

Old polio vaccines can mutate into a dangerous version of the disease — but a new ‘super-engineered’ vaccine is much safer

The original or “wild” poliovirus is now contained to small pockets of Afghanistan and Pakistan and the oral vaccines play a pivotal role in the attempt to rid the world of polio.

“The issue is they’re genetically unstable,” Dr Andrew Macadam, from the UK’s MHRA, told BBC News.

It takes only one mutation to turn the safe polio vaccine back into a virus that can move out of a child’s stomach, invade their nervous system and cause paralysis.

Follow the latest news and policy debates on sustainable agriculture, biomedicine, and other ‘disruptive’ innovations. Subscribe to our newsletter.

[SIGN UP](#)

There are [now more cases](#) of “vaccine-derived polio” than of the wild poliovirus and the polio detected in London’s sewers [last year](#) was connected to the oral vaccine.

So the researchers have genetically altered the weakened virus even further to make it much harder for it to start causing paralysis again.

...

In March 2021, the World Health Organization made the researchers’ vaccine against type-two polio available for emergency use. Since then, it has been used more than 650 million times.

Now, [in the journal Nature](#), the researchers have detailed the creation of stable vaccines against polio types one and three.

The first-stage human trials of the upgraded vaccines have already been conducted – and, the researchers say, the data, which is still being analysed, is “very promising”.

[**This is an excerpt. Read the full article here**](#)