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

Breast cancer (https://www.radiologyinfo.org/en/info/breast-cancer) is the most common cancer affecting women in the United States. A common surgical treatment option is a mastectomy (removal of the entire breast) followed by breast reconstruction. Reconstruction is achieved by using implants or body tissue.

There are two methods of harvesting healthy tissue from the body to create a flap, which is tissue containing skin, fat, muscle, or blood vessels. The transverse rectus abdominis flap procedure is the traditional method and uses abdominal muscle. A deep inferior epigastric perforator flap contains the deep inferior epigastric artery, which supplies blood to the abdominal tissue that will be used. Deep inferior epigastric perforator flaps are preferred because of fewer complications at the donor site.

Before surgery, imaging tests are performed to determine the location, size, and anatomy of the arteries for surgical planning. Imaging provides fine detail to the surgical team and has been shown to decrease surgical time, blood loss, and hospital stay and to improve patient outcomes. MR angiography (https://www.radiologyinfo.org/en/info/angiomr) of the arteries of the abdomen and pelvis without and with intravenous contrast is usually appropriate. Also usually appropriate is CT angiography (https://www.radiologyinfo.org/en/info/angioct) of the abdomen and pelvis with contrast. These tests are complementary, and only one test is performed. MR angiography of the abdomen and pelvis without intravenous contrast may also be appropriate.

— By Alexa Silfen and Kemi Babagbemi, MD. This information originally appeared in the *Journal of the American College of Radiology.*

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