Washington State Department of Health

COVID-19 Infection

Signs and Symptoms	• Estimated 25-40% of cases asymptomatic • Usual: fever, cough, short of breath, chills, fatigue, myalgia, headache, sore throat, loss of smell / taste • Severe: pneumonia, respiratory failure, stroke, multisystem inflammatory syndrome
Incubation	The estimated incubation period is 5 days (range 2-14 days)
Case classification (for full details see Section 3)	**Confirmed –** Not a previous confirmed or probable case in the prior 90 days AND: • Detection of SARS-CoV-2 RNA in a clinical or post-mortem specimen using a molecular amplification detection test performed by a CLIA-certified provider; OR SARS-CoV-2 detection by genomic sequencing **Probable –** Not a previous confirmed or probable case in the prior 90 days AND: • Detection of SARS-CoV-2 antigen in a clinical or post-mortem specimen using a test performed by CLIA-certified provider; OR • Compatible clinical syndrome AND epidemiologic link to a laboratory positive case; OR • Death certificate includes "COVID-19" or "SARS-CoV-2" **Suspect** – Not a prior confirmed or probable case AND: SARS-CoV-2 antibody detection; OR post-mortem immunocytochemistry positive; OR SARS-CoV-2 antigen or molecular positive result without CLIA oversight
Treatment	Vaccine first available 12/2020. Available monoclonal and antiviral agents may not work for all variants.
Duration	Likely contagious ~2 days before until 10 days after symptom onset, 20 days if immunocompromised; asymptomatic case may be contagious. PCR positivity does not correlate. Susceptibility to reinfection appears to start after 90 days. Symptoms may persist months or may develop after acute infection.
Exposure	Person-to-person transmission assumed early in the infection. Primarily through inhalation of or mucous membrane exposure to fine respiratory droplets and aerosol particles but may occur by touching mucous membranes with contaminated hands); exposure at > 6 feet can occur in closed spaces with inadequate ventilation or air handling, increased exhalation of respiratory fluids, and prolonged or multiple brief exposures (totaling 15 minutes or more).

Laboratory testing	**COVID-19 testing is available at Washington State Public Health Laboratories (PHL) and academic and clinical laboratories.** PHL does not require preapproval for counties. For testing at PHL, see specimen collection, shipping and handling information for COVID-19 on the PHL Laboratory Test Menu. LHJs need to enroll in QRP to electronically complete forms.
	• **Best specimens (collect using appropriate infection prevention)**
	  ○ Nasal (**not** NP) swab using synthetic swab in 2-3 ml viral transport media – Instructions: https://doh.wa.gov/sites/default/files/legacy/Documents/1600/coronavirus//Self-SwabNasalCollectionInstructions.pdf)
	  ○ If intubated, lower respiratory sample (sputum, BAL or tracheal aspirate) in sterile container
	  ○ Also consider second nasal swab for rapid flu and respiratory panel at a clinical laboratory
	• **Shipping and handling information:** Keep specimens **cold (2-8°C)** up to 72 hours until receipt at PHL, otherwise freeze ≤ -70°C; follow the COVID-19 Submission Process including having two identifiers and source on specimens and form.

Public health actions **URGENT**	Determine if a case was likely exposed or infectious in a facility or group. Prioritize healthcare-associated or fatal cases and clusters/outbreaks. Investigate case contacts. Ensure essential variables for cases and contacts are in one of designated data flows. Option to use COVID-19 WDRS form. Inform the case to stay home while symptomatic except to get medical care; to call the provider before visiting and identify themselves as having COVID-19; to separate themselves from others (particularly sleeping area and bathroom) to avoid sharing household items such as dishes, towels, or bedding; and to practice respiratory etiquette and frequent hand hygiene. See: https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/index.html. Close contacts should quarantine as appropriate. Provide the following education materials as needed to cases and contacts: patients with confirmed or suspected COVID-19 and persons exposed to a confirmed COVID-19 case; providers may use these and: unexposed patients with COVID-19 symptoms. For current COVID information see: https://www.cdc.gov/coronavirus/2019-ncov/index.html and https://www.doh.wa.gov/Emergencies/Coronavirus

COVID-19 Infection – General

1. DISEASE REPORTING

A. Purpose of Reporting and Surveillance

1. To identify infections due to COVID-19.
2. To prevent the spread of COVID-19.

B. Legal Reporting Requirements

1. Healthcare providers: **immediately notifiable to local health jurisdiction including point-of-care tests**
2. Healthcare facilities: **immediately notifiable to local health jurisdiction**
3. Laboratories: **immediately notifiable to local health jurisdiction** including **negative results** https://doh.wa.gov/emergencies/covid-19/healthcare-providers/reporting-test-results
4. Local health jurisdictions: **immediately notifiable to Washington State Department of Health (DOH) Office of Communicable Disease Epidemiology (CDE)** https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/EmergencyRuleReportingCOVIDTesting.pdf
5. Employers: outbreaks or suspected transmission in the workplace notifiable to the local health jurisdiction (Governor order July 2020)

C. Local Health Jurisdiction Investigation Responsibilities

1. Contact CDE (206-418-5500 or 877-539-4344) with concerns about COVID-19 clusters.
2. Determine exposures and contacts as indicated. Ensure that appropriate infection control practices are implemented if testing is pending.
3. For confirmed and antigen-positive probable cases, complete either a CREST interview or enter the case into the Washington Disease Reporting System (WDRS) as a Coronavirus case and the Disease as COVID-19. Investigate all identified contacts of confirmed or antigen-positive cases and household and intimate contacts of other probable cases. See Case-Contact guidance or contact PHOCIS (206-418-5700).
4. For outbreak reporting to Department of Health there are four options for LHJs:
    a. Create an outbreak event in WDRS and link all outbreak-associated cases. To get needed Outbreak Manager permission contact covid19wdrsdevs@doh.wa.gov. Do not link household contacts of outbreak-associated cases or others not actually present at the outbreak setting. A training video (start at minute 9:40) has step-by-step information, slides, and a template for a roster upload OR
    b. Send a complete COVID-19 Outbreak Determination/Investigation Form (wa.gov) by email to doh-ncov-epi@doh.wa.gov or fax to Communicable Disease Epidemiology 206-364-1060 OR
    c. Roster upload: complete a line list [Excel file – training video in item (a)] and send to doh-ncov-epi@doh.wa.gov for roster upload and WDRS outbreak event ID creation

2. THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Coronaviruses were named for crown-like surface spikes. Sub-groups are alpha, beta and gamma, and tentatively delta. Six coronavirus strains were previously known to infect humans: alpha coronaviruses, 229E and NL63 (cause mild to moderate upper respiratory illness); and beta coronaviruses, SARS-CoV (severe acute respiratory syndrome [SARS]), OC43 and HKU1 (upper respiratory illness), and MERS-CoV (Middle East respiratory syndrome.) In December 2019, China first reported SARS-CoV-2 (initially called 2019 novel coronavirus) cases. World Health Organization (WHO) named the illness due to SARS-CoV-2 as COronaVIrus Disease-2019 (COVID-19).

Mutation rates are slow but detectable, resulting in new SARS-CoV-2 variants. Although most mutations are not clinical important, of particular concern are variants that transmit more easily; cause more severe disease; or escape diagnostic, therapeutic, or vaccine measures. Metagenomic analysis can be informative. See:
https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html
https://covid.cdc.gov/covid-data-tracker/#variant-proportions
https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/data-tables/420-316-SequencingAndVariantsReport.pdf

B. Description of Illness

Initial common symptoms may include fever, cough, and shortness of breath, as well as chills, headache, fatigue, muscle aches, sore throat, congestion or runny nose, nausea, diarrhea and loss of taste or smell. For variants before Omicron (data pending) about 80 percent of symptomatic infections were mild to moderate; 25-40% of all infections may be asymptomatic. Testing may be positive while a person is presymptomatic. Severe to critical complications in about 20% include pneumonia, respiratory distress, arrhythmias, myocarditis, organ damage such as to liver or kidneys, blood clots (hypercoagulability), encephalomyelitis, stroke, and secondary infections. Vaccinated persons may have no symptoms or only headache, runny nose, sneezing, or sore throat.

Risk of severe illness increases for many factors including age > 65 years; males; women who are pregnant; or those who are overweight or with underlying conditions, such as diabetes, heart disease, lung disease or smoker, neurologic condition, cancer, or immunocompromised: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html?ACSTrackingID=USCDC_2067-DM76440&ACSTrackingLabel=People%20with%20Certain%20Medical%20Conditions%20%20%7C%20COVID-19&deliveryName=USCDC_2067-DM76440. Pregnancy complications include pre-eclampsia, coagulopathy, sepsis, and stillbirth: https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19/what-cdc-is-doing.html. Those negatively impacted by long-standing systemic health and social inequalities are also at higher risk of severe or fatal infection. https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/racial-ethnic-disparities/index.html

Duration of infectivity and extent of immunity are still uncertain, and may vary with vaccination status. Check current recommendations for isolation and quarantine. There are reports of cases of recurrent SARS-CoV-2 RNA detection (with or without

symptoms) among patients whose symptoms had resolved, which could represent either re-infection or intermittent viral RNA shedding. Risk of recurrence is unknown. Breakthrough cases occur after vaccination.

Post-COVID condition refers to symptoms persisting four weeks from onset. Included is what has been called "long COVID", which has months of persisting fatigue, cough, organ injury, "brain fog" or other symptoms. Post-COVID symptoms may differ from those of the acute infection. It is not known if risk varies by variant. See: https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/ and Key Points | Evaluating and Caring for Patients with Post-COVID Conditions | CDC.

A rare pediatric multisystem inflammatory syndrome has been associated with COVID-19 with symptoms including fever, rash, conjunctivitis, vomiting, diarrhea, and abdominal and musculoskeletal pain: https://www.cdc.gov/mis/mis-c/hcp/index.html and https://emergency.cdc.gov/han/2020/han00432.asp. A few adult multisystem inflammatory syndrome cases may have also been reported, affecting multiple organs: https://www.cdc.gov/mis-c/mis-a.html and https://www.cdc.gov/mis/mis-a/hcp.html.

C. COVID-19 Infection in Washington during the 2020-2021 Pandemic

WHO declared a pandemic on March 11, 2020. Since the first US case of COVID-19 was reported January 2020, the country has over 70,000,000 reported cases. Globally cases surpassed 360,000,000 with over 5,600,000 deaths. For updated case counts see below.

Washington: https://www.doh.wa.gov/Emergencies/COVID19/DataDashboard

US: https://covid.cdc.gov/covid-data-tracker/#cases_casesinlast7days

Global: https://covid19.who.int/

D. Reservoirs

The reservoir for SARS-CoV-2 is unknown but may be pangolins or bats. Sequencing found the virus is most closely related to SARS-CoV so may share its reservoirs. Cats, dogs, mink, and zoo and wild animals (e.g., deer) have had documented SARS-CoV-2 infections but are not considered to have a role contributing to outbreaks among humans.

E. Modes of Transmission

The infectious dose has not been established for SARS-CoV-2 but brief exposures have resulted in transmission. Most transmission appears to occur early in the infection. The principal mode of transmission is exposure to respiratory fluids in one of three main ways:

- Inhalation of very fine respiratory droplets and aerosol particles (with greatest particle concentration and risk within 3-6 feet of the source)
- Deposition of respiratory droplets and particles on exposed mucous membranes by direct splashes or sprays (e.g., coughed on)
- Touching mucous membranes (eyes, nose or mouth) with hands that have been contaminated directly or from touching surfaces (probably a lesser route)

Very fine droplets and aerosol particles formed when fine droplets rapidly dry can remain suspended in the air for minutes to hours. Transmission via hands or objects from contaminated surfaces can occur but is not considered a major route of exposure.

Exposure at greater than 6 feet does occur under certain circumstances, typically involving closed spaces with inadequate ventilation or air handling, increased exhalation of respiratory fluids, and exposures that are prolonged (typically over 15 minutes) or briefly intense (e.g., passing through a person's breathing space). Implicated settings with transmission include fitness facilities, buses, restaurants, and indoor group singing sessions.

Recommendations to prevent transmission include physical distancing, community use of well-fitting masks (e.g., barrier face coverings, procedure/surgical masks), adequate ventilation, and avoidance of crowded indoor spaces: https://www.cdc.gov/coronavirus/2019-ncov/transmission/. Practicing good hand hygiene and environmental cleaning are also recommended. Appropriate PPE should be used by healthcare personnel: https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html

F. Incubation Period

For variants before Omicron the estimated incubation period is 2-14 days, with a median of 5-6 days. The period may be shorter (2-4 days) for Omicron.

G. Period of Communicability

Two days before to ten days after onset regardless of PCR results (and if afebrile at ten days); up to 20 days if immunocompromised or severe COVID-19 illness – consider test-based strategy. Asymptomatic cases are communicable. Susceptibility to reinfection starts at 90 days.

H. Treatment

Consult with an infectious disease specialist for monoclonal antibody and antiviral therapies, particularly for newer variants. For monoclonal antibody access in Washington see: https://www.doh.wa.gov/Emergencies/COVID19/TherapeuticTreatmentLocations

For an overview see: https://www.covid19treatmentguidelines.nih.gov/

For therapy reviews see:
https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/ (nonhospitalized adults)

https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/hospitalized-adults--therapeutic-management/ (hospitalized adults)

https://www.covid19treatmentguidelines.nih.gov/therapies/antiviral-therapy/

https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/

I. Vaccine

See https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html

3. CASE DEFINITIONS

A. Case Classification (2021)

See: https://ndc.services.cdc.gov/conditions/coronavirus-disease-2019-covid-19/

Clinical Criteria

In the absence of a more likely diagnosis:

- Acute onset or worsening of at least **two** of the following symptoms or signs: fever (measured or subjective); chills; rigors; myalgia; headache; sore throat; nausea or vomiting; diarrhea; fatigue; or congestion or runny nose OR
- Acute onset or worsening of any **one** of the following symptoms or signs: cough; shortness of breath; difficulty breathing; olfactory disorder; taste disorder; confusion or change in mental status; persistent pain or pressure in the chest; pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone; or inability to wake or stay awake OR
- Severe respiratory illness with at least **one** of the following: clinical or radiographic evidence of pneumonia; or acute respiratory distress syndrome (ARDS)

Laboratory Criteria

Laboratory evidence – method approved or authorized (e.g., Emergency Use Authorization) by US Food and Drug Administrations (FDA) or designated authority*.

Confirmatory** laboratory evidence:

- Detection of SARS-CoV-2 RNA in a clinical specimen or a post-mortem respiratory swab using a diagnostic molecular amplification test performed by a Clinical Laboratory Improvement Amendments (CLIA)-certified provider OR
- Detection of SARS-COV-2 by genomic sequencing***

Presumptive** laboratory evidence:

- Detection of SARS-CoV-2 specific antigen in a clinical specimen or post-mortem respiratory swab using a diagnostic test performed by a CLIA-certified provider

Supportive** laboratory evidence

- Detection of antibody in serum, plasma, or whole blood specific to natural infection with SARS-CoV-2 (antibody to nucleocapsid protein), **OR**
- Detection of SARS-CoV-2 specific antigen by immunocytochemistry in an autopsy specimen, **OR**
- Detection of SARS-CoV-2 RNA or specific antigen using a test performed without CLIA oversight

** On March 13, 2020, the President issued a Memorandum on Expanding State-Approved Diagnostic Tests: "Should additional States request flexibility to authorize laboratories within the State to develop and perform tests used to detect COVID-19, the Secretary shall take appropriate action, consistent with law, to facilitate the request."*

*** The terms* confirmatory, presumptive*, and* supportive *are categorical labels used here to standardize case classifications for public health surveillance. The terms should not be used to interpret the utility or validity of any laboratory test methodology.*

**** Some genomic sequencing tests that have been authorized for emergency use by the FDA do not require an initial polymerase chain reaction (PCR) result to be generated. Genomic sequencing results may be all the public health agency receives.*

Epidemiologic Linkage

One or more of the following exposures in the 14 days before testing or before onset of symptoms:

- Close contact† with a confirmed or probable case of COVID-19 disease, **OR**
- Member of an exposed cohort as defined by public health authorities during an outbreak or during high community transmission

† Close contact is generally defined as being within 6 feet for at least 15 minutes (cumulative over a 24-hour period). However, it depends on the exposure level and setting; for example, in the setting of an aerosol-generating procedure in healthcare settings without proper personal protective equipment (PPE), this may be defined as any duration.

Criteria to Distinguish a New Case from an Existing Case

The following should be enumerated as a new case:

- SARS-CoV-2 sequencing results from the new positive specimen and a positive specimen from the most recent previous case demonstrate a different lineage, **OR**
- Person was most recently enumerated as a confirmed or probable case with onset date (if available) or first positive specimen collection date for that classification >90 days prior‡, **OR**
- Person was previously reported but not enumerated as a confirmed or probable case (i.e., suspect)‡‡, but now meets the criteria for a confirmed or probable case.

‡Some individuals, e.g., severely immunocompromised persons, can shed SARS-CoV-2 detected by molecular amplification tests >90 days after infection. For severely immunocompromised individuals, clinical judgment should be used to determine if a repeat positive test is likely to result from long-term shedding and, therefore, not be enumerated as a new case. CDC defines severe immunocompromise as certain conditions, such as being on chemotherapy for cancer, combined primary immunodeficiency disorder, untreated human immunodeficiency virus (HIV) infection with CD4 T lymphocyte count <200, or receipt of prednisone >20mg/day for > 14 days.

‡‡Repeat suspect cases should not be enumerated.

Vital records criteria:

A death certificate that lists COVID-19 disease or SARS-CoV-2 as an underlying

cause of death or a significant condition contributing to death.

Confirmed Case – Not a previous confirmed or probable case in the prior 90 days AND:

Meets confirmatory laboratory evidence.

Probable Case – Not a previous confirmed or probable case in the prior 90 days AND:

- Meets clinical criteria AND epidemiologic evidence with no confirmatory laboratory testing performed for SARS-CoV-2 OR
- Meets presumptive laboratory evidence OR
- Meets vital records criteria with no confirmatory laboratory testing performed for SARS-CoV-2.

Suspect Case

Meets supportive laboratory evidence with no prior history of being a confirmed or probable case. Suspect cases are not included in surveillance counts.

Multisystem inflammatory syndrome in children (MIS-C)

- An individual aged <21 years presenting with fever*, laboratory evidence of inflammation**, and evidence of clinically severe illness requiring hospitalization, with multisystem (≥2) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); AND
- No alternative plausible diagnoses; AND
- Positive for current or recent SARS-CoV-2 infection by RT-PCR, serology, or antigen test; or exposure to a suspected or confirmed COVID-19 case within the 4 weeks prior to the onset of symptoms.

  **Fever ≥38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours*

  ***Including, but not limited to, one or more of the following: an elevated C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), fibrinogen, procalcitonin, d-dimer, ferritin, lactic acid dehydrogenase (LDH), or interleukin 6 (IL-6), elevated neutrophils, reduced lymphocytes and low albumin*

Additional comments about reporting MIS-C:

- Enter the case in WDRS as an MIS-C event, not as coronavirus. If needed, copy from the coronavirus to the MIS-C event to carry over demographic and laboratory entries.
- Some individuals may fulfill full or partial criteria for Kawasaki disease but should be reported if they meet the case definition for MIS-C.
- Consider MIS-C in any pediatric death with evidence of SARS-CoV-2 infection.
- For details see: https://www.cdc.gov/mis-c/hcp/ and DOH's monthly MIS-C report https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/data-tables/MultisystemInflammatorySyndromeChildrenCOVID19WA2020.pdf

4. LABORATORY DIAGNOSIS AND SERVICES

A. Laboratory Diagnosis

SARS-CoV-2 testing is available from Washington State Public Health Laboratories (PHL), and academic and commercial laboratories. PHL uses a Real-time Reverse Transcriptase Polymerase Chain Reaction (rRT-PCR) assay from Centers for Disease Control and Prevention (CDC) to detect SARS-CoV-2 in respiratory specimens. PHL can facilitate shipping of specimens to CDC (e.g., autopsy tissues). See: https://www.doh.wa.gov/Portals/1/Documents/5240/SCSI-2019-nCoV.pdf

Note that coinfections can occur with other agents, such as SARS-CoV-2 and influenza. See: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/420-373-FluCOVIDLTCF.pdf

B. SARS-CoV-2 Test Types

A number of tests are available for SARS-CoV-2.

1. Viral tests are either nucleic acid amplification tests (NAAT – also called "molecular tests") or antigen tests (also called immunoassays). Methods used for NAAT are reverse transcription polymerase chain reaction (RT-PCR) and isothermal amplification (multiple technologies).

   NAAT and antigen tests both may be laboratory based with about a minimum 12 hour turnaround or field-deployable (referred to as rapid tests) with about a 15 minute turnaround. Home self-tests are rapid antigen tests and can be reported by calling the state 211 number or through WA Notify.

   For information about NAAT see:

   https://www.cdc.gov/coronavirus/2019-ncov/lab/naats.html

   https://www.aphl.org/programs/preparedness/Crisis-Management/Documents/APHL-COVID19-Ct-Values.pdf

   For information about antigen testing see:

   https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/antigen-tests-guidelines.html including an algorithm for follow-up nucleic acid testing in congregate or community settings.

   https://www.cdc.gov/coronavirus/2019-ncov/hcp/nursing-homes-antigen-testing.html

   https://www.aphl.org/programs/preparedness/Crisis-Management/Documents/APHL-SARSCov2-Antigen-Testing-Considerations.pdf

2. Antibody/serology tests may detect spike protein, which occurs with either vaccine or natural infection) or nucleocapsid protein, which occurs only with natural infection. Antibody tests may identify IgM, IgG, or total antibody.

In addition to diagnostic testing, genomic analysis can identify viral variants. Retain existing specimens and contact DOH (206-418-5500) with cases suspected of having variant infections based on recent travel from an affected area or other factor.

Depending on the situation, specimens for viral tests may be collected by a healthcare provider, self-collected under observation, or done unobserved.

It is important to use tests only if they have an FDA Emergency Use Authorization (EUA) or Approval, and to understand characteristics of tests being used. Available products may not have specificity and sensitivity information available. The FDA website has extensive information: https://www.fda.gov/medical-devices/emergency-situations-medical-devices/faqs-diagnostic-testing-sars-cov-2

Institutions can give out self-tests if the resident performs and interprets the test independently without staff assistance, there is no required schedule for testing, and the resident is not required to tell the staff the result. Institutions need a Medical Test Site waiver to use over-the-counter tests for employee or member screening. For waivers see: https://www.doh.wa.gov/LicensesPermitsandCertificates/FacilitiesNewReneworUpdate/LaboratoryQualityAssurance/Licensing/Applications

C. Test Interpretation

In most cases asymptomatic vaccinated persons or currently asymptomatic persons with documented COVID-19 infection in the past 90 days do not need to pursue testing. However, risk of an infection may depend on a specific situation and the current SARS-CoV-2 variants circulating locally.

In general, surveillance counts accept positive results for FDA authorized or approved test. Any test can have a false positive, false negative or indeterminate result. If a disease is rare in a population, even with a test having high sensitivity and specificity can give false positive results. For example, a test with a specificity of 99% used for a symptomatic group where the likelihood of infection is 50%, the positive predictive value is 99% (i.e., for every 100 positive test results only one is a false positive). However, if that test same is used for a low risk asymptomatic population with only 0.05% infected, the positive predictive value is 4.3% (i.e., for every 100 positive tests 95-96 are false positives). Interpret positive results with caution when the pretest probability is low.

Relationship between pretest probability and positive and negative predictive values

Pretest probability[1]	Negative predictive value[2]	Positive predictive value[2]	Impact on test results
Low	High	Low	Increased likelihood of false positives Increased likelihood of true negatives
High	Low	High	Increased likelihood of true positives Increased likelihood of false negatives

[1] Sensitivity and specificity of tests are not affected by the pretest probability

[2] Predictive values are affected by the pretest probability

https://www.cdc.gov/coronavirus/2019-ncov/lab/faqs.html#Interpreting-Results-of-Diagnostic-Tests

1. Nucleic acid amplification tests

Nucleic acid amplification tests (NAATs) including PCR may be laboratory-based, which are usually more sensitive, or point-of-care, which are usually more rapid. False-positive results can occur from cross-contamination, if testing a less preferred

specimen (i.e., preferred are nasopharyngeal, nasal or saliva specimen) or if there is a low pretest probability of infection (e.g., screening asymptomatic person with no known exposure in low prevalence settings.)

2. Antigen tests

Authorized SARS-CoV-2 antigen tests include point-of-care, laboratory-based, and self-tests. Evaluating an antigen test result depends on the clinical and epidemiological context (e.g., symptoms, exposure to others with COVID-19, vaccination status, previous infection, or setting in which they live such as congregate housing). Antigen tests may be less sensitive than PCR, particularly for asymptomatic persons. False negative results can occur if specimens are taken before symptom onset or late in the illness.

Public health actions based on test results depend on symptoms, immune status, and exposure of the person being tested. Recommendations may differ for a congregate setting, for persons with low likelihood of infection, or got persons with high likelihood of infection. Quarantine may be advised for a person who has a known exposure regardless of test results. Testing is not recommended for an asymptomatic person in a community setting who is either fully vaccinated or who had confirmed COVID-19 infection in the past three months.

3. Delays between symptoms and positive results

If a person has symptoms followed by a positive test, the local health jurisdiction can consider whether the prior symptoms and the positive test represent a single episode of COVID-19. For a single illness episode, the reference date is the onset of symptoms; if symptoms precede the positive test by more than 7 days consider if it may be appropriate to use the specimen collection date as the reference date.

If a person has a positive test done followed by symptoms, the specimen collection date should be used for contact tracing and for determining the isolation period.

4. Indeterminate or inconclusive results

Persons with indeterminate or inconclusive results should be retested and should self-isolate until results are available. Also consider the clinical picture to determine if the person has consistent symptoms or a known exposure.

5. Negative results for rule out

Although negative testing is one way to reduce a quarantine period, negative results may occur early in an infection and do not definitively rule out COVID-19. Retest if indicated (e.g., consistent symptoms) or other reason for high suspicion (e.g., known exposure and any symptom, high risk setting).

6. Repeat positive tests – criteria to distinguish a new case from an existing case

The following should be enumerated as a new case:

- SARS-CoV-2 sequencing results from the new positive specimen and a positive specimen from the most recent previous case demonstrate a different lineage, **OR**

- Person was most recently enumerated as a confirmed or probable case with onset date (if available) or first positive specimen collection date for that classification >90 days prior* , **OR**
- Person was previously reported but not enumerated as a confirmed or probable case (i.e., suspect)**, but now meets the criteria for a confirmed or probable case.

** Some individuals, e.g., severely immunocompromised persons, can shed SARS-CoV-2 detected by molecular amplification tests >90 days after infection. For severely immunocompromised individuals, clinical judgment should be used to determine if a repeat positive test is likely to result from long-term shedding and, therefore, not be enumerated as a new case. CDC defines severe immunocompromise as certain conditions, such as being on chemotherapy for cancer, combined primary immunodeficiency disorder, untreated human immunodeficiency virus (HIV) infection with CD4 T lymphocyte count 20mg/day for > 14 days.*

*** Repeat suspect cases should not be enumerated.*

See: https://ndc.services.cdc.gov/case-definitions/coronavirus-disease-2019-2021/

For isolation and quarantine recommendations see Case and contact investigations.

7. Non-COVID-19 respiratory infections

If symptoms are compatible with other agents during periods with high levels of respiratory virus infections, when testing for COVID-19 also consider obtaining a second nasal swab or specimen for rapid influenza testing and a viral respiratory panel. As applicable to the clinical situation, also consider testing for infections with specific treatment available (e.g., legionellosis, other bacterial pneumonia, influenza, RSV). Dual infections of COVID-19 and influenza are documented, as well as parainfluenza virus. A particular concern is a dual outbreak in a healthcare or congregate setting (see: https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/Immunization/InfluenzaFluInformation#comm).

D. Specimen Collection for PCR

It is recommended that a healthcare provider should wear a NIOSH approved and fit tested N95 or higher-level respirator (or facemask and face shield if a respirator is not available), eye protection, and gloves when actively collecting clinical specimens for SARS-CoV-2 testing or are within 6 feet from the person being tested (see Planning section in: https://www.cdc.gov/coronavirus/2019-ncov/hcp/broad-based-testing.html#:~:text=Gown%2C%20NIOSH%2Dapproved%20N95%20equivalent,of%20the%20person%20being%20tested). When obtaining a specimen, have the patient masked except when taking the specimen and stand to one side of the patient to avoid direct coughs or sneezes. The patient's mask should still cover the mouth when taking a nasal specimen. Face mask, eye protection, and gloves should be used when observing a person self-collect a specimen. Refrigerate all specimens at 2-8ºC and ship cold for receipt within 72 hours; if exceeding 72 hours holding time, freeze at ≤ -70°C and ship on dry ice.

Specimens from Living Patients:

For a known exposure ideally test at least 5 to 7 days from last exposure and no sooner than 48 hours after first exposure. Acceptable specimens for PHL testing include:

- Nasal swab (preferred)
- Nasopharyngeal swab
- Mid-turbinate swab
- Lower respiratory tract fluid (BAL, tracheal aspirate, or sputum) – if intubated

Under observation but not necessarily by a healthcare provider, patients may collect a nasal swab, which reduces the need for close contact and use of PPE for a provider. See: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/Self-SwabNasalCollectionInstructions.pdf and for PPE information: https://www.doh.wa.gov/Emergencies/COVID19/HealthcareProviders/InfectionPrevention#heading81111

See PHL's instructions for specimen collection and submission under COVID-19 at: https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthLaboratories/MicrobiologyLabTestMenu. When testing at a commercial or academic laboratory, see their website for collection and submission instructions.

Post-mortem Specimens:

A medical examiner or coroner can submit specimens directly to CDC. Testing at CDC takes at least four to six weeks. Follow all infection prevention guidance if COVID-19 is possible or confirmed. For details see: https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html

If an autopsy is NOT performed, collect the following post-mortem specimens:

- Only upper respiratory tract swab: nasopharyngeal swab
- Separate NP swab and OP swab specimens for testing of other respiratory pathogens (e.g., rapid influenza testing and respiratory panel – not at PHL)

If an autopsy is performed, collect the following post-mortem specimens:

- Upper respiratory tract: nasopharyngeal swab in viral transport medium (VTM)
- Lower respiratory tract: lung swab from each lung in separate VTM tubes
- Separate clinical specimens for testing of other respiratory pathogens such as influenza and as indicated for other infectious disease testing
- Formalin-fixed autopsy tissues from lung, upper airway, and other major organs (e.g., heart, liver, kidney) as indicated (https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html#fixed_autopsy_tissue)

CDC may request additional specimens, such as serum or stool, in cluster investigations.

E. Shipping to PHL

Store and ship specimens at temperatures indicated above. For details see Coronavirus at: https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthLaboratories/MicrobiologyLabTestMenu

Note that PHL require all clinical specimens have **two** patient identifiers, a name **and** a second identifier (e.g., date of birth) on both the specimen label and on the submission form. Due to laboratory accreditation standards, specimens will be rejected for testing if not properly identified. Also include specimen source and collection date.

Specimen submission forms should be completed electronically via QRP. To enroll, contact wacovidtest@doh.wa.gov or 206-418-5419. Before submitting more than 50 specimens at a time to PHL call 206-418-5419. Along with the patient and submitter names, include the dates of collection and illness onset, race and ethnicity (providing demographic data specified in Coronavirus Aid, Relief, and Economic Security Act), and patient address and phone. Also make sure there is contact information for the submitter.

F. Free or Low-Cost Testing and Testing Reimbursement

Free or low-cost testing, regardless of immigration status, is available at many locations: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/TestingSiteOnlineResources-LHJ.pdf

"Health care providers are not required to confirm immigration status prior to submitting claims for reimbursement. Health care providers who have conducted COVID-19 testing of any uninsured individual … may be eligible for claims reimbursement through the program as long as the service(s) provided meet the coverage and billing requirements." https://www.hrsa.gov/coviduninsuredclaim/frequently-asked-questions

G. Available Commercial Tests for SARS-CoV-2

A large number of tests including the one in use at PHL have received FDA Emergency Use Authorization. No test has been given FDA approval. For FDA authorizations for diagnostic tests see: https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/vitro-diagnostics-euas

5. ROUTINE CASE INVESTIGATION

COVID-19 reporting was first required under emergency rule WAC 246-101-017 effective 8/6/2020. The emergency rule:

- Explicitly designates SARS-CoV-2 (COVID-19) as a notifiable condition
- Requires health care providers, health care facilities, laboratories, and local health jurisdictions to report race, ethnicity, and other essential information for cases or suspected cases of COVID-19
- Requires reporting of negative laboratory results

https://www.doh.wa.gov/Emergencies/COVID19/HealthcareProviders/ReportingTestResults

A. Case investigation and contact tracing

A separate case investigation document is available under Coronavirus: https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/ListofNotifiableConditions

B. Outbreak investigations

See separate outbreak investigation guides for a healthcare setting or non-healthcare workplace:https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/ListofNotifiableConditions

Note that a person who is part of one outbreak (e.g., large gathering) who then becomes the index case for a new outbreak (e.g., their workplace) should be entered into WDRS for both outbreaks.

Name an outbreak as: yyyy LHJ COVID-19 facility #. The name should not include identifiers (e.g., family name, teacher name). Use year of onset for the earliest case and add a number only for second and later outbreaks at the same facility (number consecutively, regardless of year of event). Analysis by Department of Health will prevent duplicate counting of cases.

1. Definitions for COVID-19 outbreaks in various settings

   a. Long-term care facility, inpatient hospital setting, or outpatient healthcare setting: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/InterimCOVID-HCOutbreak.pdf

   b. Non-healthcare congregate setting (such as farms, workplaces, places of worship, or restaurants, but not including schools, correctional facilities or community settings)

      - Two or more COVID-19 cases who tested positive by a viral test, AND
      - At least two cases have symptom onsets (or positive test specimen collection dates if asymptomatic) within 14 days of each other, AND
      - Cases were epidemiologically linked in the congregate setting (e.g., case-patients share a work shift or building), AND
      - There is no plausible epidemiological linkage suggesting transmission is more likely to have occurred in another setting (e.g., household) outside of the congregate setting.

   c. School

      K-12 school cluster definition:

      - Multiple cases comprising at least 10% of students, teachers, or staff, within a specified core group*, OR
      - At least three (3) cases within a specified core group* meeting criteria for a school-associated COVID-19 case;

      AND

      - Cases have symptom onset‡ or positive test result within 14 days of each other, AND
      - Cases were not identified as close contacts of each other in another setting (i.e., household) outside of the school setting

      K-12 school outbreak definition:

      - Multiple cases comprising at least 10% of students, teachers, or staff, within a specified core group*, OR

- At least three (3) cases within a specified core group* meeting criteria for a probable or confirmed school-associated COVID-19 case;

AND

- Cases have symptom onset[†] or positive test result within 14 days of each other, AND
- Cases were not identified as close contacts of each other in another setting (i.e., household) outside of the school setting, AND
- Cases were epidemiologically linked in the school setting or a school-sanctioned extracurricular activity[†]

*A "core group" includes but is not limited to extracurricular activity[†], cohort group, classroom, before/after school care, etc.

[†]A school sanctioned extracurricular activity is defined as a voluntary activity sponsored by the school or local education agency (LEA) or an organization sanctioned by the LEA. Extracurricular activities include, but are not limited to, preparation for an involvement in public performance, contests, athletic competitions, demonstrations, displays, and club activities.

[‡]For onset, use symptom onset date whenever available. If symptom onset date is unknown or if case is asymptomatic, use specimen collection date for the first specimen that tested positive.

See: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/820-105-K12Schools2021-2022.pdf and https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/820-218-K12SupplementalRecommendations.pdf

d. Childcare

- Two or more COVID-19 cases who tested positive by a viral test, AND
- At least two cases have symptom onsets (or positive test specimen collection dates if asymptomatic) within 14 days of each other, AND
- Cases were epidemiologically linked in the childcare setting or a childcare-associated activity (e.g., field trip), AND
- There is no plausible epidemiological linkage suggesting transmission is more likely to have occurred in another setting (e.g., household) outside of the childcare setting

See: https://doh.wa.gov/sites/default/files/2022-02/DOH-OSPI-DYCF-SchoolsChildCareGuidance.pdf

e. Correctional facility (e.g., jail, prison, detention center):

- Two or more COVID-19 cases who tested positive by a viral test, AND
- At least two cases have symptom onsets (or positive test specimen collection dates if asymptomatic) within 14 days of each other, AND
- Cases were epidemiologically linked in the correctional facility (e.g., cases reside in the same living area or work together), AND

- There is no plausible epidemiological linkage suggesting transmission is more likely to have occurred in another setting (e.g., staff share household) outside of the correctional facility

Incarcerated individual COVID-19 cases occurring in intake separation areas are not included in the definition above unless new COVID-19 transmission is thought to be occurring within the intake separation area or elsewhere in the facility.

f. Community (includes college housing such as a dormitory or fraternity; large gathering such as a demonstration or rally [note that an event in a stadium or arena are included as a service-providing industry]; and private event such as a wedding or family reunion):

- Five or more COVID-19 cases who tested positive by a viral test, AND
- Cases were epidemiologically linked at a community setting (e.g., common event or venue), AND
- There is no plausible epidemiological linkage suggesting transmission is more likely to have occurred in another setting (e.g., household, workplace) outside of the community setting, AND
- Cases had interactions with each other for a period shorter than 2 days

2. Investigation guidance

On the COVID-19 outbreak form only the yellow highlighted fields are essential for entry. The second page is optional to assess whether a site has control measures in place: https://www.doh.wa.gov/Portals/1/Documents/5100/420-033-ReportForm-COVID19-Outbreak.pdf. Specific outbreak investigation guidance is also available: https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/ListofNotifiableConditions

3. Reporting investigations

Outbreaks in workplaces or other congregate settings should be reported to DOH. Any of the following means is sufficient to report an outbreak to DOH:

- Create an outbreak event in WDRS and link all outbreak-associated cases. To get needed Outbreak Manager permission contact covid19wdrsdevs@doh.wa.gov. Do not link household contacts of outbreak-associated cases or others not actually present at the outbreak setting. A training video (start at minute 9:40) has step-by-step information, slides, and a template for a roster upload OR
- Email a complete short or full outbreak reporting form to doh-ncov-epi@doh.wa.gov or fax to Communicable Disease Epi 206-364-1060 OR
- Roster upload: complete a line list [Excel file – request example or see training video in item (a)] and send to doh-ncov-epi@doh.wa.gov for roster upload and WDRS outbreak event ID creation OR
- Report the outbreak by phone to the DOH duty epidemiologist at 206-418-5500.

To create an outbreak event in WDRS, a user with "outbreak manager permissions" can click the icon. Email covid19wdrsdevs@doh.wa.gov for help getting this permission.

Name an outbreak cluster using following format (replace italicized items as appropriate, e.g., 2020 MyCounty COVID-19 BigRestaurant) based on the year of first case onset:

2020 *county* COVID-19 *facility_name facility_unique_id*[1] *cluster_number*[2]

[1] facility unique id is only needed for facilities with multiple locations: add city, street name, or facility number as appropriate
[2] number of cluster: only needed if the same facility has repeated clusters in the same year, otherwise name with the new year (2021 *county* COVID-19 *facility*)

Complete the "COVID-19 Outbreak" question package. Do **not** use the "Outbreak/Exposure Information" question package. Critical fields in the COVID-19 Outbreak question package include: Investigation status, accountable county, site name and address, facility type and subtype, and date of first case symptom onset.

Provide information about outbreak cases by linking case events to the outbreak event in WDRS. This can replace completing the case count fields in the "COVID-19 Outbreak" summary question package. Cases arising from secondary transmissions of cases associated with the cluster should not be linked.

To link an existing WDRS case (person) event to the outbreak event (detailed instructions available on the WDRS User Group SharePoint):

a) Open the outbreak event

b) Click on **(View)** for 'linked event(s)/contact(s)'

c) Change operation to 'Link to Existing Event'

d) Click on button to Select Event

e) Navigate to the WDRS case (person) by entering name, birthdate or WDRS number and click to select the person

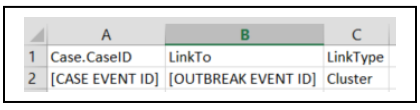
f) Change Link Type to "Cluster"

g) Go to bottom of page and click 'Save'

h) Repeat steps a-f for each WDRS case (person) being linked to the outbreak event

There is an automated roster linking process to link multiple cases to an outbreak event:

- Create a simple 3-column table in a .csv file for one or more outbreaks. Case Event IDs can share an Outbreak Event ID. LinkType should always be "Cluster".



	A	B	C
1	Case.CaseID	LinkTo	LinkType
2	[CASE EVENT ID]	[OUTBREAK EVENT ID]	Cluster

- Send the completed table to COVID19WDRSDevs@doh.wa.gov.

LHJs can contact coviddata.imt@doh.wa.gov for notification of cross-border situations and the LHJ data liaison can help notify other counties about outbreaks and cases from the other counties being linked to an outbreak.

Additional resources for outbreak investigations are below:

- An employer must not reveal confidential employee health information [CFR (Code of Federal Regulations) § 1630.14 Medical examinations and inquiries specifically permitted.] https://www.eeoc.gov/wysk/what-you-should-know-about-covid-19-and-ada-rehabilitation-act-and-other-eeo-laws
- Resources to code facility type and subtype: https://www.census.gov/naics/ and https://www.bls.gov/sae/additional-resources/naics-supersectors-for-ces-program.htm
- Notify Washington Department of Labor and Industries f there is a non-compliant workplace (Venetia Runnion, runv235@LNI.WA.GOV) or if employees are in imminent danger (runv235@LNI.WA.GOV and Covid19@lni.ea.gov).
- For testing strategies in congregate living settings see: https://www.cdc.gov/coronavirus/2019-ncov/hcp/broad-based-testing.html

6. INFECTION PREVENTION

A. Healthcare Settings

For the most current information see a list of CDC recommendations related to COVID-19 and healthcare settings, including general infection control, personal protective equipment, and specialty settings (dialysis, long-term care): https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/COVID-19-InfectionPreventionCDCGuidanceCatalog.pdf

For infection control guidance for healthcare professionals see: https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html and https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html

B. Community-wide Measures

Governor orders and recommendations as well as local health jurisdiction or municipality regulations may apply in a given area. These may change at the end of June 2021.

For Washington's Roadmap to Recovery Metrics and phased approach to reopening see: https://coronavirus.wa .gov/what-you-need-know/roadmap-recovery-metrics

For the DOH data dashboard see: https://www.doh.wa.gov/Emergencies/NovelCoronavirusOutbreak2020COVID19/DataDashboard

General measures are recommended to reduce workplace and community transmission. See: https://www.cdc.gov/coronavirus/2019-ncov/php/open-america/key-resources.html and https://www.cdc.gov/coronavirus/2019-ncov/downloads/php/open-america/community-mitigation-quicklinks.pdf

For cleaning recommendations see: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html

For COVID-19 issues related to pets see: https://www.cdc.gov/coronavirus/2019-ncov/downloads/covid-19-pets-prevention.pdf

1. Workplace measures

Department of Labor & Industries provides requirements and guidance for preventing COVID-19 in work settings: https://www.lni.wa.gov/forms-publications/F414-164-

000.pdf. For OSHA guidance see: https://www.osha.gov/Publications/OSHA3990.pdf. For workplace information see: https://www.cdc.gov/coronavirus/2019-ncov/community/workplaces-businesses/index.html.

2. Individual actions

Mask requirements may differ by vaccination status as well as by state or county, and may change with different levels of disease or of viral variants. For Washington State's masking recommendations and current mandates see: https://www.doh.wa.gov/Emergencies/COVID19/ClothFaceCoveringsandMasks#heading85721 and also check for local recommendations in a county or city.

Depending on state and local requirements and diseases levels (https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html), masks may be required indoors for all persons, regardless of vaccination status, in some settings, such as public transportation and transportation hub, health care or dental setting, correctional facility, homeless shelter, childcare or school.

Masks are not required for children younger than 2 years; children ages 2-4 years unable to wear masks; and persons with any medical, developmental, cognitive, or incapacitating condition that prevent wearing a mask safely. For a list of exemptions see: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/Secretary_of_Health_Order_20-03_Statewide_Face_Coverings.pdf. Department of Labor and Industries may have additional requirements (see Workplace measures above).

Unvaccinated persons including younger children and any person taking added precautions are encouraged to use masks in any crowded common setting including outdoors unless all others attending are known to be fully vaccinated.

N95 or KN95 masks offer the most protection. Masks should not have a vent or exhaust port. Gaiters or bandanas should be tightly woven and double layered. Mask effectiveness can be increased by double masking (using a cloth mask over a disposable mask), the use of a mask brace, or knotting and tucking the ear loops of a disposable mask; KN95 or N95 masks should not be combined with other masks. Face shields alone do not substitute for face masks.

In general, maintain social distancing, and use telework or other options if available. Practice respiratory etiquette and frequent hand hygiene, particularly when in public areas. People should **not** attend a gathering if they are in isolation with COVID-19; in quarantine as a close contact of a COVID-19 case; experiencing symptoms of COVID-19; awaiting COVID-19 test results; or at risk of severe illness from COVID-19.

For background see:

https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/participate-in-activities.html

https://www.cdc.gov/mmwr/volumes/70/wr/mm7007e1.htm

https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html

For recommendations about mask use after vaccination see:

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html

For recommendations about choice and handling of masks see:

https://www.cdc.gov/coronavirus/2019-ncov/your-health/effective-masks.html

https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html

https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-to-wear-cloth-face-coverings.html

https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/types-of-masks.html

For local health jurisdictions to order PPE see: https://www.doh.wa.gov/AboutUs/ProgramsandServices/EmergencyPreparednessandResponse/PPEBackstop

Stay home if fever, cough or other symptoms of COVID-19 develop. Keep apart from others (if possible, use separate sleeping and bathroom areas). Do not share dishes, towels, or bedding. Before visiting a healthcare setting, tell them of any fever or respiratory symptoms.

Persons with consistent symptoms, in isolation after a positive test, or in quarantine due to exposure to COVID-19 should not travel outside the home except to seek medical care and should wear a mask in public.

For home cleaning see: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html

C. Travel Measures

Staying home is the best way to avoid COVID-19 exposure. Delay travel until up to date with COVID-19 vaccination. Precautions such as mask use, social distancing, and hand hygiene are recommended for any trip away from home. Mask are recommended for persons at risk for severe infection who are in indoor areas of public transportation within the country including airplanes, ships, ferries, trains, subways, taxis, or ride-share: https://www.cdc.gov/coronavirus/2019-ncov/travelers/face-masks-public-transportation.html

If experiencing symptoms consistent with COVID-19, testing positive for COVID-19, or quarantining due to exposure to COVID-19, follow CDC recommendations for travel: https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html.

Those planning travel should check for all travel requirements and recommendations: https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html

https://www.cdc.gov/coronavirus/2019-ncov/travelers/international-travel/index.html

https://www.cdc.gov/coronavirus/2019-ncov/travelers/testing-international-air-travelers.html

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html

Those planning travel should be fully vaccinated. As needed, bring sufficient masks and supplies for travel. Testing may be required to enter other countries. For travel within the United States, fully vaccinated travelers do not need testing before travel or after travel and do not need to self-quarantine after travel.

Travelers with positive results who indicate they intend to travel or who refuse to provide proof of cancellation may be placed on a do-not-board/lookout list. DGMQ can request that the airline waive cancellation and rebooking fees for such travelers. The list blocks boarding on any flight within or through the United States (https://www.cdc.gov/quarantine/travel-restrictions.html). TSA and US Customs and Border Protection administer the list to intercept the person at any US land or maritime crossing who meets these criteria:

Known or believed to be infectious with, or at risk for, a serious contagious disease that poses a public health threat to others during travel; **and** any one of the following applies:

- **Not** aware of diagnosis or **not** following public health recommendations, **OR**
- Likely to travel on a commercial flight involving the United States or travel internationally by any means; **OR**
- Need to issue travel restriction to respond to a public health outbreak or to help enforce a public health order.

ADDITIONAL RESOURCES

Public Health Guidance for Healthcare Providers:

https://www.doh.wa.gov/Emergencies/NovelCoronavirusOutbreak2020COVID19/HealthcareProviders and https://www.cdc.gov/coronavirus/2019-nCoV/hcp/index.html

Public Health Guidance for Businesses and Other Sites

Recommendations (general, businesses and workers, school, childcare, and farm and agricultural workers): https://www.doh.wa.gov/Emergencies/NovelCoronavirusOutbreak2020COVID19/ResourcesandRecommendations

Centers for Disease Control and Prevention (CDC) guidance materials for multiple settings including workplaces, schools, child care, colleges, and gatherings and community events: https://www.cdc.gov/coronavirus/2019-ncov/community/index.html

For overall Labor & Industry recommendations see: https://www.lni.wa.gov/safety-health/safety-topics/topics/coronavirus

Confidential L&I consultations: https://www.lni.wa.gov/safety-health/preventing-injuries-illnesses/request-consultation/

Guidance for Public Queries

Some of the documents below are available in multiple languages:

https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/COVIDcasepositive.pdf

https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/COVIDexposed.pdf

https://www.doh.wa.gov/Emergencies/NovelCoronavirusOutbreak2020/HealthEducation

https://www.doh.wa.gov/Emergencies/NovelCoronavirusOutbreak2020COVID19/FrequentlyAskedQuestions

Health disparities: COVID-19 Racial and Ethnic Disparities (cdc.gov)

ACKNOWLEDGEMENTS

This document was created from information from the Centers for Disease Control and Prevention: https://www.cdc.gov/coronavirus/2019-nCoV/index.html

UPDATES

May 2020: document created

June 5, 2020: Appendix 2 added

June 16, 2020: LTC outbreak definition expanded to include single case among resident or staff

July 26, 2020: added symptoms and complications; added comments of use of cloth masks in the definition of a close contact and in Appendices; self-collection of nasal swabs allowed without medical provider observation; added information for sources of free or low cost testing; added information about homelessness; changed return to work criteria; updated discontinuation of transmission-based precautions in healthcare settings; limited contact tracing for Probable cases to household members; ending isolation and quarantine added to Appendix 1 Section D; expanded Appendix 2

August 13, 2020: case definition (Section 3) includes new olfactory disorder or new taste disorder as a consistent symptom, case definition includes presumptive laboratory evidence as antigen test in respiratory specimen, case definition includes antibody test or detection of antigen by immunocytochemistry in autopsy specimen as supportive laboratory evidence, presumptive laboratory evidence (positive antigen) alone is sufficient for a Probable classification, case definition epi linkage no longer includes travel or residence to an area with sustained ongoing transmission; added specific approach for a suspected false positive result (Section 4A); added details about reinfection (Section 4A); includes new reporting requirements in WAC 246-101-017 (Section 5); updated ending transmission-based precautions (Section 6B); updated recommendations for ending isolation (Appendix 1 Section D)

August 25, 2020: case definition (Section 3) includes new olfactory disorder or new taste disorder as a consistent symptom, case definition includes presumptive laboratory evidence as antigen test in respiratory specimen, case definition includes antibody test or detection of antigen by immunocytochemistry in autopsy specimen as supportive laboratory evidence, presumptive laboratory evidence (positive antigen) alone is sufficient for a Probable classification, case definition epi linkage no longer includes travel or residence to an area with sustained ongoing transmission; expanded case investigation for a Probable case with an antigen positive test results to be the same as for a Confirmed case; CDC dropped the recommendation that returning international travelers have a 14 day quarantine period.

October 9, 2020: specified that laboratories should report negative results; LHJ outbreak reporting options added (Section 1C4); Section 2 updated information on potential airborne transmission and on recurrent infection; updated information on animal infections; Section 4B interpretation of laboratory tests includes potential false positive and false negative results, investigating a case of potential reinfection, and optimal timing for specimen collection; Infection Prevention from Section 5 was separated into a new document; outbreak definitions were summarized in Section 5B; Section 6 specified that incoming international travelers do not need public health monitoring; Appendices on case investigation and on long-term care or workplace cluster investigation were separated into new documents.

November 3, 2020: Section 2 specifies contagious period; close contact specified as *cumulative* 15 minutes of contact *over 24 hours*; Section 4C update for investigation of a reinfection; section 5B school outbreak definition change to include the definition of a close contact

December 11, 2020: Section 2I includes contact information for acquiring non-vaccine therapeutics; Section 4B adds link to CDC algorithm for PCR follow-up testing of antigen results; Section 4C3 added to include CDC recommendations for confirmatory testing; Section 4C4 about delays between symptoms and testing was shortened and clarified; Section 4C7 summarizes investigation of suspected reinfection; Section 6B has updated community-wide and prevention measures in Washington – Section 6B2 states face shields are not masks, cloth masks are not medical grade protection, and the risk of a gathering should be evaluated; Section 6C updates travel measures with CDC recommendation for international travelers to test before and after travel and to self-quarantine, and for domestic travelers to consider testing

December 22, 2020: recommends genomic analysis for suspected variants sections 2A and 4B; link for influenza testing in long-term care added Section 4C8; attendance at private gatherings recommended to be capped at 200, Section 5B3; updated travel guidance related to countries with circulating variants (Section 6C)

February 18, 2021: description of illness expanded to include persisting symptoms (section 2B); case definition added for MIS-C (Section 3); update that vaccination will not give a positive PCR or antigen result (Section 4); added criteria for genomic analysis of specimens (Section 4C7); outbreak naming convention for 2021 provided (Section 5B3); CDC masking recommendations (Section 6B1); mask requirements for any travel within the country (Section 6); testing requirements for arriving travelers and reporting ill cases who attempt to travel or who traveled (Section 6C)

March 24, 2021: updated protocol for suspected reinfection (Section 4B7); additional CDC links for mask recommendations (Section 6B1); updated mask recommendations including for fully vaccinated persons (Section 6B2); updated travel recommendations include testing before and after travel, and self-quarantine for seven days after a negative result after travel (Section 6C)

April 5, 2021: update on post-COVID conditions, long-term sequelae and multisystem inflammatory condition (Section 2B); for travel within the United States, fully vaccinated travelers do not need testing before or after travel and do not need to self-quarantine (Section 6C); for international travel fully vaccinated travelers do not need to self-quarantine but should be tested before and after the flight (Section 6C)

May 17, 2021: transmission information updated (Section 2E), updated recommendations for masking for fully vaccinated persons (Section 6B)

June 22, 2021: updated recommendations for interpreting antigen test results (Section 4C); updated mask recommendations (Section 6B)

July 1, 2021: updated masking, travel and business recommendations (Sections 6B and 6C)

July 19, 2021: updated masking guidance (Section 6B2).

August 30, 2021: updated case definition (Section 3), added links to therapeutic references (Section 2H)

September 22, 2021: updated resources for monoclonal antibodies (Section 2H)

October 18, 2021: updated Probable case definition on front page; updated SARS-CoV-2 tests (Section 4B), new definition of a school-associated outbreak and cluster (Section 5B)

October 28, 2021: case definition updated on front page

November 22, 2021: case definition further updated on front page

2/22/22: testing section streamlined (Section 4); outbreak case definitions updated (Section 5B1); travel measures updated (Section 6C)

March 2022: updated masking section

June 2022: undated travel information removing mask requirements