

EASA Guidelines – COVID-19

Guidance on Management of Crew Members in relation to the SARS-CoV-2 pandemic

Issue no: 01

Issue date: 26/03/2020

1 Background

Since December 2019 an outbreak of a new type of coronavirus was identified in the province of Hubei, China. Since that time the evolution of the outbreak was very rapid reaching out to the most of the countries worldwide. Consequently the outbreak was declared by the World Health Organisation (WHO) as a public health emergency of international concern (PHEIC) on the 30th of January and further characterised as a pandemic on 11th of March. Since mid-February a cluster was identified in the province of Lombardy, in the north of Italy. Afterwards a rapid development was seen which affected all the European Member States.

In this context EASA has developed, issued and updated a Safety Information Bulletin to provide operational recommendations for the European stakeholders in accordance with the official communications of WHO and European Centre for Disease Prevention and Control (ECDC) as well as facilitating access to guidance developed by other stakeholders (e.g. IATA, ACI, EU Healthy Gateways, etc.)

Furthermore, on 13th of March, EASA issued two Safety Directives (SD) one for the EASA Member States and the other for the third country operators performing commercial air transport of passengers into, within or out of the territory subject to the provisions of the Treaty on European Union. The SDs mandate the disinfection of aircraft arriving from the high risk areas, as defined and updated in Annex 1 to the SD in collaboration with the Member States, in order to protect the passengers against secondary contamination, and equip the aircraft with one or more Universal Precaution Kits (UPK's). During the consultation of the SD as well as after the publication EASA received several questions on protection of crew members and in particular quarantine management for crew members operating in high risk areas.

Furthermore, it was reported to EASA that several operators (cargo and passenger transport) had their crew members placed in quarantine for 14 days after a short stopover in areas considered as high risk by the national public health authorities although they did not leave the aircraft during the respective stopover. Consequently, this guide is intended to provide guidance on the preventive measures that operators should implement in order to demonstrate to the national public health authorities in their Member State or other States that action has been taken to minimize the epidemiological risks and, this way, to avoid having their crews being quarantined by the public health authorities during stopover/layovers or on return from areas with high epidemiological risk.

In this context the European Commission has adopted on 26.03.2020 the Guidelines: Facilitating Air Cargo Operations during COVID-19 outbreak (European Commission, 2020), which includes a number of operational measures for the Member States to facilitate air cargo transport.

Consequently, EASA has developed the following guidance providing details in regard to the measures recommended for the operators and NAAs regarding the crew members operating in high risk areas. Although the development of this guide was triggered by the events as presented above, it is, at the same time useful practices to be implemented for the protection of the crew members and limiting the dissemination of the virus through air travel.

This guide should be considered by the NAAs and the aircraft operators in synergy with the recommendations of WHO, ECDC and national public health authorities in regard to the management of contacts, suspected and confirmed cases.

Please note that this guide should be seen as guidance material and an example of good practices to be implemented to the extent possible, depending on the aircraft configuration, by the operators that do not

have a procedure agreed with their national public health authorities and it is in no way binding to any operator or Member State.

At all times the decision of the national public health authorities will prevail in regard to the recommendations made in this guide.

2 General considerations

Aircraft operators are encouraged to take appropriate measures to avoid long stopovers and layovers in the high risk areas, as much as practicable, in order to reduce the risk of contamination posed by the need for the crew members to exit the airport's restricted area and to be in unnecessary contact with the local population.

Where crew members, maintenance or cargo/load specialized personnel are involved in flights with a short stopover or in special flights (such as those used for emergency transportation of materials and medical teams) to/from high-risk areas, they generally do not need to be under medical quarantine and observation after returning, provided that they did not have a symptomatic passenger or crew member on board and could make good pre-return preparations by strictly observing the following requirements:

- Only one flight or technical crew members should be allowed to disembark the aircraft for an external inspection, refuelling, etc. In such case direct contact with the ground crew of the airport situated in a high risk area should be avoided;
- To the greatest extent possible, no ground personnel should be allowed to embark the aircraft except for remediation of technical problems or other ground staff whose presence on board is essential for performing their tasks. When such personnel is on board they should be required to wear appropriate personal protective equipment (PPE). Additionally, crew members should take all measures to minimise the direct contact including wearing PPE such as face mask and gloves;
- The doors should be closed immediately for the return trip upon completion of the transport of assisting medical personnel and materials;

Where avoiding long stopover or layovers is not possible due to operational restrictions, mitigating measures should be put in place in coordination with the airport operators and local authorities, to ensure that risk of exposure by contact of the crew members with local population is reduced to the strictly needed. Such measures may be, but not limited to:

- In agreement with the airport and local authorities the transport to and from the resting facilities will not involve transiting the public areas of the airport terminal.
- The transportation should be done, as much as possible, with a minimum separation of one seat between crew members
- Once they reach the resting facilities (hotel) the crew members should be provided with packed meal and will not be allowed to exit their rooms except for emergency reasons
- Additional meals and drinks should be provided via the hotel's room service
- The aircraft operator should agree with the hotel that the rooms to be used by crew members are to be disinfected prior to being used

The aircraft operator should provide a clear designation of tasks and cabin areas of responsibility to all cabin crew members who are expected to be in direct contact with passengers. Depending on the aircraft configuration and crew composition, each cabin crew member should be directed to perform duties in only one, delimited, sector of the cabin in as much as possible. This will enable easier identification of individuals who might be at greater risk of contamination should an on-board infection be identified. Aircraft operators

should consider adjusting all non-essential crew interaction with passengers to reduce as much as practical the risk of contamination from asymptomatic passengers.

The aircraft operator should equip their aircraft operating in high risk areas with one or more UPK as mandated by the EASA SDs and SIB and provide training material to their crew members on how to safely put on and remove the PPE in accordance with the guidance provided by WHO (WHO, 2020) (WHO, 2020), ECDC (ECDC, 2020) or the local public health authorities. Facial masks should be worn by crew members having direct contact with the passengers, at all times and replaced regularly (at intervals not exceeding 4 hours).

Note 1: The content of the UPK is, in accordance with the Attachment B of ICAO Annex 6 (ICAO, 2020):

- *Dry powder that can convert small liquid spill into a sterile granulated gel*
- *Germicidal disinfectant for surface cleaning*
- *Skin wipes*
- *Face/eye mask (separate or combined)*
- *Gloves (disposable)*
- *Protective apron*
- *Large absorbent towel*
- *Pick-up scoop with scraper*
- *Bio-hazard disposal waste bag*
- *Instructions*

National Aviation Authorities (NAAs) should make the public health authorities within their Member State aware of the specific situation of crew members in order to obtain, where possible, a derogation from epidemiological containment requirements for crew members returning from duties in high risk areas where crew members did not leave the aircraft and adjacent perimeter. This is particularly important for the crew members involved in cargo operations, where the contact with potentially infected humans is very limited.

3 Protection of crew members

Operators should provide to crew members operating into high risk areas guidance for health self-monitoring, which should include:

- Measuring of body temperature at least twice a day.
- Monitoring for symptoms such as fever, persistent coughing, or breathing difficulties.
- Clear and expeditious reporting means to inform the operator of potential signs of infection

Operators should develop clear and detailed procedures for the situation when a crew member becomes symptomatic, covering the cases when the crew member is at his or her home base, down-route or while on active duty.

Operators should establish the necessary personnel protection equipment (PPE) for their crew members, based on the risk of transmission for the respective flight. For operations into high risk areas, the operator should equip their aircraft with one or more UPKs. Additional equipment such as facial masks meeting at least surgical standards and disposable gloves should be available for the use of suspected COVID-19 passenger(s) and all crew members;

Note 2: According to scientific research (Lee, et al., 2016) it is recommended the use of N95 or higher respirators and FFP3 respirators against airborne infectious diseases in healthcare settings. When these certified DHFFRs are in short supply or not available, surgical masks may be an alternative. Surgical masks are used to block large particles (such as droplets, splashes, sprays, or splatter) that may contain microorganisms (e.g., viruses and bacteria) from reaching the nose and mouth. They are primarily intended to protect patients from healthcare workers by minimizing exposure of saliva and respiratory secretions to the patients.

Face masks should be worn by crew members having direct contact with passengers, at all times and replaced regularly (at intervals not exceeding 4 hours). Correct disposal of the PPE and of other items that may be contaminated should be ensured, by providing detailed instructions and dedicated disposal bags, where such items should be placed and then sprayed or doused with disinfecting solutions. Once on the ground, the contents should be appropriately disposed following the guidelines for the disposal of biohazardous materials.

When rostering crew, the aircraft operator should as much as possible, maintain the same teams in order to avoid cross contamination. This is particularly important for helicopter operations and even more so for medical flights.

The aircraft operator should:

- make all efforts that, in an aircraft with more than one lavatory and if the number of passengers carried allows it, a lavatory should be blocked for the exclusive use of the crew, preferably the one in the front
- Limit, to the greatest extent possible, access to the flight deck
- Instruct their cabin crew members to avoid touching passengers' belongings at all times (carry-on luggage)

There is no documented evidence available so far regarding the specific immunity following the COVID-19. Furthermore, there are several cases of reinfection listed in the recent literature. For this reason, crew members that were infected and recovered should take the same precaution measures as all their colleagues.

In case of a medical emergency on board the Cardiopulmonary Resuscitation (CPR), if needed, should be performed based on the existing protocols. The one way valve of the mouth to mouth resuscitation mask will protect the crew member providing the respiratory support from contamination. Nevertheless, proper hand hygiene should be performed immediately after the CPR is over by all crew members (and volunteer where applicable), before touching or getting in direct contact with other passengers or crew members.

Furthermore, should oxygen dispensing equipment (i.e. therapeutic oxygen, drop-down oxygen masks) be required to be used during the flight, it should be thoroughly disinfected before the next flight. When therapeutic oxygen is provided to suspected passengers or crew members the oxygen mask(s) used should be disposed as explained above.

4 Pandemic management for crew members and management of suspected passengers on board

4.1 Management of suspected passenger on board

Where any passenger on board, after take-off, shows symptoms such as fever, persistent cough, difficulties breathing or other flu-like symptoms, and has an epidemiological context (such as having been in recent contact with confirmed positive cases), the following measures should be considered:

- The respective passenger should be immediately provided with a face mask in order to limit the potential spread of contaminated droplets. If a facemask is not available or cannot be tolerated, ask the sick person to cover their mouth and nose with tissues when coughing or sneezing;
- The respective passenger should be isolated on board. Depending on the configuration of the aircraft the actual occupancy and distribution of passengers, the position of the symptomatic case, and to the extent that is practicable:
 - Define and delimit a quarantine area, leaving, if possible, 2 rows of seats cleared in each direction around the passenger. Consider, if feasible, the use of the last three rows on the right hand side as quarantine area;
 - Taking into consideration all previous factors and the air circulation system of the aircraft, where possible, the suspected passenger should be seated in the last right window seat;
 - The lavatory closest to the isolated passenger should be specifically designated for quarantine purpose;
 - According to the composition of the cabin crew, the Senior Cabin Crew member should provide instructions on how to handle the assistance of the quarantine area.
 - Specific crew members should be designated to provide necessary in-flight service for quarantine areas. This cabin crew member should be the one that already had contact with the suspected passenger. The designated crew member should make use of the PPE equipment in the UPK. The designated crew member should minimize close contacts (within 2 meters) with other crew members and avoid other unnecessary contacts with other passengers.
- In addition, where possible, the individual air supply nozzle for the symptomatic passenger should be turned off in order not to exacerbate the spread of droplets;
- Where the suspected passenger is traveling accompanied, the companion should be also included in the area confined to the designated quarantine area even if he/she does not exhibit any symptoms.
- The isolated passenger should be transferred in accordance with the instruction of the local public health authorities, after the flight has landed and other passengers have disembarked;
- The crew member designated to provide on board services for the symptomatic passenger and other crew members which may have been in direct contact with the suspected passenger should be provided transportation to facilities where they can clean and disinfect before being in contact with other people. Alternatively, as a last resort, after carefully disposing of the used PPE and washing and disinfecting their hands, the respective cabin crew members might be isolated on board, in a quarantine area, to return to base or a layover destination.
- Where possible, after return to home base, but no later than 48 hours from the first contact with the suspected passenger, the respective crew member(s) should be asked to take appropriate self-isolation measures pending the result of the passenger's test. If the test is positive, the respective crew member(s) should be placed in quarantine for 14 days from the last contact with the confirmed

positive passenger, unless otherwise specified by the local public health authorities. If the test is negative they may resume flying duties.

Note 3: The incubation period for the SARS-CoV-2 has been found to be between 2 and 14 days, with the vast majority of cases having an incubation period of 5-6 days. In this context, it is considered that in the first 2 days after exposure a person is not contagious even if they were contaminated and the later testing will show a positive result.

Where a suspected passenger is identified on board before take-off has been initiated, the airport and local health authorities should be informed and their instructions should be followed. At this point no direct contact longer than 15 minutes should have taken place between the respective suspected passenger and the crew members, thus no additional measures should be taken in regard to the management of the crew members, unless otherwise advised by the local public health authorities.

4.2 Management of crew members following a post-flight confirmation of a positive SARS-CoV-2 passenger

Where the local public health authorities inform an aircraft operator that a flight of the respective operator carried a passenger who was confirmed positive, the operator should notify the crew members flying the flight segment concerned and inform them that they are placed in quarantine for a duration of 14 days from the end of the respective flight. This should apply for the flights taking place within 5 days before the collection of the test sample for asymptomatic persons or within 3 days prior to the onset of symptoms for the symptomatic passengers unless otherwise specified by the local public health authorities. For flights taking place outside this interval the risk of the passenger being contagious during the flight is considered low.

Note 4: There is no documented evidence of transmission of the Coronavirus more than 48 hours prior to the onset of symptoms. Based on the existing medical articles describing different types of evolution, including that in some case the first symptoms may be so mild as to be overlooked by some patients, it is considered that an interval of more than 72 hours prior to the onset of symptoms are considered as being safe in terms of infectivity. In a similar reasoning, due to the possibility of mild symptoms which may be overlooked, in case a test is performed based only on epidemiological context without a symptomatology being present at the moment of the test, a period of more than 5 days prior to the moment of the collection of the sample which is revealed as positive, is considered as being safe in terms of infectivity.

4.3 Management of suspected crew member on board

If any crew member shows symptoms such as fever, persistent cough, difficulties breathing or other flu-like symptoms, and has an epidemiological context (such as having been in recent contact with confirmed positive cases), he/she should be:

- Quarantined on board, following the same principles described previously for the suspected passenger
- Transferred in accordance with instructions of the local public health authorities after the flight has landed and all passengers and crew members have been disembarked;
- Be required to contact the local public health authorities as soon as practicable and follow their instructions including being tested for SARS-CoV-2 as soon as practicable;
- Put in quarantine or self-isolation in accordance with instructions of the local public health authority, pending the result of the test. If the test result is positive then the quarantine will be extended until

the crew member is considered fully recovered – currently the WHO and ECDC consider a positive case are fully recovered if 2 consecutive tests sampled at least 24 hours from each other are negative. If the test is negative, the crew member may resume flying duties pending recovery from the underlying pathology. (ECDC, 2020) (CDC US, 2020)

- The other crew members that were in close contact (less than 2 metres for more than 15 minutes) with the suspected crew member within 3 days preceding the onset of symptoms should be placed in quarantine pending the result of the test of the suspected crew member. If the result is positive they will be placed in quarantine for 14 days from the moment of the last contact. If the test is negative they can resume flight duties.

4.4 Management of crew member involved in medical flights

Crew members performing medical flights should:

- Avoid unnecessary contact with the medical patient;
- In case of having information from the medical crew that the medical patient is a suspected COVID-19 patient, should wear a face mask, gloves and protective clothing when they are in the proximity of the medical passenger;
- Where after a flight where no preventive measures have been taken, the information that the medical patient or another flight or medical crew member was tested positive for SARS-CoV-2, the crew members which were performing their duties in the same aircraft compartment with the confirmed positive case should be placed in quarantine for 14 days. This should apply for the flights taking place within 5 days before the collection of the test sample for asymptomatic persons or within 3 days prior to the onset of symptoms for the symptomatic passengers. For flight taking place outside this interval the risk of the passenger being contagious during the flight is considered low.
- Adapt their procedures to the specificities of the medical mission in consultation with their local health authorities and/or their medical crew members.

References

- CAAC. (2020). Preventing Spread of Coronavirus Disease 2019 - Guideline for Airlines - third edition. People's Republic of China.
- CDC US. (2020, 03 26). *Discontinuation of Home Isolation for Persons with COVID-19*. Retrieved from CDC.gov: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-in-home-patients.html>
- ECDC. (2020, 3 26). *Discharge criteria*. Retrieved from ECDC: <https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-Discharge-criteria.pdf>
- ECDC. (2020, 03 26). *Guidance for wearing and removing personal protective equipment*. Retrieved from ECDC: <https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-guidance-wearing-and-removing-personal-protective-equipment-healthcare-settings-updated.pdf>
- EU Healthy Gateways. (2020, 03 26). *Novel Coronavirus*. Retrieved from <https://www.healthygateways.eu>: https://www.healthygateways.eu/Portals/0/plcdocs/EU_HEALTHY_GATEWAYS_2019-nCoV_AIRCRAFTS_4_2_2020_F.pdf?ver=2020-02-05-102326-010
- European Commission. (2020, 03 26). *Coronavirus guidance*. Retrieved from European Commission: https://ec.europa.eu/transport/sites/transport/files/legislation/c20202010_en.pdf
- IATA. (2020, 03 26). *Emergency response guidelines*. Retrieved from IATA.org: <https://www.iata.org/en/programs/safety/health/diseases/#tab-2>
- ICAO. (2020, 03 26). *ICAO Health Related SARPS*. Retrieved from CAPSCA: <https://www.capsca.org/Documentation/ICAOHealthRelatedSARPsandguidelines.pdf>
- IFALPA. (2020, 03 26). *COVID 19 Guidance For Crews*. Retrieved from IFALPA: <https://www.ifalpa.org/publications/library/covid-19-guidance-for-crews--3300>
- Lee, S.-A., Hwang, D.-C., Li, H.-Y., Tsai, C.-F., Chen, C., & Chen, J.-K. (2016). Particle Size-Selective Assessment of Protection of European Standard FFP Respirators and Surgical Masks against Particles-Tested with Human Subjects. *Journal of healthcare engineering*, <https://doi.org/10.1155/2016/8572493>.
- WHO. (2020, 03 26). *How to put on and how to remove PPE*. Retrieved from WHO: <https://www.who.int/csr/resources/publications/ebola/ppe-ste>
- WHO. (2020, March 20). *Operational considerations for managing COVID-19 cases or outbreak in aviation*. Retrieved from WHO.int: <https://apps.who.int/iris/bitstream/handle/10665/331488/WHO-2019-nCoV-Aviation-2020.1-eng.pdf>
- WHO. (2020, 03 26). *When to use a mask*. Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>
- World Health Organisation. (2009). *Guide to Hygiene and Sanitation in Aviation*. Geneva: WHO; ISBN 978 92 4 154777 2.