Authors have nothing to disclose with regard to commercial support.

Association for Thoracic Surgery consensus guidelines for infective endocarditis (IE)² and Wurcel and colleagues' Letter to the Editor,³ "Contracts with People Who Inject Drugs Following Valve Surgery: Unrealistic and Misguided Expectations." The letter takes issue with the value of a contract with a patient who has substance use disorder (SUD) to remain clean and is directed more toward the Vlahakes editorial than toward the actual American Association for Thoracic Surgery guidelines. The wording of the recommendation in the guidelines is "Normal indications for surgery are reasonable to apply to patients who are intravenous drug users. Decision making must take the addiction into account, and management must include treatment of the addiction," a class IIa, level of evidence C, recommendation. The American Association for Thoracic Surgery guidelines do not mention using a contract, but rather they emphasize the utmost importance of addiction being "treated, mobilizing and taking advantage of all available resources and options for drug rehabilitation."

IE without treatment with antimicrobials and surgery, when needed, is almost uniformly fatal. We would consider surgery futile if the patient refused to be treated with antibiotics. Because SUD is also a fatal disorder, it is reasonable for the surgeon to require that the SUD be treated for surgery to be meaningful.

A recent study by our group showed that between 3 and 6 months after operation for IE, patients who inject drugs have a hazard of death or reoperation that is about 10 times higher than that of patients who do not inject drugs.⁴ The risk level associated with continued intravenous drug use is not comparable to that associated with such behaviors as smoking cigarettes or making caloric dietary decisions, as mentioned by Wurcel and colleagues.³ The reassurance that surgeons need and are entitled to is that the patient with SUD has been evaluated by an addiction medicine expert, addiction treatment is available and offered, and the patient has agreed to make a good faith effort to follow the treatment plan after the operation.

We do not believe that setting an expectation in writing for the achievement of addiction treatment goals is unreasonable. However, we do recognize that addiction treatment sometimes progresses irregularly. Slips can be managed and turned into learning experiences rather than being addressed punitively. The establishment of an open, accountable, and constructive therapeutic relationship at the center of treatment is essential. Although SUD inherently involves a loss of behavioral

control and relapses may occur, an experienced addiction treatment program works with a motivated (even though addicted) individual to develop new relapse prevention skills with time.⁵

Surgeons are not naïve, and we may hide behind "unrealistic and misguided expectations," but it is in good faith and with a sincere hope that all people with SUD-related IE will be able to take advantage of the second chance they get when we take care of their infections.

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**IS RIGID STERNAL
FIXATION REALLY
BETTER? WAS THE
CORRECT CONTROL
GROUP USED?**

To the Editor:

Allen and colleagues¹ report a nicely performed randomized, multicenter trial comparing sternal closure with rigid plate fixation to wire cerclage. Unfortunately, the criteria for the wire

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cerclage control group was individual surgeon discretion qualified only as a minimum of 6 wires. On review of the article, I could not find any quantification of the average number of wires used. Kamiya and colleagues² demonstrated that use of fewer than 8 wires in high-risk patients was associated with an increased incidence of sternal complications.

Allen and colleagues¹ suggest that despite the increased cost of the rigid fixation plates, 6-month costs were no different. Unfortunately, although costs to the global health system may be no different, the initial cost to hospitals will be. If, as is the norm, most patients received only 6 wires, then this article is only a comparison of a more costly sternal closure method to a method shown to be inferior to other closure techniques.

Because this article will be used by a manufacturer to promote this product, it is important that appropriate comparisons be made. Whereas use of 6 wires is inferior, is use of 8, 9, or 10 wires equivalent (and less expensive)? As presented we cannot use this article to guide this decision.

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THE RIGHT WIRING CONFIGURATION FOR STERNAL CLOSURE: SCIENCE OR MYTHOLOGY?

Reply to the Editor:

We appreciate Savage's interest in our multicenter, single-blind, prospective, randomized trial comparing rigid plate fixation with traditional wire cerclage after median sternotomy.¹ Despite Savage's contention, there is currently *no* established standard method for wire

closure after median sternotomy, and in fact most surgeons passionately tout or teach their wiring configuration as the "correct" closure technique. In light of this, our study represented a real-world scenario in which we left the sternal closure technique in the control group to institutional or surgeon preference, with the sole proviso that a minimum of 6 wires be used.

In the retrospective, nonrandomized study referenced by Savage, Kamiya and colleagues² *actually* reported that the number of wires had *no* influence on sternal complications in the entire patient cohort, which had similar demographic characteristics to the control group in our study. In a subgroup analysis, Kamiya and colleagues² did report that for certain high-risk patients the use of 7 or more wires was associated with a decreased incidence of sternal complications and that for patients with diabetes mellitus the use of 8 or more wires was associated with the decreased incidence of sternal complications. We are pleased to update our article and assuage Savage's concerns that not enough wires were used in our control arm by reporting that the mean number of wires used in our control arm was 7.7 ± 0.8 . In fact, 6 wires were used in only 3.3% (4/120) of the control patients, and no sternal complications occurred in any patient with 6 wires. In addition, the use of more sternal wires did not correlate with better sternal healing. As reported, the only correlate with better sternal healing was the use of rigid plate fixation. These findings, along with many published mechanical studies that demonstrate that wires are inferior to rigid plate fixation, explain why *all* specialties, other than cardiac surgeons, that manage osteotomies or fractures have abandoned wires in favor of rigid plate fixation. Overall, we believe that our control group is representative of real-world, current clinical practice and is therefore appropriate.

Savage's concerns about the initial cost of rigid plate fixation for the hospital are misplaced. The primary concern should be improving patient outcomes for longer than the index admission while remaining cost neutral. This was an important aspect that was demonstrated by our randomized trial. The era of rewarding providers for complications that occur after the index admission/30 days is waning. Although bundled care is currently in flux, payors will increasingly demand that providers be responsible for costs of follow-up care, readmissions, and reoperations after discharge. In our study, 50% (3/6) of the sternal complications occurred after 30 days. Technologies such as rigid plate fixation that improve clinical outcomes without increasing total costs will become dominant in this new environment. We look forward to seeing prospective, randomized, controlled trial data on the clinical and economic benefits of other sternal closure technologies, including the