Healthy GateWays

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Advice for cruise ship operators for preparedness and response to an outbreak of COVID-19

Version 7.

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The revised version incorporates the following changes:

- Advisories to passengers about mask wearing
- Advice for screening testing and mask wearing depending on the attack rate and number of clusters of COVID-19 cases on board cruise ships

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Introduction

This advice was prepared after a request from the European Commission's Directorate-General for Health and Food Safety (DG SANTE). An ad-hoc working group was established with members from the EU HEALTHY GATEWAYS joint action consortium. Names and affiliations of the working group members who prepared this document are listed at the end of the document.

The working group produced the following advice considering current evidence, the temporary recommendations from the World Health Organization (WHO) (https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance) and the technical reports of the European Centre for Disease Prevention and Control (ECDC) (https://www.ecdc.europa.eu/en/coronavirus/guidance-and-technical-reports) about COVID-19 (as of 19 March 2022).

This advice should be read in conjunction with: a) the EU HEALTHY GATEWAYS Guidelines for cruise ship operations in response to COVID-19 pandemic (Version 5), available at: https://www.healthygateways.eu/Novel-coronavirus, b) the WHO Operational considerations for managing COVID-19 cases/outbreak on board ships, available at: https://www.who.int/publications/i/item/operational-considerations-for-managing-covid-19-cases-outbreak-on-board-ships[1], c) the ECDC-EMSA COVID-19: EU Guidance for Cruise Ship Operations. Guidance on the gradual and safe resumption of operations of cruise ships in the European Union in relation to the COVID-19 pandemic (date: 12 May 2021), available at: https://www.ecdc.europa.eu/en/publications-data/COVID-19-cruise-ship-guidance[2], and d) "Tool for contingency plan development and assessment for ports" produced by EU HEALTHY GATEWAYS[3].

Certain aspects of response measures, including defining and managing contacts will depend on the risk assessment conducted by the competent authorities, the proportion of vaccinated passengers and crew, and whether one case or a cluster of cases have been identified, or an outbreak with on-going transmission on board occurs.

Definitions

Vaccinated individuals: A passenger or crew member who carries a proof of vaccination, and at least 14 days and no more than 270 days have passed since the last dose of the primary vaccination series or if the person has received a booster (i.e. 3rd dose) dose (exceptions apply for persons under the age of 18; see definition for "Proof of vaccination"). Children under the age of 12 years are not required to have proof of vaccination and should not be considered when calculating the vaccination coverage among passengers on board.

Heterologous vaccination is acceptable as indicted in the EMA and WHO recommendations[4,5†].

† Depending on product availability, countries implementing WHO EUL inactivated vaccines for initial doses may consider using WHO Emergency Use Listing (EUL) vectored or mRNA vaccines for subsequent doses.
• Depending on product availability, countries implementing WHO EUL vectored vaccines for initial doses may consider using WHO EUL mRNA vaccines for subsequent doses.
• Depending on product availability, countries implementing WHO EUL mRNA vaccines for initial doses may consider using WHO EUL vectored vaccines for subsequent doses.

Acceptable vaccines are considered those listed in the European Medicines Agency (EMA) or WHO lists.

Listed vaccine (as of 18 March 2022)*		EMA list	WHO list	Doses in Series	Type
1	Comirnaty (BioNTech and Pfizer)	Yes	Yes	2	mRNA
2	Spikevax (Moderna)	Yes	Yes	2	mRNA
3	Janssen (Johnson & Johnson)	Yes	Yes	1	Vectored
4	Vaxzevria (AstraZeneca, Covishield)	Yes	Yes	2	Vectored
5	Nuvaxovid (Novavax)	Yes	Yes	2	Protein subunit
6	Sinopharm	No	Yes	2	Inactivated
7	Sinovac-CoronaVac	No	Yes	2	Inactivated
8	Covaxin	No	Yes	2	Inactivated
9	Covovax	No	Yes	2	Protein subunit

**Updates can be found in: https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/coronavirus-disease-covid-19/treatments-vaccines/covid-19-vaccines and https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines*

Proof of vaccination: A valid Digital COVID-19 Certificate (DCC)[‡] or certificate/document to include the following information: (a) name: surname(s) and forename(s); (b) date of birth; (c) disease or agent targeted: COVID-19 (SARS-CoV-2 or one of its variants); (d) COVID-19 vaccine or prophylaxis; (e) COVID-19 vaccine product name; (f) COVID-19 vaccine marketing authorisation holder or manufacturer; (g) number in a series of doses as well as the overall number of doses in the series; (h) date of vaccination, indicating the date of the latest dose received (certificates held by persons aged 18 and above indicating the completion of the primary vaccination series shall be accepted only if not more than 270 days have passed since the date of the latest dose in that series); (i) country of vaccination; (j) certificate issuer; (k) a unique certificate identifier or other means to validate the vaccination such as contact information in order to communicate with the healthcare provider or clinic site that issued the certificate, or the vaccination registry site. An individual will be considered as vaccinated if the above mentioned definition "Vaccinated individual" is fulfilled.

Proof of recovery: A valid Digital COVID-19 Certificate (DCC) or a document/certificate issued by a competent authority and containing the following data fields: (a) name: surname(s) and forename(s); (b) date of birth; (c) disease or agent the citizen has recovered: COVID-19 (SARS-CoV-2 or one of its variants); (d) date of first positive test result (NAAT or RADT); (e) Member State or third country in which test was carried out; (f) certificate issuer; (g) certificate valid from; (h) certificate valid until (not more than 180 days after the date of first positive test result); (i) a unique certificate identifier or other means to validate the proof of recovery such as contact information in order to communicate with the issuing authority.

Proof of diagnostic test result: A valid Digital COVID-19 Certificate (DCC) or a document/certificate issued by a competent authority or another authorised body such as an approved laboratory or testing facility and containing the following data fields: (a) name: surname(s) and forename(s); (b) date of birth; (c) disease or agent targeted: COVID-19 (SARS-CoV-2 or one of its variants); (d) the type of test; (e) test name (optional for NAAT test); (f) test manufacturer (optional for NAAT test); (g) date and time of the test sample

[‡] https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/safe-covid-19-vaccines-europeans/eu-digital-covid-certificate_en

collection; (h) result of the test; (i) testing centre or facility (optional for rapid antigen test); (j) Member State or third country in which the test was carried out; (k) certificate issuer; (l) a unique certificate identifier or other means to validate the diagnostic test such as contact information in order to communicate with the issuing authority.

Previously infected individuals: crew members or passengers who have recovered from a SARS-CoV-2 infection and less than 180 days have passed since the date of positive test result (RT-PCR or other Nucleic Acid Amplification Test (NAAT)).

Isolation: separation of ill persons from others in such a manner as to prevent the spread of infection.

Quarantine: the restriction of activities and/or separation from others of persons who are not ill but have been exposed to COVID-19 in such a manner as to prevent the possible spread of infection.

Nucleic Acid Amplification Test (NAAT): RT-PCR or other Nucleic Acid Amplification Test (NAAT), which should have the CE certification marking and should be in the list of the JRC IVD database (https://covid-19-diagnostics.jrc.ec.europa.eu/) or in the list of FDA with the in Vitro Diagnostics EUAs - Molecular Diagnostic Tests for SARS-CoV-2 and authorised for screening (testing asymptomatic individuals without known exposure) and can be used at home or otherwise as specified in the authorization list for certified laboratories or health care settings: https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/in-vitro-diagnostics-euas-molecular-diagnostic-tests-sars-cov-2#individual-molecular. Further information on diagnostics can be found on "FIND", the global alliance for diagnostics: https://www.finddx.org/

Rapid antigen detection test (RADT): any type of RADT listed in the document "Common list of COVID-19 rapid antigen tests, including those of which their test results are mutually recognised, and a common standardised set of data to be included in COVID-19 test result certificates", https://ec.europa.eu/health/system/files/2022-05/covid-19_rat_common-list_en.pdf [6].

Home port: is the port where cruise ship passengers embark to start the cruise and disembark the cruise ship at the end of the cruise. The home port should fulfil the criteria of a contingency port. Each ship should have at least one contingency port as part of a 7-night itinerary. The home port should always be the contingency port, but additional contingency ports could be defined.

Contingency port: is the port for which interoperability of the ship's contingency plan and the port's contingency plan has been ensured, and agreed that any potential COVID-19 outbreak on board this cruise ship will be managed at this port, including complete evacuation of the cruise ship if needed and isolation/quarantine of cases/contacts.

Transit port: is the port of call which is an intermediate stop for a cruise ship on its sailing itinerary, where passengers will get on or off ship for excursions.

1. Minimizing the risk for introduction of COVID-19 onto the ship

Measures for minimizing the risk for introduction of COVID-19 onto the ship have been described in the EU HEALTHY GATEWAYS Guidelines for cruise ship operations in response to the COVID-19 pandemic (Version 5), available at: https://www.healthygateways.eu/Novel-coronavirus

2. Education and raising passenger and crew awareness

2.1. Isolation plan for COVID-19

An isolation plan (as part of the cruise ship contingency plan/outbreak management plan) should be developed and be available on board, covering the following: definitions of a possible case and/or a confirmed case of COVID-19 and close contacts; the isolation plan describing the location(s) where possible or confirmed cases should be temporarily and individually isolated until disembarkation; the communication plan between departments about implementation of isolation measures; hygiene rules for the isolation room including use of personal protective equipment (PPE), cleaning and disinfection procedures, waste management, room service and laundry. Staff on board should have adequate knowledge to implement the isolation plan.

2.2. Quarantine plan for COVID-19

A quarantine plan (as part of the cruise ship contingency plan/outbreak management plan) should be developed and be available on board, covering the following: definitions of a possible case and/or a confirmed case of COVID-19 and close contacts; plan describing the location(s) where close contacts should be temporarily and individually quarantined until disembarkation; health monitoring of close contacts; diagnostic testing procedures; communication plan between departments about the implementation of quarantine measures; hygiene rules for quarantine rooms including use of PPE, cleaning and disinfection procedures, waste management, room service and laundry; and Passenger/Crew Locator Forms (PLFs) data management (if PLF is used). Staff on board should have adequate knowledge to implement the quarantine plan.

2.3. Raising crew awareness for detection of cases on board

Healthcare staff on board should be informed and updated about the outbreak of COVID-19, including any new evidence and guidance available for health care staff.

Cruise lines should provide guidance to crew regarding the recognition of COVID-19 signs and symptoms. Further details regarding training of crew can be found in the EU HEALTHY GATEWAYS Guidelines for cruise ship operations in response to COVID-19 pandemic (Version 5), available at: https://www.healthygateways.eu/Novel-coronavirus.

Crew should be trained with frequent refreshment regarding the procedures to be followed when a passenger or a crew member on board has tested positive for SARS-CoV-2 and/or displays signs and symptoms indicative of COVID-19 (for example, to inform their designated supervisor/manager or medical staff, and perform duties based on instructions from their supervisor depending on their

position etc.). Crew should also be reminded about the procedures to be followed during an outbreak of other respiratory illnesses, such as using the Influenza Like Illness (ILI) outbreak management plan, which should be available on board the ship[7].

Information about immediate reporting of relevant symptoms to supervisors and the medical team, for both themselves and other crew or passengers should be provided to all crew.

Measures for raising crew awareness for detection of COVID-19 cases on board have been described in the EU HEALTHY GATEWAYS Guidelines for cruise ship operations in response to COVID-19 pandemic (Version 5), available at: https://www.healthygateways.eu/Novel-coronavirus

2.4. Personal hygiene measures

Cruise lines should continue to provide guidance and periodic/regular training of their crews, related to reducing the general risk of COVID-19:

- Hand washing techniques (use of soap and water, rubbing hands for at least 20 seconds, or how to use an alcohol-based hand-rub solution etc.).
- When hand washing is essential (e.g. after assisting an ill traveller or after contact with environmental surfaces they may have contaminated, before wearing and after removing face masks and other PPE etc.). It should be noted that the use of gloves does not replace hand hygiene.
- When hand rubbing with an alcohol-based hand-rub solution containing at least 60% ethanol or 70% isopropanol) can replace hand washing in the absence of any visible dirt or grease.
- Respiratory etiquette during coughing and sneezing, by using disposable tissues or clothing.
- Appropriate waste disposal.
- PPE use and proper use and storage/disposal of face masks, respirators including information and training on any strategies used to improve fit.
- Limiting interaction and maintaining physical distance as far as practicable (at least 1.5 metres or otherwise as per national/local health authority requirements of the home port or the port of call).

3. Supplies and equipment

Adequate medical supplies and equipment should be available on board to respond to a case or an outbreak as described in the WHO (2007) recommended medicines and equipment by the International Medical Guide for Ships 3rd edition[8].

Adequate supplies of sample medium (sterile viral transport media and sterile swabs to collect nasopharyngeal and nasal specimens), packaging and testing equipment (for routine testing or for testing in response to a COVID-19 case) should be available. Rapid antigen diagnostic tests (RADTs) used should be listed in the document “Common list of COVID-19 rapid antigen tests, including those of which their test results are mutually recognised, and a common standardised set of data to be included in COVID-19 test result certificates”, https://ec.europa.eu/health/system/files/2022-05/covid-19_rat_common-list_en.pdf .

Further information from ECDC about rapid antigen diagnostic tests can be found at: https://www.ecdc.europa.eu/en/publications-data/options-use-rapid-antigen-tests-covid-19-eueea-and-uk[10] and for self-tests at: https://www.ecdc.europa.eu/en/publications-data/considerations-use-self-tests-covid-19-eueea[11].

Adequate supplies of disinfectants and hand hygiene supplies, tissues and no-touch bins for waste disposal should also be carried on board[7].

Adequate supplies of PPE should be carried on board including: medical face masks and respirators (e.g. FFP2 or FFP3, or equivalent standard), eye protection (goggles or face shields), gloves, long-sleeved impermeable gowns, and single use plastic aprons.

Further details about PPE and supplies specific to COVID-19 can be found at the EU HEALTHY GATEWAYS Guidelines for cruise ship operations in response to COVID-19 pandemic (Version 5), available at: https://www.healthygateways.eu/Novel-coronavirus

4. Management of a possible case

A flow diagram for the management of a possible case and contacts, as well as the procedures of free pratique from the time of identification of a possible case, until the ship will be allowed to depart can be downloaded from the following link: https://www.healthygateways.eu/Portals/0/plcdocs/FlowchartShips.pdf

4.1. Definition of a possible case of COVID-19

According to ECDC, the definition of a possible case requiring diagnostic testing is as follows: any person with at least one of the following symptoms: runny nose, sore throat, headache, cough, fever, shortness of breath, sudden onset of anosmia, ageusia or dysgeusia, vomiting or diarrhoea. Additional less specific symptoms may include chills, muscle pain, fatigue[13].

4.2. Definition of a confirmed case of COVID-19

A confirmed case is any traveller with a positive clinical sample for SARS-CoV-2 nucleic acid or antigen. A rapid antigen test should be performed within 5 days from symptom onset or within 7 days from time of exposure. If the exposure time is unknown, the rapid antigen test should be performed as soon as possible. Refer to (https://www.ecdc.europa.eu/sites/default/files/documents/Options-use-of-rapid-antigen-tests-for-COVID-19_0.pdf) for guidance on the settings in which rapid antigen tests should be used, and for further details on confirmation of rapid antigen test results among asymptomatic persons.

Definition of a contact of a possible or a confirmed case of COVID-19

It is advised that contact tracing activities begin immediately after a possible/confirmed case is identified on board, without waiting for the laboratory results and to avoid travel delays.

Technologies to facilitate contact tracing could be used such as wearable bracelets, analysis of ship's CCTV, use of mobile contact tracing applications and analysis of passenger key card usage,

provided that this is in compliance with the relevant legislation for personal data protection and with the consent of travellers.

Contacts of the possible/confirmed case should be assessed for their exposure.

Close contact: A close contact of a COVID-19 case is any person who had contact with a COVID-19 case within a timeframe ranging from 48 hours before the onset of symptoms of the case, or date of collection of a positive COVID-19 sample for an asymptomatic case, to 10 days after the onset of symptoms or date of collection of a positive sample if asymptomatic.

A. High-risk exposure (close) contact:

- A person who had face-to-face contact with a COVID 19 case within 1.5 metres for more than a total of 15 minutes over a 24-hour period (even if not consecutive). For passengers this could include, but is not limited to, participating in common activities, attending a class or sharing the same social space such as at a restaurant. This also includes contact with intimate partners. For crew this may include working in the same area as a case or socialising with a case (including fellow crew members), waiting on a table where a case was dining or leading a social activity where the case was participating.
- A person who had physical contact with a COVID-19 case (e.g. such as handshaking, hugging, kissing, sexual activity).
- A person who has stayed in the same cabin with a COVID-19 case.
- A person who had direct contact with infectious secretions of a COVID-19 case (e.g. being coughed on).
- A crew member who entered the cabin of a case while they were inside the cabin, without wearing appropriate PPE.
- Healthcare workers or other persons providing direct care for a known case or handling specimens of a case without wearing appropriate PPE or with a possible breach of PPE or hand hygiene.

B. Low-risk exposure (casual) contact:

Risk assessment of individual cases and their contacts will be conducted by the ship's medical staff and/or public health authorities to identify the low-risk exposure (casual) contacts. It could be possible that all persons on the ship who are not "high-risk contacts" could be considered as low-risk exposure (casual) contacts.

Any data available from contact tracing technologies should also be considered.

Suggested criteria to be considered in decision making about ending the cruise (as a health measure in response to a COVID-19 event) are included in paragraph 8.

4.3. Precautions in all areas of the ship

All crew members and passengers should be informed and requested to practice proper respiratory etiquette and frequent hand hygiene. In addition, physical distancing of at least 1.5 metres (or

otherwise as per national/local health authority rules of the home port or the port of call) is recommended to be maintained at waiting areas and during boarding at transport stations, by adopting special markings and controlled entry measures.

Cruise ships are semi-closed environments with common areas that may allow extended periods of close contact between people. Therefore, it is suggested that crew members and passengers use medical face masks (and that strategies to improve fit§ are considered). Respirators (e.g. FFP2 standard or equivalent) could also be considered for use by crew members and passengers.

Face masks should be used by all crew members at all times in all indoor areas on board when exiting/outside of individual cabins (exceptions include during eating and drinking, seated on sunbeds, swimming or doing other activities where the mask would get wet, in which case physical distancing should still be practiced). This should also apply to crew members who are off duty and outside of cabins, as well as shore-based personnel (e.g. maritime pilots, port workers, medical personnel etc.) boarding the ship. Face masks should be worn by all crew members outdoors if physical distancing cannot be maintained.

It is recommended that face masks are used by passengers at all times in all indoor areas on board when exiting/outside of their cabins. The use of face masks by passengers is strongly recommended in crowded indoor spaces (e.g. in entertainment venues) and during embarkation, disembarkation and any other situation where physical distance cannot be maintained. Face masks are recommended to be worn outdoors if physical distancing cannot be maintained.

All passengers should wear face masks when exiting/outside of their cabins, for the following two weeks after any of the following situations:

- when the cumulative number of COVID-19 cases in seven days has reached the level of ≥2% of passengers or ≥4% of crew, OR
- when the attack rate among passengers is ≥ 1% in any 48-hour period per voyage.

Passengers should be informed about the health risks of not wearing a face mask and about the correct use of face masks via health advisories, audio messages, leaflets, TV, infographics, websites or electronic posters etc. and at the terminal stations. Cruise lines should continue to encourage passengers, as part of their pre-travel communications as well as during the voyage, to wear a face mask as a way to protect themselves and others and that they should respect others' decision to wear or to not wear a mask. In their communication, operators should highlight that people at high risk for severe COVID-19 are advised to wear an FFP2 respirator during the voyage for their own protection.

§ Strategies to improve the fit of medical face masks include: using masks with nose wires, using mask fitters/braces, using a knotting/tucking technique, or double masking: refers to wearing two face masks simultaneously. (Centers for Disease Control and Prevention. Types of Masks and Respirators. 28 January 2022. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/types-of-masks.html)

4.4. Precautions at the ship medical facility

All patients should be asked to practice respiratory etiquette, covering their nose and mouth with a tissue when coughing or sneezing, immediately disposing of used tissues in a no-touch waste bin followed by meticulous hand hygiene or sneezing and coughing in the elbow if no tissue is available. Thorough hand washing should take place after any contact with respiratory secretions[14].

ECDC and WHO advise that a possible case should be provided and wear a medical face mask as soon as he/she is identified and be isolated in a separate room with the door closed, ideally in an isolation room if available. If a medical face mask cannot be tolerated, the possible case should practice strict respiratory etiquette and hand hygiene as described above and avoid contact with all other persons, except care givers or medical staff.

Contact with patients in isolation should be restricted to only those necessary. Any person entering the room should apply standard precautions, contact precautions, droplet precautions and airborne precautions[2,12,15]. If not enough respirators are available (e.g. for airborne precautions) which should be prioritized for aerosol-generating procedures, droplet precautions should be applied (e.g. use of a medical face mask). In this specific case, the limitations and risks connected to its use should be assessed on a case-by-case basis.

Healthcare workers in contact with a possible/confirmed case of COVID-19 should wear PPE for contact, droplet and airborne transmission of pathogens: FFP2 or FFP3 respirator or equivalent tested for fitting and eye protection (goggles or face shield), as well as a long-sleeved impermeable gown and gloves, if there is a possible risk of contact with body fluids or in areas where contamination is considered high[2,15-17]. If a sufficient supply of respirators is not available a medical face mask could be used, with respirators prioritized for aerosol-generating procedures. Strategies for extended use, decontamination or reuse of respirators could also be considered in cases of shortages. Disposable PPE and other soiled single-use items should be treated as potentially infectious material and properly disposed of in accordance with the relevant rules (e.g. in a biohazard bag or secured plastic bag labelled “biohazard”). Non single-use PPE should be decontaminated in accordance with the manufacturer’s instructions.

4.5. Isolation of cases

Following preliminary medical examination, if the ship’s medical officer determines that there is a possible/confirmed case of COVID-19 on board that meets the definition described in paragraphs 4.1 and 4.2, the patient should be isolated in an isolation ward, cabin, room or quarters and infection control measures should be continued until disembarkation. The competent health authority at each port should decide whether the asymptomatic cases of COVID-19 should disembark or not. It is recommended that symptomatic cases of COVID-19 disembark as soon as possible at an isolation facility (hotel etc.) ashore.

Isolation of cases should take place either on board or ashore as follows, or in accordance with the countries national rules [18,19]:

- **Unvaccinated cases of COVID-19**, should be isolated for 10 days after the onset of symptoms (or from the date of their diagnosis in case they are asymptomatic) or until two consecutive negative RADT or NAAT tests starting on at least day 3 after the onset of symptoms (or from the date of their diagnosis in case they are asymptomatic) with a minimum interval of 24 hours.
- **Vaccinated cases of COVID-19**, should be isolated for 6 days after the onset of symptoms (or from the date of their diagnosis in case they are asymptomatic) with a negative RADT or NAAT on day 6, or until two consecutive negative RADT or NAAT tests starting on day 3 after the onset of symptoms (or from the date of their diagnosis in case they are asymptomatic) with a minimum interval of 24 hours.

Contact with patients in isolation should be restricted to only those necessary. All persons entering the isolation room should apply standard precautions, contact precautions and airborne and droplet precautions as described in WHO guidance for infection control[20]. If a sufficient number of respirators are unavailable, the use of a medical face mask can be used (with respirators prioritized for aerosol-generating procedures). For any person entering the isolation area where a possible case is present, it is recommended to use a medical face mask and, if no direct assistance is provided to the patient and it is feasible to maintain a physical distance of at least 1.5 metres from the patient. Frequent and meticulous hand hygiene should also be practiced.

If technically possible and on large ships (ships with more than 100 passengers and crew), the medical facilities as well as the designated isolation and quarantine spaces should be connected to a separate Air Handling Unit (AHU). The return air from the medical facilities and the isolation spaces should either be HEPA-filtered or exhausted to the outside. If aerosol-generating procedures are performed in the medical facilities of the ship, then the area should be under negative pressure and achieve at least 10 air changes per hour.

However, if the illness does not meet the possible/confirmed case definition (paragraph 4.1) but the individual has respiratory symptoms, the individual should not be allowed to return to public areas of the ship or interact with the public, but should follow the standard procedure for isolation of individuals with Influenza Like Illness. Detailed guidance is provided in the European Manual for Hygiene Standards and Communicable Disease Surveillance on Passenger Ships, Part B, Guideline I: http://www.shipsan.eu/Home/EuropeanManual.aspx

4.6. Diagnostic testing of contacts

Early testing (rapid antigen diagnostic testing or NAAT) of all contacts (asymptomatic and symptomatic) to diagnose infections and enable any further contact tracing that may be necessary should be arranged.

Please refer to the *laboratory testing for detection of COVID-19 cases* section in the EU HEALTHY GATEWAYS Guidelines for cruise ship operations in response to COVID-19 pandemic (Version 5), available at: https://www.healthygateways.eu/Novel-coronavirus

4.7. Reporting and notification

In accordance with the International Health Regulations (2005), the officer in charge of the ship must immediately inform the competent authority at the next port of call about any possible case of COVID-19[21].

For ships on international voyage, the Maritime Declaration of Health (MDH) should be completed and sent to the competent authority in accordance with the local/national requirements at the port of call. The MDH should include all cases of COVID-19 from the commencement of the voyage, even if these cases have disembarked in a previous port of the itinerary, or even if patients have recovered.

According to ECDC-EMSA guidelines for reporting: "Ship calls at EU ports are a well-established process". Member States have National Single Windows for reporting formalities, including the Maritime Declaration of Health (MDH) ("free pratique"). The notification of ship calls at EU Ports is defined in Directive 2002/59/EU, as amended. In general, the pre-notification period is 24 hours before arrival. However, cruise ship companies are recommended to extend the pre-notification period due to current circumstances, to allow for better coordination with the port authorities. Similarly, the MDH is also required to be reported through the National Single Window prior to arriving in a port situated in an EU Member State as specified above, in accordance with EU law (Directive 2010/65/EU). It must be reported by the master or any other person duly authorised by the ship operator to the competent authority designated by that Member State. Any possible, probable or confirmed case of COVID-19 on board should be communicated without delay. It is recommended that Member States request the ship's master keep the MDH updated, and communicate the following information to the relevant authority four hours prior to the estimated arrival in each port of call: (a) Total number of persons on board (both crew and passengers); (b) Number of persons infected with COVID-19 (confirmed cases); (c) Number of persons considered as possible or probable cases of COVID-19. This information can be communicated through the updated MDH via radio/telephone in case of "imminent arrival". Further guidelines about reporting at arrival and departure can be found in EMSA-ECDC COVID-19: EU Guidance for Cruise Ship Operations. Guidance on the gradual and safe resumption of operations of cruise ships in the European Union in relation to the COVID-19 pandemic[2] https://www.ecdc.europa.eu/en/publications-data/COVID-19-cruise-ship-guidance

Ship operators must facilitate application of health measures and provide all relevant public health information requested by the competent authority at the port. The officer in charge of the ship should immediately alert the competent authority at the next port of call (and the cruise line head office) regarding the possible/confirmed case to determine if the necessary capacity for transportation, isolation, laboratory diagnosis and care of the possible or confirmed case/cluster of cases of COVID-19 is available at the port. The ship may be asked to proceed to another port in close proximity if this capacity is not available, or if warranted by the medical status of the possible case/cluster of cases of COVID-19. The ship should proceed to the contingency port or the home port. It is important that all arrangements are agreed in advance and conducted as quickly as is feasible to minimise the stay of symptomatic possible case/cases on board the ship.

After each voyage and within seven days, ship owners, other ship operators or their representatives sailing in EU waters should report aggregated data about COVID-19 cases in the "COVID-19 report form" of the EU Common Ship Sanitation Database (https://sis.shipsan.eu/).

It is advised that the competent health authorities record any case of COVID-19 reported on cruise ships in the P2P communication form of the EU Common Ship Sanitation Database, including any measures taken and measures to be taken from the next port of calls (https://sis.shipsan.eu/).

5. Management of contacts

Each passenger and crew member should provide contact details (using the Passenger Locator Form or as data included in the PLF are otherwise collected by the cruise line). The passenger or crew member that meets the definition of a confirmed case should provide information about the places that he/she visited and about his/her contacts, including the period from two days before the onset of symptoms on board the ship or ashore. This information will be used to identify the contacts.

5.1. Management of the close contacts

All unvaccinated travellers that fulfill the definition of a "close contact" should remain on board the ship in designated single cabins or at a facility ashore (in case the ship has docked at the home port and if feasible), in accordance with instructions received by the competent authorities. Children should be quarantined in the cabin with one of their parents and similar consideration should be given to supporting those with special needs. The designated cabins should be located near the ship's medical facility for ease of accessibility by crew.

Unvaccinated close contacts should be quarantined ashore in accordance with the local rules.

Unvaccinated crew members and passengers may remain on board the ship in quarantine if single occupancy cabins with natural light are available in a designated quarantine area that has limited access, where precautionary measures can be closely monitored and controlled.

Ship owners, crew managers and other ship operators (or their representatives) should ensure that following a confirmed COVID-19 case the below procedures are implemented[**]:

- Testing all close contacts of a confirmed case by NAAT or by RADT, and quarantine until test results are available.
- If contacts test positive, they should be isolated as described in in paragraph 4.5 of the current document.
- **Vaccinated or recovered contacts** (passengers or crew members) who have been identified as close contacts: should
    - wear a high-efficiency (FFP2 or equivalent) mask that fits well for 10 days,

[**] The below recommendations were formed based on the current variants of SARS-CoV-2, and are subject to change if new variants of concern emerge.

AND

- be tested by RADT or RT-PCR on day 5,
  AND
- perform self-monitoring for symptoms, wear a mask, keep distance from others and avoid contact with vulnerable persons, if possible.

- **For unvaccinated close contacts** (passengers or crew members) exposed to COVID-19, the following quarantine period is recommended:

  - 5 days quarantine,
    AND
  - RADT or RT-PCR test on day 5,
    AND
  - 5 additional days wearing a high-efficiency (FFP2 or equivalent) mask that fits well.

Control measures should include checks to ensure those in quarantine always remain in their cabin, that no cabin visitors are allowed, and that strict infection control procedures are followed for the provision of food and other services. Records of the quarantine measures taken and control measures for enforcement of quarantine should be maintained and available to authorities during inspections.

For situations where disembarkation of passengers and quarantine ashore are not feasible (e.g. due to lack of quarantine facilities ashore, visa issues), close contacts may remain in the ship's quarantine facilities on board (separated and individually quarantined for the required period of time), provided strict control measures are implemented and cabins have access to natural light (window or balcony) and required services. The requirement for window/balcony does not apply for small ships (with less than 100 guests).

Control measures should include checks to ensure those in quarantine remain in their cabin at all times, that no cabin visitors are allowed, and that strict infection control procedures are followed for the provision of food and other services. Records of the quarantine measures taken and control measures for enforcement of quarantine should be maintained and available to authorities during inspections.

ECDC guidance on contact tracing and public health management of persons, including healthcare workers, who have had contact with COVID-19 cases in the European Union can be found at: https://www.ecdc.europa.eu/en/covid-19-contact-tracing-public-health-management[22,18].

Considerations for quarantine measures are given in WHO travel advice[20]: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/travel-advice. The above quarantine measures are all subject to requirements of the local/national competent health authorities.

Close contacts of possible cases should be managed as if the case was confirmed until the final test result is available. Cabins where contacts are quarantined should have en suite bathrooms. If two or more people share a cabin and only one of them is a close contact, the contact person should be relocated to a single occupancy cabin. If two or more people who are identified as contacts share

a cabin and one develops symptoms, they should then be managed as a possible case and their contact persons should be subsequently housed in separate cabins. All contacts on a cruise ship should be requested to complete passenger locator forms (unless data included in the PLF have been collected by the cruise line and can be provided to the competent authorities if needed) with their contact details and the locations where they will be staying for the following 14 days[22]. Low-risk contacts should be managed in accordance with requirements of the country at the contingency port.

6. Increased testing frequency of crew members in response to clusters

Testing by RADT or by NAAT should be performed **on all crew members working in the same department** when COVID-19 cases have been identified among crew members of the same department who are staying **in three or more cabins** within a timeframe of seven days.

Testing by RADT or by NAAT should be performed **on all crew members on board** when:

a) a cluster(s) (COVID-19 cases have been identified within one week among crew members of the same department who are staying in three or more cabins) has/have been identified **in three or more departments**.

OR

b) when the cumulative number of COVID-19 cases in seven days has reached the **level of ≥2% of passengers or ≥4% of crew.**

In both situations (a) or (b), all crew members should be tested by RADT or NAAT test every 7 days for the following two weeks. The testing could be split, so that half of the crew members of each department are tested every 3-4 days.

6.1. Reporting information to the competent authorities about contacts

Both embarking and disembarking ports as well as the contingency ports must be notified immediately of contacts being on board and the measures taken.

7. Disembarkation

As soon as the confirmed case has been removed from the cruise ship or the isolation period has ended, the cabin or quarters where the confirmed case was isolated and managed should be thoroughly cleaned and disinfected as described in paragraph 11, by staff trained to clean and disinfect cabins during gastroenteritis outbreaks[23,24]. Cleaning personnel should wear appropriate PPE, including a medical face mask, eye protection (goggles or face shield) based on risk assessment of splash from chemicals/organic matter, a long-sleeved impermeable gown and gloves (heavy duty gloves could be considered based on risk assessment and safety issues for chemicals used). Closed work shoes or boots could also be considered. Cleaning personnel should be trained in the appropriate use of PPE and perform frequent hand hygiene.

8. Other health measures

If an increased number of COVID-19 cases has been observed on board, then additional measures should be applied in accordance with the rules of the local health authorities

All passengers should wear face masks when exiting/outside of their cabins, for the following two weeks after any of the following situations:

- when the cumulative number of COVID-19 cases in seven days has reached the level of ≥2% of passengers or ≥4% of crew, OR
- when the attack rate among passengers is ≥ 1% in any 48-hour period per voyage.

After conducting an inspection and risk assessment in accordance with IHR (2005) Article 27, the port health authority will decide on health measures to be taken on board the ship[21]. The authority may decide in consultation with the ship owner to end the cruise if a large outbreak is occurring on board (e.g. large number of COVID-19 cases among crew where there is not enough staff to perform the essential duties for the continuation of the cruise). Termination of the cruise should be considered on a case-by-case basis depending on the number of cases, the vaccination status of the passengers and crew members, etc.

Infectious waste should be disposed of in accordance with the port authorities' procedures.

9. Record keeping in the medical log

Records should be kept about the following:

a) Any person on board who has visited the medical facility and meets the definition of a possible/confirmed case of COVID-19 described in paragraph 4.1, the isolation and hygiene measures taken at the isolation place;
b) Any person meeting the definition of a close contact described in paragraph 4.2 and the results of monitoring of his/her health;
c) Contact details of casual contacts who will disembark, and the locations where they will be staying in the following 14 days (completed PLFs or other means of data recording);
d) Results of active surveillance;
e) Results of diagnostic testing;
f) Details about isolation and quarantine (place, when started, names of persons who entered the room and provided care, control measures).

10. Active surveillance (case finding)

Case finding among passengers and crew should be initiated after a confirmed case has been identified by the ship's medical staff in order to detect any new suspect cases. Case finding should include directly contacting crew, asking about current and recent illness, conducting laboratory diagnostic testing and checking if any person meets the criteria of a possible/confirmed case. Active surveillance activities should be conducted for 14 days after an increased number of COVID-19

confirmed cases have been identified the COVID-19 confirmed case was identified. Findings should be recorded.

11. Cleaning and disinfection

While case management is in progress on board a cruise ship, a high level of cleaning and disinfection measures should be maintained on board as per the outbreak management plan available on the ship.

Medical facilities, cabins and quarters occupied by COVID-19 patients and contacts should be cleaned and disinfected in accordance with ECDC guidance and EU HEALTHY GATEWAYS advice for cleaning and disinfection[23,24]. Appropriate PPE should be used by cleaning personnel as described above in paragraph 7.

Laundry, food service utensils and waste from cabins of possible cases and contacts should be handled as infectious, in accordance with the outbreak management plan provided on board for other infectious diseases (Norovirus gastroenteritis)[4]. Staff who will perform cleaning and disinfection should be trained to use PPE.

The air filters of the Air Handling Units that operate with air recirculation should be replaced by trained persons using proper PPE and treated as infectious waste. PPE for use by maintenance crew replacing air filters can include: fitting respirator (if unavailable consider use of a medical face mask assessing limitations and risks on a case-by-case basis), eye protection (goggles or face shield), a long-sleeved impermeable gown, disposable gloves (heavy duty gloves could be considered based on risk assessment and safety issues for chemicals used), and boots if needed based on a risk assessment. The air handling units should be cleaned and disinfected.

It may be essential that the ship remains at the port for the time period required to perform thorough cleaning and disinfection on board.

Healthy GateWays

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