Cannulation of the femoral artery is a standard technique for instituting cardiopulmonary bypass. In order to avoid the risk of subintimal dissection, an infrequent but major complication of the procedure, we have been using an instrument long familiar to the surgeon: the La Borde tracheal dilator (Fig. 2.)

**Technique:**
Prior to the procedure, the femoral pulse is carefully palpated to insure patency of the vessel. Through a vertical incision, the common femoral and both the profunda and superficial femoral arteries are dissected and surrounded with umbilical tapes. Bulldog clamps are applied distally and tension is placed on the proximal umbilical tape. A transverse arteriotomy is made in the common femoral artery approximately 2 cm above the bifurcation, and the La Borde dilator is introduced into the arterial lumen. The risk of intimal damage or subintimal dissection is greatly reduced because of its smooth, rounded tip. The instrument is then gently opened, stretching the vessel wall in three directions. (The commonly used technique of opening a hemostat inside the artery stretches the vessel in two directions only and flattens it.)

After removal of the dilator, the lumen remains widely open and cannulation is readily accomplished. Alternatively, the cannula can be introduced through the open prongs of the dilator, while it is still in the vessel to secure the cannula, which is then connected to the arterial line of the extra-corporeal pump in the routine fashion.

**Discussion:**
Extra-corporeal circulation via the femoral artery was elected after several complications of subclavian artery cannulation proved to be fatal. However, the femoral route is not without complications either. Among them, subintimal dissection is the most to be feared because of its potentially lethal consequences. Cannulation of the ascending aorta has not been the solution to the problem. The great variety of cannulas and techniques developed for instituting perfusion through this route suggests that this is not the ideal method.

We have used the La Borde tracheal dilator in over 200 femoral cannulations without complications. Ancillary measures in this technique include ensuring the
presence of good back-flow and careful surgical repair of the artery. The use of a small size dilator is particularly helpful in the cannulation prior to the repair of congenital defects in children.

Patients in cardiogenic shock undergoing intraaortic balloon pumping often have constricted or even collapsed femoral arteries due to their general condition. The La Borde dilator facilitates the insertion of the balloon pump and shortens the preliminaries of this so often life-saving procedure.

Summary:
The technique of femoral artery cannulation with the La Borde dilator is described. Its use in patients undergoing open heart surgery and intraaortic balloon pumping has been free of complications in over 200 cases.

REFERENCES