

Beat: Health

# IPC PRECAUTION RECOMMENDATIONS MODES OF TRANSMISSION OF VIRUS CAUSING COVID-19

## DROPLETS AND RESPIRATORY CONTACT ROUTES

Paris, Washington DC, 31.03.2020, 01:25 Time

**USPA NEWS** - According to current evidence, COVID-19 virus is transmitted between people through respiratory droplets and contact routes.

Droplet transmission occurs when a person is in close contact (within 1 m) with someone who has respiratory symptoms (e.g. coughing or sneezing,) and is therefore at risk of having his/her mucosae (mouth and nose) or conjunctiva (eyes) exposed to potentially infective respiratory droplets (which are generally considered to be  $> 5\text{--}10\ \mu\text{m}$  in diameter). Droplet transmission may also occur through fomites in the immediate environment around the infected person.<sup>7</sup> Therefore, transmission of the COVID-19 virus can occur by direct contact with infected people and indirect contact with surfaces in the immediate environment or with objects used on the infected person (e.g. stethoscope or thermometer).

Airborne transmission is different from droplet transmission as it refers to the presence of microbes within droplet nuclei, which are generally considered to be particles

## IMPLICATIONS OF RECENT FINDINGS OF DETECTION OF COVID-19 VIRUS FROM AIR SAMPLING-----

To date, some scientific publications provide initial evidence on whether the COVID-19 virus can be detected in the air and thus, potentially involve airborne transmission. These initial findings need to be interpreted carefully. A recent publication in the New England Journal of Medicine has evaluated virus persistence of the COVID-19 virus. In this experimental study, aerosols were generated using a three-jet Collison nebulizer and fed into a Goldberg drum under controlled laboratory conditions. This is a high-powered machine that does not reflect normal human cough conditions. Further, the finding of COVID-19 virus in aerosol particles up to 3 hours does not reflect a clinical setting in which aerosol-generating procedures are performed""that is, this was an experimentally induced aerosol-generating procedure. There are reports from settings where symptomatic COVID-19 patients have been admitted and in which no COVID-19 RNA was detected in air samples. In addition, it is important to note that the detection of RNA in environmental samples based on PCR-based assays is not indicative of viable virus that could be transmissible.

## CONCLUSIONS-----

Based on the available evidence, including the recent publications mentioned above, WHO continues to recommend droplet and contact precautions for those people caring for COVID-19 patients and contact and airborne precautions for circumstances and settings in which aerosol generating procedures are performed. These recommendations are consistent with other national and international guidelines, including those developed by the European Society of Intensive Care Medicine and Society of Critical Care Medicine and those currently used in Australia, Canada, and United Kingdom.

At the same time, other countries and organizations, including the US Centers for Diseases Control and Prevention and the European Centre for Disease Prevention and Control, recommend airborne precautions for any situation involving the care of COVID-19 patients, and consider the use of medical masks as an acceptable option in case of shortages of respirators (N95, FFP2 or FFP3). Current WHO recommendations emphasize the importance of rational and appropriate use of all PPE, not only masks, which requires correct and rigorous behavior from health care workers, particularly in doffing procedures and hand hygiene practices. WHO also recommends staff training on these recommendations, as well as the adequate procurement and availability of the necessary PPE and other supplies and facilities. Finally, WHO continues to emphasize the utmost importance of frequent hand hygiene, respiratory etiquette, and environmental cleaning and disinfection, as well as the importance of maintaining physical distances and avoidance of close, unprotected contact with people with fever or respiratory symptoms.

## REFERENCES-----

1 Liu J, Liao X, Qian S et al. Community transmission of severe acute respiratory syndrome coronavirus 2, Shenzhen, China, 2020. Emerg Infect Dis 2020 doi.org/10.3201/eid2606.200239

2 Chan J, Yuan S, Kok K et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person

transmission: a study of a family cluster. *Lancet* 2020 doi: 10.1016/S0140-6736(20)30154-9

3 Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med* 2020; doi:10.1056/NEJMoa2001316.

4 Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020; 395: 497–506.

5 Burke RM, Midgley CM, Dratch A, Fenstersheib M, Haupt T, Holshue M, et al. Active monitoring of persons exposed to patients with confirmed COVID-19 – United States, January–February 2020. *MMWR Morb Mortal Wkly Rep.* 2020 doi : 10.15585/mmwr.mm6909e1external icon

6 World Health Organization. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19) 16-24 February 2020 [Internet]. Geneva: World Health Organization; 2020 Available from: <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf>

7 Ong SW, Tan YK, Chia PY, Lee TH, Ng OT, Wong MS, et al. Air, surface environmental, and personal protective equipment contamination by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from a symptomatic patient. *JAMA.* 2020 Mar 4 [Epub ahead of print].

8 Zhang Y, Chen C, Zhu S et al. [Isolation of 2019-nCoV from a stool specimen of a laboratory-confirmed case of the coronavirus disease 2019 (COVID-19)]. *China CDC Weekly.* 2020;2(8):123–4. (In Chinese)

9 van Doremalen N, Morris D, Bushmaker T et al. Aerosol and Surface Stability of SARS-CoV-2 as compared with SARS-CoV-1. *New Engl J Med* 2020 doi: 10.1056/NEJMc2004973

10 Cheng V, Wong S-C, Chen J, Yip C, Chuang V, Tsang O, et al. Escalating infection control response to the rapidly evolving epidemiology of the Coronavirus disease 2019 (COVID-19) due to SARS-CoV-2 in Hong Kong. *Infect Control Hosp Epidemiol.* 2020 Mar 5 [Epub ahead of print].

11 Ong SW, Tan YK, Chia PY, Lee TH, Ng OT, Wong MS, et al. Air, surface environmental, and personal protective equipment contamination by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from a symptomatic patient. *JAMA.* 2020

12 WHO Infection Prevention and Control Guidance for COVID-19 available at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control>

13 Surviving Sepsis Campaign: Guidelines on the Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19). *Intensive Care Medicine* DOI: 10.1007/s00134-020-06022-5 <https://www.sccm.org/SurvivingSepsisCampaign/Guidelines/COVID-19>

14 Interim guidelines for the clinical management of COVID-19 in adults Australasian Society for Infectious Diseases Limited (ASID) <https://www.asid.net.au/documents/item/1873>

15 Coronavirus disease (COVID-19): For health professionals. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals.html>

16 Guidance on infection prevention and control for COVID-19 <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control>

17 Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings. <https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>

18 Infection prevention and control for COVID-19 in healthcare settings <https://www.ecdc.europa.eu/en/publications-data/infection-prevention-and-control-covid-19-healthcare-settings>

19 Infection Prevention and Control (IPC) for Novel Coronavirus (COVID-19) Course. <https://openwho.org/courses/COVID-19-IPC-EN> Distributed by APO Group on behalf of World Health Organization (WHO).SOURCE World Health Organization (WHO)

#### **Article online:**

<https://www.uspa24.com/bericht-16732/ipc-precaution-recommendations-modes-of-transmission-of-virus-causing-covid-19.html>

#### **Editorial office and responsibility:**

V.i.S.d.P. & Sect. 6 MDStV (German Interstate Media Services Agreement): Jedi Foster P/O Rahma Sophia Rachdi

#### **Exemption from liability:**

The publisher shall assume no liability for the accuracy or completeness of the published report and is merely providing space for the

submission of and access to third-party content. Liability for the content of a report lies solely with the author of such report. Jedi Foster P/O Rahma Sophia Rachdi

**Editorial program service of General News Agency:**

UPA United Press Agency LTD

483 Green Lanes

UK, London N13NV 4BS

contact (at) unitedpressagency.com

Official Federal Reg. No. 7442619