CONFIDENTIAL MATERIAL

THE UNIVERSITY OF BIRMINGHAM

ANIMAL WELFARE AND ETHICAL REVIEW BODY (AWERB)

10th April 2025
Stanley Barnes Meeting Room, Medical School

MINUTES

25/03-01	Apologies
25/03-02	Minutes The minutes of the meeting held on 13th March 2025 were considered by the Committee and were approved.

25/03-03	Matters Arising 25/02-07-01 *Reconsolidation of memories underlying approach behaviour.* The amendments have been made and the application has been submitted to ASRU.
25/03-04	Chairperson's Items The new Chair of AWERB has been confirmed by the Named Person Responsible for Compliance. The newly appointed Deputy Director of BMSU joined AWERB. The membership of AWERB was discussed, and additional members are being sought.
25/03-05	Verbal Reports from the Director of BMSU, NVS and NACWOs Director: • The Deputy Director will be added to the Establishment Licence as a Named Training and Competency Officer and a Named Information Officer in addition to those already holding the roles. The Director of BMSU will continue to be the outward facing contact, dealing with researchers and the user community, whilst the Deputy Director will be inward facing, ensuring that the facility itself remains compliant under ASPA and the Codes of Practice. • The animal technicians have been reviewing the tailored welfare score sheets that are used in BMSU. They are working to standardise the style used to ensure that they are user-friendly, and that the information recorded is easily interpreted against details held in the PPL. NVS: • A review has been undertaken on the general peri-operative form. This has been updated to better reflect current best practice. The theatre induction paperwork is also being updated and is moving away from paper handouts to electronic versions. • Latest results from the health screens of the aquatic areas show that the fish and frogs are clear of all agents tested for. • There has been another pilot study of the allergic disease eye model. The outcome is awaited. • A few groups use a diet supplemented with adenine, and there have been some issues with supplier and quality control on the diet. A solution has been identified, and the supplier has been changed. NACWOs: • Health screening samples for the mouse population have been submitted for testing.
25/03-06	Report from the Fast-Track Procedure • All fast-track applications are uploaded to Teams for comments by AWERB.
25/03-07-01	Application referred from Fast Track *Amendment to PPL "Exploring the role and function of fibroblast subsets in inflammatory arthritis"* Summary The project amendments include: • To add microscopy under terminal anaesthesia to all protocols in order to examine healthy and diseased tissues including the bones and joint tissue at a cellular resolution. • To add administration of perfusion agents under terminal anaesthesia to all protocols to allow for the preservation of tissue structure when examining tissues postmortem.,

	• To add administration of tamoxifen via oral gavage or intra-articular injection to pre-existing experimental protocols (and addition of a new protocol to allow this alone in control animals). This will permit the use of mouse strains carrying tamoxifen-inducible genetic mutations. • To allow repeat administration of antigen so that joint inflammation can be maintained or re-induced. • To add the administration of small molecule inhibitors to a pre-existing step and add oral administration as an additional route. • To add reference to the use of control mice in a pre-existing protocol. The following points were discussed: • It was queried why a mono-arthritis model is being used rather than a poly-arthritis model. It was stated that the mono-arthritic model can induce and inject directly into a single joint. The therapeutic model allows the migration of molecules to be mapped. • It was queried whether the therapeutic treatments remained in the joint, or migrated to other areas. It was stated that when giving therapeutics such as carT-cells, it is the cell migration that is mapped. In the mouse model, the car T-cells are injected into the joint, do the job they need to do over a period of approximately 24 hours, and the die and are not seen to migrate to other tissue. • It was queried whether there is some inflammation from injection site which could interfere with treatment, and whether the use of a pump would be better than injection. A pump would need to go directly into the joint and placement can be difficult. It might be considered in future projects. • The number of injections per animal was discussed and it was stated that the frequency of injections will be as low as possible. It was queried whether a pump has been considered, and it was stated that this could be considered in the future, but the placement of the pump may be an issue. • The issue of tamoxifen was raised as it does have the potential to cause some adverse effects in its own right. It was clarified that the animals will normally have 3 doses on alternate days prior to the treatment. It was queried what a typical animal will experience with regards to tamoxifen dosing alongside other treatments, and how many doses of tamoxifen, antigen and treatment each mouse receive. This will be clarified in the application and a pilot study will be undertaken to establish the most refined whilst scientifically required approach. • The additional of the terminal microscopy was raised, and it was queried whether there is the expertise in the group? It was confirmed that there is expertise in Birmingham and the PI will link in with the COMPARE Advanced Imaging Facility. • The PI was asked to explain the process of injecting into the same joint and the experience of the animals. The current licence includes recurrent injections and there is some scarring seen within the joint based around the injection site when this is performed. The group do this regularly and have expertise in injecting the joint, and there is the use analgesia where necessary. Pilot studies will be undertaken regarding the multiple injections of antigens into the joint. • It was queried what the control animals add to the project beyond looking at non-inflamed joints. It was explained that currently there is no option within the PPL to assess animals that have received carT-cells or other treatments in the absence of arthritis in order to confirm the effect (or lack thereof) in the healthy joint. **Decision: The Committee agreed that the application should be amended following discussion between the NVS, BMSU, NACWO and PI before being submitted to ASRU.**
25/03-07-02	*Amendment to PPL "Repairing the damaged brain after traumatic brain injury"* Summary The project amendments include: • Addition to pre-existing protocols of the option to terminally bleed animals under non-recovery anaesthesia. • Addition of a new non-recovery protocol to allow the terminal bleed of animals under non-recovery anaesthesia that have not undergone additional procedures, to provide control samples for comparison with samples obtained under other pre-existing protocols. • Larger blood samples obtained under terminal anaesthesia will be used for ex vivo assays that will help to understand what happens to immune cells after traumatic brain injury in

	comparison to their normal function, and to understand why these injuries often lead to immune dysfunction. The following points were discussed: • The choice of terminal anaesthesia as this may affect the neutrophil function. Blood will be collected via vena puncture under terminal anaesthesia, followed by completion with a Schedule 1 method for bone marrow collection post-mortem from the same animal. • It was queried what is the benefit of taking bone marrow? The main reason is to establish whether there is an effect on the hematopoietic stem cells, that give rise to compromised neutrophils and monocytes, following the brain injury. • Queried whether the is a more refined model to traumatic brain injury and whether the animal numbers will be increased due to the amendment. The numbers have been increased by 50 animals (as a maximum) to be able to set parameters, and this also includes control animals that have had no injury. Regarding the choice of other models, the one selected is the most refined for studying improper workings of the immune system after a critical illness such as traumatic brain injury. The only other critical injury model where immune dysfunction occurs is sepsis, but this is a life-threatening condition which leads to multi-organ failure and eventual death, if not treated promptly. Therefore, to study the long-term improper function of the immune system, the traumatic brain injury model causes the least suffering or distress. • It was queried whether there is any opportunity for tissue sharing with other projects which also use the traumatic brain injury model? Since the animals will undergo a traumatic brain injury, brain tissue will also be harvested alongside blood and bone marrow and used in projects that analyse the brains responses to injury and thus reduce overall animal usage. • Interventional treatments were discussed, and there may be changes in mitochondria after the injury that may be considered, since others also work in this area. It was stated that the PIs are also interested in the response of mitochondria to injury and ongoing projects may utilise brain tissue to understand these changes. Further work may then be considered where the aim of the studies will be to target mitochondrial function after injury and disease. It was stated that where asked about the use of control animals in pre-existing protocols, reference should be made to the new protocol that will provide control blood samples. **Decision: The Committee agreed that the application should be amended following discussion between the NVS, BMSU, NACWO and PI before being submitted to ASRU.**
25/02-08	<u>3Rs Update</u> • The International 3Rs Prize is now open for applications. This is an international award for outstanding and original work that has achieved, or has the potential to achieve, a major 3Rs impact. This is open to all fields of research and will raise awareness of your 3Rs work on the global stage. The Prize is sponsored by GSK who provide a £20k contribution to the £28k prize grant to further the 3Rs impacts of the winning work, with the rest of the funds and a £2k personal award made by the NC3Rs. The closing date for submission of publications is Thursday 1 May. To check if your paper is eligible, find out how to apply and hear from past 3Rs Prize winners: International 3Rs Prize open for applications | NC3Rs • Following attendance at IAT Congress 2025, one of the NACWOs has learnt of a potential refinement to fish breeding. Currently fish are transferred to a static tank for breeding and the water changed each morning, but this disturbs the fish and risks declining water quality. The NACWO has instead trialled the keeping of breeding pairs on the recirculation system with a divider in place to allow the timing of breeding. Whilst not suitable for every breeding scenario, it does mean that where it can be used, fish receive a continuous supply of water which better mimics the natural environment. This approach is ideal for the timed generation of embryos.
25/02-9	<u>Condition 18 Reports</u> • Standard Condition 18 reports are required where an unexpected adverse effect has occurred, or where humane end points have been exceeded. A cohort of mice in containment had been infected and one mouse was demonstrating head tilt and rolling whilst the other animals in the cohort appeared fine. A postmortem was undertaken and there was no sign of unexpectedly advanced infection which may explain the adverse effects demonstrated. This has therefore been reported to the Home Office. • There has been a non-compliance incident in BMSU. During bottle changes on a Sunday, unfortunately, bottles were not replaced on four cages of mice. This was discovered on the

	Monday morning and affected ten mice, including three control mice and seven diabetic mice (that normally require more water than the control animals). Wet mash had been provided on the cage floor as extra support for the animals, which meant that the three control animals were unaffected by the lack of water bottles. However, of the diabetic animals, five had to be killed, and two recovered. Despite the two remaining animals appearing well, additional checks were still undertaken throughout the night as additional reassurance. This was a genuine human error, and the animal technician involved was very distraught at their mistake. Although standard operating procedures and training was already in place, refresher training has been undertaken and signed off. It was queried whether the circumstances of the non-compliance were related to workload and resources, and it was confirmed that it was not. This has been reported to the Home Office.
25/02-10	Retrospective Review There have been no licences that have expired which legally require a retrospective assessment. The UoB retrospective review process for all licences remains in place with the reports uploaded to the AWERB Teams site for awareness.
25/02-11	Any Other Business There was no further business.
25/02-12	Date of Next Meeting - please note the amended dates for 2025. Updated calendar invites have been sent. 29th May 2025 via Teams 3rd July 2025 via Teams 7th August 2025 via Teams 18th September 2025 venue TBC 30th October 2025 via Teams 18th December 2025 venue TBC All will be from 10am until 1pm.

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
COMPARE	Centre of Membrane Proteins And Receptors
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)
UoB	University of Birmingham