

Professional Education Day – 15th September @ Rooty Hill

The day was well attended by delegates, with our guest speakers receiving excellent feedback on the content. A summary of the key messages from three guest speakers follows. A great opportunity for delegates to update their knowledge on perioperative topics presented, catch up with colleagues, and support your Professional Association. Thank you to all our presenters and trade who provide product information for our delegates.

The first speaker was Professor Warwick Bruce, Clinical Professor, University of Sydney (pictured with Lilian Blair). His presentation was titled “Which will have the greatest impact on reducing infection rates? Human behaviour or incorporating new technology. Strategies for reducing infection in Joint Arthroplasty”



Professor Bruce opened the Education Day with an informative and thought provoking presentation. He talked about the incidence of infections in Joint Arthroplasty in his patient population and the Australian Orthopaedic Association National Joint Replacement Registry data. He highlighted that an infection following a joint arthroplasty can be devastating, not only the cost to the health system, which is significant, but the cost to the patient, the toll it takes on their lives, and on the surgeon.

Professor Bruce raised an important issue, if we rely solely on technology, e.g. ultraviolet light cleaners in the OR, air filters, laminar flow theatres or even antibiotic cement, then we risk not adhering to basic standards that help prevent contamination and put our patients at unnecessary risk. We should therefore follow strategies that are proven to reduce or prevent infections and also utilise those that are considered to have a positive impact.



The number of particles present in the operating room and the movement of the particles have a direct correlation to the risk of postoperative infection. Particles are a surrogate for bacteria and it is likely that if there are more particles there will be a higher number of potential pathogens. Secondly if the particles are circulated there is a greater risk they will land on the sterile field or the operative site. In a study Professor Bruce conducted, the number of particles in the air is the greatest at the time of incision, the same as the number found

at a nursing station on the wards. What can we do to combat this?

There are three main areas that affect the risk of infection for the patient. In particular, Prof Bruce focussed on the third point, as this is where we as perioperative nurses can have the greatest impact:

1. Preoperative patient optimisation (Risk factors that need to be addressed: uncontrolled diabetes, smoking, BMI >40, preoperative skin antisepsis)
2. Antibiotic and VTE protocol (N.B. There is an increase in compliance with timely antibiotic administration when discussed as part of the Time Out)
3. Theatre etiquette (Focusing on the basics)

Theatre etiquette:

- * Balaclavas - proven to reduce the contamination level at chest height
- * Masks - There is a x15 contamination level settling at waist height without a mask
- * Long sleeve non sterile jackets/gowns - reduce the shedding of hair/skin cells and therefore

the particle count

- * Decrease in movement in the OR or Traffic control - Turbulence creates particle movement therefore increasing the bacterial count and increasing the risk of infection; reduce unnecessary door opening; and traffic within the OR
- * Changing gloves during the case and especially prior to handling any prosthesis - if gloves were changed every 90 mins it was shown to reduce the infectious burden and holes, Professor Bruce recommends every 20 mins
- * Change gloves away from the sterile field, do not throw items - reducing turbulence
- * Changing skin blade if going to use the blade deeper
- * Changing suction tip if going deeper
- * No splash bowls - shown to harbour contaminants and potentially splash/spread them over the sterile field
- * Not using electronic devices - Studies show that between 44-98% of devices are contaminated with bacteria, with a high percentage of those being a resistant strain
- * Opening of trays/wraps - done as close as possible to start time as airborne contamination occurs soon after opening the tray (4% at 30 mins and upwards) but not too soon so that there is too much turbulence

Other things to consider:

- * Operating lights controlled by foot pedals (rather than reaching up), or new technology where you place a disc on the area you want the light and it self focuses.
- * Body exhaust suits - need to be negative pressure rather than positive pressure
- * Air filters can reduce the particle count whilst Ultraviolet light cleaning machines can reduce the bacterial count

In conclusion, these strategies do not only belong in orthopaedic surgery, we should utilise all technological advantages we have at our disposal and we should champion the “basic” techniques to give our patients the best possible care and the best possible outcome.

Our next presenter was Mr Roger Menin - Territory Manager, Trauma, Stryker South Pacific “Damage control in Orthopaedics” (with Fallon Nash and Allanah Hazelgrove).

Roger’s focus was on a group of specific patients who have suffered multi trauma, multiple long bone fractures and a chest or pelvis fracture. The patient outcome is usually poor and mortality is high. There is a risk of causing Systemic Inflammatory Response Syndrome if attempting to fix all the fractures close to the time of injury. The lens of care is currently shifting to damage control, that is fracture stabilisation for a period of roughly 2 weeks and after that permanent fixation, once the body has had some time to “recover”.

A temporary external fixation (Ex-Fix) device can be put on for approximately two weeks to stabilise and treat the fractures and will also allow time to see the viability of the soft tissue envelope at the zone of the injury. A temporary Ex-Fix application takes approximately 20-30 minutes per fracture. The device requires two points of fixation on either side of the fracture, distanced further from the site for simple fractures and closer for complex fractures. The wires and pins should go through as much bone as possible, therefore are usually inserted on an angle, and be perfectly or just slightly over distracted. If they are under distracted the fracture will not be able to be reduced two weeks later. The two points of fixation reduce the risk of rotation of the bone fragments and potential malalignment.

A note on Hoffmann 3 rods (gold in colour) should not be reused. They are coated in Vectran, which is an insulator, and can be put through an MRI machine. If the coating is damaged, as occurs with re-sterilisation, the MRI magnetic force will produce electricity which will be

conducted by the rods and consequently burn the patient.

The use of the temporary external fixation device allows not only the patient some recovery time but also time for the multidisciplinary team to plan the next steps.



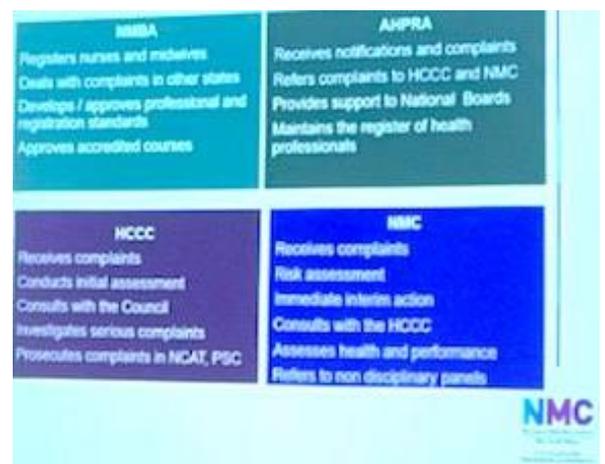
Emma Child, a Professional Officer, Performance and Conduct program, at the Nursing and Midwifery Council NSW presented on regulation of nurses and midwives in NSW. As the title of her role implies, there was a focus on NMC performance and conduct program – an explanation of what occurs when a complaint is received.

This is a complex process as there are four bodies involved. It depends on where the complaint process is at, as to which governing body is involved; from receiving a complaint, the investigation stage, to final decisions. The complain process was explained with examples, to help understand what constitutes a complaint, the process followed, and the outcomes. The aim was to help nurses understand the complaint process and Emma made easy to understand.



Dr Nicholas Maluga (right photograph), Orthopaedic Registrar, Nepean Hospital, who presented on joint infections.

Karen Hay, Enrolled Nurse at The Nepean Hospital, OTA Executive and ACORN Director, Enrolled Nurse Practitioner of the Nursing and Midwifery Council of NSW whose topic was on ACORN



Our final speaker of the day was Lilian Blair, Perioperative Clinical Nurse Consultant for the Central Course Local Health District since 2003. Lilian presented on how much planning goes into an evacuation of the Operating Theatre before putting it into practice.

A great day! A very big ‘thank you’ to each of our presenters!

There was a lucky door prize, as well as one lucky delegate whose name was drawn to win the latest book on perioperative nursing; Perioperative Nursing by HAMLIN.

The trade supported delegates by showcasing their products, answering questions, and provided product information

