

Patch can heal heart hole

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Scientists have developed a way of making the body 'heal' internal wounds, which could avoid open-heart surgery or implants.

A team at the Royal Brompton Hospital in London has devised a patch which can close up a potentially dangerous gap in the heart. This 'bioabsorbable' patch can keep this hole closed until the body creates enough tissue to plug it permanently.

One in four people has a hole in the heart resembling a valve. This is called a patent foramen ovale (PFO). In most cases they are not a health risk and display no symptoms, but can cause a vulnerability to either stroke or migraine.

When a baby is still in the womb, the PFO permits circulation of blood and oxygen before the lungs start working.

After birth, the hole should close and separate the two chambers of the heart, but this does not always happen.

When pressure is created inside the chest - for instance by coughing - a flap can open, allowing blood to flow in either direction.

This means blood can bypass the filtering system of the lungs. Debris in the blood, such as small blood clots, can travel to and lodge in the brain, causing a stroke.

Lack of proper filtering is also believed to cause migraines, although migraine help groups in the UK have urged caution at this early stage.

More than fifty patients who took part in trials of the new implant, called BioStar, showed that it had effectively sealed the PFO.

The patch breaks down and is absorbed into the body when the natural issue takes over.