Vasectomy you can switch on and off at the push of a button; GOODHEALTH

Abstract (summary)  Translate
'It's based on a radio signal, like the device on your key ring, which is coded so that you cannot open someone else's car,' Professor [Derek Abbott] says.

'The device is normally closed and that's the way you want it 99.9 per cent of the time. It only opens when the remote is activated. The valve then opens and shuts rapidly, and this is actually better for conception because this oscillating action helps to massage, or push, the sperm through.

'The really clever bit is that the valve has no battery and all the energy comes from the radio signal itself.' The implant is still undergoing laboratory tests before being tried on animals. Human studies are unlikely to take place until those experiments are complete.

Full Text  Translate
VASECTOMIES could be a thing of the past thanks to a remote-controlled implant that can stop the flow of sperm. The valve-like device can be opened and shut at the press of a button, using the same technology that locks a car using a key fob.

Scientists who invented the implant say it could be used as a form of male contraception. Men who change their minds about having children would then simply point the remote handset at their testicles and press a button to open up the valve.

More than 40,000 vasectomies are carried out every year in the UK. Of those, around 2,500 men will later choose to undergo a reversal, often due to a desire to have children with a new partner.

The procedure usually involves making two small cuts near each testicle and cutting the vas deferens, the tubes that carry sperm. A small section of each tube is removed and the two ends sealed, either by tying a knot in them or heating them up with a probe.
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The procedure is carried out with a local anaesthetic and the dissolvable stitches usually disappear within a week.

Reversal involves sewing the two cut ends back together. But it only works in around 50 per cent of cases, often because scarring where the cuts were made mean sperm cannot get through.

Research also suggests vasectomies leave many men with abnormalities in their sperm that could dramatically reduce the chances of fathering a child.

The remote-controlled implant, which is still at the very early stages of testing, could be a much more attractive alternative.

It is made from silicone-based materials, which the body's defence mechanisms usually recognise as friendly, so reducing the risk of reaction or infection.

As it is no larger than a grain of rice, it can be inserted into each sperm-carrying tube using a needle.

Professor Derek Abbott, who heads the research team at the University of Adelaide, said the idea is that the valve remains shut most of the time and acts as a contraceptive barrier.

A man would then use the handset, or fob, to open it around the time of having sex if he and his partner wanted to conceive.

Once the handset is pressed, it sends a coded radio signal through the skin to the implant, which contains a tiny antenna.

The antenna picks up the signal and converts it into sound waves that 'ripple' through the valve.

Since the valve itself is soft and flexible, the sound waves make it flap open allowing sperm to pass through. As with cars, each device would have its own unique code so it could not be opened by anyone else.

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'The device is normally closed and that's the way you want it 99.9 per cent of the time. It only opens when the remote is activated. THE valve then opens and shuts rapidly, and this is actually better for conception because this oscillating action helps to massage, or push, the sperm through.

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The breakthrough is the latest in a series of advances in the field of remote-control medicine, where doctors can control gadgets or drugs deep inside the body at the push of a button.

Last year, researchers at the University of Technology in Sydney announced they had come up with a remote-control bladder valve for women affected by urinary
A valve implanted near the neck of the bladder is opened and closed with a TV-style handset.

The device could eventually help up to five million women in Britain affected by urinary incontinence.

Meanwhile, cancer specialists are investigating how drug-carrying 'bombs' can be detonated by remote control once they are next to the tumour deep inside the body.

One technique is to encase drugs in bubbles made of fat to smuggle them past the immune system, then use a remote-control ultrasound device to pop the bubbles, releasing the drug inside.

**Illustration**

Caption: Avoid the snip: A new remote-controlled implant could be used as a male contraception

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