Modification history

| Release | Comments |
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| Release 1 | This version released with the ACM Animal Care and Management Training Package Version 1.0. |

| ACMATE506 | Assist to collect and transfer embryos of mice |
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| Application | This unit of competency describes the skills and knowledge required to assist in the collection, handling, storage and transfer of mouse embryos.  The unit applies to individuals who work as animal technicians in research and teaching facilities that require laboratory mice to be re-derived by embryo transfer for scientific purposes.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.  NOTE: The terms 'occupational health and safety' (OHS) and 'work health and safety' (WHS) generally have the same meaning in the workplace. In jurisdictions where the national model WHS legislation has not been implemented, RTOs must contextualise the unit of competency by referring to current OHS legislative requirements. |
| Prerequisite Unit | Nil |
| Unit Sector | Animal Technology (ATE) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Prepare for procedures and maintain documentation | 1.1 Comply with institutional protocols, policies and procedures as set down by the Animal Ethics Committee (AEC) and relevant legislative requirements, including WHS, at all times  1.2 Identify regulatory and project documentation requirements  1.3 Verify project reproductive and breeding program objectives  1.4 Maintain and update records according to institutional policies and procedures |
| 2. Assist to vasectomise males | 2.1 Prepare equipment and work areas  2.2 Select male mice for vasectomy and assess for health status and suitability for surgery  2.3 Prepare contingency plans to respond to potential emergencies during and after surgery  2.4 Prepare anaesthetics, analgesics and equipment  2.5 Anaesthetise animal under supervision and monitor to ensure surgical anaesthesia is achieved and maintained  2.6 Prepare animal for aseptic surgery  2.7 Conduct vasectomy and close wounds under supervision  2.8 Monitor animal during recovery  2.9 Confirm success of vasectomy |
| 3. Assist to collect embryos | 3.1 Monitor females for stages of oestrous cycle  3.2 Identify suitable females and assess health status  3.3 Prepare female for super-ovulation  3.4 Mate female with an entire male  3.5 Confirm presence or absence of vaginal plugs  3.6 Collect embryos under supervision from the reproductive tract of super-ovulated and mated donor females |
| 4. Manage and manipulate embryos | 4.1 Hold embryos in a suitable receptacle under optimal temperature and atmospheric conditions to ensure viability  4.2 Grade and manipulate embryos  4.3 Wash embryos in an aseptic manner for the purpose of re-derivation transfer  4.4 Store embryos before transfer  4.5 Monitor procedures, materials, equipment and techniques for quality |
| 5. Assist to transfer embryos | 5.1 Mate females with vasectomised males and check for the presence of vaginal plugs  5.2 Prepare embryos for transfer  5.3 Under supervision, anaesthetise females for embryo transfer and monitor to ensure surgical anaesthesia is achieved and maintained  5.4 Transfer embryos under supervision |
| 6. Monitor success of embryo transfer | 6.1 Monitor females for pregnancy  6.2 Monitor and record number of pups born to embryos transferred per recipient to determine success of program  6.3 Assess health status of pups and recipient after birth and weaning |

| Foundation Skills  This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria. | |
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| Skill | Description |
| Reading | * Synthesise relevant ideas from several sources, including identifying work requirements from regulatory and project documentation |
| Writing | * Note observations during monitoring of animals, including health status of pups and recipient |
| Oral communication | * Listen to instructions about work procedures and ask questions to clarify where required while working under supervision |

| Unit Mapping Information | | | |
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| Code and title current version | Code and title previous version | Comments | Equivalence status |
| ACMATE506 Assist to collect and transfer embryos of mice | ACMATE506A Assist to collect and transfer embryos of mice | Updated to meet Standards for Training Packages | Equivalent unit |

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| Links | Companion Volumes, including Implementation Guides, are available at VETNet: <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=b75f4b23-54c9-4cc9-a5db-d3502d154103> |

| TITLE | Assessment requirements for ACMATE506 Assist to collect and transfer embryos of mice |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has assisted to collect and transfer embryos of mice on at least two occasions, including:   * complied with institutional protocols, policies and procedures, including AEC, legislative and WHS requirements at all times * monitored the health and welfare of animals during and after procedures and provided appropriate care. | |

| Knowledge Evidence |
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| An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:   * principles and practices for mouse embryo transfer collection * relevant common diseases, injuries and other impacts on mouse health and wellbeing, and characteristics of healthy, sick or distressed mice * relevant codes of practice including the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes, and how the code affects the collection and transfer of embryos of mice * relevant state or territory legislation and regulations relating to the practice of veterinary science, workplace health and safety and animal welfare and research, including the Office of the Gene Technology Regulator and how they impact the work in assisting to collect and transfer embryos of mice * relevant state or territory legislation covering the use of therapeutic and controlled substances * institutional policies and safe work procedures, including WHS and emergency procedures * relevant laboratory techniques and procedures, including: * methods used to collect, store and manipulate embryos from mice for re-derivation purposes * methods used to perform embryo transfer procedures in mice * surgery relevant to vasectomy, embryo collection and transfer * aseptic techniques * relevant anaesthetics, analgesics and other medications used, and methods of administration for mouse surgery * workplace hygiene standards, disinfectants, cleaning agents, cleaning techniques and cleaning equipment and materials and infection control protocols * anatomical and physiological features of mice related to vasectomy, embryo collection and transfer * reproductive cycles relating to mouse embryo technology * mouse oogenesis, ovulation, conception and embryonic development * constitution, storage and use of proprietary embryo flushing, holding and culture media * super-ovulation regimens for mice * applicable industry quality assurance requirements and required documentation * biosecurity issues relating to the collection of samples from animals * relevant principles of animal welfare and ethics * safe mouse handling techniques, including approved handling methods during the administration of substances and surgical procedures. |

| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:   * physical conditions: * an animal research or production facility or an environment that accurately represents workplace conditions that has a scientific establishment licence and access to an approved Animal Ethics Committee * resources, equipment and materials: * a range of research animals.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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