form a perfect seal and either allows too great a leak or risks the possibility of damaging the fiberoptic bundles of the scope as it is moved in and out of the tracheobronchial tree. Another proposed solution has been the use of a rubber diaphragm, either commercially made or improvised, using a rubber glove with a slit through the center. Problems with the diaphragm have been either a diaphragm material that is too loose, again allowing an increase in leak, or a diaphragm that is too firm, risking damage to the fiberoptic bundles. Both of the above methods having been tried, it was determined that perhaps a better yet simpler device could be employed. Ideally, the device should be simple, have universal application, allow free movement of the bronchoscope, and still effect a complete seal. The device should not, however, be so cumbersome as to require an extra pair of hands or detract from the bronchoscopist’s use of both hands on the fiberoptic bronchoscope.

The following design has been tested and utilized. A standard tracheostomy cuff was attached to the suction port of the trach adapter. Thus, while the bronchoscopist moved the scope through the adapter, he could deflate and inflate the cuff at will to insure a good seal when the scope was being held in one position. Initially a standard syringe was used to push air in and out of the tracheostomy cuff. This method, however, required an additional person just to handle the cuff on command from the bronchoscopist. To simplify the process and to permit the bronchoscopist to control the inflation and deflation of the cuff, a small foot-operated pump was attached. This allowed the operator to coordinate his desire to change position of the scope with the task of cuff inflation and deflation (Fig 1). Furthermore, this simple, inexpensive device can be utilized in the intensive care area of any hospital setting.

To make the device, we used a Harris Lake swivel trach with the suction port cap removed, a standard 9.5 tracheostomy cuff, and a foot pump from a hand soap dispenser. The volume of the foot pump was reduced to approximately 15 ml to prevent overinflation of the cuff by heavy foot. We have found that by using this adapter (Fig 2) during bronchoscopy of the mechanically ventilated patient, safe, effective ventilation can be maintained while the bronchoscopist is free to devote his full attention to performing a more satisfactory procedure.

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Selective Coronary Hypertension

To the Editor:

In reference to our communication, "Induced Selective Coronary Hypertension during Partial Cardiopulmonary Bypass,” published in Chest (64: 673, 1973), several requests have been received for more specific information.

The technique is used routinely in open heart
surgery to achieve two main objectives: (1) to expel air embolism from the coronary arteries; and (2) to enhance perfusion of the myocardium.¹

The increase of the intraaortic and coronary pressure by compression of the ascending aorta distally to the aortic cannula is done by combining an intermittent and a continuous type of compression. Either one can be done in a contracting or in a fibrillating heart, but always when normothermia is reached.²,³

Figure 1 shows the rise of the intraaortic pressure: A and B, during intermittent and continuous compression, respectively, in a fibrillating heart; C and D, during intermittent and continuous compression, respectively, in a contracting heart.

In the above mentioned publication, an increase of the intraaortic pressure around 200 mm Hg during 3 to 5 seconds was described. At present, a more physiologic pressure is recommended with a systolic peak around 125 mm Hg during an extended period of time, 6 to 8 seconds.

A word of caution: in cases of coronary surgery with a difficult distal anastomosis due to extended occlusive lesions, the potential danger of coronary dissection at high coronary artery pressure may be present. In this situation, either a lower systolic pressure, around 90 mm Hg, is employed or the method is simply avoided.

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Some Observed Asynchronous Ventricular Contractions Versus "Late Systolic Bulging of Left Ventricle"

To the Editor:

After reading the article by Dr. Hamby and his associates in the February, 1974 issue of Chest,¹ I was impressed that the type of left ventricular wall motion described in this article is probably the same phenomenon which we and others²⁴ have described as occurring during isovolumic relaxation. Our disagreement in timing this event evolves from differences in identifying the termination of ventricular systole. Dr. Hamby's group has apparently been timing end-systole by relating this event to the dicrotic notch of the aortic pressure pulse recorded prior to angiography and subsequently picking this point from a simultaneously recorded electrocardiogram. Aside from the problem of matching heart rates from the preangiographic recordings with those made during the angiogram, there is a question of whether the dicrotic notch on the aortic pulse pressure, even if it is corrected for delay in the recording system, occurs simultaneously with the cessation of systolic contraction in the ventricle. To my knowledge this has not been established and one might even imagine that there would be a short time delay for aortic valve closure once ventricular contraction has ended. It is further not clear by Dr. Hamby's method that suffi-