PATIENT-REPORTED EXPERIENCE MEASURES (PREM) CAN IDENTIFY AREAS FOR IMPROVEMENT

Alexander Gregory, MD, University of Calgary, Alberta, CA

There are a variety of Patient-Reported Outcome Measure (PROM) tools that have been applied to cardiac surgery patients. Patient-Reported Experience Measures (PREM), though familiar to hospital administrators, are less commonly utilized by clinicians. A PROM is a tool used to capture a patient’s report of their health, quality of life, or functional status associated with the health care they have received. In comparison, a PREM provides insight into the patient’s experience and satisfaction with that same health care interaction. In the United States, a commonly used PREM is the Hospital Consumer Assessment of Healthcare Providers and Systems, or HCAHPS. The HCAHPS survey consists of 29 questions, with 19 of these focused on the fundamental aspects of a patient’s experience. It includes ratings of communication with the healthcare team, responsiveness of hospital staff, cleanliness/quietness of the hospital environment, and overall experience. The survey is administered to patients who have had a hospitalization, and the results are used to assess the quality of care provided by hospitals.

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THE EVIDENCE FOR TREATING ATRIAL FIBRILLATION DURING CARDIAC SURGERY

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Atrial fibrillation (AF) confers a 5 times greater risk of stroke, 5 times greater risk of heart failure, and 46% greater mortality risk. Pre-operative AF before coronary artery bypass graft (CABG) is an independent risk factor for higher in-hospital morbidity and mortality, and results in higher rates of long-term death and stroke/systemic embolism (SE).

Patients with AF who undergo concomitant surgical ablation (SA) have improved long-term survival, lower long-term stroke risk, and higher rates of freedom from AF compared with patients with untreated AF. A Medicare-linked Society of Thoracic Surgeons (STS) database showed that concomitant SA of AF with CABG was associated with improved outcomes.

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IS A BARISTA THE NEXT MEMBER OF YOUR ERAS TEAM?
Alexander Gregory, MD, University of Calgary, Alberta, CA

Enjoying a cup of coffee to start the morning is a common activity across the globe. But could including a cup of coffee on the day of cardiac surgery be a consideration for an ERAS program? A recent review in the Canadian Journal of Anesthesiology suggests that it might be.1 Pleticha and colleagues provide an excellent review of the physiologic effects of caffeine, including the negative impact of withdrawal on chronic caffeinators. For individuals who regularly consume > 100 mg of caffeine per day, which is approximately one 8 oz. cup of regular brewed coffee or three 12 oz. cans of cola, even brief cessation can result in a constellation of withdrawal symptoms (Table 1).2 Clearly, caffeine withdrawal has the potential to impede post-operative recovery and negatively affect the patient experience. There is a paucity of prospective data on the effectiveness of caffeine supplementation that there was no increase in the incidence of post-operative atrial fibrillation.3 The recommendations for NPO status have already been modernized as an element in many ERAS programs, while others additionally include a carbohydrate beverage. It would be feasible, within this existing framework, to screen for chronic caffeinators and encourage them to consume a cup of black coffee (as milk or cream is not a clear fluid) in the morning prior to surgery. Alternatively they could have oral or intravenous caffeine supplementation, although I suspect most

<table>
<thead>
<tr>
<th>Depressed mood</th>
<th>Loss of vigour</th>
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</thead>
<tbody>
<tr>
<td>Flu-like symptoms</td>
<td>Lower systolic blood pressure</td>
</tr>
<tr>
<td>Headache</td>
<td>Reduced energy levels</td>
</tr>
<tr>
<td>Irritability</td>
<td></td>
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</tbody>
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Table 1: Symptoms related to caffeine withdrawal

in preventing withdrawal, with no studies to date including cardiac surgery patients. Two existing randomized trials on ambulatory surgery patients demonstrated caffeine supplementation reduced the incidence of post-op headache in patients who abstained from their usual morning coffee.3,4 Beyond prevention of withdrawal, caffeine supplementation may also improve peri-operative physiology and promote multiple aspects of recovery. This includes earlier emergence from general anesthesia, augmented ventilatory response to hypoxemia/hypercarbia, improved bowel function, and supplemental patients would prefer to adhere to their daily morning routine if possible. The benefits of peri-operative caffeine, to prevent withdrawal of promote recovery, have not been well-studied. This could be an interesting area of future study in cardiac enhanced recovery to explore it’s potential to improve patient outcomes and satisfaction.

7. Overstreet DS, Penn TM, Cable ST, Aroke EN, Goodin BR. Higher habitual dietary caffeine consumption is related to lower experimental pain sensitivity in a community-based sample. Psychopharmacology (Berl) 2018; 235: 3167-3176
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environment, information on medications/discharge, and a global hospital rating. There are also questions that may overlap with those included in common PROM tools, particularly as it pertains to pain management and sleep. Clearly, PREMs are valuable as a “customer satisfaction” tool and can provide hospitals with a metric to improve patient-perceived quality of care. But are they able to provide useful information for clinicians to also improve the quality of recovery within an ERAS program? A recently published study suggests that they can. Helder and colleagues evaluated HCAHPS survey data from 1315 cardiac surgical patients. They found that although communication with doctors and nurses, pain management, and clear discharge information had generally high scores, it was the two communication metrics that had the greatest impact on the global satisfaction rating. Of the areas that tended to have lower scores, communication regarding medications and transition of care towards discharge were the two areas with the highest correlation for low global satisfaction ratings. The importance of medication compliance, value of functional recovery at home, and the medical/financial ramifications of hospital re-admission are well known. Improvements in these areas would benefit patients’ actual health beyond simply raising their level of satisfaction. Patient satisfaction tools are a double-edged sword. Focusing on improving PREM scores at the expense of other clinical outcomes would potentially leave patients more satisfied, but in poorer health. Imagine if resources were taken from reducing surgical site infections to improve the comfort of the hospital environment. This strategy leaves both the patient and the healthcare system worse off, despite any improvements in their satisfaction. Fortunately, most patients do not seem to be easily distracted by superficial measures of their experience. The parameters of the HCAHPS survey that had the greatest impact on the global satisfaction rating were also those that had significant relevance to clinical outcomes. Therefore, appropriately applied and evaluated PREM tools may provide a valuable intersection of patient and provider priorities, allowing the ERAS team to seek new areas for continued improvements in perioperative care.


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with lower stroke/SE and mortality in patients who survived >2 years. Concomitant SA of AF during CABG or valve surgeries has Class I recommendations from the STS and Heart Rhythm Society. However, estimated rates of concomitant SA for AF are low, with less than one-third of cardiac surgery patients with AF treated. The highest estimate based on a STS database analysis found only 48.3% of cardiac surgery patients with documented AF received concomitant SA. Based on Medicare claims data, only 22% of cardiac surgery patients with AF received concomitant SA.

Patients may be both underdiagnosed and undertreated for AF due to lack of screening. Therefore it is increasingly important that patients referred for cardiac surgery undergo AF screening. Chart review for past AF diagnosis, Holter monitoring, cardioversion, or catheter ablation should be included during surgical intake. Adequately screening every cardiac surgery patient for AF and treating appropriately with concomitant SA may give these patients the highest chance of restoring normal sinus rhythm as well as better peri-operative and long-term clinical outcomes based on available data.

care hospitalization will experience Post Intensive Care Syndrome (PICS). PICS is a new or worsening impairment of cognitive, physical, and/or psychological function after a critical illness, which can include the development of post-traumatic stress disorder (PTSD). These physical impairments affect 25-80% of patients and can last for five years, while cognitive defects can last for more than eight years in up to 62% of patients. Several risk factors are shared for PICS and cardiac surgery patients, including age > 65, male, smoking history, diabetes, hypertension, and coronary artery disease. Many cardiac surgery patients also utilize medications throughout the perioperative process that have been associated with an increased risk of PICS, including benzodiazepines, sedatives, paralytics, and analgesics. Treatment for PICS is limited, and the focus is heavily on prevention. Cognitive, physical, and occupational therapy have proven to reduce symptoms. Inpatient opportunities include increasing out of bed activity, reorientation strategies, minimizing sedation, continuing home psychiatric medications, avoiding hyperglycemia, steroids, and neuromuscular blocking drugs. These opportunities and others listed in the ABCDEF Bundle (Figure 1) have been shown to reduce the incidence of PICS and are widely accepted in ICU care for prevention. Journaling and support groups promote recovery in patients upon return to their normal setting. Many of the recommendations of Cardiac Enhanced Recovery After Surgery (ERAS) align with the preventative care for PICS (Figure 1). Recommendations from both Cardiac ERAS and PICS include complementary elements of a multidisciplinary approach for the cardiac surgery patient resulting in enhanced outcomes.

Figure 1

IN THE NEWS:

Announcing the First Annual ERAS Cardiac Fellowship Awardee:

Sameer Hirji, MD is the recipient of the inaugural Richard Engelman Cardiac Enhanced Recovery Fellowship Award. This award affords the recipient the opportunity to join the ERAS Cardiac Executive Board in focused research, collaboration, and presentations at academic meetings. The intent is to provide an enriched experience for the awardee to gain advanced training in perioperative care of cardiac surgical patients. Awardees may also travel to expert institutions for advanced training.

Dr. Hirji is a Cardiac Surgery Resident in the joint 4/3 cardiothoracic and general surgery program at Brigham and Women’s Hospital, Harvard Medical School. He previously completed his undergraduate degree in biological engineering at the Massachusetts Institute of Technology followed by graduation from Duke University School of Medicine. He also has a Master’s in Public Health from T.H. Chan Harvard School of Public Health. Dr. Hirji is a clinician-scientist with a proven record of publishing in major academic journals, including JAMA, JACC, Circulation, and EHJ. He has over 220 peer-reviewed manuscripts and book chapters with a focus on surgical and transcatheter aortic valve therapies, standardizing cardiac clinical outcomes, as well as identifying new avenues for research in the context of enhanced recovery after cardiac surgery. Dr. Hirji’s work has been recognized at the STS and AATS with several awards, including the J. Maxwell Chamberlain award, Richard Clark Memorial Award, and C. Walton Lillehei Award.

ERAS International World Congress:

Members of the ERAS Cardiac Society hosted a dedicated Cardiac Surgery plenary session during the 8th ERAS International World Congress in Madrid this June. The meeting was well-attended by cardiac surgical providers and fostered discussion of best perioperative practice from an international group of experts.

Free Webinar:

The ERAS Cardiac Society and CTSNet hosted a free webinar entitled “Controversies in Enhanced Recovery After Cardiac Surgery” this spring. The three debates were: Regional Anesthetics for Sternotomies: To Block or Not to Block?, Preoperative Epogen: Hero or Hype?, and Rigid Sternal Fixation: For Every Patient or Selective Patients? Over 600 people from 50 different countries participated. Debates were followed by questions and interactive discussion. ERAS Cardiac plans to do similar collaborative webinars in the future.

Annual Meeting of the AATS:

The ERAS Cardiac Society held the first dedicated ERAS Cardiac Sessions at the 102nd Annual Meeting of the AATS in Boston this May. Topics presented included ERAS implementation, team building, prehabilitation, rigid sternal fixation, acute kidney injury, and AI-goal directed therapy.

DANIEL ENGELMAN MD named senior perioperative Editor for the Annals of Thoracic surgery.

DANIEL ENGELMAN MD Professor of Surgery, Medical Director of the Heart and Vascular Critical Care Unit and Inpatient Services at University of Massachusetts Medical School – Baystate, and President of the ERAS Cardiac Society, has been named senior perioperative Editor for the Annals of Thoracic surgery.
RECENT ERAS® CARDIAC PUBLICATIONS:


UPCOMING MEETINGS:

- **September 8-10** STS Critical Care (Society of Thoracic Surgeons) Denver
- **September 27-29** EBPOM Dingle Ireland
- **October 5-8** EACTS (European Association for Cardio-Thoracic Surgery) Milan
- **October 22-26** ASA (American Society of Anesthesiologists) New Orleans

MORE ONLINE:

To learn more about our organization, including our board members and upcoming meetings: [www.erascardiac.org](http://www.erascardiac.org)
Who We Are

ERAS® stands for Enhanced Recovery after Surgery, and we improve surgical care and recovery through research, education, audit, and implementation of evidence-based practices. In early 2017, a group of cardiac surgeons, anesthesiologists, and intensivists first met to establish the Enhanced Recovery After Cardiac Surgery (ERACS®) Society to achieve these goals for patients undergoing heart surgery. This initial organization’s work led to the publication of the first-ever expert consensus recommendations for a cardiac surgical enhanced recovery protocol. We have since joined with the ERAS® Society and have established an organization of multinational experts representing all aspects of healthcare delivery. ERAS® Cardiac is a non-profit organization with the mission to develop evidence-based expert consensus statements promoting best practice recovery practices. The goal is to provide hospitals with better guidance for developing local protocols that are part of a continuous quality improvement process for better patient care, and reduce postoperative complications and costs after heart surgery.

ERAS® Society

The ERAS® Society is an international organization with enhanced recovery guidelines for several surgical sub-specialties. Beginning as the ERAS® Study Group in 2001, team leaders Professor Ken Fearon (University of Edinburgh) and Professor Olle Ljungqvist (Karolinska Insitutet) spearheaded the developments made in multimodal surgical care. The ERAS® Study Group soon discovered that there were a variety of local traditions in practice, as well as an inconsistent application of evidence-based best practices. This prompted the group to examine the process of change from tradition to best-practice. Since its inception, the ERAS® Society has expanded to include several subspecialties, emphasized the benefits of standardized best-practices across the continuum of the perioperative period, highlighted the importance of data-driven self-evaluation, and promoted the improvement of patient care.

Our Organizational Structure

Our ERAS® Cardiac Society is made up of experts from around the world, including participation from all members of the healthcare team. Our members strive to implement enhanced recovery principals at their local institutions while advancing improved patient care internationally through collaboration, education, and dissemination of up-to-date knowledge regarding optimal perioperative care. Our organization is divided into an Executive Board, Advisory Board, and a pool of Subject Matter Experts.
Corporate financial support will be used to promote the mission of the ERAS® Cardiac Society. We are committed to standardizing best practice surrounding the preoperative and perioperative care of cardiac surgical patients through expert consensus, review of the literature and open communication. This unrestricted support does not represent the ERAS® Cardiac Society's support or agreement to promote any pharmaceutical, device, or technology related to the sponsors.

For more information and to become a sponsor please contact: Executive Director Terri Haber, MPH, at t.haber@erascardiac.org
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