UniSQ AEC Standard Operating Procedure

Microchipping mammals

UniSQ AEC SOP ID: WL022

This Standard Operating Procedure (SOP) is applicable to all UniSQ Research Workers who care for and use Animals for Scientific Purposes. The procedure must only be performed by those persons who have been deemed competent, and who believe they remain competent to do so. Access to supervision by suitably qualified staff whilst undertaking this procedure is encouraged, where required.

Species

- *Antechinus* species
- *Sminthopsis* species
- *Phascogale* species
- *Isoodon* and *Perameles* species
- *Trichosurus* species
- *Pseudocheirus* species
- *Petaurus* species
- *Pseudomys* species
- *Rattus* species
- *Hydromys* species
- Other various mammal species

Purpose

The purpose of this SOP is to describe the procedure of microchipping mammals of various sizes. Microchipping is used to permanently identify animals, and are commonly used in fauna monitoring activities for research purposes where long-term identification is required (Department of Biodiversity, Conservation, and Attractions 2017). Advantages of using microchips include: the ability to be used on a variety of species and on an unlimited number of animals; can be read through material (such as through a bag); and their small size means they do not affect the behaviour of the animals (Australian Wildlife Conservancy 2013; Department of Biodiversity, Conservation, and Attractions 2017). Microchips are a long lasting method of identification (Australian Wildlife Conservancy 2013), and can be more reliable than other methods such as ear tags (Powell & Proulx 2003).

Definitions	
AEC	Animal Ethics Committee

Linked SOPs	
SOP ID number	**SOP title**
WL004	Ear notching (small mammals)
WL019	The use of box and cage traps
WL012	Dry pitfall trapping for vertebrates

Potential hazard to Research Workers

UniSQ Risk Management Plan ID number	UniSQ Management Plan title
RMP_2020_4960	Wildlife research and teaching fieldwork

Personal Protective equipment required

- Appropriate gloves for handling animals (could be latex, nitrile, vinyl, or leather gloves)

Animal wellbeing considerations	
Perceived stressors	**Management strategy**
Disease risk	Handlers must wash hands thoroughly before and after handling animals. Site of microchip injection is wiped with alcohol solution before microchipping.
Injection of microchip	An experienced operator should perform (or supervise) this procedure. The microchip must be appropriate to the size of the animal.
Stress from a prolonged process	Handlers must be sufficiently trained prior to starting work to ensure the process is done quickly.
Heat or cold stress	Microchipping should not be undertaken if the animal is likely to be exposed to temperature extremes.
Handling of animals	Animals should be handled so as to cause minimal stress (such as keeping animals' eyes covered) and under normal circumstances be released as soon as processing is completed.

The overall perceived level of risk to an animal undergoing this procedure is:

☐ High ☐ Medium ☒ Low

Substances to be administered			
Substance	**Dose**	**Route**	**Purpose**
Microchip	One microchip	Subcutaneous injection	Individual identification

Equipment/ materials required

- Datasheet
- Microchips
- Microchip scanner
- Needle and syringe implantor
- 70% ethanol
- Scissors or razor

Site specification or location requirements

At locations/ fields outlined in UniSQ AEC approved application that includes the use of this SOP.

Waste disposal

Not applicable.

Duration of the procedure

- Less than a minute to check the functionality of microchip
- 1-5 minutes to handle animal and microchip
- Monitoring of microchipped animals – 1-3 minutes to confirm no adverse effects

Procedure

Preparation

1. Scan the microchip within the packaging to determine the number matches that on the packaging, and that the microchip is working.
2. Record the microchip number and the corresponding animal in the appropriate database or data sheet.
3. Scan the animal, to ensure the animal has not already been microchipped.

Microchipping animals

1. While the animal is in the bag, gently manipulate the animal such that the animal has its head pointing towards the opening of the bag. Grip the animal as appropriate for the species (e.g. behind the jawbone and holding the rump for possums, a two-finger grip for rodents, etc.). Once firmly held, open the bag to expose the appropriate body part of the animal, but keeping the eyes covered.
    a. It may be appropriate to anaethetise some animals during the microchipping process. If so, this is done under the direction of a veterinarian, and appropriate procedures should be followed.
2. If necessary, trim the fur (using scissors, a razor, or electric clippers as appropriate) at the site of microchip injection. This is usually located between the scapula.
3. Wipe the site of microchip injection with ethanol solution.
4. Tent any loose skin at the sight of the microchip injection.
5. Insert the microchip needle into the tented skin, into the subcutaneous tissue.
6. Press the microchip plunger to dispense the microchip into the tissue. Carefully remove the needle.
7. If necessary, the insertion site can be sealed with tissue glue.
8. Scan the microchipped animal to ensure the chip is in the tissue and functioning.
9. Allow the animal to recover in the bag and monitor the animal's behaviour and the injection site briefly for no adverse effects.

Training, qualifications or competencies required

Researchers with relevant experience or qualifications can only undertake this SOP to complete the procedures required.
Student researchers must receive appropriate training and supervision from UniSQ research supervisors or qualified individuals prior to undertaking procedures.

References

Australian Wildlife Conservancy (2013), *Animal trapping, handling, sampling and photographing guidelines,* AWC trapping, handling and sampling guidelines (environment.gov.au).

Department of Biodiversity, Conservation, and Attractions (2017), *Standard Operating Procedure – Permanent Marking of Vertebrates using Microchips*, Version 1.3.

Powell, RA, Proulx, G (2003), 'Trapping and marking terrestrial mammals for research: integrating ethics, performance criteria, techniques, and common sense', *ILAR Journal,* vol. 44, pp. 259-276.

Licences and permits

Please confirm well prior to use that you do not require Department of Environment and Science (DES) wildlife permits to do spotlight surveys by contacting DES. Other states in Australia may have different requirements for permits.

SOP approval and review history

Date	Version	Review Pathway	Notes
3/11/2021	0.0	**07/10/2021** UniSQ AEC "Subject to Modifications." 18**/11/2021** Reviewed and approved by the UniSQ AEC Executive.	N/A
28/11/2023	0.1	**28/11/2023** Converted SOP to new UniSQ branding and revised all reference of 'USQ' to 'UniSQ'	UniSQ Rebrand
12/09/2024	0.2	**15/08/2024** UniSQ AEC "Subject to Modifications." 12/09/2024 Reviewed and approved by the UniSQ AEC Executive	3 year review