

Imaging of Deep Inferior Epigastric Arteries for Surgical Planning (Breast Reconstruction Surgery)

Breast cancer is the most common cancer in women in the United States. Breast reconstruction surgery is commonly part of breast cancer treatment (<https://www.radiologyinfo.org/en/info/breast-cancer-therapy>) when a woman has a mastectomy.

One possible approach to breast reconstruction surgery is to use the skin and the tissue just beneath it from the woman's own abdominal wall to reconstruct her breast. This procedure is called deep inferior epigastric perforator (DIEP) flap breast reconstruction. To prepare for reconstruction surgery, the surgeon orders imaging tests to identify the location, size, and position of the arterial branches that supply the DIEP flap with blood. The blood supply is essential to map before surgery because that blood supply must also be moved to the chest to keep the reconstructed tissue alive. The main artery is called the deep inferior epigastric artery; the size and location of this artery normally varies between women.

The preferred imaging test to map the blood supply is CT angiography (<https://www.radiologyinfo.org/en/info/angiact>) (CTA; a scan that shows the blood vessels), with intravenous (IV) contrast, of the abdomen and pelvis. The excellent detail improves outcomes and reduces complications by contributing to the best surgical planning. MR angiography (<https://www.radiologyinfo.org/en/info/angiomr>) (MRA), with and without IV contrast, of the abdomen and pelvis is an alternative to CTA. MRA of the abdomen and pelvis without IV contrast may also be appropriate. CTA exposes patients to radiation; MRA does not.

— By Casey Quinlan and Frank J. Rybicki, MD, PhD. This information originally appeared in the *Journal of the American College of Radiology*.

Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2023 Radiological Society of North America, Inc.