

The Fresh Air Story

Dr Eilir Hughes

GP at Ty Doctor, Nefyn, north Wales.

Cluster Lead for Dwyfor Cluster







**Ysgol
Bro Plenydd**

Sefydlwyd yn 1912

← **Prif Fynedfa**











PROCTOR

ventilation

TEL. 01250 - 872261
FAX. 01250 - 872727





#DYINGFORAHOLIDAY
PLEASE GO HOME ❤️







World Health Organization (WHO) ✓

@WHO

FACT: #COVID19 is NOT airborne.

The #coronavirus is mainly transmitted through droplets generated when an infected person coughs, sneezes or speaks.

To protect yourself:

- keep 1m distance from others
- disinfect surfaces frequently
- wash/rub your 🙌
- avoid touching your 👁️ 📌 👄

FACT CHECK: COVID-19 is NOT airborne

The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or speaks. **These droplets are too heavy to hang in the air. They quickly fall on floors or surfaces.**

You can be infected by breathing in the virus if you are within 1 metre of a person who has COVID-19, or by touching a contaminated surface and then touching your eyes, nose or mouth before washing your hands.

To protect yourself, keep at least 1 metre distance from others and disinfect surfaces that are touched frequently. Regularly clean your hands thoroughly and avoid touching your eyes, mouth, and nose.



This message spreading on social media is incorrect. Help stop misinformation. Verify the facts before sharing.



March 28 2020

#Coronavirus #COVID19



COVID-19 Safe ways of working

A visual guide to safe PPE

General contact with confirmed or suspected COVID-19 cases

- Eye protection to be worn on risk assessment
- Fluid resistant surgical mask
- Disposable apron
- Gloves

Aerosol Generating Procedures

- Eye protection eye shield, goggles or visor
- FFP3 or FFP2 respirator
- Long sleeved fluid repellent gown
- Gloves

Wash your hands before and after patient contact and after removing some or all of your PPE

Clean all the equipment that you are using according to local policies

Use the appropriate PPE for the situation you are working in (General / AGPs or High risk areas)

Take off your PPE safely

Take breaks and hydrate yourself regularly

For more information on infection prevention and control of COVID-19 please visit:

www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control

In 1870 - 1912 the infirmary grows further...

Various buildings nearby were brought into use as required and alterations took place including an out-patients department, a nurses' home in 1869 and a cross wing in 1870.

In 1875 a serious outbreak of contagion caused by poor ventilation and sanitation forced a complete closure for 12 months while a new drainage system and 35 extra windows were installed.

In 1896 a new hydraulic lift was fitted plus a dedicated hospital laundry was built.

In 1898 a fully equipped pathological laboratory was opened.

In 1902 the hospital received the donation of its first x-ray apparatus.

By 1907, further problems arose with ventilation and sanitation along with the need for more and better accommodation for the nurses.

On 10th November 1910 the adjacent Nurses Home building was formally opened, now called Watergate Mansions.

In 1912 a new X-Ray department was donated, yet another step forward in medical care and efficiency. Balconies were added on the river side to enable patients to enjoy the fresh air.





WARNING
DńR LECTU
NORWALDIA
TO NńR PńR
TO NńR PńR

Llymfor ↑

BRYN
BERYL

!

Cadw'r yn glir
Keep clear





Fresh Air

www.freshair.wales
www.awyriach.cymru

GP explains where you are most at risk of coronavirus as experts believe signs of second wave are emerging

Experts believe signs of second wave are emerging

SHARES **NEWS**



There are serious risks of catching coronavirus inside even with social distancing

Sign up to FREE email alerts from Wales Online - The Coronavirus Briefing - Your Latest Welsh Covid-19 News

When you subscribe we will use the information you provide to send you notifications. Your information will be used in accordance with our Privacy Policy.

A Welsh GP wants people in Wales to understand the real risks of catching coronavirus indoors.

The latest research suggests that the virus can be spread in aerosols which means it could be present in the air for hours and inhaled into the lungs unless proper precautions are taken.

Welsh GP Dr Eilr Hughes and material scientist and risk management expert Dr Huw Waters have come together to [produce a website](#) making the latest scientific information on coronavirus available to the public.

What do they say?

On the website the pair say that even social distancing may not be enough to keep safe if you are inside for an extended period of time.

They have produced graphics that clearly show how wearing a mask can help reduce your risk of catching coronavirus - and reduce the dose you inhale if you do.

GP offers one simple piece of advice to lower your risk of catching coronavirus

The virus can linger in the air for hours in the form of tiny aerosol droplets which are inhaled into the lungs

SHARES **NEWS**



These experts say getting fresh air through your home could be more important than ever

Don't miss any of Edinburgh Live's biggest stories - sign up to our daily email newsletter

When you subscribe we will use the information you provide to send you notifications. Your information will be used in accordance with our Privacy Policy.

A UK GP has set up a website warning people of the risks of catching coronavirus indoors.

The latest research suggests that the virus can linger in the air for hours in the form of tiny aerosol droplets which are inhaled into the lungs unless [proper care](#) is taken.

GP Dr Eilr Hughes and material scientist and risk management expert Dr Huw Waters have pooled their knowledge to create a website to bring the latest coronavirus findings to the public. [Wales Online](#) reports.

Airborne risk

On the website the two men warn that even social distancing may not be enough if you're inside with other people for a long period of time.

RELATED ARTICLES

Scottish scientists develop score sheet to predict risk of death to coronavirus

[walesonline](#)

Coronavirus Scotland by region: Covid map shows cases in Edinburgh have doubled in three weeks

[scotlandlive](#)

All the things you can do to protect your family when you come together at Christmas

How to keep people safe during temporary relaxations on social mixing and travel

SHARES **NEWS**



Sign up to FREE email alerts from Wales Online - The Coronavirus Briefing - Your Latest Welsh Covid-19 News

When you subscribe we will use the information you provide to send you notifications. Your information will be used in accordance with our Privacy Policy.

Between December 25 and December 27, there will be some temporary relaxations on social mixing and travel across the whole of the UK.

This will allow people from three households to form an exclusive Christmas bubble and travel anywhere within the UK.

For many this will mean be a time for celebration. After nine months of restrictions and isolation people are allowed to come together as a family.

However, for many this is a time for great anxiety. The virus hasn't taken time off over [Christmas](#), in Wales the virus is more widespread than it has ever been. It is no less deadly and no less easily spread.

Christmas is a time when different generations come together and this is one of the key dangers - asymptomatic young people mixing with older people who are vulnerable.

We have put together some of the steps you can take to try and keep your family safe.

1. Don't meet up

Yes this is very obvious but it needs saying. Ultimately the only way to guarantee you will not pass the virus on to your family is not see them.

Clearly there are other harms that come from this. Loneliness and isolation have their own risks but if you are thinking of only Covid safety, delaying your festivities to later in the new year is safer.

NEWS

Welsh election 2021: Why this GP's vote rests on face masks

By Elin Hughes

Welsh Parliament election 2021



DR ELIN HUGHES

Dr Elin Hughes wants healthcare staff to be given better face masks

For one north Wales GP, his vote in the upcoming Senedd/Welsh Parliament election rests on what many healthcare workers wear everyday - face masks.

Dr Elin Hughes is calling for all health staff caring for Covid patients to be offered high-quality face masks, called filtering face pieces (FFP2).

Some staff working with Covid patients are only offered surgical masks.

Currently, FFP2 masks are only offered to health workers carrying out certain medical procedures.

However, a document by the UK government's scientific advisory group Sage has said **higher grade masks may be needed when caring for Covid patients.**

The Labour Welsh government said it is following official UK guidance.

SIGN UP FOR WALES ALERTS: Get extra updates on BBC election coverage

The Welsh Liberal Democrats said it would introduce FFP2 masks for healthcare workers, if they were proven to be more effective, Plaid Cymru said it would look to provide the "best protection" for NHS staff and the Welsh Conservative party said it would "conduct a review" into the masks after the election.

- [How healthcare workers came to feel 'expendable'](#)
- [Nurses condemn 'fundamentally flawed' PPE rules](#)

Dr Hughes, who practises as a GP in Gwynedd and is also the leader of the Dwyfor Primary Care Cluster, said surgical masks "just aren't good enough, given that we know the FFP2 masks give better protection".

The latest guidance, followed by Public Health Wales, recommends the use of FFP2 masks only when health staff are carrying out aerosol generating procedures - such as inserting a tube down the throat to help with breathing - when there is deemed to be a Covid risk.

NEWS

Health

Covid: How should I protect myself from Covid now?

By Rachel Johnson

Health reporter

10 days ago



GETTY IMAGES

Group exercise classes have now resumed in much of the UK after lockdown

People can once again spend time indoors with friends and family they don't live with.

Covid remains a risk, so what have we learned about how to stay safe?

1. You don't need to do the 'pavement disco'

Many of us have got used to doing the "pavement disco" to avoid coming too close to fellow pedestrians.

But it's highly unlikely such a short period of exposure outdoors could lead to an infection.

Admittedly, the closer you are to an infected person, the more likely you are to catch the virus - which is why we've been told to stay 2m (6ft) apart.

But most infections happen in places indoors where people are very near to one another.

There's also the question of how long you're near the infected person.

We don't know exactly how much virus exposure is necessary to cause illness - and it will vary by age and health - but it does have to reach a critical mass before it overwhelms the immune system.

And it's worth remembering the NHS Test and Trace app only alerts contacts who have been close to a confirmed case for 15 minutes or more.

At the start of the pandemic, even going for a walk with a friend wasn't allowed - but scientists are confident being outdoors is much safer than being indoors.

Meeting outside

NEWS

Health

Coronavirus: Fresh air 'forgotten weapon' in fight

By David Mulholland

10 days ago

Coronavirus guidelines



For one GP, the very thought of people keeping windows tight shut "makes his head explode with anger".

And a leading engineer says he embarrasses his family in restaurants "by going around trying to bring in fresh air".

They are part of a growing band of medics and experts worried about how the coronavirus can accumulate in stuffy rooms.

And with people gathering indoors in the winter months, they say the authorities need to emphasise the importance of outside air.

- [How to keep the virus at bay this Christmas](#)
- [What are the new rules on mingling at Christmas?](#)

What is the problem?

According to the GP, Elin Hughes, who runs a surgery in north Wales, the government slogan "hands, space, face" doesn't go far enough.

It appears on the lectern used by Boris Johnson in Downing Street briefings which gives it massive prominence.

But Dr Hughes - who has become known as "Dr Fresh Air" for his campaigning on the issue - believes it should say "hands, space, face, replace".



Top Stories

Government clarifies advice for Covid-hit areas

"We are not imposing local restrictions," it says after confusion over new guidance on travel

10 days ago

Cummings to be quizzed by MPs on pandemic handling

10 days ago

US marks George Floyd killing anniversary

10 days ago

Features



The ground just moves with mice



Kuomsberg: Cummings sketches out script as grilling nears

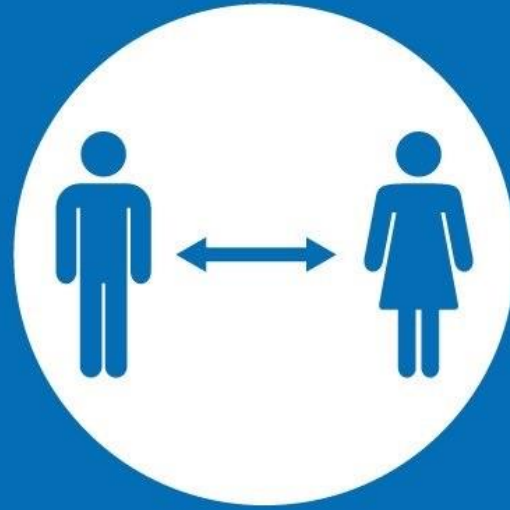


Americast: George Floyd - One Year On



What happens with a military jet interception?





HANDS

FACE

SPACE

REPLACE



HM Government

NHS



HANDS



FACE



SPACE



FRESH AIR



29th March 2021

Waitrose



Waitrose
Diolch am siopa gyda ni
Thank you for shopping with us



WAITROSE
EASTER OPENING HOURS

STAYING SAFE TOGETHER
YOU MUST WEAR A FACE COVERING
GREAT EXHIBIT
KEEP A SAFE DISTANCE
DON'T TOUCH
DON'T TOUCH
WAITROSE

DWYLO HANDS
GWYNEB FACE
PELLTER SPACE
DISODLI REPLACE

NFA
EAST
ALLANFA





Defnyddio Synhwyrdd Carbon
Deuocisd (CO₂) i leihau risg
COVID-19

Using Carbon Dioxide (CO₂)
Detector to reduce the risk of
COVID-19

Pam defnyddio synhwyrdd CO₂?
Why use CO₂ detectors?

Mae coronafirws yn cael ei drosglwyddo'n sylweddol yn yr aer.
Coronavirus is significantly transmitted in the air.

Mae pobl tua 20 gwaith yn fwy tebygol o gael eu heintio mewn amgylcheddau caeedig o'i gymharu â thu allan yn yr awyr iach.
People are approximately 20 times more likely to become infected in enclosed environments compared to outside in the fresh air.

Mae posib defnyddio lefel CO₂ fel mesuriad o awyr iach.
CO₂ levels can be used as a measure of fresh air.

Beth yw pwrpas y synhwyrdd CO₂?
What is the purpose of the CO₂ detector?

Gall lefel uchel o CO₂ olygu bod risg uchel o drowgsywddo coronofirws yn yr aer.
High levels of CO₂ can mean a high risk of coronavirus airborne transmission

Defnyddir lefel CO₂ i hysbysu ac i annog awyru priodol.
CO₂ level is used to inform and encourage sufficient ventilation.



RISG / RISK

Ble i roi'r synhwyrdd?
Yn canol y'r ystafell, ond ddim
yn agos i ffenest neu ddrws.

Where to put the detector?
In the center of the room, but
not near a window or door.



Pam bu lefelau CO₂ uchel, 1000PPM neu
uwch, agorwch ffenest am awyr iach.

When CO₂ levels become high, 1000PPM
or higher, open a window for fresh air.

HANDS. FACE. SPACE. REPLACE

this is still important!

Wash hands

Cover face

Make space

Don't share your stuff

choose the right materials with no leaks

for short periods of time

open windows or go outdoors

Find it on YOUTUBE



Here's a summary!



Trish Greenhalgh
Nuffield Department of
PRIMARY CARE
HEALTH SCIENCES
Medical Sciences Division

Animation by Vicki Martin www.vickimartin.co.uk
Funded by a public understanding of science grant from the Wellcome Trust



Welsh Governme... · 13/12/2020

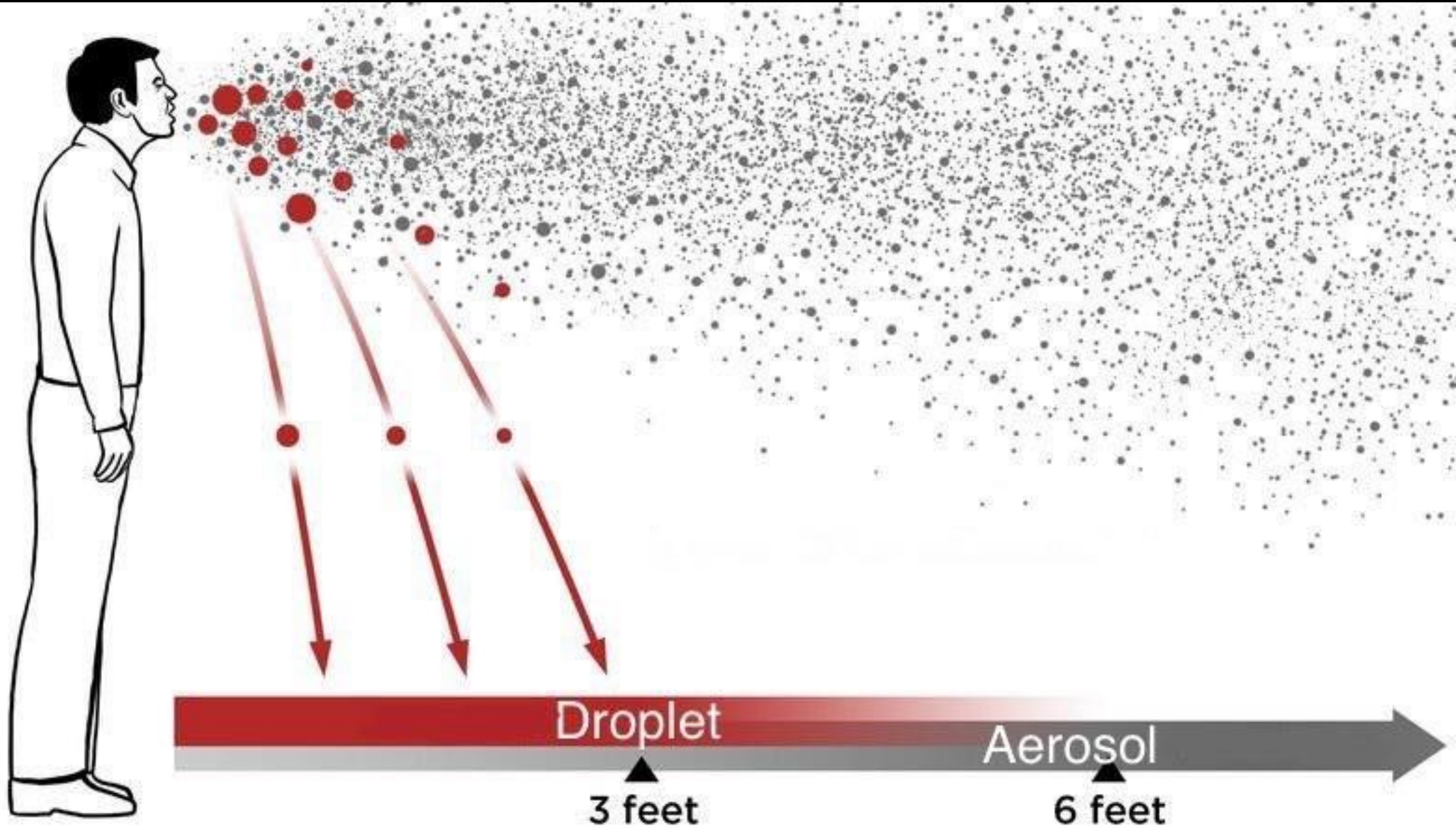
Letting fresh air indoors can reduce the risk of infection from coronavirus by 70%.

If you have your extended household or essential visitors, like tradespeople, in your home, or you live with someone with coronavirus, open windows for short bursts of 10-15 minutes 📌



If you are in a poorly ventilated indoor environment, the number of airbourne infectious particles will increase over time

0:28



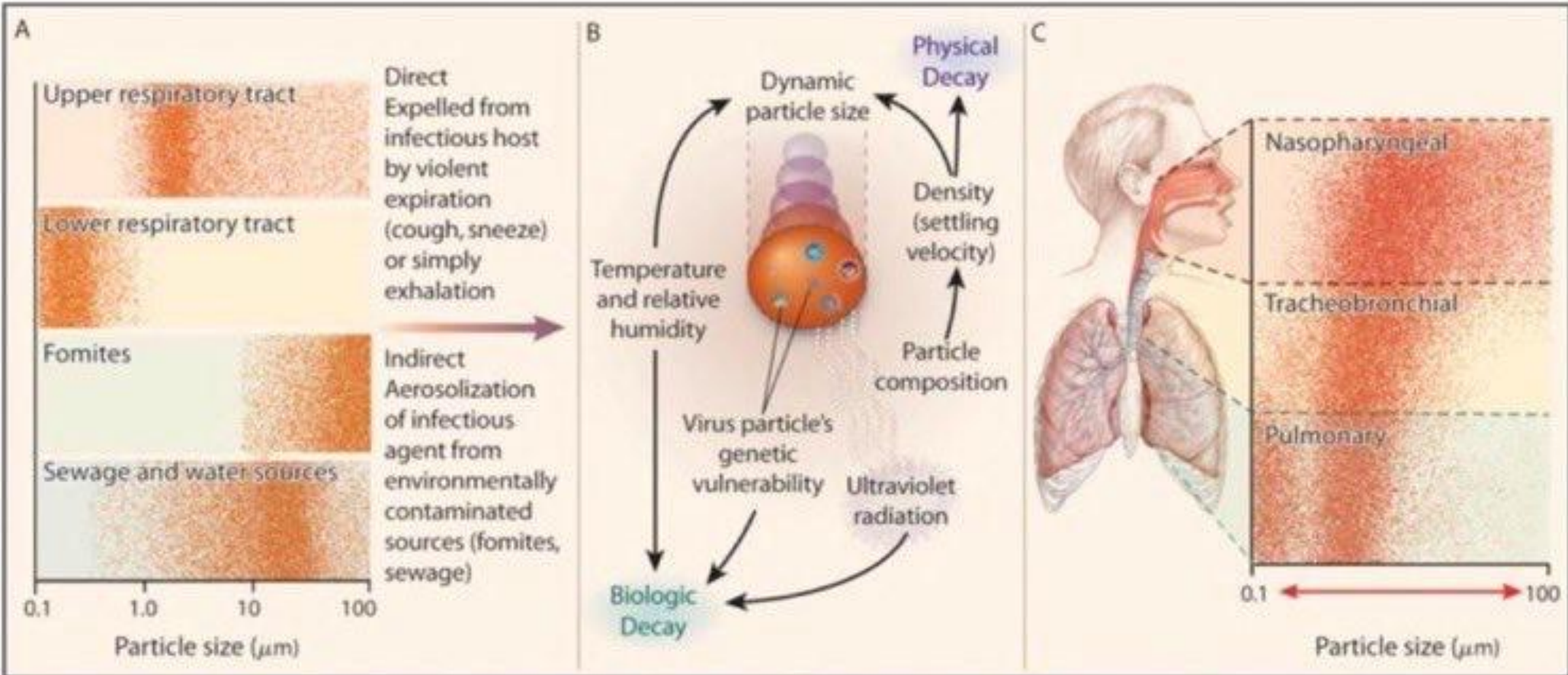


Figure. The Aerobiologic Pathway for the Transmission of Communicable Respiratory Disease.

Whether it is an infected human or a contaminated environmental matrix, each source (Panel A) generates particles with a characteristic range of sizes. The length of time a particle resides in the air (physical decay, Panel B) depends on its initial size, its composition, and environmental factors. Similarly, the length of time an airborne organism remains infectious (biologic decay) is affected by the infectious agent's initial metabolic state, genetic characteristics, and environment. The portion of the respiratory tract of a susceptible host in which inhaled particles are deposited (Panel C) is a function of the particles' aerodynamic size; in the middle of the range, particles may be deposited in both the upper and the lower airways.

WHICH WOULD YOU CHOOSE?

**FFP2 MASK:
94+% FILTERING ABILITY**

**SURGICAL MASK:
QUESTIONABLE
FILTERING ABILITY**

A.

B.



Wearing a seatbelt outside a car is pretty stupid



So is wearing a mask that doesn't filter aerosols whilst looking after aerosol producing covid patients

ALL I NEED IS THE AIR THAT I BREATHE, AND TO TREAT YOU

Covid: UK records highest daily death toll since pand...



VIDEOS



#FreshAirNHS
#COVIDisAirborne

Open Letter to:

The Rt Hon Boris Johnson MP, Prime Minister of the United Kingdom

The Rt Hon Mark Drakeford MS, First Minister of Wales

The Rt Hon Nicola Sturgeon MSP, First Minister of Scotland

The Rt Hon Arlene Foster MLA, First Minister of Northern Ireland

The Rt Hon Matt Hancock MP, Secretary of State for Health and Social Care

Mr Vaughan Gething MS, Minister for Health and Social Services, Wales

Ms Jeane Freeman MSP, Cabinet Secretary for Health and Sport, Scotland

Mr Robin Swann MLA, Minister of Health, Northern Ireland

Improve Ventilation of Care Settings & Upgrade Respiratory Personal Protective Equipment

In support of front-line health care workers, we write to urge the UK Government and its devolved administrations to take all necessary precautions to mitigate airborne transmission of SARS-CoV-2 in health care settings.

Health and social care staff are "back in the eye of the storm" according to NHS England's chief executive Simon Stevens. We are in the middle of COVID-19's second wave, significantly impacted by a new coronavirus variant, which is reportedly 56% more transmissible.¹ On Tuesday 29th of December 2020, 21,787 people were being treated for the virus in hospitals in England, surpassing the first wave's peak of 18,974 in April.² This number is expected to climb further and necessitates every effort to protect NHS staff from the virus.

Healthcare workers (HCWs) are on average 3-4 times more likely to contract SARS-CoV-2 than the general population, with risk varying upon their role in the NHS.³⁻⁵ Notably, while HCWs on regular wards are significantly more likely to become infected,^{4,6} intensive care unit (ICU) staff have ~50% lower risk despite working in an environment which was historically considered to be higher risk.⁷ This correlates with increased aerosol protection provided by higher-grade PPE and increased air exchanges in ITUs. In contrast, hospital wards where infectious coughing patients are also cared for, current guidance does not recommend the use of respiratory-protective PPE. Air exchange is not regulated in these settings either.

Currently, the Public Health England guidance on the type of PPE is categorised according to types of procedures carried out: deemed as either aerosol-generating or non-aerosol generating procedures. This is no longer compatible with what we now know.

The USA's Centers for Disease Control and Transmission states that SARS-CoV-2 is most likely to be contracted by inhalation⁸, with one study suggesting that 80% of infections may be as a result of this route.⁹

It is now essential that healthcare workers have their PPE upgraded to protect against airborne transmission.¹⁰⁻¹² The inhalation of viral aerosols, whether the susceptible person is near the source or at more distant locations are most effectively interrupted by a respiratory protection device, such as an N95 filtering face-piece respirator.⁹

A significant proportion of the NHS workforce is unavailable to help at this peak time owing to sickness and a need to self-isolate because of SARS-CoV-2. This adds to the already perilous situation of remaining staff being tired, overworked and prone to making errors. Not only are staff contracting SARS-CoV-2 in healthcare settings, but also patients admitted for reasons other than COVID-19 are acquiring it in hospital. In the first half of November, approximately 20% of hospital cases for SARS-CoV-2 had been acquired in hospitals.¹³

To mitigate the spread of SARS-CoV-2 in both staff and patients, and to take back control of the situation in our health care settings, we request the following actions:

1. Ensure immediate access to FFP3 masks for all staff working with confirmed or suspected Covid-19 patients and commission a review of national PPE guidance.
2. Ensure hospitals immediately increase natural ventilation as much as possible in all clinical settings where current standard requirements are not currently met.

We implore that these recommendations are implemented across the UK as soon as possible. Mass vaccination and its impacts on rates of transmission will take time to take effect. It is therefore imperative to maximise science-based preventative measures towards aerosol/airborne transmission in addition to standard droplet precautions in health care settings now.

Yours sincerely,

Fresh Air NHS Open Letter

- Signed by over 1500 NHS Workers
- Highlight need to mitigate airborne transmission of SARS-Cov-2 in healthcare settings
- Two requests:
 - Improve ventilation of care settings
 - Upgrade respiratory personal protective equipment

HEALTH

Call for better coronavirus masks for all medical staff

By David Mubumba
Specialist

18 January | 10:00 AM

Coronavirus: pneumonia



Doctors' leaders have called for urgent improvements in personal protective equipment for health workers.

The British Medical Association is appealing for a higher grade of face mask to guard against coronavirus infection.

It says there is 'growing evidence' that the virus is being spread through the air by aerosols.

These are tiny virus particles that can build up in staff rooms and they have been linked to outbreaks of Covid-19.

This follows an open letter from more than 1,500 health professionals for staff on general wards to be given the type of high-quality masks usually only worn in intensive care units.

Public Health England (PHE) has issued guidance on what PPE staff in different settings require. It was last updated in October 2020.

Coronavirus: Has the NHS got enough PPE?

Covid PPE: Hospital gowns that cost £122m never used

Early in the pandemic, it was widely believed that to catch the disease you had to either be close to an infected person and be hit by droplets from their coughs or sneezes or touch a surface they had contaminated.

Dut research during the course of last year highlighted how it is also possible for the virus to be carried in what are called aerosols, drifting and accumulating in the air.

More infections are thought to have occurred indoors in badly ventilated rooms, and many studies have shown that the 'airborne route' can be an important factor.

Across the UK, the guidance for hospital staff is to wear surgical masks in most areas.

More sophisticated masks - a type known as PFF3 that includes an air filter - are only required in intensive care or when certain procedures are carried out that are known to generate aerosols.

In their letter, the consultants, doctors and nurses say healthcare workers are

Further letters were sent to government leaders by Unions, and later as a collaboration of NHS staff representative bodies:



Jeff Bezos
and the world
Amazon made

The long read
Journal

Free delivery for six weeks
Get the Guardian sent to your home
with no delivery charge

Page 2

Thursday
4 February 2021
£2.20
From £1.75 for subscribers

The Guardian

Coughing risks to NHS staff 'greater' than feared

Exclusive
Linda Geddes
Science correspondent

The NHS has been urged to rethink safety for thousands of frontline staff after new research suggested that Covid-19 patients' coughing was putting them at far greater risk of catching the virus than previously thought.

The study found that coughing generated at least 10 times more infectious "aerosol" particles than speaking or breathing - which could explain why so many NHS staff have fallen ill.

The research has led to fresh demands that anyone caring for

'A cough really is a potent generator of aerosols. The risk appears far greater than we assumed'

Dr James Dodd
Study lead

someone with Covid-19, or suspected Covid-19, should be provided with the most protective equipment - including FFP3 respirator masks - and that hospital ventilation should be improved.

Health workers are up to four times more likely to contract the virus than the general population, with infection rates among those on general wards approximately double those of intensive care unit (ICU) staff - who do have access to the most protective PPE.

This access to higher PPE protection was based on the assumption that ICU wards are more dangerous because treatments such as continuous positive airway pressure (CPAP), used to support patients' breathing, generated large amounts of aerosols - which linger in the air and can be breathed into the lungs.

Staff working in other hospital areas, GP surgeries and care homes are issued with looser-fitting surgical masks, which afford little protection against these tiny particles, but block larger virus-carrying droplets.

The new research, which has not yet been peer-reviewed, turns these assumptions on their head. "CPAP is not



History woman King among three female directors vying for top award

News Page 17 →

PHOTOGRAPH: LAMIE SIMON/BAFTA/SEE/SUTTERSTOCK

UK gives 10m people first dose of vaccine

Dan Sabbagh and Josh Halliday

Britain has given a first dose of a coronavirus vaccine to more than 10 million people, with public health experts now calling on ministers to target future vaccinations in hotspots

where the disease is threatening to run out of control.

Official figures from across the UK's four nations showed that 374,756 people received a jab on Tuesday, taking the headline total to just over the milestone at 10.02m, less than two months after the programme began.

If the current rate continues, then

the UK will be on track to have given a dose to the 15 million people in the top four priority groups by mid-February. At this rate it should also have given jabs to those in the remaining five priority groups, another 17 million people, by early April, just after Easter, at the point where the need for second jabs begins.

Boris Johnson praised NHS staff for delivering the vaccine, describing the programme as "the most colossal in the history of our National Health Service". Nearly 90% of all over-75s in England had already received a jab, the prime minister added.

The latest figures also showed that 1,322 were recorded in the previous 24 hours, taking the overall number of Covid-19 related deaths in the UK to 109,335. There were 19,202 more cases reported yesterday and a total of 32,851 people were still in hospital.

The chief medical officer for England, Chris Whitty, who joined Johnson at the briefing, said it was too early to see any positive impact from the vaccinations because so many had taken place so recently.

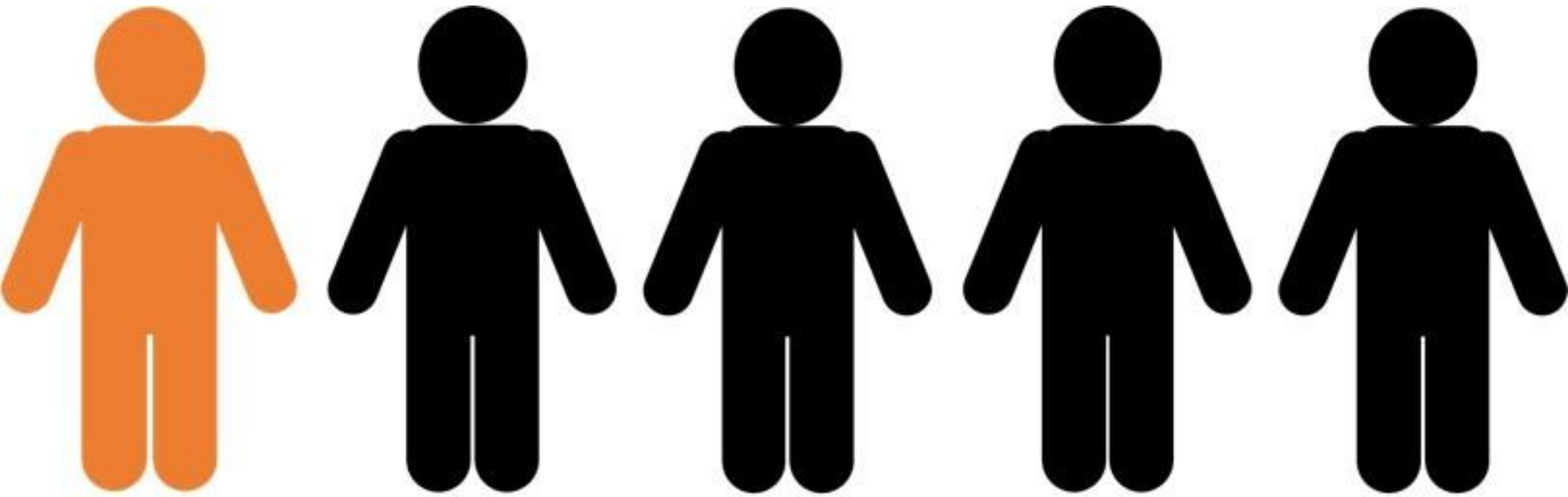
The prime minister also promised he would say "a bit more" about future phases of the

CBI calls for reboot on the scale of 1945

Leader says huge investment needed to cope with Brexit, Covid and climate change

Financial Page 27 →





$$1/5$$

We have become
desensitised to high
levels of risk

Would you walk into a contaminated room where
there's a 10% chance of getting asbestosis without
PPE?



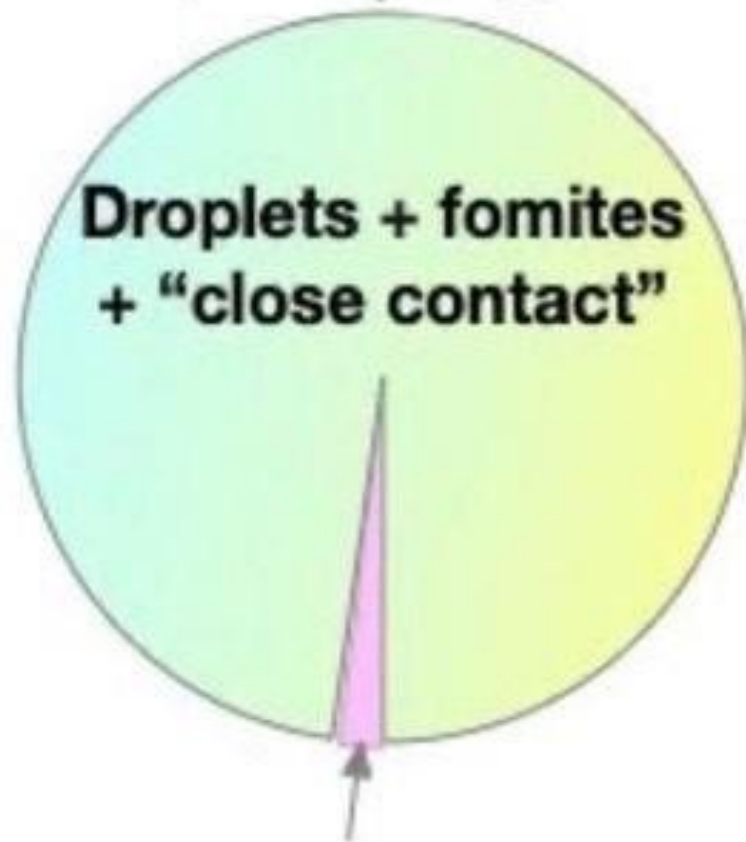
Mother of God- it is airborne!

#COVIDisAirborne
#FreshAirNHS

The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. These particles range from larger respiratory droplets to smaller aerosols.

- Current evidence suggests that the virus spreads mainly between people who are in close contact with each other, typically within 1 meter (**short-range**). A person can be infected when aerosols or droplets containing the virus are inhaled or come directly into contact with the eyes, nose, or mouth.
- The virus can also spread in poorly ventilated and/or crowded indoor settings, where people tend to spend longer periods of time. This is because aerosols remain suspended in the air or travel farther than 1 metre (**long-range**).

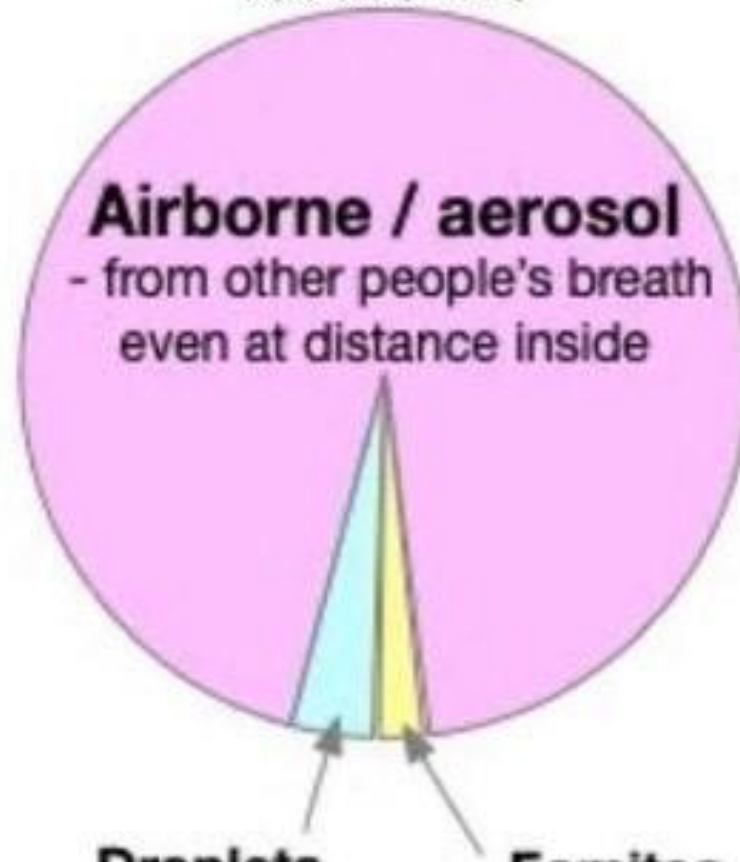
Initial public health advice was based on droplet transmission leading to emphasis on hygiene



**Droplets + fomites
+ "close contact"**

Aerosol / airborne
- from other people's breath or some *confusing* "aerosol generating procedure"

But airborne transmission is now considered the dominant route. Clean hands doesn't reduce this



Airborne / aerosol
- from other people's breath even at distance inside

Droplets
- arcing out of someone else's nose or mouth and into your mouth or eyes

Fomites
- smearing liquids into own mouth, nose, or eyes





