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What is vaccine-derived polio?

Cases are extremely rare but now outnumber those from the wild polio virus



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BY S.C.



AS POLIO ERADICATION slides through the final stretch of a 30-year global campaign to wipe it out, a new worry has emerged: vaccine-derived cases of the crippling disease. Such cases are extremely rare, but are attracting more notice as

those caused by the wild virus itself have dwindled. In 2017 cases caused by vaccine-derived viruses overtook, for the first time, those caused by the wild version. The tally for 2018 shows a dramatic swing: 98 cases of vaccine-derived polio; 29 cases of the wild version. What is vaccine-derived polio?

Polio vaccines come in two forms. The injectable version, used in rich countries, contains dead viruses and creates antibodies in the blood. Someone vaccinated with it who ingests the wild virus (say, by drinking contaminated water) is protected from the disease. But, for several weeks afterwards, the wild virus in that person's gut can be passed on to people who are not immune. The oral vaccine, by contrast, contains weakened live virus. Because the antibodies it creates take up residence in the gut, they battle there with any wild virus a vaccinated person might ingest, making further transmission less likely. The oral vaccine is therefore a better option in places, often poor countries, where wild polio viruses are common and vaccination rates are low. Moreover, someone vaccinated with the oral vaccine excretes the weakened form of the virus for a couple of weeks. Anyone who comes into contact with this excreted virus also gains immunity, and can pass it on to others who are not immune. This sort of passive vaccination is a boon—but only up to a point. As the weakened virus from the vaccine jumps from one unvaccinated person to another, the chances increase that something will go wrong. Along the way, the virus mutates and, after a year or so, can turn into a paralysing form that resembles the wild virus.

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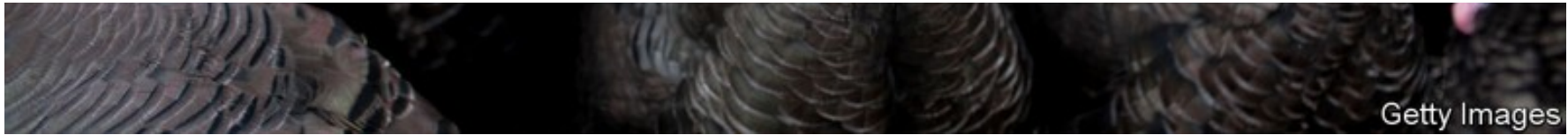
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