

University of Washington
May 16, 2019 IACUC Meeting Minutes

Members Present:	AB	JE	KS	SL
	CG	JM	LJE (remote)	TH (remote)
	CH	JPVH	ML	
	FRR	JS	SJH	
	JB	KG	SRH (remote)	

Members Absent:	AS	MS	KL
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Opening Business

- The IACUC Chair called the meeting to order at 2:32 pm.

Confirmation of a Quorum and Announcement

- Quorum was confirmed by KC.

Approval of the IACUC Meeting Minutes

- The IACUC Chair called for the approval of the March 21, 2019 meeting minutes.
Motion was made and seconded: to approve the minutes as written.
Discussion: *None*
Vote: Approved with 15 members voting in favor, none opposed, and 2 abstentions.
- The IACUC Chair called for the approval of the April 18, 2019 meeting minutes.
Motion was made and seconded: to approve the minutes as written.
Discussion: *None*
Vote: Approved with 13 members voting in favor, none opposed, and 4 abstentions.

Benefit Story

- This month's benefit story comes from Dr. Kelly Stevens' lab and focuses on the development of an artificial liver that could replace donor organ transplants. One of the challenges for the creation of an artificial organ derived from human tissue is making sure it grows to sufficient size for the human who receives it. Different cell types must be correctly organized to retain function as the tissue expands. Proper vascularization is especially important for the liver.

Dr. Stevens' research team has been optimizing conditions for transplanting a small 'seed' of a liver that can be triggered to grow in mice with liver damage. Critically, these 'seed' organs contain 3 different types of human liver cells: hepatocytes, fibroblasts and endothelial cells. Each cell type plays an important role in normal liver function, and their coordinated growth and development allows the seed organ to expand into a highly functioning replacement for damaged tissue. Precisely positioning the cells within a 3-dimensional degradable hydrogel ensures that the different cell types are appropriately organized and poised to develop properly.

Seed organs that were grafted into mice with liver damage grew over ten times their original size and showed evidence of restored function, including production of human liver proteins. A key

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advance was the establishment of dense, blood-filled vascular networks within the grafts as they expanded. The use of mice for these studies allowed the researchers to test different parameters for the 3-dimensional architecture and composition of the seed organs. Translational studies such as these will reduce the reliance on donor organ transplants by identifying optimal conditions for restoring function in patients with liver damage using small seed organs derived from human tissue.

Stevens et al. 'In situ expansion of engineered human liver tissue in a mouse model of chronic liver disease' *Science Translational Medicine* 2017; Grigoryan et al. 'Multivascular networks and functional intravascular topologies within biocompatible hydrogels' *Science* 2019.

Attending Veterinarian's/OAW Director's Report - KS

- Adopted 2 ferrets in the last month and 1 dog – to be adopted next week
- IACUC metrics- see meeting documents
- HBAS: The sub-committee started assessing “Other” procedures listed on various protocols to determine if they would be considered prolonged restraint based on our IACUC definition. Some of those procedures need additional clarity around what is occurring and the timing so the assessment will be completed next month and then shared with the committee.
- Facility issues:
 - Temperature and lights: On 4/20/19, lights did not go off as scheduled in 3 ARCF rooms housing animals. The problem was corrected on 4/22/19. The cause was a programming error in the lighting system.
 - There was a radioactive material spill at the HR&T loading dock early morning of 5/3/19 that led to building closure to all but husbandry and veterinary staff. Fortunately, the vivarium heating, ventilation and air conditioning (HVAC) system is separate from the rest of the building and no radioactivity has been detected there. Staff was able to do an initial check on animals in the vivarium that first afternoon and there were no animal welfare or health issues. There were 4 rats in recording chambers outside of the vivarium that could not be checked that first day but were moved down to the vivarium on 5/4/19. There were high temperature alarms in the room that housed those rats, but the rats appeared fine. Animal husbandry and veterinary care have been occurring every day. Vet Services has been doing experimental monitoring for the research groups that have animals in that facility. Also, DCM has been told not to run the cage washer (because of the potential to spread of contamination) so clean caging has been sent over from main campus and dirty supplies sent back for cleaning/disposal. Due to the extended building closure for at least another 4 weeks, some animals may be transferred to another the vivarium to allow research projects to continue.
Kudos to DCM for their initial emergency response as well as on-going care of the animals at HRT.

Reported to OLAW, USDA and AAALAC.

- Protocol Monitoring:

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- Twenty-one total protocols. Of the protocols, 12 involve surgery, two restraint (and sx), one conscious restraint, 1 tumor modeling, 5 miscellaneous (tape skirt, infection, water quality). Seven are inactive right now.
- Removing 2797-04 from vet monitoring. Placed on monitoring by the previous AV due to post-op infection issues. Group was retrained on aseptic surgical technique and have demonstrated appropriate technique. Therefore, monitoring is no longer needed.
- 3328-07: The lab group ran its first trials of the Morris Water Maze with 16 ferret kits from two litters. Kits were placed on the submerged platform and allowed to swim up to 45s, or until their heads submerged under water, then they were removed and dried off and placed on heating pad with littermates. Only a few of the kits were pulled out before 45s. For the second trial, the kits were run through two rounds of swimming after being placed directly in water up to 1 minute. Only 2 kits were pulled out of water before 1 minute. It does appear that kits can float and/or swim. Vet monitoring will continue for now.
- Adverse Events:
 - Automated watering system at SLU 3.1: On 4/19/19, high water pressure (22 vs 12 PSI) was noted making it harder for mice to get water from their litters. 1 room with 500 mouse cages was affected with 14 cages noted for dehydration or death. 17 adults and 7 pups were found dead. During preventive maintenance of the automated watering system, the vendor technician had incorrectly programmed the pressure reducing station set point for that room leading to this issue. The programming in that room was immediately re-set and pressures were returned to the previous setting. Over the following week the vendor technician continued to re-evaluate room pressures and balance the pressure appropriately. On 4/28 the vendor technician confirmed that all settings had been re-verified and the system was confirmed to be fully rebalanced.

Reported to OLAW

- Non-compliance:
 - Follow-up on protocol 4356-01 non-compliance and Letter of Counsel sent to the PI. The lab has acquired and will use local analgesic for surgical procedures per the protocol. An amendment was submitted and approved to change prophylactic antibiotic use to optional, clarify the analgesic regimen and clarify type of surgical glue to be used. In addition, the PI held a lab-wide meeting at which the group discussed the protocol at length and the PI emphasized the need for all students to read the protocol ahead of any procedure, even if they feel confident from training received elsewhere.
- From Arizona - **TH**
 - Facilities items: No items to report.
 - Adverse events: No adverse events to report.

Standard Operation Procedures / Policies / Guidelines

- Animal Adoption Policy – **KS**
 - *Formalizing the animal adoption process that is already in place.*

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- *Add to the list of considerations for adoption that they must be without any genetic modifications. .*

Motion was made and seconded: to approve the policy with the change noted above.

Discussion: *None*

Vote: Approved with 17 members voting in favor, none opposed, none abstaining.

- Revision to Environmental Enrichment SOP – **KS**
 - *Change to add extra enrichment to animals that are singly housed. Allow 2-3 months for implementation. This will allow time for researchers to request an exemption if scientifically justified and approved by the IACUC.*

Motion was made and seconded: to approve the revised EE SOPs as written.

Discussion: *None*

Vote: Approved with 17 members voting in favor, none opposed, none abstaining.

- DMR following FCR SOP – **LI**
 - *Iterating as an SOP the procedure specified in our PHS Assurance.*

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

Discussion: *None*

Vote: Approved with 17 members voting in favor, none opposed, none abstaining.

IACUC Training

- Vision for the Training Program – **MO**
 - *The Instructional Designer for the Office of Animal Welfare gave a presentation on his analysis of the current system, and plan for the Training Program going forward.*

Other Business

- Reminder: Upcoming AAALAC site visit – **KS**
 - *The AV gave a quick reminder on the upcoming AAALAC site visit, how it will work, what spaces will be visited, and the role that the IACUC will have during the visit.*
- An IACUC member announced her resignation from the committee and the University in protest over the institution's animal care and use program. She was thanked for her contributions to and hard work for the committee.

Closing Business:

The Meeting was brought to a close at 3:40 pm. The floor was opened to public comment.