

Help Your Patients Stay Healthy on Their Cruise Vacation: Suggestions for Primary Care Physicians from a Cruise Ship Physician

Lee Jacobs, MD¹

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INTRODUCTION

During my 12 years of experience in caring for critically ill patients on cruise ships, I have learned that good advice and preparation by primary care physicians before sailing can prevent life-threatening situations from occurring when their patients are at sea.

Because cruise travel is a rapidly growing industry with estimates of more than 27 million passengers having sailed worldwide in 2018,¹ there is a high likelihood that 1 or more of your patients will be planning a cruise vacation. This underscores the importance for you to understand cruise ship-related health issues so that you can provide meaningful precruise advice and patient education.

Although cruises are relaxing and enjoyable, this changes quickly when a patient becomes seriously ill while on an ocean cruise, and the needed health care at sea may be several hours or even days away. This differs from the readily accessible care that may be found in most places at home. This fact is generally not well appreciated by primary care physicians, who at times are asked to give approval for their patients with unstable medical conditions to go on a cruise. For this reason, primary care physicians are the first line of defense to make certain that a seemingly minor health problem does not become a life-threatening emergency in the middle of the ocean.

To assist you in having an informed precruise dialogue with your patients, the following article provides an overview of the health care capabilities of a typical cruise ship, which is then followed by specific suggestions I believe will help you educate your patients so they can stay healthy and enjoy their cruises.

TYPICAL CRUISE SHIP CAPABILITIES: AN EMERGENCY DEPARTMENT AT SEA

Although there may be some variation, in my experience the capabilities for providing care for critically ill patients at sea are similar among cruise lines. There are several considerations that might assist you in giving accurate advice to your patients. These include how long it might take to debark an ill passenger, the types of illnesses commonly encountered, the medications available on ships, and an overview of the ancillary services typically found on a ship.

How long does it generally take to transfer an ill passenger from a cruise ship to a shore-side medical facility? The answer is several hours to days depending on the itinerary as well on the capability of nearby ports. The longest timeframe would be when ships are on long oceanic crossings where there might be more than 4 days in the open ocean. In this setting, the assumption should

be that your patient will be cared for on the ship with no opportunity for evacuation. Alternatively, some cruise itineraries may be episodically close to ports, but even then the time factor for debarking is an issue because it may take several hours for ships to get to ports. Add to this time factor the realization that some ports cannot provide care superior to what can be provided on the ship, then the dilemma as to how and when to debark a critically ill patient becomes clearer. Therefore, it is important for you to review your patient's itinerary so you can decide if the cruise is suitable for him/her given his/her health status and medical needs.

What are the types of illnesses commonly encountered on cruise ships? Although I am not aware of comparative data, in my experiences the types and acuity of illnesses are similar to those in a busy Emergency Department. Cruise ships are basically small towns with a population between 1500 and more than 7000 guests and crew members.² Thus, heart failure, myocardial infarctions, arrhythmias, reactive airway flare-ups, pregnancy complications, seizures, severe dehydration, and hyperglycemia are frequently seen on a ship. As a result of ship movement and wet surfaces, fractures and lacerations are also quite common. If your patient has mobility challenges, it is important to emphasize the challenges s/he might encounter on a cruise ship. Although your patient may not be receptive to the idea, you might suggest that s/he use a wheelchair while on the moving ship.

What medications are available on board? A cruise ship's formulary for oral and parenteral medications and aerosols is usually robust to ensure that high-quality care can be provided for the wide spectrum of disorders seen. This includes sedation medications, oxytocic agents for obstetric-related problems, and thrombolytics for acute coronary events.

What ancillary services are typically found on a cruise ship? The laboratories of most ship medical centers can produce complete blood cell counts and chemistry panels and can perform several point-of-care procedures. Many have radiographic capabilities, and some have ultrasonography capabilities; the results of both can be exported digitally or burned to a disk for patients to take home to their physicians. In life-threatening situations, blood can be typed and crossed from crew members or other guests

Author Affiliations

¹ The Permanente Journal, Portland, OR

Corresponding Author

Lee Jacobs, MD (jacobs@securenym.net)

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and transfused as needed. Essential respiratory support is also available, including nebulizer treatment and ventilator support for an intubated patient.

COPIES OF MEDICAL DATA: INFORMATION IS ESSENTIAL

Most certainly an updated copy of medications and an active medical problem list are imperative. I also suggest you provide your patient with a copy of his/her most recent electrocardiogram and any pertinent imaging reports. You can imagine how helpful this information can be for comparison with the ship's x-ray films and electrocardiograms when the ship physician is caring for critically ill patients.

BRINGING MEDICINES AND DEVICES: PACK WISELY

Remind your patients to pack essential medicines and devices in their carry-on bag and not in their check-in luggage. Trying to replace forgotten or lost medicines, or devices such as continuous positive airway pressure (CPAP) machines, when at sea or in non-US ports can be difficult and at times impossible. Patients with implanted venous access ports should be reminded to bring extra access needles, usually unavailable on ships and most non-US ports.

Additionally, because a cruise ship's environment may be different from what your patients might be used to back home, it is important for you to prepare your patients with education and additional medication for contingencies. For example, because of moisture and humidity, respiratory allergies are not uncommon on ships, so patients with reactive airway diseases should be reminded

to bring their rescue medications for flare-ups. Although these medications are generally available in ships' medical centers, having them readily at hand for the traveling patient is a good idea.

Also, considering a typical cruise ship's cuisine, your patients will have ongoing opportunities to dramatically increase their salt, sugar, and protein consumption. With that in mind, reminders on moderation might be helpful as well as instructions on when to adjust medications (eg, diabetes medications) to prevent a major health problem from developing.

Finally, encourage your patients to purchase travel insurance, which is essential if they were to require out-of-country medical care, and either evacuation or repatriation.

MAJOR RECENT ILLNESS: CRUISE WHEN HEALTHY

I cannot count the number of times a guest comes on a cruise with his/her family to celebrate the completion of a chemotherapy regimen or recovery from a major illness or surgery. Although celebrations of such milestones are important to the healing process, encourage your patients to wait for blood cell counts to return to normal and for their bodies to heal after major illnesses or procedures.

Minor complaints can become major problems on board a cruise ship. For example, a minor incident during pregnancy that may resolve easily on land can become a life-threatening event at sea. This may also be true for a new stomach irritation incident that could develop into gastrointestinal tract bleeding. Yes, ships have oxytocic medications on board, and we can transfuse blood, but life-threatening problems at sea become more critical much faster and are best avoided. The same is true for any new neurologic symptoms, recent dose changes of major medicines, or other recent medical changes. Although the problem may be seemingly a minor concern at home, the situation should raise a major red flag when deciding if your patient is medically fit to sail. If in doubt, strongly advise patients with a potentially serious new complaint to delay their cruise.

Even chronic conditions may be a problem for some cruise travelers. I have learned over the years that some patients with conditions such as dementia and autism may find a cruise disorientating and stressful. On a case-by-case basis, you may want to discuss with families the wisdom of removing these individuals from their normal environment and taking them on a cruise.

SCOPOLAMINE TRANSDERMAL PATCH: PRESCRIBE WITH CAUTION!

Patients are often concerned about potential motion sickness and will approach their physicians for preventive medications. First and foremost, for the patient's safety and to help the ship's medical team, please do not prescribe the anticholinergic drug patch! Almost monthly when I work on a ship, I encounter patients with adverse effects from this patch, ranging from persistent fatigue to hemiparesis and ocular complaints that mimic severe neurologic events. In the middle of the ocean, these symptoms can be tremendously concerning. A ship's health care team typically checks for the presence of a patch behind an ear as part of its initial assessment and then will remove the patch if present. If

Health Resources on Cruise Ship Travel

Centers for Disease Control and Prevention (CDC), CDC features. Prevent mosquito bites [Internet]. Atlanta, GA: CDC; last reviewed 2019 Jan 2 [cited 2018 Mar 18]. Available from: www.cdc.gov/features/stopmosquitoes/.

Centers for Disease Control and Prevention (CDC) Travelers' Health. Be safe around animals [Internet]. 2013; updated 2017 Oct 31 [cited 2019 Mar 4]. Available from: <https://wwwnc.cdc.gov/travel/page/be-safe-around-animals>.

Centers for Disease Control and Prevention (CDC) Travelers' Health. Cruise ship travel [Internet]. 2013; updated 2017 Mar 29 [cited 2019 Mar 4]. Available from: <https://wwwnc.cdc.gov/travel/page/cruise-ship>.

Centers for Disease Control and Prevention (CDC) Travelers' Health. Food and water safety [Internet]. 2013; updated 2018 Jan 8 [cited 2019 Mar 4]. Available from: <https://wwwnc.cdc.gov/travel/page/food-water-safety>.

Centers for Disease Control and Prevention (CDC) Vessel Sanitation Program. Keeping your hands clean on a cruise [Internet]. Atlanta, GA: CDC; last reviewed 2018 Oct 19 [cited 2019 Mar 4]. Available from: www.cdc.gov/nceh/vsp/pub/handwashing/handwashingtips.htm.

Centers for Disease Control and Prevention (CDC) Vessel Sanitation Program. Tips for healthy cruising [Internet]. Atlanta, GA: CDC; last reviewed 2019 Jan 2 [cited 2019 Mar 4]. Available from: www.cdc.gov/nceh/vsp/pub/cruisingtips/healthycruising.htm.

the symptoms are related to the patch, improvement is noticeable within the next few hours.

Adverse effects to scopolamine such as hallucinations and confusion have been reported,³ and these and the aforementioned adverse effects are not problems that you want your patient to experience on a cruise ship. For that reason, my suggestion is to avoid prescribing this medication if at all possible. Although I am not aware of comparative studies on adverse effects, I suggest physicians recommend meclizine (eg, Bonine, original Dramamine) as an alternative. In my experience with ship-based motion sickness, although these over-the-counter options may not be as effective, the adverse effects are much less severe compared with scopolamine. In terms of alternative care options, I am not aware of large randomized studies establishing the value of pressure point bracelets (also called acupressure wrist bands) for motion sickness.

INFECTIOUS DISEASES: PROACTIVE IN PREVENTION

The cruise ship industry is monitored closely by various agencies, including the Centers for Disease Control and Prevention, the US Public Health Service, and the US Coast Guard. Their intense focus on safe water, food storage and preparation, and adherence to established procedures to contain viral illnesses should be reassuring to everyone.

However, considering that several thousand guests might be sailing at any one time, you can imagine how many viruses are brought onto the ship with each embarking day. Cruise ships are like any other heavily populated, enclosed space, where the spread of viral infections from contaminated surfaces can occur frequently. This is especially true for enteroviruses such as the norovirus and respiratory viruses such as influenza, both of which can live for hours on fomites such as a ship's stair railings and elevators.⁴

Remind your traveling patients that the best protection from viral illnesses on a cruise ship is frequent handwashing.⁵ The Centers for Disease Control and Prevention Vessel Sanitation Program Web site⁶ has helpful information for those vacationing on cruise ships that can be an excellent patient education handout for physicians to give their patients (see Sidebar: Health Resources on Cruise Ship Travel).

General advice for foreign travel applies to visits in foreign ports. When the ship's destination is a concern for mosquito-borne illnesses, for patients of all ages recommend protection with proper clothing and insect repellants.⁷ Also, your patients should be encouraged to avoid unpurified water, which in most foreign ports includes avoidance of bottled water and ice—a major source for traveler's diarrhea. Finally, because of the risk of rabies and other zoonotic infections, close contact with animals should be avoided. A good source for this information on foreign travel is the Centers for Disease Control and Prevention's Travelers' Health Web site included in the Sidebar: Health Resources on Cruise Ship Travel.

CONCLUSION

Cruising can be a wonderful vacation, but good health is a major prerequisite. A healthy cruise experience starts with preparation by the primary care physician, especially with the realization that most serious illnesses encountered on ships may be preventable.

Summary of Precruise Patient Communication Points

- Assess your patient's overall health condition; is it medically safe for the patient to sail?
- Review the itinerary focusing on debarkation possibilities in the event of an emergency.
- Remind the patient to pack medications and essential supplies in his/her carry-on bag.
- Provide additional medications as needed, but avoid the scopolamine patch if possible.
- Give the patient copies of medical problem lists, medications, and electrocardiogram and pertinent imaging reports.
- Remind the patient to purchase travel insurance.
- Remind the patient about important dietary restrictions as well as strategies for avoidance of infection.

I hope these suggestions, summarized in the Sidebar: Summary of Precruise Patient Communication Points, will help you prepare your patients so they can stay healthy and enjoy their cruise experience, and you can in good conscience wish them *bon voyage!* ❖

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