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Commentary: All sheets lead to the cockpit

Stacey Chen, MD, and Eugene A. Grossi, MD

In this report, Sotolongo and colleagues¹ from Yale present an additional alternative to the conundrum of the mechanics of adjusting posterior neochordal length as a component of a mitral repair. It is a variation in the long history of non-resectional repair techniques starting with McGoon's original report in 1960.^{2,3} With a neochordal resuspension of the prolapsing segment, rather than making the primary fixation at the leaflet edge (ie, placing a knot there) with subsequent adjustments and revisions under hydrostatic testing conditions, the neochordal pair is placed in a "reversed" fashion. First, each suture needle is brought through the free leaflet edge, then the appropriate posterior papillary muscle trunk, and further into the hinge of the prolapsing segment exiting into the atrium. An annuloplasty device can then be placed, and with hydrostatic testing and a clear view, the neochordal length can be adjusted and tied easily from inside the left atrium without temporarily disrupting the coaptation zone. Just as in a sailboat, the sheets (control lines that control the angles of the sails) end in the cockpit, where they can be easily adjusted. A sailor does not adjust his sails by retying the lines on the clew.

This technique is reminiscent of the non-resectional "foldoplasty" technique advocated by Cohn,⁴ where the prolapsing segment is "folded under" with the prolapsing edge being sutured down with the suture ends also exiting in the base of the posterior annulus for tying in the atrium. This technique was advocated for its ability to both correct prolapse and to shorten the posterior leaflet height. It was

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CENTRAL MESSAGE

Adjustable posterior neochordal technique may offer improved precision and control in the pursuit of perfecting mitral valve repair.

not truly adjustable, as the neochordal variation demonstrated in this report.

The bottom line is that a good repair requires fine-tuning of the regional coaptation zone. Having the sheets end in the cockpit can make it easier.

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