



The Society of Thoracic Surgeons
633 N. St. Clair, Suite 2320
Chicago, IL 60611
www.sts.org

News

STS Press Release

Media Contact:

Jennifer Bagley

312-202-5865

jbagley@sts.org

New Screening Tool Helps ID Heart Surgery Patients at Risk for Malnutrition

Simple risk score guides surgeons in providing nutrition support sooner and more aggressively

CHICAGO (June 15, 2017)—Patients who are at risk for malnutrition when undergoing heart surgery now can be more quickly and easily identified, leading to intervention and potentially better surgical outcomes, according to a study published online today in *The Annals of Thoracic Surgery*.

Malnutrition resulting from inadequate calorie intake during the postoperative period is associated with high morbidity and mortality, as well as delayed recovery, increased hospital stay, early readmission, decreased quality of life, and increased health care costs.

“Nevertheless, days in the ICU can go by quickly before we realize patients are not getting the nutritional support they need to improve recovery,” said senior author Glenn Whitman, MD, of Johns Hopkins Hospital (JHH) in Baltimore, Md. “This study offers a nutrition risk score that may heighten our sensitivity to patients who are most at risk for needing nutritional support, allowing them to receive intervention sooner than we might have done in the past.”

Dr. Whitman and colleagues at JHH and Brigham and Women’s Hospital in Boston, Mass., identified 1,056 adult open heart surgery patients from their institutions in 2012. Among this cohort, 87 (8%) required postoperative nutritional support (NS). The patients who required NS were more likely than their counterparts to have diabetes and chronic obstructive pulmonary disease.

The group then developed a JHH Nutrition Score (JHH NS) generated by seven variables, such as prior cardiac interventions, white blood cell count, and urgent/emergent operation status, that independently predicted the need for NS. Each variable was given a number if it was abnormal, with higher total scores demonstrating increased need for NS.

KEY POINTS

- The JHH nutrition score is easily calculable and highly predictive.
- The seven markers of the JHH nutrition risk score are immediately available in the patient’s ICU admission chart.
- Providing nutrition sooner to high risk heart surgery patients may improve their outcomes.

“The JHH risk score can be used as a screening tool to divide cardiac surgery admissions into low or high risk for needing nutrition support,” said Dr. Whitman. “By adding up the total point score, we can look at patients and determine how at risk they are for being unable to eat during the initial ICU period. If the patients are at high risk, and we know that, we can start nutrition sooner.”

The variables used for the JHH NS are “readily accessible,” all available immediately from the chart at the time of ICU admission, and the score is easily calculable and highly predictive, explained Dr. Whitman. In contrast, markers from other nutrition risk tools require more history and understanding of patients, so there are substantial limitations when applied to an ICU admission.

The researchers validated the JHH NS by applying the scores to 1,336 patients who underwent heart surgery in 2015 at their institutions. The scores strongly correlated to the 115 (8.6%) who required postoperative NS.

“In using the JHH Nutrition Score to accurately identify the at-risk patients and then aggressively pursuing nutrition support, we may improve substantially upon their current poor outcomes,” said Dr. Whitman. “Individualized nutrition strategies, combined with the expertise of the nutrition support team and the clinical approach of the caregiver, may further enhance the management of these patients.”

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Ohkuma RE, Crawford TC, Brown PM, Grimm JC, Magruder JT, Kilic A, Suarez-Pierre A, Snyder S, Wood JD, Schneider E, Sussman MS, Whitman GJ. A Novel Risk Score to Predict the Need for Nutrition Support After Cardiac Surgery. DOI: 10.1016/j.athoracsur.2017.03.013.

Find comprehensive medical information presented for patients by leading experts in cardiothoracic surgery at the STS Patient Website (ctsurgerypatients.org). For a copy of *The Annals* article, contact Jennifer Bagley at 312-202-5865 or jbagley@sts.org.

Founded in 1964, The Society of Thoracic Surgeons is a not-for-profit organization representing more than 7,300 cardiothoracic surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. The Society’s mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research, and advocacy.