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DRAFT COVID-19 ONBOARD PROCEDURES						
Discovery Health MD, PLLC						
Version 1.3						
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Version 1.3 updates:

Includes updated recommendations under EDUCATION OF CREW regarding mode of transmission.

Includes updated information under IDENTIFICATION of the screening and diagnostic recommendations for COVID-19.

Includes updates under COMMUNICATION AND REPORTING based on MSIB 06-20.

COVID19 ONBOARD PROCEDURES

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PURPOSE

These procedures are intended to provide medical guidance to vessels engaged in maritime commerce utilizing guidance provided by the Center for Disease Control (CDC) and the United States Coast Guard (USCG) to control the spread of COVID19 on board vessels calling upon the United States and to mitigate the risk of potential fines for failure to report COVID19 symptomatic cases.

These procedures can also be applied as a best practice on vessels engaged in international commerce. For vessels engaged in international trade, many countries around the world have implemented their own protocols which could include an extended quarantine period for the vessel depending upon the last port of call, the travel history of the crew and passengers on board, and may include travel and/or crew change restrictions. Vessels are advised to check with their agent prior to calling upon such ports as protocols are subject to change on a daily basis.

COVID-19 is now classified as a global pandemic, as declared by the World Health Organization. In order to assist in containing the spread of COVID-19 to the extent possible, crew members, other than those signing off, should be restricted to the vessel while in port if feasible.

In the event crewmembers disembark at a port, they should be expected to follow social distancing and other mitigation strategies and wash hands before returning to the vessel.¹

PREPARATION

Isolation or Quarantine Rooms:

Identify which rooms will be used for isolation, ideally it should be an airborne isolation room. If this is not available, it should be a private room with a bathroom. If this is not available, designate rooms that will house only sick crew. A separate bathroom should be designated for sick crew.

Additionally, identify which rooms will be used to quarantine crew with close contact exposure to a suspected COVID-19 case if necessary. Identify what the minimum safe staffing requirements are for a vessel in case of a widespread isolation or quarantine.

PPE:

Ensure adequate PPE (NIOSH-certified N95 mask or surgical mask, disposable long-sleeved gown, disposable medical gloves, eye protection such as goggles or disposable face shields that cover the

¹ <https://www.cdc.gov/coronavirus/2019-ncov/downloads/community-mitigation-strategy.pdf>



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front and sides of face) is available on board. The quantity recommended is at the discretion of the operator. Operators should have contingency plans for rapid resupply during outbreaks.

Train responders on appropriate donning and doffing techniques for PPE. Have disposal plans in place.
<https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf>

Movement on Vessel:

Galley should be prepared to send individual meals to crew and clean dishes separately.

Restrict access into the ship's accommodation – keep doors locked to restrict unnecessary crew or visitor movement through vessel.

Post hand and cough hygiene posters throughout vessel.

Supplies:

Vessels should have appropriate diagnostic supplies on board including stethoscopes, blood pressure cuffs, pulse oximeters, and thermometers.

Ensure adequate supplies for cleaning, sanitizing, and disinfecting, including PPE and bags for disposal.

Have alcohol based hand sanitizer (at least 65-70%) ready for use upon entry to ship, in the galley, wheelhouse, and throughout the vessel. Have disposable tissues and waste bins available throughout the vessel.

Vessels should consider carrying Point-Of-Care influenza tests. Per the CDC, vessels should have sterile viral transport media and sterile swabs to collect nasopharyngeal and nasal specimens if COVID-19 is suspected. These specimens must also be refrigerated for up to 72 hours after collection, or frozen.

Vessels should carry appropriate medications and pharmaceutical supplies, based on the level of training of medical responders on board, which may include:

- Antipyretics such as acetaminophen and/or ibuprofen;
- Oseltamivir;
- Oral hydration salts;
- IV fluids and IV administration supplies;
- Oxygen and oxygen administration supplies;
- Airway interventions including oral and/or nasopharyngeal airways;
- Advanced airway support interventions;
- A selection of antibiotics, oral and IV, to treat bacterial respiratory infections and sepsis.



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EDUCATION OF CREW

Ensure your crew members are aware of the²:

- Global risk of COVID-19 during international travel;
- Signs and symptoms that may indicate a sick traveler has COVID-19;
- Requirement for the ship's medical unit to report a traveler with suspected or known COVID-19 to CDC, if ship is destined for a US port;
- Importance of not working on a ship while sick with fever or acute respiratory symptoms.

The ship's company should also review their sick leave policies and communicate them to employees.

CDC recommends that crew members who self-report or appear to have fever or acute respiratory symptoms (such as cough or shortness of breath) be immediately evaluated.

Reassure crew that COVID-19 is not thought to spread via airborne transmission. It is thought to spread via droplet transmission, mainly from person-to-person, between persons who are in close contact with one another (within about 6 feet), or through respiratory droplets produced when an infected person coughs or sneezes.³

These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

Reassure crew that COVID-19 is unlikely to be spread through onboard ventilation systems. Droplets are too large to be airborne for a prolonged period of time and quickly settle out of air.

Crew should be advised to frequently wash hands with soap and water, use alcohol based hand sanitizer, mask if coughing or sneezing, and not touch their faces.

² <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>

³ https://www.cdc.gov/coronavirus/2019-ncov/prepare/transmission.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fabout%2Ftransmission.html



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IDENTIFICATION

Procedure to identify crew with suspected COVID-19⁴

Screen crew for:

1. Have you experienced any difficulty breathing, shortness of breath, or symptoms of acute respiratory illness in the last 72 hours?⁵
2. Have you experienced a fever (100.4° F [38° C] or greater using an oral thermometer) within the last 72 hours?
3. Have you experienced signs of a fever such as chills, aches & pains, etc within the last 72 hours?
4. Have you traveled within the past 14 days to an affected area as identified by the CDC?
<https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html>

Travel to an area with documented COVID-19 infections in a jurisdiction with known community transmission may contribute to an epidemiologic risk assessment to inform testing decisions. Obtain a detailed travel history and cross reference with the CDC website for a risk assessment.⁶

5. Have you had contact within 14 days of symptom onset with a lab confirmed **or suspected** COVID-19 case patient? (contact defined as being within 6 feet of a COVID-19 case for a prolonged period of time (10 minutes) or having direct contact with infectious secretions of a COVID-19 case).⁷

⁴ <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>

<https://www.who.int/publications-detail/operational-considerations-for-managing-covid-19-cases-outbreak-on-board-ships>

⁵ Difficulty breathing or shortness of breath means the person is

- unable to move enough air into or out of the lungs, or can do so only with an unusually great effort
- gasping for air,
- feeling "short of breath," or unable to "catch" his/her breath
- breathing too fast or shallowly, or using muscles of stomach, chest or neck to breathe (especially for children).

⁶ <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>

⁷ The International Chamber of Shipping defines close contact as: <https://safety4sea.com/ics-issues-new-guidance-about-seafarers-protection-amid-coronavirus/>

- Has stayed in the same cabin with a suspect/confirmed COVID-19 case;
- Has had close contact within one metre of was in a closed environment with a suspect/confirmed COVID-19 case (for passengers this may include sharing a cabin);
- Participated in common activities on board or ashore;
- Participated in the same immediate traveling group;
- Dined at the same table (for crew members this may include working together in the same ship area);
- Is a cabin steward who cleaned the cabin;
- Is a staff member who delivered food to the cabin;
- Is a medical support worker or other person providing direct care for a COVID-19 suspect or confirmed case.

The WHO defines close contacts on board a ship (high-risk exposure) as: <https://www.who.int/publications-detail/operational-considerations-for-managing-covid-19-cases-outbreak-on-board-ships>

- Stayed in the same cabin as a suspected or confirmed COVID-19 case;



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Action:

If a crewmember screens “yes” to any of the symptom questions (1-3), place a surgical mask on if tolerated.

If a crewmember screens “yes” to BOTH the any of the symptom questions (1-3) and an epidemiological risk factor questions (4 or 5), **place a surgical mask on crewmember if tolerated and isolate per the ISOLATION protocol.**

Evaluating provider to don appropriate PPE and begin to document who has exposure to crewmember from this point forward.

Additional Recommendations:

Screen crew daily:

- New signs of fever, cough or shortness of breath
- If there is a respiratory illness identified on board, take temperature at least daily of each crewmember

Contact tracing information for departing crew should be maintained for at least one month (name, phone number, home address, email). They should be provided with information on whom to contact if they develop fever, cough or shortness of breath in the following 14 days.

ISOLATION

Isolation separates sick people with a contagious disease from people who are not sick.

Procedure to isolate crew with suspected COVID-19⁸

If a crewmember is identified as a potential COVID-19 case, immediately ask them to wear a facemask (a surgical mask, not N-95) if tolerated.

Place the crewmember in a private room with the door closed, ideally an airborne infection isolation room if available. Place a label on the door indicating no one is to enter the room without proper PPE. This room should have separate toilet and bathing facilities.

-
- Had close contact (within 1 m of) or were in a closed environment with a suspected or confirmed COVID-19 case –
 - For crew members, this may include participating in common activities on board the ship or while ashore, being a member of a group traveling together, dining at the same table, working in the same area of the ship as the suspected or confirmed COVID-19 case, for example, cabin stewards who cleaned the cabin or galley staff who delivered food to the cabin
 - Healthcare worker or another person who provided care for a suspected or confirmed COVID-19 case.

⁸ <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>



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Any staff entering the room should use Standard Precautions, Contact Precautions, and Airborne Precautions, and use eye protection such as goggles or a face shield. If N-95 masks are not available, a surgical mask may be considered an acceptable alternative at this time.⁹

Access to the room should be limited to personnel involved in direct care. Meals should be delivered to the room and dishes and utensils cleaned separately. Anyone with exposure to the crewmember should document the date and time of exposure, nature of exposure (close contact, same room, secretions), and PPE worn.

Meticulous hand hygiene MUST be performed immediately after doffing PPE.

- Maintain a distance of 6 feet from the sick person while interviewing, escorting, or providing other assistance.
- Keep interactions with sick people as brief as possible.
- Limit the number of people who interact with sick people. To the extent possible, have a single person give care and meals to the sick person.
- Avoid touching your eyes, nose, and mouth.
- **Wash your hands often with soap and water.** If soap and water are not available and if hands are not visibly soiled, use a hand sanitizer containing 60%-95% alcohol.
- Provide tissues and access to soap and water and ask the sick persons to:
 - Cover their mouth and nose with a tissue (or facemask) when coughing or sneezing.
 - Throw away used tissues immediately in a disposable container (e.g., plastic bag) or a washable trash can.
 - Wash their hands often with soap and water for 20 seconds. If soap and water are not available and hands are not visibly soiled, the sick person should use a hand sanitizer containing 60%-95% alcohol.
- If soap and water are not available and hands are not visibly soiled, the sick person should use a hand sanitizer containing 60%-95% alcohol.

PROTECTION

Procedure to identify who will have exposure to a potential COVID-19 case, what PPE will be worn, and how PPE will be managed:¹⁰

⁹ https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Finfection-control.html

¹⁰ <https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>



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Once a suspect COVID-19 case is identified and isolated, response team members should be identified who will be the primary contact with the isolated crew. This should be reduced to the absolute minimum number of people.

Proper PPE must be provided:¹¹

- NIOSH-certified N95 mask or surgical mask;
- disposable long-sleeved gown;
- disposable medical gloves;
- eye protection such as goggles or disposable face shields that cover the front and sides of face.

For N-95 masks, an OSHA respiratory protection program and fit testing should be in place.

Designated responders must be trained in how to appropriately don and doff PPE:

<https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf>

Designate a hand hygiene station for doffing of PPE as close to the exit of the room as possible. Hand washing with soap and water is preferred to hand sanitizer if possible.

A plan for collection and disposal of PPE must be in place.

The amount of PPE provided should be determined by the operator based on the size of the crew, anticipated exposure, and availability of supplies.

ASSESSMENT

Procedure on assessing possible COVID19 cases, on-board diagnostic and treatment recommendations¹²

When a potential COVID19 case is identified, the isolated crewmember should be evaluated by the medical officer on board, wearing appropriate PPE. Attempt to maintain a distance of 6 feet from the sick person while interviewing, escorting, or providing other assistance.

The following historical information should be gathered:

- List of the sick traveler's signs and symptoms, including onset dates. Symptom definitions are available here: <https://www.cdc.gov/quarantine/maritime/definitions-signs-symptoms-conditions-ill-travelers.html>
- The sick traveler's highest recorded temperature;

¹¹ <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>

¹² <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>



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- The sick traveler's embarkation date and port;
- The ship's ports of call during the 14 days before the person got sick;
- List of ports of call where the sick traveler disembarked during the 14 days before the person got sick;
- Contact with a confirmed or suspected COVID-19 case in the past two weeks;
- Countries visited two weeks prior to onset of symptoms;
- Past medical history;
- Medications taken including dose and frequency;
- Allergies and reactions;
- History of influenza vaccination and if childhood vaccination sequence completed.

The following physical exam information should be obtained:

- Complete vital signs including temperature, blood pressure, pulse, pulse oxygenation, respiratory rate;
- Mental status exam;
- Lung exam;
- Skin/perfusion exam;
- Any other relevant organ system exam based on presenting signs and symptoms.

If indicated, based on medical officer assessment or consultation with medical advisory service, the following diagnostic testing may be recommended:

- Rapid influenza testing;
- Sterile viral transport media and sterile swabs to collect nasopharyngeal and nasal specimens if COVID-19 infection is suspected are recommended by the CDC. Samples must be refrigerated for up to 72 hours after collection or frozen.
(<https://www.cdc.gov/coronavirus/2019-ncov/lab/rt-pcr-detection-instructions.html>)

Treatment recommendations should be discussed with a vessel's telemedical providers. Some treatments that may be recommended include:¹³

- Antipyretics such as acetaminophen and/or ibuprofen;
- Oseltamivir;
- Oral rehydration salts;
- IV fluids and IV administration supplies;

¹³ <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>
https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-novel-cov.pdf?sfvrsn=bc7da517_2



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- Oxygen and oxygen administration supplies;
- Airway interventions including oral and/or nasopharyngeal airways;
- Advanced airway support interventions;
- A selection of antibiotics, oral and IV, to treat bacterial respiratory infections and sepsis.

Frequent reassessments of the crewmember's medical status are recommended as symptoms can change rapidly.

COMMUNICATION AND REPORTING

Procedure on communicating possible COVID19 cases with telemedical providers, shore-based providers, and port and regulatory authorities:

Telemedical providers:

All cases of suspected COVID19 (based on criteria under IDENTIFICATION procedure), should be communicated with the vessel's medical advisory service. A standard template to include the information on the ASSESSMENT procedure should be used for documentation.

Before arriving at a US port, vessel medical staff and telemedicine providers must discuss the disembarkation of patients suspected of having COVID19 with the CDC quarantine station having jurisdiction for the port and with state and local health departments.¹⁴

Shore-based providers:

Shore-based medical providers will benefit from advanced notification of a potential COVID-19 patient. Information should be relayed to the provider by phone, fax or email before the affected crewmember is disembarked. A crewmember should wear a surgical mask during transport.

Port and Regulatory Authorities:¹⁵

Per 33 CFR 160.216, all cases of persons who exhibit symptoms consistent with COVID-19 **or other illness** must be reported immediately to the Captain Of The Port (COTP) as a hazardous condition.¹⁶ **42 CFR 71.1 provides the definition of an ill person onboard a vessel. (below)**

Please note 33 CFR 160.216 applies to Jones Act Vessels engaged in domestic trade as well as vessels coming from a foreign port.

¹⁴ <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>

¹⁵ https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/MSIB/2020/MSIB%2002-20_Change%201_Novel%20Coronavirus_09MAR20.pdf

¹⁶ https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/MSIB/2020/MSIB-06-20_Reporting-Requirements.pdf?ver=2020-03-13-092336-483



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Hazardous conditions aboard a vessel must be reported immediately to the COTP per 33 CFR 160.216. A hazardous condition is any condition that may affect the safety of a vessel or a port, including “injury or illness of a person onboard,” per 33 CFR 160.202. COVID-19 has been determined to be a hazardous condition, as it may affect the safety of the subject vessel or the port. These authorities, of course, flow from the COTP’s authority to deny entry or control operation of a vessel when the COTP has objective evidence that the vessel or a condition upon the vessel adversely affects the safety of any vessel or the port, under 33 CFR 160.111(c).

The hazard of COVID-19 adds reporting requirements due to the increased risk to the port, even where a vessel might not have previously deemed a crewmember’s illness reportable because the vessel did not believe that the level of symptoms posed a risk to safe manning requirements or to the port facility. In the current situation, where a person onboard shows symptoms of COVID-19, even where those symptoms may be minor, those cases must be reported to the COTP, per the Novel Coronavirus Marine Safety Information Bulletin MSIB 02-20 (Change 1), as amended and MSIB 06-20. This determination does not reduce or minimize the standing regulatory requirement to report hazardous conditions to the COTP.

Please have the following information available before contacting the nearest CDC Quarantine Station <https://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html>:

- List of the sick traveler’s signs and symptoms, including onset dates;
- The sick traveler’s highest recorded temperature;
- The sick traveler’s embarkation date and port;
- The ship’s ports of call during the 14 days before the person got sick;
- List of ports of call where the sick traveler disembarked during the 14 days before the person got sick.

42 CFR 71.21 requires the master of a ship destined for a US port of entry to immediately report any death or illness among the ship’s passengers or crew.

According to U.S. federal regulations, all deaths and ill persons displaying any of the following signs and symptoms must be reported to CDC:

- A. Fever (has a measured temperature of 100.4 °F [38 °C] or greater; or feels warm to the touch; or gives a history of feeling feverish) **accompanied by one or more of the following:**
 - skin rash;
 - difficulty breathing or suspected or confirmed pneumonia;
 - persistent cough or cough with bloody sputum;
 - decreased consciousness or confusion of recent onset;



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- new unexplained bruising or bleeding (without previous injury);
- persistent vomiting (other than sea sickness);
- headache with stiff neck;

OR

B. Fever that has persisted for more than 48 hours;

OR

C. Acute gastroenteritis, which means either:

- diarrhea, defined as three or more episodes of loose stools in a 24-hour period or what is above normal for the individual, or
- vomiting accompanied by one or more of the following: one or more episodes of loose stools in a 24-hour period, abdominal cramps, headache, muscle aches, or fever (temperature of 100.4 °F [38 °C] or greater);

OR

D. Symptoms or other indications of communicable disease, as the Director may announce through posting of a notice in the Federal Register (CDC will notify partners in applicable industries as well as posting on the CDC website).

DOCUMENTATION

Procedure on documenting potentially exposed contacts of a suspected COVID19 patient¹⁷

Once a potential case of COVID-19 is identified, there are two important areas of documentation:

- Identification of all potential exposures while the crewmember was experiencing symptoms
- Documentation of all personnel who have contact with crewmember after isolation is instituted

Once a potential case is identified, interview the crewmember to determine:

The time and date of onset of symptoms

From that time on, document all people who had close contact with the affected crewmember, defined as:

¹⁷ <https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>



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- A. being within approximately 6 feet (2 meters) of a COVID-19 case for a prolonged period of time; (close contact can occur while caring for, living with, visiting, or sharing a healthcare waiting area or room with a COVID-19 case)

OR

- B. having direct contact with infectious secretions of a COVID-19 case; (e.g., being coughed on or shared utensils)

Document the name and contact information, time and date of contact, the nature of contact (close contact, in the same room) and the duration of contact.

High risk close contacts of suspected COVID-19 cases should be quarantined according to the QUARANTINE section of this document.

This includes any people that may have already disembarked the vessel.

Once a crewmember is isolated, maintain a log to document:

All personnel who enter the crewmember's room, the time and date, duration of exposure, type of PPE worn, nature of exposure (close contact, secretions, same room). Provide name and contact information as well.

Other documentation:

Daily logs of temperature and signs or symptoms including fever, cough or shortness of breath on all crew should be maintained and available for inspection.

TRANSPORTATION

Procedure on transportation of suspected COVID-19 cases at disembarkation¹⁸

For the crewmember with suspected COVID-19:

A facemask should be worn by the patient for source control. If a nasal cannula is in place, a facemask should be worn over the nasal cannula. Alternatively, an oxygen mask can be used if clinically indicated. If the patient requires intubation, see below for additional precautions on the site above for aerosol-generating procedures.

If ambulance transportation is required

¹⁸ <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>



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Local EMS should be notified that this is a potential COVID-19 case so that responders may use appropriate PPE and follow their protocols.

If private vehicle transportation is utilized

Anyone who will be driving a crewmember with suspected COVID19 who will provide direct care (e.g., moving patients onto stretchers) should wear recommended PPE. After completing patient care and before entering a driver's compartment, the driver should remove and dispose of PPE and perform hand hygiene **before** entering the driver's compartment. Windows should be down to allow for air exchange if possible.

All personnel should avoid touching their face while working.

The receiving healthcare facility should be notified that a patient with suspected COVID-19 is being brought in so that they may take appropriate infection control precautions.

QUARANTINE

Quarantine separates and restricts the movement of people who were exposed to a contagious disease to see if they become sick.

Procedure for quarantining crew exposed to a potential COVID-19 case¹⁹

ONBOARD:

Passengers and crew members who have had **high-risk exposures** to a person suspected of having COVID-19 should be quarantined in their cabins. All potentially exposed passengers, ship medical staff, and crew members should **self-monitor under supervision** of ship medical staff or telemedicine providers until 14 days after the last possible exposure.

A high-risk exposure could occur through close contact with the suspected case without PPE. Close contact is defined as:

- A. being within approximately 6 feet (2 meters) of a COVID-19 case for a prolonged period of time; (close contact can occur while caring for, living with, visiting, or sharing a healthcare waiting area or room with a COVID-19 case);

OR

- B. having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on)

¹⁹ <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>
<https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>



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Self-monitoring with delegated supervision means, for vessel crew members, self-monitoring with oversight by your onboard medical staff and telemedical provider in coordination with the health department of jurisdiction. Points of contact between the self-monitoring personnel, vessel, vessel management, telemedical provider, local and state health departments with jurisdiction for the location where personnel will be during the self-monitoring period should be established. If personnel develop fever, cough, or difficulty breathing during the self-monitoring period, they should undergo medical assessment, isolation, treatment, reporting and transportation as per the other relevant sections of this document. Vessel management and telemedical providers should remain in contact with personnel through the self-monitoring period to oversee self-monitoring activities.

If private cabins are not available, a cabin should be designated for the quarantine of exposed individuals.

If the volume of quarantined crewmembers would pose a risk of vessel unseaworthiness, it is recommended to work with your medical advisory service, CDC, and port authorities to determine the minimum necessary crew to bring the vessel safely to port, triage quarantined crew to allow the lowest risk contacts to work, and have these crewmembers wear surgical masks and gloves while working.

ONSHORE:

The CDC has responsibility for determining if contacts of a suspected COVID-19 case should be quarantined on land, however the vessel operator may be required to operationally comply with the quarantine.

Companies should have plans in place for locally housing crew. The CDC and USCG would prefer not to quarantine cases on board, but decisions are made on a case-by-case basis. If a small number of people have been exposed, it would be best to have the exposed crew disembarked.

Companies should have plans in place to quickly replace quarantined crew so that the vessel may be cleaned and returned to service.

SANITATION AND DISPOSAL

Procedure to clean, sanitize, and disinfect a vessel and dispose of PPE²⁰

²⁰ <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>
<https://www.kingcounty.gov/depts/health/communicable-diseases/disease-control/~media/depts/health/homeless-health/healthcare-for-the-homeless/documents/cleaning-disinfection-guidelines-shelters.ashx>
<https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html>



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In addition to routine cleaning and disinfection strategies, **ships may consider more frequent cleaning of commonly touched surfaces such as handrails, countertops, and doorknobs.**

The primary mode of COVID-19 virus transmission is believed to be through respiratory droplets that are spread from an infected person through coughing or sneezing to a susceptible close contact within about 6 feet. Therefore, widespread disinfection is unlikely to be effective.

CLEAN, SANITIZE, AND DISINFECT COMMON AREAS DAILY

Daily disinfection of surfaces that people touch frequently can help decrease the spread of germs. When illness has been identified on board consider disinfecting surfaces multiple times per day.

Cleaning uses soap or detergent to remove dirt and debris from surfaces.

Sanitizing is meant to reduce, but not kill, the occurrence and growth of germs from surfaces.

Disinfection uses a chemical to kill germs on surfaces that are likely to harbor germs.

Disinfectants work best on a clean surface and usually require a longer surface contact period (between 1 - 10 minutes) to work.

Surfaces that people touch a lot (door handles, railings, light switches, chairs, tables) and bathroom and kitchen surfaces should be cleaned, sanitized, and disinfected routinely.

SUPPLIES FOR CLEANING, SANITIZING, AND DISINFECTION

Ensure supplies are stocked and available for cleaning and disinfecting:

- Personal protective equipment: disposable gloves, eye protection, clothing that covers exposed skin, face mask;
- Properly labeled spray bottles & measuring cups;
- Scrubbing pads/cleaning brushes, paper towels, garbage bags.

HOW TO SELECT A SANITIZER AND/OR DISINFECTANT

Sanitizing and disinfecting cleaners and wipes are readily available and come in pre-mixed formulas such as kitchen or bathroom disinfectant as well as hospital-grade formulations. These products are effective for cleaning and sanitizing common surfaces. To select the best one for your vessel, read the label for guidance.

Common types of disinfectants to choose from include:

- Bleach/sodium hypochlorite;
- Quaternary ammonias (ammonium chloride formulations);
- Accelerated hydrogen peroxides.



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HOW TO USE “DISINFECTANT WIPES” EFFECTIVELY

To use wipes for disinfecting, use a “wipe, discard, wipe” technique. Wipe the surface to clean away dirt or debris, discard the wipe, and then wipe again with a fresh wipe and allow the surface to air dry.

STEPS FOR CLEANING, SANITIZING, AND DISINFECTING USING SPRAY SOLUTIONS

1. Clean first:

Spray your surface with a cleaning solution. Wipe or rinse with water. Use a scrubbing pad or brush to remove debris. If using a disinfectant cleaner, follow the instructions on the product label for cleaning.

2. Apply your Sanitizer/Disinfectant:

Wet the surface and leave solution on the surface for the recommended contact time, generally between 1 -10 minutes. Dry with a paper towel or let the surface air dry.

HOW TO MIX A BLEACH SOLUTION

- Identify the bleach/sodium hypochlorite % on the label and prepare your sanitizing or disinfecting solution based on the surface or area you are cleaning (see table below).
- Use cool water, not warm or hot water, for mixing.
- Mix fresh solutions for sanitizing and disinfecting. If using a spray bottle, mix daily, and if using a bucket with rags, make a new batch every 2-4 hours.
- Always add the bleach to the water.
- Do not mix liquid bleach with other cleaning products.

	To one gallon of water, add:	
	8.25% bleach/sodium hypochlorite	5.25% bleach/sodium hypochlorite
Sanitizing (100 PPM)	1 teaspoon	1 teaspoon
Disinfecting (600 PPM)	2 tablespoons	¼ cup
Special disinfecting (5000 PPM): vomit, diarrhea, blood	1 cup	1 ½ cups

Cleaning a vessel after a suspected COVID-19 exposure

Cleaning recommendations are based on existing [CDC infection control guidance](#) for preventing COVID-19 from spreading to others in homes.



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STEP 1: Restrict access to rooms used for isolation or quarantine for at least 2 hours after the sick person has left the room/cabin

Standard practice for pathogens spread by air (such as measles, tuberculosis) is to restrict people unprotected (for example, no respiratory protection) from entering a vacated room/cabin until sufficient time has elapsed for enough air changes to remove potentially infectious particles (more information on [clearance rates under differing ventilation conditions](#) is available).

We don't yet know how long COVID-19 remains infectious in the air.

In the interim, it is reasonable to apply a similar time period before entering the sick person's room/cabin without respiratory protection as used for other pathogens spread by air (for example, measles, tuberculosis), **restrict access for two hours after the sick person has left the room/cabin.**

STEP 2: Clean surfaces infected by the respiratory secretions of a sick person suspected with COVID-19 (for example, in the sick person's living quarters or work area, and in isolation rooms) while wearing appropriate PPE and maintaining awareness of OSHA Bloodborne Pathogen Standard.

Use disinfectant products against COVID-19 with Environmental Protection Agency (EPA)-approved emerging viral pathogens claims. These products can be identified by the following claim:

- [Product name] has demonstrated effectiveness against viruses similar to COVID-19 on hard non-porous surfaces. Therefore, this product can be used against COVID-19 when used in accordance with the directions for use against [name of supporting virus] on hard, non-porous surfaces.
 - Specific claims for "COVID-19" will not appear on the product or master label.
- More information about EPA-approved emerging viral pathogens claims can be found here: <https://www.epa.gov/pesticide-registration/emerging-viral-pathogen-guidance-antimicrobial-pesticides>
 - If there are no available EPA-registered products with an approved emerging viral pathogen claim for COVID-19, use products with label claims against human coronaviruses according to label instructions.
- This claim or a similar claim, will be made only through the following communications outlets: technical literature distributed exclusively to healthcare facilities, physicians, nurses, and public health officials, "1-800" consumer information services, social media sites and company websites (non-label related).
- **Products with EPA-approved emerging viral pathogens claims are recommended for use against SARS-CoV-2. Refer to List N on the EPA website (<https://www.epa.gov/pesticide-registration>)**



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[registration/list-n-disinfectants-use-against-sars-cov-2](#)) for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.

- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use.
- **In addition to wearing disposable gloves during routine cleaning, wear disposable gowns when cleaning areas suspected to be contaminated by COVID-19.** Wear PPE compatible with the disinfectant products being used and approved for use onboard the ship. Remove carefully gloves and gowns to avoid cross-contamination and the surrounding area.

Procedures for proper removal of gloves are reviewed here:

<https://www.cdc.gov/vhf/ebola/pdf/poster-how-to-remove-gloves.pdf>

- A face shield or facemask and goggles should also be worn if splashes or sprays during cleaning are anticipated.
- Perform hand hygiene (<https://www.cdc.gov/handwashing/when-how-handwashing.html>) upon removing and disposing gloves by washing hands often with soap and water for at least 20 seconds or using an alcohol-based hand sanitizer that contains 60 to 95% alcohol.
- Clean all "high-touch" surfaces in the sick person's room/cabin (for example, counters, tabletops, doorknobs, light switches, bathroom fixtures, toilets, phones, keyboards, tablets, and bedside tables) according to instructions described for the above EPA-registered product. Wear disposable gloves and gowns during cleaning activities.
- If visible contamination (for example, blood, respiratory secretions, or other body fluids) is present, the basic principles for blood or body substance spill management are outlined in the United States Occupational Safety and Health Administration (OSHA Bloodborne Pathogen Standard: <https://www.osha.gov/SLTC/bloodbornepathogens/standards.html>) CDC guidelines recommend removing bulk spill matter, cleaning the site, and then disinfecting the site with the above EPA-registered disinfectant. For soft (porous) surfaces such as carpeted floor, rugs, and drapes, remove visible contamination if present, and wash according to the manufacturer's instructions. Clean and disinfect unremovable materials with products mentioned above and allow to air dry.

STEP 3: Launder soiled textiles, linens and dispose of PPE appropriately.

- When cleaning is completed, collect soiled textiles and linens in sturdy leak-proof containers; these can be laundered using conventional processes following your standard operating procedures.
- Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.



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- PPE should be removed and placed with other disposable items in sturdy, leak-proof (plastic) bags that are tied shut and not reopened. The bags of used PPE and disposable items can then be placed into the solid waste stream according to routine procedures. Follow your standard operating procedures for waste removal and treatment.
- No additional cleaning is needed for the ship's supply-and-return ventilation registers or filtration systems.
- No additional treatment of wastewater is needed.

STEP 4: Clean and disinfect any reusable equipment that may have been exposed.

Clean and disinfect reusable patient-care equipment before use on another patient, according to manufacturer's instructions.