Get to know the technology



SPY-PHI Fluorescence Imaging technology is a highdefinition video camera that makes it possible for surgeons to visualize blood flow during reconstructive surgery.

Illuminated instruments

are designed to provide greater visualization during breast reconstruction.¹



Scan here to find a facility with SPY near you!



- 2. Robertson SA, Jeevaratnam JA, Agrawal A, Cutress RI. Mastectomy skin flap necrosis: challenges and solutions. Breast Cancer (Dove Med Press). 2017 Mar 13;9:141-152. doi: 10.2147/BCTT.S81712. PMID: 28331365; PMCID: PMC5357072.
- 3. SPY AGENT GREEN IFU, Reference ID: 5182897
- 4. Breast Reconstruction Options: Types of breast reconstruction. Types of Breast Reconstruction | American Cancer Society, (n.d.). https://www.cancer.org/cancer/types/breast-cancer/reconstruction-surgery/breast-reconstruction-options.html
 5. SPY AGENT® GREEN (Indocyanine Green for injection), for intravenous,
- 5. SPY AGENT® GREEN (Indocyanine Green for injection), for intravenous, interstitial, or intradermal use Initial U.S. approval: 1959. (2003, June). Accessdata. Retrieved August 14, 2024, from https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/211580806lbl.pdf
- Staged breast reconstructio. UPMC Western Maryland Plastic Surgery. (2017, May 26). https://wmhsplasticsurgery.com/staged-breast-reconstruction/

Indications for use

Upon intravenous administration of SPY AGENT™ GREEN (Indocyanine green for injection, USP) the SPY-PHI system is used with SPY AGENT™ GREEN to perform intraoperative fluorescence angiography. The SPY-PHI system is indicated for use in adult and pediatric patients one month of age and older.

The SPY-PHI System is indicated for fluorescence imaging of blood flow and tissue perfusion before, during, and after: vascular, gastrointestinal, organ transplant, and plastic, microsurgical, and reconstructive surgical procedures.

Upon interstitial administration of SPY AGENT $^{\text{\tiny{12}}}$ GREEN, the SPY-PHI system is used to perform intraoperative fluorescence imaging and visualization of the lymphatic system, including lymphatic vessels and lymph nodes.

Stryker Endoscopy

Information regarding the benefits and risks of SPY AGENT GREEN are provided in the package insert. In general, SPY AGENT GREEN is well tolerated. SPY AGENT GREEN is not indicated for patients with a history of hypersensitivity to indocyanine green. Side effects include anaphylaxis and urticaria (hives). Cardiopulmonary resuscitation personnel and equipment should be readily available in case of an anaphylactic reaction. Radioactive iodine uptake studies should not be performed for at least a week following administration of SPY AGENT GREEN because the iodine in SPY AGENT GREEN may interfere with the study.

This document is intended solely for the use of healthcare professionals. A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.

The information presented is intended to demonstrate a Stryker product. A surgeon must always refer to the package insert, product label and/or instructions for use, including the instructions for cleaning and sterilization (if applicable), before using any Stryker product. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker products in your area.

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ICG Disclaimer: The fluorescence imaging functionality of these Stryker products are used in conjunction with an intravenous injection of indocyanine green dye (ICG). ICG is not included on the ARTG or in the New Zealand Gazette. Stryker is not a manufacturer or distributer of ICG.

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Know your options

Patient information on breast reconstruction



Know your options



Immediate/Direct-to-Implant Breast Reconstruction

Permanent breast implants are placed at the same time as the mastectomy is performed.⁴



Staged Implant based Breast Reconstruction

This option rebuilds the breast in several stages and often requires the use of devices known as tissue expanders. Tissue expanders are devices that are temporarily implanted to expand the breast skin over time and are eventually replaced by permanent breast implants.⁶



Delayed Breast Reconstruction

Breast reconstruction is performed weeks, months or years after the mastectomy. It may not specifically be planned out at the time of a mastectomy or lumpectomy.⁴



Autologous Breast Reconstruction

Autologous breast reconstruction uses ones own skin, fat or muscle to form a breast shape after mastecomy or lumpectomy. It can be performed at time of mastectomy or delayed until after treatment.⁴



Go flat

This option means opting to forgo any type of breast reconstruction after breast cancer surgery.⁴

Patients should always discuss treatment options with their surgeon.

Blood flow. It's critical to healing.

SPY Technology relies on a near-infrared light source and as such, emits no ionizing radiation. Indocyanine green (ICG)* is injected intravenously into the patient, attaches to plasma proteins in the bloodstream and the SPY technology is able to visualize the blood flow throughout the body.

Why is it important?



Poor blood flow during surgery can lead to a number of challenges, including wound management problems, delays to adjuvant therapy, esthetic compromise, and patient distress source.²

By seeing whether or not tissue is adequately perfused during a reconstructive surgery, surgeons may make critical decisions that could potentially reduce the risk of devastating complications related to poorly perfused tissue.



Frequently asked questions and answers

How does SPY fluorescence imaging work?

SPY Technology relies on a near-infrared light source and as such, emits no ionizing radiation. Indocyanine green (ICG)* is intravenously injected into the patient and binds to plasma proteins in the blood. When stimulated by a near-infrared light source, the agent emits a fluorescence signal enabling visualization of blood flow which is captured by the SPY-PHI.⁵

What safety information should I know about SPY AGENT GREEN (ICG)?

In general, SPY AGENT GREEN (ICG) is well tolerated and has no discernable after effects for the patient. It is non-toxic and metabolized by the liver. However, ICG is not advised for patients who are allergic to iodine.³

Is there information or evidence in the medical literature supporting the use of SPY technology?

More than 250 clinical publications describe the use of fluorescence imaging technology." we cannot claim all the publications support the benefit and use of fluorescence. Reference the Novadag SPY bibliography.

