RESPOND
Bird Flu
Biosecurity

DEPOPULATION

CERVICAL DISLOCATION
WORK INSTRUCTION & CHECKLIST

Used for: Chicks and adult poultry

PIANZ

Egg Producers Federation of New Zealand (Inc)

BIRD FLU BIOSECURITY AOTEAROA

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1.Purpose

This work instruction and checklist outlines the processes for humanely and effectively depopulating birds infected or suspected of having a notifiable disease such as Highly Pathogenic Avian Influenza (HPAI), using cervical dislocation.

Why This Matters:

This process protects birds' welfare, and quickly removing affected birds helps stop the disease from spreading.

☞ Please read this document in conjunction with the **Depopulation Guidelines** and the **Response Plan Handbook** to ensure all procedures are followed correctly. Where a site already has an Standard Operating Procedure (SOP) for containerised gassing which meets the requirements in the Guideline, use the SOP.

In this document, "you" can refer to either an MPI person or a farmer/operator, depending on who is leading the response activities.

2.Actions

Before You Start – Know The Workload Challenge

To plan cervical dislocation depopulation properly, first figure out:

- **How** many birds need to be depopulated.
- **What** type and size of birds they are (e.g. chicks, adults chickens).
- **Where** they are located and how they'll be accessed.

☞ For farmers / operators, you can use Section B1 of the Response Plan Handbook and Template, or the online Response Plan Builder to help record this information.

Understanding the challenge helps you:

- Ensure there are enough skilled personnel with the training, qualifications or experience, to carry out the task humanely and efficiently.
- Plan for safe bird handling and movement.
- Develop a clear health and safety plan, including fatigue management and PPE.

☑ Set up a clean/dirty line and decontamination station for people and equipment.
☑ Ensure all personnel are skilled with the training, qualification or experience in humane handling and cervical dislocation depopulation techniques.
☑ Use appropriate restraint methods to minimise stress and injury.
☑ Monitor for signs of ineffective cervical dislocation and take immediate corrective action.
☑ Record numbers and outcomes for traceability and reporting.

Work as a Team

Farmers/operators, vets, MPI, and depopulation contractors need to coordinate to:

- Align on timing and logistics.
- Ensure animal welfare standards are met.
- Link depopulation with disposal and site decontamination plans.

📌 **See Appendix A** for the key requirements the cervical dislocation plan must meet.
📌 **See Appendix B** for cervical dislocation options and examples to help tochoose the right approach.
📌 **See Appendix C** for step-by-step instructions on how to carry out cervical dislocation depopulation.

2.1 Required Materials & Personnel

These are the minimum requirements. You may need to scale up depending on the situation.

Category	Item
🧍 **Personal Protective Equipment (PPE)**	• Personal Protective Equipment as outlined in the HealthNZ guidance (incl. hearing protection). • Antiseptic wipes. • Disinfectant and spray bottle. • First aid kit. • Paper towels.
🧰 **Equipment & Personnel**	• Packing (FOR CHICKS ONLY): Chicks delivered in crates or baskets with at least one visible side to monitor welfare. • Mechanical equipment for cervical dislocation (if needed). • Skilled personnel with the training, qualification or experience to perform cervical dislocation.

2.2 Health & Safety Actions

The on-site **written, Health & Safety plan** for using cervical dislocation for depopulation activities at the infected site, needs to cover risks associated with cervical dislocation use during a disease incursion. If you're working with **contractors**, make sure you're familiar with and coordinate with their Health & Safety Plans too.

This ensures everyone is working safely, understands the risks, and follows the right procedures to prevent disease spread.

This plan should cover:

- Entry and exit points (watch for contamination), including disinfection steps for vehicles, equipment and personnel before departure and after arrival.
- Risks from handling infected birds.
- Safe use of cervical dislocation (incl. mechanical equipment).

Follow these rules:

- ☑ Conduct a health and safety briefing based on the site-specific plan.
- ☑ Keep accessways clear and safe for vehicles and machinery.
- ☑ Ensure adequate lighting, especially if working at night or in low visibility.
- ☑ Use trained and competent cervical dislocation operators and ensure personnel can manage the volume. This includes personnel being able to take breaks.

- ☑ Check each bird for effective euthanasia and reapply cervical dislocation (or alternative method such as captive bolt) if needed.
- ☑ Wear correct PPE at all times.
- ☑ Stick to all biosecurity procedures, including recording and reporting any new risks.
- ☑ Handle birds calmly and gently at all times to ensure both animal welfare and minimise risks to personnel.
- ☑ Move spent birds to disposal vehicles without contaminating the environment. Follow the *Disposal Guideline which includes biosecure transport*.

☝ Refer to: *Avian influenza health and safety guidance for workplaces – Health New Zealand | Te Whatu Ora*

2.3 Chilling & Freezing Procedures

Where there is one, use the site's SOP for cervical dislocation depopulation. Before starting, check it against the Depopulation Guideline, to ensure it meets required standards. If it doesn't, update it or arrange an alternative method. If no SOP exists, create one using the Depopulation Guidelines as the minimum standard.

Auditors will use the **Cervical Dislocation Audit Checklist** to confirm all required steps are completed.

📌 **See Appendix D** for the audit checklist that helps to assess if all the required steps have been covered.

For farmers/operators

📌 **See Appendice C and E** for help with writing your cervical dislocation SOP.
📌 **See Appendix F** for case studies that show what to expect in real-world scenarios.

Tip: Plan depopulation and disposal together to meet disposal timelines. Follow the *Disposal Guideline* which includes biosecure transport, when disposing of birds.

3.Appendices

Appendix A: Key Information

Purpose

Cervical dislocation breaks the spinal cord, stops breathing, and cuts blood flow to the brain. Approved under welfare codes.

Cervical Dislocation Options

There is both the manual and mechanical options available.

Use as a Secondary Method

Cervical dislocation is the recommended back-up method for gas or foam depopulation methods.

Operator Considerations:

- Requires strength and skill, especially for larger birds.
- Fatigue reduces effectiveness.
- Only skilled personnel with the training, qualification or experience should perform this method.

Confirming Death

Always check for signs of life (e.g., rhythmic breathing, movement). If present, apply a secondary method such as cervical dislocation or bleeding.

Health and Safety

- Handling infected birds increases risk to operators. Provide full PPE and ensure all staff are skilled with the training, qualification or experience in safe handling and depopulation techniques.
- This method of depopulation is visually unpleasant and may cause psychological stress or injury. Monitoring personnel wellbeing, ensure adequate breaks and offer support.

Minimum Standard

Under the *New Zealand Code of Welfare: Layer Hens (Minimum Standard 17 - Humane Destruction) & Meat Chickens (Minimum Standard 16 – Humane Destruction)*:

- Staff must be competent and trained or adequately supervised and handle birds gently and calmly.
- Equipment must be well maintained and not overloaded to ensure effective, efficient operation.

Appendix B: Options & Examples of Chilling / Freezing

Options and considerations

- Manual dislocation:
  - is reliable and effective when undertaken by a competent operator.
  - is harder with birds over 5 kg.
- Mechanical dislocation
  - reduces physical strain on operators.
  - can be easier for consistent application when handling multiple birds.
  - Increased risks of recovery if not applied correctly, with uncertainty about immediate brain death compared to manual methods.

Examples of mechanical dislocation tools

Supplier: Livetec Systems

Supplier: Koechner Manufacturing

Supplier: SecRepro

Appendix C: Step-By-Step Instructions

☑ **Pre-Start Checklist**

Action	Complete (Yes / No)
Health and Safety Plan in place	
Site map prepared	
Depopulation plan (who, how, when) with bird age considered	
Staff skilled with the training, qualification or experience in cervical dislocation	
Method (manual or mechanical) chosen	
Roster includes rest breaks	
Has emotional support been provided or offered?	

Step 1: PPE Requirements

All personnel must wear:

- Gumboots
- Long-sleeved gloves
- Coveralls
- Safety glasses or full-face shield
- N95 mask

Additional PPE:

- When working inside the shed, use a face with ammonia-filtration cartridges.

Step 2: Animal Welfare Standards

- Handle birds gently to avoid injury and distress.
- Minimise stress with calm environments and skilled staff.

Step 3: Bird Handling

- Depopulate sick/injured birds immediately.
- Keep shed calm and dimly lit.
- Handle one bird at a time, wings down.
- Max: four birds per hand to avoid bone breaks.

Step 4: Crating Birds (Chicks Only)

- Euthanise sick/injured birds before crating.
- Remove birds carefully and place in crates with visibility.
- Use forklift to move crates if needed.

- Maintain transport temperature between 8–26°C for layers.

Step 5: Cervical Dislocation

Purpose

- Correct dislocation separates the skull from the first vertebra, severing the spinal cord from the brainstem.
- Done properly, it causes rapid unconsciousness and death by cutting blood and oxygen to the brain.
- Incorrect technique leaves bone attached, delaying unconsciousness and causing suffering.
- Never crush the neck—this does not damage the brain and the bird may stay conscious.


Restraint and Grip

- Hold the bird's legs firmly in one hand.
- With the other, grip the neck just below the head:
    - Place two fingers on either side of the neck near the skull.
    - Position your index finger under the beak for control and traction.


Figure 1 & 2: indicates the correct handling of an adult bird.

Dislocation Technique

- Use one quick, firm, and controlled stretch-and-twist motion.
- This separates the spinal cord and ruptures major blood vessels.
- Death follows from lack of oxygen and blood to the brain.


Figure 3 & 4: indicates the pulling motion required.

Figure 5: indicates the direction of the pulling motion. Taken from the EFSA journal 2019 on euthanasing for the purposes other than slaughter poultry

Confirming Success

- Feel for a clear gap behind the skull—this confirms dislocation.
- Involuntary wing flapping is normal and indicates success.
- Confirm death and check the neck is fully dislocated.
- Record any failed attempts or repeat dislocations. Note who performed them for follow-up training.

Step 6: Confirming Death

- Check for:
    - No rhythmic breathing
    - No movement; relaxed body
    - Fixed, dilated pupils
    - No eye reflexes

If signs of life remain:

- Reapply cervical dislocation.

Appendix E: Audit Checklist

GENERAL

Farm Contact Name:		Contact Ph:	
Farm and Address			
Movement Control Permit/s Number/s (as required)			

DOCUMENTATION

Document	Comment	Acceptable Y/N
Procedures (SOP).		
Contract related Statement of Work (where appropriate)		
Site Health and Safety Procedures		
Movement control permits, if required		

RECORDS

Records	Comment	Acceptable Y/N
Numbers of birds depopulated		
Adequate number of staff		
Training records for cervical dislocation		
Monitoring of effectiveness of cervical dislocation		
Record of corrective actions if cervical dislocation insufficient for euthanasia		
Monitoring of loading of disposal vehicle (as applicable)		

REALITY

BIOECURITY, VERY HIGH AND HIGH RISK MATERIAL

Section	Action	Comment	Acceptable Y/N
Depopulation	Ensure sufficient staff		
	Monitoring of cervical dislocation		
	Monitoring of effectiveness of cervical dislocation		
	Observation of corrective actions if cervical dislocation insufficient for euthanasia		
	Monitoring of loading of disposal vehicle (as applicable)		

Appendix F: Example SOP: Depopulation by Cervical Dislocation (Farmer/operator use only)

Purpose
To ensure the humane, safe, and effective depopulation of birds infected with, or suspected of having, a notifiable disease such as Highly Pathogenic Avian Influenza (HPAI), using cervical dislocation. This supports disease containment, protects animal welfare, and minimises risks to human health and the environment.

Scope
This SOP applies to all cervical dislocation depopulation activities involving poultry during a biosecurity response on infected premises.

Responsibilities

- **Farm Operator**: Oversees depopulation activities and ensures SOP compliance.
- **Depopulation Team Leader**: Coordinates personnel, equipment, and safety procedures.
- **Trained Operators**: Carry out humane depopulation using cervical dislocation.
- **Support Staff**: Assist with bird handling, movement, and record-keeping.

Materials and Equipment

- **Cervical dislocation devices** (for mechanical dislocation only).
- **Restraint equipment** (e.g. cones, crates).
- **Personal Protective Equipment (PPE)**:
    - Coveralls
    - Gloves
    - N95 masks
    - Eye protection
    - Hearing protection
- **Disinfectant and cleaning supplies.**
- **First aid kit.**
- **Record sheets and verification checklist.**

Procedure

1. Conduct a pre-operation briefing covering:

- PPE requirements.
- Fatigue management and rest breaks.
- Emergency procedures.
- Biosecurity protocols.
- Animal welfare expectations.

2. Depopulation Process

- Handle birds calmly and gently.
- Restrain birds appropriately to minimise stress and injury.
- Apply cervical dislocation to the correct anatomical location.
- Confirm insensibility and death before moving birds.
- Apply secondary method (e.g. captive bolt) if required.
- Record each bird's outcome and any corrective actions taken.

3. Post-Depopulation

- Move carcasses to disposal site using biosecure transport.
- Clean and disinfect all equipment and PPE.
- Complete all required records and verification checklists.
- Debrief team and report any incidents or issues.

Records

- Depopulation Verification Checklist.
- Daily activity logs.
- PPE and waste disposal records.
- Training records for operators.
- Corrective and preventative action reports.
- Movement control permits (if applicable).

Appendix F: Case Studies (Farmer/operator use only)

On-Farm Cervical Dislocation Depopulation – My HPAI Response[1]

When MPI told us our farm was HPAI-positive, my stomach sank. We had 18,000 layers across three sheds. Normally, we'd use gas for something this big, but there were no CGUs available, and our sheds just weren't suitable for whole-house gassing. That left us with one option: manual cervical dislocation.

We started early the next morning. It was the middle of winter, and it was freezing. The worst shed hit me hardest: about 60% of the birds were already dead, so we had to work through the sick and dying first. The other two sheds looked healthy, which made it even tougher emotionally.

We thought we'd finish in a day. We didn't. It took two full days and part of a third.

Here's why:

- Breaks every 45 minutes: Working in full PPE in freezing conditions was tough. Gloves made gripping harder, and people needed warm-up breaks and water.
- Short on staff: Some regular catchers refused to enter the infected sheds. We found replacements, but most had never done this before. We trained them on the job and paired them with experienced hands. That slowed us down.
- Physical strain: Manual dislocation for hours is brutal. Your arms ache, your grip goes, and you feel it in your shoulders and back.
- Emotional toll: Ending birds you've cared for is hard. Doing it in a shed full of sick and dying birds is even harder. Some of the new guys really struggled, they needed reassurance and support.

We kept going. Calm handling, welfare checks, disinfecting gear. By the end, we were exhausted, but we did it right.

What I learned?

- Plan for extra people and training time.
- Build in breaks, physical and mental.
- Catching birds during the day when they're active takes longer.
- Support your team. This job is tough on the body and the mind.

[1] This is a fictional scenario for illustrative purposes only.