# NOVEL DRUG DELIVERY DEVICE FOR PATIENTS AT RISK FOR BREAST CANCER

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## Technology description

World-class oncologists at the University of California, San Francisco have designed a novel device for implantation and localized delivery of pharmacologic agents to the breast tissue of patients at risk of developing breast cancer. Their device can be readily applied to the surface of standard breast implants and incorporates materials that are routinely used in FDA-approved medical devices. The unique design facilitates drug elution directly to the overlying breast tissue. Furthermore, the device can be accessed percutaneously such that the tube can be flushed or reloaded as required.
This novel device enables the localized, controlled delivery of chemopreventative agents to the breast tissue of patients at risk for developing breast cancer.
Breast cancer is the most common cancer in women worldwide. Approximately 1 in 8 women in the US will develop invasive breast cancer during their lifetime, 5-10% of which will be related to hereditary mutations. Treatments for women at high risk include surgical removal of the breasts or systemic pharmacologic estrogen withdrawal. Systemically delivered antiestrogens carry many potential side effects, such as stroke and endometrial cancer, resulting in an almost 50% discontinuation rate during the recommended 5 to 10 year treatment phase in high risk patients. Current technologies for localized drug delivery to specific anatomic regions are limited by a lack of control over the release kinetics and by the short-term delivery nature of the pharmacologically active ingredient. Furthermore, they do not allow refilling and flushing of the drug. Thus the inventors sought to design a sustained localized drug delivery device that does not require removal of the catheter or replacement with a new device.

## Application area

Preventative treatment for patients at high risk for developing breast cancer.

## Advantages

·Sustained, localized drug delivery.

·Low risk of systemic absorption.

## Institution

University of California, San Francisco

## Inventors

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