Study Links Forced-Air Warming to Infections: 3.8x Increase In Orthopedic Implant Cases

The use of forced-air warming during orthopedic implant surgery was associated with a 3.8 times increase in deep joint infections as compared to warming patients with an air-free system, according to a newly published study in the Journal of Bone and Joint Surgery (Br).

Eden Prairie, MN (PRWEB) November 21, 2011 -- The use of forced-air warming during orthopedic implant surgery was associated with a 3.8 times increase in deep joint infections as compared to warming patients with an air-free system, according to a newly published study. Maintaining normothermia during surgery provides numerous clinical benefits and is the standard of care in the United States. Forced-air warmers can be found in most US operating rooms.

The study, published in the November issue of the Journal of Bone and Joint Surgery (Br), was conducted by orthopedic surgeons at Northumbria Healthcare Trust in the United Kingdom. Reviewing hip replacement surgeries performed on 1,437 patients over 2.5 years, the study compared the incidence of deep joint infections on patients warmed with 3M's Bair Hugger® forced-air system with those warmed with the air-free HotDog® system. Patients warmed with the Bair Hugger system suffered deep joint infections at a rate of 3.1%; with the HotDog system, the infection rate dropped to 0.8%.

"A 74% percent reduction in implant infections is incredibly significant," said Dr. Scott Augustine, anesthesiologist and CEO of Augustine Temperature Management, manufacturer of HotDog warming. "Every joint infection is a disaster—both for the patient and the system. The process is horrific: ex-plant the joint, prolonged hospitalization, 6-8 weeks of IV antibiotics and then-- assuming no amputation--re-implant the joint. The average cost is around $100,000."

"Based on this study," Dr. Augustine said, "switching from forced-air to HotDog warming could save hundreds of millions in medical costs—and reduce suffering for thousands of patients." Dr. Augustine is the inventor of both HotDog warming and the Bair Hugger system.

According to the authors of the study, the higher rates of infection were associated with the disruption of operating room ventilation by the forced-air blowers: "Excess heat from FAW [forced air] resulted in the development of hot-air convection currents between the surgeon's body and the operating table, that transported [contaminated] floor-level air upwards and into the surgical site."

As a result, the authors concluded: "Air-free warming is, therefore, recommended over forced-air warming for orthopedic procedures."

The JBJS article follows a study published recently in the American Journal of Infection Control (May 2011) in which the airflow paths of 92.3% of Bair Hugger blowers tested were contaminated with micro-organisms and 58% were blowing germ-sized contaminates into the operating room.

About Augustine Temperature Management
Augustine Temperature Management, headquartered in Eden Prairie, MN, is the maker of state-of-the-art temperature management technology: HotDog® patient warming. Utilizing conductive fabric technology, HotDog warming blankets and mattresses were invented by Dr. Scott Augustine and the same team that

pioneered intra-operative patient warming by introducing the Bair Hugger® forced-air warming system in 1987. Dr. Augustine's products have warmed over a hundred million patients worldwide. HotDog patient warming is the most innovative improvement in the patient warming market in the last 20 years. More information can be found at http://www.hotdog-usa.com

About the Journal of Bone and Joint Surgery Br
The Journal of Bone and Joint Surgery, British volume is a world-renowned peer reviewed medical journal in the field of orthopedic surgery. Established in 1948, the British volume is published by The British Editorial Society of Bone and Joint Surgery. More information can be found at http://www.jbjs.org.uk/

The JBJS study may be found at http://web.jbjs.org.uk/cgi/content/abstract/93-B/11/1537

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