A Change in Climate Can Lead to a Better Culture

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Let’s start with a story…
From researcher to biosafety professional

THE MOST IMPORTANT ELEMENT TO UNDERSTAND IS:

Why?
Traditional vs Behavioral-based Safety (BeSHE)
Core Elements of BeSHE

• Incidents (i.e. accidents) are the visual effect of many underlying issues.

• Hundreds of at-risk situations and behavioral errors are observed but unreported before an incident occurs.

• Focus on Prevention Efforts and Actions
BeSHE in MedImmune’s Animal Barrier Facility
Prior to BeSHE Implementation

Actual Incident Break Down

- Needle-stick: 46%
- Struck Against/By: 13%
- Spill: 17%
- Non-routine release: 4%
- Lifting/Strain: 4%
- Chemical: 4%
- Fall: 4%
- Animal Bite: 8%
- Near Miss: 0
- Actual Incident: 25
- First Aid: 16
- Beyond First Aid: 2
- At-Risk Conditions: 0
Building a Foundation

**Communication**
- SHE Governance
- Cascade Meeting

**Hazard Identification**
- SAFE Card Program
- Observation and Training of new tasks/procedures

**Risk Management**
- IACUC Risk Assessments
- Job Hazard Analyses
Updated Hazard Communication

Cage Labeling Requirements

Room Signs

Incident reporting
Building a Foundation

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SAFE Cards

Safe Accountability For Everyone

GOAL: To identify the at-risk behavior/condition or near miss, not the individual
At Risk Condition – Emergency Equipment Blocked
Brain Tumor Xenograft

- Reported to Governance by ABF technician due to anesthesia concerns
- PI concerns about “interference” and tight timelines
- Provided technician, better safety, better science
Building a Foundation

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- Observation and Training of new tasks/procedures

Risk Management
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- IACUC Risk Assessments
Ergonomic Observations

FINDINGS
• Husbandry and technician staff have various repetitive motion tasks that present ergonomic challenges.
• Husbandry tasks are very different than technician tasks, requiring different stretches to counteract musculoskeletal challenges faced by each group.

OUTCOME
• Ergonomic assessments of husbandry and technician tasks with on-site ergonomist.
• Movement Maintenance and preventative stretching exercises incorporated into daily activities
Needlestick Prevention

- Assessing procedures lead to concerns with needle disposal
- Disposal outside the biosafety cabinet presents multiple hazards to the researcher and study
- Containers that can be reached into are not considered a true sharps container

OUTCOME
- Smaller sharps containers, varying styles, have been placed at point of generation and stocked in stockroom
- Large biowaste containers relocated away from BSC
- Shelving for supplies
Near Miss - Animal Bite

Animal bite on index finger that did not break skin or cause injury during retro-orbital bleeds.

FINDINGS
• C57 Mice are particularly known to be more aggressive.
• Finger cots were being worn during the procedure (index and thumb).

OUTCOME
• Finger cots (safety device) that were originally tested to prevent needle sticks might be more applicable for protecting researchers from animal bites.
Incident – Cart Laceration

Laceration from cart while transporting animal cages to procedure room

**FINDINGS**
- Carts were not inspected routinely.
- Carts are cleaned by stacking them 2-high and placing them in the rack washer.

**OUTCOME**
- Carts will be inspected prior to being inserted into the rack washer.
- Carts with damage will be repaired or discarded.
- Carts will no longer be stacked into the rack washer
Incidents – Formalin Spill

A cart clipped the spigot to a 20L box of formalin on the counter in the necropsy room, causing it to fall and spill on the floor.

FINDINGS
- Formalin was not stored in secondary containment
- Located along egress area, making it more susceptible to getting hit

OUTCOME
- A smaller carboy is now used and secured into the shelving with a bracket so that the container cannot fall
Incident – Bone Splinters

While performing a bone marrow extraction, an investigator received a splinter from the bone when it became lodged into the investigator’s hand. A few months later, a similar incident occurred with a different investigator.

FINDINGS

- Not a routine procedure for either investigator
- Investigators used a different technique that were learned at other institutes
- Bone required cutting, resulting in uneven sharp edges.

OUTCOME

- Retraining – LAR technicians have a different technique that is more efficient and minimizes cutting.
- Both methods demonstrated and provided to the two investigators.
- Procedure also video taped for future training.
2017 Prevention Reporting and Incident Trending

Next Step: Implement BeSHE within Therapeutic Areas
Better together…

Coming together is a beginning.
Keeping together is progress.
Working together is success.

—Henry Ford
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