CAAC

Preventing Spread of Coronavirus Disease 2019 (COVID-19) Guideline for Airports

Seventh Edition

In order to do a good job in normalized disease prevention and control, reinforce various measures that guard against "disease importation and domestic resurgence", intensify measures against "virus spread via human beings and cargo", and improving prevention and control measures taken by airports, amendments are made to the seventh edition of *Preventing the Spread of Coronavirus Disease 2019 (COVID-19) Guideline for Airports* is developed.

1. Facilities and Area Setting

1.1 Calibrated non-contact thermometers should be equipped at terminals, and all arriving and departing passengers should have their body temperatures measured. Inspection points should be set up at the entrance of terminals to make sure that passengers are wearing masks.

1.2 If there are existing local COVID-19 cases in in the points of origin, in the scope of province, autonomous region, or municipality, dedicated personnel shall be assigned to check the health QR codes of passengers entering the terminals. Negative results of nucleic acid tests should be checked if necessary. The validity for test results varies in accordance with the regulations of the relevant local departments.

1.3 Passengers should be provided with necessary hand sanitizers and disinfection products at proper places of terminals, and those products should be replaced or replenished in time.

1.4 Arriving flights from countries or regions severely impacted by COVID-19 or flights carrying passengers with suspicious symptoms should be parked in fixed stands, and special passages for passengers should be set up. The supporting service shall follow the standards of remote stands.

1.5 The Setting-up of Quarantine Area for Feverish Passengers

1.5.1 Quarantine area shall be set up in a place that is well-ventilated with low passenger density, relatively independent, and convenient for closed-off management.

1.5.2 A fully enclosed tent could be used for re-checking body temperature.

1.5.3 Warning lines or obvious signs should be set up around the quarantine area.

1.5.4 Necessary disease prevention and control materials should be stocked in the quarantine area, such as air sterilizers, medical protective clothing, medical masks, goggles, disposable sterile gloves, medical waste bags, etc.

2. Handling of Feverish Passengers

2.1 Once feverish passengers are found, they should be required to record personal information and their means of contact immediately.

2.2 Medical departments of airports should be notified in a prompt manner for re-checking body temperature, initial epidemiological investigations and quarantine. If the passenger is initially deemed as a suspicious case, the personal information and means of contact of his/her close contacts (has a distance of less than one meter to the suspicious case with no effective personal protection) should be recorded.

2.3 Local health departments should be informed, and support should be provided for the take-over of the feverish passengers concerned.

2.4 The quarantine area and the walking paths of feverish passengers shall be disinfected when those passengers left the area.

3. Maintaining Effective Distance

3.1 In a bid to reduce passenger concentration, waiting and personnel contacts, it is encouraged to use self-service check-in through machines or mobile phone applications, to scan the QR code when boarding, and to optimize the process of baggage-claim.

3.2 In order to avoid passenger concentration, the number of people in elevators every time should be limited; the frequency of ferry buses should be increased; barrier posts and ground markings should be set up or made in the baggage-claim area to keep passengers standing with over one meter between each other.

3.3 Passenger Traffic Flow Control in Terminals

3.3.1 Passenger traffic flow control and diversion measures as well as early alerting mechanisms should be adopted to promptly disseminate dynamic information to passengers/relevant personnel.

3.3.2 Passengers shall be informed and guided to maintain a social distance of over one meter to prevent massive concentration.

3.3.3 When the density of passengers in the waiting hall is too high, they should be diverted in a timely manner.

3.3.4 Please refer to Attachment 1 for specific traffic flow control measures with different crowd densities.

3.4 Air-conditioning System and Ventilation

3.4.1 Practical measures can be taken according to the structure and layout of terminals as well as local climate to improve air circulation.

3.4.2 If the temperature is agreeable, doors and windows can be opened to allow in natural wind.

3.4.3 Where all air-conditioning systems are used, full fresh air operation mode can be started as appropriate, and exhaust system should be turned on to keep the air clean.

3.4.4 When the indoor temperature cannot meet the requirements, the air supply volume can be reduced. When the flow of people is large, the fresh air and exhaust system of the air conditioning system should continue to operate for a period of time after the end of flights every day.

3.4.5 When the density of passengers in the waiting hall is too high, the ventilation efficiency shall be adjusted according to the indoor crowd density at airports. Please refer to Attachment 1 for details.

3.4.6 Ferry buses can operate at a low speed with windows open or using the outer circulation of the air conditioning system to maintain natural ventilation. The frequency of ferry buses should be increased to lower the passenger load factor. Passengers shall stand with over one meter between each other, or the pre-scheduled load factor should be trimmed by 10% to avoid crowding.

4. Disinfection of Equipment and Environment

4.1 Ferry Buses

4.1.1 For the disinfection methods of ferry buses please refer to the *Technical Guidance for the Disinfection Operation of Public Transport Vehicles* published by

the Joint Prevention and Control Mechanism of COVID-19 of the State Council (COVID-19 Mechanism (2020) No.13).

4.1.2 Preventative disinfection needs to be performed after the daily operation, during which frequently touched surfaces such as hanging straps, handrails and seats should be the focuses and be wiped or sprayed with disinfectant. Tires do not need to be disinfected.

4.1.3 If a ferry bus has carried passengers with suspicious symptoms, it should be subject to terminal disinfection by professionals.

4.2 Security Inspection Areas

4.2.1 Security inspection aisles should be equipped with hand sanitizers.

4.2.2 Cleaning and disinfection should be conducted on regular basis every day, and the frequency of disinfection should be adjusted according to the flow of people.

4.2.3 After the daily operation, areas and facilities such as security inspection sites and waste bins should be wet-cleaned, and all-round disinfection needs to be performed.

4.2.4 Key areas (document verification counters, baggage packing areas, baggage plates, hand-held metal detectors) and security screening facilities should be disinfected.

4.3 Trash Cans

4.3.1 Wastes should be collected, sorted, and cleaned in time. Disinfection of trash cans should be performed after garbage collection, either by spraying or wiping with 500mg/L chlorine-based disinfectant.

4.3.2 When potentially contaminated wastes are found, the wastes should be disposed of as medical wastes in a centralized way.

4.4 Airport Public Places

4.4.1 Preventative disinfection shall be carried out for in-door air, public environment and object surface as needed. The disinfection frequency of frequently touched objects shall be conducted based on the volume of passenger flow.

4.4.2 It is recommended that disinfection of key crowded areas shall be carried out at least twice a day.

4.4.3 When suspected cases, confirmed cases or passengers with suspicious symptoms, or contaminated body fluids such as vomit and blood are found, terminal disinfection shall be performed by professionals.

4.4.4 Please refer to Attachment 1 for details of environmental disinfection.

5. Supporting Measures for Inbound Passenger Flights

5.1 A separated waiting area shall be set up for flights carrying passengers with suspicious symptoms or inbound passengers from countries or regions severely impacted by COVID-19, and passengers shall be provided with basic daily necessities such as food. Passengers should wear surgical masks or masks of higher standards when deplaning. After passengers' departure, preventative disinfection shall be performed in the quarantine waiting area.

5.2 A separate baggage carousel should be designated at baggage-claim area to avoid crowding with other flight passengers and reduce the chance of cross infection.

5.3 A fast and dedicated passage shall be set up for inbound crew members to conduct epidemiological investigations, nucleic acid tests and checking to avoid mixture with passengers on the same aircraft.

5.4 Queuing barriers shall be used in the transfer hall to separate the passages and waiting areas for passengers and crew members. Other alternative measures could also be taken to avoid passenger and crew member mixture such as stagger their entry time.

5.5 Personnel working in the designated entry areas should avoid using public facilities together with passengers and staff in other areas, and shall fix their route of commute to avoid mixture with personnel working in the domestic section.

5.6 Household and medical wastes in the designated entry area shall be transported by a dedicated channel after disinfection. If a dedicated channel for transport is not available, the wastes should be transported on a relatively fixed route and should avoid peak hours.

6. Prevention and Control Measure for the Transshipment of Imported Cargo

Please refer to Appendix 4 of the *Preventing Spread of Coronavirus Disease 2019 (COVID-19) Guideline for Airlines* for the risk levels of imported cargo and its transshipment.

6.1 Prevention and Control Measures for Ground Handling Staff of Cargo

6.1.1 Personal protection for ground handling staff of cargo

6.1.1.1 Ground staff that have direct contact with cold-chain cargo or cargo with high or medium risk levels should at least wear surgical masks or KN95/N95 masks, disposable medical rubber or nitrile gloves, disposable strip caps, goggles or face screens. Ground staff should also wear disposable shoe covers and protective clothing when they do not affect operation safety.

6.1.1.2 Ground handling staff who has direct contacts with low-risk and regular cargo should at least wear surgical masks, disposable medical rubber or nitrile gloves.

6.1.2 Personal Protection Equipment (PPE)

6.1.2.1 The mask should be close to the face, covering the nose and mouth completely. When the mask is on or being removed, the ground staff must not touch the out layer of the mask with hands to avoid hand contamination.

6.1.2.2 Once dampened by secretions or contaminated by other contaminants, facial masks must be replaced immediately with new ones, and hands should be cleaned with sanitizer both before and after the replacement.

6.1.2.3 Reusable goggles should be sterilized and dried every time after use. Goggles with anti-fogging films should avoid being wiped with disinfectant. Instead, it is recommended that they be washed with clean water, and then exposed to close-range direct ultraviolet lighting for over 30 minutes in rooms with no person inside.

6.1.2.4 All disposable PPEs, after their use, should be placed in dedicated waste bags, packed and sealed for concentrated disposal.

6.1.3 Prevention and Control Measures during Operation

6.1.3.1 Ground staff such as loading and unloading, transshipment, sorting, and handling personnel should be divided into cold-chain cargo handlers and regular cargo handlers according to the risk levels of cargo flights and the types of cargo. These two types of cargo handlers should be fixed to their posts and avoid mixture. Cold chain cargo handlers should rest together and be arranged to live together when conditions permit.

6.1.3.2 When safety can be ensured, it is suggested that ground staff should maintain an appropriate distance, and single-person operation is encouraged.

6.1.3.3 All ground staff who has direct contacts with imported cargo should be 100% real-name registered, and should be subject to health monitoring and intensified body temperature screening, and accept nucleic acid tests on a regular basis.

6.1.3.4 Ground staff engaged in cold chain cargo operation and transshipment are required to take nucleic acid tests every 7 days, whereas the test frequency for other personnel shall be subject to the regulations of the relevant local department to whose jurisdiction the airport belongs.

6.1.3.5 Environmental sampling and monitoring of COVID-19 at cold chain workplaces shall be carried out on a regular basis. The sampling frequency should be subject to the regulations of relevant local department to whose jurisdiction the airport belongs.

6.1.3.6 Personnel shall avoid frequent contact with the cargo surface during operation.

6.1.3.7 The activity area of ground handling staff of cargo at airports shall be divided into indoor office and rest area, PPE wearing and taking-off area and cargo operation area, which shall be deemed respectively as clean area, buffer zone and polluted area. Different areas shall be marked to ensure physical separation and should avoid crossover.

6.1.3.8 The buffer zone for cargo handlers shall be disinfected on a daily basis, and disinfection shall be performed at least every 4 hours during operation. The removed PPEs should be treated as hazardous waste and shall subject to centralized disposal.

6.2 The Setting-up of Airport Cargo Station and Storage Area

6.2.1 The setting-up of cargo transshipment area

6.2.1.1 After landing, the cargo shall in sequence go through places of the apron, unloading area, transfer area, sorting area, and cargo storage warehouse. The transfer tools and places for cargo with different risks and types shall be set up and be marked.

6.2.1.2 Two transshipment lines for cold chain cargo and regular cargo shall be set up respectively before the cargo is unloaded and transferred to the sorting area. The two types of cargo transfer areas shall not overlap with each other, and the operating

equipment and transportation vehicles involved should be used exclusively in their areas to avoid mixture.

6.2.1.3 When cargo arrive at the sorting area, three operation lines shall be established for cold chain cargo, regular cargo with high or medium risk levels, and regular cargo with low risk level in the subsequent procedures such as dissembling, transfer, and warehouse storage. The three operation areas shall not cross each other, and the operating equipment and transportation vehicles involved should be marked and used exclusively in their areas to avoid mixture.

6.2.1.4 Complete physical separation shall be achieved as much as possible by means of ground markings, railings and fence to separate the procedures of different cargo transshipment and operation.

6.2.1.5 Equipment and areas with different risks shall be marked with highly recognizable colors.

6.2.1.6 Disinfection points shall be set up respectively in the cargo sorting area and in the area where the cold-chain cargo and regular cargo (container) with high or medium risks are loaded for transshipment.

6.2.2 The Setting-up of Storage Area

6.2.2.1 For sorting and storage, cargo with different types and risk levels shall not be mixed but instead shall be placed in separate sections or warehouses.

6.2.2.2 Cold-chain cargo, regular cargo with high or medium risk levels, and regular cargo with low risk level shall not be mixed but instead be placed in separate sections.

6.2.2.3 Stored cargo with different types and risks and their corresponding inventory areas shall be marked with highly recognizable colors.

6.3 Principles and Procedures for Airport Cargo Transshipment

6.3.1 Preparations for cargo handover shall be made based on the information of cargo types and the risk classification of cargo flights.

6.3.2 The cabin door handles of the aircraft shall be wiped with disinfectant before unloading of the cargo.

6.3.3 The outer surface of the cargo container shall be disinfected after unloading and before the container is transferred to the sorting area. In the process of unpacking

and sorting, the outer packaging of goods shall be disinfected and then put into the storage warehouse.

6.3.4 In the operation line of cargo loading and unloading, transshipment, and disinfection, the two disinfection locations shall be regarded as separation points, and from front to back, the three areas shall be deemed as contaminated areas, semi-contaminated areas, and clean areas respectively. Different areas shall be marked and the goods shall not flow in the reverse direction during operation.

6.4 Principles and Procedures of Preventive Disinfection of Cargo

6.4.1 Preventive disinfection of the outer packaging of all cargo (including cold chain cargo) unloaded from cargo flights with high or medium risk, as well as frequently touched surfaces such as the outer surface, the inner wall and the door handles of containers shall be carried out.

6.4.2 The outer packaging of cargo and containers shall respectively subject to preventive disinfection, and repeated disinfection will not be performed in principle.

6.4.3 If the cargo needs to be unpacked, the container shall be disinfected from outside to inside, and frequently touched surfaces such as the outer surface, the inner wall should be disinfected in turn. Perishable materials shall be wiped or rinsed with clean water after disinfection to remove disinfectant residues.

6.4.4 When disinfecting the outer packaging of cargo, the six sides, namely the up, front, left, right, back, and bottom side of the surface shall be thoroughly sprayed and disinfected when conditions permit.

6.4.5 For commodities that are not suitable for disinfection, such as hazardous chemicals, grain, fodder and fodder additives, live animals, and precision instruments, as well as cargo that have no outer packaging or that are likely to be contaminated by disinfectant penetration, preventive disinfection shall not be implemented.

6.4.6 Goods that are not suitable for disinfection and goods that have completed preventive disinfection shall be marked on the outer surface respectively to facilitate identification.

6.5 Disinfection of Airport Cargo Facilities and Environment

6.5.1 Disinfection of the storage place, operating equipment, and vehicles shall be carried out in time after the cargo are picked up or transferred.

6.5.2 Preventative disinfection of frequently touched surface and public areas such as vehicles, loading and unloading equipment shall be carried out based on different risks of exposure. For specific disinfection frequency, please refer to Attachment 3.

6.5.3 The outer packaging, plastic film and other waste generated during the operation process must be collectively disinfected and shall go through innoxious treatment.

6.6 Selection of Disinfectant

6.6.1 Preventive disinfection of regular imported cargo and related equipment can use chlorine-based disinfectant (500mg/L), peracetic acid (0.1-0.2%), quaternary ammonium salts (1000-2000mg/L), hydrogen peroxide (1-3%), chlorine dioxide (250mg/L) and so on.

6.6.2 Disinfectant shall be sprayed or wiped evenly on the surface of cargo and cargo equipment or the surface of ground. The surface shall be slightly wet for a period of reaction.

6.6.3 For other precautions, please refer to the *Technical Guidelines for Preventive Disinfection and Protection of Imported Non-cold-chain Container and Outer Packaging of Cargo* published by the Joint Prevention and Control Mechanism of COVID-19 of the State Council (COVID-19 Mechanism (2020) No.15).

6.6.4 For the preventive disinfection of cold chain cargo, the transport and storage facility, please refer to the *Technical Guidelines for the Prevention, Control, and Disinfection of COVID-19 during the Cold Chain Food Production and Operation Process* published by the Joint Prevention and Control Mechanism of COVID-19 of the State Council (COVID-19 Mechanism (2020) No.245).

6.7 Other Matters

6.7.1 The preventive disinfection standards for baggage on international or regional passenger flights can be implemented with reference to the disinfection regulations for regular imported cargo, with emphasis on passenger flights with medium and high-risk levels.

6.7.2 In order to ensure the traceability of the disinfection results during the operation period, the implementing entity shall record the disinfection in detail, including the date, personnel, location, objects for disinfection, name of the disinfectant, concentration and reaction time. The relevant data and records should be kept at least for 2 years.

7. Personal Prevention and Control Measures for Security Inspection Personnel, Health Care Workers, Ground Cleaning Staff and Personnel Working at Check-in Counters

Prevention and control standards vary for different types of personnel, and please refer to Attachment 2 for details. Attention should be paid to the following points:

7.1 The mask should be close to the face, covering the nose and mouth completely. When the mask is on or being removed, hands must not touch the outer layer of the mask to avoid hands contamination. Once dampened by secretions or contaminated by other contaminants, facial masks must be replaced immediately with new ones, and hands shall be cleaned with sanitizer both before and after the replacement.

7.2 All disposable PPEs, after their use, should be placed in dedicated waste bags and be treated as hazardous wastes. The disposable PPEs worn by staff that has been in contact with international or regional high-risk flight passengers and their sitting areas shall be put in yellow medical waste bags, which should be tightly knotted for centralized disposal as medical wastes.

7.3 Alcohol-based disinfection wipes or instant hand sanitizer should be used for hand cleaning and disinfection. Hands should be kept away from nose, mouth and eyes when it is not sure whether they are clean or not.

7.4 When sneezing or coughing, one should try to lower the head or turn away from people nearby, and cover the mouth and nose with tissue or flexed elbow.

7.5 After touching or disposing contaminated articles, hands should be cleaned with soap or hand sanitizer under running water followed by hand disinfection.

7.6 Reusable goggles should be sterilized and dried after each use. Goggles with an anti-fogging film should avoid being wiped with disinfectant. Instead, it is recommended that they be washed with clean water, and then exposed to close-range direct ultraviolet lighting for over 30 minutes in rooms with no person inside.

7.7 For personnel working at document verification and body searching posts, their work uniforms should be subject to centralized high-temperature steam disinfection for 20 to 40 minutes or soaked in 500mg/L chlorine-based disinfectant for 30 minutes before normal washing on a regular basis. 75% alcohol can be applied to wipe or spray clothes in case of emergency.

8. Considerations Regarding Psychological Self-regulation for Front-line Personnel of Airports

Continued effort should be made to provide humanistic care and psychological counseling for front-line employees since they are faced with the risk of infection in their daily supporting work. Effective mental health services shall be provided to calm down negative emotions in time.

9. Proper Use of Personal Protective Equipment

In order to provide guidance to front-line staff in civil aviation on how to correctly wear masks, hats, gloves, goggles and other protective equipment, and properly sanitize hands, our Office made a video, downloadable from the website ams.caac.gov.cn under Prevention and Control of Public Health Emergency.

Attachment 1

Protection and Control Recommendation on Airport Indoor Spaces with Various Crowd Densities

Crowd Density（person/100m^2）	Disinfection Frequency of Frequently Touched Surfaces（times/H）	Ventilation Measures	Traffic Flow Control Measures
≤50	1 time/4H	Maintain good ventilation	None
50-100	1 time /3H	Increase ventilation efficiency	Moderately control passenger entry
100-150	1 time /2H	Further increase the ventilation efficiency	Using the broadcast to inform that the number of people in the room is close to the upper limit, and limit passenger entry
≥150	1 time /H	Maximum ventilation efficiency	Stop passenger entry

Attachment 2

Personal Protection Recommendations for Various Types of Persons Working at Airports

Personnel Category	Surgical Mask	Medical Mask	Goggle/ Face Screen	Disposable Protective Suit	Disposable Medical Rubber/Nitrile Gloves	Disposable Shoe Covers	Disposable Medical Cap
Check-in personnel	√				√		
Ground cleaning personnel	√		○	○	√	○	○
Security inspection personnel	√		√		√		√
Health care workers at airports	√		√		√		√
Emergency handling personnel		√	√	√	√	√	√

Note:

1. Goggles and face screens are generally not used at the same time. Face screens shall be the first choice if there is a risk of being exposed to a large amount of splash.
2. ○ in the table is optional, it can be selected if necessary according to actual exposure risks and conditions, and √ means the choice is mandatory.
3. Protection of other personal can refer to attachment 5 of *Preventing the Spread of Coronavirus Disease 2019 (COVID-19) Guideline for Airlines* Seventh Edition.

Attachment 3

Prevention and Control Requirements of Imported High Risk Cargo Related Vehicles, Production Equipment and Airport Stations

Items		Requirements	Notes
Freight vehicles of imported cargo	Frequency of vehicle cockpit disinfection	Vehicle cockpit shall be disinfected every time when the driver enters and exits	Vehicles shall be equipped with disinfection wipes and other protective equipment
	Frequency of vehicle compartment disinfection	Once every trip	Disinfect before loading of goods
	Frequency of vehicle exterior disinfection	Once every trip	----
Storage places, operating equipment, public areas	PMC pallet, box, net cover, strap, container, and other parts	Once every day	----
	Frequency of loading and unloading machinery disinfection	Once every entry or exit	----
	Frequency of storage place disinfection	Once every eight hours	----
	Frequency of dining area disinfection	Once every day	May be equipped with quick-drying hand disinfectant if conditions permit
	Frequency of resting areas disinfection	Once every four hours	----
	Frequency of restroom disinfection	Once every four hours	Be furnished with 84 disinfectant liquid and hand sanitizer
	Ventilation in offices, dining areas, and restrooms	Continuous ventilation	----
	Observation areas set-up	Observation areas shall be set up at body temperature measurement points	----
	Registration of vehicles and personnel entering and exiting the airports and stations	100% real-name registration	----
	Health knowledge publicity	Be carried out	Through broadcasting, screens, posters, etc.

Appendix 1

Operating Specifications for Disinfection of Airport and Surfaces of Public Facilities

1. Preventative Disinfection

1.1 Air disinfection: use natural ventilation where climatic conditions allow, and chemical disinfection is not recommended. Air conditioning ventilation system should be cleaned and disinfected on a regular basis. 250mg/L to 500mg/L chlorine-based disinfectant or 250mg/L chlorine dioxide could be sprayed or wiped for reaction of 10 to 30 minutes.

1.2 Disinfection of facility surface: crowded places and frequently-touch surfaces (such as self-check-in or check-in counters, document verification counters, buttons in elevators, and handrails) should be the focuses. 250mg/L to 500mg/L chlorine-based disinfectant or 250mg/L chlorine dioxide spray or wiping could be used, and water shall be applied for wiping and cleaning after 30 minutes of reaction.

1.3 In a bid to prevent secondary hazards, it is not recommended to disinfect areas such as the ground and security inspection queuing barriers unless there are suspicious pollutants. Ultraviolet rays can be used in some places instead of disinfectant for environment and facility surface sterilization when conditions allow.

2 Terminal Disinfection

The procedures of terminal disinfection shall follow the Appendix A of the *General Principle on Disinfection for Infectious Focus* (GB19193-2015). On-site disinfection personnel should ensure their personal protection when preparing and using chemical disinfectants. It is recommended to choose one of the following methods:

2.1 Hydrogen peroxide vapor (gas) sterilization devices can be used for integrated disinfection of the air, the environment and surface of objects. The specific operation can be performed according to the equipment instruction manual.

2.2 0.5% peroxyacetic acid, 3% hydrogen peroxide, or 500mg/L chlorine dioxide can be adopted for air disinfection, by way of aerosol spray, with 10-20ml/m^3. Windows should be closed before disinfection, and the surfaces and the space shall be evenly sprayed, starting from up-down, and then from left to right. Windows can be opened for ventilation after 60 minutes of reaction. After spray disinfection, the surfaces of objects may be wiped (swept) in the way of daily disinfection.

2.3 For key passenger areas, 500mg/L to 1000mg/L chlorine-based disinfectant can be applied by spraying or wiping for reaction of more than 30 minutes. If there are contaminated body fluids such as vomit and blood, 10000mg/L chlorine-based disinfectant shall be applied for over 30 minutes before removing the contaminated body fluids, and then the area should be cleaned and disinfected.