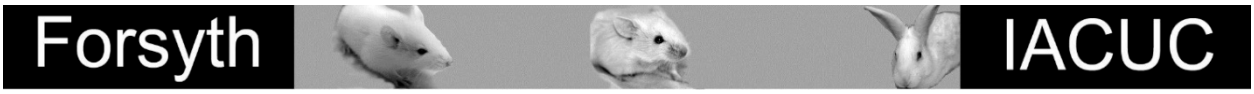

Title: **Minimizing the Number of Animals Used**
Date Created: 4/28/2012
Date Reviewed: 11/20/2019

Investigators are responsible for designing experiments that minimize animal pain or distress, inclusive of using the appropriate sample size to obtain valid results. Investigators are referred to the publication Dell RB, Holleran,S., Ramakrishnan R (2002) Sample size determination.. 2002;43(4):207 -13. PMID: 12391396

Pilot Projects. When historical data is not available to estimate the standard deviation of measurements, it is appropriate to perform a pilot project using a small number of animals. The number of animals per experimental variable should be justified by the investigator in the format of a new protocol or an amendment to an existing protocol. All animal use, including pilot studies, requires pre-approval by the IACUC.

Power Analysis. The animal protocol provides a section for including the results of power analysis. See the discussion on power analysis under documents in the IACUC section of the Forsyth Intranet. See also http://www.power-analysis.com. The IACUC strongly recommends that power analyses be performed in order to determine the appropriate number of animals for each experiment.

Other relevant web sites:

Java Applets for Power and Sample Size:
http://www.stat.uiowa.edu/~rlenth/Power/

Vanderbilt University Power and Sample Size Calculation:
http://biostat.mc.vanderbilt.edu:80/twiki/bin/view/Main/PowerSampleSize

OLAW FAQs:
https://grants.nih.gov/grants/olaw/faqs.htm#F