

Comparing the antibacterial properties of metals

Information sheet – History of copper in medicine

The first recorded medical use of copper was found in an Egyptian text, written between 2600 and 2200 BC. It records the use of copper compounds to sterilise chest wounds and drinking water.

The Greek physician Hippocrates (460–380 BC) treated open wounds and skin irritations with powdered copper oxide and copper sulphate. Another antiseptic wound treatment at the time was a boiled mixture of honey and red copper oxide. The Greeks had easy access to copper since the metal was readily available on the island of Kypros (Cyprus) from which the Latin name for copper, cuprum, is derived.

The Roman physician Celsus (14–37 AD) used a paste of copper oxide and rose oil to treat non-healing chronic skin ulcers.

Pliny (23–79 AD) described a number of remedies involving copper. For example, black copper oxide was given with honey to remove intestinal worms.

A tenth-century book from ancient Persia describes the use of copper compounds for medicinal purposes. Powdered malachite (copper carbonate) was sprinkled on boils, while copper oxide was used for diseases of the eye.

The first observation of copper's role in the immune system was published in 1867 when it was reported that, during the cholera epidemics in Paris of 1832, 1849 and 1852, copper workers were immune to the disease.

In the nineteenth century, scientists discovered microbes, and developed the germ theory of infection that linked bacteria and other micro-organisms to infection and disease. They then began to understand how we could use copper's antimicrobial properties. Based on this and other historical data, researchers have suggested that copper compounds not only cure disease but also aid in the prevention of disease.

Today copper compounds are often used in antiseptic and antifungal creams, and to increase the healing rate of ulcers and wounds.

Your task is to prepare a timeline showing the medical uses of copper.