

# Painless zap gives hope in battle against cancer

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A revolutionary painless technique that uses electrical pulses to zap tumours is being tested at The Alfred hospital in Melbourne.

Radiologists say irreversible electroporation known as IRE has potential as an alternative to surgery or radiotherapy.

The technique involves using a device called an IRE-Nanoknife to place fine needle electrodes with precision in or around the tumour, which is then targeted with intense electric pulses lasting less than a minute each.

The Alfred's professor of radiology, Ken Thomson, said the technique could replace chemotherapy in the future. "We're on the way to proving the safety of it.

"But we haven't really got a technique that we can say guarantees this would be as good as surgery. We're some months or years away from that point."

He said he was confident about its potential, but would not go so far as to call it a cure for cancer.

"I'm trying to stay calm. I'm extremely excited about it because I think it has enormous potential, but I don't want to raise false hopes among the public that I've suddenly got a cure that no one else has."

The treatment creates microscopic holes in the wall of the tumour cells, causing the cells to die before they are removed by the body.

Seventeen prostate cancer patients have been treated in the US with the technique, which gave Professor Thomson confidence it would work in Australia. So far he has treated one patient with liver cancer and another with kidney cancer. What surprised him was how painless the procedure was, with patients reporting no side effects from the treatment.

There are many more positives, in fact. "It's very quick, it doesn't appear to cause any damage to the surrounding tissue, the tissue appears to grow back normally without blocking arteries and veins, and [IRE] appears to have a wide ability to treat a solid tumour, and no pain afterwards: there's very little bad about it."

IRE also is very low-risk, with needles placed on the tumour in 40-second bursts. "I think personally it's a breakthrough because of the lack of surrounding damage," Professor Thomson said.

The nerves, blood vessels and tissues have all come out unscathed in patients treated during the hospital trials.

Tumours start shrinking almost immediately and are half their size within two weeks: 18 patients are in the trial, which has funding to treat up to 100 patients. AAP

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