

# New therapy holds promise for aggressive breast cancers

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Credit: AI-generated image ([disclaimer](#))

Australian researchers have developed a new therapy to treat a common and aggressive form of breast cancer and stop the disease spreading, with a 100% success rate reported in mice.

Using a combination of drugs, the therapy is designed to kill every

cancer cell present in the tumour to ensure the cancer does not return.

The therapy targets triple negative [breast cancer](#), which accounts for one-fifth of breast cancers and usually affects younger women.

The research is published in the latest edition of the *Journal of Nuclear Medicine*.

The therapy is designed to target late-stage triple negative breast cancers, which have a median survival rate of 12 months. Unlike other [cancer cells](#), triple negative breast cancers don't have any of the three usual [surface receptors](#), which would normally be the target of treatment.

The researchers tested the therapy on 40 mice with [breast tumours](#), including 15 whose cancer had spread.

In three separate experiments, the researchers first used reduced doses of chemotherapy to kill sensitive cells. Then, to ensure the tumour didn't recur, they delivered low-[dose radiation](#) to any [resistant cells](#) that remained.

All the rodents treated with the [combination therapy](#) were cured of primary tumours as well as others that may have developed in the brain, bone or lungs.

In contrast, mice in a comparison group who were treated with single components of the therapy were more likely to have their cancer recur.

Dr Fares Al-Ejeh, Senior Research Scientist at the Queensland Institute of Medical Research and lead author of the study, said the next step was to translate the findings into a human setting, initially to see if the treatment was safe for humans.

"Then it will be a phase one clinical trial, which is mainly looking at safety but also hoping to see efficacy and anti-cancer effects," he said.

"And from then onwards it will be clinical development towards making this a practice for treating patients affected with this disease.

"We are hoping that within ten years we will be able to provide a good therapy for women affected with this aggressive cancer."

Medical Oncologist and CEO of Cancer Council Australia Ian Olver said the study was elegantly designed.

"It's the right strategy to look at more effective ways of targeting cancer, which means identifying the targets which may be only in a subgroup of cancers and then designing specific therapies to kill the cancer," said Professor Olver.

"The researchers cleverly identified a genetic receptor, which was then targeted with chemotherapy," he said.

"That means that the treatment will target the cancer and not the surrounding cells.

"The underlying method and approach seems as though it will bear fruit over time in a variety of different cancers.

"And If you do have multiple therapies you can use together, then you're more likely to have a successful outcome because tumours are very clever in finding ways of resisting single treatments."

Medical Oncologist and Associate Professor of Medicine at the University of Sydney Janette Vardy said the study was promising but it was very early days for the research.

"It's a study in a small group of rodents. This then needs to be replicated again in animal studies. Then if these were positive you would look at taking it into human studies.

"It's a step in the right direction for investigating a new approach to treatment for a subtype of breast cancer with poorer outcomes – but its still a long way off going into human trials," she said.

**More information:** [jnm.snmjournals.org/content/ea ...  
.112.111534.abstract](http://jnm.snmjournals.org/content/ea...112.111534.abstract)

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