for suspected case of COVID-19 as soon as practical under the *Public Health and Wellbeing Regulations 2019*.

Notification to the department facilitates critical public health control measures like isolation of cases. Suspected cases notified to the department will be prioritised for urgent testing at VIDRL.

The medical assessment prior to notification should focus on the following:

- The date of onset of illness and especially whether there are symptoms or signs of pneumonia.
- Precise travel history.
- History of contact with sick travellers or people, overseas health care facilities and outdoor markets.

People awaiting results of tests for COVID-19 should be isolated until COVID-19 is excluded.

Patient transfer and destination health service

The following is advice on where patients should be managed:

- Patients should be assessed and managed by the health service they present to.
- Transport of patients to other facilities should be avoided unless medically necessary.
- Suspected or confirmed cases in the community who require assessment or admission at a hospital should be seen and assessed at the nearest emergency department.
- Travellers identified as suspected cases at Melbourne Airport will likely be transferred to Royal Melbourne Hospital or Royal Children's Hospital for assessment.
- Travellers identified as suspected cases at Avalon Airport will likely be transferred to Geelong Hospital for assessment.

Exclusion of COVID-19 in suspected cases

For patients with fever or respiratory tract infection who are not hospitalised, a single negative nasopharyngeal swab (plus sputum if possible) is sufficient to exclude novel coronavirus infection.

A patient who developed symptoms whilst in self-quarantine, for example because of travel to China, Iran, or South Korea or contact with a confirmed case, who has then tested negative for novel coronavirus should continue their quarantine period but be considered for a second test if they deteriorate and require hospitalisation.

For patients who fit the case definition for a suspected case and who require admission for pneumonia (for example, fever and shortness of breath), two negative nasopharyngeal swabs (plus sputum if possible) are recommended to exclude novel coronavirus infection. Further testing can also be considered if a patient deteriorates.

Clinical management of confirmed cases

This is at the discretion of the treating team and at the present time is supportive care only.

Admission to hospital should occur when medically necessary or when directed by the department in order to reduce the risk of transmission or facilitate testing for clearance, such as if the case resides in a

communal environment. Emerging information suggests novel coronavirus may be associated with a delayed deterioration in clinical status in some cases.

In consultation with the department, there may be agreement for a person not requiring hospitalisation who has confirmed novel coronavirus infection to be managed at home. The United States Centers for Disease Control and Prevention (USCDC) has developed principles for such home care management at <https://www.cdc.gov/coronavirus/COVID-19/guidance-home-care.html>.

Criteria for inpatient discharge

The department and treating team may agree to care of the patient at home through Hospital in the Home if all of the following criteria are met:

- An infectious diseases specialist determines the patient is clinically improved and well enough to be managed in the community, and
- The patient has been afebrile for the previous 24 hours, and
- A risk assessment has been conducted by the department to determine whether there is any risk to the household.

A confirmed case in the home must remain in isolation until criteria for release from isolation are met.

Release from isolation of a confirmed case

The department will determine when a confirmed case no longer requires to be isolated in hospital or in their own home, in consultation with the treating clinician. This will be actively considered when all of the following criteria are met:

- The patient has been afebrile for the previous 48 hours, and
- There is resolution of the acute illness for the previous 24 hours, and
- At least seven days have elapsed after the onset of the acute illness, and
- The patient is RT-PCR negative on at least two consecutive specimens collected 24 hours apart after the acute illness has resolved, and
- A risk assessment has been conducted by the department and deemed no further criteria are needed.

It may be the case that a small proportion of patients may have an illness that has completely resolved but their swabs persistently remain PCR positive, although evidence about this has not yet emerged.

If a patient has persistent symptoms despite serial negative RT-PCR tests, an individual risk assessment will be undertaken in discussion with an infectious disease specialist and the department, likely the Chief Health Officer or Public Health Commander.

Follow-up after release from isolation should occur seven days after release in order for a clinical review to check for full symptom resolution, and collection of a serum specimen for storage at VIDRL for possible later serologic testing (the person should be informed this is for future test development only).

Checklist of key actions for the department for confirmed cases

- Confirm the diagnosis with VIDRL.
- Contact the treating team/GP to confirm that the confirmed case is isolated and agree the management of the patient.
- Contact the confirmed case +/- parent/guardian (for cases under 18 years) to collect relevant social, clinical and epidemiological information.
- Identify close contacts and recommend immediate quarantining of any close contacts.
- Identify any potential exposure sites and agree a strategy to provide casual contacts with relevant information as required and liaise with local government for any local exposed setting.
- Undertake all public health response activities including risk communication and sharing of relevant resources.
- Keep in daily contact with the treating team/GP to monitor the clinical status of the confirmed case.

Checklist of key actions for the clinical team for confirmed cases

- If the patient is in hospital, the infectious diseases lead or infection control lead will provide daily updates to the Case and Contact Sector lead in the department for the Novel Coronavirus Public Health Emergency at infectious.diseases@dhhs.vic.gov.au Include information on clinical status, whether there has been improvement or deterioration and whether there have been any PPE breaches.
- If a patient is in the community at the time of diagnosis, the department will organise with the nearest health service with relevant infectious diseases expertise to admit the patient, in order for care to be provided in hospital or via Hospital in the Home.
- For a patient managed at home, the clinical team should maintain regular contact with the patient in order to check for deterioration and in order to undertake testing to allow a discussion with the department to agree when the patient can be released from isolation.
- Contact the Case and Contact Sector lead if the patient's condition significantly deteriorates, for example, intensive care admission, intubation or death.
- Commence list of all HCWs and visitors who enter the case's room. (If the case is at home and being visited by Hospital in the Home only a list of HCWs required.)
- Advise HCWs who provide care for the case (even with appropriate use of PPE) to self-monitor for symptoms of COVID-19 for 14 days after their last contact with the case.

Signage and triage of people presenting to health and other services

Diagnosis and management of COVID-19 must be undertaken by medical practitioners in consultation with the Victorian Department of Health and Human Services. This will occur primarily in general practice and hospitals.

However, to reduce risks to service providers and detect people with COVID-19 risk factors, rapid pre-assessment may be indicated by a broader range of service providers prior to the provision of a service. This pre-assessment may include enquiring about recent travel history and relevant symptoms. Only health-care services who manage unwell patients (such as general practice, hospitals and ambulance services) are expected to assess for symptoms.

For examples of posters that can be used see the [department's website](https://www.dhhs.vic.gov.au/health-services-and-general-practitioners-coronavirus-disease-covid-19) <<https://www.dhhs.vic.gov.au/health-services-and-general-practitioners-coronavirus-disease-covid-19>>

See Table 1 below for recommended signage and triage.

Table 1: Recommendations for signage and triage of people presenting to services

Type of service	Exposure (past 14 days)		Recommended approach to infection control
	(A) Posters and triage questions MUST address	(B) Additional questions COULD address	
Health services that manage unwell patients <i>This includes hospitals, general practices and ambulance services.</i>	Overseas travel	<ul style="list-style-type: none"> N/A 	Any patient who has travelled overseas in the past 14 days should be isolated immediately, and all appropriate infection control precautions taken (contact and droplet) prior to an assessment by a health professional.
All other health services <i>This includes, but is not limited to, maternal and child health, community health centres, physiotherapy, occupational therapy, dental and Chinese medicine services</i>	Not recommended	Travel to higher risk countries (mainland China, Iran or South Korea)	Any client who has travelled to mainland China Iran or South Korea in the past 14 days should be isolated at home. Services working with healthy clients in the community should consider asking about travel to mainland China, Iran or South Korea in the past 14 days. Appropriate infection control precautions should be taken if travel has occurred.
Any other service <i>Examples include restaurants, employers outside of health.</i>	Not recommended	Not recommended	No additional precautions are recommended.

Contact management

The department will conduct contact tracing for confirmed cases in the community and will seek assistance from a health service in relation to any contact tracing required for health service staff.

Close contacts

Self-quarantine

The following groups are now required to self-quarantine:

- People who were in mainland China, Iran, or South Korea for 14 days since they were last in those countries.
- Close contacts of confirmed cases until 14 days after last close contact with the confirmed case.

Self-quarantine means remaining at home except in cases of medical emergency. This means a person recommended to self-quarantine:

- Must not visit public settings or mass gatherings.
- Must not use public transport.
- Must not attend settings like health services, residential aged care facilities or educational settings.

This requirement for people who are in quarantine not to attend health services, includes a requirement that they do not attend a family member who is a confirmed case in a Victorian health service.

Health services and GPs are not required to provide a certificate of medical clearance to those who have completed the required 14 days self-quarantine.

In keeping with being in quarantine, children who attend early education and childcare and students in Victorian primary schools and secondary schools, who have been in mainland China, Iran or South Korea, are excluded from attending that educational or care setting until 14 days after they were last in those countries.

Again, in keeping with being in quarantine, children who attend early education and childcare and students in Victorian primary schools and secondary schools are excluded from attending that educational or care setting for 14 days following close contact with a confirmed novel coronavirus case.

Close contacts should not travel within Australia or internationally within the 14 days after last contact with the infectious case.

Symptomatic close contacts

Testing for novel coronavirus is not indicated unless symptoms develop.

The approach to a symptomatic close contact requires an assessment by a treating clinician, and involvement of an infectious disease specialist will be valuable. The next steps depend on whether a treating clinician has identified the patient as having a non-infectious cause, a likely non-respiratory infectious cause, or an acute respiratory illness.

For a symptomatic close contact during the 14-day quarantine period, the department will:

- Agree a suitable general practice or emergency department for assessment.
- Advise the close contact to transit to an agreed general practice / emergency department with a single-use face mask on and to identify themselves immediately at arrival.
- Advise the receiving health service or general practice regarding the presentation so a mask for the patient and isolation is achieved, and healthcare worker PPE can be ensured.

Where a close contact has an illness during the 14-day period of quarantine after the steps above, the treating clinician will:

- Use a single room and appropriate PPE as for a suspected case.
- Test for novel coronavirus and manage the person as a suspected case.
- If the test is positive, the person will be managed as a confirmed case. Notify the department.

Where the illness is diagnosed as acute respiratory illness:

- If testing for COVID-19 is negative and the treating clinician has diagnosed an acute respiratory illness or an illness that is highly compatible with COVID-19, the close contact may then require a subsequent test at a short period thereafter and then near the end of their quarantine period to be released from isolation by the department.
- Advice from an infectious disease specialist is recommended. A final test is likely to be required at the end of the 14th day of quarantine, and the team should discuss with the department.

Where the illness is diagnosed as likely to be some other form of infection or is not an infection:

- If testing for COVID-19 is negative the treating clinician has diagnosed some other infection or a non-infectious cause, then the treating team should consider, in conjunction with an infectious disease specialist, whether testing of relevant specimens such as urine and faeces for COVID-19 might be of value or whether evidence is now clear for an alternative cause.
- The close contact can be advised to continue to self-quarantine until a full 14 days have expired from date of last close contact with confirmed case.

Checklist of key actions for the department for close contacts

For all close contacts the department will:

- Advise self-quarantine including restriction on travel until 14 days from the last contact with confirmed case.
- Counsel close contacts about risk and awareness of potential symptoms.
- Provide a close contact fact sheet (Chinese language version also available) to the close contact.
- Make contact with the close contact each day to monitor for any symptoms, either through SMS or a call.
- If after 14 days of quarantine (from the last contact with a confirmed case), the contact remains asymptomatic, the individual is cleared and may cease quarantine.
- If a school or employer requests confirmation from the department that the quarantine period has been met, the department will provide evidence with the consent of the individual.

Casual contacts

Self-monitoring

Casual contacts can attend public settings but should self-monitor for illness for 14 days after the last unprotected contact with the infectious case. They should isolate at home if they develop symptoms and call 1300 651 160 for advice from the department.

Casual contacts do not need to restrict their movement. However, they should isolate themselves and contact the department if they develop symptoms in the 14 days after last contact with the infectious case.

Description of key actions for the department for casual contacts

Casual contacts, where identified, will be logged by the department. A casual contact will be provided with advice and a factsheet by the department and advised to self-monitor but are not actively called or monitored.

Where a casual contact develops symptoms and meets the case definition, thus becoming a suspected case, the department will actively manage as a suspected case.

The clinical team should call the department on 1300 651 160 when they become aware of a symptomatic casual contact, as testing is highly likely to be required.

Healthcare workers

HCWs and other contacts who have taken recommended infection control precautions, including the use of recommended PPE, while caring for a confirmed case of COVID-19 are not considered to be close contacts. However, they should be advised to self-monitor and if they develop symptoms consistent with COVID-19 infection they should isolate themselves and notify the department on 1300 651 160 so they can be tested and managed as a suspected case of COVID-19.

Any healthcare worker or residential aged care worker who has been in the higher risk countries of mainland China, Iran, Italy and South Korea in the previous 14 days should not attend work until they have been well for 14 days after leaving those countries.

Healthcare workers who have been overseas in the past 14 days and are unwell with a compatible illness should not attend work and seek appropriate medical care. All unwell healthcare workers should consider being tested for COVID-19.

Table 1: Actions for travellers and healthcare workers returning from overseas.

Country risk	Country	General actions	Action for healthcare and residential care workers
Higher risk	Mainland China Iran South Korea	Self-quarantine for 14 days	No work for 14 days
Higher risk	Italy	Self-monitor for 14 days Practise social distancing Isolate if unwell	No work for 14 days
Moderate risk	All other countries	Self-monitor for 14 days Isolate if unwell	Can return to work if well

Infection prevention and control

Background

Infection prevention and control recommendations are based on the *Communicable Diseases Network Australia Series of National Guidelines – Novel Coronavirus guideline*, and WHO guideline [Infection prevention and control during health care when novel coronavirus \(nCoV\) infection is suspected: Interim guidance January 2020](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected) ([https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected)).

Nationally consistent advice regarding the management of COVID-19 suspected and confirmed cases has evolved as further information regarding the specific risks of transmission associated with this infection have become known. As it becomes available, this advice has been incorporated into this guideline.

Transmission-based precautions

Caring for suspected and confirmed cases

In line with advice from the WHO and the Communicable Disease Network Australia, the department recommends droplet and contact precautions for HCWs providing routine care of suspected and confirmed cases of COVID-19 infection.

This means that in addition to standard precautions, **all individuals, including family members, visitors and HCWs** should apply droplet and contact precautions. This includes use of the following PPE:

- single-use surgical mask
- eye protection (for example, safety glasses/goggles or face shield)
- long-sleeved gown
- gloves (non-sterile).

All PPE should be single-use and disposed of into clinical waste when removed. Posters showing the order of putting on and taking off PPE (donning and doffing) can be found on the [department's website](https://www.dhhs.vic.gov.au/health-services-and-general-practitioners-coronavirus-disease-covid-19) <<https://www.dhhs.vic.gov.au/health-services-and-general-practitioners-coronavirus-disease-covid-19>>.

For hand hygiene, use an alcohol-based hand rub if hands are visibly clean, soap and water when hands are visibly soiled.

Visiting confirmed cases of novel coronavirus is discouraged due to the high likelihood of contamination of the environment of the room of an infectious confirmed case. If a visitor attends a confirmed case in hospital, the visitor must wear PPE as described above and should be carefully donned and doffed by a person experienced in infection prevention and control requirements.

Undertaking diagnostic testing for novel coronavirus

For information on the appropriate specimens for testing see the section on laboratory testing for COVID-19 below.

In the community there is no requirement for airborne precautions when taking a nose and throat swab.

If the patient has symptoms of pneumonia, such as shortness of breath or productive sputum there may be a small chance of a higher viral load. As a precaution, airborne and contact precautions are recommended when taking upper respiratory specimens when pneumonia is present.

A patient with clinical evidence of pneumonia who requires testing for COVID-19 should be managed in a hospital setting. Management of patients with pneumonia in the hospital setting will also facilitate lower respiratory tract specimen collection.

Table 2: When airborne precautions are recommended for specimen collection

Specimen type	Patients <i>without</i> symptoms of pneumonia	Patients <i>with</i> symptoms of pneumonia (fever and breathlessness and/or severe cough)
Nasopharyngeal swab	No	Yes
Oropharyngeal swab	No	Yes
Sputum (not induced)	No	Yes
Nasal wash/aspirate	No	Yes
Bronchoalveolar lavage	Yes	Yes
Induced sputum	Yes	Yes

Ref: Infection Control Advisory Group – 2019-nCoV, *Interim recommendations for the use of PPE during clinical care of people with possible nCoV infection*. CDNA

While patient’s faecal samples may be tested under some circumstances where there is capacity to do so, faecal sampling is not recommended as a standard test.

Undertaking aerosol generating procedures

Aerosol generating procedures (AGPs) should be avoided where possible. Airborne and contact precautions should be used routinely for AGPs as listed below.

Examples of AGPs include:

- bronchoscopy
- tracheal intubation
- non-invasive ventilation (BiPAP, CPAP, HFOV)
- manual ventilation before intubation
- intubation
- cardiopulmonary resuscitation
- sputum induction
- suctioning.

Nebuliser use should be discouraged and alternative administration devices (for example, spacers) should be used.

Airborne and contact precautions means the use of the following PPE:

- P2/N95 respirator (mask) – fit-check with each use
- eye protection (for example, safety glasses/goggles or face shield)
- long-sleeved gown
- gloves (non-sterile).

P2/N95 respirators (mask) should be used only when required. Unless used correctly, that is. with fit-checking, a P2/N95 respirator (mask) is unlikely to protect against airborne pathogen spread.

- An air-tight seal may be difficult to achieve for people with facial hair. Fit checking with a range of P2/N95 respirators must occur to assess the most suitable one to achieve a protective seal. If a tight seal cannot be achieved, facial hair should be removed.

Appropriate cleaning and disinfection should be undertaken following an AGP. See [Environmental cleaning and disinfection](#) for further information.

Patient placement

A standard single room (Class S) with doors closed is sufficient, although cases may be placed into a negative-pressure ventilation room (Class N), where available. AGPs, wherever possible, should be conducted in a negative-pressure ventilation room.

A dedicated toilet / commode should be used where possible, ensuring lid is closed when flushed to reduce any risk of aerosolization.

Suspected cases of COVID-19 infection may be cohorted together where single rooms are not available. Maintain a record of all persons entering the patient's room including all staff and visitors.

Care of critically ill patients in ICU

- Patients who require admission to ICU with severe COVID-19 are likely to have a high viral load, particularly in the lower respiratory tract.
- Contact and airborne precautions (as above) are required for patient care and are adequate for most AGPs.
 - The risk of aerosol transmission is reduced once the patient is intubated with a closed ventilator circuit. There is a potential, but unknown, risk of transmission from other body fluids such as diarrhoeal stool or vomitus or inadvertent circuit disconnection.
- If a health care professional is required to remain in the patient's room continuously for a long period (for example, more than one hour), because of the need to perform multiple procedures, the use of a powered air purifying respirator (PAPR) may be considered for additional comfort and visibility. A number of different types of relatively lightweight, comfortable PAPRs are now available and should be used according to manufacturer's instructions. Only **PPE marked as reusable** should be reused, following reprocessing according to manufacturer's instructions; all other PPE must be disposed of after use.

ICU staff caring for patients with COVID-19 (or any other potentially serious infectious disease) should be trained in the correct use of PPE, including by an infection control professional. This also applies particularly to the use of PAPRs, when used. Particular care should be taken on removal of PAPR, which is associated with a risk of contamination.

Case movement and transfers

Where possible, all procedures and investigations should be carried out in the case's room, with exception of AGPs which should be performed in a negative pressure room whenever possible.

Transfers to other healthcare facilities should be avoided unless it is necessary for medical care.

Environmental management

Signage

Clear signage should be visible to alert HCWs of required precautions before entering the room, see <https://www.safetyandquality.gov.au/our-work/healthcare-associated-infection/infection-control-signage>

Management of equipment

Preferably, all equipment should be either single-use or single-patient-use disposable. Reusable equipment should be dedicated for the use of the case until the end of their admission. If this is not possible, equipment must be cleaned and disinfected (see [Environmental cleaning and disinfection](#) below) prior to use on another patient.

Disposable crockery and cutlery may be useful in the patient's room to minimise the number of contaminated items that need to be removed. Otherwise, crockery and cutlery can be reprocessed as per standard precautions.

Environmental cleaning and disinfection

Required agents for cleaning and disinfection

Cleaning of a patient consultation room or inpatient room should be performed using a neutral detergent. Disinfection should then be undertaken using a chlorine-based disinfectant (for example, sodium hypochlorite) at a minimum strength of 1000ppm, or any hospital-grade, TGA-listed disinfectant with claims against coronaviruses or norovirus, following manufacturer's instructions.

A one-step detergent/chlorine-based product may also be used. Ensure manufacturer's instructions are followed for dilution and use of products, particularly contact times for disinfection.

Wearing PPE whilst undertaking cleaning and disinfection

Droplet and contact precautions should be used during any cleaning and disinfection of a room where there has not been an AGP or if more than 30 minutes has elapsed since the AGP was done.

Airborne and contact precautions should be used during any cleaning and disinfection of a room where there has been an AGP performed within the previous 30 minutes.

Steps for disinfection and cleaning of a patient consultation room or inpatient room

The patient consultation room should be cleaned at least once daily and following any AGPs or other potential contamination.

There is no need to leave a room to enable the air to clear after a patient has left the room unless there was an AGP performed. Nose and throat swabs are not considered AGPs unless performed on a patient who has pneumonia. If an AGP was performed, leave the room to clear for 30 minutes.

The patient consultation room (or inpatient room after discharge of the suspected case) should now be cleaned and disinfected using the agents listed above. In most cases this will mean a wipe down with a one-step detergent disinfectant as listed above. There is no requirement to wait before the next patient is seen. The room is now suitable for consultation for the next patient.

Waste management

Dispose of all waste as clinical waste. Clinical waste may be disposed of in the usual manner.

Linen

Bag linen inside the patient room. Ensure wet linen is double bagged and will not leak.

Reprocess linen as per standard precautions.

Environmental cleaning and disinfection in an outpatient or community setting (for example, a general practice or restaurant)

Cleaning and disinfection methods as below:

- Clean surfaces with a neutral detergent and water first.
- Disinfect surfaces using either a chlorine-based product at 1000ppm or other disinfectant that makes claims against coronavirus. Follow the manufacturer's instructions for dilution and use.
- A one-step detergent/disinfectant product may be used as long as the manufacturer's instructions are followed re dilution, use and contact times for disinfection (that is, how long the product must remain on the surface to ensure disinfection takes place).

Follow the manufacturer's safety instructions for products used regarding precautions and use of safety equipment such as gloves or aprons.

All linen, for example bedding or tablecloths, should be washed on the hottest setting items can withstand.

Wash crockery and cutlery in a dishwasher on the highest setting possible.

Laboratory testing for COVID-19

Prioritisation of testing

The Victorian Infectious Diseases Reference Laboratory (VIDRL) will undertake testing for COVID-19 in Victorian patients.

Notification to the department facilitates critical public health control measures like isolation of cases. Suspected cases notified to the department will be prioritised for urgent testing at VIDRL.

Specimens for testing

For initial diagnostic testing for COVID-19, DHHS recommends collecting the following samples:

1. upper respiratory tract specimens.
2. lower respiratory tract specimens (if possible).
3. serum (to be stored for later analysis).

Label each specimen container with the patient's ID number (for example, medical record number), specimen type (for example, serum) and the date the sample was collected.

Respiratory specimens

Collection of upper respiratory (nasopharyngeal AND/OR oropharyngeal swabs), and lower respiratory (sputum, if possible) is recommended for patients with a productive cough.

1. Upper respiratory tract
 - a) Nasopharyngeal swab: Insert a swab into nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nostrils (nasopharyngeal areas) with the same swab

AND/OR
 - b) Oropharyngeal swab (that is, a throat swab): Swab the tonsillar beds, avoiding the tongue.
 - c) A second swab for testing for other respiratory viruses (for example, multiplex PCR) is recommended at the time of the first respiratory specimen for COVID-19 testing.

Note. Swab specimens should be collected only on swabs with a synthetic tip (such as polyester, Dacron® or Rayon, flocked preferred) with aluminium or plastic shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing. For transporting samples, recommended options include viral transport medium (VTM) containing antifungal and antibiotic supplements, or Liquid Amies medium which is commonly available. Avoid repeated freezing and thawing of specimens.

2. Lower Respiratory tract (if possible)
 - a) Sputum: Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and send to VIDRL on ice pack.
 - b) Bronchoalveolar lavage, tracheal aspirate: Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and send to VIDRL on ice pack.

Lower respiratory tract specimens are likely to contain the highest virus loads based on experience with SARS and MERS coronaviruses.

Other specimens:

3. Blood (serum) for storage for serology at a later date:
 - a) Children and adults: Collect 1 tube (5-10mL) of whole blood in a serum separator tube.
 - b) Infant: A minimum of 1ml of whole blood is needed for testing paediatric patients. If possible, collect 1mL in a serum separator tube.

At the current time there is no serological test for COVID-19 and blood when received at VIDRL will be stored for future testing, when testing is available and if the case is confirmed as COVID-19 infection.

The department is continuously reviewing whether there is a requirement for other specimens such as stool or urine to be sent to VIDRL. At the current time this is not routinely recommended in cases of respiratory illness. A stool specimen may be recommended by the department to provide additional reassurance before a confirmed case is released from isolation.

Specimen collection and transport

See also [Undertaking diagnostic testing](#) for PPE recommendations.

Specimen collection process

For most patients with mild illness in the community, collection of upper respiratory specimens (that is, nasopharyngeal or oropharyngeal swabs) is a low risk procedure and can be performed using **droplet and contact** precautions.

- Perform hand hygiene before donning gown, gloves, eye protection and single-use surgical mask. See How to put on your PPE poster on the department's website <<https://www.dhhs.vic.gov.au/health-services-and-general-practitioners-coronavirus-disease-covid-19>>.
- When collecting throat or nasopharyngeal swabs stand slightly to one side of the patient to avoid exposure to respiratory secretions should the patient cough or sneeze.
- At the completion of the specimen collection process, remove all PPE and perform hand hygiene after removing gloves and when all PPE has been removed. See How to take off your PPE poster on the department's website <<https://www.dhhs.vic.gov.au/health-services-and-general-practitioners-coronavirus-disease-covid-19>>.

Note that, for droplet and contact precautions, the room does not need to be left empty after sample collection. Droplet and contact precautions PPE must be worn when cleaning the room. See [Environmental cleaning and disinfection](#) for further information.

If the patient has severe symptoms suggestive of pneumonia, for example, fever and breathing difficulty, or frequent, severe or productive coughing episodes then **airborne and contact precautions** should be observed. This means that a P2 respirator must be used instead of a single-use surgical mask.

Patients with symptoms suggestive of pneumonia should be managed in hospital, and sample collection conducted in a negative pressure room, if available. If referral to hospital for specimen collection is not possible, specimens should be collected in a room from which air does not circulate to other areas. The door should be closed during specimen collection and the room left vacant for at least 30 minutes afterwards (cleaning can be performed during this time by a person wearing PPE for airborne and contact precautions).

There are no special requirements for transport of samples to VIDRL. They can be transported as routine diagnostic samples for testing (that is, Biological substance, Category B).

Handling of specimens within diagnostic laboratories

All diagnostic laboratories should follow appropriate biosafety practices, and testing on clinical specimens, including for other respiratory viruses, should only be performed by adequately trained scientific staff.

Current advice from the WHO is that respiratory samples for molecular testing should be handled at Biosafety Level 2 (BSL2), with the USCDC recommending that the following procedures involving manipulation of potentially infected specimens are performed at BSL2 within a class II biosafety cabinet:

- aliquoting and/or diluting specimens
- inoculating bacterial or mycological culture media
- performing diagnostic tests that do not involve propagation of viral agents in vitro or in vivo
- nucleic acid extraction procedures involving potentially infected specimens
- preparation and chemical- or heat-fixing of smears for microscopic analysis.

Information on testing for coronavirus at VIDRL

VIDRL has moved to utilising Real-Time specific novel coronavirus PCR assays as the primary diagnostic tool for COVID-19 detection.

Real-time novel Coronavirus PCR assay

- The test takes approximately 2–3 hours to perform.
- Results reported as positive or negative for COVID-19, for example, *COVID-19 not detected*.

The current VIDRL testing algorithm is as follows:

- All suspected cases will be tested by a real-time assay as above.
 - This test will be performed twice a day at the current time (morning and afternoon), with results released through routine pathways.
- All negative results will be reported and finalised.
- Any positive results will be confirmed by a second specific Real-Time novel Coronavirus PCR assay targeting a different RNA sequence.
 - This second Real-Time assay will be run for any presumptive positive results, immediately following completion of the first Real-Time assay.
 - Samples positive in both Real-Time assays will thus be reported on the same day as initial testing and will be telephoned through to the referring pathology service as well as the department.
 - Discordant results between the two different Real-Time assays are not anticipated and will be managed on a case by case basis with further molecular testing (for example, Pan-coronavirus PCR assay).
- Urgent specimens can be tested outside of these periods in consultation with the department.
- Viral culture will be attempted from any positive sample under high containment, but such testing is not a diagnostic modality.
- Serum samples will be stored.

As experience with testing develops this algorithm may change further. VIDRL has the intention to register the Real-Time assays with NATA in the near future once sufficient data is available.

Governance

International response

The WHO declared novel coronavirus a Public Health Emergency of International Concern (PHEIC) under the *International Health Regulations 2005* and on 30 January 2020. A pandemic has not been declared at this stage. The WHO determines each global pandemic phase. In Australia, each phase is determined on advice from the Chief Medical Officer (CMO) to the Minister for Health and the Prime Minister.

Department Incident Management Team

The Department of Health and Human Services (the department, DHHS) has formed a Department Incident Management Team, chaired by a Public Health Commander, to coordinate the public health and sector response. A Class 2 Emergency, or public health emergency, was declared on 1 February 2020.

The Infection Clinical Network of Safer Care Victoria will be a network that is requested to provide comment and advice to the department, alongside national committees including the Communicable Diseases Network Australia (CDNA).

Communications and media

The department will coordinate communications and media in relation to suspected and confirmed cases of COVID-19. In some instances, the department may – in collaboration with a Victorian health service – request a service to provide media responses in relation to one of more cases associated with that service. A health service should contact the department's Media Unit with any queries.

Role of Ambulance Victoria

Ambulance Victoria may be activated by the department to transport suspected cases of COVID-19 from a port of entry, general practice or other setting to an emergency department, as required. When transfer of a patient is required, the department's Communicable Diseases Section (1300 651 160) will coordinate the transfer with Ambulance Victoria. Ambulance Victoria's State Health Commander or delegate will liaise with the general practice or setting directly to coordinate the transport of the patient to the emergency department.

If the patient is extremely unwell and requires immediate critical care, a general practitioner should call 000 in the normal manner but advise that the patient may have suspected COVID-19 infection.

Prevention

Clinicians are recommended to provide prevention messages to patients planning travel to countries affected by COVID-19, including:

- Follow advice on influenza vaccination before travelling.
- Ensure adherence to good hand and respiratory hygiene practices.
- Adhere to good food safety practices.
- Consider avoiding live animal markets.
- Check for travel advice or restrictions on <https://www.smarttraveller.gov.au>.

Risk management at ports of entry

Infection with COVID-19 was designated a Listed Human Disease (LHD) under the *Biosecurity Act 2015* on 21 January 2020. On 1 February 2020, the Australian Government announced travel restrictions and has advised that visitors from mainland China who are not Australian citizens or permanent residents, or their families will not be allowed entry into Australia. The Australian Government has also recommended that Australians should not travel to mainland China at the current time. As of 1 March 2020, travel restrictions have also been announced for travellers from Iran and South Korea. The same eligibility criteria as above applies for entry.

Australian Government Department of Agriculture Biosecurity Officers undertake an assessment of international arriving passengers using a form known as a Traveller with Illness Checklist, and seek advice when that tool indicates the possibility of a listed human disease being present from a Human Biosecurity Officer, who is a communicable diseases doctor from the Victorian Government Department of Health and Human Services. The checklist has been modified to trigger an assessment if a person has been in mainland China and has a fever and illness.

As of 1 February 2020, direct flights from mainland China are being met at the port of entry so that temperature screening, a check on health status and advice to self-quarantine can be provided.

The disease

Infectious agent

Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2) has been confirmed as the causative agent. Coronaviruses are a large and diverse family of viruses that include viruses that are known to cause illness of variable severity in humans, including the common cold, severe acute respiratory syndrome (SARS-CoV), and Middle East Respiratory Syndrome (MERS-CoV). They are also found in animals such as camels and bats.

First termed 2019 novel coronavirus (2019-nCoV), the virus was officially named Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2) 11 February 2020. The disease it causes is now called coronavirus disease 2019 (COVID-19).

Reservoir

The reservoir is essentially unknown, but probably zoonotic, meaning they are likely transmitted between animals and people; however, an animal reservoir has not yet been identified for COVID-19.

Initial cases were business operators at the Hua Nan Seafood Wholesale Market, which sold live animals such as poultry, bats, marmots, and wildlife parts. The source of the outbreak is still under investigation in Wuhan. Preliminary investigations have identified environmental samples positive for COVID-19 in Hua Nan Seafood Wholesale Market in Wuhan City, however some laboratory-confirmed patients did not report visiting this market.

Mode of transmission

The mode or modes of transmission of COVID-19 are not yet fully known, although based on the nature of other coronavirus infections, transmission is likely through droplet and contact. There have been cases with a strong history of exposure to the Hua Nan Seafood Wholesale Market in Wuhan City, China where live animals are sold. The WHO has confirmed that available evidence now indicates human to human transmission has occurred. Limited human to human transmission has been observed in healthcare facilities and among family members.

However, the mechanism by which transmission occurred in these cases, whether through respiratory secretions after coughing or sneezing, or direct physical contact with the patient or via fomites after contamination of the environment by the patient, is unknown.

As a result, droplet and contact precautions are recommended.

Incubation period

The incubation period is not yet known. However, the interim view on the incubation period is that it is up to 14 days, based on the nature of previous coronavirus infections.

Infectious period

Evidence on the duration of infectivity for COVID-19 infection is evolving. The risk of pre-symptomatic transmission is thought to be low. However, as a precaution an infectious period of 24 hours prior to the onset of symptoms is being used to identify and manage close contacts. Infection control precautions should be applied throughout any admission and until the department has declared the confirmed case to be released from isolation.

Given that little information is currently available on viral shedding and the potential for transmission of COVID-19, testing to detect the virus may be necessary to inform decision-making on infectiousness.

Patient information (for example age, immune status and medication) should also be considered. Criteria for release from isolation are described in this guideline.

Clinical presentation

Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties. Sore throat and headache have been reported.

In more severe cases, it appears that infection can cause pneumonia, severe acute respiratory syndrome and kidney failure. In summary there appears to be evidence of mild cases, through to severe acute respiratory infection (SARI) cases.

Initial information suggests illness is more likely in the middle-aged and elderly.

The case fatality rate is unknown but appears to be lower than for SARS and higher than the common cold. The case fatality rate may be higher in elderly, people with immune compromise or who have co-morbidities. Current estimates are that the case fatality rate may be as high as two per cent.

Information resources

The department will place resources for health professionals on a website located at <https://www.dhhs.vic.gov.au/novelcoronavirus>

It is important that health professionals consult this website regularly, as case definitions and content of this guideline are likely to change regularly in the early days of the international response to this outbreak.