

Guidelines for Investigation and Management of Close Contacts of COVID-19 Cases

Chinese Center for Disease Control and Prevention

These guidelines are based on the most recent researches on the epidemiology of COVID-19 from home and abroad and are intended to further improve investigation and management of close contacts of COVID-19 cases to control spread of the virus.

PURPOSE

1. Identify and manage close contacts in a timely manner to prevent further spread of the disease.
2. Develop a more clear understanding of risk of infection and risk factors during various types of human contact.

PRINCIPLES OF INVESTIGATION AND IDENTIFICATION

“Contacts” include anyone who may have had contact with a case through a range of circumstances or activities including being family members, relatives, friends, colleagues, classmates, health care workers, and services personnel. Contacts can be classified as close contacts or general contacts based on the level of contact.

Close Contacts

Close contacts are individuals who have had contact, without effective protection, with one or more suspected or confirmed COVID-19 cases any time starting 2 days before onset of the suspected or confirmed cases' symptoms or 2 days before sampling for laboratory testing of asymptomatic infected persons. Specific types of close contacts are:

1. Family members living together;
2. Direct caregivers or providers of medical treatment and care services;
3. Healthcare workers who perform diagnostic and treatment activities that emit aerosols;
4. Persons who have had close contact in an office, factory, workshop, elevator, canteen or cafeteria, classroom, or other similar location;
5. Persons sharing meals, entertaining, and providing catering and entertainment services in a closed environment;

6. Healthcare workers and family members visiting someone with COVID-19 or other people in close contact with COVID-19 cases;

7. Persons riding in a vehicle and within 1 meter of a COVID-19 case or an asymptomatic infected person including care-taking and nursing personnel, companions (e.g., family members, colleagues, and friends), and other passengers and vehicle crew who might have contact through investigation and assessment. See Appendix S1 (available in <http://weekly.chinacdc.cn/>) for criteria for identifying close contacts on different types of transportation and vehicles;

8. Other persons assessed by onsite investigators meeting criteria for close contact.

General Contacts

General contacts include anyone who has had contact with suspected cases, confirmed cases, and asymptomatic infected persons, but who do not meet the criteria for being a close contact while taking the same transportation vehicle (airplane, train, ship), or living, studying, or working together, or having less than close contact during diagnostic and treatment procedures.

CONTACT MANAGEMENT

Management Approach

1. Centralized management with medical observation should be applied for close contacts management; however, carefully-managed household isolation may be used when conditions do not permit centralized management (see Appendix S2, available in <http://weekly.chinacdc.cn/> for site selection and facility requirements for centralized management with medical observation). Special consideration should be given to the following types of close contacts:

1) For children 14 years and younger who have parents or family members that are close contacts, centralized management with medical observation is the preferred management method. With good personal protection and interpersonal distancing,

children can live in the same room with their parents or family members. If a child is a close contact, household management with medical observation can be used under the guidance of community health workers and family members can be with the child using personal protection and maintaining interpersonal distance. People with underlying medical conditions and elderly individuals cannot be with children who are close contacts.

2) For close contacts who may not have the ability to perform self-care activities, centralized management with medical observation should be used and personal care should be provided by designated person. If centralized management with medical observation is not possible, under the guidance of community health workers, household management with medical observation can be used. Persons with underlying conditions and elderly persons cannot serve as companions.

2. General contacts should be registered and informed of their health risk as a general contact; they should be told that if they develop respiratory symptoms such as fever or dry cough or gastrointestinal symptoms such as diarrhea, they should immediately seek medical advice and provide history of their recent activities to the doctor or other healthcare professional.

Management Actions

Informed notification. During medical observation, close contacts should be informed in writing or verbally about the reason for the observation; the timeline, legal basis, and precautions to reduce risk; and COVID-19 information related to medical observation. Individuals under medical observation should be told which medical institution is responsible for their observation and the name and contact information of an institution official for communicating with the medical institution.

Health monitoring. Staff of the medical observation institution should monitor the temperature of close contacts every morning and evening, ask about health status, and provide necessary support and guidance.

Observation period. The medical observation period should last until 14 days after the last contact without effective protection with a confirmed case or an asymptomatic infected person. If the close contact tested negative for 2019-nCoV virus during the medical observation period, they must still be isolated until the end of the 14-day observation period.

Management of symptoms. During medical observation, if a close contact has any symptoms (e.g.,

fever, dry cough, or other respiratory symptoms or gastrointestinal symptoms such as diarrhea), they must immediately be reported to the local health department and transported to the designated medical institution for diagnosis, treatment, and specimen collection for laboratory testing and investigation. If they are found to be a suspected or confirmed case, their close contacts should be investigated and medically observed.

Release from isolation and medical observation. When the required medical observation period ends, if the close contact has had no abnormal findings or symptoms, he or she should be released from medical observation in a timely manner. If a suspected case is determined to not be a COVID-19 case or asymptotically-infected, his or her close contacts should be released from medical observation.

Observation Management Rules

1. Persons under centralized or household medical observation should live apart from others and, as much as possible, minimize contact with his or her co-habitants. Medical observation sites are to be thoroughly cleaned and disinfected daily.

2. Close contacts are generally not allowed to go outside during the observation period. However, if they must go outside, they should do so only with approval of the medical observation management staff; they must wear surgical masks and avoid going to crowded places while outside.

3. Staff performing medical observation or having close contact with individuals under medical observation should always use effective personal protection practices for respiratory droplets and contact transmission.

INFORMATION REPORTING REQUIREMENTS

Reported Information

1. The “Health Status Monitoring Case Form for Close Contacts” (see Supplementary Table S1, available in <http://weekly.chinacdc.cn/>), which records basic information, contact information, and health monitoring information of close contacts, must be completed. Specific requirements are:

1) Basic information and contact information. When registering close contacts, record their personal information (e.g., name, ID number, sex, age, underlying diseases) and information about the last

contacted case (e.g., case's name, case type, times of first and last contact, contact type).

2) Health monitoring information of close contacts. After medical observation of close contacts is concluded, information on the starting date of isolation, whether the close contact developed clinical symptoms during medical observation, the date of first symptoms, the initial clinical manifestations, final laboratory test results, collection dates for positive specimens, the worst clinical status, and their hospital discharge/isolation release date should be filled based on the health status monitoring form for close contacts.

3) Information consistency. If close contacts become confirmed cases or asymptotically-infected persons, the recording of "the worst clinical outcome of the case" must be consistent with the information reported in the Infectious Disease Information Reporting and Management System.

2. For daily health monitoring of close contacts during medical observation, one must complete the "Registration Form for Medical Observation of Close Contacts" (see Supplementary Table S2, available in <http://weekly.chinacdc.cn/>).

3. When local areas summarize medical observation of close contacts, one can refer to the "Daily Report Form for Medical Observation of Close Contacts" (Supplementary Table S3, available in <http://weekly.chinacdc.cn/>) and the "Daily Summary Form for Medical Observation of Close Contacts" (Supplementary Table S4, available in <http://weekly.chinacdc.cn/>).

Reporting Requirements and Methods

1. After a close contact is released from medical observation, the county (or district) level disease control and prevention agency should summarize and update the health status of the close contact during medical observation based on the Health Status Monitoring Case Form for Close Contacts.

2. Local areas are encouraged to report relevant information about close contacts through the online reporting module so that disease control and prevention agencies at all levels can conduct timely analyses. Local areas must conduct quality reviews of the information reported for each close contact.

DATA ANALYSIS AND USE

The following analyses should be performed on data from medical observations of close contacts:

1. Determine the secondary attack rate of COVID-19 infection among close contacts, especially for close contacts in key places such as homes and hospitals and places varying by their characteristics;

2. Describe the clinical severity of COVID-19 cases associated with close contacts;

3. Estimate the 2019-nCoV incubation period based on the first and last contact time of the close contact with the case, and the onset of close contacts' illnesses.

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Appendix S1

Guidance for Identification of Close Contacts on Transportation Vehicles.

1. Airplanes

Close contacts are defined as individuals seated in the same row or within three rows in front or three rows behind the case as well as crew members servicing these areas in the aircraft. Other passengers are considered general contacts.

2. Trains

For closed and air-conditioned trains, close contacts are all passengers and crew members who were in the same carriage, hard seat carriage, hard sleeper carriage, or soft sleeper compartment as the case.

For regular trains (not closed or air-conditioned trains), passengers in the same soft sleeper compartment as the case, the same segment and adjacent segments of a hard seat or hard sleeper carriage as the case, and crew members assigned to these areas are considered close contacts.

3. Coaches

For closed and air-conditioned coaches, all passengers in the same coach as the case are considered close contacts.

For regular coaches with ventilation, passengers in the three rows in front of and three rows in back of the case and coach drivers are considered close contacts.

4. Ferries

All passengers in the same cabin as the case and crew members assigned to the area are considered close contacts.

During contact periods, if the patient already has symptoms like fever, sneezing, dry cough, or vomiting, other passengers with contact should be classified as a close contact regardless of the duration of contact.

Appendix S2

Selection of Centralized Management with Medical Observation Sites and Facility Requirements.

Selection of centralized management with medical observation sites and their facility requirements are:

1. If possible, centralized management with medical observation sites should be relatively independent, far from densely populated areas, and should not be in medical institutions.

2. Interiors of centralized management with medical observation sites should be divided into sanitary areas, supply areas, and medical observation areas. Accommodations should ensure relatively normal life for those under centralized management. Sites should be ventilated and disinfected daily.

3. Centralized management with medical observation sites should be equipped with medical equipment such as thermometers and stethoscopes, personal protective equipment such as masks, and disinfection products.

4. A single occupancy room and a private toilet should be provided for each close contact.

It is best to have independent septic tanks. Sewage should be disinfected before being discharged to the municipal drainage system. After disinfection, sewage should meet the requirements under “*Discharge standard of water pollutants for medical organization*” (GB18466-2005). If there is no independent septic tank, special containers can be used to collect sewage, which should be disinfected before discharge. For disinfection methods, please refer to the fecal and sewage disinfection methods under the technical protocols for disinfection.

SUPPLEMENTARY TABLE S1. Health status monitoring case form for close contacts. _____ County (District), _____ City (Prefecture), _____ Province (Autonomous Region/Municipality)

Name	ID number	Sex	Age	Contact information	Underlying medical conditions	Last contacted case's			Isolation start date	Presence or absence of clinical symptoms	Onset date of first symptoms	Initial clinical manifestation	2019-nCov test results	Date of positive specimen collection	Worst clinical status of the close contact	Date of hospital discharge or isolation release
						Patient's name	Type of case	Date of first contact								

Note: Types of underlying diseases (multiple choices): ① hypertension ② diabetes ③ cerebrovascular disease ④ coronary heart disease ⑤ asthma ⑥ emphysema ⑦ chronic bronchitis ⑧ lung cancer ⑨ chronic liver disease ⑩ liver cancer ⑪ chronic kidney disease ⑫ immunodeficiency ⑬ AIDS ⑭ tuberculosis ⑮ pregnancy ⑯ others (please specify in the form)
 1. Type of the case for the last contact: ① confirmed case ② suspected case ③ clinically diagnosed case ④ asymptomatic infected person
 2. Contact ways (can select more than 1): ① living together ② medical care ③ dinner ④ daily conversation ⑤ share the same transportation ⑥ contact limited to staying in the same closed space without direct contact and communication ⑦ other (please specify in the form)
 3. Whether clinical symptoms had manifested: ① Yes ② No
 4. First symptom (can select more than 1): ① fever ② chill ③ sputum ④ cough ⑤ nasal congestion ⑥ runny nose ⑦ sore throat ⑧ headache ⑨ fatigue ⑩ muscle soreness and aches ⑪ joint aches ⑫ shortness of breath ⑬ dyspnea ⑭ chest tightness ⑮ conjunctival congestion ⑯ nausea ⑰ vomiting ⑱ diarrhea ⑲ abdominal pain ⑳ others (please specify in the form)
 5. 2019-nCov lab test results: ① Positive ② Negative ③ Specimen not collected
 6. The worst clinical status of the close contact (referring to confirmed cases among the close contacts): ① asymptomatic infection ② mild ③ normal ④ severe ⑤ critical ⑥ death

SUPPLEMENTARY TABLE S4. Daily summary form for medical observations of close contacts.

Jurisdiction	Observation start date for the first close contact	Total number of persons observed	Persons who are under medical observation		Number of persons who have clinical manifestations		Number of persons who become infected with COVID-19 or have asymptomatic infections			Date the last close contact is expected to be released from observation
			Number of persons released		New additions of the day	Total	COVID-19 cases	Asymptomatic infected persons	Total	
			Number of persons observed for the day	New additions						
Total										

Note: 1. The table is intended for statistical aggregation by the city and district level CDCs.
 2. Clinical manifestations include: chills, sputum, stuffy nose, runny nose, sore throat, headache, fatigue, muscle soreness and aches, joint soreness and aches, shortness of breath, dyspnea, chest tightness, conjunctival congestion, nausea, vomiting, diarrhea, abdominal pain, and other symptoms.
 3. All "total" entries in the table refer to aggregate figures since the start of medical observation on the close contacts.