

Heart retrieval

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After exposing the heart by median sternotomy and opening - the pericardium the organ is thoroughly inspected for contractility and coronary artery disease. Heparin is administered (300 U/kg) and a cannula placed into the aorta. The venae cavae are then occluded, the aorta cross-clamped and cardioplegia administered to arrest and cool the heart. The inferior vena cava (IVC) is vented. When the lungs are retrieved the pulmonary artery will also have been cannulated and the left atrial appendage incised. Cardiectomy is then carried out by dividing the superior vena cava (SVC), removing the cross-clamp and dividing the aorta and pulmonary artery at the bifurcation. The inferior vena caval incision is completed and the heart lifted to expose the inferior wall of the left atrium, which is then circumferentially incised to explant the heart. The interatrial septum is inspected to rule out a patent foramen ovale and all valves are carefully examined. The heart is then placed in a bag filled with cardioplegia solution at 4°C. Two additional sterile bags are wrapped around it. These bags are then placed in a sterile container and then in a cooler for transport.

Figure 92.3 An organ care system that allows retrieved hearts to be perfused with warm oxygenated blood and remain beating during transportation to the recipient hospital. Devices can shorten ischemic time and may be beneficial in higher risk patients. They have facilitated highly successful donor circulatory arrest heart donation to expand the donor pool.

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