

New breast cancer hope. 'Monumental' vaccine on trial next year.

(Matt Dickinson, Fiona MacRae)
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A revolutionary vaccine that could both prevent and treat breast cancer has been developed by American researchers.

The drug – to be trialled on women overseas as early as next year – could wipe out up to 70 per cent of breast cancers and save more than 2600 lives in Australia a year.

US researchers said single doses of the drug on mice showed “overwhelmingly favourable results” – preventing cancers from forming and stopping existing tumours from growing. “If it works in humans the way it works in mice, this will be monumental,” said lead researcher, immunologist Vincent Tuohy.

Dr. Tuohy, based at the Cleveland Clinic, a non-profit medical research centre, said: “We believe that this vaccine will some day be used to prevent breast cancer in adult women in the same way that vaccines have prevented many childhood diseases.”

The research is being published in the June 10 issue of *Nature Medicine* magazine and shows the theory behind the vaccine could eventually be used to target other types of cancer as well.

The drug targets a protein called alpha-lactalbumin that lurks in most breast cancer tumours.

Having the jab revs up the immune system, priming it to destroy the protein as it appears and stop tumours forming. It also harnesses the power of the immune system to shrink existing growths by up to half.

Dr Tuohy's team tested the vaccine on rodents that were genetically prone to breast cancer. Those which did not have the jab developed breast cancers by the age of 10 months, but all of those that were immunised remained cancer-free, *Nature Medicine* reports.

If the human tests prove successful, the strategy would be to vaccinate women aged over 40. “The frequency of women who breastfeed in their early 40s and above is very low, so we are looking at vaccinating women against the disease from this stage of life onwards,” Dr. Tuohy said.

For younger women with a heightened risk of breast cancer, the vaccine may be an option to consider instead of prophylactic mastectomy. The only drawback is that a woman who has the jab while young could not breastfeed in the future but researchers said it would not affect her ability to have a baby.

Finding similar proteins for other cancers, such as bowel or prostate tumours, could lead to vaccines against other diseases