

## Neck zapper to help ease chronic stomach pain

A HAND-HELD nerve stimulator applied to the neck might help with the painful stomach complaint gastroparesis.

The condition means the stomach can't empty itself as normal, leading to bloating, nausea and abdominal pain.

In a trial at Stanford University in the U.S., 45

volunteers with the condition will use a vagus nerve stimulator (that emits electrical impulses through the skin to the vagus nerve in the neck) for five minutes a day, twice a week.

It's thought that the stimulator will block faulty nerve signals that might trigger the problem.

■ *THE incidence of Parkinson's disease is rising and U.S. neurologists say this may be linked to exercise levels. They found that, over the years, the prevalence has risen as exercise levels have declined, reports the journal Frontiers in Neurology. Exercise is thought to release compounds in the brain that help new nerve cells grow.*

## Flu jabs may be less effective in the obese

THE flu jab doesn't work as well in obese people, say scientists at the University of North Carolina.

They took blood tests and analysed the immunity of 1,022 obese or healthy people before and after being given a flu vaccine.

Results published in the International Journal of Obesity showed obese people were twice as likely

to develop flu than people of a healthy weight.

The theory is that antibodies (immune cells that destroy viruses) don't function as normal in obese people — a good antibody response is needed for a vaccine to work.

The researchers suggested that vaccines should be tested specifically on obese people.

## ANIMAL MAGIC

HOW animals are used in medicine: Cow tissue is used to make new heart valves

CERTAIN types of animal tissue have been used for many years to replace defective human parts. For instance, a cow's pericardium — the 'bag' in which its heart sits — is often used to make replacement heart valves for patients whose own valves are diseased or malfunctioning, putting them at risk of heart failure.

The pericardium is ideal for the job because it is tough, durable and can be stripped of all bovine DNA, using the chemical glutaraldehyde. Pericardial tissue is also relatively cheap and readily available. Pig tissue is also used.

Animal-based replacement valves have become more popular as they're less likely to lead to blood clots than man-made metal versions — which the body treats as a foreign material, triggering an immune system attack and inflammation around the implant.



Picture: ALAMY

By ROSIE TAYLOR

# Plastic tube in your gut that reverses diabetes

PLACING a plastic sheath in the gut triggers weight loss and could reverse diabetes.

The treatment has a similar effect to a gastric band but avoids the need for risky and expensive surgery.

Instead, a 2ft (60cm) sheath known as the EndoBarrier is positioned at the top of the small intestine using an endoscope — a thin, flexible tube inserted via the mouth — while the patient is under general anaesthetic or sedation.

Results from a recent study in obese type 2 diabetes patients fitted with the device showed they lost an average of more than 2st in a year and had better-controlled blood sugar levels. Some even stopped needing insulin injections.

Britain has one of the highest obesity rates in Europe. Diabetes can cause serious complications including heart attacks, strokes, blindness, and limb amputations. The majority of people with diabetes in the UK are type 2, which is caused by an unhealthy diet and lifestyle.

The EndoBarrier is fixed in place by a wire frame. The tube lines the first 60cm of the small intestine, allowing food to pass through without being absorbed by the digestive system.

Doctors are still unsure why, but this stimulates a feeling of fullness that means patients consume less, leading to weight loss. One theory is the body senses there is something in the small intestine so does not trigger the hormonal response to feel hungry.

A RECENT pilot trial at City Hospital, in Birmingham, involving 25 patients fitted with the EndoBarrier found that they lost an average of 16.3kg (2st 8lb) a year, according to data presented at the Diabetes UK Professional Conference.

Results showed most patients needed less insulin, while a quarter saw a reversal of their diabetes and no longer needed it at all.

They also experienced 'dramatic' drops in blood pressure and liver fat levels, both of which are linked to an increased risk of complica-

tions such as heart disease. Another ten NHS hospitals around the UK are now planning to trial the treatment within the next year, although specific details haven't been announced.

It could also potentially save the NHS millions: gastric bypass surgery costs around £15,000 per patient, while EndoBarrier costs

around £4,800. The device must be checked by endoscopy every three months to ensure it's in the correct position. It is removed after a year and early follow-up data showed that, a year after removal, most patients had kept the weight off.

Once the device is fitted, patients can only consume liquids for the

## DO THIS...

SWISH a sugary drink to help you run faster. In a U.S. study, marathon runners given a sucrose mouthwash solution on their run found their times improved by 5 per cent. The solution stimulated brain areas linked with motor control, researchers said.

## Wristband mimics heart to stop stress

WEARING a pulsating wristband can make people feel less stressed, according to a study in Scientific Reports.

The band, called Doppel, delivers a vibration to the inside of the wrist, and apparently works by mimicking a heartbeat. Researchers at Royal Holloway, University of London, asked volunteers to prepare a public speech (designed to make them feel stressed).

All the participants were wearing the band, but it was only switched on for half of them. It then delivered a pulse-like vibration that was slower than the user's own resting heart rate, which helped to reduce their anxiety levels.

The device is said to harness the intuitive response that humans naturally have to rhythm, particularly to heart rhythm.

## Old antibiotic could target superbugs

A 60-YEAR-OLD antibiotic has been modified to make it 1,000 times more powerful than the original drug.

Scientists at the Scripps Research Institute in the U.S. have re-engineered vancomycin so that it fights bacteria in three different ways, making it much harder for bugs to develop resistance against it, the PNAS journal reports.

The researchers, who tested the drug in the lab against vancomycin-resistant enterococci bacteria, hope it will be available within five years. The World Health Organisation has warned antibiotic resistance is one of the biggest threats to global health.

## Coffee can cut risk of liver damage

DRINKING coffee and tea regularly may protect against liver fibrosis, a scarring of the liver.

Doctors at Erasmus University Medical Centre in the Netherlands gave 2,424 people over the age of 45 various tests that checked liver health and then questioned them about their eating habits.

Results found that those who drank more than three cups of coffee or tea a day had significantly less scarring of the liver, irrespective of other lifestyle traits.

One theory is that chemicals called polyphenols in tea and coffee, as well as caffeine may slow the growth of cells that damage the liver. Liver disease is the third-largest cause of premature death in the UK.

## TRY THIS

THE Ablebelt is fastened with Velcro, to allow easy fastening and removal for people with poor eyesight or dexterity problems who struggle with buckles.

From £29.99, [goodlifeguide.co.uk](http://goodlifeguide.co.uk).



## MOOD MEDICINE

HOW drugs change our behaviour: Beta blockers reduce bias

PROPRANOLOL is a beta blocker that reduces blood pressure by blocking effects of adrenaline and noradrenaline, making the heart beat with less force.

But propranolol also hinders memory and reduces the patient's racial bias, according to University of Oxford studies, since adrenaline triggers emotional responses and helps form memories.

In an experiment, those given a 40mg dose of propranolol were found to be less biased in a test of racially biased behaviour, such as sorting words like 'joy' and 'evil', and black and white faces, into categories.

Professor Julian Savulescu, director of the university's Institute for Science and Ethics said: 'It raises the possibility that unconscious racial attitudes could be modulated using drugs, [which] requires careful ethical analysis.'

