Panel: TEGH safety program, 2003-04

Goal: 20% sharps injury reduction in first year

Challenges tackled:
Additional costs of safety-engineered devices
Far outweighed by the benefits of reduced injuries Convincing staff that new technology would be easy to adopt
Achieved with hands-on training, education and in-service

Key success factors:
Staff commitment
Sophisticated educational programs
Proactive support from senior management

Program achievements:
80% sharps injury reduction (from 41 in 2003 to eight in 2004)
Elimination of blood collection injuries

References
2. Data on file at Toronto East General Hospital
5. www.osha.gov/needlesticks/needlefact.html
7. www.saferneedlesnow.ca/docs/ontario/poll.pdf
**Introduction**

Needlestick and other sharps injuries are a key Canadian public health issue, affecting 70,000 people per year and costing some $140 million. A safety program at Toronto East General Hospital - focusing on blood collection and patient injection - achieved an 80% reduction in injuries within one year (from 41 in 2003 to eight in 2004), with blood collection injuries eliminated entirely.

**Sharps injuries in Canada**

Injuries from needlesticks and other sharps remain a major concern in Canadian healthcare, numbering around 70,000 per year, or an average of 192 per day. The Alliance for Sharps Safety and Needlestick Prevention in Canada estimates that 33,000 needlestick and medical sharps injuries occur in Ontario each year, with testing and treatment costing the Ontario Government over $66 million. Of the many infections that can be transmitted to healthcare workers and patients in this way, HIV, hepatitis C and hepatitis B are of greatest concern.

Canada has no federal sharps safety law, since occupational health and safety legislation falls under provincial jurisdiction. This contrasts with the United States, where the federal Needlestick Safety and Prevention Act passed in 2000 requires employers to identify and make use of effective and safer medical devices ... such as needleless devices, shielded needle devices and plastic capillary tubes. Interestingly, engineered sharp be provided and used. (This bill is strongly supported by Service Employees International Union (SEIU), whose survey of 600 people in May 2003 found that 82% of Ontario residents support the mandatory use of safety syringes in the province’s healthcare facilities – even if implementation means additional up-front costs.

**TEGH initiative targets 20% reduction in sharps injuries**

The success of US needlestick legislation – plus recent workplace safety initiatives by the Ontario Hospital Association and Workplace Safety and Insurance Board - prompted Paula Harnum-Brown, Toronto East General Hospital’s (TEGH) Manager of Occupational Health and Safety, to examine sharps related injuries at that institution. A baseline analysis of injury rates showed that the areas of highest risk included blood collection, patient injection and IV insertion.

Since blood collection and patient injection posed the greatest risks, Harnum-Brown set a goal of reducing injuries in this area by 20% within a year, and of raising employee awareness of how to avoid needlesticks. To secure the senior management support essential to achieving this goal – for both funding and long-term cultural change – the proposal was presented to the TEGH senior management by the Joint Occupational Health and Safety Committee. Despite the fact that safety engineered devices cost more than traditional ones, the following factors led the TEGH board to approve the proposal:

- A detailed audit of injury rates, showing the urgent need for best practices in health and safety.
- The fact that existing occupational health and safety laws require employers to provide a safe work environment, and to protect workers from unnecessary injuries. This implies an obligation to use the safest medical devices available.

With senior management’s backing, a plan was developed. TEGH partnered with medical technology company BD, initially adopting the BD Vacutainer® Eclipse™ needle for blood collection and BD Eclipse™ needles and syringes for injection. The BD Eclipse™ technology features a patented safety shield that is activated with one hand to cover the needle immediately after use. The product requires minimal change in technique and is easy to activate.

**Program targets exceeded four-fold**

Since the safety program was started at TEGH, sharps injuries have declined by 80%, easily surpassing the original first year goal of a 20% reduction in injuries. There were 41 reported injuries in 2003, decreasing to eight in 2004. This included the complete elimination of injuries during blood collection procedures for that year.

“TEGH is proud of the injury reductions it has achieved as the first hospital in Ontario to fully implement all available safety engineered needle options,” states Rob Devitt, the hospital’s President and CEO.

Encouraged by this success, TEGH has now extended the program to include a needleless IV system, along with IV catheters and more portable sharps disposal containers. They are also now investigating the introduction of safety-engineered scalpel/s and blades to address sharps injuries in the operating road. “TEGH remains committed to minimizing the human and economic costs of needlesticks and other sharps injuries, and aims to be the first hospital in Ontario to convert completely to safety-engineered devices,” concludes Mr Devitt. “Above all, we care passionately about protecting the health and safety of our patients and staff.”

**Education: a vital element**

Harnum-Brown notes that TEGH’s success was also dependent upon the detailed safety education for staff, including clear demonstration that the new technology would not be more complex or time-consuming to use than traditional devices.

“We have nurses who have been drawing blood and injecting patients for years,” said Heather McDougall, TEGH Triage Clinic Nurse. “While they understand the hazards of a needlestick, it can be challenging to change technique. These procedures need to be routine, because they are often carried out in busy environments filled with distractions, for example in the emergency room. Once our nurses saw that working with safety engineered needles was fast and easy – and, most importantly, did not interfere with the quality of patient care - they were convinced.”

“BD Canada helped TEGH successfully achieve a significant reduction in needlestick injuries by providing education, training and support to staff throughout the implementation process,” states Harnum-Brown. “This was a huge benefit.”

**“The BD technology was evaluated as being clinically favorable since it required the least change of practice, provides a safe environment, has an easy-to-engine safety device and is most comfortable for the patient,” said Harnum-Brown. “Using the same technology in both blood collection and patient injection also simplified training and adoption.”**