Coronary artery bypass graft surgery (CABG) is one procedure used to treat coronary artery disease. Coronary artery disease (CAD) is the narrowing of the coronary arteries, caused by a buildup of plaque within the walls of the arteries. This buildup causes the arteries to become narrowed, limiting the supply of oxygen-rich blood to the heart muscle.

One way to treat the blocked or narrowed arteries is to bypass the blocked portion of the coronary artery with another piece of blood vessel. Blood vessels, or grafts, used for the bypass procedure may be pieces of:

- A vein taken from the legs, usually the saphenous
- An artery in the chest, usually the left internal mammary (LIMA)
- An artery from the wrist, the radial

If the vein or artery is fully dissected out of the patient it will generally code to root operation Excision in the Medical and Surgical section if ICD-10-PCS.

Most commonly the chest is opened in the operating room and the heart is stopped for a time. The sternum is cut in half and spread apart. Tubes are inserted into the heart so that the blood can be pumped through the body during the procedure. If the surgery is done by a cardiac surgeon using a bypass machine. In ICD-10-PCS, cardipulmonary bypass is coded to the root operation Performance in the Extracorporeal Assistance and Performance section.

One end of the graft is attached above the blockage, usually to the aorta, and the other end is attached below the blockage. Thus, the blood is rerouted around, or bypasses, the blockage through the new graft to reach the heart muscle. In ICD-10-PCS the root operation would be Bypass in the Medical and Surgical section.

Newer, less invasive techniques have been developed such as "off-pump" surgery (performed through very small incisions) and robotic procedures (performed with the aid of a moving mechanical device).

Other surgical improvements for persons undergoing CABG are endoscopic harvesting and endoscopic radial artery harvesting. In both of these procedures surgeons use an endoscope to locate blood vessels that will be used for bypassing the blocked coronary arteries. Veins are generally harvested from the inner thigh and calf areas of the legs, while the radial artery is harvested from the wrist.

Traditional harvesting approaches involve making long surgical incisions down the leg. Newer, less invasive techniques have been developed such as "off-pump" surgery (performed through very small incisions) and robotic procedures (performed with the aid of a moving mechanical device).

What is a CABG?

Coronary artery bypass graft surgery (CABG) is one procedure used to treat coronary artery disease, causing the blood vessels to become narrowed or blocked, limiting the supply of oxygen-rich blood to the heart muscle.

Example Part 2:

The left internal mammary artery was dissected as a pedicle. Because the artery is being used as a pedicle graft and not completely dissected out of the patient, this will not be coded as a "harvested" artery. Please see: AHA Coding Clinic for ICD-10-CM and ICD-10-PCS 3rd Quarter 2014, page 8. No code.

Example Part 3:

Cardiopulmonary bypass and cardioplegia were instituted. Only the cardiopulmonary bypass will be coded as the cardioplegia is considered to be an auxiliary procedure done to support the surgical procedure. Please see: AHA Coding Clinic for ICD-10-CM and ICD-10-PCS 3rd Quarter 2013, page 18. SA1211Z

ICD-10-PCS Index

Bypass, cardipulmonary SA1211Z

ICD-10-PCS Tabular

Section

Body System

Operation

ICD-10-PCS Index

Bypass, cardipulmonary SA1211Z

Example Part 4:

The saphenous vein graft was placed end-to-end with the posterior descending artery. Notes: We are bypassing two (2) coronary arteries, and the point of origin for the new blood supply will be the aorta... "... vein graft from the aorta..."

201119P

ICD-10-PCS Index

Bypass Artery

Coronary

Four or More Sites 0213

One Site 0210

Three Sites 0212

Two Sites 2011

ICD-10-PCS Tabular

Section

Body System

Operation

ICD-10-PCS Tabular

Example Part 5:

The left internal mammary artery was subsequently placed end-to-side with the left anterior descending coronary artery. Notes: We are bypassing one (1) coronary artery and the point of origin for the new blood supply will be the left internal mammary artery. The left internal mammary artery is not considered to be a device because it was not completely dissected out of the patient.

201100Z

ICD-10-PCS Index

Bypass Artery

Coronary

Four or More Sites 0213

One Site 0210

Three Sites 0212

Two Sites 2011

ICD-10-PCS Tabular

Section

Body System

Operation

ICD-10-PCS Tabular

Final codes for this case:

1. Saphenous vein graft from the aorta to the obtuse marginal, and posterior descending artery - 201119P

2. Left internal mammary artery to the left anterior descending artery - 201100Z

3. Cardiopulmonary bypass - 5A1211Z

4. Greater saphenous vein was harvested endoscopically from the left lower extremity - 60B422Z

Note: The coder must be guided by documentation in the medical record of each individual case to make the correct code selections.