HAPPY NEW YEAR
FROM THE DLAR PHARMACY
Francis Sun, DVM, DACLAM
Associate Director, DLAR

It’s hard to believe we are in February already. There are some changes and updates that we wanted to bring to your attention for the start of 2015.

Effective October 6, 2014, hydrocodone combination products (HCP’s) have been placed into Schedule II of the Controlled Substances Act. According to our records, we have not sold/distributed this recently, but provide this info as an update only to potential requestors of this product.

As a security measure to our DLAR pharmacy staff, they will not be asked to compare your protocol PI to the DEA and DHHS registrant names when requests are placed. The IR form has changed slightly to incorporate this adjustment. A copy of the form can be found at http://labanimal.duke.edu/modules/pharma/index.php?id=1. This may also save requestors a little time in processing, but it clearly will emphasize that CS users in your lab have clear understanding and adherence to applicable DEA and DHHS regulations on use of controlled substances. Please contact your local DHHS agent for any questions you may have.

The makers of Trimethoprim-Sulfamethoxazole, TS, (Product names like Bactrim or Septra) oral suspension liquids that we have been using as suppliers are either discontinuing or severely cutting production and distribution of that product which will reduce supply and increase prices. This impacts those investigators who have been using TS mixed in water for research models using immunocompromised mice. We have not found any similar oral liquid products yet and the disadvantages of other antibiotics in water (i.e. poor solubility resulting in poor intake, light sensitive deterioration, high cost of some products, questions about bio-availability, etc.) are such that the DLAR veterinary staff isn’t recommending them for use at this time.

Continued on Page Two Column Two … See ‘DLAR Pharmacy’

http://vetmed.duhs.duke.edu

ANIMAL TRACKS
A newsletter for the Duke research community

Public Support for Animal Research Surges 12 Points in Latest Poll
Foundation for Biomedical Research

WASHINGTON, DC--(Marketwired - February 12, 2015) - Public support for animal research has jumped 12 points in the last five months according to a new poll from Zogby Analytics. Almost 58 percent of more than 1,000 adults surveyed support the humane and responsible use of animals in biomedical research.

"The rise in public opinion support seems to coincide with the arrival of Ebola to American shores and the emergence of a measles outbreak," says Paul McKellips, executive vice president at the Foundation for Biomedical Research in Washington. "When infectious diseases or other incurable conditions reach our doorstep, we’re reminded that scientists and researchers need to use animal models to develop vaccines, antibiotics, therapies and cures that are safe and effective."

In the latest monthly tracking poll from Zogby Analytics almost 68 percent of men and 48 percent of women agreed with medical and scientific research that requires the use of lab animals.

"Nearly 97 percent of all animals used in biomedical research are rodents, fruit flies and zebra fish," says Matt Bailey, executive vice president of the National Association for Biomedical Research. "And with the help of expedited research in rodents and nonhuman primates, several companies appear to be moving closer to FDA approval for Ebola vaccines."

According to the Centers for Disease Control and Prevention, measles is the most deadly of all childhood rash/fever illnesses. The disease spreads very easily, so it is important to protect against infection. Getting vaccinated is the best way to prevent measles. Measles vaccine is usually administered as MMR, a combination vaccine that provides protection against three viral diseases: measles, mumps, and rubella. The MMR vaccine is strongly endorsed by medical and public health experts as safe and
CONTINUING EDUCATION POLICY

The Policy on Continuing Education for Animal Researchers & Care Staff was established in early 2014. This policy addresses specific language changes in the 8th Edition of The Guide and helps bring the Duke animal program in-line with The Guide. This is an important action, because the vast majority of our institution’s funding stream originates with federal agencies - all of which require allegiance to The Guide for continued access to federal funds. After reviewing The Guide language and considering several options for addressing the instructions therein, the IACUC determined that persons participating in the animal care & use program at Duke must complete three (3) continuing education (CE) hours every 12 months as a condition of continued access to animals.

An informal survey conducted prior to the IACUC’s decision suggested that most Duke persons obtain far more than 3 hours every 12 months as a routine and normal part of being a modern and progressive research scientist. As such, a requirement of 3 hours CE is more a matter of documentation of existing continuing educational efforts than an new unfunded expense. While the CE activities that qualify for CE credit are numerous (see the policy for details), individuals can obtain full CE credit simply by attending 3 Brown Bag Seminars, DLAR or DLC training sessions, or reading articles which will be selected by the IACUC and posted on the animal program web site. There is no reporting of the CE hours completed, but there is a checkbox on the protocol template (Sections F & G) that confirms three hours have been completed. It is the intent of the Committee to ‘trust and verify.’

The ‘trust’ component is letting the lab or the individual keep their own records and indicate accomplishment by a checkbox on the protocol template. The ‘verify’ component will occur during IACUC Semianual Inspections or Post Approval Monitoring visits. The last validation tool will be a 5 slide web module on the OESO web site (same location as Animal Handler & safety training). Your OESO training page will notify you when the year is up and the revalidation of the CE module is required. Simply open the web module, read the first four slides, and check the box on the last slide. That’s it for another year.

Bill would shield NIH funding from annual budget wars

Reps. Kathy Castor (Fla.) and G.K. Butterfield (N.C.) have introduced legislation on Monday that would make funding for the National Institutes of Health no longer subject to the annual congressional budget process.

The bill would make the National Institutes of Health's (NIH) medical research funding a non-discretionary program, meaning it wouldn't be part of debates over the federal discretionary spending budget every year. That would make NIH funding treated in the same way as programs like Social Security, Medicare and Medicaid.

“Today, funding for medical research is discretionary and at the mercy of the budget battles in Congress. This harms momentum towards cures and creates economic uncertainty,” Castor said.

"Funding for medical research is too essential to be subjected to political squabbles," Butterfield added,

NIH funding peaked in 2010 at $31.2 billion. But it fell to $30.6 billion in 2014 as part of a bipartisan spending agreement.

Continued on next page
HAZARDOUS AGENT AMNESTY DAY

From February 23 (10:00) through February 27 (noon), go to 370 Sands and schedule with the OESO representative for OESO to come to your lab and collect all the chemicals that have been sitting around and you really don’t think you’ll be using, or chemicals that are getting old and may not be good anymore, or chemicals that you just can’t remember buying. This includes anesthetics, analgesics, and other drugs used in animal research.

The only exceptions are:

⇒ Controlled substances: Contact OAWA (william.wilkerson@duke.edu) for disposal of controlled substances.
⇒ Routine chemical disposal: Controlled substances or wastes normally submitted as chemical or radioactive waste through the online system.
⇒ Radioactive wastes: Use the regular online process for disposal of radioactive waste.

And as an extra-special time saver for this amnesty event! Email Karen A. Trimberger, CHMM (Karen.trimber@duke.edu) to reserve a pick-up time for your chemicals. Include in your message to Karen:

* Building / Room location of the chemicals
* Date, time of your preferred pickup by OESO
* Number of containers you expect will need to be picked up

Karen will put you right at the front of the line so to speak, and place you name on the amnesty pick list; and you get to choose your time for pick-up!

This opportunity is especially timely in view of the institution’s animal research accreditation review occurring later this year.

Thanks to OESO for providing this free opportunity to clear out chemicals and materials!
TUMOR BURDEN POLICY
(In Rodents)

Tumor (cancer) implantation in research animals is a critically important experimental activity which also requires consideration of the effect of the tumor on the animal. Limiting the discomfort, pain and distress animals may experience during the conduct of biomedical research is important and is the primary force behind the animal welfare regulations that govern the use of animals in research. Outcomes of tumor studies vary depending on the species and strain of animals, the route of injection for transplantable tumors, and the subsequent cancer treatment. Death as an endpoint may be allowed by the IACUC only after full consideration of alternatives and only if scientifically acceptable for the proposed outcome. At all times, the well-being of the research animals must be balanced against requirements of the study.

Cancer studies can broadly be divided into two categories: biology and treatment:
1. **Cancer biology** is the study of how tumors grow and behave. The IACUC Tumor Policy is intended to limit the tumor burden and avoid excessive pain or distress, but still achieve the research goal.
2. **Cancer treatment** is the study of the response of tumors to chemical, radiologic or immunologic therapy. The purpose of all cancer treatments is to destroy or disable the cancer cells while minimizing damage to healthy tissues. The success of a treatment becomes a balance between cancer destruction and reduction of side effects.

Regardless of category, Endpoints and Assessment Tools should be used to assist with determining endpoints for tumor-related activities.

The Duke animal program policy addresses cumulative tumor burden. Animals showing any of the signs below will be euthanized, unless an exemption is provided by the Duke Attending Veterinarian or the IACUC. Whether single or multiple tumors (an unusual situation), the following restrictions apply:

1. Tumors that are ulcerated. If an exemption is provided for this condition, then the affected animals are required to be single housed (may require protocol amendment and / or alternate environmental enrichment or medical treatment).
2. Tumors where the animals chew on the lesion or pay undue attention to the lesion.
3. Tumors that interfere with ‘normal’ mouse functions (e.g. inability to eat, drink, or ambulate).
4. Tumor burden is greater than 10% of the baseline body weight (mice).
5. Tumor volume that exceeds (in mice) 2000 mm³ in size (which is roughly 10% baseline body weight).

**NOTE 1:** For the basis of this policy, tumors may be measured using the following formula:

\[
\text{Tumor Volume} = \left(\frac{\text{Width}}{2}\right)^2 \times \text{Length} / 2
\]

**NOTE 2:** If tumors are spherical, a diameter of 1.5—1.6 cm will generate a 2000 cm³ tumor.

Other clinical signs that require veterinary intervention and are suggestive of tumor related disease such as metastases or ascites are extant:

- Weight loss greater than 15%,
- Significant abdominal distension, especially when it begins to compromise respiratory ability of animal,
- Hunched posture with easily visible vertebral bodies,
- Failure to eat or drink,
- Absence (or abnormal) of fecal or urine output,
- Rough hair coat,
- Reluctance to move or abnormal gait,
- Discharges or hemorrhage,
- Abnormal behavior or vocalizations.

Additional characteristics which could be monitored/measured to assist with study endpoints include:

<table>
<thead>
<tr>
<th>Experimental Endpoint</th>
<th>Example</th>
<th>Clinical Assessment</th>
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</thead>
<tbody>
<tr>
<td>Tumor Size</td>
<td>Estimated tumor mass not to exceed 10% of body weight</td>
<td>Frequent measurements of solitary tumor (1 cm³ = 1 gm)</td>
</tr>
<tr>
<td>Evidence of necrosis</td>
<td></td>
<td>Physical examination: scabbing, ulceration, exudate, anorexia, hypothermia, etc.</td>
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<tr>
<td>Evidence of sepsis</td>
<td></td>
<td>Restricted ambulation, inability to access food or water</td>
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<tr>
<td>Evidence of metastasis</td>
<td></td>
<td>Evidence of dehydration</td>
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<tr>
<td>Evidence of local invasiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Characteristics of Tumor(s)</td>
<td>Neurologic impairment</td>
<td></td>
</tr>
<tr>
<td>Tumor Location</td>
<td>Head/neck and extremities</td>
<td>Inability to access or ingest food and water</td>
</tr>
<tr>
<td>Moribund or Pre-moribund State</td>
<td>Define with specific clinical tests or signs</td>
<td>Evidence of dehydration</td>
</tr>
<tr>
<td>Cachexia, Chronic Wasting</td>
<td>Weight loss &gt;15% of normal body weight</td>
<td>Frequent weighing (3-5 times/week)</td>
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<tr>
<td>Respiratory</td>
<td></td>
<td>Dyspnea, rapid or labored breathing, coughing, rales</td>
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<tr>
<td>Cardiovascular</td>
<td></td>
<td>Shock, hemorrhage, anaphylaxis</td>
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<tr>
<td>Gastrointestinal</td>
<td></td>
<td>Diarrhea (&gt;2 days' duration), vomiting</td>
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<tr>
<td>CNS</td>
<td></td>
<td>Circling, blindness, dementia, convulsions</td>
</tr>
<tr>
<td>Signs of Organ or System Failure</td>
<td>Integument</td>
<td>Extensive hair loss, inflammation, self-trauma</td>
</tr>
</tbody>
</table>

Other clinical signs that require veterinary intervention and are suggestive of tumor related disease such as metastases or ascites are extant:

- Weight loss greater than 15%,
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- Discharges or hemorrhage,
- Abnormal behavior or vocalizations.
A CULTURE OF COMPLIANCE

In 2005, the Duke animal program developed a strategic plan to move the campus toward greater compliance with animal care & use expectations. Each quarter since that time, the animal program has considered the status of the animal program’s compliance footprint. Overall, the report is good. The campus has continued a steady march toward a fully compliant animal care & use program.

Compliance is not easy for a campus of our size. We have approximately 4000 program participants working on over 750 approved animal use activities. But even so, we continue to sit between 80 and 90% total compliance with approved protocols, campus SOPs, & policy expectations for care/use of animals. In comparison to prior years, the general trend and annual averages was slightly down, although not significantly so and within a margin of error. Overall, compliance is good but remains shy of the IACUC-defined strategic goals:

1. Greater than 90% compliance for any 6 month period; &
2. No significant deficiencies during the reporting period; &
3. PI Self-Reporting of in-lab errors.

While all non-complaint activities remained low, there are select areas which will be a focus for the animal program this coming year. As a general rule, the non-complaint actions are the result of momentary lapses of judgment, accidents, or areas where confusion existed between approved and anticipated procedures. The animal program continues to focus upon these issues as the core of on-going training activities.

NOTIFICATION OF HAZARDOUS WORK IN ANIMAL CARE AREAS

When animal research involves the use of hazardous agents (i.e. infectious agents, hazardous chemicals, radiological agents, etc.) it is imperative that workers be notified of potential risks and how to work safely when such risks are present. The role of the researcher is to ensure that this information is provided to all research, animal care and occupational health staff. Here are some important highlights of working with hazardous agents.

Researchers must assure OESO and DLAR that all required signage is properly affixed and notification of pending (or ongoing) hazardous work has occurred prior to working with the agent in an animal use area. The PI, with support from OESO, will prepare a Standard Operating Procedure (SOP) that outlines the safe work practices for the animal use area when hazardous agents are employed. Personal Protective Equipment (PPE) is required, appropriate to the species and the hazardous agent being used. Staff should be trained on proper use of PPE.

Investigators must notify DLAR via written communication, preferably e-mail, at least 5 business days prior to the use of hazardous agents in animals. PI or research staff member must post hazard signs (available from OESO) in the appropriate areas. Information on the form must include; name of hazardous agent, building and room number, species in which agent will be used, emergency contact information for the PI and staff, copy of the SOP for safe handling of the agent being used. PI should provide all information to and notify:

♦ Dr. Randall Reynolds (randall.reynolds@duke.edu),
♦ Peg Hogan (hogan012@mc.duke.edu) or
♦ Dr. Francis Sun (francis.sun@duke.edu)

UPCOMING PROTOCOL EVENTS

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Feb. 19</td>
<td>Amendment Meeting</td>
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<tr>
<td>Feb. 23</td>
<td>Amendment Deadline</td>
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<tr>
<td>Feb. 26</td>
<td>New Protocol Meeting</td>
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<tr>
<td>March 2</td>
<td>New Protocol Deadline</td>
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<td>March 5</td>
<td>Amendment Meeting</td>
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<td>Amendment Deadline</td>
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<td>March 20</td>
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<tr>
<td>April 16</td>
<td>Amendment Meeting</td>
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REMAINING IACUC SEMIANNUAL SITE VISIT SCHEDULE

- February 19th—BRYAN; NANALINE DUKE
- March 5th—JONES.; RP 1-4; GSRB 1; ENGINEERING
- March 12th—MARINE LAB
- March 19th—CARL; EYE CENTER; DURF
- April 2nd—CCIF
- April 9th—FOSTER ST; BIOLOGY; GROSS HALL; FRENCH; CEIMAS
- April 16th—DUKE HOSP. NORTH/SOUTH; GHRB
- April 30th—VIVARIUM; MSRB1
- May 7th—LEMUR CENTER; MSRB2; MESOCOSM

AALAS LEARNING LIBRARY

(One way to satisfy the new annual C.E. requirement)

All individuals with an active protocol have access to FREE web module training through the AALAS Learning Library training site.

If you or your lab staff are interested in obtaining a password for this research procedure and bio-methodology training, please contact Bill Wade @ 668.6722 or via e-mail at w.wade@duke.edu