In 2020 and 2021, 9 important Perioperative Management Invited Expert Opinion reviews were or will be published in the AATS family of journals: Journal of Thoracic and Cardiovascular Surgery (JTCVS), JTCVS Techniques, and JTCVS Open. These featured peer-reviewed contributions provide expert perspectives on existing controversial topics or new developments in the perioperative management of cardiac surgery patients (Figure 1).

In 2020, the attention of the medical community was stolen by the novel coronavirus pandemic. In the setting of the rapidly evolving and unpredictable deadly disease, there was little guidance regarding the protection of healthcare providers while delivering cardiac surgical care. In a timely publication, Haft and colleagues1 provided guidance for patient prioritization by proposing a 3-tiered triage algorithm to help cardiac surgery centers utilize resources, serve their patients, and protect their medical teams. The authors stressed hospital creativity and collaboration and also provided recommendations to ensure outpatient monitoring of symptom progression to allow timely intervention.

Similarly, in the face of the pandemic, Bakaeen and colleagues2 advocated for caution and recognition of the potential for lethal consequences of suspending elective cardiac surgery in patients deemed at high risk. They proposed a guide for staged reopening and stressed the importance of community education regarding the safety of the hospital environment, particularly when weighed against the possibly fatal risks associated with delaying treatment of reversible cardiovascular diseases.

Lam and Farber3 provided a readable, timely, but never-obvious approach for designing antiviral therapies. They described a genetic engineering approach that could promote continuous secretion of pathogen-specific neutralizing antibodies by incorporating desired genetic material that codes for that antibody into immune B cells and simultaneously silencing the expression of endogenous antibodies. If successfully adapted to clinical practice, the technique holds promise for successful treatment through immune system engineering to allow therapeutic and even prophylactic protection against various community- and hospital-acquired infectious pathogens.

The evidence regarding which fluid to administer for perioperative fluid responsive patients (a scenario with which we are all too familiar) was wonderfully reviewed by Singh and Shaw4 in light of a recent landmark publication.5 The authors provided a comprehensive overview of recent studies on fluid management in cardiac surgery and critical care, covering in depth the pros and cons of saline versus balanced solutions, as well as the use of crystalloid versus colloid solutions.

Recognizing the deleterious effects of massive fluid administration on organ function, Beaubien-Souligny and colleagues6 addressed the effect of cerebral venous congestion on postoperative cognitive dysfunction following cardiac surgery. By invoking passive congestion as a widely overlooked etiology for postoperative encephalopathy, the
authors advocated for its early detection via Doppler imaging of the portal vein, so as to initiate earlier management of volume overload postoperatively.

Contrast-enhanced imaging, routinely used in patients before and after cardiothoracic surgery, has been associated with renal injury and remains an ongoing concern for the perioperative team. In their editorial, Waheed and Choi addressed the issue of causality, that is, dye-induced acute kidney injury. They reviewed patient risk profiles, shed light on promising diagnostic renal biomarkers, and offered strategies for its prevention.

A ground-shaking Expert Opinion by Dunning and Trevis should give pause to all of us who adhere to the “Get with the Guidelines” American Heart Association resuscitation protocols, prescribing epinephrine 1 mg as the only dose to remember. Their revelation of insufficient evidence for epinephrine in cardiac arrest is a practice-changing myth buster. The authors elaborated on the unique circumstances of a post–cardiac surgery arrest, advising against the dogmatic use of high-dose epinephrine.

Cognitive load is the process of acquiring new information and converting it to working memory. Physicians working in an environment of excessive cognitive load due to the high stakes, the stress associated with complex tasks, and multiple distractions may convert this adaptive mechanism into a damaging response. Manji and colleagues provided evidence linking medical errors to physician burnout and hypothesized the presence of an underlying neuroanatomic substrate. They also pointed out that chronic cognitive overload also affects families, the workplace, and, most importantly, the patient. Emotional toll and high rates of burnout in healthcare require a robust and sustainable effort to cease the cycle of emotional exhaustion, poor clinical judgment, and subsequent feelings of low accomplishment and guilt.

Quoting Benjamin Franklin’s aphorism “an ounce of prevention is worth a pound of cure,” Geller and Seng provided a key message about the power of incorporating prophylactic measures to prevent sacral pressure injuries. They presented a comprehensive review of the definitions and staging of pressure injuries and outlined simple and cost-effective perioperative measures to avoid this completely preventable complication and its devastating effects on hospital costs and patient outcomes.

We are grateful to all authors for their insightful contributions across the AATS journals, and we believe that these articles will enrich the knowledge of our readers and facilitate their clinical decision making in the perioperative management of cardiac surgery patients.

Conflict of Interest Statement
The authors reported no conflicts of interest.

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