

# Heart drug reduces risk of cancer spreading

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Cancer is cruel: sometimes, life-saving surgery to cut out a tumour may be the very thing that spreads it to other parts of the body. But this spreading process can be hampered by giving a compound that is already used to treat heart failure.

Most people who die from cancer do so because their tumour has spread, or metastasised. Yet most of today's cancer drugs don't stop metastasis, they just kill any cancer cells they come into contact with.

The hope is that the compound could be part of a [new class of drugs designed to block tumour spread](#). "This could be a very important advance," says [Andrew Reynolds](#) of the Institute of Cancer Research in London. Cancers are much easier to treat if they have not yet spread.

A few years ago, a team led by [Takashi Nojiri](#) of Osaka University in Japan was exploring whether giving a drug called atrial natriuretic peptide (ANP) to patients before lung cancer surgery could reduce subsequent heart problems. ANP is a signalling molecule found in the heart and has been used as a treatment for heart failure in Japan for 20 years.

The approach worked – and it also had another benefit. Two years later, 91 per cent of people treated with ANP were free from secondary tumours, compared with 75 per cent of a control group.

## You shall not pass

Experiments in mice revealed that the molecule makes blood vessel walls less sticky, preventing circulating cancer cells from adhering to them and pushing their way through to form new tumours.

Because ANP affects the blood vessels rather than the cancer cells, it could be used for all kinds of tumours, says Nojiri, who is working with the Japanese drug company [Shionogi](#) to turn ANP into a cancer drug.

As in Nojiri's study, if given before surgery, it could be used to reduce the chance of the operation "seeding" tumours elsewhere in the body. It is thought that cutting into the tumour sometimes [lets cancer cells escape](#). ANP could also be used as a general anti-metastasis drug, given whether or not people need cancer surgery.

Nojiri speculates that the presence of natural ANP in the heart might explain why secondary tumours rarely form there.

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