

 CREATE CHANGE	UQ Animal Ethics Committee - Standard Operating Procedure PCA_062 Euthanasia of Poultry Institutional author: Queensland Alliance for Agriculture and Food Innovation AEC Reviewed & Approved: 15/04/2026 SOP Expiry: 15/04/2029	Version #3.0
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PCA_062 Euthanasia of Poultry (Expiry: April 2029)

I. OBJECTIVE

To describe routine humane methods of performing euthanasia in poultry.

II. COMMENTS / RECOMMENDATIONS

- Consideration must be taken as to the potential for stressful auditory, visual or olfactory stimuli that may be perceived by other animals. Efforts must be made to isolate these potential stressors:
 - Euthanasia should occur in areas dedicated to that purpose, separate from rooms where live animals are held or where sampling activities such as blood or tissue collection take place. This avoids stress to live poultry from the smell of blood or other sensory cues related to euthanasia.
 - The area should be well ventilated - extraction ventilation should be used indoors wherever possible,
 - Ensure the area is cleaned prior to use, and between animals,
 - Different species should not be euthanised in the same area at the same time.
- Acceptable methods must be used for the humane killing of poultry, these include:
 - A. cervical dislocation (poultry <6kgs)
 - B. mechanical stunning, followed by decapitation or exsanguination
 - C. electrical stunning, followed by decapitation or exsanguination
 - D. lethal injection
 - E. gas asphyxiation (carbon dioxide) *
 - F. decapitation (embryos and day-old chicks)*
 - G. immediate fragmentation/maceration for unhatched eggs and day-old chicks*

*not described in this SOP
- Where exsanguination is used as an ancillary method to effect humane death, a bleeding out period of at least 2 minutes is required prior to immersion for scalding or plucking
- Teachers must ensure that students have the opportunity to discuss ethical, social issues, and legal responsibilities involved in the care and use of animals for scientific purposes. This must be facilitated in a manner appropriate to their learning ability and comprehension, and must occur before the use of animals commences.
- As indicated within the conditions of all UQ SOPs (see footer), personnel are required to be competent in any procedure they perform with animals for scientific purposes (or under the direct supervision of a person who is competent). Personnel should not perform any of the procedures detailed here unless sufficiently experienced. Inexperienced personnel should develop competency through training with cadavers (especially in relation to cervical dislocation).
- The selection of the euthanasia method must take into account the total number of animals, the total number of staff available, and their capabilities – performing euthanasia in large numbers of animals is a physically and emotionally demanding undertaking.
- Poultry must be handled safely using species-appropriate techniques to minimise stress and injury (refer to PCA_060 Handling of Poultry).

III. SAFETY AND COMPLIANCE

- The person undertaking euthanasia must ensure all relevant animal ethics approvals are in place, training has been completed, and risk assessments specific to poultry have been performed. If unsure, consult your supervisor or the AEC.
- All procedures must follow facility-specific protocols for poultry care and use.
- Personnel must wear PPE appropriate to the euthanasia technique being performed.

Conditions:

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- Injury risks when handling poultry include scratches, pecking, puncture wounds from spurs, and wing strikes, particularly in larger birds. Correct restraint techniques and handling equipment (e.g., cones) should be used to minimise risks.
- When performing or witnessing euthanasia, psychosocial risks must be considered and addressed.
- Poultry may carry zoonotic pathogens (e.g., *Chlamydia psittaci*, *Salmonella* spp., *Campylobacter* spp., *Mycobacteria*). Strict hygiene practices must be followed, including thorough hand-washing, changing PPE between groups, and cleaning equipment and surfaces after use. Further advice may be obtained via a UQ biosafety advisor.
- All accidents, injuries, or near misses must be reported immediately to the supervisor and documented using the UQ OHS Incident Report system.

IV. TRAINING CONSIDERATIONS

- Students must receive prior instruction on the relevant aspects of anatomy and physiology. If possible, they should practice techniques with abattoir-derived poultry and/or appropriate models before using live animals.
- An acceptable level of competence in trainees can only be achieved by providing supervised training with live animals. Training of staff and students can be undertaken on live animals under supervision. Training details must be recorded (date, trainer, technique)
- All unsupervised procedures must be performed by appropriately trained personnel who have been deemed to be competent in the procedure.

V. EQUIPMENT

TABLE 1 | Equipment required, relative to humane killing method.

Equipment required	Method of humane killing			
	A. Cervical dislocation	B. Mechanical stunning	C. Electrical stunning	D. Lethal injection
Personal Protective Equipment (PPE) [†]	X	X	X	X
Concussion stunning device		X		
Clean, sharp knife (usually a boning knife)		X	X	
Electrical stunning device (e.g. Figure 1)			X	
Needle (21-30G), syringe, skin swab (ethanol soaked), sodium pentobarbitone				X

[†]PPE may include but is not limited to enclosed footwear, overalls, disposable gloves, P2 mask (or equivalent). When performing electrical stunning, the operator must wear electrical insulated gloves, rubber boots, eye protection and hearing protection as a precautionary measure.

VI. PROCEDURE

For each procedure handling and restraint should be guided by the most current version of PCA_060 Handling of Poultry.

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A. Manual cervical dislocation

Only to be performed in poultry less than 6kgs

Cervical dislocation is often considered one of the most humane methods of poultry euthanasia, as it results in immediate loss of blood supply and oxygen to the brain. It is a physically demanding technique however that requires appropriate training, skill, and strength to be performed correctly. To ensure consistent welfare outcomes and avoid operator fatigue, the number of birds euthanised must not exceed what staff can safely manage.

The objective of cervical dislocation is to separate the skull from the first cervical vertebra (C1), thereby severing the spinal cord and causing immediate loss of consciousness followed by death. Unless trained to perform cervical dislocation in young chicks (less than two weeks old) which are very fragile this method may be too forceful and instead, a quick, precise decapitation using sharp scissors or a small blade is more appropriate, ensuring minimal distress.

1. Pick up the bird with both hands holding the wings down so that the bird doesn't flap its wings and possibly damage them. Tuck the bird under arm to keep wings in place or hold the bird against your body with one hand holding wings in place while the other hand holds the feet above the hocks. Hold until calm (Figure 1).



2. With your dominant hand, hold the head of the bird between index and middle finger (Figure 2) or between thumb and index finger (Figure 3) with fingers lodged snugly under the skull and mandible. Hold the legs close to your body.



3. Using other hand, hold feet of the bird firmly above the hocks of the chickens' legs and close to your body. Use your leg as a support for the body of the bird.

4. Angle the head until it is perpendicular to the line of the back of the bird (Figure 4) - tilt the head backward toward the tail to align the skull and cervical vertebrae properly.

Figure 1 - Hold bird against body until calm



Figure 2 – Hold head between index and middle finger.



Figure 3 – Hold head between thumb and index finger



Figure 4 – brace bird against leg/body to provide leverage.

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4. In a sharp, smooth motion, pull hand holding the head away from the body while bending the head backwards, stretching the neck until a pop is felt. To correctly perform cervical dislocation, the head must be separated from the vertebrae severing the spinal cord from the brain stem causing irreversible unconsciousness.

5. Feel for a gap at the dislocated area, and hold the bird against your body until involuntary movement has stopped – this may take 30 seconds or so. Check for absence of breathing, lack of blink response, and observe for fixed, dilated pupils. (as per Table 2 below).

Mechanical cervical dislocation

There are specific devices that can be used for this technique but they have been known to crush the neck bones and trachea and are not used at UQ. For chicks less than 7 days of age the following technique may be used however.

1. Place chin on a strong, narrow edge and press firmly on the back of the neck until the vertebra separates from the skull- Figure 5 below.



Figure 5. Mechanical cervical dislocation in a chick

2. Feel the neck to confirm that there is a disconnect between the head and the vertebra. Check for absence of breathing, lack of blink response, and observe for fixed, dilated pupils. (as per Table 2 below).

B. Mechanical stunning

Appropriate in poultry over 6kgs

- Securely restrain the bird with the dorsal surface of the skull exposed.
- Place the concussion stunning device onto the animal's skull.
- Orientate the device using anatomical landmarks to ensure the bolt will appropriately impact the skull causing percussion of the brain.
- Discharge the bolt.
Most stunning units will be air operated, however, if using a cartridge powered stunner, before discharging the bolt, it is recommended that the operator call "block ears" in a loud and clear voice, to indicate to those around you that a discharge will be fired imminently.
- Confirm death has occurred - check for absence of breathing, lack of blink response, and observe for fixed, dilated pupils as per Table 2 below.
Some stunning devices (often those that are used in poultry) deliver a "non-recoverable" blow to the head. Their use is not described within this SOP and must be specifically described in application to the AEC if they are to be used.

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C. Electrical stunning, followed by decapitation

The purpose of electric stunning is to render the bird unconscious and insensible to pain followed by exsanguination of the main vessels (usually by decapitation) prior to them regaining any sensation. There are different methods of electrical stunning and the one described here using electrode probes is distinct from electrical stunning using a water bath (performed in some abattoirs). Follow the operator manuals and ensure the electrical stunning unit has been appropriately serviced.

1. Check (while the machine is turned off) that the electrode probes are clean and free of debris. Do not turn on the machine until after this is done and the operator who is to perform the stunning is wearing all PPE including electrical insulating gloves, eye protection, hearing protection and rubber boots.

Once the electrical stunning unit is turned on:

- *The electrodes MUST not be touched.*
- *A second person MUST be present at all times.*
- *The “off” switch must be visible and easily accessible at all times.*



Figure 6 - Electric poultry stunner, electrode probes indicated by red arrows.

1. Pick up the bird with both hands holding the wings down so that the bird does not flap its wings and possibly damage them. Tuck the bird under arm to keep wings in place or hold the bird against your body with one hand holding wings in place while the other hand holds the feet above the hocks.
2. Once the bird is calm, hold underneath the bird's head with a gloved hand, and quickly and calmly guide the head of the bird into the poultry stunner and press the head up into the electrical probes, aiming to have the probe make contact with the back of the bird's head, just behind its ears, where there is more exposed skin.
3. Gently press the top of the head to the electrode probes. Stunning should be immediate and visible (minimal movement and fluttering of wings).
Electrical conduction may be improved by wetting the feathers of the birds head prior to stunning and ensuring the electrodes are not contaminated with feathers etc.
4. Transfer bird to a poultry cone (see Figure 6) with the head through the narrow end.

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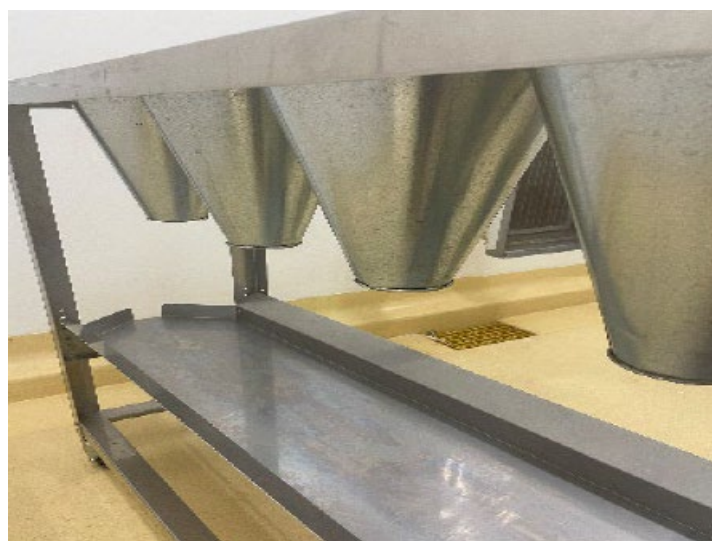


Figure 7 – Example of a poultry cone used for exsanguination.

5. While the bird is stunned (within 15 seconds) use a sharp knife to decapitate the whole head from the bird and leave for at least 2 minutes to exsanguinate (bleed out).

Purpose built poultry cones should be used to help facilitate safe and efficient exsanguination.

D. Lethal injection

This technique takes longer to perform and arguably has a higher welfare impact than the previous methods of euthanasia described in this SOP. There are circumstances where it may be the preferred method to use however and this should be described to the Animal Ethics Committee when seeking ethics approval for your project.

- Prepare $\geq 150\text{mg/kg}$ sodium pentobarbitone within a syringe, with 21-30G needle attached.
- Securely restrain the bird for intravenous injection into the basilic, medial metatarsal, or jugular vein (as per, PCA_061 Blood Collection in Poultry).
- Expose the vein for injection (as per, PCA_061 Blood Collection in Poultry).
- Inject the pentobarbitone into the vein.
- Confirm death has occurred (refer to Table 2).

Poultry are relatively predisposed to perivascular bleeding and haematoma development – take great care, inject slowly, minimise unnecessary movements.

Once injected with pentobarbitone the carcass should be regarded as “poisonous” and disposed of accordingly as clinical waste or other approved means.

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VII. REFERENCE INFORMATION

TABLE 2 | Criteria to confirm death has occurred in poultry: three or more must be established.

Criteria	Confirmation
Loss of consciousness	The animal is unresponsive to stimuli, there is a complete absence of deliberate movements, including eye movements.
Absence of a corneal reflex	Place gentle pressure directly to the eyeball, over the cornea. The eye lids should not blink. NB: The animal must be unconscious to perform this test.
Pupil dilation (fixed)	The pupils are maximally dilated and remain stationary in this position (there are no eye movements).
Absence of a respiration	Absence of rhythmic respiratory movements for at least 5 minutes.
Manual verification	Relative only to cervical dislocation and decapitation: manually verify there is physical dislocation of the neck/ displacement of the spinal cord.

VIII. BIBLIOGRAPHY

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- Virginia State University - [Euthanasia for Broiler Chickens: Manual and Mechanical Cervical Dislocation Methods](#)

This SOP deserves notable reference and acknowledgement of contributions by the Queensland Animal Sciences Precinct - significant parts of this SOP have been taken from the equivalent QASP LSOP (including many of the images), Cervical Dislocation and Electrical Stunning techniques performed under either SOP are equivalent. In addition, thanks is given to Dr Marta Navarro – Queensland Alliance for Agriculture and Food Innovation, and Associate Professor Ben Wood - School of Veterinary Science for their review and updates in 2025/2026.

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Version #	Reviewing AEC	AEC Review Date	Outcome
2.0	Production and Companion Animals AEC	19/05/2021	Approved to 19/05/2024
3.0	Production and Companion Animals AEC	15/04/2026	Approved to 15/04/2029

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