

## UNIVERSITY OF TORONTO LUNG TRANSPLANT PROGRAM

**LUNG RETRIEVAL OPERATIVE NOTE**

Hospital: \_\_\_\_\_

Date: \_\_\_\_\_

Patient Name: \_\_\_\_\_

Medical Record Number: \_\_\_\_\_

Surgeons: \_\_\_\_\_

As per routine, the organ donor's chest and abdomen had been previously entered through a midline incision to expose the intra-abdominal and intrathoracic organs. A sternal retractor was inserted and opened to expose the anterior pericardium and medial surface of the pleural spaces bilaterally. A vertical pericardiotomy was made to expose the underlying heart. The heart was assessed by the cardiac transplant surgeon for suitability for transplantation.

Dissection of the inferior vena cava (IVC) at the level of the diaphragmatic surface of the pericardium was undertaken to free up an adequate length for transection and venting of the liver during perfusion.

The superior vena cava was mobilized in the pericardial space to the superior pericardial reflection and encircled with a heavy silk ligature. Extrapericardial dissection to the level of the azygos vein was performed and a separate silk ligature was placed around the IVC.

The pleural spaces were entered bilaterally to facilitate gross inspection and palpation of the lungs.

The ascending aorta was reflected laterally and the posterior surface of the pericardium was incised between the superior vena cava and aorta to expose the trachea. Sharp and blunt dissection was utilized to encircle the trachea 3 cm proximal to the level of the main carina.

Attachments between the main pulmonary artery and ascending aorta were divided to expose and properly separate these great vessels.

In simultaneous heart and lung extractions, a cardioplegic catheter is inserted in the ascending aorta. A 5-0 purse string suture is placed in the main pulmonary artery just proximal to the bifurcation to the left and right main pulmonary vessels. Systemic heparinization is provided by IV injection of a suitable dose of heparin. The hepatic transplant surgeons then insert the hepatic and renal perfusion catheters through the abdominal aorta after transecting the aorta distal to the superior mesenteric artery. The pulmonary arterial catheter is then inserted in the main pulmonary artery and secured with the purse string.

With all transplant surgeons appropriately ready to perfuse their respective organs, a direct injection of 500 micrograms of prostaglandin PGE1 into the main pulmonary artery was made.

When systemic pressure reaches 80 mmHg, the SVC was ligated and IVC transected. The left atrial appendage was transected in order to vent the lungs.

Cardioplegia and pulmonary flush was then instituted. Through the entire pulmonary flush process, mechanical ventilation was maintained by the anesthetist. Cold solution and crushed ice were placed in the pericardial and pleural spaces bilaterally to facilitate hypothermia of the heart and lung bloc.

Once the flush solutions had passed through the heart and lung completely, we proceeded to remove the heart / lung bloc.

This was done by elevating the heart out of the pericardial sac and transecting the left atrium just proximal to the confluence with the right and left pulmonary veins. Once the left atrium was completely detached posteriorly, the heart was dropped back into the pericardial sac and the main pulmonary artery was transected just proximal to the bifurcation. The aortic route was dissected and transected at the level of the takeoff of the great vessels with posterior attachments of the aortic route and posterior pericardium transected working backwards into the pericardial sac. The superior vena cava was then transected within the pericardium and the heart removed from the donor pericardial sac.

The pericardium was transected at the diaphragm to enter retropericardial space. Blunt dissection was carried forward along the line of the esophagus and aorta posteriorly up to the level of the trachea just above the carina. The inferior pulmonary ligaments were then transected bilaterally to free up the entire lung bloc inferiorly.

The trachea was then transected with a bronchial stapler proximal to the main carina with the lungs having been previously manually inflated to an inflation pressure of 30 mm Hg. Tissue in the right and left paratracheal spaces superior were transected in order to free up the lung bloc completely and it was removed from the donor chest cavity.

The donor lung bloc was then placed in cold Euro-Collins solution within sterile containers for transport.

## **ADDITIONAL NOTES**

Aberrant Vessels: \_\_\_\_\_  
\_\_\_\_\_

Organs Retrieved: \_\_\_\_\_  
\_\_\_\_\_

Other: \_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_