

# Coronavirus (COVID-19)

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# Picture in the UK

- Total UK COVID-19 Cases (as of 31<sup>st</sup> May):
  - 274,762 Total number of lab-confirmed UK cases
  - 699 confirmed cases in Greenwich
  - 38,489 Total number of COVID-19 associated UK deaths
  - Data Caution! The significant majority of infections are not tested and confirmed.
  - Chief Medical Officer estimates that the Mortality rate is closer to 1%
  - The UK hit the peak of the epidemic in April. We are currently seeing the number of new cases decline
  - The latest clinical advice shows a much lower incidence rate in the general population. The average chance of catching the virus is now down from 1/40 to 1/1000

# How does the coronavirus (SARS-CoV-2) spread from one person to another?

- Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)
- The new coronavirus is transmitted from one person to another as it is 'shed' by an infected person into the environment.
- The virus must survive that environment before being picked up by another person, who either:
  - inhales the virus in respiratory droplets when they are discharged by an infected person or
  - when they make contact with virus-contaminated surfaces.
- Droplets that are contaminated by the virus do not hang in the air for long. Their weight makes them fall and land on surfaces.

# Symptoms

The most important symptoms of coronavirus (COVID-19) are recent onset of any of the following:

- a new continuous cough
- a high temperature (37.8 or above)
- a loss of, or change in, your normal sense of taste or smell (anosmia)

For most people, coronavirus (COVID-19) will be a mild illness. However, if you have any of the symptoms above you must stay at home and arrange to have a test to see if you have COVID-19

# Infection and Infectiousness

- Inside an infected person, the new coronavirus (SARS-CoV-2) multiplies in the airways and lung cells. This is shown by its presence in the saliva of infected people. It gets there because, when infected cells die, viruses are released into the thin layer of fluid lining the airway and lung.
- The virus is also sometimes found in the faeces but rarely in blood.
- Studies have found that on average, the new coronavirus continues to be detected in people for 7–20 days after they develop initial symptoms, and sometimes for more than one month. But this doesn't mean people are still infectious.
- The tests may be detecting the genetic material of dead viruses, so it does not mean that someone continues to be infectious for this length of time.
  - This theory is supported by the fact that scientists have only been able to grow the virus in the lab from samples taken less than ten days after symptoms started.
  - This strongly suggests that infectiousness is significantly reduced after this point. This is why people who develop COVID-19 are required to stay at home for 7 days from the start of symptoms.

# Infection, presymptomatic and asymptomatic

- It would make sense that infected individuals with symptoms shed more of the new coronavirus into the environment than individuals without symptoms because of coughing, sneezing, or a runny nose.
- However, scientists think asymptomatic infected people are contagious before they develop symptoms too. This is based on two types of study, both indirect:
  - The first is that the new coronavirus has been detected in mucus samples taken from recovering patients who no longer show symptoms, although this needs to be confirmed in similar samples taken from people before they show any symptoms.
  - The second is indirect evidence: the average time between one person getting symptoms, and someone they infect getting symptoms, is approximately four days: shorter than expected. This suggests a number of infected people will have caught the virus from someone who had not yet developed symptoms. This makes it more difficult to control the spread of the virus because it is being passed on by people who may not know they are infected.
- Breathing or talking to someone can transmit the virus. If the virus is reproducing in the upper respiratory tract at that time then it's possible that some of it will emerge with each exhalation. Anyone close enough, especially indoors, could easily pick it up. And indirect transmission, through touch - the virus gets onto someone's hands and they touch another person or a door handle
- Evidence is emerging that presymptomatic and asymptomatic is playing a significant part in the epidemic
- Children seem to resist coronavirus better than adults, showing milder symptoms. Children with milder symptoms probably shed less virus, and so may be less infectious.

# Virus survival outside of the body

- The virus can survive longer on hard surfaces: 24 hours on cardboard and two to three days on plastic and steel.
- Scientists already know that the new coronavirus survives in droplets in the air and on surfaces. So it is likely that the two main routes of transmission are by breathing in the virus; or by the virus on surfaces being transferred to the eyes, nose and mouth by people's hands.
- It is not yet known which of these two routes is most important; advice on social isolation, hand washing and avoiding face touching aims to interrupt both.
- It is not known whether the faecal–oral route is important in the spread of the virus, though this too would also be prevented with hand washing.

# Handwashing

## So why does soap work so well on the Sars-CoV-2, the coronavirus and indeed most viruses?

- The short story: The virus is a self-assembled nanoparticle in which the weakest link is the lipid (fatty) bilayer. Soap dissolves the fat membrane and the virus falls apart and becomes inactive
- The slightly longer story is that most viruses consist of three key building blocks: ribonucleic acid (RNA), proteins and lipids. A virus-infected cell makes lots of these building blocks, which then spontaneously self-assemble to form the virus. Critically, there are no strong covalent bonds holding these units together, which means you do not necessarily need harsh chemicals to split those units apart. When an infected cell dies, all these new viruses escape and go on to infect other cells. Some end up also in the airways of lungs.
- When you cough, or especially when you sneeze, tiny droplets from the airways can fly up to 10 metres. The larger ones are thought to be the main coronavirus carriers and they can go at least two metres.
- These tiny droplets end on surfaces and often dry out quickly. But the viruses remain active. Human skin is an ideal surface for a virus. It is 'organic' and the proteins and fatty acids in the dead cells on the surface interact with the virus.
- When you touch, say, a steel surface with a virus particle on it, it will stick to your skin and hence get transferred on to your hands. If you then touch your face, especially your eyes, nostrils or mouth, you can get infected. And it turns out that most people touch their face once every two to five minutes.
- Washing the virus off with water alone might work. But water is not good at competing with the strong, glue-like interactions between the skin and the virus. Water isn't enough.
- Soapy water is totally different. Soap contains fat-like substances known as amphiphiles, some of which are structurally very similar to the lipids in the virus membrane. The soap molecules 'compete' with the lipids in the virus membrane. This is more or less how soap also removes normal dirt from the skin.
- The soap not only loosens the 'glue' between the virus and the skin but also the Velcro-like interactions that hold the proteins, lipids and RNA in the virus together.

# Alcohol-based hand sanitiser

- Alcohol-based products, which pretty much includes all disinfectant products, contain a high-percentage alcohol solution (typically 60-80% ethanol) and kill viruses.
- But soap is better because you only need a fairly small amount of soapy water, which, with rubbing, covers your entire hand easily. Whereas you need to literally soak the virus in ethanol for a brief moment, and wipes or rubbing a gel on the hands does not guarantee that you soak every corner of the skin on your hands effectively enough.

# How dangerous is coronavirus for children?

- Children are at extremely low risk of becoming ill from the virus.
- Adults - and particularly older adults - are far more likely to be seriously ill and die from complications of the virus.
- Across the UK, 0.01% of deaths were people under 15, 1% were aged 15-44 and about 75% were over 75.
- Half of all the people with confirmed coronavirus who were admitted to critical care units in England, Wales and Northern Ireland were 60 (as of 15<sup>th</sup> May), and half were younger. But the majority were over 50 and fewer than 10% were younger than 40.
- There have been some extremely rare cases of children developing an inflammatory syndrome similar to Kawasaki disease, and scientists are exploring a possible delayed immune response to coronavirus.

# Coronavirus and C&YP– emerging evidence

- [In a pandemic](#), the proportion of deaths among the young should increase, but this has not been the case.
- [A review of 72,314](#) cases in China showed less than 1% were in children younger than 10.
- [Out of 16,749 hospital admissions in the UK](#), only 239 patients (2.0%) were under 18 years and 139 patients (1.1%) were under 5 years old.
- In [Italy](#), three deaths have been recorded in the age group 0- to 19 years.
- In under 45-year olds, [ONS data](#) in England and Wales reveals that 384 (1.2%) deaths have occurred out of 33,365 COVID cases with only two deaths in under 14-year-olds.
- From March to mid-April this year, nine students and nine staff from [15 New South Wales Schools in Australia](#) had confirmed COVID-19. 735 students and 128 staff were in close contacts – no teacher or staff contracted COVID-19 and only one primary and one high school child may have contracted COVID-19.
- [A French study](#) that identified secondary cases linked to the index case reported that one symptomatic child, visited three different schools but did not transmit the disease despite close interactions.

# Health protection and infection control - principles

- Act as though you are infected with coronavirus and you don't want to infect anyone else
- Assume that everyone else is infected with coronavirus
- There should be no difference in the way we behave with a person, whether or not we know their COVID-19 status – good health protection and infection control principles always apply

# Implementing protective measures in education and childcare settings

There are important actions that children and young people, their parents and those who work with them can take during the coronavirus outbreak, to help prevent the spread of the virus.

In all education, childcare and social care settings, preventing the spread of coronavirus involves dealing with direct transmission (for instance, when in close contact with those sneezing and coughing) and indirect transmission (via touching contaminated surfaces). A range of approaches and actions should be employed to do this:

- Minimising contact with individuals who are unwell by ensuring that those who have coronavirus symptoms, or who have someone in their household who does, do not attend childcare settings, schools or colleges
- Cleaning hands more often than usual - wash hands thoroughly for 20 seconds with running water and soap and dry them thoroughly or use alcohol hand rub or sanitiser ensuring that all parts of the hands are covered
- Ensuring good respiratory hygiene by promoting the 'catch it, bin it, kill it' approach
- Cleaning frequently touched surfaces often using standard products, such as detergents
- Minimising contact and mixing by altering, as much as possible, the environment (such as classroom layout) and timetables (such as staggered break times)

# Personal Protective Equipment (PPE)

- Wearing a face covering or face mask in schools or other education settings is not recommended. Face coverings may be beneficial for short periods indoors where there is a risk of close social contact with people you do not usually meet and where social distancing and other measures cannot be maintained, for example on public transport or in some shops. This does not apply to schools or other education settings. Schools and other education or childcare settings should therefore not require staff, children and learners to wear face coverings.
- Changing habits, cleaning and hygiene are effective measures in controlling the spread of the virus. Face coverings (or any form of medical mask where instructed to be used for specific clinical reasons) should not be worn in any circumstance by those who may not be able to handle them as directed (for example, young children, or those with special educational needs or disabilities) as it may inadvertently increase the risk of transmission.
- The majority of staff in education settings will not require PPE beyond what they would normally need for their work, even if they are not always able to maintain a distance of 2 metres from others. PPE is only needed in a very small number of cases including:
  - children, young people and students whose care routinely already involves the use of PPE due to their intimate care needs should continue to receive their care in the same way
  - if a child, young person or other learner becomes unwell with symptoms of coronavirus while in their setting and needs direct personal care until they can return home. **A fluid-resistant surgical face mask should be worn by the supervising adult if a distance of 2 metres cannot be maintained. If contact with the child or young person is necessary, then disposable gloves, a disposable apron and a fluid-resistant surgical face mask should be worn by the supervising adult. If a risk assessment determines that there is a risk of splashing to the eyes, for example from coughing, spitting, or vomiting, then eye protection should also be worn**

# PPE Use

- Practice good hand hygiene. If masks are touched or adjusted, hand hygiene should be performed immediately.
- Don't remove PPE and then put it back on (e.g. for a coffee break, toilet break, drinking water)
- Don't hang your mask on your neck or on your head. If the mask is removed from your mouth it must be disposed of and replaced.
- Don't touch your face especially if wearing gloves.
- If you don't have a clinical waste bin, PPE should be double bagged when disposed of.

# Hand hygiene

How to wash your hands

- <https://youtu.be/bQCP7waTRWU>

Best Practice: how to hand rub

- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/877529/Best\\_Practice\\_hand\\_rub.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877529/Best_Practice_hand_rub.pdf)

Best Practice: how to hand wash

- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/877530/Best\\_Practice\\_hand\\_wash.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877530/Best_Practice_hand_wash.pdf)

# Putting on (donning) Personal Protective Equipment

To see the correct way for putting on PPE:

- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/874328/PHE\\_COVID-19\\_Donning\\_quick\\_guide.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874328/PHE_COVID-19_Donning_quick_guide.pdf).

# Removing (doffing) PPE

To see the correct way for removing PPE:

- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/874325/PHE\\_COVID-19\\_Doffing.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874325/PHE_COVID-19_Doffing.pdf).

# Test and Trace

The new national service will contact trace people who have been in contact with a person that tests positive

Close contact means:

- having face-to-face contact with someone (less than 1 metre away)
- spending more than 15 minutes within 2 metres of someone
- travelling in a car or other small vehicle with someone (even on a short journey) or close to them on a plane

Those that have been in close contact will be required to self-isolate for 14 days

# Staying alert and safe (social distancing)

- Social distancing measures are steps you can take to reduce social interaction between people. This will help reduce the transmission of coronavirus (COVID-19).
- The more people you have interactions with, the more chances we give the virus to spread.
- That is why you should [stay alert](#) and follow social distancing guidelines. You must not:
  - gather in groups of more than six people with people you do not live with
  - visit friends or family inside their home or any other indoor place
  - stay away from your own home overnight, except for in a limited set of circumstances, such as for work purposes

<https://www.gov.uk/government/publications/staying-alert-and-safe-social-distancing/staying-alert-and-safe-social-distancing>

# Self-isolation guidance

- If you live alone and you have symptoms of coronavirus illness - stay at home for 7 days from when your symptoms started.
- If you live with others and you are the first in the household to have symptoms, then you must stay at home for 7 days, but all other household members who remain well must stay at home and not leave the house for 14 days. The 14-day period starts from the day when the first person in the house became ill.

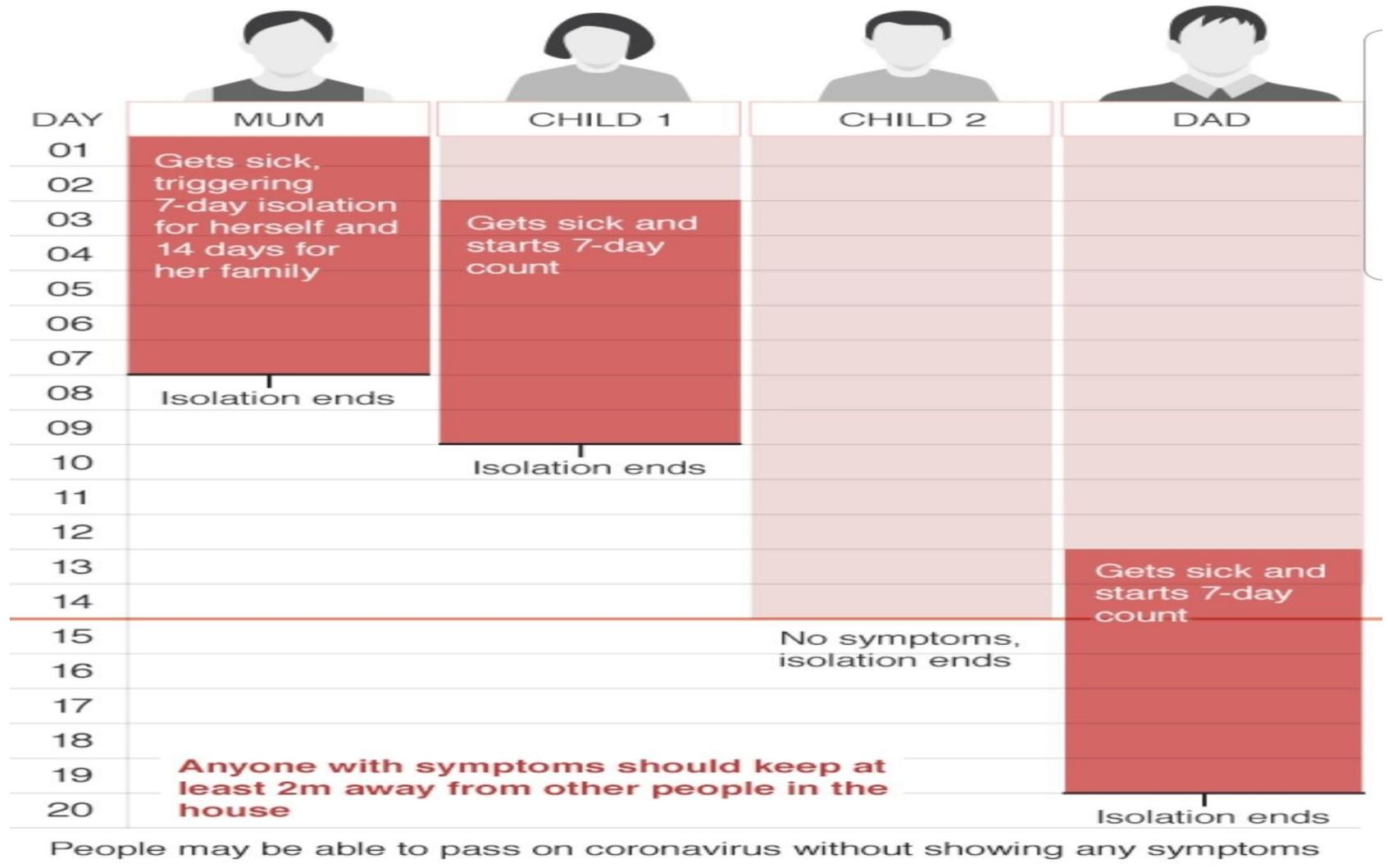
See diagram:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/873359/Stay\\_at\\_home\\_guidance\\_diagram.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/873359/Stay_at_home_guidance_diagram.pdf)

- For anyone else in the household who starts displaying symptoms, they need to stay at home for 7 days from when the symptoms appeared, regardless of what day they are on in the original 14 day isolation period.
- Should a household member develop symptoms late in the 14-day household-isolation period (for example, on day 13 or day 14) the isolation period does not need to be extended for all, but the person with the new symptoms has to stay at home for 7 days.
- If you can, move any vulnerable individuals (such as the elderly and those with underlying health conditions) out of your home, to stay with friends or family for the duration of the home isolation period
- if you cannot move vulnerable people out of your home, stay away from them as much as possible

Full guidance: <https://www.gov.uk/government/publications/covid-19-stay-at-home-guidance/stay-at-home-guidance-for-households-with-possible-coronavirus-covid-19-infection>

# What happens if someone in your family gets sick?



# Testing for Parents/Carers and Children

- Parent/carers and their children (of all ages) are now able to apply for a coronavirus test through the national testing programme.
- You can ask for a test:
  - for yourself, if you have coronavirus symptoms now
  - for someone you live with, if they have coronavirus symptoms
- Coronavirus symptoms are:
  - a high temperature
  - a new, continuous cough
  - a loss of or change to your sense of smell or taste

You can apply for a test going to the website below:

- <https://www.nhs.uk/ask-for-a-coronavirus-test>

If you would like more information on Covid-19 testing please visit:

- <https://www.nhs.uk/conditions/coronavirus-covid-19/testing-for-coronavirus/ask-for-a-test-to-check-if-you-have-coronavirus/>

# Testing for Staff

- If a member of staff has symptoms, or somebody in their household has symptoms, then they can apply for a coronavirus test as an essential worker.
- Coronavirus symptoms are:
  - a high temperature
  - a new, continuous cough
  - a loss of or change to your sense of smell or taste
- Staff can apply for a test by visiting the website below:
- <https://self-referral.test-for-coronavirus.service.gov.uk/test-type>

# Testing – How to swab

- This video shows you how to self-swab

<https://youtu.be/8lo6g-TYZ-c>

# Key sources of information

For the general public:

- <https://www.nhs.uk/conditions/coronavirus-covid-19/>

NHS 111 Online:

- <https://111.nhs.uk/covid-19>

Mental Health advice:

- <https://www.nhs.uk/oneyou/every-mind-matters/>

PPE Guidance

- <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe>

Coronavirus (COVID-19): guidance for schools and other educational settings

- <https://www.gov.uk/government/collections/coronavirus-covid-19-guidance-for-schools-and-other-educational-settings>

# The Greenwich Health Protection Email

[healthprotection@royalgreenwich.gov.uk](mailto:healthprotection@royalgreenwich.gov.uk)

## **The team will be able to provide advice about the following:**

- Understanding risk and preventing infection
- Undertaking activities safely
- Safe volunteering
- Information and advice about social distancing
- Information and advice about self-isolation
- Routes of transmission
- Incubation and infectious period
- Public Health England COVID-19 Guidance

## **We can provide advice and guidance to:**

- Care Homes
- Social workers
- Care workers
- Pharmacies
- GPs
- COVID-19 volunteers and area coordinators
- Community and voluntary groups
- Schools and educational settings
- RBG staff

**The email is monitored 7 days a week between the hours of 9am – 5pm**