

Patient warming concerns August 2008

NHS Trusts that follow new NICE guidelines on keeping surgical patients warm risk contaminating operating theatres, because they recommend systems which cannot be cleaned, a clinician has warned. Concerns have been raised following research carried out by Dr Scott Augustine, the anaesthetist who first invented the forced air warming Technique.

On discovering that the blowing equipment could not be effectively cleaned and colonised bacteria, which then blew out into the theatre, Dr Augustine and his team developed a safer, cleanable method of keeping patients warm.

He said he was shocked at the recent guidance from NICE that recommends using forced air warming, and is currently seeking a meeting with the organisation to present his findings and urge NICE to urgently modify the guidance.

“When we first developed forced air warming there was not the focus that there is today on MRSA and hospital-acquired infections,” said Dr Augustine. “It is very important that patients are warmed before, during and after surgery so we were concentrating on that.

“We then discovered that bacteria accretes within the equipment and hoses. Hardly any of these units are HEPA-filtered and cannot be effectively cleaned – so they blow bacteria directly out into the operating theatre.”

He added that they also blow particles of potentially-contaminated skin around the theatre, which poses a potential risk of MRSA. “These devices cannot be effectively decontaminated, so their use contravenes the Health Act. We are not sure how many UK hospitals are using forced air systems to warm their patients but we fear it may be as high as 80%.”

A Department of Public Health in the US called Bair Hugger 1 units “Reservoirs of Contamination”
Beavers, Suzanne, M.D.; CDR Doug Thoroughman PhD. “*Acinetobacter* Infections among Hospitalized Patients in Kentucky - 2006”. Kentucky Epidemiologic Notes and Reports. 42.2: March 2007: 1-3.

Augustine states separately on his web site:

The manufacturer of the market-leading Forced Air Warming product, Bair Hugger®, does not offer any protocol for cleaning the inside of hoses and the blower unit. In fact, we know it is impossible to effectively do this. Even so, patients and clinicians are exposed to the air that passes through these FAW devices.

Researchers in the US have concluded that FAW devices “are a potential source of nosocomial infection. The International Federation of Infection Control is straight to the point:

“The failure to disinfect or sterilize medical equipment properly may result in infection.”

The National Institute for Clinical Excellence (NICE) acknowledges that:

- 1) electric warming is easier to disinfect than FAW, having no “hidden places,” and
- 2) FAW is a potential source of bacterial colonization, given the “difficulty in cleaning the hose and both the interior and exterior of the warming units.”

**The facts are clear:
forced air warming is a risk.**

Fortunately the next generation warming technology is an air-free solution.