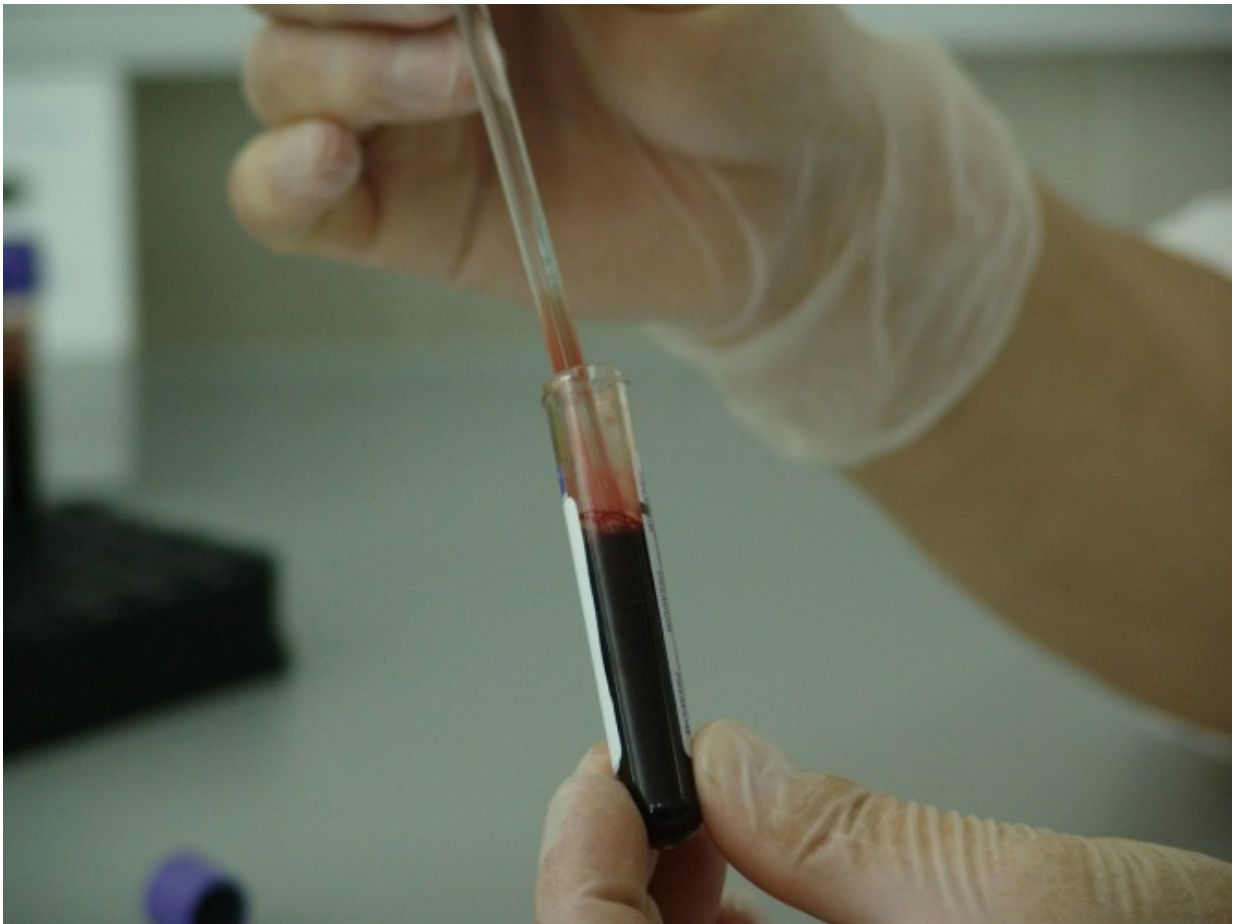


# Scientists discover link between bacteria and supposedly non-infectious diseases

September 7 2016, by Joe Paxton

---



Credit: University of Manchester

A group of scientists have found that a single molecule from a bacterial

cell wall component can lead to the unusual behaviour of 100 million clotting molecules in blood, which may be a major contributor to many diseases including Alzheimer's, Parkinson's and diabetes. The discovery could help to explain many features of these kinds of diseases, and may lead to new methods of prevention or treatment.

A team from The University of Manchester, together with South African colleagues from The University of Pretoria, tested [blood](#) and plasma for its ability to clot when the normal clotting agent thrombin was added. Normal, healthy blood clots have a nice spaghetti-like appearance. However, the results showed that tiny amounts of cell wall molecules such as lipopolysaccharide (LPS), which are shed by dormant bacteria, caused a highly anomalous clot to form dense deposits with very different fibres.

These can contribute to the chronic inflammation that is part of many supposedly non-infectious diseases. These include Alzheimer's, Parkinson's, 'auto-immune' conditions such as rheumatoid arthritis, cardiovascular problems such as stroke, and metabolic diseases including type 2 diabetes.

The discovery could have considerable impact on the treatment of these conditions, since stopping the unusual clotting could stop its consequences. Existing treatments do not do this, as the new mechanism had not previously been known.

The work is part of an ongoing collaboration funded by the Biotechnology and Biological Sciences Research Council to understand unusual blood clotting.

Resia Pretorius, from the Department of Physiology at The University of Pretoria, said "The importance of LPS in [inflammatory diseases](#) has been mostly overlooked, and has been used to induce both Alzheimer's

and Parkinson's disease in animal testing for many years. Inflammatory diseases are also closely linked to Leaky Gut Syndrome. Together with our new findings regarding the involvement of a (dormant) blood microbiome, this demonstrates that dormant bacteria can play an important role in all inflammatory diseases."

Provided by University of Manchester

Citation: Scientists discover link between bacteria and supposedly non-infectious diseases (2016, September 7) retrieved 19 April 2024 from <https://medicalxpress.com/news/2016-09-scientists-link-bacteria-supposedly-non-infectious.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--