COVID-19

Traveler Summary

Key Points

- Coronavirus disease 2019 (COVID-19), a viral disease that originated in China, has been declared a global pandemic by the World Health Organization (WHO); daily new case numbers have been gradually increasing globally, resulting in reimplementation of travel restrictions and internal disruptions in many countries. Asia, Latin America, and Europe are currently most affected, followed by North America, the Middle East, and Africa. COVID-19 results in respiratory illness (including pneumonia) and is acquired via inhalation of respiratory droplets from an infected person or direct contact with contaminated surfaces.
- Risk should be assumed present in all countries of the world and is higher with close contact (less than 2 m [6 ft] for more than 15 minutes cumulatively within a 24-hour period) with ill-appearing persons or persons diagnosed with COVID-19 (especially high risk) and inpatient or outpatient visits to health care facilities in an affected area. Risk of poor outcome increases with age and is higher in persons (regardless of age) with underlying medical conditions (e.g., cancer, obesity, pregnancy, diabetes, sickle cell disease, solid organ transplantation, or cardiac or kidney disease). The situation is evolving daily; a travel medicine specialist should be consulted immediately before a trip.
- Symptoms commonly include fever and dry cough, progressing to shortness of breath; chills, muscle pain, headache, sore throat, congestion, and runny nose may occur. Loss of smell and/or taste is an early and highly specific symptom. Some infected people have no symptoms.
- Consequences of infection include severe pneumonia, respiratory failure, liver and heart damage, prolonged fatigue, altered mental status, memory loss, and possibly death.
- Prevention includes observing respiratory hygiene (cough and sneeze etiquette), hand hygiene (frequent, thorough handwashing with soap and water for 20 seconds [or using a hand sanitizer containing 60% alcohol]), and social distancing (remaining out of congregate settings, avoiding mass gatherings and public transportation, and maintaining a distance of 2 m [6 ft] from others), and consistent and correct wearing of an appropriate mask (ideally either a tightly fitting surgical mask or 2 separate masks). Mask wear is mandated when awaiting, boarding, traveling on, or disembarking all public conveyances (e.g., airplanes, ships, ferries, trains, subways, buses, taxis, ride-shares) traveling into, within, or out of the US. This order (which expires on September 13, 2021) also applies to any indoor or outdoor transportation hub (airport, bus or ferry terminals, train or subway stations, seaports, ports of entry) in the US.
- Several vaccines are authorized for use in Canada, the EU, the UK, the US, and several other countries.
    - All 3 US authorized COVID-19 vaccines (Pfizer; Moderna; and Janssen/Johnson & Johnson [J&J]) provide strong protection against severe COVID-19 (e.g., hospitalization and death) and significantly reduce the ability to infect others (substantial evidence). Full vaccination is highly effective against B.1.1.7 and all other US CDC-designated variants of concern variants; no vaccine is recommended preferentially over another. No evidence exists that any of the COVID-19 vaccines affect pregnancy (including placenta development), future fertility, or the safety of breastfeeding for women or their infants. Efficacy data, including for subgroups, are not strictly comparable between vaccines because studies were carried out at different phases of the pandemic, with different population profiles, and in different countries.
    - The 2 mRNA vaccines (Pfizer and Moderna) are essentially equivalent for short-term efficacy against symptomatic disease, almost uniformly greater than 90% for all age groups (including the elderly) and for safety parameters that have been analyzed to date (2 months after administration). Prevention of severe-to-critical disease in healthy persons younger than 60 years by the Janssen/J&J vaccine (92%) appears equivalent to mRNA vaccines but the vaccine is less effective in this age group in preventing moderate-to-severe disease (66%). A single dose of the Janssen/J&J vaccine does not appear nearly as effective as mRNA vaccines in preventing severe/critical disease in those older than 60 years (70% efficacy) or in preventing moderate-to-severe disease in those older than 60 years with underlying medical conditions (42%).
    - Analysis of some vaccines indicates some protection (up to 74% with the Janssen/J&J vaccine and 90% with the Pfizer vaccine) against symptom-free infection; analysis of effects on transmission to others is ongoing.
    - No data exist on the interchangeability of vaccines; receive the same vaccine for all doses if possible.
    - Duration of protection lasts for at least 7 months and almost certainly for more than a year.
    - In persons vaccinated with either mRNA vaccine, approximately 70% have reported pain at the injection site, 31% have reported fatigue (31%), and 26% headache. Rates are much higher after dose 2. Other systemic side effects are low.
    - Occurrences of immediate allergic reaction or anaphylaxis with mRNA vaccines remain rare, and reactions have uniformly responded immediately to epinephrine. Contraindications to vaccination are immediate allergic reaction or

anaphylaxis after a previous dose of the vaccine or separately to any of its components (including polyethylene glycol [PEG] for mRNA vaccines and polysorbate for the Janssen/J&J vaccine); polysorbate is found in some drugs and food preparations.
    - Occurrences of a unique blood clotting syndrome with the AstraZeneca and Janssen/J&J vaccines remain very rare and have occurred almost exclusively in women younger than 55 years. This Janssen/J&J vaccine is authorized for use in all persons 18 years and older in the US.
    - Persons with a contraindication to a mRNA COVID-19 vaccine have a precaution to the Janssen/J&J vaccine and vice versa.
    - Efficacy for the mRNA vaccines in pregnant women is similar to that in nonpregnant women and is only very slightly diminished in persons with major underlying medical conditions (more so with the Janssen/J&J vaccine). Efficacy for both types of vaccine is not known for persons with weakened immune systems. No safety issues have been identified in the aforementioned groups, and they should be vaccinated.
    - Those with acute COVID-19 should be vaccinated but should defer vaccination (first or second dose) until isolation-discontinuation criteria have been met.
    - All vaccinees need to receive both doses (if applicable). With the mRNA vaccines, most persons are protected 2 weeks after the first dose but this single-dose immunity may well be very transient without a second dose.
    - Prevaccination use of acetaminophen (paracetamol) or ibuprofen to prevent postvaccination symptoms is not recommended. However, these medications may be used to treat local or systemic postvaccination symptoms.
    - In the US, all persons 16 years and older are eligible for vaccination and vaccine is readily available.
    - The Pfizer vaccine is authorized for use in children aged 12-15 years; authorization for the Moderna vaccine in this age group is expected mid-2021. For children aged 2-11 years, authorization for an mRNA vaccine is expected in September 2021 and for children as young as 6 months, authorization is expected in the fourth quarter of 2021.
- Fully vaccinated persons (i.e., 2 weeks or more following receipt of the second dose in a 2-dose series or 2 weeks or more following receipt of 1 dose of a single-dose of a US FDA-authorized or WHO Emergency Use Listing vaccine) can:
    - Travel domestically and internationally with low risk to themselves.
    - Gather outdoors and participate in outdoor activities or gather indoors without a mask in certain situations; see Masks for specific masking guidance for vaccinated and unvaccinated persons.
- Remdesivir and dexamethasone are the only standard treatment drugs. Older or high-risk outpatients with mild disease should seek out a center that can administer intravenous monoclonal antibody therapy. Do not take any oral treatment medications unless prescribed by a provider.
- Many countries, including the US, Canada, and Australia, are advising deferral of all travel, even domestically.
- Many airlines and/or destination countries have implemented extra prevention measures to include screening for fever before a flight, wearing a mask (with strict masking requirements on long-haul flights), or requiring a negative COVID-19 viral diagnostic test result prior to departure (travelers should ensure results will be available in time to present at the airport). All travelers older than 2 years (regardless of vaccination status) arriving in the US from any country (that is not a US territory or possession) must have a negative result from a test taken within 3 calendar days of departure; certain self-administered COVID-19 tests can now satisfy the entry requirement (see Testing).

Introduction

COVID-19, an acute disease that causes respiratory illness (mainly pneumonia), was first detected in China in December 2019 and has since spread to all countries worldwide. The causative coronavirus (SARS-CoV-2) is closely related to the severe acute respiratory syndrome coronavirus (SARS-CoV) that caused SARS in 2002-03. Several genetic variants (most of which do not increase transmissibility or cause more severe disease) are circulating in more than 130 countries (including the US). Community transmission is presumed to be occurring in all countries, and more than 157 million cases (including more than 3.3 million deaths) were reported as of mid-May 2021. The global outbreak has increased (with occasional fluctuations) since mid-February 2021, following a record peak in mid-January. Many countries (especially in Asia, Latin America, and Europe) with previously controlled outbreaks are currently reporting increasing case numbers but also decreasing hospitalization rates; the outbreak is likely to cause significant risk and disruption for many more months. Publicly reported case numbers and deaths should be regarded as rough estimates because reporting criteria vary widely by country and often do not include cases that were never tested. WHO has declared the outbreak to be a global pandemic, the worst possible scenario.

Risk Areas

Significant risk exists worldwide, at present especially in Asia (mainly India), Latin America (mainly Brazil), and Europe, followed North America, the Middle East, and Africa. The outbreak in China appears controlled and almost over; future waves of transmission are possible.

Transmission

Virus transmission occurs from exposure to infectious respiratory fluids (droplets and particles) from an infected person via inhalation, direct deposition of particles on mucous membranes by splashes and sprays, and contact (touching mucous membranes with contaminated hands). Risk of transmission is greatest within 1 to 2 m (3-6 ft) of an infectious source, where the concentration of these very fine droplets and particles is greatest. However, transmission of SARS-CoV-2 from inhalation of virus in the air farther than 2 m (6 ft) from an infectious source can occur. Although infections through inhalation at distances greater than 2 m from an infectious source are less likely than at closer distances, the phenomenon has occurred under certain preventable circumstances. These transmission events have involved the presence of an infectious person exhaling virus indoors for an extended time (typically > 15 minutes and in some cases hours) leading to virus concentrations in the air space sufficient to transmit infections to people more than 2 m away and, in some cases, to people who have passed through that space soon after the infectious person left. Factors that increase the risk of SARS-CoV-2 infection under these circumstances include enclosed spaces with inadequate ventilation or air handling (exhaled respiratory fluids can build-up in the air space) and increased exhalation of respiratory fluids if the infectious person is engaged in physical exertion or raises their voice (e.g., exercising, shouting, singing). Direct contact with contaminated surfaces is of much lesser concern and no reliable evidence of transmission from food or food packaging exists. Although children rarely have severe COVID-19, they can transmit the virus. Transmission from persons who do not appear ill (cases are infectious beginning 48 hours before symptom onset) may occur, although most transmission is from household members and other close contacts.

Risk Factors

Risk exists for travelers going to all countries but may be increased in the following cases:

- Travel to countries with high or unknown transmission levels, especially if masking and community mitigation measures are not widely used
- Close contact (less than 2 m [6 ft] for more than 15 minutes cumulatively within a 24-hour period) with a person(s) diagnosed with or suspected to have COVID-19, irrespective of whether the COVID-19 case(s) or the contact was wearing a mask
- Inpatient or outpatient visits to health care facilities in an affected area

Most people with COVID-19 develop some immunity, but the robustness and duration of the immunity remains unknown. More than 70 cases of COVID-19 reinfection have been reported.

At events and gatherings, risk increases with number of persons, density, indoor settings, duration of exposure, and lack of mask use for source control.

Risk of poor outcome is higher in:

- Older persons (risk increases steadily with age)
- Persons with underlying medical conditions
    - Strong evidence: cancer, cerebrovascular disease, chronic kidney disease, chronic obstructive pulmonary disease, diabetes type 1 and 2, serious heart conditions, obesity (BMI greater than 30), pregnancy, and smoking (a history of or currently)
    - Moderate evidence: children (those with serious genetic, neurologic, or metabolic disorders or genital heart disease), Down syndrome, HIV (persons with low CD4 count or not on effective HIV treatment), neurological conditions, overweight (BMI 25 to less than 30), other chronic lung diseases, sickle cell disease, solid organ or blood stem cell transplantation, substance use disorders, and use of steroids or other medications that suppress the immune system.
    - Limited evidence: cystic fibrosis and thalassemia
    - Mixed evidence: asthma (moderate to severe), hypertension, liver disease (especially cirrhosis), and other immune system deficiencies

Only a few in-flight transmission clusters have been reported among persons on board commercial aircraft, despite the large number of flights with many passengers on board. The absence of a large number of in-flight transmissions is encouraging but is not definitive evidence that fliers are safe.

No interactions with usual daily medication and COVID-19 outcomes have been found.

The situation is evolving daily, and a travel medicine specialist should be consulted immediately before an actual trip.

Symptoms

Symptoms commonly develop within 2 to 7 days (typically 5 days, but up to 14 days) after infection and include fever, cough, and shortness of breath. Difficulty breathing, chills, muscle pain, headache, sore throat, congestion, runny nose, nausea, vomiting, and diarrhea may occur. Loss of smell and/or taste (even without fever or cough) is an early and highly specific symptom. In some patients, symptoms are mild the first week, and shortness of breath or pneumonia does not begin until the second week. Approximately 30% to 40% of all infections are truly symptom free and more than 80% of symptomatic cases are mild to moderate.

Consequences of Infection

Pneumonia occurs in COVID-19 cases that progress and worsen. Severe illness (more likely in persons with underlying medical conditions, older adults, or males) occurs in about 20% of cases and may result in lung or heart damage. Prolonged fatigue, altered mental status, and memory loss have been reported in persons with mild-to-severe illness; more than one-third do not return to their usual state of health for many weeks after infection. The overall death rate after infection is approximately 0.65% and increases with age. For symptomatic cases in those younger than 50 years, the death rate is negligible but for those older than 65 years, the death rate is 5% to 10% and for those older than 75 years, the death rate is consistently greater than 10%; persons of any age with underlying medical conditions are at increased risk of poor outcome or death. A current age stratification contrasts reported cases versus deaths in the US. According to the US CDC, 66% of cases in the US have occurred in people younger than 50 years, and just 14% of cases have occurred in people older than 65 years. In contrast, approximately 5% of deaths occurred in people younger than 50 years, and approximately 80% of deaths occurred in people older than 65 years. Over the past week, approximately 60% of all US cases have occurred in persons younger than 40 years.

Testing

Two types of COVID-19 tests are available, a viral (PCR or antigen) test for current acute infection using respiratory samples (e.g., swabs of the nose, mouth, or throat) and an antibody (serology) test for a previous infection using blood samples (e.g., finger stick or blood draw). All tests occasionally have false-positive or false-negative results. Viral tests may have false-negative results, but available point-of-care antigen tests (done immediately in the clinic or at home) are only 70% to 80% as sensitive (ability to correctly detect those with disease) as PCR tests and are prone to false-positive results; symptom-free persons with a positive result should be considered presumptively positive until confirmed by a PCR test, and symptomatic persons with a negative result should seek follow-up care from their health care provider. The detection of antibodies does not necessarily indicate protective immunity and should not be used to detect acute infection when viral tests were negative or were not performed early after symptom onset.

For US-bound air travelers (all persons aged > 2 years regardless of vaccination status), certain self-administered COVID-19 tests can now satisfy the entry requirement for a negative COVID-19 test result from a test taken within 3 days prior to departure; see Travel Restrictions and Advisories. The collection and testing process must have real-time supervision via a remote audio and video telehealth visit with a service affiliated with the test manufacturer; the telehealth provider must confirm the test result and issue a report that meets US CDC's requirements (e.g., type of test, issuing entity, specimen collection date, traveler identifying information, and test result). Of the FDA EUA home tests, the only available kit in the US that currently appears to meet the above criteria is the nonprescription Abbott BinaxNOW COVID-19 Ag At-Home Test Kit (USD150 for 6 tests; currently only available at https://www.emed.com/products/covid-at-home-testkit-six-pack); this test provides results within 15 minutes via the NAVICA app (iPhone and Android compatible). Shoreland recommends that all travelers carry the Abbott BinaxNOW COVID-19 Ag At-Home Test Kit either for meeting the entry requirement or for the convenience and confidence of observed testing in the event of a known contact or onset of COVID-19–compatible symptoms during travel.

In the US, 2 additional rapid nasal swab antigen tests (Ellume COVID-19 Home Test and Abbott BinaxNOW COVID-19 Antigen Self Test) are now available without a prescription, for completely at-home, unobserved self-collection testing for SARS-CoV-2 but do not meet the aforementioned entry requirement criteria. The Ellume test is available for USD39 (single-test package) at CVS (online) and will be available at most locations by the end of May. The Abbott test is available for USD24 (2-test package) at CVS, Walgreens, and Walmart (online and in stores for all 3 retailers) and will available nationwide at other major food, drug, and retail outlets. The Ellume test uses a Bluetooth-connected analyzer in conjunction with a smartphone app to provide digital results in 15 minutes or less.

More than 190 countries now require travelers to be in possession of a negative viral test result (with 38 countries also accepting antigen tests) from a test taken within a prescribed number of days prior to arriving in the respective country (usually 3 days), and more than 50 additional countries require 1 or more negative viral results (with 29 countries also accepting antigen tests) to be

exempt from quarantine or other restrictions. Approximately 110 countries require testing upon arrival in the respective country, some regardless of whether the traveler already had a negative test prior to arrival.

Travelers should verify requirements with their travel health provider, airline, or embassy before travel. At-home sample collection kits can be shipped overnight for PCR testing, and digital results are returned to the traveler's device usually within the required 3 calendar days. Ensure a digital or hard copy result will be available in time to present at the airport. A physical provider visit is not necessary, but a short online questionnaire (for each person requesting a kit) may be required, and upfront payment in full is usually required to receive the testing kit. See Table: Vendors Offering At-Home Sample Collection Kits. Digital health passport implementation for travel by individual airlines and commercial vendors (but not yet by national authorities) is gradually beginning and smartphone apps are being developed. Authorized laboratories and test centers will also be able to securely send medical information directly to passengers. Some countries are mandating tracking apps to be downloaded onto the mobile telephones of all arrivals; those with privacy concerns should ascertain this in advance.

The following testing strategies (PCR or antigen) are recommended for symptom-free US travelers:

- International travel or any cruise (domestic or international): diagnostic testing 1 to 3 days before departing the US (unvaccinated travelers only); 3 to 5 days after arrival at the destination (unvaccinated travelers); 1 to 3 days before returning to the US (*required* for all air travel from non-US territories or possessions* regardless of vaccination status); and again 3 to 5 days after travel/cruise (regardless of vaccination status); travelers who tested positive in the past 3 months and met isolation-discontinuation criteria are exempt from this recommendation.
- Domestic travel: diagnostic testing 1 to 3 days before travel and again 3 to 5 days after arrival at the destination. Fully vaccinated travelers and those who tested positive in the past 3 months and met isolation-discontinuation criteria are exempt from this recommendation unless required by local, state, or territorial health authorities.

* US territories and possessions: American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and US Virgin Islands

See Persons with Community or Direct Exposure to COVID-19 Cases for posttravel preventive measures and movement restrictions.

Need for Medical Assistance

Travelers who develop COVID-19 symptoms upon return from any travel or after any contact with a known case should observe respiratory hygiene (cough and sneeze etiquette), hand hygiene (frequent, thorough handwashing with soap and water for 20 seconds [or using a hand sanitizer containing 60% alcohol]), and social distancing, wear a mask, and seek immediate medical attention, informing the provider of their travel history before presenting to a clinic or hospital.

Older or high-risk outpatients with mild disease should seek out a center that can administer intravenous monoclonal antibody therapy. Discuss any proposed oral medication with a provider and do not take any treatment medications unless prescribed. Usual antiviral drugs such as oseltamivir (Tamiflu) and acyclovir are ineffective. Care is supportive to relieve symptoms or to support vital organ functions in severe cases. Persons who develop any shortness of breath should contact a medical provider immediately.

Prevention

Nonvaccine

Social distancing (remaining out of congregate settings [crowded places such as shopping centers, movie theaters, and stadiums], avoiding mass gatherings and public transportation, and maintaining a distance of 2 m [6 ft] from others), respiratory hygiene (cough and sneeze etiquette), and hand hygiene (frequent, thorough handwashing with soap and water for 20 seconds [or using a hand sanitizer containing 60% alcohol]) are key strategies for controlling COVID-19.

Masks

Community mask wearing substantially reduces transmission by preventing infected persons from exposing others by blocking exhalation of virus-containing particles into the air (termed source control) and by protecting uninfected wearers. Either wear a tightly fitted surgical or medical procedure mask or wear 2 masks (e.g., wear a 3-ply nonmedical cloth mask over a 3-ply surgical mask) to further reduce the risk of exposure. Do not combine 2 disposable masks or combine an N95 with any other mask.

In general, vaccinated persons no longer need to mask outdoors regardless of the vaccination status of others if together in small groups. Unvaccinated persons face a complex set of guidelines according to circumstances. Overall, precautions assume that vaccinees are fully protected from significant consequences of infection (but may still be carriers and transmit SARS-CoV-2) and guidance is mainly determined by the characteristics of any nearby unvaccinated persons (including children aged < 16 years

who are currently not authorized for vaccination) and their household grouping because they remain unprotected. Fully vaccinated persons:

- Can gather outdoors or participate in outdoor activities
  - Without a mask recommendation for anyone present if
    - Attending a small outdoor gathering with other fully vaccinated persons.
    - Walking, running, or bicycling with members from the same household or other fully vaccinated persons.
  - With a mask recommendation only for unvaccinated persons if
    - Attending a small outdoor gathering with fully vaccinated persons and unvaccinated persons (from multiple households).
    - Dining at an outdoor restaurant with persons from multiple households.
  - With a mask recommendation for everyone regardless of vaccination status if attending a crowded event (e.g., live performance, parade, or sports event), social distancing is difficult to maintain, a higher percentage of unvaccinated or vulnerable persons will be present, community transmission is higher, or activities will include singing, shouting, physical exertion, or heavy breathing.
- Can gather indoors
  - Without a mask recommendation for anyone present if
    - Attending a small indoor gathering with other fully vaccinated persons.
    - Attending a small indoor gathering with unvaccinated persons of any age (at low risk for severe COVID-19) from a single household in the home of either the vaccinated or unvaccinated household or at another private location.
  - With a mask recommendation for everyone regardless of vaccination status if
    - Attending a small indoor gathering with unvaccinated persons of any age (at low risk for severe COVID-19) from multiple households. Ideally, the visit should move outdoors, and only unvaccinated persons will need to wear a mask.
    - Attending a small indoor gathering with unvaccinated persons at increased risk of severe disease or who have an unvaccinated household member at increased risk for severe disease.
    - Visiting a hair salon or barber, visiting an uncrowded indoor shopping center or museum, attending a full-capacity worship service, going to an indoor movie theater, singing in an indoor choir, eating at an indoor restaurant or bar, or participating in an indoor, high-intensity exercise class.

Correctly worn masks should cover the nose, mouth, and under the chin and should fit snuggly so that unfiltered air does not pass around the edges of the mask, which should be changed or washed (if washable) regularly, ideally daily. Not all masks perform equally and those made from high-thread count cotton and tightly woven hybrid materials (e.g., cotton combined with a synthetic) as well as those with multiple layers (ideally 3 layers of different material: inner layer of absorbent material [e.g., cotton]; middle layer of nonwoven material [e.g., polypropylene, which may capture charged particles]; and an outer layer of nonabsorbent material [e.g., polyester]) perform best; the latter construction is beyond the capabilities of most individual households. Persons with a beard may have difficulty fitting a mask properly and should do 1 or more of the following to ensure a proper fit: shave or trim their beard, use a mask fitter or brace, wear 2 masks with the second mask pushing the edges of the inner mask snuggly against the face and beard. Bandanas and neck gaiters should be avoided. Standards for cloth masks are not yet available to help consumers select marketed products.

A US federal order (which expires September 13, 2021) mandates the wearing of face masks by everyone (except children younger than 2 years and persons with a disability that precludes safe mask wear) when awaiting, boarding, traveling on, or disembarking all public conveyances (e.g., airplanes, ships, ferries, trains, subways, buses, taxis, ride-shares) traveling into, within, or out of the US. This order also applies to any indoor or outdoor transportation hub (airport, bus or ferry terminals, train or subway stations, seaports, ports of entry) in the US. Masks must be made with 2 or more layers of a tightly woven breathable fabric, fit snugly, and cover the nose and mouth; gaiters are acceptable if they have 2 layers of fabric covering the nose and mouth. Unacceptable face coverings include masks with an exhalation valve, slits, or punctures; masks made from loosely woven fabric or materials that are hard to breathe through (e.g., vinyl, plastic, leather); face shields (when used alone); scarves, ski masks, balaclavas, or bandanas; and shirt or sweater collars (e.g., turtleneck collars pulled up over the mouth and nose).

The use of gloves is not recommended for the general public and persons in most nonhealthcare-related occupations because their use may lead to the misconception that hand hygiene (an important preventive measure) is unnecessary, thus increasing the risk of transmission by inadvertent touching of the face with contaminated gloves. Hand hygiene consists of frequent, thorough handwashing with soap and water for 20 seconds (or using a hand sanitizer containing 60% alcohol).

If a household includes persons at higher risk of a poor outcome (e.g., older adults or those with underlying medical conditions), then all persons in the household should take preventive measures as if they themselves are at higher risk and maintain as much

physical distance as possible with the vulnerable household member.

Vaccine

All authorized COVID-19 vaccines provide strong protection against severe COVID-19 (e.g., hospitalization and death) and significantly reduce the ability to infect others (substantial evidence); no vaccine is recommended preferentially over another. Full vaccination is highly effective against the B.1.1.7 and B.1.351 variants and all other US CDC-designated variants of concern. Two mRNA COVID-19 vaccines (Pfizer and Moderna) are authorized for use in Canada, the EU, the UK, the US, and several other countries and a viral vectored vaccine (Janssen/Johnson & Johnson [J&J]) is authorized for use in the Canada, the EU, the US and several other countries. The mRNA vaccines are essentially equivalent in short-term efficacy against symptomatic disease, almost uniformly greater than 90% for all age groups (including the elderly) and the Janssen/J&J vaccine efficacy is greater than 66% for all age groups (including the elderly); however, direct comparison of efficacy data, including for subgroups, is not possible because studies were carried out at different phases of the pandemic, with different population profiles, and in different countries. Prevention of severe-to-critical disease in healthy persons younger than 60 years by the Janssen/J&J vaccine (92%) appears equivalent to mRNA vaccines but the vaccine is less effective in this age group in preventing moderate-to-severe disease (66%). A single dose of the Janssen/J&J vaccine does not appear nearly as effective as mRNA vaccines in preventing severe/critical disease in those older than 60 years (68% efficacy) or in preventing moderate-to-severe disease in those older than 60 years with underlying medical conditions (42%). Analysis of some vaccines indicates some protection (up to 74% with the Janssen/J&J vaccine and 90% with the Pfizer vaccine) against symptom-free infection; analysis of effects on transmission to others is ongoing. Duration of protection lasts for at least 7 months and almost certainly for more than a year. No data exist on the interchangeability of vaccines; receive the same vaccine for all doses if possible.

In persons vaccinated with either mRNA vaccine, approximately 70% have reported pain at the injection site, followed by fatigue (31%) and headache (26%); rates are much higher after dose 2 and other systemic side effects are low. Prevaccination use of acetaminophen (paracetamol) or ibuprofen to prevent postvaccination symptoms is not recommended. However, these medications may be used to treat local or systemic postvaccination symptoms. Occurrences of immediate allergic reaction or anaphylaxis with either mRNA COVID-19 vaccine remain rare and reactions have uniformly responded immediately to epinephrine. A harmless, delayed cutaneous hypersensitivity reaction ("COVID arm") with redness (diameter up to 15 cm [6 in]) and tenderness on the arm where the vaccine was administered may occur 5 to 9 days after vaccination, especially with the Moderna vaccine. Itching at the site of redness and swollen lymph nodes in the arm pit may also occur. The reaction resolves over 4 to 5 days.

A very rare syndrome of blood clots in the brain and abdomen together with low platelet counts has been reported in AstraZeneca vaccine recipients (1 case per 100,000 vaccine doses) in Europe and Canada and in Janssen/J&J vaccine recipients (7 cases per 1 million vaccine doses in women younger than 50 years) in the US; specific risk factors are unknown. The syndrome occurs almost exclusively within 2 weeks after vaccination, with a death rate of 20% (Janssen/J&J) to 40% (AstraZeneca). Health authorities continue to state that the risk-benefit profile of these vaccines weighs in favor of their use; in Europe, national authorities may provide additional guidance or limitations, and in the US, the Janssen/J&J vaccine remains authorized for all persons 18 years and older. No cases have been reported to date with mRNA vaccines.

Contraindications to vaccination are anaphylaxis or immediate allergic reaction after a previous dose of a COVID-19 vaccine or separately to any of its components, including PEG (for mRNA COVID-19 vaccines only) or polysorbate (for Janssen/J&J vaccine only); polysorbate is found in some drugs and food preparations. With an allergist consultation, the vaccine may be considered in a controlled setting. *Precautions* to vaccination are an immediate allergic reaction to any other vaccine (including a different type of COVID-19 vaccine) or injectable therapy not related to a component of the vaccine or a reaction to a vaccine or injectable therapy that contains multiple components, one of which is PEG, another mRNA vaccine component, or polysorbate, but it is unknown which component elicited the immediate allergic reaction. Persons with a contraindication to a mRNA COVID-19 vaccine have a precaution to the Janssen/J&J vaccine, and vice versa. A history of food (including egg and gelatin), pet, insect, venom, environmental, latex, oral medications (including the oral equivalents of injectable medications); any other history of anaphylaxis not related to vaccine or injectables; or a family history of anaphylaxis are not considered contraindications or precautions. "COVID arm" and previous receipt of dermal fillers are not contraindications to vaccination. No evidence exists that any of the COVID-19 vaccines affect future fertility.

Efficacy in persons with major underlying medical conditions is slightly diminished with mRNA COVID-19 vaccines and more so with the Janssen/J&J vaccine, but efficacy is not known in persons with weakened immune systems; fully vaccinated persons with highly weakened immune systems should continue to consider themselves as unvaccinated and vulnerable in regard to allowed activities and masking guidance. Efficacy of the mRNA vaccines in pregnant women is similar to that in nonpregnant women. No safety issues have been identified in the aforementioned groups. No evidence exists that any of the COVID-19

vaccines affect pregnancy (including placenta development), future fertility, or the safety of breastfeeding for women or their infants.

Persons who have had a known COVID-19 exposure should not seek vaccination (first or second dose) until their quarantine period has ended to avoid potentially exposing health care personnel and other persons to SARS-CoV-2 during the vaccination visit. Those with prior COVID-19 should be vaccinated but should defer vaccination (first or second dose) until isolation-discontinuation criteria has been met. All vaccinees need to receive both doses (if applicable). With the mRNA COVID-19, most persons are protected 2 weeks after the first dose but this single-dose immunity may well be very transient without a second dose; this could not be assessed one way or the other because all trial subjects eventually received a second dose. When the same mRNA vaccine product is temporarily unavailable for the second dose, delaying the second dose for up to 6 weeks is preferred to allow for receipt of the same vaccine versus receiving a mixed series using a different vaccine.

In the US, all persons 16 years and older are eligible for vaccination and all vaccines are readily available. The Pfizer vaccine is authorized for use in children aged 12-15 years; authorization for the Moderna vaccine in this age group is expected mid-2021. For children aged 2-11 years, authorization for an mRNA is expected in September 2021 and for children as young as 6 months, authorization is expected in the fourth quarter of 2021. Vaccine approval or release under an EUA will not lead to an immediate or rapid end of the pandemic or of other social distancing, masking, or mitigation measures.

US CDC guidelines for allowable activities and the need to mask for persons fully vaccinated with an US FDA-authorized or a WHO EUL vaccine (i.e., 2 weeks or more following receipt of the second dose in a 2-dose series or 2 weeks or more following receipt of 1 dose of a single-dose of a vaccine) are now available. International and national guidelines may differ somewhat from the US guidance, based on private or public settings, local disease situation in terms of variants, type of vaccine received, and the age of the contact. See Masks for specific masking guidance for vaccinated and unvaccinated persons. Fully vaccinated persons:

- Can travel domestically and internationally with low risk to themselves.
- Should continue to avoid indoor large-sized in-person public gatherings (e.g., conferences, trade shows, sporting events, festivals, concerts, or large weddings and parties) and follow any applicable local guidance restricting the size of gatherings.
- Should continue to wear a well-fitted mask and observe social distancing and hand hygiene when traveling or in public spaces (including gyms, bars, indoor dining), including attendance at the aforementioned inadvisable public gatherings.
- Should not visit or attend a gathering if they are experiencing COVID-19 symptoms or have had a positive COVID-19 test in the 10 days prior, regardless of the vaccination status of others at the gathering.
- Can refrain from routine screening or testing (some exceptions) or quarantine following a known exposure if asymptomatic.

Disinfection of Surfaces

Regular cleaning with household cleaners containing soap or detergent (physically removes the virus but does not kill it) is adequate to reduce the risk of SARS-CoV-2 spread in homes, businesses, and schools. Disinfection with a chemical product (kills the virus on surfaces), in addition to cleaning, is only recommended in indoor settings where a suspected or confirmed COVID-19 case was present within the previous 24 hours. From 24 to 72 hours since a case was present, cleaning alone is sufficient. When disinfection is recommended, use a diluted bleach solution or an EPA-approved household disinfectant effective against SARS-CoV-2 (https://www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19).

To make a bleach solution, add 20 mL (4 teaspoons) of bleach to 1 L (1 quart) of water; for a larger supply, add 75 mL (5 tablespoons) of bleach to 4 L (1 gallon) of water. For surfaces sensitive to bleach, at least 70% ethanol should be used. Alcohol-based hand disinfectants and common hospital personal disinfectants are all effective against SARS-CoV-2 but provide no ongoing protection between uses.

Travel to Any Destination (Domestic or International) with Community Transmission

All travel (domestic or international) should be postponed until fully vaccinated with a US FDA-authorized vaccine, especially for those at higher risk of a poor outcome. All cruise travel worldwide should be avoided.

Exemptions to US CDC domestic or international travel recommendations or requirements for fully vaccinated persons have yet to be made because most US residents in the travel environment remain unvaccinated and susceptible. Vaccinated persons are very likely to have lower rates of asymptomatic carriage but no clear proof of this exists.

Travelers who must travel (especially those at higher risk of a poor outcome) should, if eligible, get fully vaccinated for COVID-19 and wait 2 weeks after series completion before traveling. Also, for 14 days before and during travel:

- Observe respiratory hygiene, hand hygiene, and social distancing.
- Avoid close contact with persons diagnosed with COVID-19 (especially high risk).

- Wear a tightly fitting mask or wear 2 masks whenever social distancing is not possible, especially on public transportation and at transportation hubs. However, a growing number of European countries and some airlines are banning the use of cloth face coverings and are requiring the use of medical-grade masks (e.g., surgical mask, FFP2 mask, or KN95/N95 mask) despite the general recommendation to prioritize these for health care workers.
- Avoid attendance at high COVID-19–risk activities such as large social or mass gatherings (e.g., weddings, funerals, parties, concerts, sporting events, parades), being in crowds (e.g., restaurants, bars, airports, bus and train stations, movie theaters), and travel on a cruise ship or river boat.

During travel, travelers should also:

- Avoid busy medical settings for all but serious or immediately life-threatening medical problems. The quality of infection-control standards at medical facilities in many affected areas is uncertain.
- Ensure influenza vaccination is current to decrease the risk of simple influenza being mistaken for COVID-19 upon return.

Travelers flying on commercial aircraft should also:

- Perform as many travel formalities as possible online before heading to the airport.
- Bring extra masks in case one gets soiled; some airlines may require medical-grade masks.
- Use the restroom before boarding the aircraft to minimize the need to use the lavatory on board.
- Avoid speaking with strangers and going to the crowded gate earlier than necessary.
- Move about the cabin only as necessary and wear a mask when doing so.
- Avoid congregating while waiting for the lavatory and wear a mask while inside.
- Avoid unmasking while your neighbor unmasks.
- Remain seated as long as possible after arrival at the gate to avoid the mass exodus of passengers from the aircraft.

Travelers on US cruise ships should expect:

- Only a limited number of cruises to be available prior to July 1.
- US-based cruises beginning in July to be mostly limited to vaccinated persons.
- Cruise duration to be restricted to 7 days or fewer.
- Shoreside screening and testing prior to embarkation.
- On-board testing prior to disembarkation.
- Modified meal and entertainment activities to facilitate social distancing.
- Immediate on-board quarantine if the ship experiences any COVID-19 cases.

Travelers or business travelers should only use prearranged, solo (e.g., alone or only with existing traveling companions) transportation and consider arranging for a larger vehicle to facilitate social distancing from the driver; use touchless payment when available, and handle luggage personally. Mask use is indicated in high-transmission destinations. In lodging establishments, avoid contact with any valets at the entrance, book rooms on low floors and use the stairs, clean all high-touch surfaces in the room, minimize housekeeping visits during the stay (leave the room before arrival of housekeeping personnel), and avoid the gym. For food service, preferentially use contactless room service if available and completely avoid self-service buffets.

In the Workplace

To help prevent workplace exposure to acute respiratory illnesses, including COVID-19 and influenza, employers should actively encourage (through generous leave policies) employees with fever (38°C [100.4°F] or higher for the general population and 37.8°C [100°F] or higher for health care workers) using an oral thermometer, signs of fever, or symptoms of respiratory illness to remain at home, to observe hand hygiene and social distancing if possible, and to avoid sharing household items. Employees who become ill at work should be immediately isolated from other employees, sent home, and tested for influenza and COVID-19. Employee education on the aforementioned measures should be aggressive. Worksite hygiene measures and worksite disinfection should be active and continuous. Employees that are at higher risk of poor outcome from COVID-19 (e.g., those that are older or with underlying medical conditions) should self-identify to the employer so that steps can be taken to reduce their risk of exposure; options include working from home or performing duties that minimize contact with others.

Employees with symptoms, including health care workers, with confirmed or suspected COVID-19 should not return to work until they are free of fever for at least 24 hours without the use of fever-reducing medications *and* other symptoms have improved *and* at least 10 days have passed since symptom onset (up to 20 days for persons with severe to critical illness or a severely weakened immune system). Symptomatic persons with suspected or confirmed *influenza* may return to work once they are free of fever for 24 hours or more without the use of fever-reducing medications; those who never developed a fever may return to work 5 days after symptom onset. Symptom-free persons (never had symptoms) with a positive test may return to work if more than 10 days have passed from the date of the positive test and they have remained symptom free.

Persons in critical infrastructure sectors may continue to work (at the discretion of state and local health authorities) following potential exposure to SARS-CoV-2 as long as they remain symptom free and certain additional precautions recommended by US CDC are implemented by the employer. However, this option should be used as a last resort and only in limited circumstances, such as when cessation of the facility operation may cause serious harm or danger to public health or safety.

Persons with Community or Direct Exposure to COVID-19 Cases

Exposure is defined as a household member or a close contact with a symptomatic or symptom-free COVID-19 case(s) with face-to-face contact of less than 2 m (6 ft) for more than 15 minutes cumulatively within a 24-hour period (e.g., three 5-minute exposures for a total of 15 minutes), irrespective of whether the COVID-19 case(s) or the contact was wearing a mask. More than 15 minutes of cumulative contact (within a 24-hour period) while in a closed environment (e.g., classroom, meeting room, hospital waiting room, etc.) or traveling with a COVID-19 case or any amount of direct contact with secretions from or direct physical contact with a COVID-19 case are also considered contact exposures.

Persons who develop fever or respiratory symptoms within 14 days of international or domestic travel or other direct or community exposure should self-isolate; observe respiratory and hand hygiene, and social distancing; wear a mask; and contact public health authorities (or telephone ahead before presenting to a hospital).

In general, any symptom-free person with a history of possible or known exposure should observe respiratory and hand hygiene and social distancing; wear a mask (including in shared spaces inside the home for the traveler and all household members); self-observe (remain alert for symptoms); and avoid contact with persons at risk of poor outcome (unless they live in the same home and had the same exposure) for a full 14 days, whether tested or not. Additional recommendations include:

- Persons with close contact with a confirmed COVID-19 case should quarantine at home for 14 days after last exposure (even if test result is negative). Based on local circumstances and resources, this time frame can be reduced to 10 days after last exposure, or 7 days after last exposure with a negative test result. Fully vaccinated persons are exempt from this recommendation.
- Persons returning from domestic or international travel should remain at home or in a comparable setting and self-quarantine for 10 days after travel (7 days if the posttravel test result is negative). Fully vaccinated persons and those who tested positive in the past 3 months and met isolation-discontinuation criteria are exempt from this recommendation.

A quarantine or stay-at-home period of 14 days after travel or last contact (with or without testing) nearly eliminates transmission risk but may be not be practical in all situations and compliance may be difficult. A fully vaccinated health care worker with a high-risk patient exposure does not need to be excluded from work but should complete 2 viral tests collected immediately and then again 5 to 7 days after exposure. Health care worker (regardless of vaccination status) with a known travel- or community-associated exposure (where quarantine is recommended for unvaccinated persons) should be excluded from work for 14 days after their last exposure. Of note, health care workers in either of the above situations are not required to quarantine outside of the workplace if they meet the criteria below. The aforementioned alternative strategies do not eliminate all risk. See Testing for pretravel and posttravel testing recommendations.

Vaccinated persons with an exposure to someone with suspected or confirmed COVID-19 are not required to quarantine if they meet ALL of the following criteria: 1) are fully vaccinated (i.e., 2 weeks or more following receipt of the second dose in a 2-dose series or 2 weeks or more following receipt of 1 dose of a single-dose of a US FDA-authorized vaccine) and 2) have remained symptom-free since the current COVID-19 exposure. Fully vaccinated persons who do not quarantine should still self-monitor for 14 days following an exposure. If compatible symptoms develop, a full clinical evaluation for COVID-19, including SARS-CoV-2 testing is indicated.

Persons without a known exposure risk but with potential unrecognized exposure in the community should observe social distancing and self-observe (remain alert for symptoms); an employer may choose to apply the aforementioned stricter recommendations to these persons as well.

Household members of a symptom-free person in self-quarantine following a potential exposure are not considered to be at-risk contacts but should consider following the aforementioned recommendations. They may continue their daily activities (e.g., work or school) while continually monitoring their health and seeking medical attention if symptoms develop. However, businesses may conservatively opt to implement restrictions on a case-by-case basis.

Caregivers of a suspected or confirmed case should take additional precautions to include the use of disposable gloves, gowns, and medical masks and the proper disposal of these items.

Special Considerations

Travel Restrictions and Advisories

Different levels of travel restrictions are in effect in almost all countries and include closed land borders, closed airports, medical clearance (including testing) required for entry, and internal restrictions (e.g., national or regional lockdowns or curfews) within countries. More than 230 countries (including the US) now require arrivals to have a recent negative COVID-19 viral test result either for entry into the country or to be exempt from quarantine or other restrictions upon arrival. Although antigen testing may be more readily available, only PCR test results are accepted by most countries; more than 30 countries are now accepting antigen test results as well. Travel recommendations range from avoiding nonessential travel to avoiding all travel to all countries.

All nationals, residents, and foreigners older than 2 years (regardless of vaccination status) arriving in the US from any country (except American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and the US Virgin Islands) must have a negative COVID-19 viral test result or antigen test result from a test taken within the 3 calendar days prior to the day of departure; a humanitarian exemption may be granted in extremely limited circumstances. In case of flight delay, a retest may be necessary to meet the 3-day rule. Travelers with previous COVID-19 infection can instead present documentation of recovery, which includes 1) laboratory proof of a positive COVID-19 viral or antigen test result from a test taken within 3 months prior to arrival, confirming the diagnosis at the time of illness; and 2) a physician's attestation of symptom-onset date and the subsequent meeting of isolation-discontinuation criteria. Airline personnel will verify testing results (which may be paper or electronic) at the point of boarding. For arrivals in the US via 1 or more connecting flights, testing must be done in the 3 days before the first flight if all flights are on a single passenger record and each connection (layover) is no longer than 24 hours. For connecting flights booked with separate passenger records or with any layover longer than 24 hours, the test must be taken in the 3 calendar days before the day of departure of the final flight to the US. Passengers transiting the US and those who have already been vaccinated are subject to the same testing requirements. Waivers, effective for 14 days at a time, may be granted to originating countries lacking SARS-CoV-2 testing capacity. Persons arriving in the US by air should also self-quarantine for 7 to 10 days (depending on a voluntary postarrival test result); fully vaccinated persons are exempt from this recommendation.

Several practical issues for the new requirements should be considered. A positive test result prior to return to the US will necessitate at least a 10-day delay in return. Subsequent progression to need for hospitalization in a country with stressed capability will lead to adverse outcomes or death. Last-minute seats on sold-out flights to the US will frequently be available due to positive test results in confirmed passengers. Travelers on short trips may have a test taken on the departure date at home and the result (available electronically) will remain valid for the return flight until midnight on the third day following (e.g., Monday morning test valid until Thursday evening). Risk of in-flight transmission will be reduced but not eliminated; false negatives in those very recently infected will continue to occur, especially with antigen tests.

Globally, the intensity of internal disruption varies widely across different countries and between administrative levels within countries. Strategies include stay-at-home orders, curfews, closures of gyms, bars, restaurants, hair salons, and nonessential shops, limitations on group sizes, limitations on internal travel, or restrictions on business, social, or religious gatherings. Even with slow reopenings, social distancing measures will remain in place in many countries.

Table: Vendors Offering Nonprescription At-Home Sample Collection Kits (Antigen and NAAT)

Vendor/Lab	Test Name/URL	Sample Type	Cost	Shipping to Lab if Required	Results[1]
Tests that meet US CDC telehealth criteria for air travel entry requirements (viral antigen test)					
Abbott Diagnostics	BinaxNOW COVID-19 Ag Card Home Test (different from self-test version) https://www.emed.com/products/covid-at-home-testkit-six-pack	Nasal swab	USD150 (per 6 test pack)	In-home results	Digital (15 min)
Tests that *do not* meet US CDC criteria for air travel entry requirements (antigen and NAAT tests)					
Ellume	Ellume COCVID-19 Home Test cvs.com and in stores	Nasal swab	USD39	In-home results	Digital (15 min)
Abbott Diagnostics	BinaxNOW COVID-19 Antigen Self Test (different from home-test version) cvs.com, walgreens.com, walmart.com, and in stores	Nasal swab	USD24 (2 tests)	In-home results	15 min

1. For tests that require shipping to a laboratory for processing, time to receipt of test results may vary with demand; check immediately prior to shipping to ensure receipt of result on personal device prior to flight departure if needed.

Vendor/Lab	Test Name/URL	Sample Type	Cost	Shipping to Lab if Required	Results[1]
Lucira	Lucira Check It COVID-19 Test Kit https://checkit.lucirahealth.com/	Nasal swab	USD55	In-home results	30 min
Quidel	QuickVue At-Home OTC COVID-19 Test https://quickvueathome.com/	Nasal swab	USD30 (2 tests)	In-home results	10 min
Everlywell	COVID-19 Test Home Collection Kit DTC https://www.everlywell.com/products/covid-19-test/	Nasal swab	USD109	Overnight to lab	Digital (72 hrs after receipt at lab)
Let's Get Checked	LetsGetChecked Coronavirus (COVID-19) Home Collection Kit https://www.letsgetchecked.com/us/en/home-coronavirus-test/	Nasal swab	USD119	Overnight to lab	Digital (24-72 hrs after receipt at lab)
Kroger	Kroger Health COVID-19 Test Home Collection Kit https://www.thelittleclinic.com/home-testing/	Nasal swab (remote supervision)	USD99 or employer or benefit provider ID code required	Overnight to lab	Digital (48-72 hrs after receipt at lab)
Phosphorus Diagnostics	COVID-19 RT-qPCR At-Home Saliva Test https://phosphorus.com/individual-testing	Saliva	USD119	Overnight to lab	Digital (72 hrs after receipt at lab)
P23 Labs	P23 At-Home COVID-19 Test Collection Kit https://p23labs.com/covid-19-kit	Saliva	USD142	Overnight to lab	Digital (72 hrs after receipt at lab)
Fulgent	Picture COVID-19 Home Collection Kit https://picturegenetics.com/covid19	Nasal swab	USD119	Overnight to lab	Digital (24-48 hrs after receipt at lab)
LabCorp	pixel COVID-19 Test (At-Home Collection Kit) https://www.pixel.labcorp.com/covid-19	Nasal swab	USD119	Overnight to lab	Digital (48-72 hrs after receipt at lab)
QuestDiagnostics	COVID-19 Active Infection Home Collection Kit https://questdirect.questdiagnostics.com/products/covid-19-active-infection/2713afd8-3d0c-4819-b877-6880a776cc46	Nasal swab	USD129	Overnight to lab	Digital (1 wk after receipt at lab)
Vitagene	COVID-19 Saliva Test Kit https://vitagene.com/products/covid-19-saliva-test-kit/	Saliva	USD117	Overnight to lab	Digital (72 hrs after receipt at lab)
Vault	COVID-19 Test Kit https://www.vaulthealth.com/covid/consumer	Saliva (remote supervision)	USD119	Overnight to lab	Digital (48-72 hrs after receipt at lab)
empowerDX	empowerDX COVID-19 Home Collection Kit DTC https://empowerdxlab.com/nasal-test/	Nasal swab	USD99	Overnight to lab	Digital (48 hrs after receipt at lab)

1. For tests that require shipping to a laboratory for processing, time to receipt of test results may vary with demand; check immediately prior to shipping to ensure receipt of result on personal device prior to flight departure if needed.

Vendor/Lab	Test Name/URL	Sample Type	Cost	Shipping to Lab if Required	Results[1]
hims&hers	him&hers COVID-19 Saliva Test https://www.forhims.com/covid-test https://www.forhers.com/covid-test	Saliva	USD150	Overnight to lab	Digital (3-5 days after receipt at lab)
myLABBOX	At Home Coronavirus (COVID-19) Test – Nasal https://www.mylabbox.com/product/at-home-coronavirus-covid-19-test-nasal/	Nasal swab	USD119	Overnight to lab	Digital (24-48 hrs after receipt at lab)
myLABBOX	At Home Coronavirus (COVID-19) & Flu Viral Detection Test https://www.mylabbox.com/product/at-home-coronavirus-covid-19-flu-viral-detection-test/	Saliva	USD129	Overnight to lab	Digital (24-48 hrs after receipt at lab)
DxTerity	DxTerity COVID-19 Saliva At-Home Collection Kit https://dxterity.com/covid-19-test/	Saliva	USD110	Overnight to lab	Digital (24-72 hrs after receipt at lab)
Clinical Reference Laboratory	COVID-19 Saliva Test https://order.crlcorp.com/	Saliva	USD119	Overnight to lab	Digital (48 hrs after receipt at lab)
GENETWORx	COVID-19 Nasal Swab Test Kit https://genetworx.com/lp/at-home-covid-test/	Nasal swab	USD129	Overnight to lab	Digital (48 hrs after receipt at lab)

1. For tests that require shipping to a laboratory for processing, time to receipt of test results may vary with demand; check immediately prior to shipping to ensure receipt of result on personal device prior to flight departure if needed.