

Contact tracing: Public health management of persons, including healthcare workers, having had contact with COVID-19 cases in the European Union

25 February 2020

Background

Due to the rapidly evolving epidemiological situation regarding the epidemic of novel coronavirus disease 2019 (COVID-19), EU Member States now not only review their case management but also their approach towards people who have been in contact with newly detected cases ('contacts'). This document can be read together with WHO's guidance '[Home care for patients with suspected novel coronavirus \(2019-nCoV\) infection presenting with mild symptoms and management of contacts](#)' [1].

Scope of this document

This document aims to provide guidance for EU/EEA public health authorities on the management of persons, including healthcare workers, who had contact with COVID-19 cases.

Target audience

Public health professionals and healthcare practitioners in EU/EEA Member States.

Purpose of contact management

The purpose of managing COVID-19 case contacts is:

- to identify symptomatic contacts as early as possible for isolation and treatment, and
- to facilitate prompt laboratory diagnostic testing.

Definition of contact persons

A contact of a COVID-19 case is a person not currently presenting symptoms, who has, or may have been in, contact with a COVID-19 case. The associated risk of infection depends on the level of exposure, which will, in turn, determine the type of monitoring. Establishing the level of exposure can be difficult and requires the case to be interviewed.

1. High-risk exposure (close contacts*)

- A person living in the same household as a COVID-19 case
- A person having had direct physical contact with a COVID-19 case (e.g. shaking hands)
- A person having unprotected direct contact with infectious secretions of a COVID-19 case (e.g. being coughed on, touching used paper tissues with a bare hand)
- A person having had face-to-face contact with a COVID-19 case within 2 metres [2] and > 15 minutes
- A person who was in a closed environment (e.g. classroom, meeting room, hospital waiting room, etc.) with a COVID-19 case for 15 minutes or more and at a distance of less than 2 metres
- A healthcare worker (HCW) or other person providing direct care for a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case without recommended PPE or with a possible breach of PPE [3]
- A contact in an aircraft sitting within two seats (in any direction) of the COVID-19 case, travel companions or persons providing care, and crew members serving in the section of the aircraft where the index case was seated [4] (if severity of symptoms or movement of the case indicate more extensive exposure, passengers seated in the entire section or all passengers on the aircraft may be considered close contacts)

2. Low-risk exposure (casual contact)

- A person who was in a closed environment with a COVID-19 case for less than 15 min or at a distance of more than 2 metres
- A person having had face-to-face contact with a COVID-19 case for less than 15 min and at a distance of less than 2 metres
- Traveling together with a COVID-19 case in any kind of conveyance.

Longer duration of contact increases the risk of transmission; the 15-minute limit is arbitrarily selected for practical purposes. Based on individual risk assessments, public health authorities may consider expanding contact tracing and management to persons who had a shorter duration of contact with a case.

Healthcare workers

Healthcare workers caring for COVID-19 patients in EU/EEA hospitals should be registered and monitored in accordance with the occupational health procedures/routines in their country of practice. Based on the high risk of healthcare-associated transmission, and in line with existing recommendations from other institutions [10], the following specific measures are proposed for healthcare workers:

Unprotected contact (high-risk exposure):

- active monitoring for 14 days AND
- suspension from work for 14 days after last exposure

Protected contact wearing recommended PPE:

- self-monitoring and self-isolation if respiratory symptoms are experienced
- no suspension from work

Contact management steps after a case is identified

Immediately after a case is confirmed, the next steps are:

- contact identification and listing; classification of the contact as having had high-risk exposure ('close contact') or low-risk exposure
- contact tracing and assessment (i.e. communicate with contact persons and assess risk)
- contact management and follow-up (i.e. inform, advise, follow up – this includes testing if indicated)
- follow-up of contact tracing results by an outbreak control team.

* Adapted from *Global Surveillance for human infection with coronavirus disease (COVID-2019) – Interim guidance*. Available from: [https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-\(2019-ncov\)](https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-(2019-ncov))

Monitoring of contacts

Figure 1 describes the monitoring of contacts and the actions to be taken.

Depending on the specific situation, public health authorities can support, promote, or implement further restrictions (e.g. voluntary limitation of contacts by the person, or avoiding contact with crowds) [5].

Contact tracing and management are based on the latest available knowledge, as outlined below.

- Current estimates suggest a median incubation period from five to six days, with a range of up to 14 days. A recent modelling study confirmed that it remains prudent to consider an incubation period of at least 14 days [6,7].
- A case is believed to be most infectious when symptoms are present, but could possibly already be infectious before the onset of symptoms.
- Transmission is believed to be mainly via respiratory droplets. At present, it is still unclear whether airborne or faecal transmission is possible.
- Additional measures for healthcare workers are suggested, based on existing evidence of frequent healthcare-associated (or 'nosocomial') transmission. In a series of 138 cases from Zhongnan Hospital in Wuhan, hospital-associated transmission was suspected for 40 (29%) healthcare workers and 17 (12.3%) hospitalised patients [9].

Main actions for contact persons

Contacts with high-risk exposure:

- active monitoring by public health authorities, for a period of 14 days after the last exposure
- daily monitoring for COVID-19 symptoms, including fever of any grade, cough or difficulty breathing
- avoid social contact
- avoid travel
- remain reachable for active monitoring.

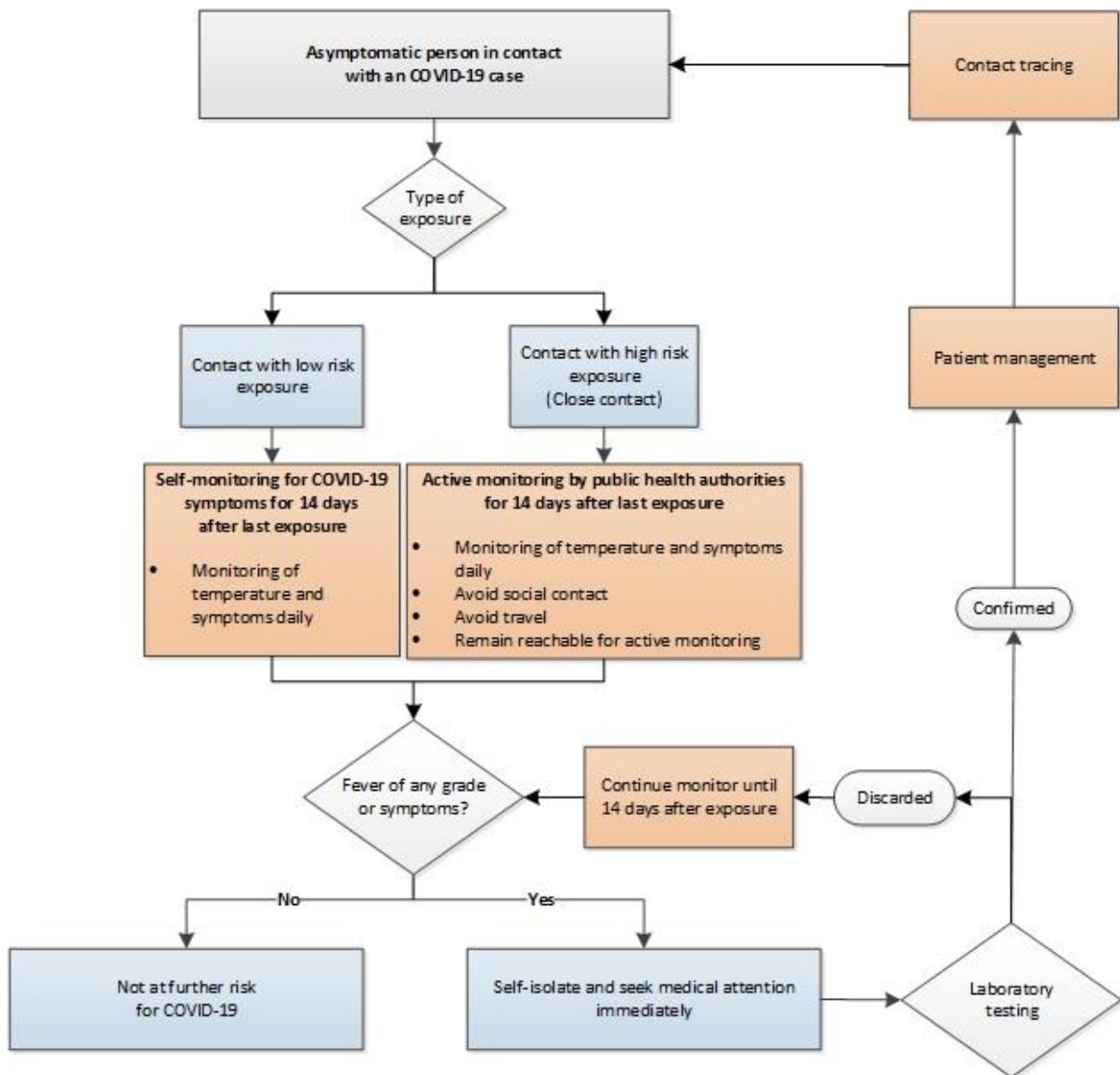
Contacts with low-risk exposure:

- self-monitoring for COVID-19 symptoms, including fever of any grade, cough or difficulty breathing, for a period of 14 days after the last exposure
- public health authorities may do more, depending on the specific situation.

Contacts, regardless of whether their exposure was high-risk or low-risk, should immediately self-isolate and contact health services in the event of any symptom appearing within 14 days of the last exposure. If no symptoms appear within 14 days of the last exposure, the contact person is no longer considered to be at risk of developing COVID-19.

Implementation may be modified by public health authorities, depending on the risk assessment for individual cases and their contacts.

Figure 1. Algorithm for the management of contacts of probable or confirmed COVID-19 cases



Contributing ECDC experts (in alphabetical order)

Cornelia Adlhoch, Agoritsa Baka, Orlando Cenciarelli, Pasi Penttinen, Daniel Palm, Diamantis Plachouras, Emmanuel Robesyn, Gianfranco Spiteri, Carl Suetens, Phillip Zucs

References

1. World Health Organization (WHO). Home care for patients with suspected novel coronavirus (nCoV) infection presenting with mild symptoms and management of contacts. Interim guidance. 2020 [updated February 4; cited 2020 19 February]. Available from: [https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-\(ncov\)-infection-presenting-with-mild-symptoms-and-management-of-contacts](https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts).
2. Cowling BJ, Ip DKM, Fang VJ, Suntarattiwong P, Olsen SJ, Levy J, et al. Aerosol transmission is an important mode of influenza A virus spread. *Nature communications*. 2013;4:1935.
3. European Centre for Disease Prevention and Control (ECDC). Infection prevention and control for the care of patients with 2019-nCoV in healthcare settings 2020 [cited 2020 20 February]. Available from: <https://www.ecdc.europa.eu/en/publications-data/infection-prevention-and-control-care-patients-2019-ncov-healthcare-settings>.
4. European Centre for Disease Prevention and Control (ECDC). Risk assessment guidelines for infectious diseases transmitted on aircraft (RAGIDA) Middle East Respiratory Syndrome Coronavirus (MERS-CoV) 2020 [updated January 2020]. Available from: <https://www.ecdc.europa.eu/sites/default/files/documents/infectious-diseases-transmitted-on-aircrafts-ragida-risk-assessment-guidelines.pdf>.
5. European Centre for Disease Prevention and Control (ECDC). Guidelines for the use of non-pharmaceutical measures to delay and mitigate the impact of 2019-nCoV 2020 [cited 2020 20 February]. Available from: https://www.ecdc.europa.eu/sites/default/files/documents/novel-coronavirus-guidelines-non-pharmaceutical-measures_0.pdf.
6. Chinese Center for Disease Control and Prevention. Epidemic update and risk assessment of 2019 Novel Coronavirus 28 January 2020 2020 [cited 2020 20 February]. Available from: <http://www.chinacdc.cn/yrdqz/202001/P020200128523354919292.pdf>.
7. Backer JA, Klinkenberg D, Wallinga J. Incubation period of 2019 novel coronavirus (2019-nCoV) infections among travellers from Wuhan, China, 20–28 January 2020. *Eurosurveillance*. 2020;25(5):2000062.
8. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*. 2020 January 24.
9. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus–infected pneumonia in Wuhan, China. *Jama*. 2020.
10. Centers for Disease Control and Prevention (CDC). Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with 2019 Novel Coronavirus (2019-nCoV) 2020 [cited 2020 20 February]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html>.