

Prevention of postoperative pacemaker infection and prosthetic valve infection with a mobile laminar air flow

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Pacemaker implantation, implantable defibrillators and all other surgical procedures, involves the risk of infection. Infection remains the most common pacemaker-related complication after equipment failure and sensing and pacing defects. It is a significant cause of morbidity and mortality despite improved surgical techniques and the development of new pacemaker devices. If a pacemaker patient gets an infection the bacteria can persist even when the rest of the body is free of infection, causing the original blood poisoning illness to re-emerge at a later date, when it may even prove fatal. The only known solution to such infestation is the complete replacement of the device, which exposes the patient to more risks and costs. Coronary stent infection, although exceedingly rare, represents a life-threatening complication. Toul Laminar Air Flow is reducing the level of contamination of airborne micro organisms significant by protecting the surgical site area as well as the instrument table via an ultraclean laminar airflow. Under normal circumstances, the main source of airborne microbial contaminants is microscopic skin fragments given off by staff in theatre. The contamination level in the operating room increases with the duration of the operation and the number of persons in theatre and hence increasing the risk of postoperative infection.

Toul is positioned very close to the operating field and therefore it is possible to reduce the contamination level up to 95 % for the operating field. Toul instrument table maintains the sterility of the instruments independently of the duration of the operation.

Significant increases in prevalence of resistance to antibiotics have been observed worldwide. The danger from hospital infections is worsening because, increasingly, they cannot be cured with commonly used antibiotics. Therefore it is more and more important to reduce the contamination level not only in the operating field but especially at the instruments to prevent all sources of contamination during the surgical operation. . An English Study from Whyte has been estimated that almost 70% of bacteria found in the patient's wounds come directly or indirectly from the instruments. There is a clearly relationship between the quality of the air and the degree of sepsis encountered.

In an conventional operating room you can expect about 50 to 200 CFU/m³. This number is rising the more people are in the operating room and the longer the operation last. Toul instrument table maintains the sterility of the instruments and reduces therefore the risk of an surgical site infection SSI. This instrument table provides a horizontal ultraclean laminar airflow which is directed directly over the instruments, acting as a barrier and minimizing the presence of bacteria-carrying particles at the wound.

Application

Preventing Coronary artery bypass infection
Preventing Defibrillator infection
Preventing Pacemaker infection
Preventing prosthetic valve infection
Preventing coronary stent infection
Angioplasty (PTCA)

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Normeditec want to fight against the more and more resistant bacteria to antibiotic with a mobile laminar airflow: The mobile laminar airflow is an efficient way to fight against hospital infection and the rise of antibiotic resistance

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