

- SOP No:** AHP 55
- SUBJECT:** Insertion of a micro-osmotic pump in mice
- POLICY:** Osmotic pumps are miniature, implantable pumps used for the continuous and precise administration of a wide variety of test agents.
This procedure must be performed by an experienced operator.
- PRECAUTIONS:** Gloves, mask, long-sleeve gown, closed in shoes.
- EQUIPMENT:** Anaesthetic of choice
Analgesia
Scalpel blade
Scissors
25-29G needles
Alzet micro-osmotic pumps (each one time use - model 1004 – 0.11ul per hour 28 days).
- PROCEDURE:**
- 1) Restrain the mouse
 - 2) Weigh and inspect mice, then place into anaesthetic /working area box.
 - 3) Conduct following procedures in a fume hood to reduce exposure to anaesthetic. Wear a respirator to remove organic vapours as an added precaution.
 - 4) Induce anaesthesia.
 - 5) Once anaesthetised, transfer mouse to nose cone and maintain anaesthesia at 0.5-2% Isoflurane at 500ml oxygen per minute. Ensure sufficient scavenging of the system.
 - 6) Adjust anaesthesia according to each individual mouse requirements.
 - 7) Keep each mouse head within the nose cone.
 - 8) Shave the back of the mouse. Swab with Betadine and wipe dry.
 - 9) Mark incision across midline of back with permanent marker just below shoulder blades. (Need to position so that pump will sit near shoulder blades).
 - 10) Cut incision with scalpel or small scissors. Make a pocket either side of the incision extending up the back of the mouse using blunt ended dissection techniques. (Do not make the pocket too large as the pump will then move too much and end up being mobile throughout the mouse body cavity).
 - 11) Place pump into pocket, outlet must go in first so positioned at the top away from the incision.
 - 12) Close wound with 3 sutures and tissue glue (e.g. fibronectin-based tissue glue Tisseal).

- 13) **Ensure that adequate post-surgical analgesia is administered.**
- 14) **Inspect 3-6 hours later to ensure sutures remain fixed. If required re-induce anaesthesia and re-suture.**
- 15) **Inspect and weigh at 24 48 and 72 hours then every 2-3 days. Record all observations until day 28 when the pump and supply will have ceased drug delivery.**

RECOMMENDATIONS:

DATE ISSUED: 28.04. 2010

REVISED:

REFERENCES

1. http://www.alzet.com/products/guide_to_use/implantation_and_explantation.html#SCimplant
2. Besheer, J; Bevins, RA. (2003). Impact of nicotine withdrawal on novelty reward and related behaviours. *Behavioural Neuroscience*;117(2):327-340.