



PLATINUM: AT THE HEART OF PACEMAKERS

Platinum is an essential component in the 700,000 pacemakers fitted worldwide each year

Platinum's unique characteristics make it especially suited to medical devices like pacemakers. It is an excellent electrical conductor and, because of its purity, it is also highly biocompatible. This means that platinum is well tolerated by the human body and unlikely to cause an allergic reaction.

In addition, platinum is inert and does not corrode inside the body. The electrodes, wires and pins in pacemakers are made using platinum or, sometimes, its sister platinum group metal, iridium.

A pacemaker is a small electrical device, fitted in the chest or abdomen, used to treat certain types of abnormal heart rhythms.

Around the size of a matchbox and weighing 20-50 grams, it uses electrical pulses to prompt the heart to beat at a normal rate when the body's own ability to do this is compromised. Abnormal heart rhythms can cause poor blood circulation, preventing enough oxygen reaching other parts of the body and causing organ damage.

Abnormal heart rhythms have many causes, with cardiovascular disease being a major factor. Cardiovascular disease (CVD) is an umbrella term for conditions that involve the heart and narrowing blood vessels that can lead to heart disease or stroke.

CVD is the most common cause of death globally, accounting for some 32 per cent of all deaths in 2017. It predominantly affects those aged 50 and above, with the risk of developing CVD increasing with age depending on lifestyle factors and genetic predisposition.

DID YOU KNOW?

The heart beats over 2.5 billion times during the average human lifespan.

Global market expanding

Invented in 1926, today's pacemaker can be fitted in under two hours and has an average life of 20 years. Those implanted to treat slow heart rhythm restore life expectancy to normal levels.

It is estimated that 700,000 pacemakers are fitted each year around the world – and the market is likely to grow as a result of several socio-economic factors.

For example, the number of people aged 65 or older is forecast to double to 20 per cent of the global population (which is itself growing) by 2050.

In addition, access to healthcare in both developed and developing countries is on the rise.

Demand for platinum in medical applications currently stands at around 240,000 oz, 3.2 per cent of total annual platinum demand in 2018 (7,380,000 oz). The growing demand for medical devices will further increase this.

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