

A3: Safe Transfer of Surgical Sharps



Problem Statement

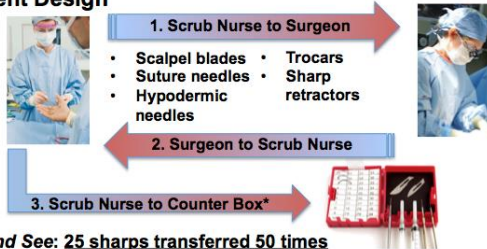
Boston Children's Hospital employees sustain approximately 90 sharps-related injuries per year, or 1.7 per week, and > 50% occur in the operating room. Of these, **37.5% occur during the transfer of sharps between surgeon and scrub nurse**. These represent a large personal and institutional burden, and the target rate is zero.



Background

- Perioperative Sharps Safety Committee has met twice/month for 3 years, but no improvements in injury rates have been sustained
- Sharps injuries are the most common employee injury reported to Occupational Health
- All sharps injuries are reported to the Department of Public Health and OSHA
- Cost of sharps injuries:
 - \$2,000 per injury
 - \$200K/year enterprise-wide
 - \$100K/year in the perioperative area & \$38K/year due to transfer-related injuries
- Risk of infectious disease transmission with sharps injuries:
 - HIV 0.3%
 - Hepatitis C 1.8%
 - Hepatitis B 6 – 30%

Current Design



Root Causes:

- Operating room staff:
- Unaware of the number of sharps injuries in the OR (*Violation of Activity and Intent*)
 - Unaware of how their sharps performance compares to benchmarks (*Optimal Challenge missing*)
 - Underestimate the risk of infectious disease transmission (*Violation of Activity and Intent*)
 - Preoccupied with the surgical case & unaware of their technique (*Violation of Activity and Intent*)
 - Not consistently using safety needles (*Structured Problem Solving not Employed*)
 - Surgeons do not always communicate well (*Human Chain not Connected*)

Target Design

- **Awareness:**
 - Sharps injuries are common and represent a significant risk to OR staff
 - Safe best practices related to sharps transfers
- **Utilize:** safety needles and equipment if available
- **Challenge:** OR staff to reduce unsafe transfers and sharps transfer-related injuries
- **Feedback:** immediate feedback regarding sharps-related performance

Improvement Goals: 50% reduction in unsafe transfers & 50% reduction in transfer-related sharps injuries

Leadership Guidelines

No additional work for any team member
No additional operative time
No capital expenditure
Senior leadership endorsement and support

Execution Plan:

- **A:** "Sharps Facts" signs distributed to surgeons and posted in OR; "Sharps Awareness & Expectations" added to surgical time-out at beginning of case
- **U:** Techniques – clear & consistent communication with each transfer; Equipment – use only safety needles
- **C:** "Sharps Challenge" competition; GU surgeons track unsafe transfers & sharps injuries; results announced per A3 schedule
- **F:** All team members to provide immediate feedback if safe practice violated &/or injury occurs

Track Results: Unsafe transfers (UT, %) & Injuries (I)

Date	Target		Results	
	UT	I	UT	I
10/24-10/28	70%	0	79%*	1
10/31-11/4	50%	0	67%*	0
11/7-11/11	30%	0	9%‡	0
11/14-11/18	20%	0	2%‡	0

*Control; ‡Intervention

✓ Overall 67% UT reduction; p < 0.0001

What did We Learn & What's Next?

- Nurses harbor long-standing concerns re: sharps that have not been verbalized
- Behavior is easier to change with competition!
- Clear communication re: commitment to safety and when performing transfers is effective in making transfer of sharps between nurse and surgeon safer.
- **NEXT:** Stock - safety needles exclusively ; **Policy** - no free needles in field unless critical; **Include & Sustain** - all surgical services & ORs - presentation at BCH Surgical Executive Committee 12/14/16; **Expand** – A3's for post-case sharp handling & anesthesia IV placements next!