

Guidelines for Anesthesia and Analgesia in Rodents and Rabbits

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OLAC veterinarians recommend the following anesthetics/analgesics, routes and doses for use in commonly used rodents and rabbits. OLAC veterinarians are available for consultation on these and other anesthetics and anesthetic protocols. All drugs, doses and routes of administration must be stated in the investigator's approved Animal Use Protocol (AUP).

- Inhaled anesthetics:** Isoflurane delivered by mask or endotracheal tube via a precision vaporizer is recommended for all species. Vaporizers are available for use in all OLAC facilities. Contact OLAC for information regarding vaporizer availability and training.
- Injectable anesthetics:** Injectable anesthetics are appropriate for many procedures. There is, however, a great deal of variation in depth and duration of anesthesia among rodent strains and individual animals.

Anesthetics:

Drug	Mouse	Rat	Guinea pig	Rabbit
Pentobarbital ¹	40-85 mg/kg IP	40-50 mg/kg IP	28 mg/kg IP	28 mg/kg IV
Ketamine/ Xylazine ²	90-120 mg/kg 5-10 mg/kg SQ or IP (not IM) (May not provide surgical anesthesia in mice. Consult with an OLAC veterinarian before using this mixture in mice.)	90 mg/kg 10 mg/kg SQ or IP (not IM)	40-100 mg/kg 5-10 mg/kg SQ (not IM)	35 mg/kg 5 mg/kg SQ or IM
Tribromoethanol ³ (Avertin)	125 mg/kg IP	300 mg/kg IP	NA	NA

¹ Not recommended for survival surgery.

² Xylazine is a potent respiratory depressant. Re-dosing, if necessary, should be done with 1/2 the original dose of Ketamine alone.

³ Solution must be labeled with the date prepared, stored at 4°C, and discarded if any signs of decomposition including discoloration, precipitate or toxicity are observed.

Analgesics:

Drug	Mouse	Rat	Guinea pig	Rabbit
Buprenorphine	0.05-0.1 mg/kg SQ every 8-12 hours	0.05 mg/kg SQ every 8-12 hours	0.05 mg/kg SQ every 8-12 hours	0.02-0.05 mg/kg every 8-12 hours
Flunixin meglumine (Banamine®)	2.5 mg/kg SQ every 12 hours	1-2.5 mg/kg SQ every 12 hours	NA	1.1-mg/kg IM every 8-12 hours
Meloxicam (Metacam®)	1-2 mg/kg SC or PO once daily	1-2 mg/kg SC or PO once daily	0.2 mg/kg Sc or PO once daily	0.2-0.5 mg/kg SC or PO once daily

Reference: Hawk CT, Leary S. 1999. Formulary for Laboratory Animals, Second Edition. Iowa State University Press.