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## Letters

### TO THE EDITOR

## TAVR During the COVID-19 Pandemic

### The ACC/SCAI Consensus Statement



We appreciate the guidance provided in the American College of Cardiology/Society for Cardiovascular Angiography and Interventions consensus statement for structural heart disease intervention during the coronavirus disease 2019 pandemic (1). Although symptoms currently guide clinical practice guideline recommendations for transcatheter aortic valve replacement (TAVR) in patients with severe aortic stenosis, physiological variables may affect perceived acuity and time course for treatment. The Christ Hospital consensus clinical practice guidelines for performing TAVR during the moratorium on “elective” procedures include severe aortic stenosis and any of the following: 1) New York Heart Association functional class III or IV symptoms; 2) syncope; 3) mean gradient  $\geq 50$  mm Hg; 4) peak velocity  $\geq 5$  cm/s; and 5) objective evidence of a decline in left ventricular ejection fraction.

However, apparent lack of consensus in professional society recommendations may prompt practice modification. After adopting a “minimalist” approach to TAVR 6 years ago, we maintained anesthesiologist presence during TAVR for the occasional conscious sedation (monitored anesthesia care [MAC]) procedure requiring “conversion” to laryngeal mask airway or, rarely, general anesthesia (GA). Of note, the American Society of Anesthesiologists coronavirus disease 2019 frequently asked questions document (coronavirus resources for anesthesiologists) suggests replacing MAC for all TAVR patients (because of time delays in severe acute respiratory syndrome coronavirus-2 testing) with planned, controlled endotracheal anesthetics (2). This document asks, “What should we do about ‘MAC’ cases, with an open airway?” and answers, “If dispersion of potentially contaminated exhaled gases from an open airway (e.g. ‘MAC’) is a risk, consider alternate anesthesia plans. Potential contamination of your workspace and the room should be considered. The safety of you and your colleagues is paramount.” In this context, our anesthesiologists recommended conversion from

MAC to GA for all TAVR patients. Like many programs, our move away from GA was accompanied by reductions in the incidence of hemodynamic instability, oropharyngeal and laryngeal trauma, post-procedural delirium, and urinary catheter-related events (trauma, infections). Following MAC, patient recovery was more rapid, intensive care unit admissions were reduced, and hospital discharge took place earlier. Faced with the prospect of GA for all TAVR procedures, conversion to nurse anesthesia was made rapidly, with one heart team physician assigned to monitoring sedation and hemodynamic status.

Last, patient perception may affect our ability to provide care. Despite acuity profiling and prioritization, patients may cancel scheduled TAVR procedures. Over the past 3 weeks, of 20 patients profiled as nonelective on the basis of clinical practice guidelines by a multidisciplinary committee, 6 canceled procedures largely because of fears of contracting coronavirus disease 2019 and family abandonment due to restrictive hospital visitation policies. One patient died suddenly after canceling. Furthermore, deferral for “low acuity” severe aortic stenosis is not benign. Deferred patients are called weekly by the TAVR coordinator. Despite this, 1 patient had sudden death 2 weeks after deferral. Counseling patients as to the consequences of treatment delay, the potential for clinical decompensation, and emergency hospital presentation are essential. Assurance that every effort to safely expedite their procedures and hospital stays may be helpful.

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The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the *JACC: Cardiovascular Interventions* [author instructions page](#).

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1. Shah PB, Welt FGP, Mahmud E, et al. from the American College of Cardiology (ACC) and the Society for Cardiovascular Angiography and Interventions (SCAI). Triage considerations for patients referred for structural heart disease intervention during the coronavirus disease 2019 (COVID-19) pandemic: an ACC /SCAI position statement. *J Am Coll Cardiol Intv* 2020;13:1484-8.
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## TO THE EDITOR

# Performing Structural Heart Disease Interventions During the COVID-19 Pandemic



## But What Are the Downsides?

We read with interest the American College of Cardiology and Society for Cardiovascular Angiography and Interventions consensus statement on triage considerations for patients referred for structural heart disease (SHD) intervention during the current coronavirus disease 2019 (COVID-19) pandemic by Shah et al. (1). The paper provides useful guidance regarding triage and timing of interventions for patients awaiting SHD treatment during this global crisis. However, we believe that the possible downsides of performing (high-risk) cardiovascular interventions during this period require additional discussion. These considerations should be more explicitly incorporated in any framework addressing interventions during the COVID-19 pandemic.

It is clear that time is not a luxury most patients with symptomatic cardiovascular diseases can afford, especially regarding SHD. For inpatients who cannot be discharged due to medical reasons, it is rational to perform necessary interventions during the COVID-19 pandemic, analogous to recommendations from the consensus statement (1). Conversely, for outpatients, risks for sudden cardiac death or irreversible cardiac deterioration while awaiting intervention should be weighed against the risks of nosocomial COVID-19 exposure and associated morbidity and mortality. Although the chances of nosocomial COVID-19 transmission in this setting are largely unknown and are

being investigated (NCT04290780), the possibility is factual and well reported (2,3). Furthermore, the phenomenon of asymptomatic carriers of COVID-19 has become increasingly important, inciting an absolute (but still unmeasurable) risk that COVID-19 positive patients, albeit without any symptoms, will undergo high-risk cardiovascular interventions. Although it is uncertain how COVID-19 will influence the periprocedural period, these cardiovascular patients commonly share similar risk factors (i.e., elderly patients with pre-existing concurrent cerebrovascular conditions, diabetes, or chronic kidney diseases) to patients who have the highest risks for mortality after being hospitalized for COVID-19 pneumonia (4).

Unfortunately, there are currently insufficient data available to properly guide us in this difficult balancing act. Updated regional and national epidemiologic data on COVID-19 prevalence are sorely needed. Moreover, we eagerly await further reports with case series detailing selection criteria, outcome data, and risks of nosocomial COVID-19 transmission for (out)patients undergoing cardiovascular interventions during this pandemic. Also, the expansion and improvement of testing to identify asymptomatic COVID-19 carriers will be crucial for optimal case selection. Until then, the dilemma of choosing the lesser evil will remain a challenge for the clinician and the patient on a daily basis.

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1. Shah PB, Welt FGP, Mahmud E, et al. from the American College of Cardiology (ACC) and the Society for Cardiovascular Angiography and Interventions (SCAI). Triage considerations for patients referred for structural heart disease intervention during the coronavirus disease 2019 (COVID-19) pandemic: an ACC /SCAI position statement. *J Am Coll Cardiol Intv* 2020;13:1484-8.