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**Press Release**

**UNIQUE SUGAR IS KEY TO IMPROVED RESULTS FOLLOWING  
“OFF-PUMP” BYPASS SURGERY**

**D-Ribose offers promising treatment for coronary artery disease  
Cardiology team present findings at the 2<sup>nd</sup> Annual Academic Surgical Congress  
Sponsored by the Association for Academic Surgery and Society of University  
Surgeons**

**PHOENIX, AZ, FEB 5, 2007**—People with coronary artery disease (CAD) may require coronary artery bypass surgery. Today, some patients are candidates for an alternative surgery using an “off-pump” cardiopulmonary bypass (OPCAB) technique, which eliminates the use of a heart-lung machine. Still, the surgery carries many risks due, in part, to a depletion of adenosine triphosphate (ATP), which cells use as their primary source of energy. A study<sup>1</sup> led by David Perkowski, MD, Susan Wagner, RN, Alan Marcus, MD, and John St. Cyr, MD, PhD showed that patients undergoing off pump bypass surgery who took an oral D-ribose supplement before surgery demonstrated significant improvements in their cardiac indices, a measure of heart pump function.

Dr. Perkowski and his colleagues will give an oral poster presentation at the 2<sup>nd</sup> Annual Academic Surgical Congress, sponsored by the Association for Academic Surgery and Society of University Surgeons at the Phoenix Convention Center on Friday, February 9 at 3:00 p.m. “Our findings are particularly significant for maximizing the energy and integrity of the heart,” explained Dr. Perkowski, Chief of Cardiothoracic Surgery at Saddleback Memorial Medical Center, Laguna Hills, CA. “OPCAB with supplemental D-ribose resulted in a 43% greater increase in cardiac indices post-operatively compared to the baseline, which has historically demonstrated a 13% improvement.”

Cardiothoracic surgeon Perkowski is encouraged by the added benefit that D-ribose offers patients undergoing OPCAB, particularly for those with acute myocardial infarction, or heart attack. “There’s always a risk with open heart surgery, but by incorporating the use of D-ribose we increased the vitality of the heart, which improved heart function,” said Dr. Perkowski.

D-Ribose is a unique sugar made by the body to synthesize many important compounds, including DNA, RNA, and, most importantly, ATP, the “energy currency” of the cells. ATP is critical to health and maintaining normal energy-dependent body functions. Ribose is the essential component in the making of ATP.

D-Ribose has already been shown to increase functional capacity for patients with congestive heart failure (CHF) by improving diastolic heart function, ventilation, exercise capacity, and oxygen uptake efficiency.

“Dr. Perkowski’s observations are very encouraging with respect to the benefit of ribose in the post-ischemic human heart. More rapid return of the heart’s energy metabolism may translate into better patient survival and better functional recovery after ischemic injury,” said Joseph

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Schneider, MD, PhD, a vascular surgeon at Evanston Northwestern Healthcare, Evanston, IL and Professor of Surgery, Northwestern University Feinberg School of Medicine.

Schneider went on to say that, “We look forward to more investigations into the possible benefits of ribose in patients with coronary artery disease as well as valvular and congenital heart disease.”

Corvalen, which was used in the study, is a proprietary D-ribose product of Bioenergy Life Science, Inc. (<http://www.bioenergy.com>), a privately held, Minneapolis-based life sciences company whose core technology lies in the development and commercialization of products based on the physiological benefits of D-ribose in health and wellness. **Visit Bioenergy at Expo West, booth #1226.**

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<sup>1</sup>D. Perkowski, MD, S. Wagner, RN, A. Marcus, MD, J. St. Cyr, MD, PhD, Saddleback Hospital, Orange Co., CA, “D-Ribose Improves Cardiac Indices in Patients Undergoing “Off-Pump” Coronary Arterial Revascularization,” presented at Academic Surgical Congress, February 2007.