



Vaccines could help elephantiasis spread

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PARASITIC worms can adjust their survival strategy based on their host's immune response. This means potential vaccines against elephantiasis might make the infection spread more easily through communities.

Elephantiasis infects 120 million people a year in Africa and Asia. Tiny filaria worms carried by mosquitoes block the lymph vessels that normally drain fluid from limbs or genitals, which then swell to grotesque proportions. The only prevention is a yearly dose of worming drugs, but fewer than half the people at risk receive them.

Work is under way on a [vaccine](#), but Simon Babayan at the University of Edinburgh, UK, and colleagues, have discovered that some vaccines may make the worms worse. When filaria worms in mice sense that the mouse is mounting a strong immune reaction, they change their life cycle, producing more offspring in the blood earlier. This helps the worm ensure that it will be picked up and transmitted by another mosquito despite the immune attack (*PLoS Biology*, DOI: [10.1371/journal.pbio.1000525](#)).

Unfortunately, experimental vaccines rely on the very immune reactions that warn the worms, Babayan says. People who get such a vaccine may defeat their own infection, but the worms' early response means they will pass on more infections.

Babayan says potential vaccines should be tested for whether their targets adapt to them in this way.



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