

POLICY STATEMENT N/A

PURPOSE

Western District Health Service (WDHS) operates in an agricultural region where livestock production involves the use of veterinary chemicals. Occasionally, **accidental self-injection (needlestick injuries)** occurs to the person administering these products—often a **farmer, agricultural worker**, or contractor. These injuries can result in serious and potentially long-term health effects if not treated promptly and appropriately.

An accidental self-injection is considered a serious adverse event. It must be treated as such and reported through appropriate channels.

This guideline provides emergency and clinical staff with a reference table of commonly used veterinary injection products and outlines recommended treatment protocols.

While care has been taken in compiling this document, it is **not an exhaustive list** of all veterinary products (e.g. vaccines, drenches, antibiotics, mineral supplements) that may cause harm if accidentally self-administered. Clinicians must verify treatment recommendations independently. No responsibility can be held by the authors for how this information is used and outcomes. Readers must independently verify recommendations contained in this document.

TARGET AUDIENCE/SCOPE

Emergency Department staff

VMO's, HMO's

Inpatient nursing staff

DEFINITION/S OF KEYWORDS

- **APVMA** – Australian Pesticides and Veterinary Medicines Authority
- **NCFH** – National Centre for Farmer Health
- **Adverse event (human exposure)** – An incident involving accidental self-injection or contact with an animal health product requiring medical treatment or resulting in serious harm or death.
- **SDS and MSDS** – Safety Data Sheet and Material Safety Data Sheet

CLINICAL ALERT

All veterinary chemical manufacturers are legally required to report **adverse human exposure events** to the APVMA. However, they can only fulfill this obligation if they are notified.

Therefore, it is the **clinical responsibility** of health professionals to report these incidents through the **AgVet Adverse Experience Reporting Program (AERP)**.

Additionally:

- **Farmers, agricultural workers**, and **vaccine administrators** can—and should—report directly.
- They are not required to wait for the company or a medical professional to do so.
- **Medical professionals (including ED staff and surgeons)** must report these events as part of their duty of care.

⚠ **All mineral oil-based product injuries must be referred to a surgeon**, regardless of initial presentation or perceived severity.

- Submit a report through the **AgVet Online Reporting System (AERP)** at apvma.gov.au
- Save a copy or take a screenshot of the submitted report
- Document the incident and report details in the **patient's medical record**

EQUIPMENT

[AERP AgVet Online Report System \(apvma.gov.au\)](http://apvma.gov.au)

Please keep a copy of the adverse report or screen shot and record in patient record.

PROCEDURE/PROTOCOL/GUIDELINES

TITLE: Farmer Needlestick Injuries - Risk & Recommended Treatment
TYPE: Guidelines
DEPARTMENT: Clinical
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Refer to **Appendix 1** for recommended clinical response and treatment protocols.

CONSUMER INFORMATION

N/A – all consumers should be given a copy of the Needlestick Injuries brochure.

EXPECTED OUTCOME

- Patients are optimally treated first time, and receive **timely, appropriate care** following veterinary product needlestick injuries
- Medical and nursing staff follow established **treatment and reporting protocols**
- All adverse events are reported to the APVMA via the AERP system

EVALUATION

Annual review of needlestick cases to Emergency Department and treatment to be undertaken by NCFH.

KEY ALIGNED DOCUMENTS

KEY LEGISLATION, ACTS and STANDARDS

REFERENCES TO BEST PRACTICE

1. Richardson, G Links, I, & Windsor, P (2005) Gudair (OJD) vaccine self-inoculation: a case for early debridement Med J Aust; 183 (3): 151-152.
2. Alfredson, M, Heath, T (2009). Fingertip And Distal Phalanx Necrosis after Self-Inoculation with the Johne's disease Vaccine: A Case Report and Review of the Literature. The Internet Journal of Hand Surgery 3 (1)
3. Gwynne-Jones D, Lyall P, Hung NA, Meikle G. (2008) Accidental human injection of Excenel RTU: ceftiofur hydrochloride in cottonseed oil. Clin Toxicol (Phila). 2008 Nov;46 (9):908-10.
4. Jennissen C, W. J., Donham K, Rendell D, Brumby S,. (2011). Unintentional needlestick injuries in livestock production: a case series and review. Journal of Agromedicine, 16(1), 58-71.
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7. Murphy LA, Kode GM, Briffa J. Delayed debridement of Ovine Johne's disease vaccine (Gudair) inoculation: a case series. *AJOPS*. 2023;6(1):1-5. doi:[10.34239/ajops.v6n1.70956](https://doi.org/10.34239/ajops.v6n1.70956)
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9. Fuzzard S, Richardson J, Liew J, Wiseman J, Teixeira RP. Surgical management of Gudair sheep vaccine inoculation. ANZ J Surg. 2020;90(6):1176-8. Epub 2019/10/23. doi: 10.1111/ans.15517. PubMed PMID: 31637842.

DOCUMENT OWNER

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CURRENT AUTHORS/CONTRIBUTORS

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Mr Stephen Clifforth	Surgeon	Glenelg Surgical Clinic
Dr David Rendell	Veterinary Surgeon	N/A

VALIDATION

Director of Medical Services

APPROVED BY Executive/Board/Clinical Care Review (delete as applicable)

DATE INITIATED

DATE REVIEWED

10/07/2025

Appendix 1
Table of Livestock Injection Products 1.
Farmer Needlestick Injuries Risk & Recommended Treatment
 David Rendell, Sue Brumby, Kelly Barnes, Stephen Clifforth, - updated 2025

Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
<p>Common vaccines that contain Mineral Oil (Paraffin, or White Oil) adjuvants Vaccine name, disease and % Oil include:</p> <ol style="list-style-type: none"> Gudair (Sheep Johnes)<40% Silirium (Cattle Johnes) 50% Pilliguard (Cattle Pink Eye) 60-70% Vibrovax (Cattle Vibrio) 20-40% Bovillis MH Sing Shot RTU (Cattle resp)<10% Bovillis Rotavec Corona (Calf scour) 60-70% Bovillis MH &MH/IBR vaccines (Cattle resp disease)?% Bovillis S (Cattle Salmonella)?% Ovillis Campyvac (Sheep abortion)?% Ovillis Footvac (Sheep footrot)?/% Singvac 3 year (Cattle Botulism) 30-60% Singvac1 year (Cattle Botulism)?% <p>Note: The adjuvant contained in vaccines 1- 6 can be referred to as Freund's Note: Vaccines 7 to 12 also contain mineral oil but is mixed with an 'Emulsigen' oil in water and % of oil is not disclosed except Singvac3.</p>	<p>Mineral oil when injected into tissue is non-degradable and highly irritant</p> <p>Accidental self-injection of these vaccines (1-12) can cause serious local reactions both short and long term.</p> <p>Note - refer to Mr Stephen Clifforth or onto nearest hospital /emergency service with information on vaccine type.</p> <p>'Emulsigen' oil in water. The precise nature is not disclosed, whilst it is less irritant it may still cause serious local reactions.</p> <p>Note: Elevation can increase pain intensity from spread of oil adjuvant due to gravity</p>	<p>Recommended Treatment following self-inoculation of Mineral Oil Adjuvant Vaccines</p> <p>Category 1 injury (<i>superficial skin exposure</i>). Wash the contaminated area in warm soapy water. If vaccine material is splashed onto mucosal surfaces (e.g. eyes) there is greater risk and topical corticosteroids should be considered here</p> <p>Category 2 injury (<i>needlestick injuries without injection</i>). Allow the wound to bleed freely and do not squeeze or interfere with the injection site. Clean the wound thoroughly with soap and water and keep it clean and dry. NB: All mineral oil category 2 injuries are to be treated as if category 3 and reviewed by surgeon.</p> <p>Category 3 injury (<i>injection of vaccine material</i>). Acute pain and inflammation is usually immediate, intense and persists for at least 24 hours. Perform early surgery and drainage to remove the oil-based vaccine material before it spreads or elicits a severe granulomatous reaction.</p> <p>Category 4 injury (<i>Needlestick injury that has progressed to necrosis or granulomatous ulceration</i>). Perform surgical debridement to remove any residual vaccine material. Skin grafting may ultimately be required.</p>

Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
<p>Vegetable Oil Based Adjuvants</p> <ul style="list-style-type: none"> Arrachis (peanut) cotton seed & sesame oil <p>Injectable Drenches</p> <ul style="list-style-type: none"> Dectomax 70% sesame oil <p>Hormones</p> <ul style="list-style-type: none"> Testosterone e.g. Ropel, Tepro and Testoprop Progesterone oestradiol (Crestar) <p>Antibiotics</p> <ul style="list-style-type: none"> Moxylan Excenel 	<p>Moderately irritant</p> <p>Accidental self-injection of these can cause local reactions depending on amount and location. Note: tendon sheaths more irritant</p> <p>Dectomax post injection slaughter study in cattle by Pfizer claim low tissue irritant. Industry experience shows vegetable oil adjuvants are much less reactive in animals than mineral oil or Paraffin oil adjuvant vaccine</p> <p>NZ farmer Excenel NSI case required extensive debridement and skin grafts see Ref</p>	<p>If possible the application of gentle squeezing pressure with absorbent material (e.g. facial tissue) at the injection site will swab up unabsorbed material. Strong squeezing of the site should be avoided. The damaged area should be thoroughly cleansed and a topical antiseptic applied.</p> <p>Treat symptomatically (e.g. ensure appropriate tetanus cover; prescribe topical corticosteroids and oral antibiotics to prevent opportunistic infection).</p> <p>Less likely to need surgical flushing or debridement but NZ case indicates need to review this</p> <p>Medical grade "arachis" oil (peanut oil) too refined to cause peanut allergy</p>
<p>Specific adjuvant or solvent not disclosed</p> <ol style="list-style-type: none"> Cysectin LA injectable long-acting drench <i>"Water miscible non-aqueous solution"</i>. Eweguard, Weaner guard, Cydectin Drench and 5 in 1 clostridial vaccine and drench injection 	<p>Moderate irritant</p> <p>Unable to get more detail as to precise nature of this.</p> <p>Cydectin LA has caused at least one intense NSI reaction that required surgery to flush and remove oil</p>	<p>Consider surgical flushing if acute pain and inflammation within 24 hours</p> <p>Manufacturers claim similar risk to water based and Aluminium adjuvant vaccine see below</p> <p>To note: Manufacturer will disclose injection constituents to a Dr treating a case.</p>

TITLE: Farmer Needlestick Injuries - Risk & Recommended Treatment
TYPE: Guidelines
DEPARTMENT: Clinical
SECTION: National Centre for Farmer Health



Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
<p>Low Irritant Adjuvants</p> <p>Water based vaccines with Aluminium hydroxide adjuvant Includes but not limited to</p> <p>Sheep & Cattle</p> <ul style="list-style-type: none"> 2 in 1: e.g. Ultra Botulinum 5 in 1: e.g. Ultravac, Tasvax& Websters LV 7 in 1:e.g Ultravac, Websters <p>Sheep</p> <ul style="list-style-type: none"> 3 in 1, e.g. Glanvac and Websters 6 in 1, e.g. Glanvac, Guardian and Virbac ,Websters LV 7 in 1 e.g GlanErySB12 8 in 1 e.g Tasvax Eryguard (Erysipelas) <p>Cattle</p> <ul style="list-style-type: none"> Cattle vax LC 7 in 1 Longrange Botulinum Pestiguard (Pesti virus) 	<p>Low irritant.</p> <ul style="list-style-type: none"> Relatively low irritant adjuvant. Risk of opportunistic infection as with all livestock injections due to reuse of needles and working in a relatively dirty environment Some risk of hypersensitivity from injection. Contains safety tested inactivated bacterial toxins Many contain ~0.05% formalin Category 2 carcinogen – but insufficient quantity to be risk Many available with 0.5 -1.0 mg/ml Selenate. This is a low NSI risk given maximum Se in a full dose is 2.5 mg. 	<p>Symptomatic treatment: As per normal needlestick infection as unlikely to need surgical flushing and debridement</p>

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Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
Solvent: Glycol solvent injections E.g. Paramectin injection drench	Less likely to be irritant Injected - Effects vary in severity according to the quantity e.g. localised site reaction (pain, redness, and swelling) to a more acute systemic reaction Skin - Poisonous if absorbed through skin. May irritate the skin	Symptomatic treatment as unlikely to need surgical flushing and debridement Advice to Doctor: Poisoning by may cause neurological symptoms. Treat symptomatically. Require large dose~ 50 x dose safety margin

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TYPE: Guidelines
DEPARTMENT: Clinical
SECTION: National Centre for Farmer Health



Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
Potentially Toxic: Hormones Oxytocin e.g. Syntocin	Self-Injection can induce premature labour	Not to be used by pregnant women
Prostaglandins (PG) <ul style="list-style-type: none"> Cloprostenol. Eg Estramil, Juramate Dinoprost, E.g. Lutalyse 	If self-injected or comes into contact with skin Causes abortion in pregnant women. May cause bronchospasm in humans. May cause peritonitis if have a pyometral condition with a stenosed cervix.	If possible the application of gentle squeezing pressure with absorbent material (e.g. facial tissue) at the injection site will swab up unabsorbed material. Strong squeezing of the site should be avoided. The damaged area should be thoroughly cleansed and a topical antiseptic applied. Seek immediate medical attention if self-inject
Polyandroalbumin <ul style="list-style-type: none"> Ovastim sheep vaccine 	Accidental self-injection may affect fertility in both women and men, and pregnancy. A mild transient swelling may occur at the injection site	As above
Gnrf (Gonadotropin Releasing Factor) Inhibitor <ul style="list-style-type: none"> Eg Bopriva cattle vaccine 	May cause infertility in both men and women, adversely affect pregnancy. Do not use if of child bearing age or have had previous NSI with this product	As above
Oestradiol /progesterone e.g. "Crestar" injection® (intervet)	Wide number of potential side effects and contradictions in people particularly those with depression	As above

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DEPARTMENT: Clinical
SECTION: National Centre for Farmer Health



Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
Antibiotics with specific toxicity Tilmicosin <ul style="list-style-type: none"> eg Mictotil, TilmoVet 300 	Injection of Micotil 300 in humans has been associated with fatalities and cardiac arrest Caution Statement: Tilmicosin phosphate is classified as a severe allergen because repeated unprotected exposures are likely to cause allergic reactions. Effects of exposure may include changes in heart rate/rhythm and heart tissue changes.	In case of human injection, consult a doctor immediately and apply ice or cold pack to injection site while avoiding direct contact with the skin. Minimise movement and do not massage injection site. Contact Poisons Information Centre on 13 1126. NOTE TO DOCTOR: The cardiovascular system is the target of toxicity and should be monitored closely. Cardiovascular toxicity may be due to calcium channel blockade. IV calcium reverses symptoms. Epinephrine contraindicated
Most animal medications including antibiotics (eg penicillins and oxytetracyclines) and anthelmintics (worm treatment)	Possible allergic reaction. Whilst risk is highest if self-injected severe allergic dermatitis has been reported following skin exposure of minute traces. Risk of sensitisation with contact over time.	Persons with hypersensitivity or anaphylactic reaction must receive immediate medical attention.
Live vaccine infectious to humans Scabby guard	Infectious to humans Skin Irritation and very slow healing wound with crusty scab (Orf)	Rinse area and apply disinfection procedures. Do not use brush or use abrasive material to wash as can cause skin trauma and assist virus entry

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Livestock Injection Product	Operator Exposure Risk	Recommended Treatment & First Aid Guidelines
<p>Live attenuated vaccine:</p> <p>Newcastle Disease vaccine for poultry eg Vax Safe and Websters</p> <p>Note Websters ND vaccine has no such warnings</p>	<p>Eye: Following direct exposure, individuals allergic to the milk-derived buffer may experience immediate irritation and inflammation.</p> <p>Newcastle disease virus infection in the operator can also occur from eye contact or inhalation of the vaccine but is rare and usually mild, causing moderate conjunctivitis with flu-like symptoms developing up to 72 hours later.</p> <p>Skin: No evidence risk for humans</p>	<p>Used in the Victorian Poultry Broiler Industry under a general Chief Veterinary Officer permit to use</p>

For more information - National Centre for Farmer Health Phone: 61 3 5551 8533 www.farmerhealth.org.au

Disclaimer: While every effort has been made to compile this document with care, it is not an exhaustive list of all animal health products (including vaccines, drenches, antibiotics, and mineral supplements) that may cause harm if accidentally self-administered. The authors accept no responsibility for the use of this information or any outcomes resulting from its application. Readers are advised to independently verify all recommendations and seek appropriate professional advice as required.

Even for products assessed as being a low risk, if pain and swelling or other clinical signs develop after exposure to animal health products or any agricultural or veterinary chemical.

- Seek immediate medical advice
- **Call the 1800 number on the product packaging and speak to the manufacturer**
- Access the relevant SDS/MSDS (material safety data sheet) and it is safest to go directly to product manufacturer as most other websites including MIMS can be out of date. Note SDS/ MSDS vary in quality and are not independently audited
- Contact Poisons Information Centre on 13 1126 **and ask for medical information for practitioners**

Prompt Doc No: <#doc_num> v<#ver_num>

Approval Date: <#issue_date>

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TITLE: Farmer Needlestick Injuries - Risk & Recommended Treatment
TYPE: Guidelines
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Adverse experiences must be reported to APVMA.

To report an unintended effect from the use of registered agricultural or veterinary chemicals

CONTACT

Australian Pesticides and Veterinary Medicines Authority AVMPA.

Free call: 1800 700 583 (within Australia) - charges apply for calls made from mobile phones

Fax: +61 2 6210 4776

Email: aerp@apvma.gov.au

Report Online [AERP AgVet Online Report System \(apvma.gov.au\)](https://apvma.gov.au/aerp)

All animal health companies with products registered with the APVMA have a legislated requirement to report human exposure to their products to the APVMA but they can only do this, if notified of incidents.

The following surgeons have had surgical experience with Category 2, 3 and/or 4 Needlestick Injuries involving Gudair

Mr. Stephen Clifforth
Glenelg Surgical Clinic
Hamilton Vic
(03) 5572 5233

Dr Stephen Salerno, Plastic
and Reconstructive Surgeon,
Essendon, Victoria.
T: (03) 9337 0032 (office)
or (03) 9076 2000 (The Alfred
Hospital, Melbourne)

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References

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2. Richardson, G Links, I, & Windsor, P (2005) Gudair (OJD) vaccine self-inoculation: a case for early debridement Med J Aust; 183 (3): 151-152.
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