

Minimum Analgesic Period by Pain Level in Mice and Rats

Pain Level	Minimum Analgesia Period	Required Analgesics	Examples of Procedures	Post-procedure Observation & Pain Assessment Frequency
Level 0 Minimal pain	Pre-emptive only (up to 12 hours)	A single dose of a systemic analgesic or local anesthetic bupivacaine.	Skin incision without deeper tissue manipulation <ul style="list-style-type: none"> • Skin biopsy • Tracheal injection • Orbital sinus Injection or blood collection 	At least one day.
Level 1 Mild pain	24 hours	A minimum of 24 hours of analgesia must be provided. An NSAID pre-emptively then again at 12 hours (meloxicam) OR injection of buprenorphine* pre-emptively then again 6 hours later (mice) or 8 hours later (rats) for 24 hours OR extended-release buprenorphine ER/XR* once pre-emptive.	Skin incision with minimal tissue dissection <ul style="list-style-type: none"> • Catheter implantation without access port • Subcutaneous implantation (minipump/pellet/tumor piece) • Scrotal castration, vasectomy • Craniostomy-Needle-width with or without needle-width dural penetration 	At least every 24 hours for 2-3 days then final observation at suture/wound clip removal.
Level 2 Moderate pain	48 hours	A minimum of 48 hours of analgesia must be provided. An NSAID pre-emptively then every 12-24 hours for 48 hours, OR buprenorphine* pre-emptively then every 6 hours (mice) or 8 hours (rats) for 48 hours, OR extended-release buprenorphine ER/XR* once pre-emptively. Consider multimodal analgesia for all Pain Level 2 procedures (2 types of analgesia).	Skin incision with moderate tissue dissection <ul style="list-style-type: none"> • Catheter implantation with vascular access port • Ovariectomy/Adrenalectomy-flank incision • Minor laparotomy (e.g. embryo transfer, IP minipump) • Intracranial implantation of guide cannula 	At least every 24 hours for 3-5 days then final observation at suture/wound clip removal.
Level 3 Severe pain	72 hours	A minimum of 72 hours of analgesia must be provided. Buprenorphine* once pre-emptively then every 6 hours (mice) or 8 hours (rats) for 72 hours, OR extended-release buprenorphine ER/XR* once pre-emptively then at 48 hours; AND an NSAID once pre-emptively then every 12-24 hours for 72 hours. Pain level 3 procedures REQUIRE multimodal analgesia (2 types of analgesia).	Skin incision with extensive tissue dissection <ul style="list-style-type: none"> • Wound healing/burn studies • Major laparotomy (e.g. splenectomy, Cesarean section, hepatectomy, Intrasplenic or intrahepatic injection) • Myocardial infarction (MI), Ischemia reperfusion (IR), Transverse aortic coarctation (TAC) • Direct manipulation of a joint, nerve, or bone (including teeth) 	At least every 24 hours for 5-7 days then final observation at suture/wound clip removal.

*controlled substance