dilations. With the advent and relative acceptance (good or bad?) of ductal stenting, another treatment variable is added, largely not accounted for in this study.

3. The “Perspective statement” is spot on: “A concerted effort from the congenital heart community is needed to address the sobering findings of high mortality...”
4. The “Central Message” is disappointing: “In symptomatic neonates with TOF weighing <2.5 kg, mortality and reintervention was independent of treatment strategy.” This is completely unacceptable. What unintended consequences will result from this nonanswer?
5. How does a “noninferiority” conclusion move the field forward? I can hear that debate at patient management conference...a symptomatic 2.4-kg baby with TOF/pulmonary stenosis—what to do? Dilate the right ventricular outflow tract, stent the ductus, primary complete repair, surgical palliation. Who is right? Everyone? No one?
6. Mortality is tip of the iceberg in this debate. Babies with congenital heart disease have vulnerable brains.⁴ As we debate treatment modalities, we must consider more granular outcomes data. If a cohort of children with symptomatic TOF can be followed with essentially

100% follow-up as in this study, those same patients can undergo neurodevelopment follow-up.

There are solutions to these vexing realities. For one, we cannot accept that there is no optimum strategy. We must respond to the fact that repaired TOF is a chronic disease and results are not nearly as good as we thought. Every single patient must be followed for life, and we must collect more robust data, including neurodevelopmental outcomes, to tease apart the details needed for definitive solutions. For this, the example of this research collaborative, is paramount and the primary hope of specific answers.

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Commentary: Neither “shunt” nor “stent” is a four-letter word

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For decades, the congenital cardiac pendulum has swung between staunch advocates of either initial palliation or single-stage repair of tetralogy of Fallot (TOF). In parallel,

The sun rises and sets; still the pendulum swings.

CENTRAL MESSAGE

Assessing the ideal contemporary repair strategy for tetralogy of Fallot in newborns may be more complicated than we think.

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despite advances across the continuum of perioperative care, the results of aortopulmonary shunting have reproducibly demonstrated sobering mortality rates with little

improvement. Indeed, in part because of this, the misplaced braggadocio of a newborn “complete repair” has seduced referring cardiologists for time eternal, implying erroneously the notion that patients are not only cured, but that the operation is “one and done.” In this issue of the *Journal*, Qureshi and colleagues¹ present a study from the Congenital Catheterization Research Collaborative that attempts to elucidate the best strategy for ultimate repair of TOF in small neonates; indeed, the pendulum continues to swing.

Qureshi and colleagues’ study refutes the findings of other previous national database reports insofar as it focuses specifically on neonates less than 2.5 kg, for whom additional confounding factors (pertaining to age and size) may offset some of the anticipated benefit (eg, length of stay) attributed to a “lesser” first palliative procedure.² Not studied were the cost and medical risks of multiple interventions when evaluated as aggregate strategies, nor the far more nuanced question of whether previous palliation could presage a greater possibility of later pulmonary valve preservation and thereby alter the arguably more vital outcome of lifelong morbidity.

While providing an important additional piece of the puzzle, one major limitation of Qureshi and colleagues’ work is that its study period (2005-2017) overlaps with the progressive use of transcatheter stents (ductal, right ventricular outflow tract) as initial palliation, and yet this cohort itself had very few of either modality used. Whether transcatheter palliation will be proven superior to initial surgical

palliation remains to be seen, but speculatively these new interventional therapies may have significant impact on cost and hospital morbidity (and potentially mortality), thus impacting the relative benefits of staged or definitive repair.

One can be mesmerized by the periodicity of Foucault’s pendulum so much so one forgets that it marks the rotation of the earth, and by extension the passage of time. As a field, our vacillation between soap boxes as to the optimal surgical strategy to repair TOF may also be missing the technological advances and alternative strategies that are evolving around us. It would appear from discussions at the Annual Meeting about this manuscript that there is broad appetite for a multicenter trial to help us get closer to answering this age-old question.¹ However, we must heed the warning cry: we as a discipline (in concert with our cardiology colleagues) will need the equipoise to support randomization over religion; otherwise, if you wait long enough, the swing of Foucault’s pendulum brings you back to where you started.

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