

New Breast Cancer Imaging Technology Receives Historic FDA Approval

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One in eight women in the U.S. will develop breast cancer during their lifetime, and for many, the best treatment option is surgical removal of the tumor, known as a lumpectomy. Unfortunately, the surgical tools currently in use do not always accurately identify the extent of the tumor, necessitating a second surgery for up to a third of patients.

Soon, this percentage may shrink dramatically. In April, the FDA approved a new imaging system that enables surgeons to scan the breast cavity *during* surgery to detect residual cancer that may have otherwise been missed, sparing patients second surgeries. The first of its kind, the LumiSystem combines cutting-edge imaging technology with a novel fluorescent imaging agent.

This project started in 2008 in the Duke University lab of David G. Kirsch, MD, PhD, then a Damon Runyon-Rachleff Innovator. The Damon Runyon-Rachleff Innovation award supports young scientists with bold new ideas but not enough preliminary data to obtain traditional funding. By design, the award does not fund incremental advances, instead promoting novel research with the potential for extraordinarily high impact in the cancer field—ideas like the LumiSystem.

Funded by the Innovation Award, his team designed and tested a prototype imaging device and fluorescent imaging agents in mice before conducting a first-in-human clinical trial of patients with sarcomas and breast cancers. (The jump from mice to humans was accelerated by a trial in canine patients with cancer conducted by another lab at Duke.)

“Thank you all for your contributions to this work that has brought a technology to women with breast cancer that helps surgeons identify residual cancer during surgery,” Dr. Kirsch wrote in an email to Damon Runyon following the news of the FDA approval. According to LumiCell, the drug company that brought the technology to market, the LumiSystem will be available in operating rooms shortly.

Read the full announcement [here](#).

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