

# TECH-2-TECH

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## Small changes, big differences: collaborative refinements in animal research

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### Abstract

This paper summarises a presentation delivered at the IAT/LAVA Congress 2025 by Lucy Onions and Georgie Wilkinson.

It highlights how small refinements in animal care and communication practices at the University of Leicester have led to significant improvements in Animal Welfare, research quality and staff collaboration. The collaborative efforts between technical staff, Named Veterinary Surgeons (NVS) and researchers, demonstrate the power of open dialogue and shared responsibility in advancing the 3Rs principles in laboratory animal science.

### Introduction

The refinement of animal care practices is a cornerstone of ethical research involving animals. At the University of Leicester, a culture of collaboration has fostered innovative approaches to Animal Welfare. This paper presents key refinements and their impacts, as shared in the small changes, big differences presentation at the IAT/LAVA Congress.

## Case studies

### Rabbit surgery

Challenges: Stress from anaesthesia, handling and complex procedures.

Refinements implemented:

- 3-week acclimatisation period before surgery.
- Double-length open cages with visual contact with other rabbits.
- Playpen access twice weekly.
- Box training to reduce handling stress (Figure 1).
- Sedation in home room to improve effectiveness and reduce dosage.
- Oral analgesia instead of injections, with pre-training using sweetened fluids.
- Score sheets co-developed for consistent welfare monitoring.

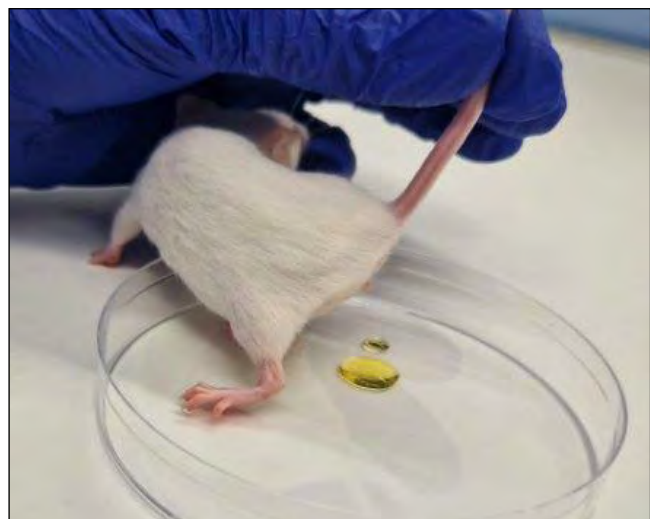


**Figure 1.** Box training.

### Cross-species refinements

Rodents: Transition from intraperitoneal/subcutaneous injection (IP/SC) to oral dosing.

- Mice: Trained to provide urine samples on well plates using positive reinforcement (Figure 2).



**Figure 2.** Collection of mouse urine sample.

- Body condition scoring (BCS): Promoted as a routine welfare check, especially useful in breeding and tumour studies.
- Blinding and randomisation: Randomisation carried out by technicians at weaning to allow animals to settle before studies start. Encouraged through training and support, including NC3Rs workshops.

## Communication and culture

Key practices to foster collaboration and a Culture of Care:

- Open dialogue between NVS, technician and researchers.
- Regular vet visits, lunch and learn sessions (Figure 3).
- Digital communication via email, Teams, WhatsApp.
- Emphasis on mutual respect, shared learning and continuous improvement.



**Figure 3.** Learn sessions.

## Conclusion

These refinements demonstrate that small, targeted changes can yield substantial benefits in Animal Welfare and research outcomes. The success of these initiatives underscores the importance of fostering a Culture of Care, where all stakeholders are empowered to contribute. The use of regular training sessions helps to sustain momentum and ensure consistency in practice.

The collaborative model adopted at the University of Leicester serves as a blueprint for other institutions aiming to enhance Animal Welfare. By prioritising communication, training and shared responsibility, research teams can implement meaningful refinements that support both ethical standards and scientific integrity.

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