

Des masques et des hommes



Dr Eric LORIDAN , chirurgien

Conflits d'intérêt de l'auteur



- Aucun conflit d'intérêt en relation avec cette présentation...
- ... ni aucune autre.

Encore un exposé sur le masque?



Pass sanitaire et masque toujours obligatoires à l'hôpital Duchenne de Boulogne

Tandis qu'un allègement du protocole sanitaire est prévu à compter de ce lundi 14 mars, le centre hospitalier Duchenne de Boulogne-sur-Mer rappelle que les règles au sein des établissements de santé ne changent pas.



- Pharmacies, cabinets médicaux, ... :
- « *le masque est requis, selon des modalités adaptées, sur décision du responsable de la structure* » (DGS 14 mars 2022)

Papy, mamie,
je vous aime!





National Library of Medicine
National Center for Biotechnology Information

PubMed.gov

mask

face mask

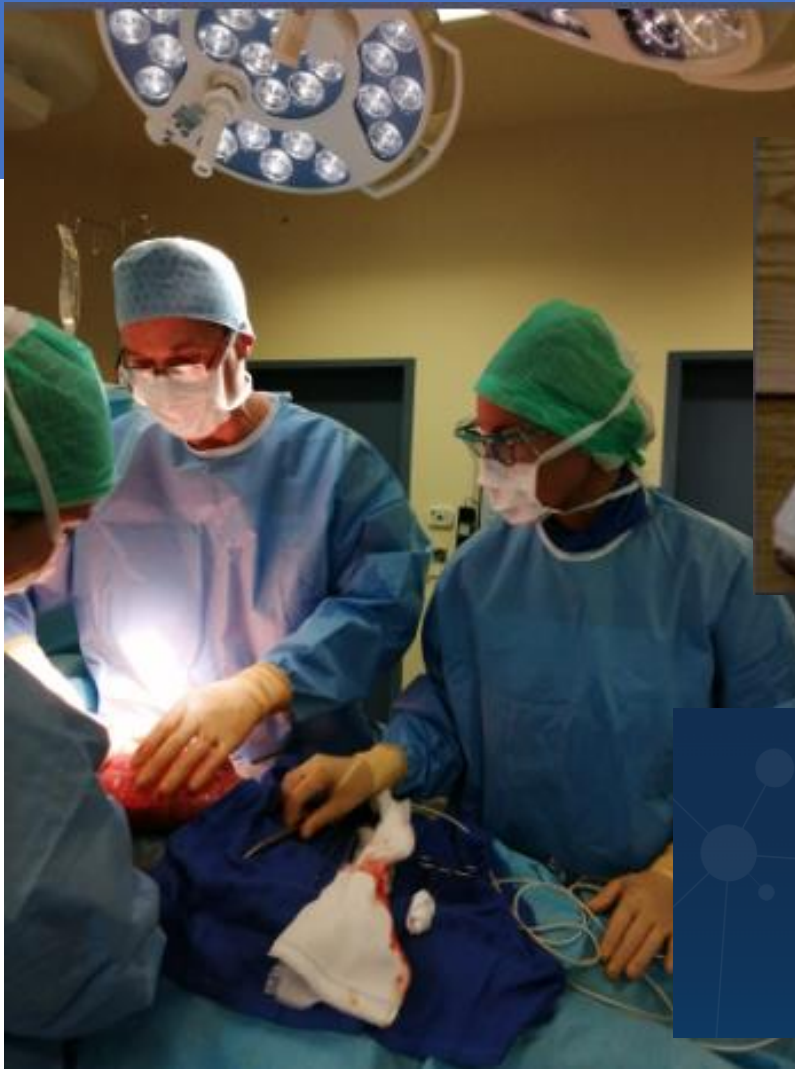
mask covid

face masks

surgical mask

masks





National Library of Medicine
National Center for Biotechnology Information

Connexion

PubMed.gov

face mask



Chercher

Santé publique et santé



Santé publique: *science et l'art de prévenir les maladies, de prolonger*

Santé: *Un état de complet bien-être physique, mental et social, et ne co*

Déclarations officielles



„Les masques sont inutiles si vous n’êtes pas malade, si vous n’avez pas été en contact avec des personnes malades“
(O. Veran, mars 2022)

- „L’usage des masques est inutile en dehors des règles d’utilisation définies“
- (4 mars 2022)





« Les services de réan
Olivier Véran, LCI, 22

*„ Les masques n’ont
aucun intérêt pour le
grand public“ (04
mars 2020, BFMTV)*





Il ne faut pas porter de masque si nous ne sommes pas malades et lorsque nous ne sommes pas soignants“ (17 mars 2020, BFMTV)

„les ventes d'hier ne sont pas celles d'aujourd'hui
(O. Veran Samedi 21 mars 2020)



17 mars 2020



„ Le port du masque en population générale dans la rue, ça ne sert à rien. Ceux qui doivent porter un masque, ce sont les soignants, les malades, et ceux qui ont un contact à gérer avec les malades „

(Edouard Philippe, sur l'avis des médecins et scientifiques, 13 mars 2020,



• „ les français ne pourront pas acheter de masques dans les pharmacies, parce que ce n'est pas nécessaire quand on n'est pas malade“ (17 mars 2020, BFMTV)



„ Ca ne sert à rien. Il faut le dire et insister c

(RMC, 4 février 2020)



• „ Il n’y a aucune raison de se promener avec un masque [...] cela ne fournit pas la protection parfaite que les gens pensent que c’est. „

• (8 mars, entrevue à CBS)

OMS, Recommandations 5 juin 2020

Conseils sur le

Effets bénéfiques/avantages potentiels

Dans le grand public, le port du masque par des personnes en bonne santé peut notamment présenter les avantages suivants :

- risque potentiellement réduit d'exposition à des sujets infectés encore asymptomatiques ;
- **stigmatisation potentiellement réduite** des personnes portant un masque pour éviter d'infecter autrui (lutte à la source) et de celles qui s'occupent de patients atteints de la COVID-19 dans des contextes non cliniques ;(70)
- **impression** donnée aux gens de contribuer à stopper la propagation du virus ;
- **occasion de rappeler à la population les autres mesures à respecter** (veiller par exemple à l'hygiène des mains, ne pas se toucher le nez ou la bouche) – l'effet inverse étant toutefois aussi possible (voir ci-dessous) ;
- effets socioéconomiques potentiels. Face à la pénurie mondiale de masques chirurgicaux et d'équipement de protection individuelle, le fait d'encourager les gens à fabriquer leurs propres masques peut contribuer à l'initiative personnelle et à l'intégration communautaire.

La production de masques non médicaux peut être une source de revenu pour ceux qui sont en mesure de les fabriquer dans leur communauté. Les masques en tissu peuvent aussi offrir un moyen d'expression culturelle propre à favoriser l'acceptation des mesures de protection en général. La réutilisation sans risque des masques en tissu permettra de réduire les coûts et le gaspillage.

Effets indésirables/inconvénients potentiels

Dans le grand public, le port du masque par des personnes en bonne santé peut notamment présenter les désavantages suivants :

- risque potentiellement accru d'**autocontamination** dû au fait de manipuler un masque facial puis de se toucher les yeux avec des mains contaminées ; (48, 49)
- **autocontamination** possible si un masque non médical **humide ou sale** n'est pas remplacé, favorisant ainsi la prolifération de microorganismes ;
- **mal de tête et/ou difficultés respiratoires** possibles selon le type de masque utilisé ;

- **lésions cutanées** faciales, dermatite irritative ou aggravation de l'acné en cas de port fréquent et prolongé du masque ; (50)
- **difficulté de communiquer clairement** ;
- **sensation possible d'inconfort** ; (41, 51)
- **fausse impression de sécurité** pouvant conduire à un respect moins scrupuleux des mesures préventives qui ont fait leurs preuves comme la distanciation physique et l'hygiène des mains ;
- port du masque mal supporté, notamment par le **jeune enfant** ;
- problèmes liés à la **gestion des déchets** ; l'élimination sauvage des masques peut entraîner une augmentation du volume des déchets dans les lieux publics, présentant un risque de contamination des préposés au nettoyage des rues et des risques pour l'environnement ;
- difficultés de communiquer en cas de surdité et de dépendance de la lecture labiale ;
- désavantages et difficultés liés au port du masque éprouvés par les **enfants, les personnes atteintes de troubles mentaux** ou de déficiences développementales, les personnes âgées atteintes de déficiences cognitives, les asthmatiques ou les personnes souffrant d'affections respiratoires chroniques, les personnes ayant récemment subi un traumatisme facial ou une intervention chirurgicale orale ou maxillofaciale, ainsi que celles qui vivent dans un environnement chaud et humide.



Changement de discours



• „ [...] *une décision pour l'éventuelle extension du port du masque dans toute la population dès lors que nous pourrons la bâtir sur un consensus scientifique*“

• France Infos , 9 avril 2020)

Changement de discours

„ si vous êtes dans une rue où vous n’êtes pas sûr de pouvoir garder la distance, le port du masque, moi je vous le recommande“

(O Veran, Cnews 29 juillet 2020)



Changement de discours

- „J’ai toujours plaidé pour le port du masque grand public“
- (Jérôme Salomon, 22 avril 2020 site Medisite)



Changement de discours



- „ *Le port du masque sera obligatoire dans les lieux clos recevant du public*“
- (O Veran, twitter 20 juillet 2020)

Changement de discours

- „ Il faut que l'on fasse tout pour éviter que l'on referme les établissements“

- (BFMTV 20 juillet 2021)



Du bon usage des masques

Communiqué de l'Académie nationale de médecine

7 septembre 2020

La circulation persistante du SARS-CoV-2 et la progression de l'épidémie de Covid-19 constatées en France au cours de l'été ont conduit à rendre le port du masque obligatoire dans tous les lieux clos à compter du 20 juillet, puis à étendre cette obligation en milieu extérieur dans de nombreuses communes et grandes villes au cours du mois d'août.

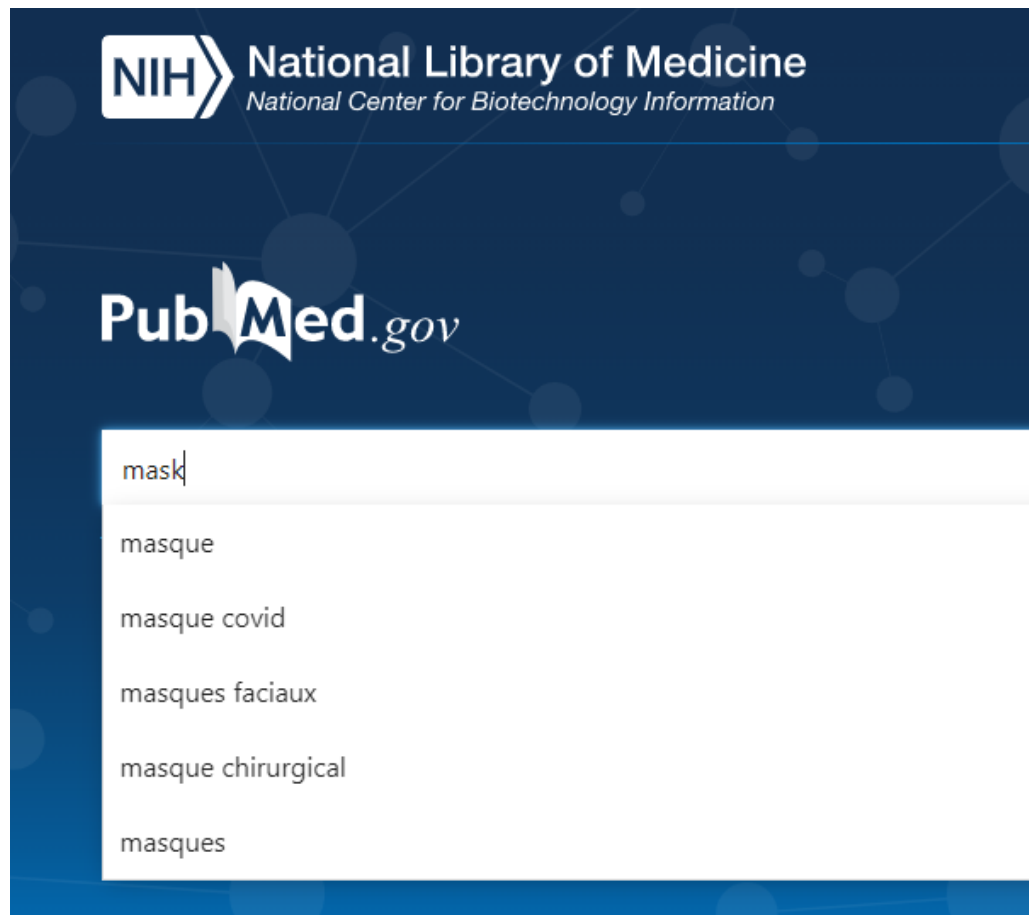
Rappelons que le port obligatoire d'un masque « grand public » ou « alternatif » avait été recommandé depuis le 2 avril par l'Académie nationale de médecine pour renforcer les mesures barrière pendant le confinement et en phase de sortie de confinement [1].

Initialement mal comprise dans sa signification altruiste et réfutée en raison de la pénurie de masques médicaux, puis décriée pour les dangers présumés d'une mauvaise utilisation, complexifiée par l'accumulation de normes injustifiées et de précautions excessives, cette simple mesure de bon sens a finalement été vilipendée au prétexte fallacieux du manque de publications scientifiques attestant son efficacité. Une pléthore d'affirmations souvent contradictoires entretient la confusion générale et alimente le discours des contempteurs du masque obligatoire, les plus extrêmes n'hésitant pas à dénoncer son caractère liberticide.

Le port du masque dans la communauté n'est pas facultatif ; se masquer pour protéger les autres est un geste altruiste dont l'efficacité collective est certaine quand tout le monde l'applique ; il rend chaque citoyen solidaire dans la réponse mondiale à la pandémie [2].



Les données de la science



NIH National Library of Medicine
National Center for Biotechnology Information


PubMed.gov

mask

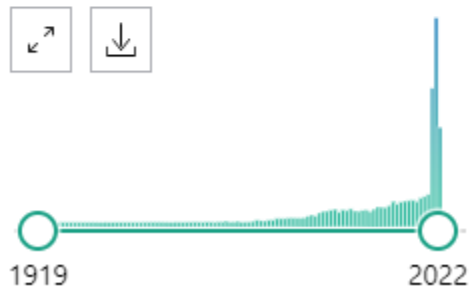
- masque
- masque covid
- masques faciaux
- masque chirurgical
- masques






MES FILTRES NCBI 

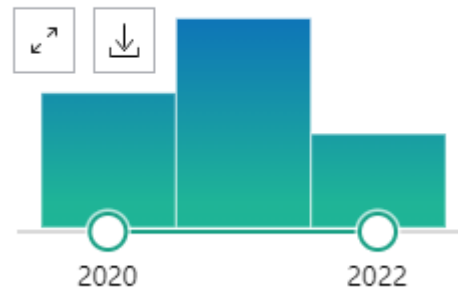
RÉSULTATS PAR ANNÉE



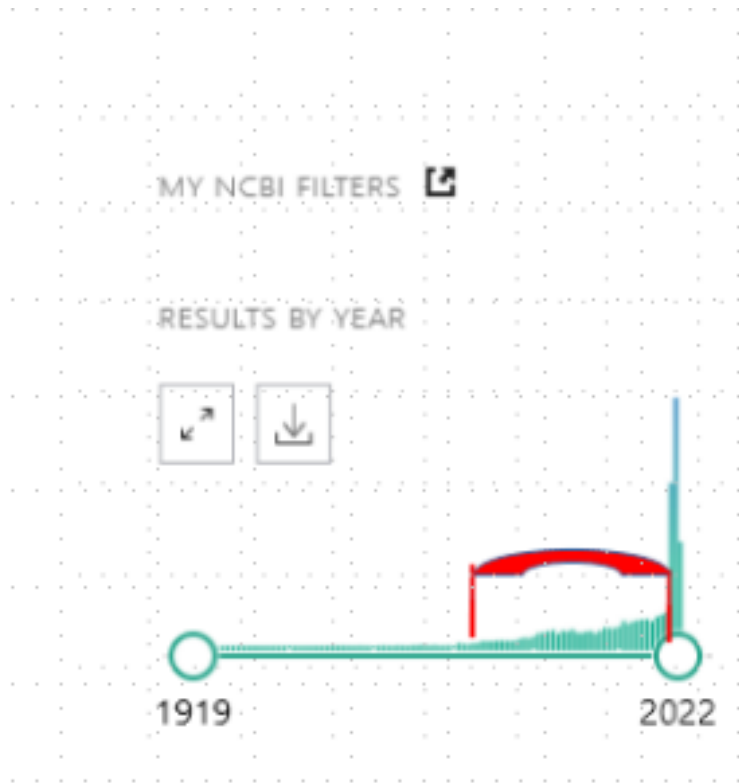
MES FILTRES NCBI 

Mask covid

RÉSULTATS PAR ANNÉE



Les données d la science



Trois axes:

- Milieu protégé
- Période épidémique (2009-10)
- Période covid

Le masque en milieu protégé

➤ [Clin Orthop Relat Res. 1975 Sep;\(111\):147-50. doi: 10.1097/00003086-197509000-00020.](#)

The operating room environment as affected by people and the surgical face mask

[M A Ritter, H Eitzen, M L French, J B Hart](#)

PMID: 1157412 DOI: [10.1097/00003086-197509000-00020](#)

- Ritter et al, Clin orthop Relat Res 1975 :
- Etude bactériologique sur 8 salles de bloc opératoire juxtaposées.
- „ ***The wearing of a surgical face mask had no effect upon the overall operating room environmental contamination*** “
- Portes ouvertes - plus de 5 personnes.

Le masque en milieu protégé

Clinical Orthopaedics and Related Research®

A Publication of The Association of Bone and Joint Surgeons®

Issues ▾ Features ▾ Subspecialties Symposia/Proceedings For Authors ▾ Journal Info ▾

SECTION II: GENERAL ORTHOPAEDICS: PDF ONLY



Download



Cite

The Efficacy of Standard Surgical Face Masks An Investigation Using “Tracer Particles”

HA'ERI, G. B. M.D., M.CH. ORTH., F.R.C.S.(C), F.I.C.S.; WILEY, A. M. M.C.H., F.R.C.S., F.R.C.S.(C)

Editor(s): SETOGUCHI, YOSHIO M.D.

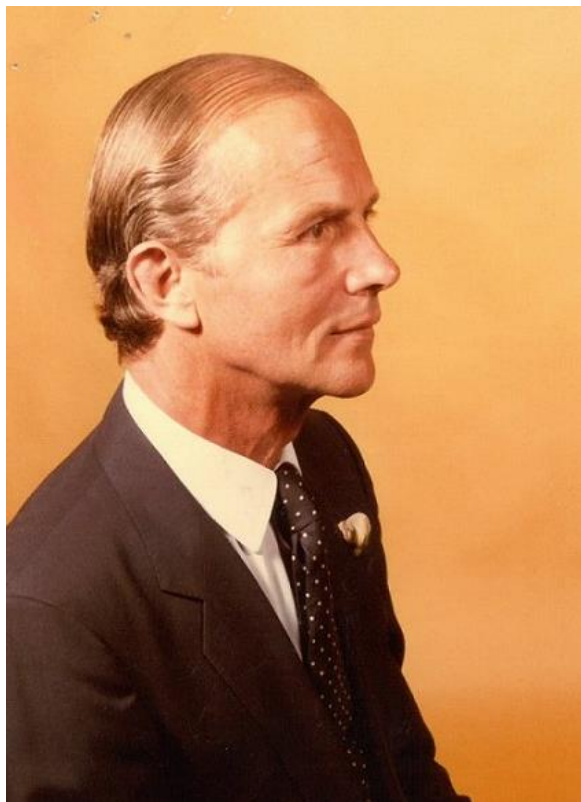
- Ha'Eri et Wiley :
microsphère d'albumine à
l'intérieur du masque;
contrôle du lavage des
plaies post-opératoires.

- „ ***Particle contamination
of the wound was
demonstrated in all
experients***“

- Albumine : 66 Kda
- Virus: 0,06 et 0,14 microns



Le masque en milieu protégé



Annals of the Royal College of Surgeons of England (1981) vol. 63

Is a mask necessary in the operating theatre?

Neil W M Orr MD MChir FRCS

Consultant Surgeon, Severalls Surgical Unit, Colchester.

Key words: MASKS; WOUND INFECTION

The results of the relatively simple trial reported here could easily be repeated and it would be interesting to see whether comparable results are obtained in emergency, orthopaedic, or other general surgical theatres. The finding that there was an appreciable fall in the wound infection rate when masks were not worn certainly warrants further investigation. This trial was designed only to see whether wound infection increased, as had been predicted, when masks were not worn. It did not. The conclusion is that the wearing of a mask has very little relevance to the wellbeing of patients undergoing routine general surgery and it is a standard practice that could be abandoned.

Le masque en milieu protégé



Annals of the Royal College of Surgeons of England (1984) vol. 66

Trial of the use of masks in the gynaecological operating theatre

GEOFFREY V CHAMBERLAIN MD FRCS FRCOG

Consultant Gynaecological Surgeon

ELIZABETH HOUANG MRC Path

Consultant Microbiologist

Chelsea Hospital for Women, London

Key words: MASKS, SURGICAL; WOUND INFECTION

- Contaminations à streptocoques. Etude stoppée rapidement.

Photo : collège royal de gynéco-obstétrique

Hors bloc opératoire

- Laslet & Sabin, 1989
- Cathétérismes cardiaques
- Prospective
- N = 504; 0 infection

➤ [Cathet Cardiovasc Diagn.](#) 1989 Jul;17(3):158-60. doi: 10.1002/ccd.1810170306.

Wearing of caps and masks not necessary during cardiac catheterization

L J Laslett ¹, A Sabin

Affiliations + expand

PMID: 2766345 DOI: [10.1002/ccd.1810170306](#)

Abstract

Although cardiac catheterization-related infections are rare, caps and masks are often worn to minimize this complication. However, documentation of the value of caps and masks for this purpose is lacking. We, therefore, prospectively evaluated the experience of 504 patients undergoing percutaneous left heart catheterization, seeking evidence of a relationship between whether caps and/or masks were worn by the operators and the incidence of infection. No infections were found in any patient, regardless of whether a cap or mask was used. Thus, we found **no evidence that caps or masks need to be worn during percutaneous cardiac catheterization.**

• Tunewall WJS 1991

Clinical Trial > World J Surg. May-Jun 1991;15(3):383-7; discussion 387-8.
doi: 10.1007/BF01658736.

• 3088 patients

• Étude contrôlée

Postoperative wound infections and surgical face masks: a controlled study

T G Tunevall¹

• 115 semaines

• „semaines masquées“ (1537) et „semaines non masquées“ 1551)

• Résultat: ISO 4,7% groupe masqué; 3,5 % groupe non masqué

• $p > 0,05$, non significatif

• „These results indicated that the use of face masks might be reconsidered.“

- Mitchell 1991
- J Hosp Infection
- Types de masques
- Salles de bloc modernes
- Masque inutiles

➤ [J Hosp Infect.](#) 1991 Jul;18(3):239-42. doi: 10.1016/0195-6701(91)90148-2.

Surgical face masks in modern operating rooms--a costly and unnecessary ritual?

N J Mitchell ¹, S Hunt

- Lahmé, Anaesthesist 2001

- 72 patients

Comparative Study

> Anaesthesist. 2001 Nov;50(11):846-51. doi: 10.1007/s00101-001-0229-x.

[Patient surgical masks during regional anesthesia. Hygienic necessity or dispensable ritual?]

[Article in German]

T Lahme ¹, W K Jung, W Wilhelm, R Larsen

- Mesures avec ou sans masque

- Collecteur de germes à air

- Mise en culture 37°C, 60h.

- „no significant difference“

- Figueiredo et, *Perit Dial Int* 2001
- 79 patients sur 5 ans de dialyse péritonéale sans masque
- „routine use of a face mask during CAPD bag exchange may be unnecessary“

> [Adv Perit Dial](#) 2001;17:98-100.

Bag exchange in continuous ambulatory peritoneal dialysis without use of a face mask: experience of five years

A E Figueiredo ¹, C E Poli de Figueiredo, D O d'Avila

• Skinner & Sutton, *Anaesth Intensive Care* 2001

• **Méta-analyse:** „ *The evidence for discontinuing the use of surgical face mask would appear to be stronger than the evidence available to support their continuous use*“

Meta-Analysis > *Anaesth Intensive Care*. 2001 Aug;29(4):331-8.

doi: 10.1177/0310057X0102900402.

Do anaesthetists need to wear surgical masks in the operating theatre? A literature review with evidence-based recommendations

M W Skinner¹, B A Sutton

- Bahli 2009

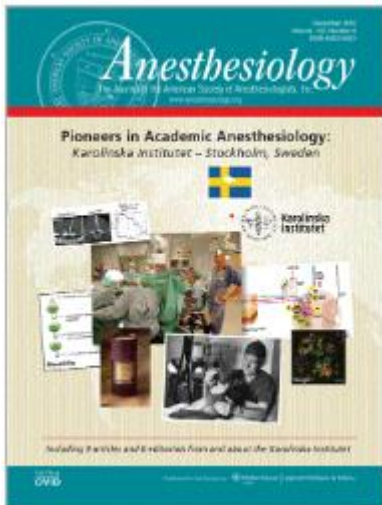
Review > J Ayub Med Coll Abbottabad. Apr-Jun 2009;21(2):166-70.

- Revue de la littérature

Does evidence based medicine support the effectiveness of surgical facemasks in preventing postoperative wound infections in elective surgery?

Zahid Mehmood Bahli ¹

- „No significance difference in the incidence of postoperative wound infection was observed between masks group and groups operated with no masks (1.34, 95% CI, 0.58-3.07)“



Education | December 2010

Is Routine Use of a Face Mask Necessary in the Operating Room?

FREE

Eva Sellden, M.D., Ph.D.; Hugh C. Hemmings, M.D., Ph.D.

+ Author and Article Information

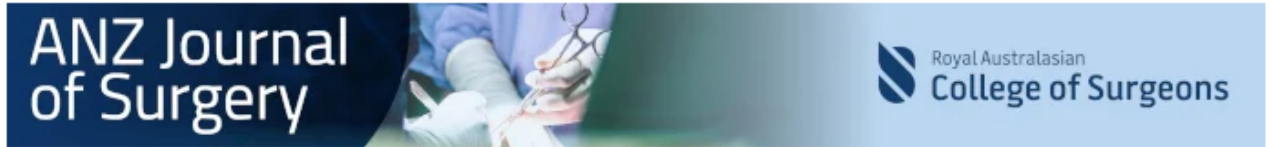
Anesthesiology December 2010, Vol. 113, 1447.

<https://doi.org/10.1097/ALN.0b013e3181fcf122>



„Our decision to no longer require routine surgical masks for personnel scrubbed for surgery and deep breathing from com

- Webster 2010
- 827 patients, urgences
- Etude randomisée
- G1 (mask): 11,5% ISO
- G2 (no mask): 9%
- $P = 0,151$
- „Surgical site infection rates did not increase when non-scrubbed operating room personnel did not wear a face mask“.



Use of face masks by non-scrubbed operating room staff: a randomized controlled trial

Joan Webster ✉, Sarah Croger, Carolyn Lister, Michelle Doidge, Michael J. Terry, Ian Jones

First published: 04 March 2010 | <https://doi.org/10.1111/j.1445-2197.2009.05200.x> | Citations: 26

J. Webster: BA; **S. Croger** B Nurs; **C. Lister** B Nurs; **M. Doidge** B Nurs; **M. Terry** B Nurs; **I. Jones** ChM, FRANZCOG.

•Lipp & Edward 2014

•„*This review of trials found no clear evidence that wearing disposable face masks increases or reduces the number of surgical wound infections in clean surgery.*“

[Intervention Review]

Disposable surgical face masks for preventing surgical wound infection in clean surgery

Allyson Lipp¹, Peggy Edwards²

¹Faculty of Health, Sport and Science, Department of Care Sciences, University of South Wales, Pontypridd, UK. ²C/o The Cochrane Wounds Group, Department of Health Sciences, University of York, York, UK

Contact address: Allyson Lipp, Faculty of Health, Sport and Science, Department of Care Sciences, University of South Wales, Glyn Taff Campus, Pontypridd, Rhondda Cynon Taff, CF37 1DL, UK. allyson.lipp@southwales.ac.uk.

Editorial group: Cochrane Wounds Group.

Publication status and date: New search for studies and content updated (no change to conclusions), published in Issue 2, 2014.

Citation: Lipp A, Edwards P. Disposable surgical face masks for preventing surgical wound infection in clean surgery. *Cochrane Database of Systematic Reviews* 2014, Issue 2. Art. No.: CD002929. DOI: [10.1002/14651858.CD002929.pub2](https://doi.org/10.1002/14651858.CD002929.pub2).

Copyright © 2014 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

[Dubious effect of surgical masks during surgery]

- Carøe 2014 (Dk)

- 4 études

- 6000 patients

-

- Les quatre études examinées dans l'a ne montrent

[Article in Danish]

Tilde Carøe ¹

Affiliations + expand

PMID: 25294675

VIDENSKAB | Statusartikel | 01/07 2014 KL 0:00

Tvivlsom effekt af mundbind under operation



- Da Zhou 2015 (UK)
- Revue de littérature

What literature that is available on the subject tends to be dated with poorly explained methodology. There is also uncertainty over whether the results of such studies can be extrapolated to current surgical practice given the advent of new antiseptic techniques since they were completed. The evidence base investigating the effects of facemask usage on patient-based outcomes is, in general, more extensive than that of surgeon-centred outcomes. Facemasks do have a clear role in maintaining the social cleanliness of surgical staff, but evidence is lacking to suggest that they confer protection from infection either to patients or to the surgeons that wear them.

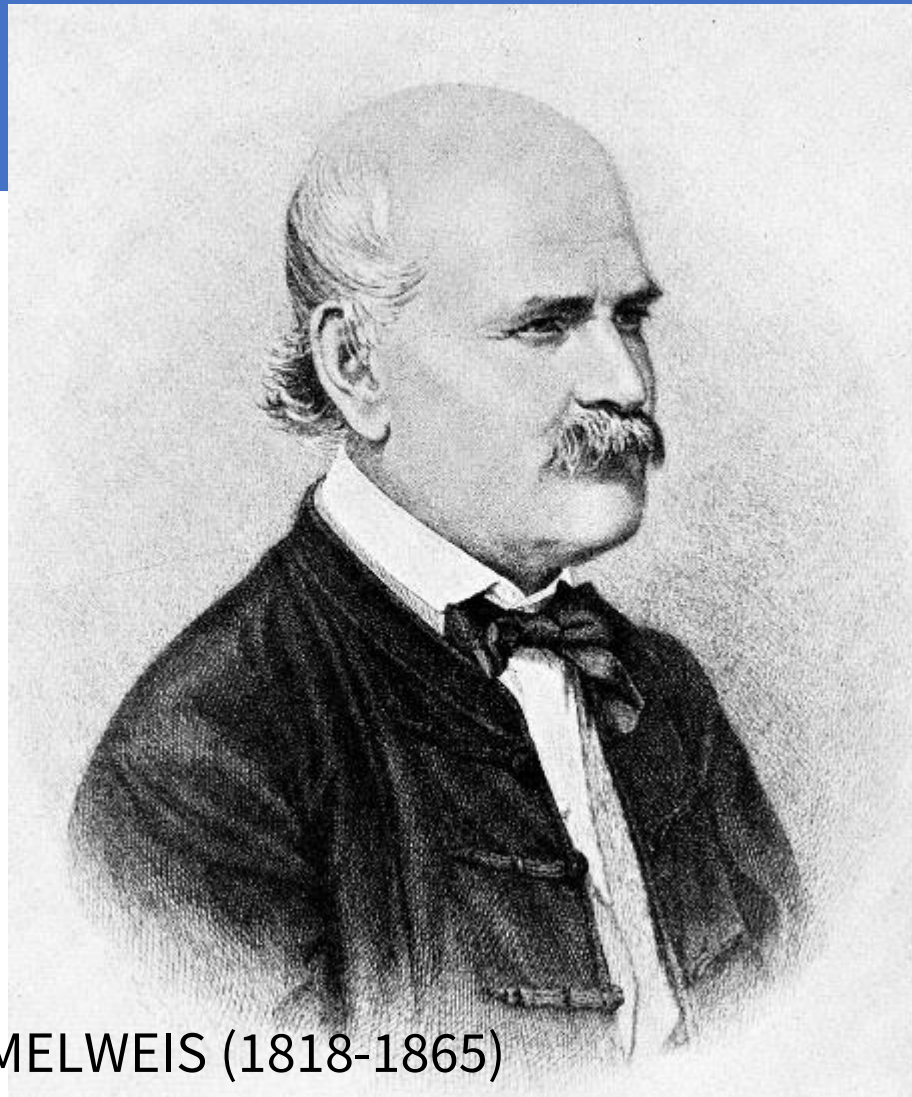
Unmasking the surgeons: the evidence base behind the use of facemasks in surgery

Charlie Da Zhou¹, Pamela Sivathondan² and Ashok Handa²

¹New College, University of Oxford, Oxford OX1 3BN, UK

²Nuffield Department of Surgical Sciences, University of Oxford, Oxford OX3 9DU, UK

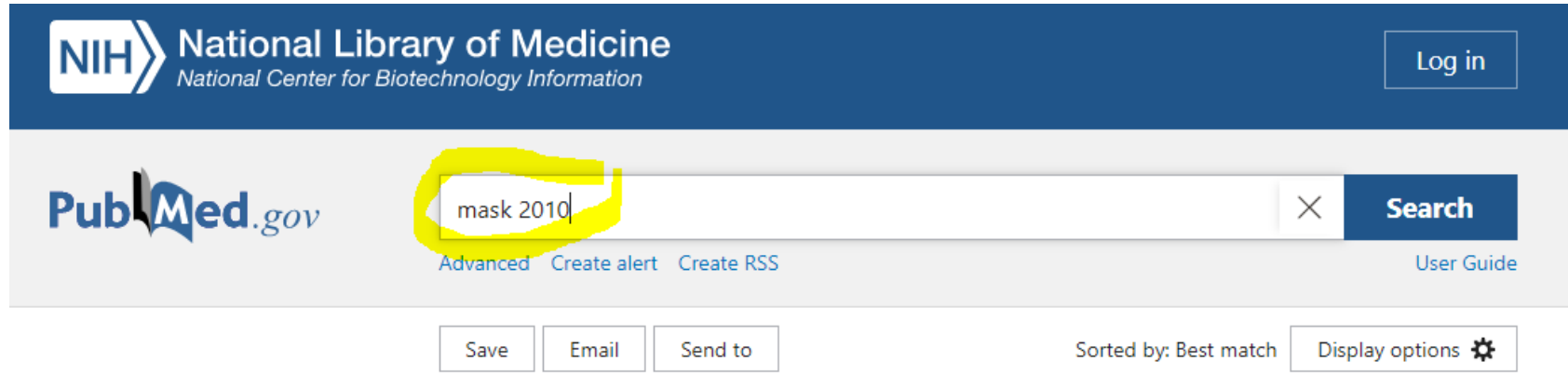
Corresponding author: Charlie Da Zhou. Email: Charlie.zhou@new.ox.ac.uk



Ignace Philippe SEMMELWEIS (1818-1865)

2e axe: le masque en période épidémique

- Années 2009-10 (grippe A H1N1)
- Pubmed: „mask 2010“



NIH National Library of Medicine
National Center for Biotechnology Information

Log in

PubMed.gov

mask 2010

Advanced Create alert Create RSS

User Guide

Save Email Send to

Sorted by: Best match

Display options

Masque et épidémies hors covid



Epidemiology & Infection

Article contents

Summary
INTRODUCTION
METHODS
RESULTS
DISCUSSION
References

Face masks to prevent transmission of influenza virus: a systematic review

Published online by Cambridge University Press: 22 January 2010

B. J. COWLING, Y. ZHOU, D. K. M. IP, G. M. LEUNG and A. E. AIELLO

Show author details ▾

Article

Figures

Metrics



Save PDF



Share



Cite



Rights & Permissions

Summary

Influenza viruses circulate around the world every year. From time to time new strains emerge and cause global pandemics. Many national and international health agencies recommended the use of **face masks during the 2009 influenza A (H1N1) pandemic**. We reviewed the English-language literature on this subject to inform public health preparedness. There is some evidence to support the wearing of masks or respirators during illness to protect others, and public health emphasis on mask wearing during illness may help to reduce influenza virus transmission. There are fewer data to support the use of

Cowling 2010

1e étude:

- expérimentale.
- 9 volontaires, mask vs no mask
- Boite de pétri
- Limites: peu de volontaires; contamination latérale; In vitro.

Cowling 2010

• 2e série d'études: en milieu de soins

Tableau 1. Études menées en milieu de soins

| Study | Setting | Participants and follow-up | Study design | Interventions evaluated | Main outcomes | Findings |
|------------------------------|---|-------------------------------------|-----------------|---|--|---|
| Loeb <i>et al.</i> [8] | 8 tertiary-care hospitals, Ontario, 2008–2009 | 446 nurses | RCT | N95 respirators, surgical masks | Seroconversion or RT-PCR-confirmed influenza infection | No significant difference between N95 and surgical masks |
| Jacobs <i>et al.</i> [9] | Tertiary-care hospital in Tokyo, 2008 | 32 individuals followed for 77 days | RCT | Surgical masks, control | Self-reported colds | No significant differences between mask group and control group |
| Ng <i>et al.</i> [10] | Teaching hospital in Hong Kong, 2007 | 133 healthcare workers | Cross-sectional | Vaccination, use of personal protective equipment, hand washing | Self-reported influenza-like illness | Suboptimal use of standard precautions during high-risk procedures associated with higher risk of infection |
| Al-Asmary <i>et al.</i> [11] | Medical personnel in two Hajj mission hospitals, Saudi Arabia, 2004 | 250 medical personnel | Cross-sectional | Vaccination, face masks, hand hygiene | Self-reported acute respiratory illness | No significant protective effect of face masks |
| Davies <i>et al.</i> [12] | General practice and a teaching hospital, 1991–1992 | 50 dental surgeons | Cross-sectional | Masks and spectacles | Seropositivity | No significant differences by mask use |
| Hobday & Cason [13] | 'Open air' hospital in Boston, 1918 | Patients and staff | Observational | Ventilation, use of personal protective equipment, hand washing | Mortality | Low case-fatality rate could be associated with use of natural ventilation and gauze face masks |

Cowling 2010

•3e série d'études: en milieu communautaire

Tableau 2.Essais contrôlés randomisés menés en milieu communautaire

| Study | Setting | Participants and follow-up | Interventions evaluated | Main outcomes | Findings |
|------------------------------|---|--|---|---|---|
| Cowling <i>et al.</i> [14] | Outpatients in Hong Kong, 2008 | 322 index cases and their household contacts | Surgical masks plus hand hygiene, hand hygiene, control | RT-PCR-confirmed infection | No significant difference overall; significant difference between surgical masks plus hand hygiene and control if implemented within 36 hours of illness onset in index case |
| Cowling <i>et al.</i> [15] | Outpatients in Hong Kong, 2007 | 122 index cases and their household contacts | Surgical masks, hand hygiene, control | RT-PCR-confirmed infection | No significant differences between surgical masks and control |
| MacIntyre <i>et al.</i> [16] | Outpatients in Australia, 2006–2007 | 143 index cases and their household contacts | Surgical masks, P2 (N95-type) respirators, control | Self-reported influenza-like illness | No significant difference overall; significant difference between masks and control in per-protocol analysis |
| Aiello <i>et al.</i> [17] | Residents of university dormitories, Michigan, 2008 | 1437 university students | Surgical masks plus hand hygiene, surgical masks alone, control | Clinically diagnosed and survey-reported influenza-like illness | No significant differences overall; significant reductions in influenza-like illness during weeks 4–6 between mask plus hand hygiene <i>vs.</i> control groups and similar, but non-significant, reductions between mask-only <i>vs.</i> control groups |



Chamberland 2011

- 17 études



Review Article |  Open Access

The use of masks and respirators to prevent transmission of influenza: a systematic review of the scientific evidence

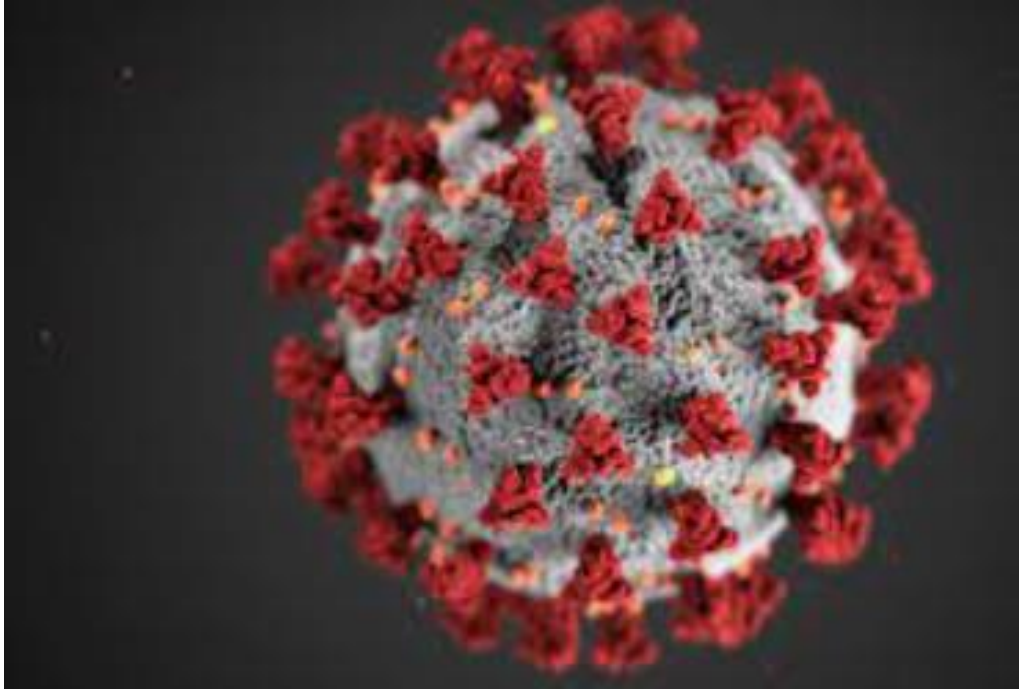
Faisal bin-Reza, Vicente Lopez Chavarrias, Angus Nicoll, Mary E. Chamberland

First published: 21 December 2011 | <https://doi.org/10.1111/j.1750-2659.2011.00307.x> | Citations: 75

✉ Mary E. Chamberland, MD, MPH, Private public health consultant, 78 Lindbergh Drive Unit 70, Atlanta, GA 30305, USA.

„None of the studies established a conclusive relationship betw

3e axe: masque et covid



Littérature médicale

• Klompas 2020



The NEW ENGLAND
JOURNAL of MEDICINE

Universal Masking in Hospitals in the Covid-19 Era

Michael Klompas, M.D., M.P.H., Charles A. Morris, M.D., M.P.H., Julia Sinclair, M.B.A., Madelyn Pearson, D.N.P., R.N., and Erica S. Shenoy, M.D., Ph.D.

We know that wearing a mask outside health care facilities offers little, if any, protection from

infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). The chance of catching

Covid-19 from a passing interaction
desire for widespread masking is a

The first is during the care of a patient with unrecognized Covid-19. A mask alone in this setting will reduce risk only slightly, however, since it does not provide protection from droplets that may enter the eyes or from fomites on the patient or in the environment that providers may pick up on their hands and carry to their mucous membranes (particularly given the concern that mask wearers may have an increased tendency to touch their faces).

It is also clear that masks serve symbolic roles. Masks are not only tools, they are also talismans that may help increase health care workers' perceived sense of safety, well-being, and trust in their hospitals. Although such reactions may not be strictly logical, we are all subject to fear and anxiety, especially during times of crisis. One might argue that fear and anxiety are better countered with data and education than with a marginally beneficial mask, particularly in light of the worldwide mask shortage, but it is difficult to get clinicians to hear this message in the heat of the current crisis. Expanded masking protocols' greatest contribution may be to reduce the transmission of anxiety, over and above whatever role they may play in reducing transmission of Covid-19. The potential value of universal masking in giving health care workers the confidence to absorb and implement the more foundational infection-prevention practices described above may be its greatest contribution.



VIEWPOINT

Neil M. Bressler, MD
Department of
Ophthalmology, Johns
Hopkins University
School of Medicine,
Baltimore, Maryland;
and Editor, *JAMA
Ophthalmology*.

 Viewpoints
pages 1131-1155 and
Editorial page 1159

Ophthalmology and COVID-19

While common ophthalmic diseases, such as age-related macular degeneration or cataract or glaucoma, have minimal clinical relevance to other areas of medicine, coronavirus disease 2019 (COVID-19) and ophthalmology have had immediate connections and importance for hospital epidemiology and infection control experts, public health officials, and the general population. In the first preliminary study of characteristics of ocular findings among 38 patients hospitalized with COVID-19 in Hubei province, China, Wu et al¹ reported conjunctivitis in 12 (38%). Virus material also was detected on swabs of the conjunctiva among 2 of 11 patients (18%) tested for COVID-19 in this manner.

The ocular findings these investigators detected, such as epiphora, conjunctival congestion, or chemosis, appeared to be more common in patients with more severe systemic manifestations. These findings may have been related to the other respiratory complications and management that these patients were receiving. However, it is not uncommon for viral infections such as COVID-19 to have an associated conjunctivitis, and perhaps these ocular findings are related to why Dr Li Wenliang, a Chinese ophthalmologist in Wuhan, was one of the first physicians to alert the public to the possibility of a new epidemic. He may have recognized the

While these recommendations were based on the knowledge that transmission through the conjunctiva could occur, not all of the recommendations were based on scientific studies that confidently proved their benefits. For example, most if not all of these guidelines specific to ophthalmology practices suggested using a protective shield at the slit lamp biomicroscope to try to reduce droplet transmission by patient sneezes by patient deflection. Ideally, the shield would move away from the patient when sensing an ocular movement, or if they did not move, the shield would simulate the effect of this slit lamp biomicroscope shield by moving away from the patient. In another example, a quality improvement project found that, despite the use of face shields in rooms among 22 patients, when evaluating the end of the slit lamp biomicroscope breath shield, CoV-2 viral material was found in the samples from the

These findings suggest a hypothesis that eyeglasses may be acting as a barrier that could reduce the frequency with which people touch their eyes. In an accompanying Invited Commentary, Maragakis² appropriately cautioned that some may conclude that everyone should wear eyeglasses, goggles, or a face shield in public to protect themselves from COVID-19 because a single observation does not necessarily imply cause and effect. There are potential ascertainment and selection biases of the cohort evaluated, and possible



Dr Denis RANCOURT : „mask dont work“

11

Jun
2020

Masks Don't Work: A Review of Science Relevant to COVID-19 Social Policy

By Denis G. Rancourt, PhD



Bundgaard (Norway)

- 3030 participants
- Essai randomisé
- Pas de différence

American College of Physicians
Public Health Emergency Collection

Public Health Emergency COVID-19 Initiative

[Ann Intern Med.](#) 2020 Nov 18 : M20-6817.

Published online 2020 Nov 18. doi: [10.7326/M20-6817](#)

PMCID: PMC7707213

PMID: [33205991](#)

Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers

A Randomized Controlled Trial

[Henning Bundgaard](#), DMSc, [Johan Skov Bundgaard](#), BSc, [Daniel Emil Tadeusz Raaschou-Pedersen](#), BSc, [Christian von Buchwald](#), DMSc, [Tobias Todsen](#), MD, [Jakob Boesgaard Norsk](#), MD, [Mia M. Pries-Heje](#), MD, [Christoffer Rasmus Vissing](#), MD, [Pernille B. Nielsen](#), MD, [Ulrik C. Winsløw](#), MD, [Kamille Fogh](#), MD, [Rasmus Hasselbalch](#), MD, [Jonas H. Kristensen](#), MD, [Anna Ringgaard](#), PhD, [Mikkel Porsborg Andersen](#), PhD, [Nicole Bakkegård Goecke](#), PhD, [Ramona Trebbien](#), PhD, [Kerstin Skovgaard](#), PhD, [Thomas Benfield](#), DMSc, [Henrik Ullum](#), PhD, [Christian Torp-Pedersen](#), DMSc, and [Kasper Iversen](#), DMSc



Une étude danoise nie l'utilité des masques? Faux

Catherine Crépeau · Lundi 30 novembre 2020

Physical distancing, face masks, and eye protection for prevention of COVID-19



Tin Devon/Panor Pictures

Published Online
June 1, 2020

[https://doi.org/10.1016/S0140-6736\(20\)31183-1](https://doi.org/10.1016/S0140-6736(20)31183-1)

This online publication has been corrected. The corrected version first appeared at [thelancet.com](https://www.thelancet.com) on June 5, 2020

See [Articles](#) page 1973

The choice of various respiratory protection mechanisms, including face masks and respirators, has been a vexed issue, from the 2009 H1N1 pandemic to the west African Ebola epidemic of 2014,¹ to the current COVID-19 pandemic. COVID-19 guidelines issued by WHO, the US Centers for Disease Control and Prevention, and other agencies have been consistent about the need for physical distancing of 1–2 m but conflicting on the issue of respiratory protection with a face mask or a respirator.² This discrepancy reflects uncertain evidence and no consensus about the transmission mode of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). For eye protection, data are even less certain. Therefore, the systematic review and meta-analysis by Derek Chu and colleagues in *The Lancet*³ is an important milestone in our understanding of the use of personal protective equipment (PPE) and physical distancing for COVID-19. No randomised controlled trials were available for the analysis, but Chu and colleagues systematically reviewed 172 observational studies and rigorously synthesised available evidence from 44 comparative studies on SARS, Middle East respiratory syndrome (MERS), COVID-19, and the betacoronaviruses that cause these diseases.

The findings showed a reduction in risk of 82% with a physical distance of 1 m in both health-care and community settings (adjusted odds ratio [aOR] 0.18, 95% CI 0.09–0.38). Every additional 1 m of separation

droplet infections by use of respirators, but not masks,⁵ supports a continuum rather than discrete states of droplet or airborne transmission. Both experimental and hospital studies have shown evidence of aerosol transmission of SARS-CoV-2.^{6–8} One study found viable virus in the air 16 h after aerosolisation and showed greater airborne propensity for SARS-CoV-2 compared with SARS-CoV and MERS-CoV.⁶

Chu and colleagues reported that masks and respirators **reduced the risk of infection by 85%** (aOR 0.15, 95% CI 0.07–0.34), with greater effectiveness in health-care settings (RR 0.30, 95% CI 0.22–0.41) than in the community (0.56, 0.40–0.79; $p_{\text{interaction}}=0.049$). They attribute this difference to the **predominant use of N95 respirators** in health-care settings; in a sub-analysis, respirators were 96% effective (aOR 0.04, 95% CI 0.004–0.30) compared with other masks, which were 67% effective (aOR 0.33, 95% CI 0.17–0.61; $p_{\text{interaction}}=0.090$). The other important finding for health workers by Chu and colleagues was that eye protection resulted in a 78% reduction in infection (aOR 0.22, 95% CI 0.12–0.39); infection via the ocular route might occur by aerosol transmission or self-inoculation.⁹

For health-care workers on COVID-19 wards, a respirator should be the minimum standard of care. This study by Chu and colleagues should prompt a review of all guidelines that recommend a medical mask for health workers caring for COVID-19 patients. Although medical masks do protect, the occupational health and



Mac Intyre 2015 *BMJ*

Open Access

Research

BMJ Open A cluster randomised trial of cloth masks compared with medical masks in healthcare workers

C Raina MacIntyre,¹ Holly Seale,¹ Tham Chi Dung,² Ng Phan Thi Nga,² Abrar Ahmad Chughtai,¹ Bayzidur Rahr Quanyi Wang⁴

Conclusions: This study is the first RCT of cloth masks, and the results caution against the use of cloth masks. This is an important finding to inform occupational health and safety. Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection. Further research is needed to inform the widespread use of cloth masks globally. However, as a precautionary measure, cloth masks should not be recommended for HCWs, particularly in high-risk situations, and guidelines need to be updated.

- Cloth mask
- Effet uniquement personnes âgées

“It’s notable that even though fewer than 50% of the people in the intervention villages wore masks in public places, we still saw a significant risk reduction in symptomatic COVID-19 in these communities, particularly in elderly, more vulnerable people.”



Inoffensif?

- Kao *J Formos Med Assoc* 2004
- Hémodialyse
- N95 durant épidémie SARS.
- 95 patients: $p < 0,001$

> *J Formos Med Assoc.* 2004 Aug;103(8):624-8.

The physiological impact of wearing an N95 mask during hemodialysis as a precaution against SARS in patients with end-stage renal disease

Tze-Wah Kao ¹, Kuo-Chiang Huang, Yu-Ling Huang, Tun-Jun Tsai, Bor-Shen Hsieh, Ming-Shiou Wu

• „Wearing a N95 mask for 4 hours during HD significantly reduced PaO₂ and increase respiratory adverse effects in ESRD patients“.

Cowling méta-analyse 2010



Epidemiology &
Infection

Article contents

Summary
INTRODUCTION
METHODS
RESULTS
DISCUSSION
References

Face masks to prevent transmission of influenza virus: a systematic review

Published online by Cambridge University Press: 22 January 2010

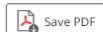
B. J. COWLING, Y. ZHOU, D. K. M. IP, G. M. LEUNG and A. E. AIELLO

Show author details

Article

Figures

Metrics



Save PDF



Share



Cite



Rights & Permissions

Summary

Influenza viruses circulate around the world every year. From time to time new strains emerge and cause global pandemics. Many national and international health agencies recommended the use of [face masks during the 2009 influenza A \(H1N1\) pandemic](#). We reviewed the English-language literature on this subject to inform public health preparedness. There is some evidence to support the wearing of masks or respirators during illness to protect others, and public health emphasis on mask wearing during illness may help to reduce influenza virus transmission. There are fewer data to support the use of

• „One concern over the use of face mask or respirators in healthcare settings is the potential for negative **psychosocial impacts** of patients and **children in particular**, especially in regions outside Asia where masks are not routinely worn. Long term use of N 95-type respirators is likely to physical discomfort, and has been associated with headaches.“

Beder 2008 chirurgie majeures

- Etude (*Neurocirurgia*) sur 53 chirurgiens
- Oxymetre de pouls
- Mesures répétées
- **Baisse Sao2 , ↑ pls** dès la 1e heure.
- Surtout > 35 ans

➤ [Neurocirurgia \(Astur\)](#). 2008 Apr;19(2):121-6. doi: 10.1016/s1130-1473(08)70235-5.

Preliminary report on surgical mask induced deoxygenation during major surgery

A Beder ¹, U Büyükköçak, H Sabuncuoğlu, Z A Keskil, S Keskil

- Ong *Headaches* 2020
- Personnel soignant
- Singapour
- N = 158
- N95, lunettes de protection



Research Submissions | [Free Access](#)

Headaches Associated With Personal Protective Equipment – A Cross-Sectional Study Among Frontline Healthcare Workers During COVID-19

Jonathan J.Y. Ong FRCP✉, Chandra Bharatendu MRCP, Yihui Goh MRCP, Jonathan Z.Y. Tang MRCEM, Kenneth W.X. Sooi MRCP, Yi Lin Tan MBBS, Benjamin Y.Q. Tan MRCP ... [See all authors](#) ▾

First published: 30 March 2020 | <https://doi.org/10.1111/head.13811> | Citations: 179

• „Most healthcare workers develop *de novo* PPE-associated headaches or exacerbation of thier pre-existing headaches disorders“.

Carbon dioxide rises beyond acceptable safety levels in children under nose and mouth covering: Results of an experimental measurement study in healthy children

Harald Walach ¹, Helmut Traindl ², Juliane Prentice ³, Ronald Weigl ⁴, Andreas Diemer ⁵, Anna Kappes ⁶, Stefan Hockertz ⁷

- Walach *JAMA pediatrics* juin 2020
- RCT
- Enfants – 2 types de masques – CO₂ air inhalé
- 45 enfants 6-17 ans.
- Limite: étude en laboratoire; doute sur appréhension.
- Résultat: plaintes et élévation de CO₂
- „*Children should not be forced to wear a mask*“
- Article rétracté

- Kisielsinski avril 2021 rev litt.
- 1213 études identifiées, 44 sélectionnées.
- Baisse SaO₂ p=0,05
- Conclusion: **préjudiciable.**



[Int J Environ Res Public Health](#). 2021 Apr; 18(8): 4344.

Published online 2021 Apr 20. doi: [10.3390/ijerph18084344](https://doi.org/10.3390/ijerph18084344)




PMCID: PMC8072811

PMID: [33923935](https://pubmed.ncbi.nlm.nih.gov/33923935/)

Is a Mask That Covers the Mouth and Nose Free from Undesirable Side Effects in Everyday Use and Free of Potential Hazards?

[Kai Kisielinski](#), ¹ [Paul Giboni](#), ² [Andreas Prescher](#), ³ [Bernd Klosterhalfen](#), ⁴ [David Graessel](#), ⁵ [Stefan Funken](#), ⁶ [Oliver Kempfski](#), ⁷ and [Oliver Hirsch](#) ^{8, *}

Mask wearing in community settings reduces SARS-CoV-2 transmission

Gavin Leech  , Charlie Rogers-Smith, Joshua Teperowski Monrad, , and Laurence Aitchison [Authors Info & Affiliations](#)

Edited by Simon Levin, Princeton University, Princeton, NJ; received October 26, 2021; accepted March 28, 2022




May 31, 2022 | 119 (23) e2119266119 | <https://doi.org/10.1073/pnas.2119266119>

- 20 millions
- 6 continents, 56 pays
- 1er mai – 1er septembre 2020
- Limites nombreuses : autodéclaration (approximations), types de masques, anonymat ou non (Kenya).
- Conclusion: „*R diminué de 19 %*“. Actuellement $R = 1,48$!

RESEARCH ARTICLE | APPLIED BIOLOGICAL SCIENCES | 



Mask wearing in community settings reduces SARS-CoV-2 transmission

Gavin Leech  , Charlie Rogers-Smith, Joshua Teperowski Monrad,  ⁺¹⁰, and Laurence Aitchison [Authors Info & Affiliations](#)

Edited by Simon Levin, Princeton University, Princeton, NJ; received October 26, 2021; accepted March 28, 2022

May 31, 2022 | 119 (23) e2119266119 | <https://doi.org/10.1073/pnas.2119266119>

[MMWR Morb Mortal Wkly Rep.](#) 2021 Oct 1; 70(39): 1372–1373.

PMCID: PMC8486387

Published online 2021 Oct 1. doi: [10.15585/mmwr.mm7039e1](https://doi.org/10.15585/mmwr.mm7039e1)

PMID: [34591830](https://pubmed.ncbi.nlm.nih.gov/34591830/)

Association Between K–12 School Mask Policies and School-Associated COVID-19 Outbreaks — Maricopa and Pima Counties, Arizona, July–August 2021

[Megan Jehn](#), PhD,^{1,*} [J. Mac McCullough](#), PhD,^{2,*} [Ariella P. Dale](#), PhD,^{3,4} [Matthew Gue](#),¹ [Brian Eller](#),⁵
[Theresa Cullen](#), MD,⁵ and [Sarah E. Scott](#), MD⁴

- CDC 1020 écoles (Pima et Maricopa)
- 6 semaines: 3,5 fois plus de contaminations si pas de masque.
- Publié dans MMWR2021
- „Port du masque recommandé „

Oui, mais ...

- Lancet Mai 2022 en preprint :
- Même population, échantillon plus grand, durée allongée: pas de différence .

Revisiting Pediatric COVID-19 Cases in Counties With
and Without School Mask Requirements—United States,
July 1—October 20 2021

11 Pages • Posted: 25 May 2022

[Ambarish Chandra](#)

University of Toronto

[Tracy Beth Høeg](#)

University of California, Davis; MD, PhD

Conclusion (1)

- Aucune efficacité au BO, mais pas de nocivité démontrée.
- Aucune preuve d'efficacité en période épidémique grippe A H1N1
- Effets secondaires / développement cérébral
- Retard d'apprentissage et de lecture



Conclusion (2)

- Beaucoup de questions.



„Il n'y a que deux conceptions de la **morale humaine**, et elles sont à des pôles opposés.

L'une d'elle est chrétienne et humanitaire, elle déclare l'individu sacré et affirme que les règles de l'arithmétique ne doivent pas s'appliquer aux unités humaines qui, dans notre équation, représentent soit le zéro soit l'infini.

L'autre conception part du principe fondamental qu'une fin collective justifie tous les moyens et non seulement permet, mais exige, que l'individu soit en toute façon sacrifié, subordonné à la communauté, laquelle peut user de lui soit comme d'un cobaye qui sert à une expérience soit comme de l'agneau que l'on offre en sacrifice“

Arthur Koestler, 1940



Merci de votre attention

