

# Mask use in health care settings anno 2023

Joint recommendations of Superior Health Council (IPC working group) and the Strategic Scientific Committee, 1/2/2023

## 1. Background

With the actual COVID-19 pandemic slowing down after 3 years, requests have been made by (health) care workers, patients and visitors for further relaxation of the mandate to systematically wear masks in health care settings, to homogenize rules across care settings and to streamline as much as possible with measures taken outside the health care sector.

Systematic mask wearing during (health) care, together with other measures (screening, vaccination, ventilation, hand hygiene...) has helped in important ways to reduce (health care) associated transmission and outbreaks of COVID-19 and other respiratory pathogens<sup>1,2,3,4</sup>. Until date, universal masking in health care settings is included in infection prevention and control recommendations at international (e.g. WHO<sup>5</sup>) and national level<sup>6</sup> in situations with high community transmission of SARSCoV-2.

On the other hand, the use of masks is often perceived as uncomfortable and reduces non-verbal communication, hence potentially jeopardizes the quality of the contact between caregiver and patient. This is a particular problem with young children, persons with mental illness, persons with language problems and during critical moments in the care process. Overall, more research is needed from well-designed studies both on the effectiveness and types of masks as on their side effects<sup>7</sup>.

We propose a new generic guideline for the use of masks, applicable in all (health) care settings and based on the overall risk for transmission and acquisition of severe respiratory tract infections (i.e. decoupled from mere COVID-19 waves but applicable to the overall respiratory risk, i.e., risks induced by the entire array of respiratory pathogens). This risk depends on:

- the pathogen circulation, hence function of the season (spring-summer-early autumn versus late autumn-winter)
- the presence of respiratory symptoms (e.g. coughing, sneezing) in an individual
- the individual vulnerability (immuno-compromised status)

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<sup>1</sup> Yanfei Li, Zhipeng Wei et al. Wearing masks to reduce the spread of respiratory viruses: a systematic evidence mapping. *Ann Transl Med* 2021 May;9(9):811. doi: 10.21037/atm-20-6745.

<sup>2</sup> Daniela Schoberer, Selvedina Osmancevic et al. Rapid review and meta-analysis of the effectiveness of personal protective equipment for healthcare workers during the COVID-19 pandemic. *Public Health Pract (Oxf)* 2022 Dec;4:100280. doi: 10.1016/j.puhp.2022.100280. Epub 2022 Jun 13.

<sup>3</sup> Andrea Gastaldi, Daniele Donà et al. COVID-19 Lesson for Respiratory Syncytial Virus (RSV): Hygiene Works. *Children (Basel)* 2021 Dec 6;8(12):1144. doi: 10.3390/children8121144.

<sup>4</sup> Jocelyn J Herstein, Abraham Degarege et al. Characteristics of SARS-CoV-2 Transmission among Meat Processing Workers in Nebraska, USA, and Effectiveness of Risk Mitigation Measures

<sup>5</sup> WHO 2021: [infection prevention and control during health care when coronavirus disease \(COVID-19\) is suspected or confirmed \(who.int\)](https://www.who.int/publications/m/item/infection-prevention-and-control-during-health-care-when-coronavirus-disease-covid-19-is-suspected-or-confirmed)

<sup>6</sup> Advies gebruik persoonlijke beschermingsmiddelen (PBM) in beleidsniveau 1 van de epidemie. Advies HGR-FAGG-Sciensano-RAH. vergadering 24-02-2022 – gevalideerd door RMG 28-02-2022

<sup>7</sup> Tom Jefferson, Liz Dooley et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane Database Syst Rev.* 2023 Jan 30;1(1):CD006207.

## 2. In which health care settings should this guideline apply?

- Hospitals (acute, rehabilitation, psychiatric, pediatric, ...)
- Other (health) care collectivities (e.g. long-term care facilities, home for disabled persons, nursing homes, ...)
- Ambulatory health care (GP, dentist, pharmacy, home nursing, physiotherapist,...)
- Medical transport means

## 3. To whom should this guideline apply?

- Health care workers and other caregivers with direct and close patient contact (medical, paramedical, maintenance, hospitality desk,...)
- Other workers in health care settings without direct patient contact (e.g. staff working in administration, kitchen, technical department, laboratory,...)
- Patients
- Visitors

## 4. Epidemiological considerations

For COVID-19, 3 pandemic management levels have been defined in 2021<sup>8</sup>:

- *Beheersniveau 1/geel: epidemiologische situatie onder controle. Er is virus circulatie maar op een laag niveau en zonder weerslag op het zorgsysteem (eerste en tweede lijn)*
- *Beheersniveau 2/oranje: toenemende circulatie met beginnende druk op het zorgsysteem; er moet ingegrepen worden om de trend opnieuw te keren*
- *Beheersniveau 3/rood: zeer hoge viruscirculatie met een hoog risico op overbelasting van het zorgsysteem.*

The translation of the actual epidemiological situation into these levels are discussed on a regular basis at the RAG epidemiology meeting, and approved by the RMG. During the winter of 2022-2023, with the decline of covid-19, the (re)-emergence of RSV, influenza and other respiratory viruses have been taken into account as well to determine recommendations of the management level, marking a gradual evolution towards an 'overall respiratory tract infection risk'. Other, already existing parameters could be included as well, e.g. the beginning of the influenza season, the SARI-surveillance,... This way we could evolve from mere COVID-19 levels to more general respiratory risk levels. An integrated risk assessment based on weekly incidences of RSV/SARS-CoV-2/Influenza virus infections, 'acute respiratory infections' (ARI), 'influenza-like illness' (ILI) and 'severe acute respiratory infections' (SARI) by the RAG seems to be the most suited approach.

These levels will most likely continue to fluctuate along the seasons (spring-summer-early autumn versus late autumn-winter), which would be helpful to prepare the (health) care setting, but a more refined and clinically relevant threshold could be helpful to mark the transition from one season/level into another - to be compared with the launch of the 'Hitteplan' according to temperatures and ozon levels. This concept may need to be worked out further by the RAG (see below).

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<sup>8</sup> RAG Dremfels voor een nieuwe barometer. 15 december 2021

## 5. Biomedical considerations

- Systematic mask wearing during (health) care has helped significantly to reduce health care associated transmission and outbreaks of covid-19 and other respiratory pathogens. However, mask wearing is not a stand-alone preventive measure, always requires attention for hand hygiene, testing and isolation of infected cases, adequate air quality, vaccination of patients/visitors and health care workers and personnel<sup>5</sup>
- Specific settings merit extra attention and may need to be rethought, such as waiting rooms (poor ventilation, crowding of people with symptoms)
- When ‘masks’ are mentioned, surgical masks are meant. FFP2 masks are kept for the care of patients with suspected or proven aerogenic pathogens (TB, measles,...) and during aerosol generating procedures, moreover as the debate on their superiority for protection in SARS-CoV2-transmission is still ongoing<sup>1,7</sup>.

## 6. Mental, social and occupational considerations

- Mask are frequently perceived as uncomfortable<sup>9,10</sup>, create a barrier and reduce non-verbal communication, hence jeopardize the quality of the contact between caregiver and patient<sup>11</sup>. This is a particular problem with young children, persons with mental illness, persons with language problems and during critical moments in the care process<sup>12,13</sup>.
- Therefore, it is important to create an ‘on/off’ system for their use, where during sufficient amount of time, masks are not needed, but to be reapplied during the height of the respiratory season, while applying measures to mitigate the side effects of mask use for specific patient populations<sup>14</sup>
- For persons living or residing in a long-term care facility, an equilibrium needs to be sought between protection of the vulnerable, prevention of transmission and outbreaks, mental wellbeing and quality of life<sup>14</sup>
- From occupational health point of view:
  - The use of PPE is the local responsibility of the ‘committees for prevention and protection at work’ and committee on hospital hygiene, hence in function of local risk assessments and implementation decisions.
  - We suggest to work with a risk-based approach, focusing on ‘*seasonal, vulnerable, symptoms*’. Priority should be given to those situations where people gather, where vulnerable people are, risk of coming into contact with infected persons

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<sup>9</sup> Barbara Burgos-Blasco, Pedro Arriola-Villalobos et al. Face mask use and effects on the ocular surface health: A comprehensive review. *Ocul Surf* 2023 Jan;27:56-66. doi: 10.1016/j.jtos.2022.12.006. Epub 2022 Dec 25.

<sup>10</sup> Ali Sahebi, Naser Hasheminejad et al. Personal protective equipment-associated headaches in health care workers during COVID-19: A systematic review and meta-analysis. *Front Public Health* 2022 Oct 12;10:942046. doi: 10.3389/fpubh.2022.942046. eCollection 2022.

<sup>11</sup> Celine Ramdani, Michael Ogier and Antoine Coutrot. Communicating and reading emotion with masked faces in the Covid era: A short review of the literature. *Psychiatry Res* 2022 Oct;316:114755.

<sup>12</sup> Hollyanna Marler and Annabel Ditton. “I’m smiling back at you”: Exploring the impact of mask wearing on communication in healthcare. *Int J Lang Commun Disord*. 2021 Jan-Feb; 56(1): 205–214.

<sup>13</sup> Louise Cummings et al (eds). *COVID-19 and Speech-Language Pathology*. Routledge, September 2022. ISBN 9781003257318

<sup>14</sup> Beatrice Balestracci, Micaela La Regina et al. Patient safety implications of wearing a face mask for prevention in the era of COVID-19 pandemic: a systematic review and consensus recommendations. *Intern Emerg Med* 2023 Jan;18(1):275-296. doi: 10.1007/s11739-022-03083-w. Epub 2022 Sep 14.

- Masks may be one of the measures to prevent sick leave among health care workers, but only one element of infection prevention. Further investments in air quality and maintenance of vaccination status should be done as well. Apply preventive measures taking into account prevention hierarchy including : collective measures (such as ventilation, herd immunity, cleaning and disinfection procedures,...), PPE ( masks, gloves,...) , organizational measures ( instructions and application hand hygiene, cough and sneeze hygiene, appropriate health surveillance with vaccination,...) and finally procedures to limit harm (isolation,...)
- More studies on impact (epidemiological and social) of masks and other preventive measures are needed
- When using continuous or universal masking at the workplace, mitigating methods need to be sought e.g. rehydration, sufficient 'air breaks' during the working day,...

## 7. Economical and logistic considerations

The use of masks during the respiratory season would imply

- pro-active supply chain and stock management to ensure the permanent availability of sufficient good quality masks as well as
- clear and continued communication on the requirement for workers, patients and visitors to have a mask available at all times

## 8. Existing guidelines on the use of masks in the health care setting

WHO 2021: [Infection prevention and control during health care when coronavirus disease \(COVID-19\) is suspected or confirmed \(who.int\)](https://www.who.int/publications/m/item/infection-prevention-and-control-during-health-care-when-coronavirus-disease-(covid-19)-is-suspected-or-confirmed)

Universal versus targeted masking in function of the community circulation of COVI-19 and the local risk assessment:

Universal masking in health facilities is defined as the requirement for all persons (staff, patients, visitors, service providers and others) to wear a mask at all times except for when eating or drinking.

- All health workers, including community health workers and caregivers, should wear a medical mask at all times, for any activity (care of COVID-19 or non-COVID-19 patients) and in any common area (e.g., cafeteria, staff rooms).
- Other staff, visitors, outpatients and service providers should also wear a mask (medical or non-medical) at all times when in the health facility.
- Inpatients are not required to wear a mask (medical or non-medical) unless physical distancing of at least 1 meter 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 contraindications.

Targeted continuous medical mask use is defined as the practice of wearing a medical mask by all health workers and caregivers working in clinical areas during all routine activities throughout the entire shift.

CDC: for general public: [Use and Care of Masks | CDC](https://www.cdc.gov/media/releases/2020/s110520-use-care-masks.html)

CDC for HCW: [Infection Control: Severe acute respiratory syndrome coronavirus 2 \(SARS-CoV-2\) | CDC](https://www.cdc.gov/infectioncontrol/sarscov2/20200404-use-masks.html)

Distinction made between high and low COVID-19 circulation, with/without symptoms

## 9. Conclusion/recommendation

The aim of mask use in the (health)care setting is the prevention of all respiratory tract infections within the (health) care setting, in particular those with known important morbidity and mortality (e.g. COVID-19, influenza, RSV,...)

We propose to implement a revised version of the already existing measures to prevent respiratory tract infections within health care settings:

- Not confined to COVID-19, also applicable during other respiratory epidemics (e.g. influenza, RSV,...)
- depending on the epidemic level of the different respiratory pathogens (see below, may vary locally in function of risk assessment)
- regardless of vaccination status (but vaccination for COVID-19 and influenza remains highly recommended for HCW)
- 2 phases: on/off (important to keep also an 'off' phase during most of the year (summer, parts of spring and autumn), to avoid 'desensitization' towards IPC measures)
- 3 levels, according to the epidemiological risk assessment (see above):

		Epidemiological situation	Recommendation	Remarks
<b>'OFF'</b>	<b>Level 1</b>	under control e.g. summer time, no active outbreaks	<ul style="list-style-type: none"> <li>• Standard precautions</li> <li>• Mask wearing by all workers and ambulatory patients with mild respiratory symptoms</li> <li>• Masks for all interactions with severely immuno-depressed patients</li> </ul>	<ul style="list-style-type: none"> <li>• To be considered as the new 'standard precautions'</li> </ul>
<b>'ON'</b>	<b>Level 2</b>	increasing strain on the health care system', e.g. winter season, active outbreak	<ul style="list-style-type: none"> <li>• Precautions of level 1 PLUS</li> <li>• Mask wearing for all interactions between caregiver/patient and among patients (not living together e.g. in waiting room)</li> </ul>	<ul style="list-style-type: none"> <li>• Cfr WHO 'targeted masking'</li> <li>• For long term care facilities/nursing homes, masks not to worn when residents are together (unless symptoms)</li> </ul>
	<b>Level 3</b>	risk of overburdened health care system, business continuity problems	<ul style="list-style-type: none"> <li>• Mask wearing for all persons present in the health care setting at all times, regardless of their contact with patients (i.e. all workers, patients, visitors)</li> </ul>	<ul style="list-style-type: none"> <li>• Cfr WHO 'universal masking'</li> </ul>

## **10. Further work in progress**

Given the particular challenges of 'finding the equilibrium between protection and quality of live', the implementation of these recommendations in the diverse long term care facilities may need to be discussed with the local responsables and locally relevant stakeholders e.g. HOST-teams

The RAG foresees to work out further recommendations for combined thresholds integrated risk assessment based on weekly incidences of RSV/SARS-CoV-2/Influenza virus infections, 'acute respiratory infections' (ARI), 'influenza-like illness' (ILI) and 'severe acute respiratory infections' (SARI)

The Superior Health Council (IPC-group) foresees to work out further recommendations for screening/testing and IPC requirements for proven COVID-19 cases anno 2023