

# Medical Coverage Policy



**Blue Cross  
Blue Shield**  
of Rhode Island

## Minimally Invasive Coronary Artery Bypass Graft Surgery

Device/Equipment    Drug    Medical    Surgery    Test    Other

<b>Effective Date:</b>	<b>12/7/2010</b>	<b>Policy Last Updated:</b>	<b>2/5/2013</b>
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**Prospective review is recommended/required. Please check the member agreement for preauthorization guidelines.**

**Prospective review is not required.**

### Description:

There are currently variations on techniques that are classified as “minimally invasive” coronary artery bypass graft (CABG) surgery. The surgery can be done under direct vision, with a mini-sternotomy or a mini-thoracotomy approach. These types of direct procedures have been termed minimally invasive direct coronary artery bypass (MIDCAB). MIDCAB is performed without cardiopulmonary bypass by slowing the heart rate to 40 beats per minute to minimize motion in the surgical field. The performance of a coronary bypass on a beating heart increases the technical difficulty of the procedure, particularly in terms of the quality of the vessel anastomosis. In MIDCAB, the predominant re-anastomosis performed uses the native internal mammary artery to bypass the left anterior descending (LAD) coronary artery. Bypass of the right coronary artery may also be possible in patients with suitable anatomy.

The surgery can also be performed endoscopically, whereby the internal structures are visualized on a video monitor, and the entire procedure is performed without direct visualization of the operative field. Cardiopulmonary bypass may or may not be used with this technique. This variation of minimally invasive CABG is called port access coronary artery bypass (PACAB) or total endoscopic coronary artery bypass (TECAB). Using this approach, theoretically all sides of the heart can be approached. In many instances, only a single bypass of the LAD artery is performed, although multivessel bypass of the left and right coronary artery has been performed.

Minimally invasive CABG is a surgical procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration (FDA). The procedure can be performed with conventional instruments or instruments specifically designed for this purpose. Special instruments designed for these procedures are subject to FDA marketing clearance and several manufacturers have received 510(k) clearance to market devices intended for use in minimally invasive CABG. One such device for computer-assisted surgery or robotic technology is the da Vinci® system (Intuitive Surgical, Inc., Mountain View, CA). The da Vinci system received 510(k) marketing clearance from the FDA in 2004 for assisting in coronary artery bypass surgery.

Evidence is insufficient to determine whether PACAB, TECAB, and/or hybrid CABG improve outcomes compared to conventional procedures. Additional randomized comparative studies are needed that compare the relevant short and long-term outcomes from these new techniques with outcomes obtained using the current approaches.

### Medical Criteria:

Not applicable.

**Policy:**

Minimally invasive coronary artery bypass graft surgery ,including but not limited to minimally invasive direct coronary artery bypass, port access coronary artery bypass, hybrid coronary artery bypass graft, or total endoscopic coronary artery bypass techniques, is considered **not medically necessary** as there is insufficient evidence to determine whether outcomes have improved compared to conventional procedures.

**Coverage:**

Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage or Subscriber Agreement for applicable "Services Not Medically Necessary" coverage.

**Coding:**

The following codes are considered not medically necessary:

**S2205** Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using arterial graft(s), single coronary arterial graft

**S2206** Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using arterial graft(s), two coronary arterial grafts

**S2207** Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using venous graft only, single coronary venous graft

**S2208** Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using single arterial graft and venous graft(s), single venous graft

**S2209** Minimally invasive direct coronary artery bypass surgery involving mini-thoracotomy or mini-sternotomy surgery, performed under direct vision; using two arterial grafts and single venous graft

**Published:**

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Provider Update, February 2010

**Reference:**

Blue Cross and Blue Shield Association Medical Policy Reference Manual. 7.01.62 Minimally Invasive Coronary Artery Bypass Graft Surgery.

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