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Coronavirus: UK third wave

# Is it time to vaccinate children?

With covid-19 cases surging and restrictions loosening in the UK, is it time for the country to start vaccinating children? **Clare Wilson** investigates the pros and cons

THE UK looks set to drop almost all of its covid-19 restrictions on 19 July, despite infections soaring. The UK government appears to be banking on the fact that more than half the nation has been fully vaccinated against the virus, helping minimise the number of hospitalisations from covid-19.

But most under-18s, who make up about a fifth of the UK population, haven't had jabs yet. The rationale for this is that children get less sick from covid-19 and were mainly excluded from initial vaccine trials, so there is less information on vaccine effectiveness in people of that age.

While UK regulatory approval for the Pfizer/BioNTech jab was extended in June to people who are 12 or older, the body that decides whether people in the UK should in practice be offered vaccines, the Joint Committee on Vaccination and Immunisation (JCVI), is still making up its mind.

This is in contrast to the US, Israel, France and Spain, for example, which have either begun vaccinating children aged 12 and over or are about to. Is it time more countries followed suit? Here's what we know about vaccinating children against covid-19.

## What evidence is there on child vaccination?

Initial trials of the Pfizer/BioNTech vaccine included people aged 16 and over, so in some countries, including the US, older teens have been offered this jab from the start of the roll-out.

Two further trials have been done in younger teens, testing the Pfizer/BioNTech and Moderna mRNA vaccines. Both found good effectiveness, with Pfizer/BioNTech generating higher levels of antibodies in teens than

in adults. More trials in younger groups are ongoing, including some in under-12s.

Side effects appeared similar to those seen in adults – in other words, a sore arm, plus broader effects like fatigue and headache.

But rare side effects may not show up in such trials of just a few thousand people, as was found with the blood-clotting side effect seen occasionally in younger adults receiving the Oxford/AstraZeneca jab. The JCVI is likely to wait to see if any similarly rare side effects arise from vaccines in under-18s in other countries, says Helen Bedford at the Royal College of Paediatrics and Child Health in London.

## Have any rarer side effects emerged yet?

A condition called myocarditis – inflammation of the heart – has been seen rarely after the mRNA vaccines, particularly in males under 30 after their second jab. Myocarditis causes breathlessness and chest pain, and can be triggered by covid-19 itself. It ranges from being mild to severe enough to kill, however no deaths from this side effect have



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been recorded in the US so far.

The US Centers for Disease Control and Prevention said last month that the incidence in 12 to 17-year-old boys is 63 reported cases per million second doses of vaccine administered. A study from Israel finds about a three times higher rate in 16 to 24-year-old males than in the US study. But both the US and Israel have said that the benefits of vaccination still outweigh any risks. Most cases are mild and transient, says Peter Liu, a cardiologist at the University of Ottawa in Canada.

Myocarditis from viral infections usually stems from an excessive immune response. Because younger people seem to produce more antibodies after vaccination, “there is probably a more exuberant immune response [to the vaccine] in younger men”, says Liu. Trials are investigating if younger people could be given a lower dose.

## What are the benefits of vaccinating the young?

Vaccinated under-18s would be less likely to get ill with covid-19, but a preprint published earlier this month confirmed that this age group's risk from infection is already low. Over the first year of the pandemic, only 259 under-18s in England were treated in intensive care with covid-19.

Vaccination would also decrease cases of a “delayed inflammatory syndrome” that has occurred in some children with covid-19. The study found that 312 under-18s had been admitted to intensive care with this condition over the year.

In total, 25 under-18s in England

**Light micrograph of a section through heart tissue with myocarditis**



SARAH REINGE/WITZ MED NEWS GROUP/LOS ANGELES DAILY NEWS VIA GETTY IMAGES

have died as a result of either acute covid-19 infection or the delayed inflammatory syndrome. Most of the children who died had underlying health conditions, such as neurodisabilities or heart problems, says Russell Viner, president of the Royal College of Paediatrics and Child Health, who was involved in the work.

**“Even younger teens can overrule a parent's wishes if they are judged to be fully informed”**

There are also concerns over children getting long covid – persistent health problems after infection, such as fatigue and muscle ache, although it is unclear how common this is.

A survey by the UK's Office for National Statistics found that 13 per cent of secondary school children in England have symptoms five weeks after



infection, compared with 2 per cent of an uninfected control group.

Other benefits lie in reducing transmission to adults, who can still catch covid-19 even if vaccinated, as well as helping cut the risk of a more dangerous variant arising in the UK.

There are precedents for immunising children for societal benefit, such as giving the rubella vaccine to children to avoid them passing the virus to pregnant women, said Beate Kampmann at the London School of Hygiene & Tropical Medicine at a Royal Society of Medicine conference last week. "I don't think covid-19 is an exception there."

## What about vaccine hesitancy?

Any vaccine provision for teenagers would probably be offered through schools and

**A child is hugged after taking part in a Moderna vaccine trial in Los Angeles**

**13%**  
of infected children in England still have symptoms after five weeks

**25**  
children have died as a result of covid-19 in England

**88%**  
of parents in England would vaccinate their children against covid-19

colleges, as happens with several other children's vaccines, such as the HPV vaccine, which protects against several cancers, including cervical, mouth and throat cancer.

As with the HPV jab, some parents may refuse to consent to their child receiving a covid-19 vaccine. But vaccine hesitancy is relatively low in the UK. According to a survey by the Office for National Statistics carried out in April and May 2021, about 88 per cent of parents in England said they would definitely or probably let their child have the jab.

And teenagers will have their own views. "I would probably have the vaccine. You wouldn't have to worry about infecting vulnerable people," says Rebecca Boland Ross, aged 14. "Most of my friends would take it."

Molly Naylor, 13, says: "I'd be really happy to be vaccinated. Vaccinating children means less people would have to [isolate] and more sports activities can open up. Teachers are often self-isolating at the moment."

Although in England parents would be asked to consent to their children being vaccinated against covid-19, for those aged 16 and over, the final decision is up to the child, says Bedford. Even younger teens can overrule a parent, if they are considered to be fully informed. But school nurses would try to address any parental concerns first, says Bedford.

## Should vulnerable children get vaccinated?

The question of whether to offer the vaccine to most under-18s may be in the balance for now, but it is more pressing for those who are most vulnerable to covid-19. At the moment, the Pfizer/BioNTech jab can be given to people who are

16 or older and who are clinically very vulnerable or to those who are 12 or older living in residential care with a severe neurodisability. And some 16 to 18-year-olds who aren't vulnerable have received a vaccine in high-incidence areas.

That still leaves many under-18s who are at risk and whose families are desperate for them to get the jab, says Una Summerson at Contact, a UK charity for families with disabled children. Some of them have been shielding since March 2020. "There are thousands of children who haven't left the house in 16 months. There's a strong case for treating this as a more urgent decision."

## Should more vaccines be sent abroad first?

The issue of whether to vaccinate children in the UK or send doses to other countries is complicated. Most low-income nations have immunised less than 5 per cent of their populations. The World Health Organization wants enough vaccines to be donated to immunise at least 20 per cent of every country.

Among the arguments for giving vaccines to children in higher-income countries before donating them include the fact that it may be hard for low-income nations to use the Pfizer vaccine because it needs to be stored at ultra-low temperatures. However, other vaccines can be kept in regular fridges. "There are strong arguments that the benefits will be so marginal for vaccinating our teenagers that we should be contributing to international vaccine supply," said Viner. "But I don't think it entirely trumps the need to vaccinate some of our teenagers, particularly those that are clinically vulnerable." ■