

Surgical Mask

Proper use of surgical mask is important to protect oneself from getting infected and prevent spreading respiratory infectious diseases to the others. It does not only help to prevent COVID-19, but also reducing the health risk imposed to the public during peak seasons of influenza every year.



Under the Medical Device Control Administrative System (MDACS) of the Department of Health (DH), surgical mask is classified as Class I general medical device which is considered as low-risk in the light of its intended purpose. Through post-market surveillance, the Medical Device Division (MDD) of DH monitors the information published by the overseas regulatory authority. Where appropriate, the related safety alerts would be uploaded to MDD website so as to safeguard the public health. For safety alerts related to surgical masks, please refer to the following link

<https://www.mdd.gov.hk/en/safety-alerts-communications/safety-alerts-special-alerts/md-covid-19/surgical-masks-respirators/index.html>

Regarding the performance of surgical mask, manufacturers frequently quote Bacterial Filtration Efficiency (BFE) or Particle Filtration Efficiency (PFE). In fact, there are some other aspects which may be related to the performance of the surgical mask. Listed below are some examples:

Bacterial Filtration Efficiency (BFE)	Efficiency of the surgical mask material(s) as a barrier to bacterial penetration
Particle Filtration Efficiency (PFE)	Efficiency of the surgical mask material(s) as a barrier to submicron particle penetration (Not applicable to EN 14683)
Differential Pressure	Air permeability of the mask
Synthetic Blood Penetration	Ability of the surgical mask to withstand penetration of synthetic blood projected

The above terms are referenced from standards recognised by different jurisdictions. Some commonly seen standards for surgical masks are as follows:-

Mainland China	YY 0469-2011
Europe	EN 14683:2019
United States	ASTM F2100-21

Surgical masks are graded into different levels or types based on the performance requirements of the materials. According to the World Health Organization¹, fluid resistant mask meeting the following standards are suitable for medical use by healthcare worker: (i) EN 14683 Type IIR; (ii) ASTM F2100 Level 1, 2 or 3; (iii) YY 0469, with at least 98% bacterial droplet filtration. For more test requirements and other details, please refer to the corresponding standards.



Some nasal spray products claim to form a layer of protection in the nose which can block the virus from entering the human body. These products, in general, may not totally replace the function of surgical mask.

To know more about how to use mask properly and choose the right surgical mask, please visit CHP websites:-
"Use mask properly" - https://www.chp.gov.hk/files/pdf/use_mask_properly.pdf
"Choose the Right Surgical Mask"
https://www.chp.gov.hk/files/pdf/supplementary_note_on_use_mask_properly_choose_the_right_surgical_mask_eng.pdf

¹ World Health Organization - Technical specifications of personal protective equipment for COVID-19: interim guidance (as of 22 November 2022)
<https://apps.who.int/iris/handle/10665/336622>