

University of Washington  
March 16, 2023 IACUC Meeting Minutes

Members Present:	CC	GL	JS	MS
	DT	JFI	MB	SP
	ES	JPVH	MRB	SRH
	GS			

Members Absent:	AB	MK
	AP	MRK
	AW	DM
	KG	

### Opening Business

- The Floor was opened for public comment at 2:31 pm.
- The IACUC Chair called the meeting to order at 2:42 pm.

### Confirmation of a Quorum and Announcement

- Quorum was confirmed by ZR.

### Approval of the IACUC Meeting Minutes

- The IACUC Chair called for the approval of the February 16, 2023 meeting minutes.

Motion was made and seconded: to approve the minutes as written.

Further Discussion: *none*

Vote: Approved with 11 members voting in favor, 0 against and 2 abstentions.

### Benefit Story - JS

There is a lot of media buzz these days about in vitro alternatives to animal models for biomedical research. What is often overlooked in the news stories is that the scientists who use animals for their research are not only the most enthusiastic advocates for these alternatives, but also the people in the best position to develop new technologies that can reduce the number of animals needed to move drugs safely into clinical trials.

Here at UW, the Mack group has recently engineered a high-throughput in vitro platform that builds on their years of translational research moving treatments for muscular dystrophy into the clinic. The new platform is centered around a three-dimensional environment of cultured muscle tissue that replicates critical aspects of normal tissue. The muscle tissue is derived from human induced pluripotent stem cells, and its performance was validated in head-to-head comparison with human muscle tissue obtained from biopsy.

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A key advancement is the use of magnets to detect muscle contraction. This makes it possible to simultaneously monitor many more samples than the optical measurements that are currently employed for this kind of assay. This, in turn, expands the possibilities for in vitro testing of drugs for efficacy and safety before testing in animals. While we are likely many years away from being able to fully eliminate the use of animals in research, in vitro platforms can immediately start to reduce the number of animals that are needed. A heartfelt thank you to the Mack lab for their important contribution to this effort.

Smith et al. 'High-throughput, real-time monitoring of engineered skeletal muscle function using magnetic sensing' J. Tissue Engineering 13: 1-14 (2022).

### **Attending Veterinarian's Report – CC**

- I have checked with the leadership at all sites and have no reportable facility events for the committee at this time.
- I do, unfortunately, have one animal adverse effect to report.

On January 6<sup>th</sup>, one nonhuman primate sustained an injury to the cerebral tissue during placement of a recording device. The device was being positioned atop a surgically- placed cylinder affixed to the skull of the animal, around a craniotomy site. The device contains a guide cannula which is intended to be lowered into the brain after the device is seated properly over the chamber to serve as a channel for a recording wire to reach a specific location within the brain. In this incident, the guide cannula was extended too far and caused trauma to the underlying tissue as the device was placed.

The animal was observed exhibiting noticeable neurologic impairment within minutes, at which point the procedure was terminated and veterinary staff were immediately contacted, and treatment initiated. It is worth noting that this injury would not likely have been painful given that a craniotomy was already present, and the brain itself cannot feel pain.

An MRI has confirmed a defect in the cerebral tissue where the original injury occurred with some fluid accumulating in the adjacent area. The animal has been treated with a combination of systemic and local treatments (steroids, antibiotics, and debridement as needed). The animal remains generally stable at this time and shows no indication of any pain or distress. The veterinary staff is considering options for long-term treatment and has the animal under supervision while modifying the treatment based on clinical signs.

At this time, collection of neural recordings has been temporarily discontinued for this animal and will only proceed upon receipt of veterinary staff approval. The animal continues to be allowed to participate in behavioral tasks which permits evaluation of recovery.

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The individual placing the device was relatively new to the lab and in the process of being trained when the incident occurred. I have spoken at length with the PI, and the PI has taken full responsibility for this incident. The PI is working closely with the veterinary staff to ensure the animal gets the care he needs and is putting measures in place to prevent any future incidents.

Although I am confident that the PI is going to continue working very closely with the WaNPRC veterinary staff, I personally think the IACUC needs to formally recognize the seriousness of this mistake. I think a Letter of Reprimand would be appropriate in this instance.

*Discussion: It was noted that the animal currently appears to be doing okay, is back in social housing, and continues to recover, although it is still too early to know whether the animal will be able to return to study. There were no prior issues with this lab, this PI or this type of incident. The PI acknowledges they should not have stepped away from supervising the trainee to take an emergency call without stopping the procedure, but the lab's overall approach to training seems reasonable. The IACUC discussed the absence of training logs for this lab and the AV's strong recommendation to formally document training in the future. In addition to the implementation of training logs, the PI should identify other changes in lab practices that reassure the IACUC this will not happen again.*

Motion was made and seconded: to send a letter of reprimand.

Further Discussion: none

Vote: Approved with 13 members voting in favor, 0 against, 0 abstentions.

- Update on Protocol Monitoring: We now have a total of 25 protocols with ongoing enhanced monitoring. One protocol was removed from monitoring last after the procedure that was being monitored was removed from the protocol. Of these 25 protocols, 9 protocols are actively performing the procedure for which they are on monitoring.

### **OAW Director's Report – JFI**

**IACUC metrics** – The metrics will be posted under Supporting Documents in the meeting folder right after the meeting.

**Training Updates** – The training program has produced and published a new lesson titled “Needle Handling and Syringe Safety.”

**Responses to Letters & Other Follow up** – None

**Noncompliance** –

- 2456-06

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On 12/29/2022, ten adult male mice were fasted for 5 hours per approved protocol, then given regular insulin for an insulin tolerance test (ITT). A miscalculation in the dilution of the insulin resulted in a higher than expected dose of insulin administered to the mice. Per the approved protocol, dextrose was administered by the group at 30 – 60 minutes post-insulin dose to correct low blood glucose, and Vet Services was contacted. One mouse presented moribund and was humanely euthanized by VS. The remaining nine mice presented lethargic and blood glucose measurements continued to remain low after two subsequent boluses of dextrose were administered under vet service guidance. Those remaining nine mice were euthanized. The lab uses a detailed spreadsheet to calculate the dose of insulin for ITT. The lab member used the spreadsheet when calculating doses for this experiment, so it is unclear where the miscalculation occurred. The lab estimates that the animals received up to 10x the normal dose of insulin, exceeding the dose range approved on the protocol. The lab member was retrained on the insulin dosing procedure. They have since performed two ITT procedures (one under supervision, another independently) without issue. This event has been reported to OLAW. This very large group has not had a history of non-compliance. The event was self-reported to Vet Services, although there was a delay in reporting to the AV and OAW. Motion was made and seconded: to send a letter of counsel that requests a description of changes to the spreadsheet and dose calculation process, as well as praise for the rapid mobilization of a dedicated team who stayed to help.

Further Discussion: none

Vote: Approved with 13 members voting in favor, 0 against, 0 abstentions.

**Standard Operation Procedures / Policies / Guidelines**

- Standard Procedures– AS
  - *There are 8 procedures with changes –Biopsy, Upper and Lower GI Mucosa for NHPs Biopsies for NHPs & Fasting Durations*
  - *There are 30 procedures without changes (all listed in the meeting supporting documents)*

Motion was made and seconded: to approve the standard procedures as written.

Further Discussion: none

Vote: Approved with 12 members voting in favor, 0 against, 1 abstention.

**Closing Business:**

The Meeting was brought to a close at 3:20 pm.