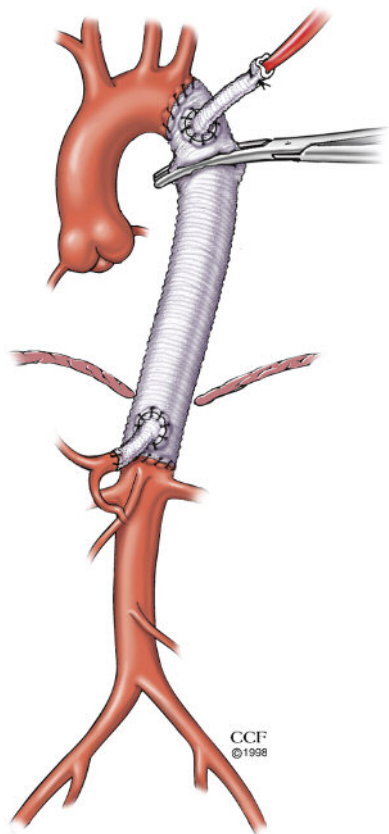


## Imaging studies for aortic dissection

Choice of imaging studies varies among facilities and hinges on availability, operator expertise, and patient stability. The chart below shows the most commonly used studies.

### Repairing a thoracic aortic dissection

To repair an aortic dissection, the surgeon resects the damaged area and sutures a prosthetic graft (usually made of Dacron) into place to restore blood flow.



| Imaging Study                           | Description  |
|---|--|
| <b>Computerized tomography</b>          | <ul style="list-style-type: none"> <li>• Noninvasive</li> <li>• Quick and easy to perform</li> <li>• Readily available</li> <li>• May require I.V. contrast material, which may cause allergic reaction</li> <li>• Visualizes double lumen, intimal flap, pericardial effusion, and intraluminal thrombus</li> </ul>   |
| <b>Magnetic resonance imaging</b>       | <ul style="list-style-type: none"> <li>• Noninvasive</li> <li>• Preferred in stable patients</li> <li>• Highly accurate</li> <li>• Availability may be limited</li> <li>• Contraindicated in patients with claustrophobia, pacemakers, aneurysm clips, or other metal devices</li> <li>• Visualizes double lumen and intimal flap</li> </ul>   |
| <b>Transesophageal echocardiography</b> | <ul style="list-style-type: none"> <li>• Invasive; requires sedation</li> <li>• Performed at bedside</li> <li>• Useful in unstable patients</li> <li>• Availability may be limited</li> <li>• Operator expertise may vary</li> <li>• Contraindicated in patients with esophageal varicosities or stenosis</li> <li>• Visualizes complete aorta (including intimal flap), false lumen, aortic regurgitation, and dissection extending to coronary arteries</li> </ul> |
| <b>Transthoracic echocardiography</b>   | <ul style="list-style-type: none"> <li>• Noninvasive</li> <li>• Can be performed at bedside or in emergency department, intensive care unit, or operating room</li> <li>• Identifies proximal aortic dissection</li> <li>• Visualizes intimal flap, false lumen, aortic regurgitation, pericardial effusion, and cardiac tamponade</li> </ul>  |
| <b>Aortography</b>                      | <ul style="list-style-type: none"> <li>• Invasive</li> <li>• Requires I.V. contrast material, which can trigger allergic reaction</li> <li>• Visualizes intimal tear, double lumen, length of dissection, and aortic regurgitation, and identifies coronary involvement</li> </ul>   |

"Imaging studies for aortic dissection" and "Surgical repair of a thoracic aortic dissection," by Rose M. Coughlin, MSN, RN, CNS-BC, are supplemental information to the continuing education activity in the April 2008 issue of *American Nurse Today*.