

# WHEN NEAR ENOUGH, IS <sup>still</sup> NOT GOOD ENOUGH

## Reducing Sharps Injuries in the Operating Theatre

Author

Peter Deliopoulos B.E.(civil), General Manager, PDMedical Pty Ltd  
Disclosure: PDMedical is the manufacturer and distributor of the Sharps Transfer Trays

### Introduction

Spurred on by the Sharps Caddy's positive results in reducing sharps injuries in the ward, the infection control nurses at St Vincent's Private Hospital in Melbourne engaged with PDMedical to tackle the problem of sharps injuries in the operating theatres.

This is another example of effective collaboration and innovation between health workers and business (experts external to health care sector) to solve real problems faced by health workers. It is an example of using the good will and rapport developed in one project to streamline the work and collaboration on the next challenge.



### Method

#### Problem brief

We adopted a formal process to describe and document the problem.

It was important for us not to jump into solving the problem before we fully understood it and the environment in which it occurred.

#### Investigation

- Study of the perioperative environment and the process.
- Literature reviews.
- Discussions with scrub nurses, surgeons and infection control staff.
- Observation and time/motion study across a range of procedures.

#### Development

The solution considered the findings, evaluated the causes and assessed the options. It aimed to help and protect scrub nurses and other staff in theatre.

The early engagement with the perioperative nurses and their NUM's provided the clarity needed to identify the causes and simplify the development process.

### Discovery

- The threat of sharps injury remains a distressing reality for perioperative nurses.
- Scrub nurses are the central player in the operating theatre and can have the most influence on reducing sharps injury.
- The operating room is a high risk area for sharps injury due to handling a large number of sharps devices, in confined space and under pressure.
- The facilities, process and devices currently available to the scrub nurse have not kept pace with the complexities of the modern operating procedures. Devices like kidney dishes are still used for performing a role they are not suited to and place the scrub nurses, surgeons and other staff at risk of sharps injury.
- Any initiative to minimise risk in theatre would need to involve the scrub nurses, be intuitive in nature, help the nurses performing their role more safely, effectively and efficiently.

### The Team



(L-R)  
Peter Deliopoulos - General Manager, PDMedical  
Michelle Botlye - Infection Prevention Manager, St V's  
Carolyn Moore - Infection Prevention Manager, St V's  
Rochelle Akey - Clinical Products Coordinator, St V's  
(St V's - St Vincent's Private Hospital Melbourne)

E. peter@pdmedical.com.au

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Developing Simple Solutions  
to Difficult Problems

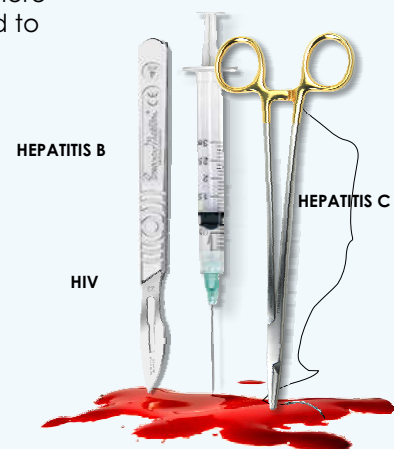


### Background

#### A problem in need of a solution:-

- Perioperative nurses are almost 50% more at risk of sharps injury when compared to other health care workers<sup>[1]</sup>.
- Every sharps injury carries the risk of acquiring a potentially life threatening blood borne disease such as hepatitis B, C or HIV.
- A sharps injury can have physical, psychological and financial impacts on the injured and their family.
- Recognised as being one of the significant occupational hazards faced by healthcare workers every day, any reduction to the rate of sharps injury would have significant and wide ranging benefits in the health sector.

#### Sharps Injury Can Transmit



[1] Clarke SP. Hospital work environments, nurse characteristics, and sharps injuries. American Journal of Infection Control. 2007;35:302.

### Results

The various risks contributing to sharps injuries in the operating theatre were identified and a suite of complementary measures were designed to minimise them.

The proposed initiatives are easily explained, easily implemented and intuitive to adopt. They can be implemented independently of one another. Each benefits the scrub nurse by minimising the risk of sharps injuries and maximising their efficiency.

- #### 1. A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE

Organise the scrub nurse instruments table to improve the flow of sharps instruments through the neutral zones during the procedure and improve the tracking and safe handling of sharps.

For larger procedures adopt the same Neutral Zone Flow but use a shelf for Zones 2/3. This is efficient use of space and ergonomically comfortable.
- #### 2. SCRUB NURSE POSITIONING RELATIVE TO SURGEON

Position scrub nurse so when surgeon returns instruments, the sharps end points away from the nurse's hand.

For example:-

Likely to cut and traumatise | Likely to bruise and annoy

Proposed Positioning: Right-handed surgeon | Surgeon | Nurse
- #### 3. SHARPS TRANSFER TRAYS

A family of trays were developed having a common, intuitive and distinct holding form suitable for safe and effective handling and storage of specific sharps throughout the procedure. While the internals of the trays are designed to suit the sharps device, the external form is common to all three trays and designed to promote consistent and safe holding, handling and transfer of sharps.

Easy one-hand pickup, lift, hold and return

Comfortable to hold and easy to manoeuvre. Multiple hold points, suited for left or right hand use.
- #### 4. SOFTWARE TO RECORD INJURIES & IDENTIFY CAUSES

Deploy a simple to use software program to record the necessary information of an injury quickly and at the point of or very quickly after the incident. Use this information to analyse, identify and manage risks.

### Conclusion

- Reducing sharps injury in theatre can be achieved through a few simple and complementary changes. The changes also help the scrub nurse:-
  - improve efficiency
  - maintain order through the procedure
  - improve the safety from sharps injury for everyone in theatre
- Innovating through collaboration may be the best way to solve problems and help health workers perform their duties in a more efficient and safe way, improve the level of patient care and for hospitals to benefit from the resulting efficiencies.
- Collaboration and innovation is practical and rewarding.