

DON'T LIFT MICE BY THE TAIL!

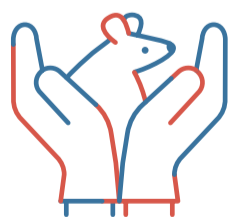
Mice used in research shall not be caught, lifted or moved by the tail. This has been stated by the Swedish National Committee for the Protection of Animals used for Scientific Purposes. The statement aims to contribute to improved animal welfare and research quality based on scientific evidence and empirical experience.

Mice represent a large percentage of the laboratory animals used in medical research. In order to maintain a high standard in terms of both animal welfare and research quality, it is important that we do everything we can to meet the needs of the mice and take their well-being into consideration.

Handling mice by their tail to capture, lift, or move them has been standard procedure within research animal facilities for a long time.^{1,2} Research shows that such tail lifts cause the mice significant stress. The mice avoid and flee human hands, and excrete more urine and faeces, both during and after a tail lift.^{3,4} Tail lifts also cause them to avoid open surfaces.^{4,5} Even mice that have been handled by the tail for a long time become stressed, which indicates

that they never get used to tail lifts.⁶ The stress negatively affects the welfare of mice and several studies have shown that this stress impacts the research results.^{7,8,9}

By handling mice carefully with cupped hands or with various aids, such as a tunnel, we can avoid unnecessary stress for the animals and improve their welfare. Mice that are handled with cupped hands or aids become calmer and easier to handle, which makes the work easier and faster.¹⁰ New research shows that even breeding is affected by the handling. More pups survive when the mice are lifted with a tunnel than when they are lifted by the tail.¹¹



Don't lift mice by the tail and contribute to improved animal welfare and better science. Read more about mice handling on the Swedish 3Rs Center's website.



1 Gouveia K, Hurst JL (2013) Reducing mouse anxiety during handling: Effect of experience with handling tunnels. *PLoS ONE* 8(6).

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3 Hurst JL, West RS (2010) Taming anxiety in laboratory mice. *Nature Methods* 7: 825–826.

4 Gouveia K, Hurst JL (2017) Optimising reliability of mouse performance in behavioural testing: the major role of non-aversive handling. *Scientific Reports* 7: 4499.

5 Clarkson JM, Leach MC, Flecknell PA, et al. (2020) Negative mood affects the expression of negative but not positive emotions in mice. *Proceedings of the Royal Society B* 287: 20201636.

6 Gouveia K, Hurst JL (2019) Improving the practicality of using non-aversive handling methods to reduce background stress and anxiety in laboratory mice. *Scientific Reports* 9.

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8 Nakamura Y, Suzuki K (2018) Tunnel use facilitates handling of ICR mice and decreases experimental variation. *Journal of Veterinary Medical Science* 80(6): 886–892.

9 Ghosal S, Nunley A, Mahbod P et al. (2015) Mouse handling limits the impact of stress on metabolic endpoints. *Physiology & Behaviour* 150: 31–37.

10 Henderson LJ, Dani B, Serrano EMN, et al. (2020) Benefits of tunnel handling persist after repeated restraint, injection and anaesthesia. *Scientific Reports* 10: 14562.

11 Hull MA, Reynolds PS, Nunamaker EA (2022) Effects of non-aversive versus tail-lift handling on breeding productivity in a C57BL/6J mouse colony. *PLoS ONE* 17(1): e0263192.