

# Study of coronary artery bypass using the PAS-Port device: assessment by multi detector computed tomography

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## Abstract

**Objective.** The use of automatic anastomotic devices in coronary artery bypass grafting surgery is associated with lower patency rates in comparison to conventional anastomosis methods. This is thought to be caused by graft curvature occurring after closing of the chest wall.

**Methods.** We evaluated 39 grafts in 28 patients who underwent off-pump coronary artery bypass surgery using the PAS-Port. After surgery, the proximal anastomotic angle of each stent, graft morphology, and patency were evaluated with axial and sagittal views.

**Results.** The angle for the left anterior descending coronary artery segment was relatively obtuse on the left side of the ascending aorta, and the graft loop formation was not necessary. The angle for the left circumflex coronary artery segment was significantly acute for anastomosis from the upper left side of the ascending aorta. Because grafts are under the constraints of a large loop, graft length tended to become easily excessive or deficient. The angle for the right coronary artery segment was relatively obtuse. The space on the right side of the heart was so narrow that in some cases we had difficulty setting out the appropriate graft location to prevent graft curvature. No bending or stenosis was present in any graft, showing a patency rate of 100%.