DND: Does Not Disclose

Findings From Newly Obtained Department of National Defence Training Records

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Executive Summary

Every year, the Canadian military amputates the limbs of young pigs, stabs their organs, exposes them to chemical agents, and releases records so heavily redacted that the true extent of these procedures remains hidden.

Newly released Access to Information (ATI) records confirm that the Canadian Department of National Defence (DND) continues to use live piglets (aged 10-12 weeks) in military trauma training exercises, despite the availability of advanced human relevant simulators and the widespread international shift away from animal-based training. The 2021 protocols – released in December 2025 after a nearly three-year delay – show an escalation in both the number of piglets used and the severity of injuries deliberately inflicted, including amputations, organ stabbing, evisceration, induced hypothermia, crush injuries, eye trauma, and exposure to additional chemical and radiological agents.

As with earlier ATI findings – first detailed in *Defenceless*[1], which exposed systemic gaps in oversight and documentation – the most recent release is heavily redacted and incomplete. In total, the DND withheld 569 pages across multiple documents, including denying access to all photos and videos. Also withheld were individual anesthesia records for the piglets – the same records that previously revealed animals regaining consciousness during invasive procedures due to inappropriate and inadequate anesthesia. The released pages contain extensive redactions that obscure key details about chemical agents, procedural steps, and welfare oversight.

The documents further show that the DND's anesthesia and drug protocols remain profoundly inadequate, with only superficial adjustments made despite years of documented shortcomings. The continued reliance on inappropriate and inadequate anesthetic combinations provides no credible assurance that animals are being kept in a state of deep unconsciousness and insensibility during severe trauma procedures. Combined with the apparent dismissal of pain indicators and unresolved procedural hazards, these issues point to entrenched, systemic failures in oversight and practice within these high-risk training environments for the animals used in them.

1 Animal Protection Party of Canada. (2022). *Defenceless: Animal-Based Trauma Training in the Canadian Military.* **https://www.animalprotectionparty.ca/wp-content/uploads/2026/03/APPC_DefencelessReport.pdf**

EXECUTIVE SUMMARY

The ATI records also reveal that technicians – rather than veterinarians – are routinely assigned responsibilities including euthanasia and confirmation of death. The documents provide no evidence that these individuals possess the qualifications required to perform these procedures, and they offer no indication that the facility veterinarian is exercising the oversight necessary to ensure compliance with regulatory and animal-welfare standards.

Taken together, the ATIs show systemic failures in transparency, accountability, and adherence to ethical and scientific standards. They also make clear that Canada is moving in the opposite direction of its closest allies: while other nations are reducing or eliminating live-animal trauma training, Canada is expanding it.

The United States offers the clearest point of comparison. Over more than a decade, the U.S. military has systematically replaced live-animal trauma training with advanced human-relevant simulation. Chemical-casualty and nerve-agent programs transitioned to simulation in 2011; the Uniformed Services University, all Advanced Trauma Life Support programs, and the U.S. Coast Guard followed between 2013 and 2018; and in 2025 the Department of Defense announced a full end to shooting pigs and goats for trauma training.[2] This shift is reinforced by new Army-developed chemical, biological, radiological and nuclear (CBRN) human patient simulators[3] and by sustained federal investment in next-generation technologies. The Defense Advanced Research Projects Agency (DARPA) has funded multi-year initiatives – including the Triage Challenge, the BioGears human physiology engine, and the 2025 MASH program – all designed to replace animal models with human-accurate simulation. Across these efforts, the U.S. has committed tens of millions of dollars to the premise that the future of combat trauma training is simulation, not animal use. Canada has yet to initiate a single program with an equivalent mandate.

The Canadian military's continued reliance on live piglets – combined with the withholding of critical records, the use of an inadequate anesthesia protocol, and the assignment of veterinary responsibilities to non-veterinary personnel – demonstrates systemic failures that demand immediate correction. Independent oversight, a clear transition plan toward non-animal training methods, and full public transparency are urgently required to bring Canada in line with modern scientific and ethical standards.

2 National Defense Authorization Act for Fiscal Year 2026, S. 1071, 119th Cong. § 1050 (2025). **https://www.congress.gov/bill/119th-congress/senate-bill/1071/text**

3 U.S. Army. (2023). MRDC showcases military medicine advancements at AUSA 2023. **https://www.army.mil/article/271139/ mrdc_showcases_military_medicine_advancements_at_ausa_2023**

Recommendations

1. End the Use of Live Animals in Military Trauma Training

Canada should adopt a formal, explicit policy prohibiting the use of pigs – or any other animals – in military trauma training. High-fidelity human simulators and other nonanimal methods now offer superior anatomical relevance, greater consistency, and ethically responsible instruction. The DND could take immediate action by drafting and adopting a Directive to end animal-based trauma training. A model Directive is provided in Appendix B.

2. Implement a Clear, Time Bound Transition Plan to Human Relevant Training Technologies

A structured, transparent transition plan is essential. The DND should establish a defined timeline that includes the procurement of advanced simulators, comprehensive instructor training, and the integration of nonanimal methods across all military medical programs. A timebound plan ensures accountability and prevents indefinite delays.

3. Establish Independent Oversight of All Military Training Involving Animals

Oversight must extend beyond internal committees. An external review body – fully independent of the DND – should be mandated to evaluate protocols, monitor compliance, and assess welfare outcomes. This body must have the authority to audit records, inspect facilities, and publish findings publicly to ensure meaningful accountability.

4. Require Full Transparency in ATI releases Related to Animal Use

The DND should be required to release complete anesthesia records, visual documentation, and unredacted procedural details unless a clear, legally justified exemption applies. The withholding of hundreds of pages of critical information undermines public trust and prevents informed policy evaluation. Transparency is essential for democratic oversight.

5. Align Canada's Practices with International Standards

Canada should follow the example of the United States and other allied nations that have ended the use of animals in trauma training. Aligning with these standards would modernize Canada's military medical education, strengthen international consistency, and demonstrate a commitment to humane, evidence-based practices.

6. Prioritize Investment in New Approach Methodologies (NAMs)

The DND should redirect resources toward the development, validation, and adoption of New Approach Methodologies that provide anatomically accurate, ethically responsible, and operationally relevant training. This includes high-fidelity simulators, virtual reality platforms, and scenario-based training systems that reflect real-world human injuries far more accurately than animal models.

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A piglet is readied for trauma infliction, a practice that persists despite the availability of modern human-relevant simulators.

Photo included in previous ATI release.

Introduction & Background

For more than two decades, Canada has relied on live piglets in military trauma training exercises intended to simulate battlefield injuries. These exercises are meant to prepare military medical personnel to manage catastrophic wounds under field conditions.

The DND has long justified this practice on the grounds that piglets provide a "realistic" training model – a rationale the department itself acknowledges is flawed. Internal DND documents confirm that the department recognizes substantial anatomical differences that make pigs poor stand-ins for human casualties. The DND further concedes that using pigs may *compromise*, rather than enhance, training effectiveness by creating what it calls "training scars": procedural habits that may be appropriate for pigs but incorrect – and potentially dangerous – when applied to human patients.

Defenceless uncovered additional, serious welfare failures, including cases in which piglets **regained consciousness during trauma procedures**. These incidents occurred alongside inadequate anesthesia, inconsistent monitoring, and invasive procedures performed without assurance that the animals were fully unconscious. These findings prompted public scrutiny, renewed calls for transparency and appeals to the Minister of Defence to end animal-based trauma training.

The 2021 ATI records – obtained after nearly three years of delay – provide the most detailed insight to date into current practices. They document:

- a significant expansion in the number and severity of injuries inflicted during training;
- the introduction of additional chemical agents, including internationally recognized nerve agents and a new vesicant designed to cause severe chemical burns;
- the deliberate induction of hypothermia through exposure to cold conditions or insufficient temperature control; and
- a projected increase in the number of piglets used, even as the DND publicly asserts that it is pursuing high-fidelity human simulators.

The release also highlights a persistent lack of transparency. Hundreds of pages were withheld, including all visual documentation and all anesthesia records, while the remaining pages contain extensive redactions that prevent meaningful public scrutiny.

These findings must be understood within the broader international context. Many allied nations have eliminated animal-based trauma training, recognizing that modern simulators provide superior anatomical accuracy, consistency, and ethical integrity. Canada's continued reliance on piglets places it behind established international practice and demonstrates that the military has not kept pace with modern, scientifically grounded, and humane training standards.

INTRODUCTION & BACKGROUND

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Note regarding the photographs in this report:

As the DND did not provide any photographs with this ATI release, the images included in this report are taken from a previous ATI request. Select images have been colour-enhanced for clarity.

*

Note regarding the page numbers cited in this report:

All page numbers referenced throughout this report correspond to documents released under ATI request A-2022-01673.

→ By withholding the first page and the last 285 pages, the DND has eliminated the evidence necessary to determine what was done to the animals and to hold the department accountable.

SECTION 1

Evidence of Withheld Records and Redactions

1.1 More Pages Withheld Than Provided

The 2021 trauma training ATI package – nominally 137 pages – reveals an extraordinary degree of withheld material. Across multiple records, the DND denied and redacted:

- The first and last pages of the release;
- A total of 569 pages;
- All photographs;
- All videos; and
- All piglet anesthesia records.

This level of withholding severely limits public scrutiny. The number of missing pages far exceeds those released, and the withheld materials include all photographs and videos – records that earlier ATI releases confirm are routinely captured during every training scenario. Their complete removal eliminates an entire category of evidence.

Equally concerning is the withholding of all individual anesthesia records for the piglets. These are the very documents that previously revealed animals regaining consciousness during invasive procedures due to inadequate anesthesia. Although the logs are now withheld, the released anesthesia instructions confirm that such records are still being created ("All animals have an individually numbered record assigned," p. 109). The practice remains in place – only the transparency has been removed.

SECTION 1: EVIDENCE OF WITHHELD RECORDS AND REDACTIONS


Page 1
is withheld pursuant to section
est retenue en vertu de l'article

15(1)

of the Access to Inf
de la Loi sur l'accès à

Pages 421 to / à 706
are withheld pursuant to section
sont retenues en vertu de l'article

15(1)

of the Access to Information Act
de la Loi sur l'accès à l'information

→ Examples of redacted text that strip out the critical details necessary to assess the animals' treatment.

1.2 Heavy Redactions Obscure Key Details

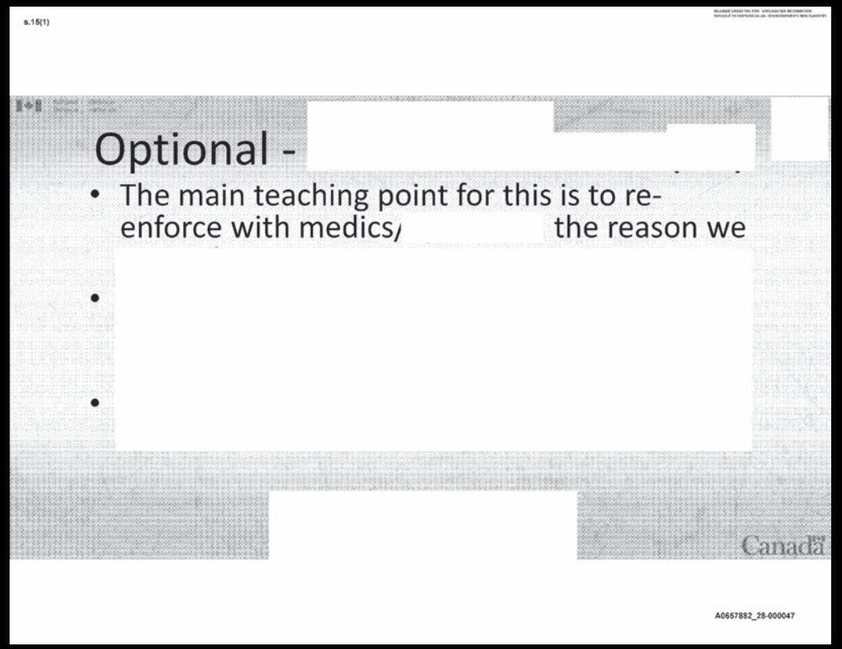
The pages that were released contain extensive white-box redactions, often covering entire paragraphs, procedural descriptions, or chemical agent information. These redactions prevent independent assessment of:

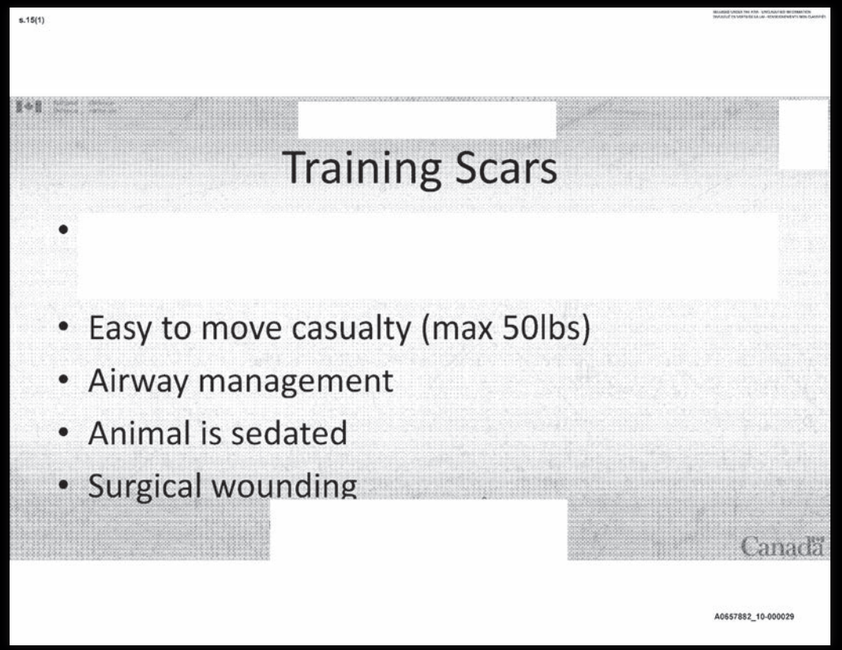
- the full range of injuries inflicted;
- the specific chemical agents used;
- the decision-making process behind trauma induction protocols;
- welfare monitoring and anesthesia practices; and
- internal evaluations or concerns raised by staff.

The volume and nature of the redactions suggest a systemic effort to limit transparency around practices that would likely be controversial if fully disclosed. This interpretation is reinforced by page 15 of the release, where "Public Affairs Considerations" instruct trainers to brief students "before and after NHM [non-human model] training regarding the associated heightened sensitivities." Staff are further warned that "Caution and situational awareness must be applied anytime discussing NHM," and that all external inquiries must be directed to the Unit Public Affairs Office.

Those permitted to speak publicly are instructed to rely on the misleading assurance that the training is conducted under the "professional supervision and ethical guidance of an outside accredited body," referring to the Canadian Council on Animal Care (CCAC). In reality, the CCAC operates as a voluntary oversight regime that delegates responsibility to local institutional animal care committees (ACCs). Those internal DND committees – not the CCAC – approve protocols and monitor animal use on the ground.

As documented in *Defenceless*, the DND's ACC has a long history of failing to protect animals: approving restricted procedures, misclassifying high-pain experiments, and allowing animals to suffer. For more than 20 years the ACC knew that piglets were regaining consciousness during the training exercises. Rather than addressing the problem, the committee altered documents to conceal what had occurred – ensuring that piglets would continue to endure preventable suffering.

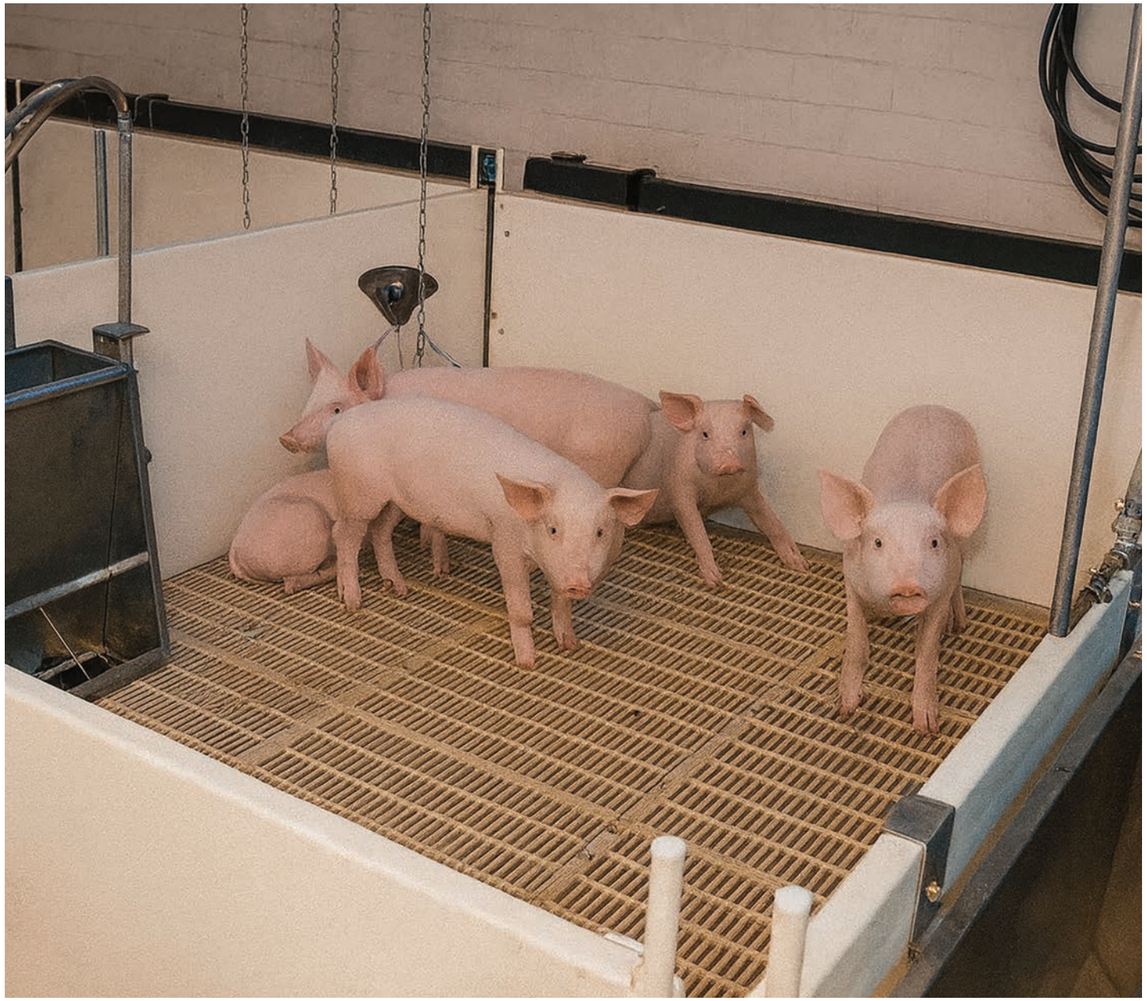




Summary

The 2021 ATI release reveals a sweeping pattern of withholding and redacting records that severely restricts public scrutiny of the DND's trauma training program. Hundreds of pages were removed, including all photographs, videos, and every individual anesthesia log – documents that previously exposed piglets regaining consciousness during invasive procedures. The remaining pages are heavily redacted, obscuring key details about injuries, chemical agents, decision making processes, and internal concerns. Combined with explicit Public Affairs instructions to manage "heightened sensitivities" and deflect external inquiries, the evidence points to a systemic effort to limit transparency around practices that would likely be controversial if fully disclosed.

Photo showing piglets sourced from a "local supplier." ↓



SECTION 2

Escalation in Harm

2.1 Piglets Exposed to Chemical Weapons, Including Sarin, a Russian Nerve Agent, and a Novel Vesicant

The documents confirm that piglets were subjected to multiple chemical warfare agents during training exercises. Sarin was administered intravenously, while a Russian nerve agent was applied dermally (p. 62). In addition, a newly introduced vesicant – its name fully redacted – was used to inflict severe, painful chemical burns (p. 55).

These exposures are designed to crudely mimic battlefield conditions, yet they raise profound ethical and welfare concerns, particularly in light of the long-standing issue of piglets regaining consciousness during procedures. The complete redaction of all chemical agent names further obscures accountability and prevents independent assessment of the risks imposed on the animals.

2.2 Radioactive Materials Simulated Through Surgical Insertion of Technetium

The records also reveal the use of radioactive material to simulate shrapnel contaminated by a radiological explosive device. Technetium – misspelled in the documents as "Tecnecium" – was surgically implanted beneath the piglets' skin (p. 62).

This procedure introduces yet another layer of invasive harm. The implants cause third-degree burns, compounding the physical trauma already inflicted through other aspects of the training. The use of radioactive simulation underscores the increasingly extreme nature of the scenarios imposed on the animals.

2.3 Range and Severity of Inflicted Traumas Expanded Significantly

The list of injuries inflicted by instructors and technicians has grown and now includes:

- Impalement with long metal or wooden instruments, including environmental debris (p. 65)
- Amputation of both hind and forelimbs of all piglets (p. 65)
- Eye injuries created by inserting pieces of wood or metal under the eyelids (p. 66)
- Crush injuries produced by placing a heavy object over a piglet's hind leg (p. 66)
- Induced hypothermia through exposure to cold temperatures and/or prevention of heat retention (p. 67)
- Evisceration and chest opening, including puncturing of the lungs (p. 66)
- Stabbing of the liver, spleen, or kidney to induce major organ bleeding during surgical training (p. 66)

In the DND's Own Words				
Advanced First Responder Training using Non-Human Models (423737)				**Protocal Details**
Impalement	A long metal or wood instrument used to simulate "through and through" ballistic wounds, or is placed subcutaneously or through a large muscle. Environmental debris may also be used.	Requires impaled objects to be stabilized, bandaged, transport of casualty can be difficult and delayed with an impalement.	Telazol / Dexdomitor / Marcaine intercostal and spinal blocks.	Proper impalement stabilization to prevent further injury, environmental debris creates realism to blast trauma, may cause infection, use of antibiotics.
Evisceration	The opening of abdominal wall by an incision and internal organs protrude. Can simulate stabbing or blast injury.	Requires treatment which varies with the combat situation.	Telazol / Dexdomitor	Often hard to treat, can be difficult to do in stressful situations, provides visual distress but is not usually life threatening.
Disarticulation / amputation of hind limb	Removing the lower leg by disarticulating a joint.	Train haemorrhage control on a stump, the correct use of a tourniquet, and proper handling of amputate.	Telazol / Dexdomitor / Marcaine spinal block	Common blast injury wound, difficult to control bleeding and tourniquet monitoring is essential.
Disarticulation / amputation of front limb	Removing the front leg by disarticulating a joint.	Train haemorrhage control on a stump, train use of tourniquet, train proper handling of amputate.	Telazol / Dexdomitor / Propofol	To confirm placement and efficacy of tourniquets.
Crush injury	Placement of a heavy object over a hind leg to cause entrapment and compression injury.	Possible blast injury, proper extraction of casualties training.	Telazol / Dexdomitor / Marcaine spinal block	If treatment of crush injuries are not performed before extraction, it increases the chance of mortality.

A full list of the traumas inflicted on piglets can be found in Appendix A.

Despite the extreme nature of these procedures, the DND continues to classify them as **Pain Category C**, defined by the CCAC as causing only "minor stress or pain of short duration."[4] This categorization is starkly at odds with the documented injuries and further illustrates the systemic minimization of animal suffering within the program.

4 Canadian Council on Animal Care. (2020). *CCAC policy statement on: Categories of invasiveness in animal experiments.* **https://ccac.ca/Documents/Standards/Policies/CCAC_Policy_statement_on_categories_of_invasiveness_in_animal_experiments.pdf**

Summary

Taken together, the introduction of chemical warfare agents, radioactive implants, and an expanded catalogue of severe physical traumas represents a clear escalation in the harm inflicted on piglets during the DND's trauma training exercises. These practices not only exceed the boundaries of what the public has previously been told but also highlight a widening gap between the reality of the procedures and the official pain classifications used to justify them.

→ Protocol excerpt provided by the DND showing the number of piglets used for table-top training.

SECTION 3

Increase in the Number of Animals Used

3.1 Higher Numbers and New Categories of Animal Use Added

Although exact totals vary due to differing protocol start and end dates, the protocol charts provided indicate that approximately **640 piglets** were used between 2019/2020 and 2022/2023. According to the DND, these animals were allocated as follows:

- **370** for Table-top training, anesthesia "improvement," and staff training
- **270** for Field training

An earlier ATI release showed that between 2012 and 2016, the DND used 684 piglets – an average of **171 per year**. Under the 2021 protocols, the average has risen to **213 piglets per year**, representing a clear increase despite public assurances that the use of piglets is being reduced.

Two newly introduced categories – anesthesia "improvement," and "staff training" – appear to account for part of this rise. The DND describes these activities as follows:

1. **In-house staff training**
   To ensure personnel remain "current on all procedures" and to train new staff, **six animals per year** may be used. This staff training includes "all aspects of anaesthesia," as well as "surgical wounding and treatment of wounds described in this protocol." (p 62)
2. **Anaesthetic fine tuning/dose-finding for nerve agent poisoning**
   To "optimize nerve agent training" anesthetic regimens and nerve agent doses are periodically adjusted to produce both "adequate anesthesia" and "optimal signs of exposure." Various treatment regimens are also tested "to insure [sic] they are effective" (p. 62). This category requires **twelve animals per year**, tested in groups of four throughout the year.

Across all training activities, the DND currently maintains **three active** protocols, each valid for three years, all of which rely on piglets as the primary model.

Animal Numbers:

Cohort	Animals Per Group	# of Groups	Replicates	Contingency %	Contingency	Total
Training Requirements per year (3 replicates for 3 years)	100	1	3	10%	30	330
Anesthesia Improvement	12	1	3	10%	4	40
Staff Training	6	1	3	10		
"Double-Click to Add a New Line"					Grand Total	370

s.15(1)
s.19(1)

Animal Care Protocol Cover Sheet

Animal Care Protocol Cover Sheet

Protocol Title:	Advanced First Responder Training using Non-Human Models
Protocol Number:	423737
Protocol Description	Medical training of first responders in chemical, biological and radiological environments along with trauma casualty care.
Keywords	Training, first respoinders, CBR, casualty care, trauma
Principle Investigator:	
Section:	Group:
Previous Protocol #:	427803
Location:	
POC:	
Collaborators:	
Technicians:	

Summary Information

Species:	Domestic Swine	Animal Numbers:	370
Strain:	Yorkshire-Landrace		
PAU:	PAU 5	CI:	C
PAIN:	C		

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→

Protocol excerpt provided by the DND showing the number of piglets used for field training.

3.2 High-Fidelity Simulators Sought Only to Augment – Not Replace – Piglet Use

Alongside the rising number of animals used, the DND's own protocol documents show that high-fidelity simulators are being pursued solely as an add-on to piglet-based training, not as a replacement.

One protocol (No. 20200827425652, p. 101) nearly **doubled** its projected piglet use from 2021 to 2022. No justification was required or provided for this substantial increase. When asked on the protocol form whether anything could be done to "Reduce/Refine/Replace" animal use, the DND responded: **"Yes. A high fidelity patient simulator is with PSPC to augment training and potentially reduce animal use."** (p. 102) (PSPC is Public Services and Procurement Canada.)

Elsewhere, the DND states: **"We are trying to purchase high-fidelity simulators to augment the training and maximize learning on the swine model."** (p. 51–52) This statement appears immediately after the protocol's projected piglet use nearly doubles the following year.

The juxtaposition is telling: **rather than transitioning away from live-animal trauma training, the DND is expanding its reliance on piglets while positioning simulators as supplementary tools instead of viable alternatives**. The department's own documentation makes clear that simulator acquisition is not being pursued as a replacement strategy, but as a means to enhance and justify continued – and increasing – animal use.

Animal Numbers:

Cohort	Animals Per Group	# of Groups	Replicates	Contingency %	Contingency	Total
Sample Entry	30	3	3	0%	0	270
"Double-Click to Add a New Line"					Grand Total	270

s.15(1)
s.19(1)

Animal Care Protocol Cover Sheet

Animal Care Protocol Cover Sheet			
Protocol Title:	Advanced Training with Treatment Testing and Evaluation		
Protocol Number:	425652		
Protocol Description	Advanced live tissue training to properly train, test and evaluate operators on Tactical Combat Casualty Care.		
Keywords	Live Tissue Training, combat casualty care		
Principle Investigator:			
Section:		Group:	
Previous Protocol #:	314307		
Location:			
POC:			
Collaborators:			
Technicians:			

Summary Information			
Species:	Domestic Swine	Animal Numbers:	270
Strain:	Yorkshire/landrace/Duroc cross		
PAU:	PAU 5	CI:	C
PAIN:	C		

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Summary

The data show a clear upward trend in the number of piglets used by the DND, alongside the introduction of new categories of animal use that further expand demand. At the same time, high-fidelity simulators – widely recognized as effective, humane alternatives – are pursued only to *augment* existing practices, not replace them. This combination of increased animal use and limited commitment to replacement underscores a widening gap between the DND's public assurances and its operational reality.

SECTION 4

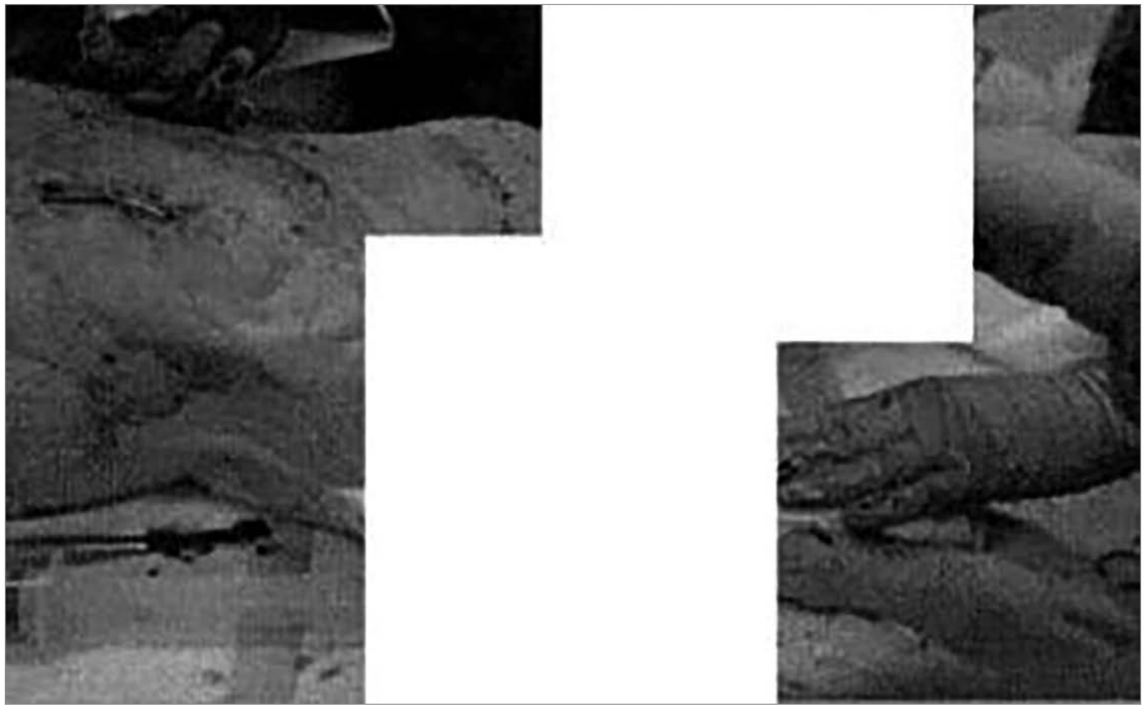
Technicians, Not Veterinarians

4.1 Technicians Assigned Responsibilities Typically Reserved for Veterinarians

As with the earlier ATI release, the new documents confirm that **animal care technicians – not licenced veterinarians – remain responsible for nearly all aspects of monitoring and managing the piglets during training exercises**. Their duties include:

- recording vital signs;
- administering anesthetics;
- providing anesthetic "top-ups" throughout the four-hour sessions;
- administering nerve blocks;
- monitoring welfare during chemically induced exposures; and
- **inflicting some of the injuries** themselves.

The protocols state explicitly: **"The instructor and the animal care technician will work together to create treatable surgical wounds."** (p 112)



There is no evidence in the available records confirming that the personnel performing these invasive procedures possess the appropriate veterinary credentials. Likewise, the documentation does not indicate that a Chief Veterinary Officer or other qualified veterinarian is present to provide oversight when these procedures take place.

The absence of documented credentials and supervisory presence raises serious concerns about compliance with basic veterinary standards intended to protect animal welfare. These concerns are particularly troubling given the program's documented history of piglets regaining consciousness during trauma procedures, suggesting that anesthesia and monitoring protocols may not be consistently or adequately managed.

4.2 Questionable Claims About "Optimal Transition to Human Casualty"

The DND asserts that procedures performed on piglets – guided in part by technicians – support an "optimal transition" to treating human casualties. The documents state: "The instructors are paired with animal care technicians to ensure that the protocols are being followed, to assist in anatomy and to provide feedback on how to maximize the training benefits gained by the model. This allows for optimal transition of treatments to a human casualty."

This claim is not supported by the evidence. Piglets differ substantially from humans in anatomy, physiology, tissue response, and injury progression. These differences limit the relevance of the model under the best of circumstances. When anatomical guidance and procedural feedback are being provided by technicians – rather than veterinarians or human-medicine specialists – the relevance is further diminished. The assertion that this arrangement enables "optimal transition" to human medical care is scientifically weak and appears more as justification than evidence-based reasoning.

4.3 Technicians Perform Euthanasia and Confirm Death

Training continues at Defence Research and Development Canada (DRDC) Suffield in Alberta, where Alberta's Animal Protection Regulations (Alta. Reg. 203/2005, s. 2(1)), under the Animal Protection Act, require that any person who owns, has custody of, or controls animals for research activities must comply with the standards of the Canadian Council on Animal Care (CCAC). This requirement effectively incorporates the CCAC's Guidelines on: Euthanasia of Animals Used in Science (2010) into Alberta's regulatory framework.

Those guidelines are unequivocal:

- euthanasia must never be performed by anyone who is not fully competent in the procedure;
- personnel must be trained to recognize and confirm death; and
- death must be verified after euthanasia and before an animal is disposed of.

The CCAC further requires that competence be formally assessed and that investigators consult the attending veterinarian to determine the appropriate method for the circumstances.

The documents raise serious doubts about whether the technicians performing euthanasia and confirming death at DRDC Suffield meet these competency requirements, and whether the facility veterinarian is providing the level of oversight required under CCAC standards and Alberta's regulatory framework.

Errors in euthanasia – particularly after animals have already endured extreme trauma – are not procedural details. They are fundamental issues of regulatory compliance and humane practice.

Summary

The documents show that DRDC Suffield continues to rely on animal care technicians – not licensed veterinarians – for tasks that require advanced clinical training. Technicians administer anesthetics and nerve blocks, monitor welfare during chemical exposures, and help create surgical wounds. This is especially troubling given past incidents of piglets regaining consciousness during procedures.

Despite this, DND claims that technician-guided procedures support "optimal transition" to treating human casualties. This claim is not supported by the anatomical realities of the pig model or by the qualifications of the personnel involved.

These practices also raise compliance concerns. Alberta's regulations require adherence to CCAC standards, including strict competency requirements for euthanasia and mandatory veterinary oversight. Whether technicians meet these standards – and whether the facility veterinarian is ensuring they do – remains in serious doubt.

Advanced First Responder Training using Non-Human Models
423737 Protocol Details

Substance Name: Lidocaine Hydrochloride

Purpose:
General anaesthetic (as part of a multi-drug protocol in swine)

Security Classification:
Unclassified

Experimental Use:

Route of Exposure:
Parenteral (IV)

Vehicle:
Syringe

Dose:
For general anaesthesia as part of a combination drug protocol, 1 mg/kg IV loading; 30µg/kg/min IV maintenance

Safety:

Potential Hazards:
Adverse drug reactions are rare.

Precautions:
Gloves, eyewear and lab coat should be worn

Environmental:
No known environmental hazard

Additional Information:

Additional Comments:

Substance Name: Marcaine

Purpose:
Local anaesthetic used for pain management for intercostal and spinal blocks. Bupivacaine Hydrochloride Injection is a solution containing bupivacaine hydrochloride, a local

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←

Excerpt from p. 78 of the DND release incorrectly classifying Lidocaine – a local anesthetic – as a general anesthetic. Lidocaine does not induce unconsciousness; it is a perioperative adjuvant to general anesthesia.

SECTION 5

Ongoing Problems with Anesthetics and Drug Choices

5.1 Problematic Anesthesia Protocol Remains Unchanged

The DND continues to rely on the same fundamentally flawed anesthesia approach: Telazol paired with an a_2-agonist – originally Medetomidine and now Dexmedetomidine. Dexmedetomidine is simply the active component of Medetomidine and offers minimal additional benefit within this protocol. Critically, both Tiletamine (the active component of Telazol) and (dex)medetomidine have limited analgesic properties and are not considered adequate to provide analgesia for painful procedures[5].

Compounding these concerns, the DND's documentation continues to reveal a basic misunderstanding of anesthetic categories. **Lidocaine Hydrochloride**, a local anesthetic and analgesic, is incorrectly listed as a *general* anesthetic (p. 78). This misclassification is not a trivial error – it raises serious questions about the expertise guiding anesthesia decisions and the program's ability to safeguard animal welfare during high-risk procedures.

5.2 Antisedan Continues to Be Used Despite Causing Piglets to Regain Consciousness

A drug directly implicated in piglets regaining consciousness in earlier ATI records – **Antisedan** (**atipamezole**) – remains in active use despite significant, documented welfare concerns[6]. The protocol states: "Occasionally, complications due to Dexdomitor anaesthesia are observed… The Dexdomitor may have to be reversed… This is accomplished by injecting… atipamezole, Antisedan [redacted] intravenously." (p 109)

5 De Monte, V., Staffieri, F., Di Meo, A., Vannucci, J., & Bufalari, A. (2015). *Comparison of ketamine–dexmedetomidine–methadone and tiletamine–zolazepam–methadone combinations for short-term anaesthesia in domestic pigs.* Journal of Veterinary Pharmacology and Therapeutics. **https://www.sciencedirect.com/science/article/abs/pii/S1090023315002178**

6 Layton, R., Beggs, D. S., Fisher, A., Mansell, P., Layton, D., Durr, P. A., Allen, T., Taylor, G., Kelly, M. L., Williams, D. T., & Stanger, K. J. (2025). *Welfare implications of low-dose atipamezole reversal of tiletamine/zolazepam/xylazine anaesthesia in pigs.* Animals. **https://pmc.ncbi.nlm.nih.gov/articles/PMC11758624/**

This practice is dangerous, and its consequences are well understood. Antisedan (Atipamezole) reverses only the a_2-agonist component of the protocol. While Atipamezole and related drugs (such as yohimbine or tolazoline) are classified as relevant emergency drugs to be administered in survival research situations to reverse potentially life-threatening complications, reversal comes at a cost. Once the a_2-agonist is reversed, the animal abruptly loses its sedative, analgesic, and muscle-relaxant effects, leaving only Telazol active. In these situations, supplemental analgesia or sedation must be provided to ensure the animal is adequately supported – something the current protocol does not appear to include.

While Telazol is a general anesthetic, it is dissociative in nature, and dissociatives alone are not reliable for maintaining adequate surgical anesthesia across all procedures. The suitability of dissociatives depends heavily on the nature and duration of the surgery involved. Beyond the most minor or trivial of procedures, Telazol does not provide sufficient analgesia. Additionally, dissociatives can leave an animal immobilized yet partially aware, and are well known to cause dysphoria, panic, and disorientation during emergence.

The result is a predictable and hazardous mismatch: the piglet regains strength and partial awareness while still under the cognitive distortion of Telazol.

Earlier ATI records documented the consequences:

- one piglet **vocalized loudly** after reversal;
- another **attempted to jump off the table; and**
- another **died shortly after reversal**, likely in a state of pain, panic, and shock.

Despite these clear warnings, the DND continues to use Antisedan in this context, reflecting a profound disregard for the predictable and preventable suffering it causes. The persistence of this practice underscores the urgent need for independent oversight and a complete reassessment of the program's anesthetic protocols.

5.3 Indicators of Pain Dismissed and "Potential Hazards" Overlooked

The documents also reveal a troubling pattern of minimizing clear signs of pain. In several instances, including the use of tetracaine for ocular procedures and the management of eye injuries, the records show inconsistent responses to pain indicators.

Under "Spinal Blocks," the DND states: "If there is a spinal block failure, indicated by a positive pain response to a toe pinch… close observation… is done and an increase in general anaesthesia **may** be required." (p 110; our emphasis)

SECTION 5: ONGOING PROBLEMS WITH ANESTHETICS AND DRUG CHOICES

While a toe pinch is a standard clinical method for assessing anesthetic depth and confirming spinal block efficacy, the concern here lies in the protocol that follows. A piglet exhibiting a pain response after enduring extensive trauma warrants immediate and decisive anesthetic intervention. However, the protocol's language suggests that an inadequate response to analgesia may be tolerated or monitored rather than urgently addressed. This raises legitimate questions about the adequacy of intraoperative welfare standards.

This inadequacy is further compounded by Tetracaine's short duration of action. The DND's own documentation acknowledges that "the onset of anesthesia usually begins within 30 seconds and lasts a relatively short period of time" (p 132), yet the protocol makes no provision for reapplication – despite the fact that the eye injuries being inflicted would require sustained analgesia. Given the program's documented inconsistency in administering anesthetic top-ups – 45% of piglets previously received none – there is little basis for confidence that even this limited measure is being applied correctly or consistently.

Finally, the DND lists severe, immediate allergic reactions associated with Tetracaine – including corneal sloughing, stromal edema, and iritis – yet provides **no protocol** for responding to such emergencies: "A rare, severe, immediate allergic cornea reaction has been reported… " (p 132)

The absence of a response plan for a known, serious risk underscores the program's broader pattern of inadequate preparation and insufficient veterinary oversight.

Summary

The anesthesia and drug protocols used by the DND remain deeply flawed and unchanged despite years of documented failures. The continued reliance on inadequate anesthetic combinations, the repeated use of Antisedan despite its role in causing piglets to regain consciousness, and the casual dismissal of pain indicators all point to systemic negligence. The introduction of new injury procedures – such as eye trauma – without corresponding safeguards or emergency protocols further highlight the program's inability or unwillingness to ensure even basic standards of animal welfare.

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SECTION 6

A Study in Contrasts – Canada vs. the United States

6.1 The United States Has Largely Transitioned Away from Live Animal Trauma Training

Over the past decade, the United States Department of Defense has undertaken a broad, sustained transition away from the use of live animals in military medical training. This shift – driven by congressional pressure, military physicians, and oversight bodies – reflects a clear recognition that **high-fidelity human simulators now provide superior, more ethically responsible, and more operationally relevant training** than procedures performed on pigs or goats.

This transition has unfolded across multiple U.S. military institutions:

- **2011-2012:** U.S. chemical casualty training programs – including the U.S. Army's nerve agent training – ended the use of animals.
- **2013:** The Uniformed Services University eliminated all use of animals in medical training.
- **2015:** All U.S. military Advanced Trauma Life Support programs ended animal use.
- **2018:** The U.S. Coast Guard fully eliminated animal-based trauma training.
- **December 2025:** The U.S. Department of Defense announced it will end the shooting of pigs and goats for trauma training across all branches[7].

Collectively, these actions mark a decisive move toward modern, human relevant simulation technologies that offer:

- anatomically accurate human trauma scenarios;
- consistent, repeatable training conditions; and
- instruction aligned with contemporary medical ethics and scientific standards.

The United States now conducts nearly all battlefield trauma instruction using advanced human simulators rather than live animals. This includes chemical, biological, radiological and nuclear (CBRN) training, where simulation-based instruction has been the entrenched standard for more than a decade.

Federal Investment Reinforcing the Transition

The U.S. commitment to replacing live animals in trauma training is not merely a policy position – it is backed by sustained federal investment in next-generation simulation technologies. DARPA, the Department of Defense's primary advanced research agency,

7 Finley, B. (2025, December 19). *US military to stop shooting goats and pigs for training.* AP News. https://apnews.com/article/military-defense-bill-animals-trauma-training-d26f642efa6dc97e984bab352444408b

SECTION 6: A STUDY IN CONTRASTS — CANADA VS. THE UNITED STATES

has funded multiple programs explicitly designed to render animal models obsolete in military medical training and triage.

Its multi-year Triage Challenge accelerated the development of human physiological simulation platforms, including the BioGears engine – a validated whole-body human physiology model now used as a virtual testbed for combat-casualty training and explicitly described as a NAM providing an alternative to animal testing.

In 2025, DARPA's Biological Technologies Office launched the Medics Autonomously Stopping Hemorrhage (MASH) program, targeting non-compressible torso hemorrhage – one of the leading causes of preventable battlefield death – through autonomous systems trained entirely on human-relevant simulation.

Across these and related initiatives, the United States has directed tens of millions of dollars toward the premise that the future of combat trauma training lies in human-accurate simulation, not animal surrogates.

6.2 Canada's Practices Lag Behind Established International Norms

In stark contrast, Canada continues to use live piglets for trauma training – including amputations, organ stabbing, induced hypothermia, crush injuries, and exposure to chemical agents. These procedures persist even as the severity and complexity of inflicted injuries have increased and despite the availability of proven, human relevant alternatives.

Canada's ongoing reliance on piglets places it:

- **behind the U.S.**,
- **out of step with international trends**, and
- **in conflict with its own stated commitments** to reduce animal use in military training.

While the United States has moved decisively toward replacement, Canada continues to frame high-fidelity simulators as tools to "augment" piglet-based training rather than replace it – despite clear evidence that simulators offer superior anatomical relevance and eliminate the ethical and welfare concerns inherent in live animal use.

Summary

The divergence between Canada and the United States is now stark. The U.S. military has spent more than a decade phasing out animal-based trauma training across all major institutions, including the early elimination of animal use in chemical casualty programs and the 2025 commitment to end the shooting of pigs and goats entirely. Canada, meanwhile, continues to rely heavily on piglets for increasingly invasive procedures, even after receiving updated correspondence in 2024 urging a transition to modern methods. As a result, the country now lags behind the United States and out of alignment with modern, humane, and scientifically advanced training standards.

A Moment for Leadership

Canada now stands at a crossroads. The evidence in this report makes clear that the continued use of piglets in military trauma training is scientifically outdated, ethically indefensible, and increasingly out of step with international standards. At the same time, the federal government has committed **unprecedented levels of funding** to the Department of National Defence – investments measured in the tens of billions of dollars to modernize equipment, infrastructure, and training capacity. This commitment was underscored again when, in February 2026, the federal government launched **Canada's first Defence Industrial Strategy**, emphasizing modernized training systems and expanded domestic capacity – further reinforcing that the resources and policy direction now exist to transition fully to humane, simulation-based trauma training. With resources of this scale, there is **no financial justification** for failing to procure the high-fidelity human simulators that have already replaced animal use across the United States military and allied nations. Canada has both the means and the responsibility to modernize.

By ending live animal trauma training, embracing advanced simulation technologies, and committing to transparency and independent oversight, the DND can align itself with contemporary medical standards and reaffirm Canada's commitment to humane, evidence-based practice. The path forward is clear; what remains is the resolve to take it.

APPENDIX A

Full List of Traumas Inflicted on Piglets

Advanced First Responder Training using Non-Human Models
423737 Protocol Details

Please see attached Table 1

Table 1:

Procedure	Definition	Training Objective	Required anaesthesia	Remarks
Intravenous catheter placement	Establish intravenous access	Train dexterity while in PPE, fluid replacement	Telazol / Dexdomitor	To practice fine motor skills
Skin lacerations and sutures	Superficial skin wounds that require stitches	Learn wound closing and suturing techniques	Telazol / Dexdomitor	To practice fine motor skills
Facial laceration	Multiple wounds to the masseter muscle and jaw line	Results in bleeding into airway that necessitates airway management	Telazol / Dexdomitor / Carbocaine facial block	Intubation or a surgical airway (cricothyrotomy) may be required
Tracheotomy / cricothyrotomy	To secure a patent airway by inserting a tube into the cricothyroid membrane or into the trachea	Used when an airway cannot be established orally due to massive facial trauma or internal burns	Telazol / Dexdomitor	Regular requirement in advanced trauma care
Subcutaneous emphysema and pneumothorax	Injection of air under the skin on the chest, and into the pleural cavity	Simulate internal lung injury, i.e., from blast trauma, with air being trapped in the chest (tension-pneumothorax)	Telazol / Dexdomitor / Marcaine intercostal block	Tension pneumothorax is common with gunshot wounds to the chest and blast injuries and can be fatal
Needle decompression of chest	Insertion of large-bore needle (12-14g) into the pleural cavity	To relieve pressure built up in the chest cavity/treatment for tension pneumothorax	Telazol / Dexdomitor / Marcaine intercostal block	Common first treatment of chest injuries
Chest tube	Placement of a tube, equipped with a one-way valve, into pleural cavity	To decrease intrathoracic pressure resulting from a hemothorax or pneumothorax	Telazol / Dexdomitor / Marcaine intercostal block	Usually performed when the needle decompression is insufficient treatment
Large gluteal wound	Deep lacerations into the gluteus maximus and biceps femoris muscle	Demonstrates slow muscle bleeding that requires packing and bandaging	Telazol / Dexdomitor / Marcaine spinal block	Large soft-tissue injury, non-fatal, but often hard to occlude and keep clean

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A0663175_14-000348

Impalement	A long metal or wood instrument used to simulate "through and through" ballistic wounds, or is placed subcutaneously or through a large muscle. Environmental debris may also be used.	Requires impaled objects to be stabilized, bandaged, transport of casualty can be difficult and delayed with an impalement	Telazol / Dexdomitor / Marcaine intercostal and spinal blocks	Proper impalement stabilization to prevent further injury, environmental debris creates realism to blast trauma, may cause infection, use of antibiotics
Evisceration	The opening of abdominal wall by an incision and internal organs protrude. Can simulate stabbing or blast injury.	Requires treatment which varies with the combat situation.	Telazol / Dexdomitor	Often hard to treat, can be difficult to do in stressful situations, provides visual distress but is not usually life threatening
Femoral bleed	Femoral artery is lacerated to induce arterial bleeding	Train haemorrhage control, proper wound packing techniques	Telazol / Dexdomitor / Marcaine spinal block	Massive hemorrhage is the leading cause of death on the battlefield.
Radial bleed	Radial artery is lacerated to induce arterial bleeding	Train haemorrhage control with tourniquets	Telazol / Dexdomitor/ Propofol	Trauma requiring tourniquet treatment
Disarticulation / amputation of hind limb	Removing the lower leg by disarticulating a joint	Train haemorrhage control on a stump, the correct use of a tourniquet, and proper handling of amputate	Telazol / Dexdomitor / Marcaine spinal block	Common blast injury wound, difficult to control bleeding and tourniquet monitoring is essential
Disarticulation / amputation of front limb	Removing the front leg by disarticulating a joint	Train haemorrhage control on a stump, train use of tourniquet, train proper handling of amputate	Telazol / Dexdomitor / Propofol	To confirm placement and efficacy of tourniquets
Sternal, humoral or tibial intra-osseus infusion	Insertion of an intra-osseus device into the sternum, humerus or proximal tibia	Often necessary during shock, when the blood pressure is very low and iv access cannot be established	Telazol / Dexdomitor / Carbocaine local infiltration at the insertion site	Part of the standard treatment protocol.

APPENDIX A: FULL LIST OF TRAUMAS INFLICTED ON PIGLETS

RELEASED UNDER THE ATIA - UNCLASSIFIED INFORMATION
DIVULGUÉE EN VERTU DE LA LAI - RENSEIGNEMENTS NON CLASSIFIÉS

Advanced First Responder Training using Non-Human Models
423737 Protocol Details

Thoracotomy / clamshell dissection	Opening of the chest by spreading or cutting the ribs to gain access to organs in the chest cavity; or removing the chest plate from one mid-axillar line to the other, including the sternum and top 5 or 6 ribs, usually used during table-top instruction	Treatment of cardiac and pulmonary traumatic injuries; visually reinforces treatments	Telazol / Dexdomitor / Marcaine intercostal block, Isoflurane / Propofol	Performed as a last procedure of the day, in table top instruction. The airway is secured with a cric or endotracheal tube for assisted ventilation. 10 mL of Propofol are given before incisions to achieve maximum depths anaesthesia. Trainees can see the effectiveness of their ventilation on a live casualty, the mechanisms of tension pneumothorax can be demonstrated.
Ocular injury	Placing small pieces of environmental debris (approx. 2mm piece of wood or metal) under the eyelid	To prevent "training scars" by providing a treatable eye injury instead of by-passing this area during assessments	Telazol / Dexdomitor /Tetracaine local anaesthetic drops	The NATO mandate for immediate casualty evacuation is "Life, limb or eyesight"
Crush injury	Placement of a heavy object over a hind leg to cause entrapment and compression injury	Possible blast injury, proper extraction of casualties training	Telazol / Dexdomitor / Marcaine spinal block	If treatment of crush injuries are not performed before extraction, it increases the chance of mortality
Fresh blood transfusion	Removal of blood from one patient with direct injection into another	Treatment for massive hemorrhaging when stored blood products are not available	Telazol / Dexdomitor	Necessary in a field setting when loss of blood is life threatening and pre-packaged blood products are not available
Major organ bleed	Liver, spleen, or kidney injury	To recognize internal injuries, and decide the best method to treat	Telazol/Dexdomitor/Propofol	Performed closer to the end of the scenario; used for surgical training of physicians
Laparotomy	To open the abdomen and expose injuries	To open the abdomen to treat the organs that have been injured	Telazol/Dexdomitor/Propofol	Used for surgical training of field surgeons, to practice surgical techniques in an auster environment

Advanced First Responder Training using Non-Human Models
423737 Protocol Details

Hypothermia	The core body temperature is decreased by introduction to cold or by lack of prevention of loss of body heat	Hypothermia prevention / treatment is essential in trauma treatment	Telazol / Dexdomitor	Hypothermia can lead to shock, prevent blood from clotting

Pain:
C

Analgesia/Anaesthesia:
- Other - see Desc

Euthanasia Method:
- Pentobarbital Overdose

Disposal Instructions:
Incineration

Special Experimental Handling:
See Experimental Detail Section

Animal Care and Maintenance:
Care will be as per *CCAC guidelines on: the care and use of farm animals in research, teaching and testing*, Canadian Council on Animal Care, 2009. Prior to use, animals will be cared for by staff from the Veterinary Clinical Support Group.

Substance Name: 2-PAM (pralidoxime chloride)

Purpose:
Nerve agent antidote

Security Classification:
Unclassified

Experimental Use:

Route of Exposure:
Intramuscular

APPENDIX B

Model Directive

DAOD 8014-2, Prohibition on the Use of Live Animals in Trauma Training

Table of Contents

1. Introduction

Date of Issue: TBD

Application: This DAOD is a directive that applies to employees of the Department of National Defence (DND employees) and an order that applies to officers and non-commissioned members of the Canadian Armed Forces (CAF members).

Approval Authority: Chief of the Defence Staff (CDS)

Enquiries: Defence Research and Development Canada (DRDC)

2. Definitions

Trauma training means any instructional, educational, experiential, or simulation-based activity intended to teach, demonstrate, test, assess, or practice medical or surgical interventions related to chemical, biological, or radiological environments; traumatic injury; hemorrhage control; emergency procedures; tactical combat casualty care; or any comparable medical, clinical, or emergency-response activity involving weapons or trauma care.

Live animal means any non-human animal that is alive, or has been intentionally killed, for use in training, teaching, testing, or instructional activities involving weapons, trauma, injury, invasive procedures, or medical training in chemical, biological, or radiological environments, including trauma-casualty care.

3. Policy Direction

Context

3.1 The CAF conduct trauma training to ensure that CAF members are equipped with the skills necessary to provide effective combat casualty care and emergency medical response.

3.2 Advances in medical education and training technology have resulted in the availability of human-patient simulators that effectively replicate traumatic injury responses without the use of live animals.

3.3 The purpose of this DAOD is to modernize CAF trauma training practices and to improve trauma care outcomes by prohibiting the use of live animals in trauma training, teaching, and instructional activities, while ensuring alignment with contemporary medical education standards, ethical practices, and human-relevant training methodologies.

Policy Statement

3.4 The use of live animals in CAF trauma training, teaching, testing (meaning the assessment of medical or emergency-response protocols), or instructional activities is prohibited.

Requirements

3.5 Trauma training shall be conducted exclusively using non-animal, human-relevant training modalities, including but not limited to:

- human-based simulation technologies;
- synthetic tissue or task-trainer models;
- high-fidelity mannequins;
- virtual or augmented reality systems; and/or
- other non-animal training methods approved by the appropriate CAF training authority.

Relationship to Existing Animal Use Policy

3.6 Notwithstanding DAOD 8014-0, Animal Use in Research, Teaching and Testing, and DAOD 8014-1, Management of Animal Use in Research, Teaching and Testing, the use of live animals for trauma training purposes is not authorized under any circumstances.

3.7 Animal care committees shall not review, approve, or oversee any protocol related to trauma training using live animals.

APPENDIX B: MODEL DIRECTIVE

4. Consequences

Consequences of Non-Compliance

4.1 Non-compliance with this DAOD may have consequences for both the DND and the CAF as institutions, and for DND employees and CAF members as individuals. Suspected non-compliance will be investigated. The nature and severity of the consequences resulting from actual non-compliance will be commensurate with the circumstances of the non-compliance.

Note – In respect of the compliance of DND employees, see the Treasury Board *Framework for the Management of Compliance* for additional information.

5. Authority

Authority of the Chief of the Defence Staff

5.1 The Chief of the Defence Staff (CDS) has the authority to issue this DAOD as an order applicable to officers and non-commissioned members of the Canadian Armed Forces.

5.2 The ADM(S&T) as functional authority for animal use in research, teaching and testing, has the authority to:

- establish and issue direction, guidance, and procedures necessary to implement this DAOD
- require information or confirmation necessary to assess compliance with this DAOD; and
- take appropriate action in respect of non-compliance with this DAOD.

6. References

Acts, Regulations, Central Agency Policies and Policy

- Framework for the Management of Compliance, Treasury Board

DAOD

- DAOD 8014-0, *Animal Use in Research, Teaching and Testing*
- DAOD 8014-1, *Management of Animal Use in Research, Teaching and Testing*

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