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THE UNIVERSITY OF BIRMINGHAM

ANIMAL WELFARE AND ETHICAL REVIEW BODY (AWERB)

30th January 2025

Stanley Barnes Meeting Room, Medical School

MINUTES

25/01-01	<u>Apologies</u>
25/01-02	<u>Minutes</u> The minutes of the meeting held on 19 th December 2024 were considered by the Committee and were approved.
25/01-03	<u>Matters Arising</u> 24/12-07-1. <i>Investigating the behavioural components of island syndrome in island populations of the Northern Wren Troglodytes troglodytes in the British Isles.</i> See point 25/01-08 below.
25/01-04	<u>Chairperson's Items</u> There are no items to report.
25/01-05	<u>Verbal Reports from the Director of BMSU, NVS and NACWOs</u> <u>Director:</u> <ul style="list-style-type: none">• The deadline for Home Office annual returns is 31st January 2025 and the Establishment is on track to meet this deadline.• One member of the team has left BMSU, and this has not impacted the service delivery• The new Assistant Director of BMSU will start in post on 24th March 2025• The Director of BMSU and the NVS conducted an audit of all remote designated rooms. No major issues were identified. <u>NVS:</u> <ul style="list-style-type: none">• The latest health screen results show nothing of concern.• Animal technicians are training new people in how to handle the mice in the sickle model as they are particularly challenging compared to normal mice. It was suggested that the handling modifications be written up as a poster to present. <u>NACWOs:</u> <ul style="list-style-type: none">• Activity is starting to increase after the Christmas break.
25/01-06	<u>Report from the Fast Track Procedure</u> <ul style="list-style-type: none">• The application to undertake work involving bats in the UK is awaiting comments on Teams. This is being undertaken by a MSc student, and the Supervisor has reassured BMSU that this work will be closely monitored.• A paper has been published in January where the PI is now based at UoB, but the work was undertaken whilst they were employed overseas. This means that this animal work did not have prior UoB AWERB approval. The Director of BMSU will contact the PI to arrange for retrospective review of the work by the committee.• It was agreed to send out communications to College Directors of Research to remind PIs about the process for review of animal work undertaken outside of ASPA. There is some guidance in the UoB Research Code of Conduct, and there will be additional new guidance published shortly via the Animal Material Working Group and UKRI website.
25/01-07-01	<u>Project Licence applications:</u> <i>Understanding and preventing chemotherapy induced neurotoxicity</i> Summary The project aims to: <ul style="list-style-type: none">• Establish a model of chemotherapy-induced neurotoxicity in rats and use this to understand how neurotoxicity develops, with a view to devising therapeutic strategies to counteract this and ultimately treat its negative consequences.

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- Chemotherapy induced neurotoxicity (CIN) is the most common side effect that patients experience when treated with cancer therapies containing platinum or taxane agents.
- The effects of CIN can be long lasting and there is currently no way to predict which patients are at risk and nor are there proven interventions that can prevent or treat CIN.
- The most common symptoms are sensory problems such as numbness, burning, shooting or electric shock sensations, evoked by mechanical or thermal stimuli. Problems with motor function, memory deficiencies and mood changes following treatment are also common.
- The aim is to identify and test therapeutic targets and agents that will prevent or treat the neurological consequences of CIN and ultimately improve the quality of life for cancer patients.

The following points were discussed:

- The aims and objectives imply basic science will be done first and then progress. It was explained that the mechanism needs to be understood initially, but some work has already been undertaken in other cancer models. The drugs are also known to work in other mechanisms.
- Chemotherapy drugs have some unpleasant side effects and the humane end points need to be reviewed. The reactions will be dose dependent and it will be kept as low as possible to induce the neurotoxicity.
- The range of tests will correspond to those that are undertaken in humans. Tests include those based upon heat, cold, touch and balance. If one test gives a stronger response, then the need for the other tests will be reviewed.
- Administration of both the treatment and chemotherapy during the same time frame has the potential to be quite impactful. It was explained that this will be reviewed during the pilot studies to establish the minimum required treatment regimen.
- Brain fog was discussed and the impairment in focus, cognition and memory. The choice of the novel recognition test was queried in relation to other approaches used in this field of research, and whether interpretation of the novel object recognition test could instead be due to neurogenesis of cells in the hippocampus. It was queried whether a better test would be a frontal lobe test e.g. a reversed learning test. The applicant explained that the literature indicated that novel object recognition is the most acceptable to the field. The committee queried whether both types of tests could be included as they were non-invasive and would ensure that maximum data was obtained from the same animals. However it was explained that short term memory is being investigated in this application, whereas the hippocampus is involved in long term memory, hence novel object recognition was the appropriate test.
- It was queried whether there should be any experiments under terminal anaesthesia. Animals need to be conscious rather than anaesthetised as it's the behaviour that is being measured. It was stated that the tests should be relevant to the patient cohort initially.
- The types of tests were queried e.g. withdrawal test and the heat test, and whether each test should be time limited if there is loss of sensation due to a risk of injury if the animal did fail to respond? It was stated that the withdrawal test will be an immediate response and the application of a von Frey hair was not sufficient to cause injury. In the response to thermal stimuli, the equipment is set to a maximum thermal stimuli of 50°C (with an anticipated response between 40-48°C), which will not cause any burn injury to the animal. In the heat tests, it was queried whether the withdrawal of the feet was due to pain and how does this compare to control animals? If the stimulus is painful, will the animal be conditioned to respond? It was stated that the response to thermal stimuli was because of hypersensitivity and the animal will respond sooner than control rats, which are able to bear higher temperature changes for longer. The test ends as soon as withdrawal of the limb is elicited and temperature is increased in a gradual step-wise manner so the response is detected at the earliest stage.
- The cumulative impact of the drugs was queried. There will be some cumulative effect as chemotherapy drugs will be given alongside drugs to treat the neurotoxicity, but there will be a pilot study to limit the number of injections and treatments.
- The application stated that up to 80% of people undergoing chemotherapy will experience neurotoxicity. The scale of the symptoms can vary in humans, and it was queried whether the rats will have the same level of variability of symptoms. Future work may target specific neurons depending upon the symptoms exhibited.
- It was stated that the threshold for neurotoxicity after chemotherapy in animals should be similar in the same strain of animal as differences in humans may be related to genetic diversity. It will be interesting in the future to determine if neurotoxicity symptoms in the animal model can be reversed if animals are treated for longer than 4 weeks and develop more established neurotoxicity symptoms. However, we are initially interested in the first

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	<p>stages of neurotoxicity, which can be identified very early after chemotherapy, usually within 2 weeks. The 4 week timescale of chemotherapy in this project was discussed. It was stated that the model is to look at the early stage of the neurotoxicity so that the treatments can begin immediately to establish if reversal is possible, allowing cancer patients to complete longer chemotherapy cycles and therefore, more effective treatment of the underlying cancer.</p> <p>Decision: The Committee agreed that the application should be amended following discussion between the NVS, BMSU, NACWO and PI before being submitted to ASRU.</p>
25/01-08	<p><u>Application referred from Fast Track</u> <i>Investigating the behavioural components of island syndrome in island populations of the Northern Wren Troglodytes troglodytes in the British Isles.</i></p> <p>Actions from AWERB on 19th December 2024:</p> <ul style="list-style-type: none"> • Request that the PI provides copies of the email correspondence from the BTO to help inform future correspondence with the Home Office. • Amend the form to include the following: <ul style="list-style-type: none"> ○ what happens if the PI recaptures a ringed bird, ○ the use of smaller finch cages, ○ clarify the durations of each stage of the ringing process. • Once all of the above actions have been completed, and an updated application form has been submitted, this (along with any relevant BTO feedback) will be sent to the Home Office for advice. <p>The application has been amended so that it is now a standard ringing protocol. The box will no longer be used, and the behavioural studies will be undertaken as the birds are removed from the mist nests. The birds will then be held in cotton bags, as per the BTO ringing protocol. If further observational work is proposed, then a project licence application will be developed.</p> <p>Decision: The Committee agreed that the application should now be approved.</p>
25/01-09	<p><u>Matters relating to the 3Rs</u></p> <ul style="list-style-type: none"> • The Technicians have put together a poster which summarises and validates the provision of a playpen as enrichment and this will be presented at an IAT branch event. • The technicians have also submitted an abstract for a poster that describes the refinement measures implemented at UoB to best support the welfare of mouse models of diabetes. This has been accepted for presentation at IAT Congress. • NC3Rs recently announced the first awards in the Partnerships and Impact funding competition. The seven projects support the sharing of 3Rs approaches between labs working in infectious disease, oncology and cardiovascular research, helping to build confidence and capacity in their use and accelerate their adoption into routine scientific practice. You can read more here: £1.2M awarded through inaugural Partnerships and impact funding call NC3Rs • Funding is available for animal facility staff and researchers at all career stages to share their work with public audiences. Please get in touch to discuss your idea: genevieve.barr@nc3rs.org.uk. Applications close: Monday 24 March. You can read more here: Public engagement awards NC3Rs • If you work in cardiovascular sciences join us at our next Technology Partn3Ring webinar to hear about opportunities to collaborate with academics and SMEs and access their 3Rs technologies to advance cardiovascular research. The showcased technologies will be of interest researchers, clinicians and pharmaceutical and biotech industry professionals. You can read more here: https://nc3rs.org.uk/events/technology-partn3ring-webinar-cardiovascular-technologies?utm_campaign=January2025&utm_medium=email&utm_source=govdelivery
25/01-10	<p><u>Condition 18 Reports</u> There have been no Condition 18 reports since the last meeting. The Non-Compliance Report from July 2024 still awaiting a final response from the Home Office</p>
25/01-11	<p><u>Retrospective Review</u> There have been no licences that have expired which legally require a retrospective assessment.</p>

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	BMSU have reinstated internal retrospective reviews for all licences and the latest report has been uploaded to Teams for awareness.
25/01-12	<u>Any Other Business</u> There was no further business.
25/01-13	<u>Date of Next Meeting</u> Dates of future meeting: 10 th April 2025 – Stanley Barnes Meeting Room, Medical School 12 th June 2025 - online 17 th July 2025 - online All will be from 10am until 1pm.

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GLOSSARY

3Rs	Replacement, Reduction and Refinement
ARRIVE	Animal Research: Reporting of In Vivo Experiments
ASPA	Animals (Scientific Procedures) Act 1986
ASRU	Animals in Science Regulation Unit
AWERB	Animal Welfare and Ethical Review Body
BMSU	Biomedical Services Unit
BTO	British Trust for Ornithology
CIN	Chemotherapy induced neurotoxicity
IAT	Institute of Animal Technology
IVM	Intravital Microscopy
NC3Rs	National Centre for the Replacement, Refinement and Reduction of Animals in Research
NCTO	Named Competency and Training Officer
NACWO	Named Animal Care and Welfare Officer
NIO	Named Information Officer
NTS	Non-Technical Summary
NVS	Named Veterinary Surgeon
PEL	Establishment Licence
PI	Principal Investigator
PIL	Personal licence (Procedure Individual Licence)
PPLs	Project licence (Procedure Project Licence)
RSPCA	Royal Society for the Prevention of Cruelty to Animals
UoB	University of Birmingham