

It is widely acknowledged that most procedures should not be done in the presence of other animals, due to stress caused by sight, sound and smell. We as technicians are constantly asking ourselves the question, **what more can we do to refine the way we work?**

We began looking at ways we could improve the culture of care in the facility and review if the procedures being carried out could be refined.

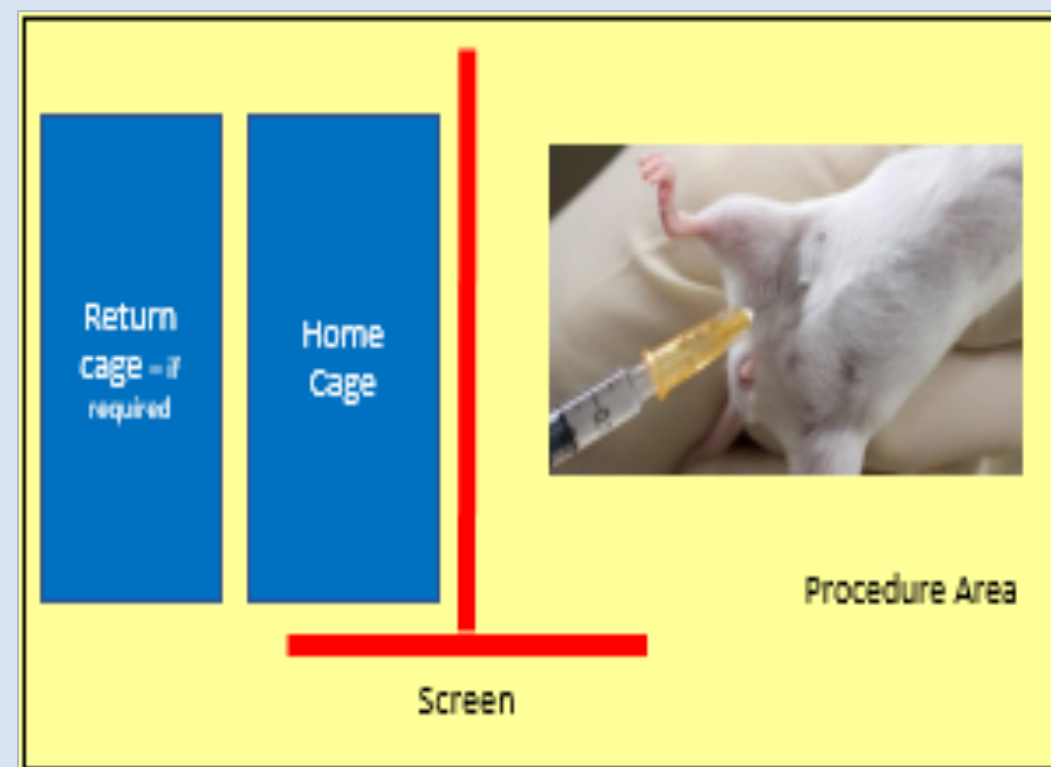
Research shows that rodents are known to recognise and have emotional reactions (to show empathy) when exposed to cage-mates in pain¹, and that in turn could potentially “contaminate data”. Some scientists in Canada are using screens between mice undergoing experiments².



By recycling an old CO₂ box we came up with the Screen. As mice and rats have red-green blindness the CO₂ box was a perfect opportunity for our prototype, preventing those in the home cage from observing the procedure.

Reviewing feedback from technicians on the first barrier we started to look at;

- Could it be made foldable?
- Could it also be made from an opaque material?
- Can it be cage-washed / autoclaved?



Screen is placed between home cage and procedure area

Benefits

- Blocks visual stimuli to home cage animals, reducing their stress.
- Ease of disinfecting/sterilizing.
- Ease of use for operators.
- Ease of storage due to hinges implemented into design.
- Translucent plastic allows technician to have uninterrupted viewing of animals at any given time.
- High benefit at affordable price

References

1. Social Modulation of Pain as Evidence for Empathy in Mice Dale J. Langford et. al. *Science*. 2006 Jun 30;312(5782):1967-70.
2. Mice show evidence of empathy Ishani Ganguli *The Scientist* June 30, 2006 [accessed online February 2017]
3. Rat sensory world. What do Rats see? [online] Available at <http://www.ratbehavior.org/RatVision.htm> [accessed February 2017]



Hinges helped the use of the screen in small spaces i.e. Containment Level two cabinets. It also meant the screen could be folded away to be stored.



Future Goals

This screen is fully protective of visual stimulation, however, it is important to consider how sound and smell can cause stress, and will be a consideration in future work.

Additional improvements will include;

- Cage-washable
- Autoclavable
- We will then focus on making the product widely available