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Reply to the Editor:

The surgical technique of left ventricular (LV) volume reduction is still in its infancy, and modifications will be inevitable. Chanda and colleagues correctly point out the similarities to operations for LV aneurysm, and therefore the overall effect from the law of Laplace. We have been very impressed that computer modeling may predict the clinical outcome for a large group of patients. In fact, the results in our patients now closely follow the outline that Dickstein and colleagues¹ have predicted: increased contractility, but decreased compliance. The most frustrating aspect of the Batista procedure, however, is that we have not been able to predict for an individual patient whether the operation will be very successful or fail miserably, so that the patient requires support with an LV assist device.² We have been impressed that LV wall thickness as measured by preoperative echocardiograms does not predict the "true" LV wall thickness when the LV is unloaded and decompressed during ventriculectomy. Frequently, a 1 cm wall thickness by echocardiography will be greater than 2 cm in the decompressed LV. However, in other patients there is little difference, we think because of extensive myocardial fibrosis.

We considered ventriculotomy with "partial wrap" by overlapping the ventricular walls, as Chanda and associates suggest, as a modification of the Stoney repair for ventricular

aneurysms. The technical aspects of this operation would be more difficult than partial left ventriculectomy, and it is not clear that there would be significant added benefit from the very localized area of overlapping myocardium. Instead, in the laboratory we are investigating external devices to reduce LV volume, decrease LV wall stress, and prevent late postoperative dilatation. We hope that these new devices will expand the concept of LV volume reduction and the benefits related to the law of Laplace, and yet will not require cardiopulmonary bypass for device placement or the removal of 100 g of otherwise viable myocardium.

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Left ventricular dysfunction after open repair of simple congenital heart defects

To the Editor:

We feel obliged to address the errors and misconceptions in the editorial by Colan and del Nido¹ accompanying our recent article in the Journal, "Left Ventricular Dysfunction After Open Repair of Simple Congenital Heart Defects in Infants and Children: Quantitation With the Use of a Conductance Catheter Immediately After Bypass."² Their criticisms fall into 3 main categories:

Criticism of left ventricular volume measurement by the conductance catheter. All methods for assessing left ventricular volume have limitations, and the conductance catheter is no exception.³ Nonlinearities in the relationship between chamber volume as measured by the conductance catheter and alternate methods (angiography, sonomicrometry) were demonstrated by groups led by Glantz and Little.^{4,5} Burkhoff³ pointed out that the methods to which the conductance catheter has been compared have themselves not been adequately validated, and a linear relationship to absolute volume for these techniques should not be assumed. Subsequently, Glantz and Little and their associates⁶ suggested guidelines for effective use of the conductance catheter, and