

Building Updates

On April 1, 2006, the Cancer and Genetics Building will be ready to begin occupancy. Immediately following the occupation of the Cancer and Genetics Building, work will begin in the main Communicore area to renovate and expand the current BSL-3 area as part of an NIH-funded project. The construction will involve and most likely affect all Communicore animal areas, to include noise, vibrations, dust and airflow interruptions as possibilities. At this time, ACS highly recommends that investigators begin thinking about moving their colonies to the Cancer and Genetics Building.

Holiday Delivery Schedules

The holiday season has resumed its traditional good cheer once again, and with it, some vendor deliveries will be disrupted.

Harlan and NIA will not be delivering during the weeks of December 26th and January 2nd. All Harlan orders received after 12:00 pm on Wednesday, December 14th will be scheduled to come in on January 9th, so be sure to plan ahead if necessary. Also, please keep in mind that Martin Luther King, Jr. Day falls on Monday, January 16th, so there will be no Harlan deliveries that week either. Normal deliveries will resume on January 23rd, 2006. Jax Labs will not be delivering during the week of December 26th, and during the week of January 2nd, they will deliver on Wednesday the 4th. Taconic will be delivering on Thursday, December 29th and January 5th. Charles River Labs and Frederick deliveries will not be affected by the holidays. Any additional vendors not listed will be arranged at the time of order.

Staff Announcements

December is proving itself an auspicious month for Animal Care Services staff. On December 17th, Raymond Peoples from Cage Wash graduates with an MS degree in Forensic Science from the University of Florida. On December 13, two Animal Care Technicians, Rosanne Luxton and

Darrell Douglas, were honored for having earned their GED. Last, but certainly not least, Whitney Hartz from the Surgery has earned her BS degree in Biology from Excelsior College. But wait, there's more!



Rosanne, Ray and Whitney pause for a photo

As far as AALAS certifications go, the upward counts continue. Four staff members have earned their certifications, David Miller (ALAT) from Large Animal, Andy Neeley (ALAT) and Lorraine Koerper (ALAT) also from SPF, and Laura Walker (ALAT) from Infectious Disease. Congratulations to all of these terrific staff members – ACS is so proud!

Halothane Phase-Out

Halothane production has been discontinued in the United States. Certain vendors still have a limited stockpile of halothane available for purchase. However, once these resources have been exhausted, ACS will no longer be able to provide investigators with halothane. Animal protocols using halothane should be amended through the IACUC so that another anesthetic, such as isoflurane or an injectable, can be used instead.

61-Suite Changes

There is significant concern on behalf of the veterinary and husbandry staff over the animals and activities going on in the 61-Suite. To lessen

problems, concerns and issues, Animal Care Services will be instituting a program of supervised access to the dirty mice housed in the Suite. Mouse users will be able to arrange an area escort through Bob Gump at 392-7697, or Kristina Steinfeldt at 494-5418. As an alternative, ACS can offer colony maintenance to applicable users, who should contact Dr. Patrick Sharp at 392-8051.

Rescuing a Valuable Rodent Line

In the Fall 2005 edition of Charles River Laboratories' publication *Outlook*, some procedures were outlined for the re-creation of a rodent line using only a viable male, a rubber band and a car battery. They must have taken lessons from MacGyver, but the article in its entirety follows:

"Charles River Laboratories Transgenic Services has produced thousands of animals using Assisted Reproductive Technologies (ART). Below, we've outlined how to rescue a valuable transgenic, knockout, or knockin line when only one, unproductive male is available.

The first step is to accurately determine whether or not the male is physically mating the females. Simply check for the presence of vaginal plugs the morning after the male is housed with synchronized or superovulated females that were primed beforehand using a standard exogenous hormone regimen (5 IU eCG and 5 IU hCG given 46 to 48 hours apart). Assuming that the male is not ill, this procedure should be repeated weekly for 2 or 3 weeks, allowing sufficient time to confirm or negate a pregnancy.

If no pregnancies are obtained, it is possible that he is mating, but incapable of fertilizing the females, in which case the use of ART should be considered. Most of these techniques require sacrificing the male, so one should be prepared to cryopreserve excess sperm at the time of collection. If the male is healthy, he can be anesthetized with sperm collected from only one epididymis.

Some of the assisted techniques used with mice include *in vitro* fertilization (IVF), assisted IVF, and intracytoplasmic sperm injection (ICSI). All procedures require the use of freshly collected oocytes, so donors must be prepared prior to processing the male.

A computerized sperm analyzer can help determine the concentration, motility, progressive movement, and morphology of the sperm sample. This data helps determine the best procedure to help generate offspring. If the sperm sample meets a certain minimum criteria, IVF can be used to generate high quality embryos to transfer into pseudopregnant recipient females. Since the sperm from some males can fertilize hundreds of oocytes, a large number of offspring can potentially be

generated in a short amount of time. IVF has the added benefit of rederiving the line, so pups are born free of opportunistic pathogens. Although IVF is a viable option for many mouse strains, certain strains (such as various 129 and Balb/c substrains) do not respond well. In these cases, compromising the zona pellucida or outer covering of the oocyte with the use of chemical agents or a laser may be necessary to further assist the sperm in entering the oocytes.

If the sperm sample fails to meet the minimum requirements for IVF or assisted IVF, intracytoplasmic sperm injection (ICSI) may be an option. ICSI is the process by which a single sperm cell is mechanically inserted into a mature oocyte to induce fertilization. This procedure requires a microinjector. Motile sperm are not necessary. Since only the head of the sperm cell is injected, ICSI is often used to rescue lines from recently deceased males, cryopreserved sperm, or samples with virtually no motility."

Surgical and Post-Operative Care

In accordance with recommendations of the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) International, surgical records are required for rodents and birds. During the AAALAC site visit the forms were in use but compliance was erratic. These records should include the administration of anesthetics, fluids and any drugs; details of the procedure; daily post-operative recovery observations and treatment, including administration of analgesics and antibiotics; monitoring of incision healing; and the initials of the individual performing these tasks. All medications, including the name, dose, route, and time of administration should also be recorded. Any adverse outcomes should also be noted. Sample Post-Operative Monitoring Records are available on the ACS website.

So that the veterinary staff can better evaluate the post-operative healing process and ensure sutures are appropriately removed, please clearly mark each cage card with the surgery date. If animals will be provided antibiotics in the drinking water, special treatment cards should be placed on each cage to communicate this special care to the veterinary and husbandry staff, particularly for any users of automatic watering.

All records relating to surgical procedures and post-operative care may be subject to review during the IACUC's semiannual inspection.

Animal Care Services (ACS) publishes this newsletter to communicate with those who use or provide support to the animal care program at the University of Florida. This newsletter contains various items of importance to animal users. We use e-mail as our primary method of distributing the newsletter, but also have copies available in the animal facilities. Please print this newsletter and distribute it to members of your department. If you did not receive this newsletter by email and would like to be added to the email list, please send an email message to cwasner@vpha.health.ufl.edu with "Add to ACS Newsletter" as the subject. This and all past issues of the newsletter can be accessed at <http://acs.ufl.edu/newsletter.shtml>.