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Title: Not infection with parasitic worms, but rather colonization with therapeutic helminths

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## Not infection with parasitic worms, but rather colonization with therapeutic helminths.

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### Highlights

- Williams et al provides further evidence for the benefits of helminth therapy.
- The reputation of helminths as parasites affects views about helminth therapy.
- Benign and especially beneficial helminths are not parasites, by definition.
- Proper use of biological terminology may help advance helminth therapy.

### Text of letter:

The report by Williams and colleagues in the August issue of *Immunology Letters* (1) describes a case in which a scientist exposed himself/herself to a helminth well-known among the veterinary community, the porcine whipworm. The intention was to observe the effects of exposure to the helminth on the scientist's immune disorder and to monitor the fate of the organisms following that exposure.

The scientist saw improvement in his or her psoriasis, adding yet another anecdote consistent with observations we have made using a socio-medical methodology: Hundreds of people are using helminths to alleviate a variety of inflammatory conditions (2, 3). The collective experiences of these self-treating individuals in concert with a variety of studies using laboratory animal models suggest that the presence of helminths in the ecosystem of the human body is probably necessary to ensure healthy immune function. The working paradigm in the field is that helminths have the potential to alleviate one of the ultimate causes of inflammatory disease in Western society, biota depletion, defined as the loss of biodiversity from the ecosystem of the human body as a result of modern technology (4-6).

The ova of the porcine whipworm, *Trichurus suis ova* (TSO), were first identified as a promising therapeutic agent more than 10 years ago (7), and rapidly came to be viewed as the most promising helminth for therapeutic use. With no substantial momentum behind the development of any other therapeutic helminth for clinical use, the field suffered more than a catastrophic failure when Ovamed, the owner of the TSO technology, shut down clinical trials in mid-2015 due to a lack of effectiveness.

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