

## The *Helicobacter* story

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### Abstract

These presentations occurred at the Ordinary General Meeting of the Royal Society of New South Wales, at the State Library, Sydney, on 11 November 2020, with the title, “Where have all the ulcers gone, long time passing?” as the first of several proposed talks on Great NSW Discoveries.

The life of a medical resident 50 years ago was dominated by peptic ulcers — 10% of men would get a duodenal ulcer, which caused pain and distress often occasioning admission to hospital for a milk drip, or worse if surgery had been “earnt,” resulting often in some form of deforming surgery that usually swapped one set of symptoms for another. Each year 2 to 3% would have a life-threatening complication — usually a bleeding or perforated ulcer.

The world changed in a dramatic fashion in 1981 when Robin Warren and Barry Marshall described an association of ulcers with spiral bacteria, now able to be seen due to the recent introduction of direct vision gastroscopy and biopsy. By swallowing the bacteria, Marshall showed that they caused gastritis, but not ulcers.

To prove that the bacteria caused ulcers required treatment that could eradicate the infection.<sup>1</sup> The Perth doctors were unable to develop such treatment, with others also failing around the world. This is the story of two NSW individuals (both Fellows of the Royal Society of NSW), whose critical contributions enabled a good idea to be translated into a dramatic health change, proving the link between *Helicobacter pylori* bacteria (as the spiral organisms came to be known) and ulcers to be causative, and facilitating a range of important discoveries.

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1 From the Koch postulates. As originally stated, the four criteria are: (1) The microorganism must be found in diseased but not healthy individuals; (2) The microorganism must be cultured from the diseased individual; (3) Inoculation of a healthy individual with the cultured microorganism must recapitulate the disease; and finally (4) The microorganism must be re-isolated from the inoculated, diseased individual and matched to the original microorganism. — Segre, J. A. (2013). What does it take to satisfy Koch’s postulates two centuries later? *Microbial genomics and Propionibacteria acnes.* *J Invest Dermatol*, 133(9), 2141–2142. [Ed.]

