

Symposium

Answers to earlier SYMPOSIUM questions are trickling in and will be printed as they arrive. In order to give everyone a chance to respond, we are repeating all of these questions this issue with the assurance that any contributions in answer to early questions will be utilized.

1. *Given: X-rays depict a loss of calcium from the bone tissue of a chronic dialysis patient.*

Question: Describe the techniques preferred by your team in the treatment and/or prevention of this complication.

2. *Given: A post-myocardial infarct patient requires the use of cardio-pulmonary support.*

Question: Describe in detail the pump-oxygenator circuit and rationale your team would use in the event of a support bypass.

- 3 *Given: A patient is just diagnosed as having renal failure and is considered a candidate for chronic dialysis.*

Question: Describe your dialysis program, the equipment you use and the techniques involved much as you would to the patient's personal physician.

4. *Given: A patient is undergoing a cardiac diagnostic work-up.*

Question: Describe the technique and equipment your team prefers for determining cardiac output during diagnostic procedures.

Please reply by letter, include any illustrations you might desire, and send your reply to:

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When resecting the descending thoracic aorta, it is necessary to deliver an adequate supply of oxygenated blood to the kidneys and spinal cord. In our institution, a femoral vein to femoral artery perfusion is used, with

the pump oxygenator primed without blood. This assures adequate delivery of oxygenated blood to the lower half of the body during resection and reconstruction of the arterial tree which prevents irreversible kidney damage

and paraplegia.

The left femoral artery and vein are exposed, concomitant with a left thoracotomy. The patient is given 3 mg. of heparin per kilogram of body weight prior to cannulation of the femoral vessels. Bypass is begun using the 13 inch disc or "Travenol bag" oxygenator primed with Dextrose 5% in Ringer's lactate solution.

Venous blood is drained by gravity into the oxygenator from whence it is perfused into the femoral artery at a rate of approximately 20 cc/kg body weight. With this method the brachiocephalic system is perfused by normal heart action and the lower half of the body supplied with blood from the pump oxygenator.

It is important to place a screw clamp on the venous return line to limit the amount of blood returned to the pump. If this is not done, excessive drainage can occur thus depleting the cardiac output. An arterial cannula is inserted into the right radial artery for direct reading of peripheral pressure on an oscilloscope. This affords a guide to adequate perfusion of the upper portion of the body.

At the completion of the procedure, the contents of the oxygenator are slowly reinfused to restore fluid volume. Protamine sulfate, one and a half the dose of heparin, is given at the completion of the perfusion.

