

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



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

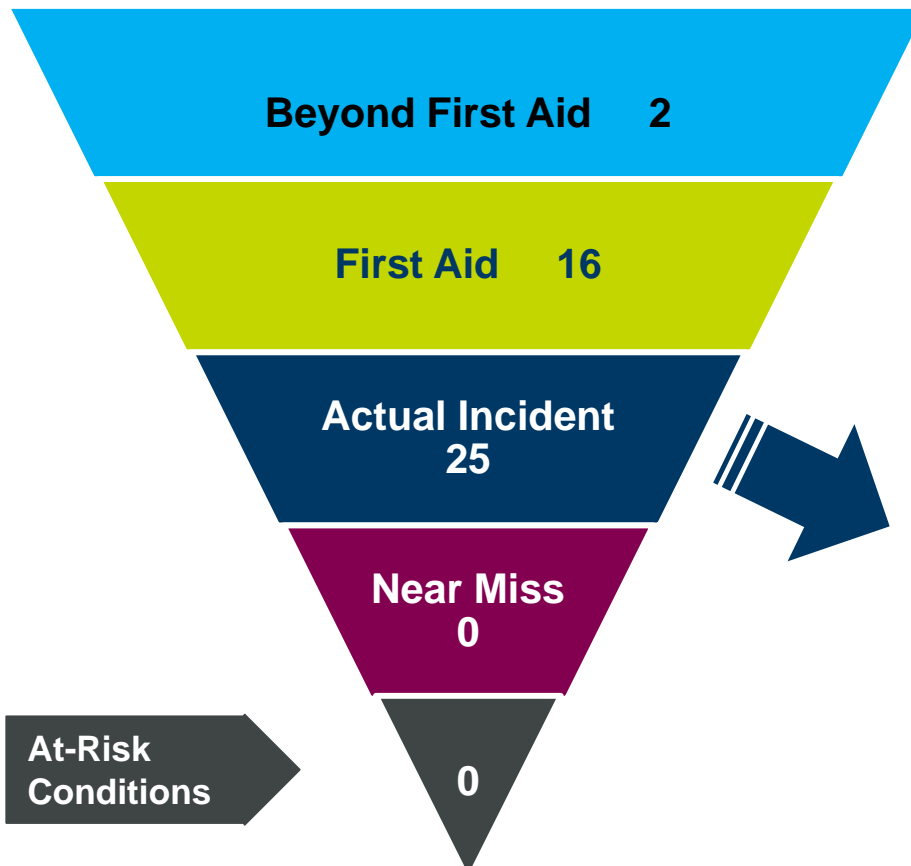




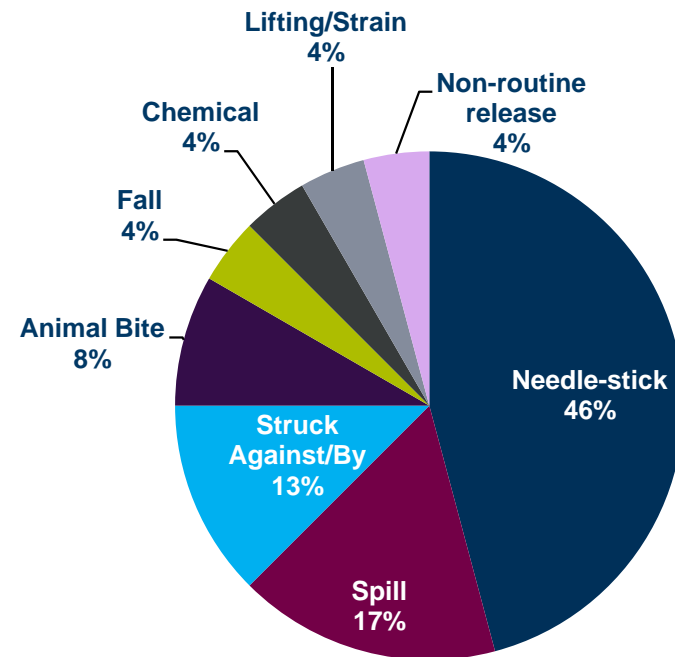
BeSHE in MedImmune's Animal Barrier Facility



Prior to BeSHE Implementation



Actual Incident Break Down



Building a Foundation

Communication

- SHE Governance
- Cascade Meeting

Hazard Identification

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

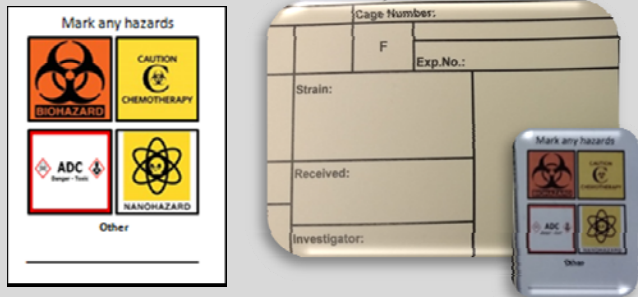
Risk Management

- IACUC Risk Assessments
- Job Hazard Analyses



Updated Hazard Communication



Cage Labeling Requirements



Incident reporting



Room Signs

Room: <u>xxxx</u>		ROOM DESCRIPTION	
Animal Biosafety Level 2		DEPARTMENT	
			
Emergency Contact Information		Potential Agents in Use	
Contact 1	Position	Office: x8-xxxx	
Contact 2	Position	Office: x8-xxxx	
Contact 3	Position	Office: x8-xxxx	
Facilities: Safety, Health, and Environment (SHE):		301-398-xxxx	
		301-398-xxxx	



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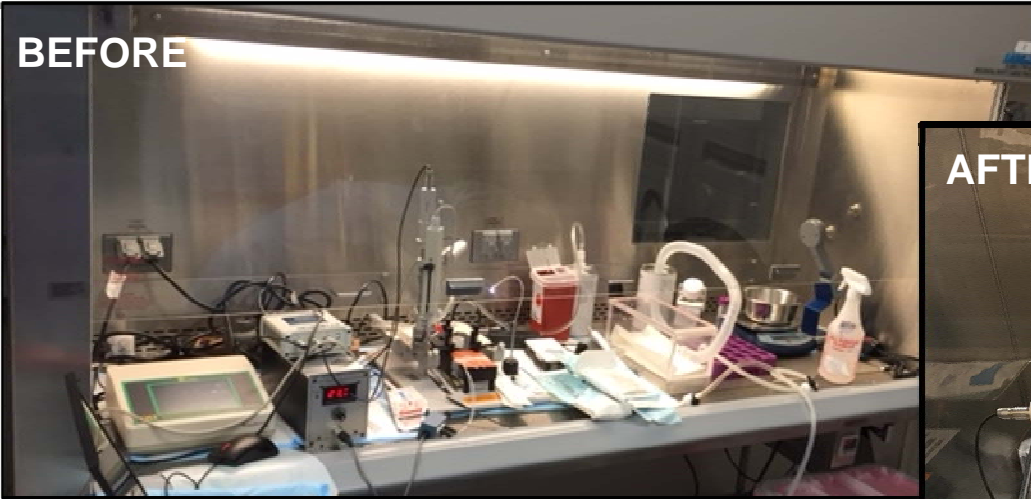


At Risk Condition – Emergency Equipment Blocked

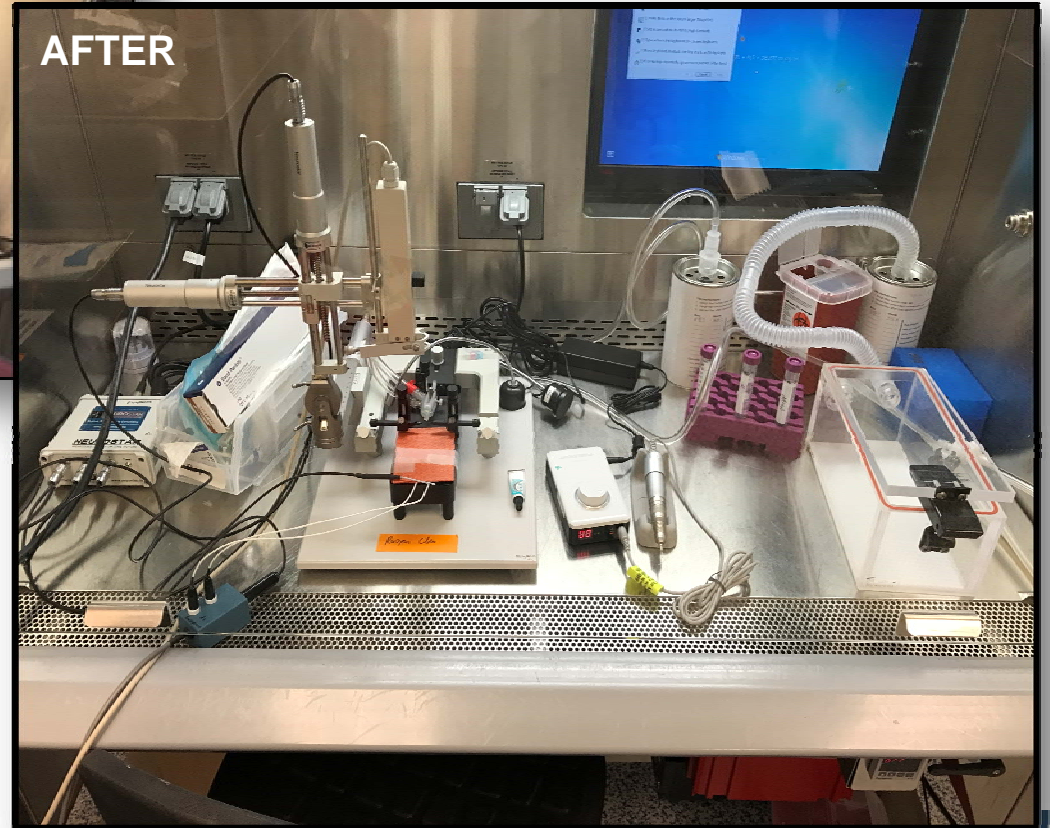


Brain Tumor Xenograft

BEFORE



AFTER



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



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Ergonomic Observations

FINDINGS

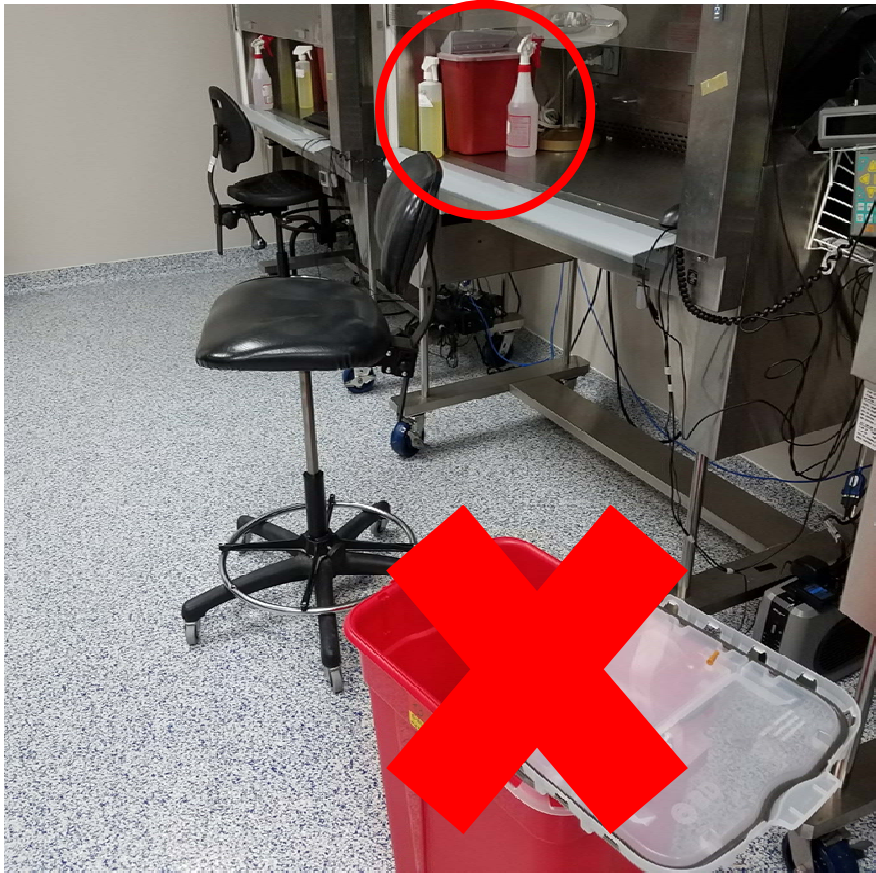
- Husbandry and technician staff have various repetitive motion tasks that present ergonomic challenges.
- Husbandry tasks are very different than technician tasks, requiring different stretches to counteract musculoskeletal challenges faced by each group.

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 biohazard 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.

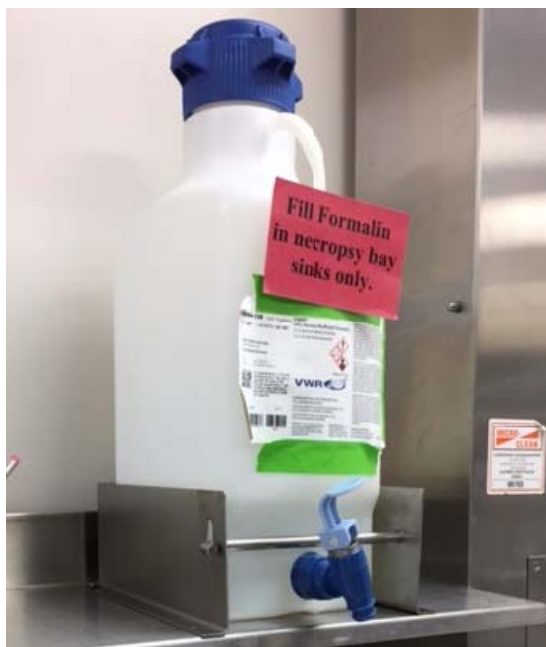
OUTCOME

- 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.

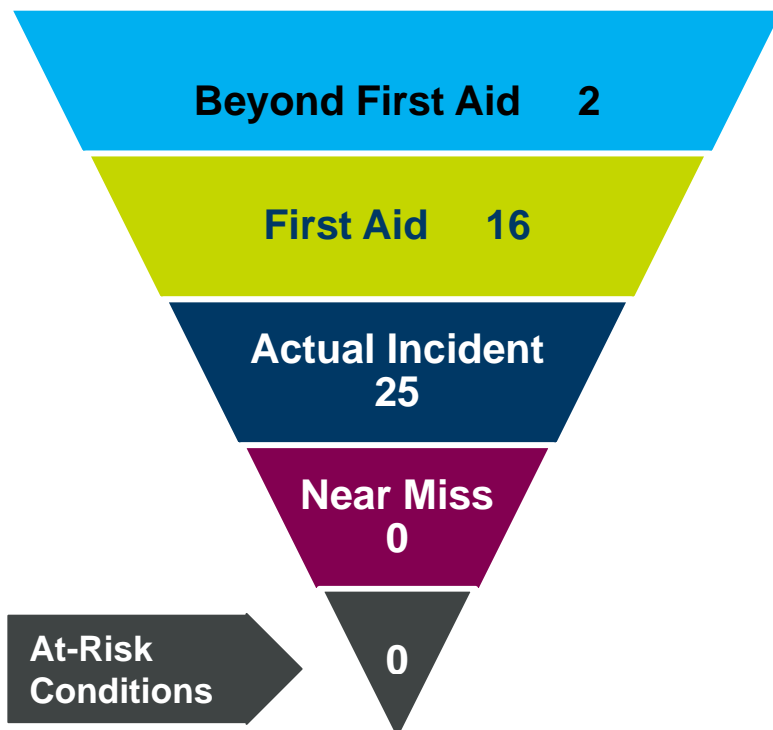
OUTCOME

- 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.

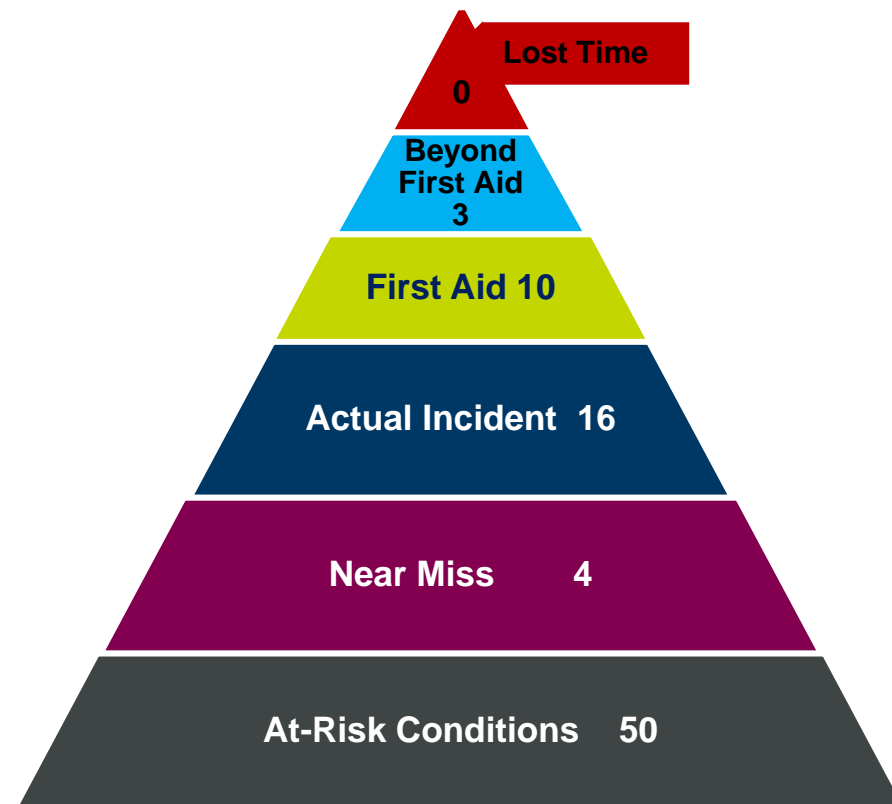


BeSHE Post-Implementation

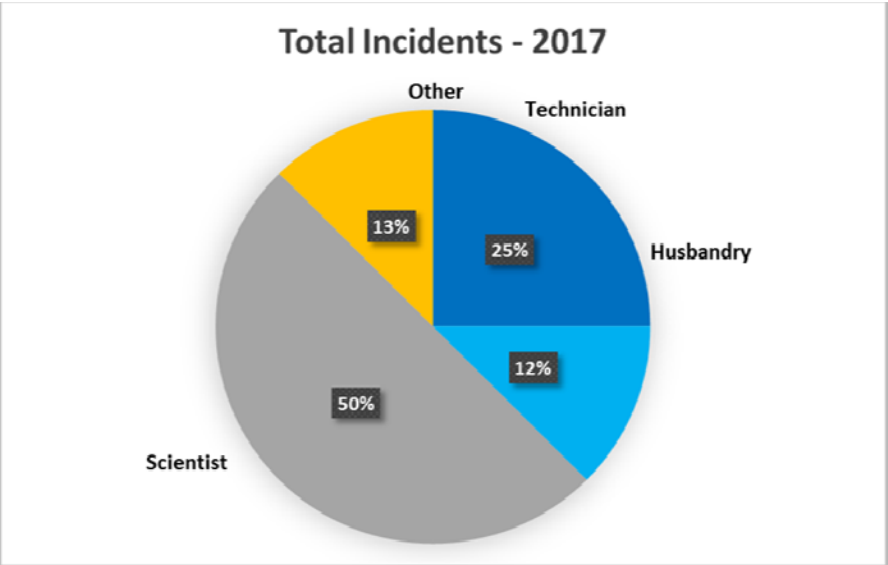
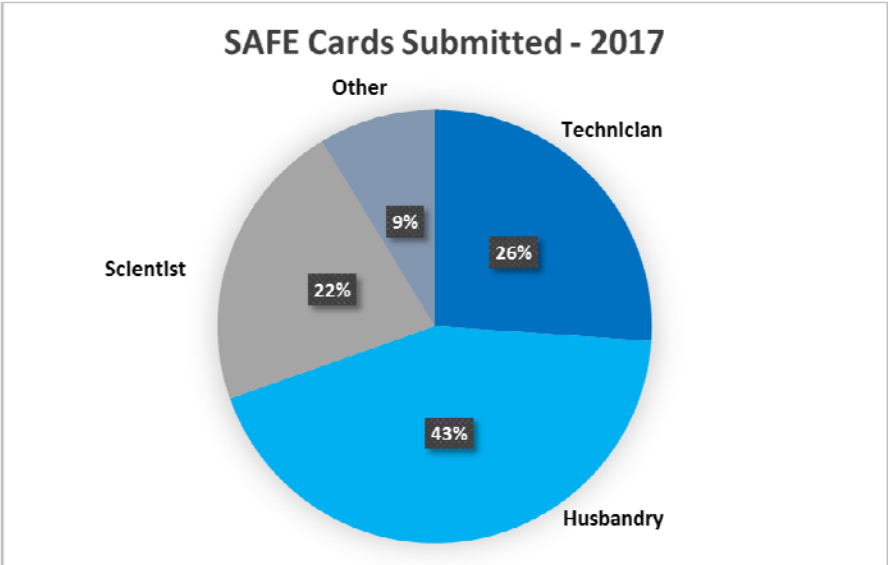
Pre BeSHE implementation (Feb 2016)



Post BeSHE Implementation



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



Acknowledgements

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