

SMU Animal Care Committee

Policy for Use of Avian Embryos

Date of SMU ACC Approval: 12 September 2024

I. Purpose:

This policy applies to all avian embryos used in teaching and research [at Saint Mary's University and Mount Saint Vincent University](#). The intent of this policy is to describe the process for disclosing work with avian embryos, and to describe euthanasia procedures for chick embryos in various stages of development as well as to ensure euthanasia procedures are in place for inadvertently hatched chicks.

II. Background:

The CCAC Guidelines on Euthanasia of Animals Used in Science (2010) state that “scientific work with embryos need not be described in protocols to be approved by the ACCs, unless the institution and its ACC decide to review such protocols” (Section 6.1 unhatched eggs). Nonetheless, avian embryos may have developed the capacity to feel pain by 50% incubation (i.e. embryos older than embryonic day 10). Also, if avian embryos hatch, intentionally or unintentionally, they are live vertebrate animals that are regulated by CCAC.

Chicken embryos, which hatch in approximately 21 days, are considered the model species. If other avian species are used, then the guidelines should be adjusted based on relative time to hatching

III. Guidelines:

Investigators or instructors using avian embryos must inform the Animal Care Committee of their intent to use avian embryos using A SMU or MSVU Standard Operating Procedure Form.

The SOP should describe:

- i. The general objectives and procedures performed on the avian embryos, and at what developmental stage.
- ii. The method of euthanasia, including methods in the case of inadvertent hatching.
- iii. The method for tracking number of eggs/embryos, embryonic day, and incubation checks from personnel.

Chick embryos younger than embryonic day 10 (E10) are assumed to be unable to experience pain.

E10 or younger embryos should be euthanized by either:

- i. Hypothermia in a -20C freezer for a minimum of 4 hours.
- ii. Rapid decapitation.

Instructors should not plan to use chick embryos in **teaching labs** that are older than embryonic day 10.

The following guidelines apply to embryos that develop past embryonic day 10.

- i. Chick embryos from E11 to E18 may perceive pain and therefore should be euthanized by rapid decapitation.
- ii. Embryos E19 and older must be euthanized by anesthetic overdose performed by the Consulting Veterinarian.

Description of methods:

- i. Decapitation: use sharp, clean dissecting scissors. Ensure that the head is separated from the body rapidly and completely.
- ii. Barbiturate overdose: inject sodium pentobarbital, or commercially available euthanasia solution for intravenous (IV) administration at a dose of 100-150 mg/kg. **Note:** This must be done by a trained veterinarian.

If inadvertent hatching occurs, a SMU ACC Incident Report form must be completed and sent to animlacare@smu.ca

References

1. [CCAC Requirement for submitting an animal protocol: addendum to the CCAC Policy statement on: terms of reference for animal care committees.](#)
2. [CCAC guidelines on: euthanasia of animals used in science](#)