PROTOCOL FOR ANIMAL USE AND CARE
Handwritten forms are not accepted

CNPRC

Investigator

Last Name: __________________________  Last Name: __________________________
First: __________________________  First: __________________________
Middle: __________________________  Middle: __________________________
email: __________________________  email: __________________________
Department: __________________________  Department: __________________________
Phone / Fax: __________________________  Phone: __________________________
After hrs. #: __________________________  After hrs. #: __________________________

Contact

Species (common names): Rhesus  Number: 8  Source: CRPRC

Project Title  VM470 Junior Veterinary Student Primate Center Rotation
Overnight housing location: CRPRC  Day use only: [ ]
Animals will be maintained by: [ X ] Vivarium  [ ] Investigator  (If investigator maintained, attach husbandry SOP's.)

Procedures: Students will receive hands-on training with nonhuman primates. Routine procedures include chemical immobilization, physical exam, venipuncture techniques, tuberculin testing, naso-organistic intubation and indwelling intravenous catheter placement will be demonstrated for or performed by the students.

Special Husbandry Requirements: Describe any special requirements your animals have with respect to food, water, temperature, humidity, light cycles, caging type, bedding, or any other conditions of husbandry.

Other instructions for animal care staff: (check applicable entries)

Sick Animals  Dead Animals  Pest Control
[ ] Call Investigator  [ ] Call Investigator  [ ] Call Investigator
[ X ] Clinician to treat  [ ] Save for Investigator  [ X ] OK to use pesticides
[ ] Terminate  [ ] Bag for disposal  [ ] No Pesticides in animal area
[ ] Necropsy  [ X ] Necropsy

Hazardous Materials (only if in the animal room):
Infectious Agents?  [ ] Yes  [ X ] No  Agent(s): __________________________
Radioisotopes?  [ ] Yes  [ X ] No  Agent(s): __________________________
Chemical Carcinogens?  [ ] Yes  [ X ] No  Agent(s): __________________________
Toxic Chemicals?  [ ] Yes  [ X ] No  Agent(s): __________________________
Funding source: CRPRC
Previously approved? [X] Yes [ ] No

Is the project already funded? [X] Yes [ ] No
Previous protocol number (if any): 9513

What Veterinarian or veterinary clinic will provide care for your animals? (check one)

[ ] Lab Animal Health Clinic (2-0514)
[ ] VMTH Large Animal Field Service (2-0292)
[X] California Primate Research Center (2-0447)
[ ] Another Veterinarian

If you checked “Another Veterinarian”, please provide:
Veterinarian: ____________________________
Address: ____________________________
Day phone: ____________________________
Emergency phone: ____________________________
Email: ____________________________

If your veterinarian is not affiliated with one of the three service units listed above, please contact the campus veterinarian, 2-2357 (email pctillman@ucdavis.edu) for current information about training and record keeping requirements.

Summary of Procedures:

a) Briefly describe the overall intent of the study. Include in your description a statement of your hypothesis, the objectives and significance of the study. Your target audience is a faculty member from a discipline unrelated to yours. Do not use jargon.

The purpose of this class is to demonstrate basic husbandry techniques and routine medical procedures to veterinary students. Procedures will be demonstrated for or performed under the supervision of a clinical veterinarian or clinical veterinarian technician (CVT).

b) Procedures employed in this project:
Please check the appropriate boxes if any of these procedures will be employed in your project:

[ ] Monoclonal Antibody Production **
[ ] Food or water restriction
[ ] Special diets; food or water treatment.
[ ] Polyclonal Antibody Production **
[ ] Non-recovery surgical procedures
[ ] Induced illness, intoxication, or disease
[ ] LD 50 or ID50 studies.
[ ] Survival surgical procedures
[ ] Death as an endpoint (see i below)
[ ] catheters, blood collection, intubation
[ ] Multiple survival surgery
[ ] Trapping, banding or marking wild animals
[ ] Prolonged restraint (8 hrs+)
[ ] Behavioral modification.
[ ]
[ ] Fasting prior to a procedure.
[ ] Aversive conditioning.
[ ]

** If this protocol only describes antibody production, you may use the attached antibody production page in lieu of completing section c below.
c) **Describe the use of animals in your project in detail**, with special reference to any of procedures checked above. Include any physical, chemical or biological agents that may be administered. List each study group, and describe all the specific procedures that will be performed on each animal in each study group. Use terminology that will be understood by individuals outside your field of expertise. *(Note: This cell will expand to whatever length you require. You may make this section as long as you wish, but try to be concise. Some projects may require one or two pages.)*

Training to be demonstrated include chemical immobilization, venipuncture, tuberculin testing, cystocentesis, intravenous catheter placement, naso and orogastric intubation and visualization of the epiglottis and larynx. Students will be divided into groups of 3–4 per animal and each group will be closely supervised.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Average # performed</th>
<th>Solution adm/collected</th>
<th>Location</th>
<th>Per animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical examination</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuberculin testing</td>
<td>4</td>
<td>Sterile saline 0.1cc</td>
<td>Eyelid (2), abdomen (2)</td>
<td></td>
</tr>
<tr>
<td>Nasogastric intubation</td>
<td>1 or 2</td>
<td>&lt; 0.5 sterile saline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orogastric intubation</td>
<td>2 or 3</td>
<td>&lt; 0.5 sterile saline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endotracheal intubation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phlebotomies</td>
<td>4</td>
<td>&lt; 0.2cc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous catheter placement</td>
<td>4</td>
<td></td>
<td>Cephalic v., saphenous v.</td>
<td></td>
</tr>
<tr>
<td>Cystocentesis</td>
<td>1 or 2</td>
<td>&lt; 0.2cc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**d) Study Groups and Numbers:** Define, in the form of a table, the numbers of animals to be used in each experimental group described above. The table may be presented on a separate page as an attachment to this protocol if you prefer. The Normal format should be three columns: Study Group, Procedure, Number of animals. The number of rows should follow from the number of study groups; **you may add as many rows as you require**. The chart must fully account for the number of animals you intend to use under this protocol. Assign each group to an invasiveness category according to the chart below.

<table>
<thead>
<tr>
<th>Group</th>
<th>Procedures / Drugs</th>
<th>Number of Animals</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>See Above</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>
### Categories of invasiveness

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Little or no discomfort or stress  &lt;br&gt; <strong>Examples:</strong> domestic flocks or herds being maintained in simulated or actual commercial production management systems; the short-term and skillful restraint of animals for purposes of observation or physical examination; blood sampling; injection of material in amounts that will not cause adverse reactions by the following routes: intravenous, subcutaneous, intramuscular, intraperitoneal, or oral.</td>
</tr>
<tr>
<td>2</td>
<td>Minor stress or pain of short duration  &lt;br&gt; <strong>Examples:</strong> cannulation or catheterization of blood vessels or body cavities under anesthesia; minor surgical procedures under anesthesia, such as biopsies or laparoscopy; short periods of restraint beyond that required for simple observation or examination, but consistent with minimal distress</td>
</tr>
<tr>
<td>3</td>
<td>Moderate to severe distress  &lt;br&gt; <strong>Examples:</strong> major surgical procedures conducted under general anesthesia, with subsequent recovery; prolonged (several hours or more) periods of physical restraint; induction of behavioral stresses such as maternal deprivation</td>
</tr>
<tr>
<td>4</td>
<td>Severe pain near, at or above the pain tolerance threshold  &lt;br&gt; <strong>Examples:</strong> exposure to noxious stimuli or agents whose effects are unknown; exposure to drugs, chemicals, or infectious agents at levels that markedly impair physiological systems and which cause death, severe pain, or extreme distress: Surgical experiments which have a high degree of invasiveness.</td>
</tr>
</tbody>
</table>

Further descriptions of these categories are included in the instructions following this document.

e) **Rationale for species and numbers:** How did you determine that 1) the species choice was appropriate and 2) the number of animals in each study groups was the minimum number necessary to achieve sound scientific results?

The number of animals is based on the number of veterinary students; 3-5 students and 1 staff clinician per animal, total of 3-4 animals per class. Estimated number of classes per year is 5 to 8.

f) **Surgery:** If the project involves survival surgery, where will the surgery be conducted?

Building:  <br> Room:  <br> Who will be the surgeon?

g) **Anesthetics, Analgesics, Tranquilizers, Neuromuscular blocking agents:**

Post procedural analgesics should be given whenever there is possibility of pain or discomfort that is more than slight or momentary. If postoperative analgesics are not to be given, justify the practice under part (i) below.

Provide the following information about any of these drugs that you intend to use in this project.

<table>
<thead>
<tr>
<th>Species</th>
<th>Drug</th>
<th>Dose (mg/kg)</th>
<th>Route</th>
<th>When and how often will it be given?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhesus</td>
<td>Ketamine</td>
<td>10 mg/kg</td>
<td>IM</td>
<td>Once per class</td>
</tr>
<tr>
<td>Rhesus</td>
<td>Telazol</td>
<td>8 mg/kg</td>
<td>IM</td>
<td>Once per class</td>
</tr>
</tbody>
</table>

h) **Neuromuscular blocking agents** can conceal inadequate anesthesia and therefore require special justification. If you are using a neuromuscular blocking agent, please complete the following:

Why do you need to use a neuromuscular blocking agent?

What physiologic parameters are monitored during the procedure to assess adequacy of anesthesia?
Under what circumstances will incremental doses of anesthetics-analgesics be administered?

i) Adverse effects:
Describe any potential adverse effects of the experiment on the animals (such as pain, discomfort; reduced growth, fever, anemia, neurological deficits; behavioral abnormalities or other clinical symptoms of acute or chronic distress or nutritional deficiency)

Minimal pain from needle sticks and catheterizations.

How will the signs listed above be ameliorated or alleviated? If signs are not to be alleviated or ameliorated by means of post-operative analgesics or other means, explain why this is necessary.

All animals will be anesthetized throughout the class; therefore, pain from procedures will be alleviated.

Note: If any unanticipated adverse effects not described above do occur during the course of the study, a complete description of those effects and the steps taken to mitigate them must be submitted to the committee as an amendment to this protocol.

Is death an endpoint in your experimental procedure? 

(Note: “Death as an endpoint” refers to acute toxicity testing, assessment of virulence of pathogens, neutralization tests for toxins, and other studies in which animals are not euthanized, but die as a direct result of the experimental manipulation). If death is an endpoint, explain why it is not possible to euthanize the animals at an earlier point in the study. If you can euthanize the animals at an earlier point, describe the clinical signs which will dictate that an animal will be euthanized.

j) Literature search for alternatives and unnecessary duplication:

This section is specifically required by Federal law. You are required to conduct a literature search to determine that either 1) there are no alternative methodologies by which to conduct this study, or 2) there are alternative methodologies, but these are not appropriate for your particular study. “Alternative methodologies” refers to reduction, replacement, and refinement (the three R’s) of animal use, not just animal replacement. You must also show that the study is not unnecessarily duplicative of other studies.

What was the date on which you conducted this search?  4/13/03

List the databases searched or other sources consulted (there should be more than one). Include the years covered by the search.

<table>
<thead>
<tr>
<th>Database Name</th>
<th>Years Covered</th>
<th>Keywords / Search Strategy</th>
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<tbody>
<tr>
<td>Medline</td>
<td>85-present</td>
<td>Primate, Physical exam, TB testing, blood collection, cystocentesis, intubation</td>
</tr>
<tr>
<td>Pub Med</td>
<td>85-present</td>
<td></td>
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</table>

What were your findings with respect to alternative methodologies?

This is a basic husbandry and medical procedures training course, therefore all of these procedures have been done many times. However, each class has new students which have not been exposed to these methodologies.

Has this study been previously conducted?  [X] Yes  [ ] No

If the study has been conducted previously, explain why it is scientifically necessary to replicate the experiment.
k) **Disposition of animals:** At what point in the study, if any, will the animals be euthanized?

N/A

l) **Methods of euthanasia:** Even if your study does not involve killing the animals, you should show a method that you would use in the event of unanticipated injury or illness. If anesthetic overdose is the method, show the agent, dose, and route.

<table>
<thead>
<tr>
<th>Species</th>
<th>Method</th>
<th>Drug</th>
<th>Dose (mg/kg)</th>
<th>route</th>
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<tbody>
<tr>
<td>Rhesus</td>
<td>Overdose</td>
<td>Pentobarbital</td>
<td>60 mg/kg</td>
<td>IV</td>
</tr>
</tbody>
</table>

m) **Surplus animals:** What will you do with any animals not euthanized at the conclusion of the project?

All animals will remain as colony animals.
n) **Project Roster:** Please provide the names of all the individuals who will work with animals on this project. This page will not be made available to the public. Give either the University Employee ID # or a valid UC Davis email address so that we can document training and occupational health compliance for regulatory agencies. Include all investigators, student employees, post-doctoral researchers, staff research associates, post-graduate researchers and laboratory assistants who will actually work with the animals. You don’t need to include the staff of the vivarium in which your animals will be housed.

The principal investigator is responsible for keeping this roster current. If any staff is added or subtracted from this project, you must amend the protocol by sending the campus veterinarian a memo describing any changes.

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Middle Name</th>
<th>UC ID Number or SSN</th>
<th>Email Address</th>
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<tbody>
<tr>
<td>CRPRC Staff</td>
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**Occupational Health Program:**

Supervisors must enroll their employees in the campus Occupational Health Program if the workers are at increased risk of illness or injury (such as allergy, physical injury, or infectious disease) because of their work. Enroll workers by having them complete an “Animal Contact History Form”, available from Employee Health Services (phone 752-2330). For further information, visit our web site at [http://clueless.ucdavis.edu/health/](http://clueless.ucdavis.edu/health/) or read the UC Davis Policy & Procedure Manual 290-25.

**Training:**

Supervisors are responsible for insuring that their employees are adequate trained, both in the specifics of their job and in the requirements of the Federal Animal Welfare Act. EH&S offers free, basic wet labs in laboratory animal handling and techniques, and lecture format classes in the requirements of the Animal Welfare Act. To schedule a class for your unit, contact EH&S at 2-2364. Autotutorials are also available on the world wide web at [http://clueless.ucdavis.edu/](http://clueless.ucdavis.edu/).
Assurances for the Humane Care and Use of Vertebrate Animals:

Principal Investigator's Statement:

I have read and agree to abide by the *UC Davis Policy and Procedure Manual section 290-30* (Animal Use and Care). This project will be conducted in accordance with the *ILAR Guide for the Care and Use of Laboratory Animals*, and the *UC Davis Animal Welfare Assurance* on file with the US Public Health Service. (These documents are available from the Campus Veterinarian and at [http://ehs.ucdavis.edu/](http://ehs.ucdavis.edu/).) I will abide by all Federal, state and local laws and regulations dealing with the use of animals in research.

I will advise the Animal Use and Care Administrative Advisory Committee in writing of any significant changes in the procedures or personnel involved in this project.

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Rank / Title</th>
<th>Date</th>
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**Conditions necessary for Committee Approval:**

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Final Disposition of this protocol:

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Date of Action: ______/_____/______

I verify that the Institutional Animal Care and Use Committee of the University of California, Davis, acted on this protocol as shown above.

<table>
<thead>
<tr>
<th>Campus Veterinarian</th>
<th>Date</th>
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University of California, Davis
Printed 11/19/2003  8:56 AM  Page 8
From:                      
To:                        
Subject: Fw: pre review questions protocol 10546 
Date: Wed, 7 May 2003 11:59:44 -0700

> Dear ,  
> This was too painful with the move. Sorry.  
> 1. We would like to use approximately 8 animals a year, they may be different animals each year. The number of procedures are different because they depend on the number of students per class. Each student (<8) will perform a physical exam, catheterize a vein, four students (or less) will TB test, two students will place an orogastric tube, intubate, and perform cystocentesis as the others observe. We do not plan to do the nasogastric tube placement or perform vein injection. This class needs to be repeated every year because we have new students every year.  
> 2. The table was complete.  
> 3. Should have been answered in #1.  
> 4. We will only use 2 animals per class though 8 animals allows more flexibility and only one or two anesthesias if there are as many as 8 classes. There may be fewer classes.  
> 5. Current contents, 1985 - present  
> 6. There are alternatives to the 470s class although they do not seem adequate for our training purposes. For example, students should first observe the procedure in other veterinary classes (other 470's on lower species), cadavers do not have the same feel and reflexes, palpation is difficult, heart beats and blood flow do not occur, and catheter models do not have the same feel or vasoconstrictive responses, etc...  
> Thanks,
>
> ----- Original Message ----- 
> From:                      
> To:                        
> Sent: Thursday, May 01, 2003 3:54 PM 
> Subject: Fwd: pre review questions protocol 10546 
> 
> We need to get these answered. The VM470's are scheduled for May 8th and the protocol is not approved yet. Thanks!  
> > 
> > Date: Tue, 08 Apr 2003 11:41:58 -0700 
> > >>To: 
> > >>From:                      
> > >>Subject: pre review questions protocol 10546 
> > >>Cc:                          
> > >>Hi,                        
> > >>I have received and pre reviewed the recently submitted protocol which has been assigned accession number 10546 for future reference. I have attached a copy of the protocol for ease of making appropriate revisions to the questions below.  
> > >> 
> > >>Thanks in advance,   
> > >> 
> > >>Protocol 10546 () 
> > >>Note: the form you used is an earlier version. In the future, please go to the ehs website and download the most current form for each new protocol. There are listings of databases one can use for searching for alternatives.  
> > >>1. On page 1, you have listed 8 as your number of animals to be used for the class, but in sections c, and e, you refer to different numbers. Will you use the same 8 animals over the 3 years of the protocol, or will you use different animals for each class? Please clarify.
> > >>
2. In section c, your table has a column for per animal or was this supposed to be connected to another heading such as procedure per animal? Since the table came across out of table format, is the information provided correct? I put the table back together, but in reviewing it, it appears to be missing information. Please clarify.

3. It is not clear which animals have what done to them according to the table and section d does not provide any information. Please expand to list what happens to which group of animals.

4. In section e, you state that you will have 5-8 classes per year and will use 3-4 animals per class. How did you arrive at 8 animals? Please clarify.

5. In section j, you have listed Medline and PubMed as two separate databases. However, they are one in the same, so please include another database taking into consideration the search for alternatives.

6. In the second box of section j, you have included your rationale for the question that follows about the study being conducted previously. Please move this information and address your findings from your literature search with regards to alternatives to the use of animals for this class.