

# Graham Le Gros and Helminthic Therapy

## A rebuttal of comments made to the media by Prof Le Gros in July 2019 about the helminthic therapy community and its members.

In July 2019, [Prof Graham Le Gros](#) of the Malaghan Institute of Medical Research in New Zealand gave a series of interviews to the media [1] [2] [3] [4] to promote a trial in which healthy adult volunteers are each to be given a dose of 30 *Necator americanus* hookworms to enable the immune response to this species to be investigated. [5]

In these interviews, Le Gros presents himself as the pioneering investigator of what he proposes could be a natural, low cost treatment solution for many inflammatory and allergic diseases, and claims that his forthcoming trial is a “world first”.

Le Gros fails to mention that [Prof David Pritchard](#), of Nottingham University, has been studying hookworms and the immune responses they engender since the mid 1980s, and researching the therapeutic use of helminths since the early 2000s. After completing preliminary safety and dose-ranging studies, Pritchard's team then carried out a large Phase II randomised, placebo-controlled trial between 2011 and 2016 to assess the effects of hookworms on disease activity in patients with multiple sclerosis. [6]

Not only has all this pioneering science been carried out previously, but helminthic therapy has been available for use as a self-treatment since 2004. And, during the past 15 years, it has been developed and refined using four domesticated, mutualistic helminth species: the human hookworm *N. americanus*, whipworms - both human and porcine - and a murine tapeworm. The results obtained by citizen scientists have been investigated by a number of researchers.

Four years ago, [Prof William Parker](#) and his team at Duke University reported the first of two detailed examinations of this community.

**\* Overcoming Evolutionary Mismatch by Self-Treatment with Helminths: Current Practices and Experience.** [7]

A year later, they published this second study.

**\* Practices and outcomes of self-treatment with helminths based on physicians' observations.** [8]

The helminthic therapy community has also been investigated by academics from disciplines other than medicine. These include [Jamie Lorimer](#), Associate Professor in Human Geography at Oxford University, who has already written three papers on this topic and currently has a book in publication. Here is his most recent paper.

**\* Hookworms Make Us Human: The Microbiome, Eco-immunology, and a Probiotic Turn in Western Health Care.** [9]

Another scientist who has taken an interest in helminthic therapy citizen science is [Stephen Flowers](#), Professor of Management (Innovation) at the University of Kent, UK. In the following book chapter, he explored the implications of innovation in the context of helminthic therapy and Crohn's disease, and, although the data that Flowers references was collected several years previously, in the very early days of the self-treatment movement, his commentary is still pertinent today.

**\* Chronic Disease, New Thinking, and Outlaw Innovation: Patients on the Edge in the Knowledge Commons.** [10]

Numerous other researchers have investigated the practice of self-treatment with helminths, and have commented as follows.

*“Although some helminths are known to cause disease and have been labeled parasites, it is now clear that some exposure to this class of organisms is necessary for human health.”* ([Bono-Lunn et al](#))

*“What was a costly and sometimes risky venture into the unknown, undertaken by only a few 10 years ago, is rapidly becoming a readily available and well-established resource currently used by thousands of individuals.”* ([Cheng et al](#), 2015)

*“The results strongly support previous indications that helminth therapy can effectively treat a wide range of allergies, autoimmune conditions and neuropsychiatric disorders...” (Liu et al)*

*“In developed countries, where we are well nourished, worms are potentially good... If I had Crohn’s disease, ulcerative colitis or multiple sclerosis, I would infect myself without hesitation.” (Prof Alex Loukas, Australian Institute of Tropical Health & Medicine) [11]*

*“All immunocompetent humans need regular exposure to helminths in order to maintain optimal immune function and avoid risk for inflammation-associated disease... access to helminths is a basic human need.” (Smyth et al)*

*“We need to embrace the view that helminths are a necessary component of the ecosystem of a healthy body, and that helminths should be cultivated for population-wide biota restoration.” (Villeneuve et al)*

*“Biome reconstitution... holds a promise for exposure of all individuals to naturally occurring organisms or selected variants of those organisms in a way that is required for human health. Such exposure must be considered a fundamental human right worthy of government support rather than an option for pharmaceutical development.” (Parker and Ollerton)*

*“In some not too distant futurity, there may come a day when we all take ‘helminth supplements’ along with our Omega 3 fatty acids, vitamins, and whatever else goes to make up a modern balanced diet.” (Zaccone et al, 2006)*

*“Twenty years from now everybody is going to have a helminth, and no insurance company will begin to cover you if you don’t have your helminths ... We’re very confident in the science, that every single human being needs a helminth. It’s part of our biology.” (Prof William Parker, Duke University, 2016) [12]*

What is most concerning about the interviews given by Le Gros is his deprecation of those individuals who have chosen to follow the extensive scientific evidence [14] by replenishing their helminth-deficient biomes with a few mutualistic worms. He went out of his way, in every one of his interviews, to pour scorn on these people, using disparaging and emotive terms and making claims that have no evidential basis.

*“There’s a whole lot of bootlegged worms, and there are parasite support groups, and so you have people with conditions and they’re just desperate to try something. And they hear that, in one-off cases, that someone feels better once they’ve had a worm. And they’ll just go on the internet and get them.” [15]*

*“There’s all these urban, backyard bootlegging worm factories around the world. You just go onto Bitcoin, and people are self-diagnosing and they’re working themselves up and giving themselves worms.” [16]*

*“At the moment it [hookworms] are just passed from person to person in the most unreliable way, with no clear protocols on how to make a good healthy worm.” [17]*

*“They don’t know what they’re buying, they don’t know where they’re coming from, and the dosing and everything is just completely unknown... They’re willy nilly using worms without there being any real evidence yet that they work.” [18]*

It is clear from these comments that Le Gros has no idea about how helminthic therapy is being practiced today. The only researchers who share his jaundiced view of self-treatment with helminths are a small band of parasitologists who include Prof Peter Hotez, an anti-hookworm zealot who, like Le Gros, is seeking to develop a vaccine against this species, which Hotez believes is a scourge and should be condemned to extinction.

*“Giving people worms belongs in the trash bin.” [19]*

While Le Gros characterises those who self-treat with helminths as desperate, incompetent and reckless renegades, the community in fact comprises thousands of very knowledgeable and responsible individuals with an average level of academic attainment much higher than that found in the general population. A significant number of the community’s members hold higher degrees, including PhDs and MDs.

The community is performing a remarkable and invaluable service by sharing their knowledge to enable thousands more to experience remission from diseases for which the healthcare establishment can only offer pharmaceutical or surgical treatment options, many of which cause longterm adverse side effects and some

of which can prove fatal. Helminthic therapy has saved many lives, including that of the lady featured in [this report](#).

Below are further facts that give the lie to Le Gros' opinions about the helminthic therapy community and its members.

\* In the absence of interest from mainstream medicine, the citizen scientists in the self-treatment community have both pioneered the practice of helminth replacement therapy and also created the world's largest database of information on the subject, the [Helminthic Therapy wiki](#). This website lists all the relevant research to date - over [700 papers](#) - and features more than [600 accounts of success and failure](#) by individuals who are treating one or more of over 130 different medical conditions.

Were Le Gros to read this wiki, he would learn much that would be of value to him in his own research into this subject, including, for example, why the 30 *N. americanus* larvae that he intends to give to subjects in his forthcoming trial is too large a number to be given as a single dose to a hookworm-naive subject. [20] He would also learn that this species only lives for as little as 2-3 months in some people [21] - not the 10 years that he claims - and why, therefore, a 12-month trial with *N. americanus* should involve the use of several smaller doses given at shorter intervals. He would also discover that hookworms are not as robust as he believes them to be, and are in fact susceptible to quite a number of substances, including some foods. [22]

\* There are many medical doctors who are using helminths to treat themselves. For example, a [pathologist in New Zealand](#).

\* There are yet more medics who are using helminths to treat members of their own families, and there is an increasing number of doctors who recommend helminthic therapy self-treatment to their patients, and who advise them to obtain their organisms from the community's well established [helminth providers](#), the quality of service offered by which is kept under review via [customer feedback](#). "Backyard bootlegging worm factories" have no chance to flourish in this environment.

\* There is a steadily growing number of doctors with experience in the use of helminthic therapy, and some of these offer [online consultations](#) to anyone who feels the need of professional guidance.

\* There is a very active [Facebook group](#) where self-treaters can receive free advice and support from more experienced members while learning how to use helminths to treat their own particular conditions.

Sadly, Le Gros' comments will have been read or heard by many thousands of individuals, some of whom might have benefitted from this therapy, had they not been dissuaded by his pejorative and factually incorrect remarks. Some of those individuals, who are desperately ill and may have exhausted all other available treatment options, will consequently face unnecessary suffering and possibly even an untimely death.

*"It is untenable to rebuke patients for self-treatment with helminths when such treatment may in fact be their best course of action..." (Cheng et al)*

*"Although self-treatment with helminths cannot be recommended by medical professionals due to a lack of blinded, placebo controlled trials, neither should it be discouraged since the available evidence suggests that it is beneficial in most cases when practiced by knowledgeable individuals." (Parker and Morey)*

In spite of what Le Gros appears to believe, self-treatment with helminths is not something to be regulated, or controlled by the medical establishment. Helminths are the heirlooms of all humankind, not the sole preserve of medical researchers or clinicians. As an essential component of a healthy gut biome, helminths are necessary for optimum immune function. Access to them is therefore a basic human right. [23]

While Le Gros would have people wait for him to complete his research, there is absolutely no need for anyone to delay availing themselves of the remarkable healing potential that helminth replacement offers.

This therapy is already known to be effective in approximately 75% of users who have immune-related disorders, [24] it is recommended by doctors who understand it's use, [25] the details of its application are already established, [26] appropriate helminths can be purchased from reputable providers, [27] and support for self-treaters is readily available. [28]

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By John Scott, for the Helminthic Therapy wiki.  
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