

## Persistence in medical science

In 2005, the Nobel Committee (see below) praised the 'tenacity and the equipped mind' when it comes to disproving a medical dogma. It can sometimes take decades from the discovery of new knowledge to its application in patients.

### Example 1: 18 years - with an open outcome

What will we learn in 2024 (Intensive Care Med) that we didn't already know in 2006 about fluid therapy: what, when and how much?

Mertzlufft et al. are disappointed because the physiological composition of the various fluids was ignored by 21 authors after reviewing 108 references.

<https://doi.org/10.1007/s00134-024-07548-8>

The authors respond: This point was emphasised in the guidelines ... for further research.

<https://doi.org/10.1007/s00134-024-07666-3>

### Example 2: 13 years

When the maternal mortality rate in obstetrics was still 10-20 % P. Semmelweis (1818-1865) discovered the cause of puerperal fever: the doctors themselves were responsible for the transmission of the pathogens due to a lack of hygiene because they commuted between the pathology department and the clinic. He found that the mortality rate due to puerperal fever was significantly higher on wards with doctors (10-20 %) than on wards with midwives (1%). Decades later, his discoveries were put into practice.

In the English-speaking world, the term 'Semmelweis reflex' refers to the 'immediate rejection of information or a scientific discovery without further consideration or examination of the facts'. The University of Budapest bears his name.

There were 13 years between his discovery and the writing of his book. When his book was published in 1861, Semmelweis was a professor of obstetrics at the University of Pest (Budapest). At first, his findings were only occasionally and slowly recognised. The fact that Semmelweis bitterly attacked sceptical colleagues may also have contributed to this.

In 1865, Ignaz Semmelweis fell ill with severe depression and was admitted to the state mental hospital in Döbling near Vienna by three fellow doctors without a diagnosis.

### Example 3: 23 years

B. Marshall and R. Warren, the two Australians who discovered the 'stomach bacillus' *Helicobacter pylori* in 1982 and were the first to recognise its importance in the development of stomach and duodenal ulcers, were (finally) awarded the Nobel Prize in Physiology or Medicine in 2005. Many doctors had difficulty accepting the findings, i.e. curing these ulcers with an antibiotic, because they had previously been surgically removed for decades. According to the Nobel Committee, it is thanks to the 'tenacity and equipped mind' of the two researchers that a medical dogma that was taken for granted was refuted.