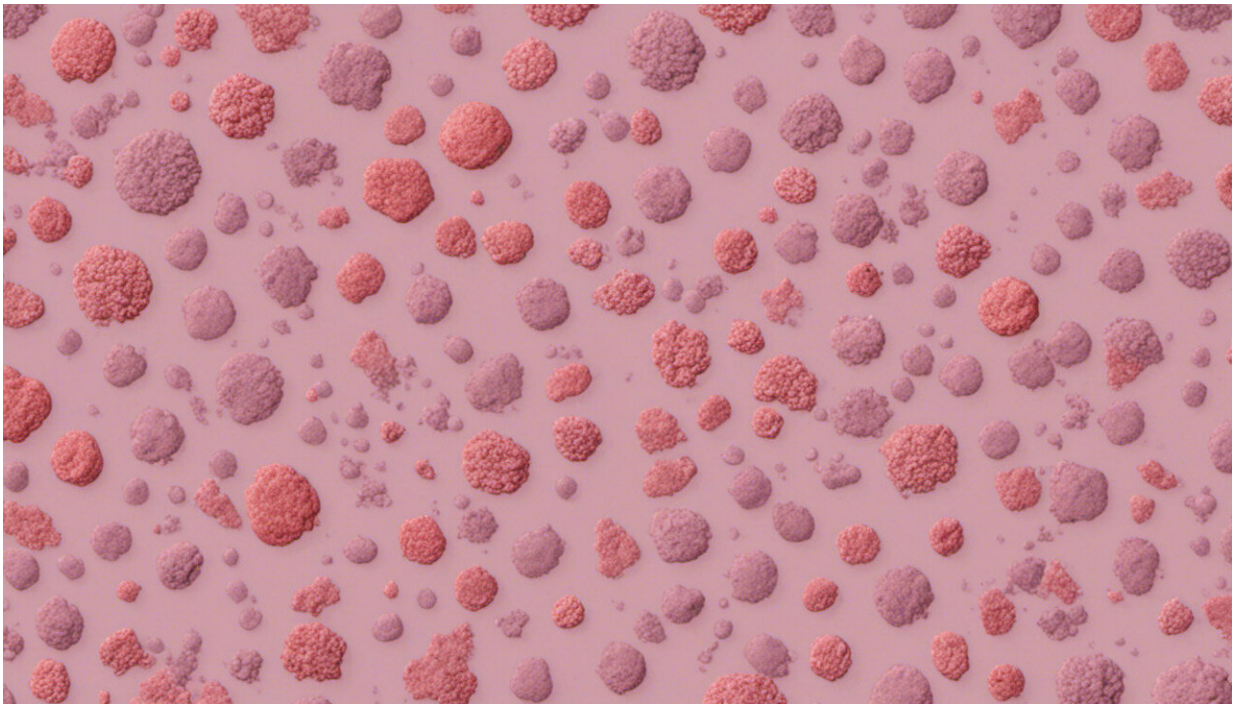


Six common COVID myths busted by a virologist and a public health expert

November 29 2022, by Simon Nicholas Williams and Stephen Griffin



Credit: AI-generated image ([disclaimer](#))

Almost three years into the pandemic, myths and misinformation remain widespread. Here we, a virologist and a public health researcher, debunk some common misconceptions about COVID.

Myth 1: The virus is becoming milder

There's a [prevailing myth](#) in the omicron era that [SARS-CoV-2](#) (the virus that causes COVID-19) is becoming "[milder](#)."

It's true that earlier omicron variants (BA.1 and BA.2) were [less likely](#) than delta to cause severe illness, partly because they were more likely [to infect the upper airway](#) than the lower airway. This means omicron infections didn't infect the lungs as aggressively as delta did.

But disease outcomes are critically dependent [on immunity](#) and the UK is [privileged in this regard](#). When BA.2 hit Hong Kong in spring 2022, [poorer vaccination coverage](#) meant a [devastating outbreak](#).

Even in England's well-vaccinated population there have been [almost 29,000 COVID deaths](#) between January and early November 2022, and [tens of thousands](#) of hospitalizations.

Individual risk may have fallen, but high omicron infections and reinfections have considerable impact at population level. Subvariants continue to [escape antibody immunity](#), and some (like BA.5) appear to have reacquired a [preference for the lower airway](#). This, along with other factors, [increased the risk of hospitalization](#) with BA.5 compared to BA.2.

So SARS-CoV-2 is not inherently mild, or necessarily becoming milder. We must also remember that [millions of people](#) can't respond effectively to vaccines or are at heightened risk. Effective public health should combine updated vaccines against this moving target [with limiting infections](#) to [slow viral evolution](#).

Myth 2: COVID only affects older and vulnerable people

One common reason people don't get vaccinated is [perceiving a low personal risk](#) from infection. Again, high prevalence inflates smaller individual risks. For [younger people](#), even a mild infection can lead to long COVID, which affects [up to one in five adults](#) aged 18-64.

This myth is particularly problematic in relation to children. Kids are far less prone to severe COVID than adults, but among pediatric infectious diseases, COVID is a significant cause of [death](#) and [illness](#). Children can also [develop long COVID](#). Despite lackluster UK government messaging, many healthcare agencies around the world [recommend](#) vaccinating kids against SARS-CoV-2.

Myth 3: Washing hands is enough to prevent COVID spread

SARS-CoV-2 spreads via [tiny particles](#) of moisture suspended in the air called aerosols. Droplets (for example from sneezing) and fomites (droplet-contaminated objects) play a role, but are not the major route of spread.

As such, [ventilation](#) and [masks](#) are key to reducing COVID transmission. But hand washing and sanitizing have been more popular [anti-COVID measures](#).

Some organizations were [slow to accept airborne transmission](#). So messaging at the start of the pandemic, including from the UK government, over-emphasized the importance [of hand washing](#).

A psychological phenomenon known as a "[primacy effect](#)" describes when people are more influenced by the first things they experience, and retain these concepts. It appears the early focus on [droplets and fomites](#) stuck in people's minds, even once we knew [SARS-CoV-2 was airborne](#).

Hand hygiene is important for reducing transmission of other diseases, but is [not sufficient for airborne viruses](#).

Myth 4: Masks don't work

Face masks [work](#) by protecting the wearer and others. But as with all mitigation strategies, this is never 100%. Masks work best alongside other measures and must be worn properly.

Masks range from cloth face coverings, to [surgical masks](#), up to FFP2/N95 and FFP3/N99 respirators. Any barrier helps, but cloth masks mainly limit droplets and [do little](#) to protect the wearer from aerosols. [Surgical masks](#) with non-woven layers are significantly better, yet still offer limited protection compared with [respirators](#).

Worn properly, FFP2 and FFP3 respirators filter [95% and 99%](#) of particles respectively, down to the size of aerosols. In this way they [protect the wearer and others](#).

Myth 5: Vaccines don't reduce transmission

Delta caused noticeable [breakthrough infections](#) in people who had been vaccinated and reinfection is now [common with omicron](#). This is due to the evolution of antibody-evasive mutations within SARS-CoV-2's spike protein, along with natural antibody waning.

Research [consistently supports](#) that vaccination reduces omicron transmission as well as severity. Studies show that, while not eliminating the risk entirely, vaccinated people with breakthrough infections are [less likely](#) to spread the virus to others.

Myth 6: Vaccines were rushed through

COVID [vaccine](#) trials were not rushed. Remarkable cooperation, ample funding and innovative design accelerated things. But what's usually the greatest bottleneck—patient recruitment—was bypassed by the sheer abundance of people exposed to SARS-CoV-2.

Vaccines saved an estimated [20 million lives globally](#) in 2021. But as effective as they are, vaccines, like all medicines, are not perfect.

Up to October 2022, the UK's Office for National Statistics [recorded 56 deaths](#) in England and Wales involving COVID vaccines. All these deaths are tragedies. Patient reporting systems like the Medicines and Healthcare products Regulatory Agency [yellow card scheme](#) show higher numbers before investigations.

When [millions of people](#) are vaccinated, serious and potentially fatal reactions do occur on rare occasions. This is partly due to our genetic diversity, but other factors also contribute.

Rare reactions include [anaphylaxis](#) (allergic responses to vaccine ingredients), [blood clots](#) and myocarditis and pericarditis (inflammation of the heart muscle or surrounding sac).

It became clear after millions of inoculations that the AstraZeneca vaccine could [cause rare blood clots](#) in the veins. Untreated, this can be fatal. These occur more in younger adults, but the UK now uses mainly mRNA vaccines.

Myocarditis after mRNA vaccination has caused concern, mainly in [adolescent males](#), but is generally rare, mild, and gets better on its own. By contrast, [myocarditis from a COVID infection](#) is more common, long-lasting, and far more likely to require intensive care. In other words, the benefits of COVID vaccination clearly outweigh the risks.

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