



Infection prevention and control guideline for coronavirus disease 2019 (COVID-19): Executive summary

Executive summary

The Infection prevention and control in the context of coronavirus disease 2019 (COVID-19) guideline

consolidates infection prevention and control (IPC) technical guidance developed and published during the COVID-19 pandemic into evidence-informed recommendations for IPC. Consistent application of IPC measures is essential to preventing transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in health-care settings, and to establishing relevant mitigation measures in community settings.

The objective of this technical guideline is to provide the most up-to-date recommendations for IPC measures to be implemented when caring for people with or managing outbreaks of COVID-19. The focus of the guideline is infection prevention and control principles and practices, with reference to other relevant WHO COVID-19 guidance and resources. In the context of health-care and community settings, there are areas of overlap with recommendations from other WHO guidelines relevant to IPC measures and implementation considerations (e.g. clinical management, surveillance, contact tracing and quarantine, laboratory and diagnostic testing, risk communications and community engagement, public health and social measures, preparedness, readiness and response actions for COVID-19).

The guideline includes two sections: Part 1 provides an overview of IPC principles and practices, and IPC measures in health-care facilities for patients with suspected or confirmed COVID-19. Part 2 pertains to mitigation measures for COVID-19 in community settings.

The methodology section describes the methodological approach used to develop technical guidance for COVID-19 based on ongoing assessment of evidence. The guideline development process followed WHO methodology, including use of Grading of Recommendations, Assessment, Development and Evaluation (GRADE) to determine the certainty of the evidence and the strength of the recommendations.

This document serves as a reference source to the [main guideline](#) and is translated in all five United Nations languages. Recommendations in this guideline should be viewed in their entirety to understand the evidence-to-decision processes, nuances and contextual factors that have been considered to ensure the guideline can apply to different countries and settings where health care is delivered.

Intended audiences

The target audiences of these guidelines are policy-makers and decision-makers, public health professionals, IPC professionals, IPC focal points, occupational health and safety for health and care workers at the national, subnational and facility levels, health-care facility administrators, managers and other health and care workers.



Current context of COVID-19

Health-care facilities remain high-risk settings for SARS-CoV-2 transmission because they are locations where patients at risk of severe COVID-19 are admitted and cared for. Maintaining and improving IPC measures remain critical to ensuring the well-being of patients, staff and visitors.

The updated recommendations consider the current context of COVID-19, including the 2023-2025 COVID-19 Strategic Preparedness and Response Plan (1,2), which assists countries as they are working to transition their critical emergency response activities to longer-term, sustained COVID-19 disease prevention, control and management practices. Strategic priorities include strengthening integrated surveillance and achieving vaccination targets for at-risk groups; continuing to develop strategies to increase access to affordable therapeutics; and strengthening pandemic preparedness planning while continuing to protect vulnerable groups. To support emerging needs, especially in fragile, conflict-affected, and vulnerable contexts, countries need to align coordination, planning, financing and monitoring for the COVID-19 response with broader emergency coordination mechanisms (2). This includes current and evolving epidemiological trends, the emergence of new variants of concern and factors such as populations and settings at risk, immunity, availability and uptake of vaccines, and other contextual factors.

As the pandemic is in its fourth year, COVID-19 is now an established and ongoing health issue, and is no longer considered a public health emergency of international concern. At the time of writing this version of the guideline, although weekly reported cases and deaths are at lower levels, millions continue to be infected or re-infected with SARS-CoV-2 and thousands of people are dying each week (1). However, surveillance has declined dramatically and case reports do not accurately represent infection rates due to the reduction in testing and reporting globally (1). COVID-19 transmission remains varied, with evidence suggesting a reduced risk to human health driven mainly by the following factors: high population-level immunity from infection, vaccination and/or hybrid immunity; variants with consistently lower virulence; increased availability of countermeasures; and improved clinical care.

These factors have contributed to a significant global decline in the weekly number of COVID-19-related deaths, hospitalizations and admissions to intensive care units since the beginning of the pandemic. While SARS-CoV-2 continues to evolve, WHO monitors variants for severity and impact on health systems.

Guideline development

This guideline was developed using the GRADE process and the Evidence to Decision framework and in accordance with WHO norms and standards for guideline development.

To develop the guideline, WHO convened a Guideline Development Group (GDG) to consider current scientific evidence while assessing factors such as the relative benefits and harms, values and preferences, resource implications, availability and feasibility issues. The GDG members had expertise in IPC, epidemiology, infectious diseases, microbiology, pediatrics, water, sanitation and hygiene (WASH), engineering and aerobiology. Balance was sought on the GDG with regard to geographical and gender representation.



WHO convened the GDG to address specific settings and populations. A methodologist with expertise in guideline development assisted the GDG in formulating the recommendations. While the GDG takes into account the individual patient perspective when making recommendations, it also considers resource implications, acceptability, feasibility, equity and human rights. Although systematic reviews were conducted, there were limited studies to address the questions related to human rights and overall quality of evidence was low. The GDG carefully considered the available evidence, contextual factors, and implementation considerations in its deliberations.

The WHO Quality Assurance for Norms and Standards Department helped to identify rapid reviews of the evidence. Where required, WHO staff or commissioned external review teams conducted systematic reviews to address specific questions to inform recommendations. Additional details are described in the [methodology](#) section.

Updates and access

Several updates to the IPC COVID-19 guidelines were completed during the period of the pandemic response, informed by emerging evidence and consultation with the GDG. This update (version 7) considers the context of the transition from critical emergency-response activities to longer-term, sustained COVID-19 disease prevention, control and management, and a shift towards integration of IPC activities into routine systems and practices (i.e. a return to standard and transmission-based precautions in health-care settings, and public health practices for community settings) (1,2).

The first version was published 22 December 2021 using a living guideline format, driven by what was then the urgent need for global collaboration to provide trustworthy and evolving COVID-19 guidance informing policy and practice worldwide. This update (version 7) is considered a standard guideline, subject to review in accordance with WHO methodology for guideline development, and depending on how fast the evidence in a topic area is expected to change.

The guideline is written, disseminated and updated on an online platform (MAGICapp) and can be found on the WHO website.



Summary of recommendations and good practice statements for the health-care settings

	Recommendation or good practice statement	Strength/type	Date Published
1.	WHO recommends adhering to the ventilation rate requirements for health-care facilities in the context of COVID-19: <ul style="list-style-type: none">• 160 l/s/patient for airborne precaution rooms• 60 l/s/patient for general wards and outpatient departments	Strong recommendation for, very low certainty of evidence	09 October 2023
2.	WHO suggests considering the use of physical barriers such as glass or plastic windows for areas where patients first present, such as screening and triage areas, the registration desk at the emergency department and the pharmacy window.	Conditional recommendation for, very low certainty of evidence	09 October 2023
3.	Maintain a physical distance of at least 1 metre between and among patients, staff and all other persons in health-care settings, when feasible. When possible, increase this distance.	Good Practice Statement	09 October 2023
4.	WHO suggests targeted continuous medical mask use in health-care facilities in situations with minimum to moderate impact of COVID-19 on the health system. Remarks: <ul style="list-style-type: none">• Targeted, continuous masking is the practice of wearing a medical mask by all health and care workers and caregivers in clinical areas during all routine activities throughout the entire shift.• In non-patient areas, staff who have no patient contact are not required to wear a medical mask during routine activities.• If caring for a suspected or confirmed COVID-19 patient, please see the recommendation on mask type for health and care workers.	Conditional recommendation for, very low certainty of evidence	09 October 2023



	Recommendation or good practice statement	Strength/type	Date Published
5.	<p>WHO recommends universal masking in health-care facilities when there is a significant impact of COVID-19 on the health system.</p> <p>Remarks</p> <ul style="list-style-type: none"> • Universal masking is the practice of all health and care workers and other staff, caregivers, visitors, outpatients and service providers wearing a well-fitted medical mask at all times within the health facility and in any common area (e.g. cafeteria, staff rooms). • Inpatients are not required to wear a medical mask unless physical distancing of at least 1 metre cannot be maintained (e.g. during examinations or bedside visits) or when outside of their care area (e.g. when being transported), provided the patient is able to tolerate the mask and there are no other contraindications. • If caring for suspected or confirmed COVID-19 patients, please see the recommendation on mask type for health and care workers. 	Strong recommendation for, very low certainty of evidence	09 October 2023
6.	<p>Appropriate mask fitting should always be ensured (for respirators, through fit testing and a user seal check when a filtering facepiece respirator is put on; and for medical masks, through methods to reduce air leakage around the mask) as well as compliance with appropriate use of PPE and other standard and transmission-based precautions.</p>	Good Practice Statement	09 October 2023
7.	<p>A respirator or a medical mask should be worn along with other PPE – a gown, gloves and eye protection – by health and care workers providing care to a patient with suspected or confirmed COVID-19.</p>	Strong recommendation, low certainty of evidence	09 October 2023
8.	<p>Suggested factors for informing the choice of the type of mask include a risk assessment and health and care workers' values and preferences.</p> <p>WHO suggests respirators be used in care settings where ventilation is known to be poor or cannot be assessed, or the ventilation system is not properly maintained.</p>	Conditional recommendation, low certainty of evidence	09 October 2023



	Recommendation or good practice statement	Strength/type	Date Published
9.	WHO suggests using airborne precautions while performing aerosol-generating procedures (AGPs) and, based on a risk assessment, when caring for patients with suspected or confirmed COVID-19.	Conditional recommendation for, very low certainty of evidence	09 October 2023
10.	A respirator should always be worn along with other PPE by health and care workers performing aerosol-generating procedures (AGPs) and by health and care workers on duty in settings where AGPs are regularly performed on patients with suspected or confirmed COVID-19, such as intensive care units (ICU), semi-intensive care units or emergency departments.	Strong recommendation for, very low certainty of evidence	09 October 2023
11.	For COVID-19, health-care settings should use standard precautions for the cleaning and disinfection of the environment and other frequently touched surfaces.	Good Practice Statement	21 December 2023
12.	Health-care waste generated from care provided to suspected or confirmed COVID-19 patients should be segregated according to existing guidelines (e.g. non-infectious, infectious, sharps) for disposal and, where necessary, treated per national/subnational/local regulations and policies.	Good Practice Statement	21 December 2023
13.	Health-care facilities should follow standard processes for handling, transporting, sorting and laundering of linens for patients with suspected or confirmed COVID-19. Remark: This process should adhere to national/subnational/local policies as well as ensure the implementation of standard precautions.	Good Practice Statement	21 December 2023
14.	Health and care workers and other persons involved in handling the deceased should follow standard precautions according to risk-assessment and existing national/subnational/local protocols for managing and handling the bodies of deceased persons infected with COVID-19.	Good Practice Statement	21 December 2023



	Recommendation or good practice statement	Strength/type	Date Published
15.	WHO suggests that the designation of a specific operating theatre for patients with suspected or confirmed COVID-19 infection is not needed.	Conditional recommendation against, very low certainty of evidence	21 December 2023
16.	Terminal cleaning of operating theatre after surgical intervention/procedures for patients with suspected or confirmed COVID-19 should be performed according to national/subnational and local policies for transmission-based precautions.	Good Practice Statement	21 December 2023
17.	Countries should have national and subnational testing strategies for the detection of SARS-CoV-2 infections in health and care workers.	Good Practice Statement	10 August 2023
18.	Passive screening of symptoms for SARS-CoV-2 and other respiratory infections should be performed based on self-monitoring and reporting of symptoms by health and care workers.	Good Practice Statement	10 August 2023
19.	Health and care workers should be prioritized for SARS-CoV-2 testing in the context of COVID-19 testing policies for both the community and health-care facilities.	Good Practice Statement	10 August 2023
20.	Health-care facilities should have protocols for reporting and managing health and care workers' occupational and non-occupational high-risk exposures to COVID-19.	Good Practice Statement	10 August 2023
21.	Any health and care worker who has signs or symptoms of SARS-CoV-2 infection should be excluded from their activities at work that require providing in-person care to patients or other activities in the health-care facility where they are in contact with other health and care personnel. They should furthermore consult with their occupational health and safety department and plan for isolation in a designated setting for the duration of the required period of isolation outlined by their local policy.	Good Practice Statement	10 August 2023



	Recommendation or good practice statement	Strength/type	Date Published
22.	We suggest 10 days of isolation for individuals who are symptomatic due to SARS-CoV-2 infection (very low certainty of evidence).	Conditional recommendation for, very low certainty of evidence	Published in IPC guidelines: 10 August 2023 Published in Clinical Management guidelines: 13 January 2023
23.	We suggest 5 days of isolation for individuals who are asymptomatic with SARS-CoV-2 infection (very low certainty of evidence).	Conditional recommendation for, very low certainty of evidence	Published in IPC guidelines: 10 August 2023 Published in Clinical Management guidelines: 13 January 2023
24.	We suggest the use of rapid antigen testing to reduce the period of isolation (very low certainty of evidence).	Conditional recommendation for, very low certainty of evidence	Published in IPC guidelines: 10 August 2023 Published in Clinical Management guidelines: 13 January 2023



Summary of recommendations and good practice statements for mitigation measures in the community

	Recommendation or good practice statement	Strength/type	Date published
1.	<p>WHO recommends the use of a mask for the prevention of SARS-CoV-2 transmission in the community in the following situations:</p> <ul style="list-style-type: none">• when in crowded, enclosed, or poorly ventilated spaces;• following recent exposure to COVID-19 (according to the WHO definition) when sharing a space with others;• when sharing a space with a person who displays signs or symptoms of COVID-19 or is COVID-19-positive;• for individuals at high risk of severe complications from COVID-19.	Strong recommendation for, low-to-moderate certainty of evidence	13 January 2023
2.	<p>In situations not addressed by the strong recommendation, WHO suggests a risk-based approach to inform the decision to use a mask for the prevention of SARS-CoV-2 transmission in the community.</p> <p>Factors that favour mask use:</p> <ul style="list-style-type: none">• COVID-19 epidemiological trends at the community level indicating high or rising transmission or hospitalizations;• low coverage of COVID-19 vaccination;• low levels of population immunity to SARS-CoV-2;• a greater degree of crowding, poorer indoor ventilation, and/or the presence of individual risk factors.	Conditional recommendation for, low-to-moderate certainty of evidence	13 January 2023
3.	<p>Individuals with any signs or symptoms suggestive of COVID-19 or who test positive for COVID-19 should wear a medical mask when sharing a space with others until they are resolved or the isolation period is complete.</p>	Good Practice Statement	13 January 2023



	Recommendation or good practice statement	Strength/type	Date published
4.	Policies aimed at reducing the transmission of SARS-CoV-2 in the community should be revisited, strengthened and updated according to the most recent scientific evidence.	Good Practice Statement	13 January 2023
5.	When wearing a mask in community settings, individuals should use a well-fitting mask with full coverage of the nose and mouth. <ul style="list-style-type: none"> • Ensure a snug fit at the nose bridge, cheeks, chin and lateral sides of the face • The “knot-and-tuck” and “linking-ear-loops-behind-the-head” techniques improve medical mask fit by reducing gaps on the sides of medical masks with ear loops 	Good Practice Statement	10 October 2023
6.	WHO suggests that people do not wear masks during vigorous-intensity physical activity.	Conditional recommendation against, low certainty evidence	21 December 2023
7.	Masks are not required for children 5 years of age and under.	Conditional recommendation against, very low certainty of evidence	07 March 2022
8.	In areas where there is known or suspected community transmission of SARS-CoV-2, masks are recommended for use in children ages 6-11 years in the following settings: <ul style="list-style-type: none"> • in indoor settings where ventilation is known to be poor or cannot be assessed, or the ventilation system is not properly maintained, regardless of whether physical distancing of at least 1 metre can be maintained; • in indoor settings that have adequate ventilation if physical distancing of at least 1 metre cannot be maintained. 	Conditional recommendation for, low certainty of evidence	07 March 2022
9.	Adolescents 12 years or older should follow the same WHO recommendations for mask use as adults .	Strong recommendation for, low certainty of evidence	07 March 2022



	Recommendation or good practice statement	Strength/type	Date published
10.	Children with cognitive or respiratory impairments, developmental disorders, disabilities or other specific health conditions who experience difficulties wearing a mask or have health conditions that interfere with mask-wearing should not be required to wear a mask.	Good Practice Statement	07 March 2022
11.	The use of a medical mask is recommended for children with a higher risk of severe complications from COVID-19 but should be assessed in consultation with the child's medical provider.	Good Practice Statement	07 March 2022
12.	WHO suggests that the general public not wear gloves for routine activities in community settings in the context of COVID-19. Remarks: Hand hygiene should be performed frequently.	Conditional recommendation against, very low certainty of evidence	21 December 2023
13.	In the context of COVID-19, households and community settings should follow routine environmental cleaning and disinfection practices.	Good Practice Statement	21 December 2023
14.	Waste generated in the community from persons with suspected or confirmed COVID-19 should be handled and disposed of according to national/subnational/local regulations for waste management.	Good Practice Statement	21 December 2023
15.	Regular household processes should be used for laundering items for persons with suspected or confirmed COVID-19.	Good Practice Statement	21 December 2023

References

1. World Health Organization. (2023). From emergency response to long-term COVID-19 disease management: sustaining gains made during the COVID-19 pandemic. World Health Organization. <https://iris.who.int/handle/10665/367420>.
2. World Health Organization. (2023). Ending the COVID-19 emergency and transitioning from emergency phase to longer-term disease management: guidance on calibrating the response, 4 September 2023. World Health Organization. <https://iris.who.int/handle/10665/372712>.

© World Health Organization 2023. Some rights reserved. This work is available under the [CC BY-NC-SA 3.0 IGO](https://creativecommons.org/licenses/by-nc-sa/3.0/) licence.

WHO reference number: WHO/2019-nCoV/IPC/guideline/summary/2023.4