

***Campylobacter jejuni* Human Clinical Trial Set for 2022**

A polysaccharide capsule-based vaccine developed at the [University of Guelph](#) to combat [Campylobacter jejuni](#), one of the main causes of bacterial diarrheal illness worldwide, is set to be tested on people early this year.

Human clinical trials of the [glycoconjugate vaccine](#) are being funded by the National Institute of Allergy and Infectious Diseases (National Institutes of Health) and will take place at the Cincinnati Children's Hospital Medical Centre.



Recent fine structural studies have allowed for improvements to the vaccine used in earlier [phase one human trials](#).

C. jejuni infections have also been associated with [irritable bowel syndrome](#) and the development of [Guillain-Barré syndrome](#), an autoimmune disorder.

The vaccine sets in motion a series of immunological processes that yield antibodies against specific carbohydrates on *C. jejuni*'s cell surface. Monteiro first identifies the chemical structures of these *C. jejuni* carbohydrates (polysaccharides) and then synthesizes immunogenic polysaccharide conjugates.

[Human Phase 1 Clinical trials](#) in 2014-15 showed that the *C. jejuni* vaccine was safe for human use.

Since then, working together with researchers at the U.S. Naval Medical Research Center, studies have increased the vaccine's immunogenic properties.

C. jejuni exposes specific polysaccharides (sugars). But in this case, it was determined that an important [non-sugar immunogenic structure](#) was not fully expressed in the polysaccharide vaccine used in the first trial.

Another [diarrheal vaccine](#) developed by Monteiro and co-workers against *E. coli* and *Shigella* has been highlighted by the World Health Organization as a [preferred product](#) for combatting these diarrhea-causing bacteria in the developing world.

Contact:

Prof. Mario A. Monteiro

monteiro@uoqueph.ca

<https://monteiovaccines.uoqueph.ca/>