

# Cruise Ship Travel

## Traveler Summary

### Key Points

- Typically, half the passengers seeking medical care on board cruise ships are 65 years and older.
- Seasickness (motion sickness) can be prevented with prescription patches (placed behind the ear and changed every 3 days), prescription medication, or an over-the-counter medication; all are to be used prior to rough seas. The cruise-ship medical clinic can provide more potent medication after the onset of severe illness.
- Respiratory illnesses (such as influenza) can occur at any time of the year. Travelers should be up-to-date on COVID-19, influenza, and pneumococcal vaccinations prior to travel.
- Norovirus is a highly infectious disease acquired via the fecal-oral route through contaminated hands, directly from person to person, through contaminated food or water, or through contact with contaminated surfaces. Ill passengers may be required to quarantine in their cabin for 24 to 48 hours and in many cases may be required to disembark at the next port. Treatment is limited to maintaining hydration.
- Prevention of respiratory and gastrointestinal (GI) illnesses includes observing hand hygiene (frequent, thorough handwashing or using an alcohol-based hand sanitizer containing  $\geq 60\%$  alcohol) throughout the cruise.
- Care should be taken when walking on wet decks and during embarkation/disembarkation to minimize risk of slip and fall injury. Flat, rubber-soled shoes or sandals are safest.
- Be aware of illnesses found at ports of call that may require behavioral modification, medication, or vaccination to prevent.

### Introduction

Tens of millions of persons take cruise-ship vacations annually, with approximately half from North America. Cruise-ship travel is especially popular with older travelers because of the controlled climate and environment and the numerous and varied destinations. Typically, half the passengers seeking medical care on board cruise ships are 65 years and older. Respiratory infections are the most common diagnoses, followed by injuries, motion sickness, and GI problems. SARS-CoV-2 (the cause of COVID-19) has been associated with many cruise-ship–related outbreaks and the subsequent spread of the virus off the ship. Travelers who are considering cruises should assess the safety measures of the cruise, including guidance for the port/terminal, which is often crowded and may have outdated ventilation systems. During 2000-19, more than 600 deaths due to various causes (approximately 90% were passengers) occurred aboard cruise ships.

Passengers who are ill before taking a cruise should inform the cruise line to find out current policies, procedures, and any restrictions for their ship and itinerary. Passengers who become sick during a cruise should report their illness to the crew and stay in their room until symptoms are gone.

### Motion Sickness

Most large modern ships have been engineered to reduce motion sickness, but motion sickness is still responsible for up to 25% of cruise-ship medical visits. Ships crossing the Drake Passage to Antarctica present a particular risk for motion sickness. For more information, see *Motion Sickness*.

### Injury and Death

Injuries resulting from slips, trips, and falls are common on cruise ships and account for up to 18% of medical visits.

Deaths on cruise ships range from approximately 1 to 10 deaths per million passenger-nights and most often are attributed to cardiovascular events. Preventable causes of death that do occur include falling overboard and drowning.

### Medical Capabilities on Cruise Ships

Modern-day medical care aboard cruise ships has been developed to provide cruise-ship passengers and crew with timely access to medical services similar to what would be available at an urgent care clinic or a stand-alone emergency department. The on-board medical service typically follows published guidelines that specify the qualifications of on-board medical personnel and recommended medical/laboratory equipment, supplies, and medications. Many on-board medical facilities now incorporate

access to telemedicine, which augments support for the medical personnel on the ship. Cruise ships have enhanced their on-board medical capacity in response to COVID-19, with an increased number of beds, increased testing capabilities, separate care areas for infectious patients, isolation and quarantine areas for COVID-19, and telemedicine options. At a minimum, medical staff must be able to initiate appropriate care for critically ill or medically unstable patients and to facilitate evacuation of severely ill or injured patients. For instance, problems such as myocardial infarction, respiratory distress, or cerebrovascular accidents may be stabilized on board and then evacuated emergently to an appropriate shoreside facility. However, these guidelines may not be followed by smaller ships or those run by independent operators and medical provisions may not be available on such ships.

The cost of medical care on a cruise ship is not included in the fare and is often costly and usually needs to be paid for up front. Consider carrying simple remedies such as cold medicines, loperamide, antibiotics for self-treatment of diarrhea, and motion sickness medicines. Check that health insurance or any additional travel insurance purchased covers medical expenses at sea, air evacuation, and repatriation.

## Travelers with Preexisting Medical Conditions

Travelers with existing medical problems or those recovering from health problems should prepare carefully for cruise travel. Contact the cruise line's medical department prior to travel and verify that the necessary staff and equipment will be in place. Travelers with a history of heart disease should carry a printed or electronic copy of a recent electrocardiogram (EKG).

Less mobile or disabled travelers should inquire about procedures for boarding and disembarking from the ship. Some ports may not have the equipment necessary to accommodate these passengers.

Bring an adequate supply of current medications and provide the ship's physician with a list of names and dosages of all current medications in the event the ship's physician needs to dispense or replace the medication.

## Infants and Pregnant Women

Many cruise lines will not accept infants younger than 6 months (younger than 12 months for transoceanic sailings) or women who will be 24 or more weeks pregnant at the time of the cruise.

Pregnant women may be asked to provide a medical note from their physician stating the expected due date and medical fitness to travel, as well as verifying that the pregnancy is not high risk. Ship medical facilities are not able to provide blood transfusions and have limited means to handle complications of pregnancy.

## Vaccinations

All cruise-ship travelers should be up-to-date on routine vaccinations as well as those recommended or required depending on age, destination, and medical conditions.

## Contagious Health Risks on Board

### Respiratory Illnesses

Aboard cruise ships, a large number of people coexist in relatively close contact with others, which can promote the spread of respiratory infections such as influenza and COVID-19, accounting for up to 29% of medical visits. Older travelers and those with risk factors for respiratory disease are at increased risk for severe disease from COVID-19 and complications from influenza, including pneumonia, hospitalization, and even death.

### COVID-19

US CDC recommends that travelers be up-to-date on COVID-19 vaccinations as eligible before cruise-ship travel and speak with a health care provider if they are at an increased risk of severe illness (e.g., those aged  $\geq 65$  years or with underlying medical conditions, immunocompromise, or who are pregnant or recently pregnant). Cruise-ship travel is not a zero-risk activity and prior to the general halt in cruising in early 2020, more than 3,600 COVID-19 cases were reported on more than 100 civilian cruise ships; several of the outbreaks began while the affected ship was at sea. Outbreaks (over multiple consecutive voyages) of more than 100 cases have occurred, even with vaccination rates of 97% to 100% among crew and passengers on board the ships. The semi-enclosed spaces and proximity to other passengers and crew increased risk of exposure and amplified the outbreaks. Travelers on US cruise ships should expect cruises to be mostly limited to vaccinated persons, for testing to be required prior to

embarkation and possibly prior to disembarkation, for self-quarantine after disembarkation in the US for travelers not up-to-date on vaccination, and for immediate on-board quarantine for many days or disembarkation at the next port after a positive on-board test.

## Influenza

"It's always influenza season on a cruise ship." Outbreaks of influenza can occur among cruise-ship passengers throughout the year. Influenza vaccination is highly recommended for all cruise-ship travelers 6 months and older. Passengers should also ask their regular physician about the advisability of carrying antiviral medications for treatment of suspected influenza because vaccination is not 100% effective. In the event of an outbreak of respiratory illness, affected passengers and crew members may be isolated in their cabins and asked to wear a face mask until 24 hours after symptoms are gone. See *Influenza*.

All passengers with underlying illnesses or who are 65 years or older should be up-to-date on recommended pneumococcal vaccination. See *Pneumococcal (19 Years and Older)*.

Legionnaires' disease, presenting with influenza-like symptoms, is usually acquired from contaminated artificial water systems. Outbreaks on cruise vessels have occurred due to poor cleaning and maintenance of spas, fountains, and showers.

## Gastrointestinal Illnesses

GI illness is second to respiratory illness for contagious diseases that occur on cruise ships, with a rate of about 22.3 cases per 100,000 travel days. About 20 outbreaks of gastroenteritis per year are reported on ships that call at US ports. Water-borne and food-borne disease outbreaks can occur on cruise ships. Norovirus is a common cause of GI infection (with a high attack rate in closed communities) and is responsible for approximately 90% of gastroenteritis outbreaks on ships, although the overall risk of disease among all cruise-ship passengers is extremely low, about 0.02%. Symptoms include vomiting, diarrhea, abdominal cramps, and low-grade fever. The incubation period is 12 to 48 hours, and the disease generally runs its course in 24 to 48 hours. Patients can remain contagious for up to 72 hours after symptoms have disappeared. The highly infectious virus is transmitted via the fecal-oral route through contaminated hands, directly from person to person, through contaminated food or water, or through contact with contaminated surfaces. Aerosolized vomit is another source of infection. Because of high infectivity and persistence in the environment, transmission of norovirus is difficult to control through routine sanitary measures.

To avoid norovirus infection, observe hand hygiene (frequent, thorough handwashing or using an alcohol-based hand sanitizer containing  $\geq 60\%$  alcohol), especially after using the bathroom, changing diapers, and before preparing or eating food. Leave an area where someone is vomiting. Passengers who experience symptoms may be asked to remain in their cabins or to disembark at the next available port.

## Measles, Rubella, and Varicella

Outbreaks of measles, rubella (German measles), and varicella (chickenpox) have occurred on cruise ships, usually introduced by crew members from countries where vaccination is not widely practiced. Because of the dangers of varicella and rubella in pregnancy, passengers should be up to date with varicella and MMR vaccinations. See *Measles, Mumps, Rubella and Varicella*.

## Skin Infections and Sunburn

Skin infections and sunburn are common problems during cruise-ship travel. Wash and disinfect cuts, abrasions, and insect bites, and avoid excessive sun exposure. See *Insect Precautions* and *Sun Protection*.

## Contagious Health Risks on Shore

### Malaria

Some cruise ships visit ports in countries where malaria is a risk, particularly on the South American coast, the eastern and western coasts of Africa, and some Asian destinations.

Cruise lines commonly offer day trips to local destinations, with passengers returning to the ship in the evening. In this situation, risk during the evening and night is very low because passengers are in a controlled environment; thus, preventive malaria medication is usually not necessary. However, preventive medication should be considered if passengers spend the night on shore or spend more than 1 day in sub-Saharan African ports or ports with similarly high transmission.

Cruise-ship passengers who have a fever after returning from these ports should seek medical care to be tested for malaria.

See *Malaria* for more information.

## Yellow Fever

Unless yellow fever vaccination is required as an entry requirement (by the country receiving a cruise ship at a port), vaccination is not recommended for cruise-ship travelers with itineraries restricted to the immediate environs of ports in countries where risk of yellow fever transmission exists. However, vaccination is recommended for passengers taking cruise-ship tours up the Amazon River, where risk exists in forested areas along the shore.

A country at potential risk of yellow fever (e.g., Tanzania) may demand a yellow fever vaccination certificate from passengers who intend to come ashore if they have recently gone ashore in a country designated to be at risk of yellow fever (e.g., Kenya).

Elderly passengers may wish to carry an exemption certificate. See *Yellow Fever*.

## Illness from Food and Water

Most cases of acute diarrhea (except norovirus) are not contracted on the ship but rather during visits to port where passengers eat in local restaurants. Diarrhea may occur 24 to 48 hours or longer after exposure, when the passenger is back on the ship. Passengers should use the ship's medical services for treatment of symptoms. See *Travelers' Diarrhea* for information on prevention and treatment of diarrhea.

Hepatitis A and typhoid are not a risk on large cruise ships belonging to major cruise lines because of adequate hygiene and sanitation measures. However, passengers who intend to eat at local restaurants while in port in developing countries should be vaccinated against both diseases. See *Hepatitis A* and *Typhoid*.

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