

PORTFOLIO COMMITTEE NO. 2 - HEALTH**INQUIRY INTO USE OF PRIMATES AND OTHER ANIMALS IN MEDICAL RESEARCH IN NEW SOUTH WALES****HEARING – 1 JUNE 2022****SUPPLEMENTARY QUESTIONS TO UNIVERSITY OF SYDNEY**

1. In response to a survey conducted by the Animal Research Review Panel, the University of Sydney indicated it would like to see additional guidance around the forced swim tests from ARRP, to assist ethics committees to make decisions around this experiment. Why do you think additional guidance is needed in respect to forced swim tests? What are some of your concerns in respect to this experiment?

As stated within the Animal Research Review Panel's (ARRP) Annual Report, the Panel supports AECs in performing their duties through, among other activities: the conducting of site inspections; the writing of policies, guidelines and fact sheets where a need is identified; the maintenance of a website dedicated to animal research issues ([Animal Ethics Infolink](#)); and the supply of advice to research institutions, their staff and affiliates. Examples published in 2020-21 are:

- Fact Sheet 1 – [Environmental enrichment for Pigs](#) (October 2020)
- G27. [Research Animal Rehoming Guidelines for establishments and individuals involved in the care and use of animals for research and teaching in NSW](#) (December 2020)

The University of Sydney (the University) sees benefit in and welcomes future State-wide policies and guidelines regarding high-impact procedures, as these would be very helpful to guide the work of AECs across the state. However, the University also understands the time it takes to develop these guidelines and that therefore the Inquiry Committee should strongly recommend that the NSW DPI invest in and support the ARRP in its initiatives to improve animal welfare.

When developing any guidance, this should include:

- why the procedures are used (benefits/risk, ethical and welfare implications);
- details about the different procedures available and the benefits and limitations of these (including project design, animal monitoring regimes, inclusion/exclusion criteria, ranges of timeframe for exposure to the procedure including temperatures etc where required, humane endpoints);
- alternatives to the procedures, incorporating the 3Rs and the benefits and limitations of these.

The University would like to see guidance from ARRP on when the Forced Swim Test (FST) may be acceptable and when it may not be acceptable. The University understands that the FST may continue to be used in some approved research in NSW to evaluate antidepressant potential, however, depression is not an acute illness and as such, an acute stress such as FST cannot be relied upon as a valid model for this disorder. Rather, the FST is an acute stressor and therefore a rodent's response to this is an indicator of its ability to cope with acute stress - physiologically and behaviourally. The FST may, therefore, be more relevant to other forms of research. For example, the neurobiology underlying the stress-coping strategy revealed in the FST is likely relevant to clinical conditions where there is poor behavioural response to acute stress. In [this review](#)¹, they highlight autism spectrum disorder as well as substance use disorder as contexts where the FST may be useful.

Some Animal Rights Groups including People for the Ethical Treatment of Animals (PETA) and Humane Research Australia (HRA) claim that the FST should be banned as it is not a valid test for depression. This stance assumes that the FST is used only in this context, which is incorrect.

¹ The Rodent Forced Swim Test Measures Stress-Coping Strategy, Not Depression-like Behavior
Kathryn G. Commons, Aram B. Cholanians, Jessica A. Babb, and Daniel G. Ehlinger
ACS Chemical Neuroscience 2017 8 (5), 955-960
DOI: 10.1021/acscchemneuro.7b00042

When reviewing ethics applications that request the use of the FST, the University would benefit from a comprehensive and unbiased assessment by ARRPP, of all available literature regarding the validity of the FST in different species and research contexts. Should this review support the FST for specific research models, then the inclusion of guidance on acceptable parameters for ethics approval would be invaluable. These might include:

- the types of studies for which it may be used;
- the number of tests that can be performed, e.g. for mice, it may be a single test; for rats, it may be completed each day over two days;
- the duration of the test, e.g. the maximum time a rodent may be held is 5 minutes;
- reducing the risk of hyperthermia, e.g. temperature of the water, drying the rodent thoroughly following the FST and placing the rodent inside a cage that is placed half on and half off a heating mat to allow the rodent to regulate its temperature;
- the use of a strict continual monitoring regime and examples of monitoring templates.

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The University of Sydney (the University) sees benefit in and welcomes future State-wide policies and guidelines regarding high-impact procedures, as these would be very helpful to guide the work of AECs across the state. However, the University also understands the time it takes to develop these guidelines and that therefore the Inquiry Committee should strongly recommend that the NSW DPI invest in and support the ARRP in its initiatives to improve animal welfare.

When developing any guidance, this should include:

- why the procedures are used (benefits/risk, ethical and welfare implications);
- details about the different procedures available and the benefits and limitations of these (including project design, animal monitoring regimes, inclusion/exclusion criteria, ranges of timeframe for exposure to the procedure including temperatures etc where required, humane endpoints);
- alternatives to the procedures, incorporating the 3Rs and the benefits and limitations of these.

Given the community's sensitivity in relation to smoke inhalation procedures applied in experiments involving rodents, the University believes that the research community and the public would benefit from a review and guidance of these procedures. For example, it is our understanding that there are two approaches for these types of models:

1. Nose-only exposure, where rodents are individually restrained, and smoke is delivered directly to their nose.
2. Whole-body exposure, where animals are not individually restrained and are placed in a cage (or possibly held in their home cage) while smoke is introduced.

Some Animal Rights Groups including Humane Research Australia (HRA) claim that smoke inhalation should be banned as it exceeds the acceptable upper limits for negative impact on animal wellbeing and welfare in research. It may be pertinent for the ARRP to provide a comprehensive and unbiased assessment of all related literature, including evidence regarding the severity of negative welfare impacts and the validity of the model in specific contexts. If such a review determines that the smoke inhalation protocol is a valid animal model, then guidance on acceptable parameters would be invaluable, for example:

- why the procedures are used (context and validity, benefits/risk, ethical and welfare implications);
- details about the different procedures available and the benefits and limitations of these (including examples of animal monitoring regimes, inclusion/exclusion criteria, ranges of timeframe for exposure etc);
- potential improvements to the current smoke delivery methodologies that improve animal welfare;
- alternatives to these procedures, incorporating the 3Rs and the benefits and limitations of these alternatives.