

1) Inclusion criteria

- a) A feline patient will qualify for participation in the study if receiving any of the following drugs either orally or as a transdermal gel:
 - i) amitriptyline, buprenorphine, enrofloxacin, fluoxetine, methimazole, metronidazole, prednisolone, prednisone.
 - ii) The drug can be administered as either a transdermal gel formulations or orally. The oral preparation can be either a finished oral dosing (brand name or generic) or a compounded oral dosing form.
 - (1) If you can identify a cat in your practice that also is receiving the drug orally, and the owner is interested in monitoring, this will allow comparison of a matched pair of patients receiving the same drug via two different routes. However, matched pairs are not necessary.
 - iii) Note that once we have reached our quota of samples for each drug when administered via either the transdermal or oral route, we will indicate as such on our website that such samples are no longer needed.

2) Frequency of sampling.

- a) Although **any** sample collected at **any** time will be useful, ideally samples will be collected intermittently throughout the dosing period. We are recommending that the first sample will be collected at 7 days and the next sample be collected as the drug is discontinued, or at one month, whichever is sooner.
- b) For each of these two periods, both a peak (2 hr) and trough (before the next dose) will allow determination of half-life. If only a single sample can be collected at each sampling period, then it should be 2 hr peak.
- c) If the client is willing, sampling (peak or peak and trough) might occur at 2, 4, 8, 12 etc weeks or any variation thereof.

3) Sample Collection (SEE CHECKLIST AT WEB SITE)

- a) Treat cat
- b) Collect a small aliquot of the **compounded drug** (transdermal or oral) with which patient was dosed
 - i) A small aliquot (0.1 ml) of the compounded gel, or tablet fraction must accompany serum or plasma samples.
 - (1) This sample must be labeled with the drug name and concentration (ie, mg/ml, mg/tablet, etc).
 - (2) If using a finished dosing form (that is, the drug was not compounded), a drug sample need not be sent, but we must know either the brand name (if applicable), or the manufacturer of generic products (see submission form).
 - (3) Store the compounded drug in an airtight container protected from the sun. You can call the Clinical Pharmacology Laboratory for microcentrifuge tubes if desired (334 844 7187; fax 334 844 7188).
 - ii) Collect a 2 hr "peak" sample, that is, 2 hrs after the dose.
 - iii) If possible, collect another sample just before next dose, which is a "trough" sample.
 - (1) Note that if samples can not be collected exactly at the indicated peak and trough time, collect when possible, but note the exact collection time and the exact dosing time on the submission form.
 - (2) For peak and trough sample collection, an acceptable sequence of collection is collection of the trough just before the dose, and collection of a 2 hr peak 2 hrs after the dose.
 - iv) Either serum (red top tubes) or plasma (purple top) samples are acceptable. Do NOT use serum separator (ie, tiger top) tubes. The silicon gel can and will bind to many drugs, falsely decreasing serum concentrations.
- c) Harvest serum or plasma after collection. We need at least 0.5 ml. Store in an airtight glass or plastic tube.
- d) Clearly label all samples (drug name, as either peak or trough and unique identifier obtained from web site; see "e").
- e) Submit information on the website and obtain unique identifier that is automatically provided once the submit button is clicked (see #2 below).
 - i) If you do not want to use the web site for submission, call us and we will fax you a submission form. Alternatively, you can print a PDF version from the website. In these cases, you will not have a unique identifier and we will use patient information and number for identification purposes.
 - ii) Each sampling period, consisting of a peak and trough sample, can be submitted on one form. Submission of subsequent sampling times (peak and trough) require a new submission form (and thus a new unique identifier number).
 - iii) The form ask for information regarding response. Please provide that information so we can compare drug concentrations and response.
- f) Either send immediately or freeze until ready to submit.
 - i) Remember to send or freeze the aliquot of compounded drug as well.

- g) Repeat at 1 month (or if possible, 2, 4, 8, 12 etc weeks or any combination thereof).
- h) Send samples (see below).

2) **Complete the on-line submission information survey.**

- a) Go to [http://www.vetmed.auburn.edu/index.pl/transdermal_gel_study - clinical pharmacology](http://www.vetmed.auburn.edu/index.pl/transdermal_gel_study_-_clinical_pharmacology) . Make sure the complete URL is included.
- b) Click on submission form.
 - i) Alternatively, call 334 844 7187 and ask for a faxed form (no unique identifier will be provided; use patient name and number for submission)
 - ii) Alternatively, print off the pdf version of the form (no unique identifier will be provided; use patient name and number for submission)
- c) Upon completion of the on-line form, a unique identifying code will pop up for the patient. This code **must** be included, along with the word “peak” or “trough” on the sample being submitted electronically.
 - i) A new form must be submitted, and a new unique identifier obtained, for each set of samples collected from your patient (ie, peak and trough samples collected at week 1 will have the same unique identifier; peak and trough samples collected at week 4 will have the same unique identifier).
- d) You will receive a confirmation page upon submission of the on-line form, which will contain the unique identifying code as well as the information you submitted on your patient.
- e) This code will be that which our laboratory will use when you are emailed results. This will allow our lab and your office to maintain patient confidentiality.

3) **Sample Submission**

- a) If you are not submitting electronically, **do not forget the hardcopy of your form.**
- b) **Address:** Clinical Pharmacology Laboratory, 1500 Wire Rd, 142-A McAdory Hall, Auburn University, AL 36849.
- c) Shipping on ice is preferred but not mandatory
- d) **Overnight shipping.** Our funding will not cover overnight shipping for all samples unless at least 4 samples are sent per shipment. Ideally, sample collection will be timed so that samples can be sent in “batches”. We have a contract with DHL (formally Airborne) such that sample shipment will cost \$10.00 **if the weight is less than 3 lbs, and it is not sent for morning delivery.**
 - i) DHL will pick up the package and bring supplies if you call and request service (1-800-CALL DHL). They will bring a blank airbill to complete for shipping.
 - ii) Include the following on the airbill:
 - (1) Address (see above)
 - (2) The DHL account number (indicate “bill receiver”) is: 135704650
 - (3) Request either noon or 3:00 pm express; **DO NOT request 10:30 am delivery.**
 - (4) Indicate the weight as 1 lb.
 - (5) If 3 or 4 are not done correctly, the cost jumps to \$20.
- e) **Local delivery directly to the Clinical Pharmacology Lab (CPL):**
Samples can be deposited in the reception area immediately inside the laboratory (Room 142-A, McAdory Hall, the old large animal pharmacy). The sample should be placed in the Inbox located on the table.

4) **Reporting of results**

- a) Results will be emailed to you using the unique identifier (if electronically submitted) or patient name (if form submitted as hard copy).
 - i) Since samples will be run in batches (10-25), results might take several weeks to obtain.
 - ii) Results will be reported by patient unique identifier code, so please be sure to record the code.
 - iii) You are more than welcome to call our laboratory to discuss the results. Note that therapeutic ranges have not necessarily been established for all of our drugs, but we will be happy to talk about your patient’s results compared to others that have been submitted.