

# ASPHER STATEMENT ON THE USE OF MASKS BY CHILDREN

May 2020

## Corresponding authors:

Henrique Lopes

Palma de Cima

1649-023 Lisboa, Portugal

Email: [henrique.lopes@ucp.pt](mailto:henrique.lopes@ucp.pt)

Phone number: +351 962 499 020

John Middleton

ASPHER President

Email: [john.middleton@aspher.org](mailto:john.middleton@aspher.org)



**URL:** <https://www.aspher.org/aspher-statement-masks.html>

**Recommended citation: (COMPLETE)**

For an in-depth report of the state of knowledge regarding the use of masks and strategic recommendations on their use to prevent viral transmission, please see Lopes H, Middleton J, Martin-Moreno JM, et al. Strategic use of masks as an element of a non-pharmaceutical measures set for a pandemic. ASPHER (2020). DOI: [10.13140/RG.2.2.25214.13125](https://doi.org/10.13140/RG.2.2.25214.13125)

The Association of Schools of Public Health in the European Region (ASPHER) follows the principle that all action in Public Health must be based on scientific evidence, as it is the only way to guarantee the best health care to populations.

Previously, another Statement was produced by ASPHER (<https://www.aspher.org/aspher-statement-masks.html>) dedicated to the use of masks and respirators in general [1]. However, the particularities of the use of masks in children with the application of mandatory use of masks in many situations during the lockdown de-escalation period led ASPHER to take a stand given the enormous difficulties verified in its use all over the world. If the use of masks and respirators in adults has already reached a consensus in almost all countries and for situations in which they are recommended, ASPHER sees its recommendation for children with great concern even though it unequivocally recognizes advantages. However, action must be taken with the utmost urgency to provide children with the same degree of protection of adults.

The following points are highlighted:

1. **Masks can provide the same type of protection in the context of COVID-19 to a child as to an adult.** Therefore, use of masks should be considered without hesitation under the commonly adopted conditions. It should not be forgotten that, for different reasons, masks offer different levels of protection as rated by an IQR scale [2], with a degree of lesser protection in children than in adults.
2. Although there is some manufacture of masks appropriately sized for children, their availability is rare even in hospital facilities and almost impossible to acquire during

the pandemic. On the other hand, home-made masks or those produced by the clothing industry can address adequate sizes and demand needs.

In the hospital environment, unlike what happens with all other medical devices, only one size is available - the adult one. Naturally, having neither the consistent dimension nor the ergonomics, it is likely that there will be loss of effectiveness, increased discomfort, decreased adherence and use compliance by the child, etc. For this reason, child sized masks must be made consistently available, considering aspects other than design.

3. Regarding the material and ergonomics of children's masks, these materials must respect some basic principles:
  - a. **Only masks with elastic bands should be used.** Masks that need to be laced turn out to be much more difficult to use and maintain an adequate fit for children.
  - b. **Design stamping is very important.** There is vast experience in pediatrics that children react better to materials decorated by cartoon drawings and images from the children's universe. This is also true with masks, as children react much better to social masks made with fabrics decorated with cartoon images than to typical surgical masks.
  - c. As said above in relation to the generalized size of masks, **masks that fit the size of children's heads** are lacking. This issue is particularly important due to different age groups having different head and shape dimensions.
  - d. In the few studies that exist on the subject, **children complain mainly of the heat and humidity** that the masks induce [3,4].
  - e. **Ergonomic design is also critical.** The function of a mask is achieved if air passes only through the fabric. A mask that is too large allows air to also pass through the sides, thus reducing its safety.
4. Many manufacturers have come up with child hat-shield solutions (a hat with 360° plastic protections around the child's head, covering the shoulders). It is a very interesting solution in particular for the age groups between 2 and 6 years old. **However, it should be borne in mind that it is not exactly a substitute for mask use** due to:

- 
- a. The mask in the COVID-19 context essentially has a protective function regarding other individuals during the asymptomatic phase.
  - b. The visor hat-shield protects the child from droplets but does not protect other individuals.
  - c. The degree of protection afforded to the direct entry of droplets is partly lost as SARS-CoV-2 infected droplets can remain deposited for hours or days on the plastic. Being within reach of the child's hands, it is an immediate surface for handling.
5. **For children, masks represent a relevant psychological dimension**, which unlike for adults must be conceived in a two-fold approach (physical and psychological). It is important to consider the issues related both to the masks used by children and by the masks used by adults with which they live. The recognition of family members and other close loved ones is largely due to facial recognition. In very young children (under 4 years) fear is often verified toward the person wearing a mask. Therefore, training is needed for people wearing masks who have close contact with children. For example, it is helpful if one plays with the child by successively putting on and taking off the mask, thus turning this learning into children's play.
6. **As with adults, the adoption of a policy of mandatory use of masks by children must be accompanied by training in use and disposal.** Children tend to have more physical contact between peers than do adults, tend to have more contact with surfaces, touch the face with less caution, etc. As a consequence, the risk of incorrect use of the masks can jeopardize the advantages of mask portability. Note that if there is incorrect compliance in the mask use, it might not be due to a failure in the concept of wearing masks, but due to failure in the training of those responsible for providing masks to the child.
7. **Only masks should be considered for children.** Respirators (FFP2/FFP3 (N95)) should not be used by children due to the following reasons:
- a. Respirators are less comfortable, which generates lesser compliance.
  - b. There are also no respirators fit for children [5] and as they are less plastic and adaptable these materials have lesser efficiency when an ill-fitted size is used.
-



- 
- c. The purpose of respirator use was designed for professionals, not for use by children in a social context.

**8. When considering the use of masks by children, distinctions should be made for at least four age groups:**

- a. 0-2 years old. No advantage was found in its use with the current state of development of these devices. In abstract terms, nothing prevents its use, but the dimensions of the heads of children in this age group and the resistance they can offer may greatly limit what can be gained with its use.
  - i. There may be an exception when the child goes to a hospital with COVID-19 patients or a similar situation where they are exposed to higher contagion risk. Even in these cases, one must weigh between the potential gains and losses not only related to contagion, but also to the psychological difficulties that the child may have at first, such as its comfort, etc.
  - ii. For ill children who have taken to bed, this portability is much easier and the resistance naturally will be lesser. This condition is always a clinical sign that there may be a need to reinforce the child's protection and the decision of mask use/non-use should be defined by the assisting doctor.
  - iii. It must be noted that mask use in children of this age group may impose the risk that the child will remove it and could cause great difficulty to breathing due to the multiple layers as seen in the recommendation for cloth face coverings from CDC [5].
- b. 3-4 years old. The practical experience in this age group is that the child is less resistant to wearing masks but is often afraid of being approached by adults who wear this equipment, with crying being frequent in these situations.
  - i. Mask use should be recommended/imposed whenever the child goes to a hospital or other clinical setting.
  - ii. The child's parents/guardians have a critical role in appeasing, deconstructing fear and training the child. The best approach to achieve this is by playing with a mask with children. Also, the design of the child's mask is very important for its acceptance. Particularly in this age group, it is essential to use masks made with elastics only.

- 
- c. 5-6 years old.
    - i. The approach suggested above for 3-4 year olds is identical but crying and other manifestations of fear are much less frequent. For the rational explanation of the use of masks, one can begin by providing instructions for adequate compliance, non-manipulation, etc.
  - d. Above 6 years old.
    - i. The portability of the mask is very similar to that of the adult.
    - ii. Communication about the use of mask, its placement, disposal, etc., must be adapted to the pedagogical needs of each age group, namely as to the form of the instructions (more or less dependent on graphics) and depth. The differentiation of contents is suggested by the following age groups:
      - 1. 6-10 years old.
      - 2. 11-14 years old.
      - 3. Above 14 years old.
9. **The use and correction of the use of masks in children are directly linked to the education of their parents [6].**
- a. This means that the degree of protection for each child is largely dependent on social inequalities, with differences of almost three times the compliance of mask use.
  - b. All children should have support from teachers, especially those in less educational-qualified families.
  - c. Ideally, parents should also be trained by the School, establishing a School-Parental educational partnership.
10. As in adults, **the mask should not be considered as a panacea nor a unique solution for COVID-19 protection.** As referred to in the Statement on the use of masks in adults [1], this measure should always be included within the context of other Non-Pharmaceutical Measures (NPMs) and be taught as part of this broader hygienic system.

The statement has cited what very little literature is currently available regarding the use of masks by children to protect against infectious disease. In order to fill in the

gaps of understanding and make the best possible recommendations, interviews were conducted with nurses and medical doctors working in pediatric hospital settings. The paucity of literature available on the subject makes a clear case for the need for further research and investigation.

### **Bibliographic References:**

1. Lopes H, Middleton J. ASPHER STATEMENT ON THE STRATEGIC USE OF MASKS. 2020; Available from: <https://www.aspher.org/aspher-statement-masks.html>
2. van der Sande M, Teunis P, Sabel R. Professional and home-made face masks reduce exposure to respiratory infections among the general population. *PLoS One*. 2008;3(7):3–8.
3. Suess T, Remschmidt C, Schink S, Luchtenberg M, Haas W, Krause G, et al. Facemasks and intensified hand hygiene in a German household trial during the 2009/2010 influenza A(H1N1) pandemic: Adherence and tolerability in children and adults. *Epidemiol Infect*. 2011;139(12):1895–901.
4. Suess T, Remschmidt C, Schink SB, Schweiger B, Nitsche A, Schroeder K, et al. The role of facemasks and hand hygiene in the prevention of influenza transmission in households: Results from a cluster randomised trial; Berlin, Germany, 2009-2011. *BMC Infect Dis*. 2012;12:1–16.
5. Desai AN, Mehrotra P. Medical Masks. *JAMA - J Am Med Assoc*. 2020;323(15):1517–8.
6. Chen X, Ran L, Liu Q, Hu Q, Du X, Tan X. Hand hygiene, mask-wearing behaviors and its associated factors during the COVID-19 epidemic: A cross-sectional study among primary school students in Wuhan, China. *Int J Environ Res Public Health*. 2020;17(8).

# THE USE OF MASKS BY CHILDREN - INFOGRAPHIC

Produced by  
The ASPHER COVID-19  
Task Force

May 2020

Report coordinated by:

ICS – Public Health Unit

Universidade Católica Portuguesa





# THE USE OF MASKS BY CHILDREN

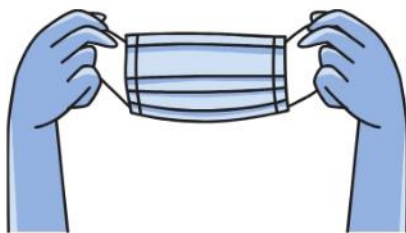


## MASKS' PROTECTION FOR CHILDREN

Masks can provide the same type of protection to both children and adults if adopted under similar conditions.

## MASK AVAILABILITY IN THE MARKET

Available solutions on the market that offer masks with ergonomic sizes and shapes fit for children are scarce or very difficult to acquire, which urges for the development of equipments that meet the identified needs.



## MASKS' ERGONOMICS

Masks with decoration stamping are more appealing, with ergonomic design being fundamental. Only masks with elastic bands should be used by children.

The main complaints regarding mask use are heat and humidity.

## HAT-SHIELD WITH 360° PLASTIC PROTECTION

Hat-shield solutions were developed as an interesting solution for the protection of children. However, it should not be a substitute for the use of masks.



## PSYCHOLOGICAL DIMENSION OF MASKS

The mask use must be conceived in a two-fold approach for children, considering the physical and psychological dimensions.

## TRAINING PROGRAMMES FOR THE USE OF MASK

As in adults, the adoption of a mandatory policy regarding the use of masks by children must be accompanied by training in its use and disposal.



# THE USE OF MASKS BY CHILDREN

## RESPIRATORS VS. MASKS

Only masks should be considered for children. Respirators (FFP2 and FFP3 - N95) should not be used by children.

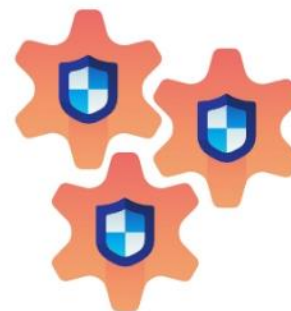


## PARENTS EDUCATION FOR MASK COMPLIANCE

The correct use of masks by children are directly linked to the education of their parents, thus largely dependent on social inequalities.

## MASK USE IN AN NPM SET

As in adults, the mask use should not be considered as a panacea nor a unique solution for COVID-19 protection.



## THE USE OF MASK SHOULD BE CONSIDERED FOR, AT LEAST, FOUR AGE GROUPS



### 0-2 YEARS OLD

No advantage was found in the use of masks in this age group.

The head dimensions of children in this age and the resistance they can offer may greatly limit what can be gained in protection.



### 3-4 YEARS OLD

Children may be less resistant to wearing mask but are often afraid of being approached by adults who wear this equipment, with crying being frequent in these situations.



### 5-6 YEARS OLD

The approach structure suggested above is identical but crying and other manifestations of fear are much less frequent.

### ABOVE 6 YEARS OLD

The portability of the mask is very similar to that of the adult.

Communication about the use of mask must be adapted to the pedagogical needs of each age group (e.g. 6-10 years; 11-14 years; above 14 years).

