

# AstraZeneca's blood clot risk is incredibly small—lower than common contraceptives

8 April 2021, by Nathan Bartlett



Credit: Unsplash/CC0 Public Domain

Authorities in the United Kingdom overnight [recommended](#) people under 30 be offered an alternative COVID vaccine to the AstraZeneca/Oxford shot.

The recommendation came after the European Medicines Agency (EMA) [found](#) a "possible link" between the [vaccine](#) and [blood clots](#). The EMA [also said](#) blood clots should be listed as a "very rare" side effect of the vaccine.

It's important to note there's still no conclusive evidence the vaccine is *causing* the clots, as so few have been reported. However, evidence there is a link is increasing, which has prompted more focused monitoring.

The benefits of getting a COVID vaccine still far outweigh the risks. I would still be encouraging everyone to be vaccinated with the AstraZeneca vaccine.

Prime Minister Scott Morrison [said this morning](#) "there's nothing to suggest at this stage that there would be any change" to Australia's current rollout

strategy. The Therapeutic Goods Administration and the Australian Technical Advisory Group on Immunization are [currently reviewing](#) the data and latest advice from Europe and the UK.

Government asks medical regulators to 'immediately' look at EU data on AstraZeneca blood clot link  
<https://t.co/OBwonkaTIV>

— ABC News (@abcnews) [April 7, 2021](#)

## What's causing these clots?

Blood clotting events linked to vaccination are [being called](#) "vaccine-induced prothrombotic immune thrombocytopenia" (VIPIT).

In these rare instances, clots are forming in a patient's blood, and [not just in veins but in arteries](#) and other rare locations like the [brain and abdomen](#). This is also paired with [low platelet counts](#) (cells needed for the blood to [clot](#)).

It appears, in these instances, the body's response to the vaccine is triggering an "off target" immune response that is attacking platelets. [Limited data](#) that is yet to be peer reviewed suggests antibodies targeting platelets cause them to become activated and trigger clotting. This autoimmune response also targets the platelets for destruction, reducing their level in the blood. So platelets are either tied up in clots or are eliminated. Both processes contribute to "thrombocytopenia" (low blood platelet count).

Like infections, vaccines trigger an immune response, so when receiving any shot that stimulates a robust immune response there's a small but real risk your immune system will generate "off target" effects. In these rare

instances, these effects can lead to autoimmunity, which is an [immune response](#) that attacks your own cells.

### All vaccines and medications come with small risks

The numbers of clots reported after the AstraZeneca are very small, so we don't exactly know how common they are. But they [appear to occur](#) at a rate between one in 25,000 and one in 500,000.

The UK's vaccine advisory board [said](#) there were 79 cases of blood clotting issues among more than 20 million people given the AstraZeneca vaccine. That's a chance of about 0.0004%, or one in 250,000.

The incidence of serious blood clots from:

The Contraceptive Pill: 0.6%

The AZ vaccine: 0.00017%

How much time did you spend wracking your brain about the first one?

I really hope that the media are proportionate in their reporting.

— Keir Shiels (@keirshiels) [April 7, 2021](#)

Researchers haven't yet identified any specific risk factors so far for the development of blood clots following COVID vaccination. We need to understand as quickly as possible what these are if indeed a causal link is established.

[Some have suggested](#) there could be a link with women taking the [contraceptive pill](#) having a higher risk of blood clots after receiving the AstraZeneca vaccine. But there's no evidence for this at all. As far as I know, information on whether women receiving the vaccine are taking the contraceptive pill isn't captured. Perhaps it's something to consider going forward.

Young people don't appear to be at particularly higher risk of blood clots linked to the vaccine. The publicized cases of [blood](#) clots have occurred in [mostly women under 60 years of age](#).

### Australia shouldn't follow the UK's new recommendation

One reason the UK is able to advise younger people to receive other vaccines is because it has other vaccine options, including the Pfizer and Moderna shots. Offering the under 30s an alternative vaccine isn't really going to hinder the rollout, which is going very well in the UK.

But this isn't the case in Australia. The AstraZeneca shot is the only one we have guaranteed supply of, given CSL is producing it in Melbourne.

It's important to remember the AstraZeneca vaccine is a very safe and effective vaccine. It's also easier to store and distribute than the Pfizer vaccine.

### The priority is vaccinating as many people as possible and quickly

It's important to note we're in uncharted territory. This is the first time in modern history we've been in a situation where we've needed to roll out a vaccine to deal with a pandemic.

We're also using new vaccine technologies that we've had to expedite to try and get on top of this virus as soon as possible. These new technologies, including AstraZeneca's, have never been tested at this immense scale until now.

There are a lot of unknowns, but certainly the scale in which we're doing this means we're going to see very rare adverse events linked to these vaccines.

At this stage the priority is still to vaccinate as many people as possible, as quickly as possible.

My primary concern is ongoing high levels of transmission across the world. The more cases there are, and longer we delay vaccinating people, the higher the likelihood is of new variants of the virus emerging.

Even though we have very low COVID-19 case numbers in Australia currently, we've seen regular outbreaks stemming from hotel quarantine. We can't predict what's going to happen in the future. The longer the virus is waiting at our doorstep, the greater the risk we'll have another outbreak and end up in lockdown and much worse—and nobody wants that.

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