UNIVERSITY OF CAMBRIDGE
University Biomedical Services

Compliance Assurance Meeting

To [redacted]

From [redacted] Named Information and Compliance Support Officer

Date 10th October 2017

Time 10.00

Venue [redacted]

Subject Anaesthetic deaths

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Our Ref [redacted]

Policy-

Compliance Assurance Meetings (CAMs) are a management tool, designed to ensure Governance outside of the Act, to protect individuals, ensure due process and systems are implemented within the division of University Biomedical Services. This process will ensure the University upholds the highest standards of animal welfare and good practice relating to animal care and use.

NOTE: A CAM meeting does not replace the investigation of an incident by the Home Office or other authority. Therefore for example, where the local inspector deems appropriate a Home Office non-compliance investigation may run in parallel or sequentially with a CAM.

Event-

Preview-

On 14/08/2017 [redacted] (a PhD student from [redacted] Lab), [redacted] and [redacted] were present in the [redacted] Licensed procedures were performed under PPL [redacted] was present to perform intravitreal eye injections in anesthetised mice and [redacted] was present to supervise eye injections and help with post-operative care. [redacted] was present to provide veterinary oversight for a procedure not previously performed in [redacted] had reached supervision level 2 for this procedure. [redacted] who is currently providing surgery technician support in [redacted] was on compassionate leave and no other [redacted] staff members were available to assist. [redacted] agreed with [redacted] that [redacted] would perform the anaesthesia. When [redacted] left to attend a meeting [redacted] took over her role.

Detail-

[redacted] made an anaesthesia mixture (water, ketamine, xylazine) from the recipe obtained from the [redacted] biofacility where this procedures is usually performed. Using this regimen animals are expected to reach a surgical anaesthetic level in 5-10 minutes.

The first mouse did not respond fully to the first dose of anaesthetic so the mouse was injected a second time (1 full dose 10:30AM, 1 half dose 10:50AM) before reaching full surgical anaesthesia.

A second mouse required 3 doses of the anaesthetic before it reached the surgical anaesthetic level (1 full dose 11:07AM, 1 half dose 11:18AM, 1 half dose 11:35AM). This mouse took 36 minutes to be fully anesthetised.

The intravitreal injection for this mouse was performed at 11:43AM, and Antisedan (reversal agent) was administered at 11:44AM.

[redacted]

A fresh batch of anaesthetic was prepared by [redacted] and used for the third administration in the second of the two mice and all subsequent mice.

In total, [redacted] anaesthetised the first 5 mice (2 mice with the first mixture and three with the second). She also administered the Antisedan to the same mice.

[redacted] left at about 12 noon having examined the first 5 mice that had undergone procedures. Two mice that were not showing signs of recovery were moved to another cage.
Mouse #2 was discovered dead in the recovery cage at 12:45 pm.

A Compliance Assurance Meeting has been selected as the most appropriate means of action to ensure governance and compliance and, setting processes in place to impress there is no repetition of this event.

Outcome-
The explanation of events has been considered and staff concerned have provided information regarding the event. [redacted] clarified that on this occasion [redacted] was fulfilling the role and responsibilities of a Personal Licence holder and not the Named Veterinary Surgeon. [redacted] confirmed this to be the case and that the drawing up and checking of drugs was under PIL authority responsibility to action, it was a normal routine for her and an error was unlikely. The meeting considered the drawing and checking of drugs, repeatability and accountability should be addressed- **action 1**.

Anaesthesia doses typically injected by the intraperitoneal route (which may inadvertently enter other organs, fat and subcutaneous areas), and recipes were considered together with the difference in individual animals response to anaesthesia and the use of reversal agent. Duration of 30 minutes of surgical anaesthesia is considered typical but excited or agitated animals may make this time scale variable. The strain of mice was discussed but it was felt that the mice were agitated due to movement from room to room and cage handling rather than their genetic alteration. It was also normal vet practice to mix the drugs into one syringe whist drawing up rather than using separate syringes and vial. [redacted] informed the meeting that this was not UBS policy and should be addressed - **action 2**.

Ketamine/Xylazine mixed with water for injections recipe is not complicated and had been passed to [redacted] scientists who are using a surgical intravitreal injection technique, by [redacted] [redacted] informed the meeting this was an established formula over a number of years which should not have been amended- **action 3**.

Finding useful results from gross post mortem examination were also discussed, the NACWO [redacted] said it was normal practice to preserve dead animals to perform post mortem, collect tissues and send to the Pathologist which in this instance had been overlooked. [redacted] confirmed this was funded by UBS and therefore not a concern to scientific grant funds-**action 4**.

[redacted] was concerned that communication and a culture of blame had arisen which he will not condone and stressed that this must be addressed- **action 5.**

[redacted]

Actions-

1. The checking of drugs drawn, repeatability and accountability should be addressed.
    a. Action NVS
2. Mixing of sterile drugs for injection in a separate vial should be regarded as good practice by all, a UBS SOP should be created to address this.
    a. Action NICSO, Directorate
3. Using established formulas and protocols should be unchanged without consultation and approval.
    a. Action NTCO
4. Should animals die at any stage the cadaver retained for gross post mortem and tissue sampling and SOPUBS06-01 Unexpected Death must be followed in all instances.
    a. Action NVS, NACWO, NTCO, PIL, PPL
5. Communication and culture of blame between staff must be addressed and cease.
    a. Action All

[redacted]