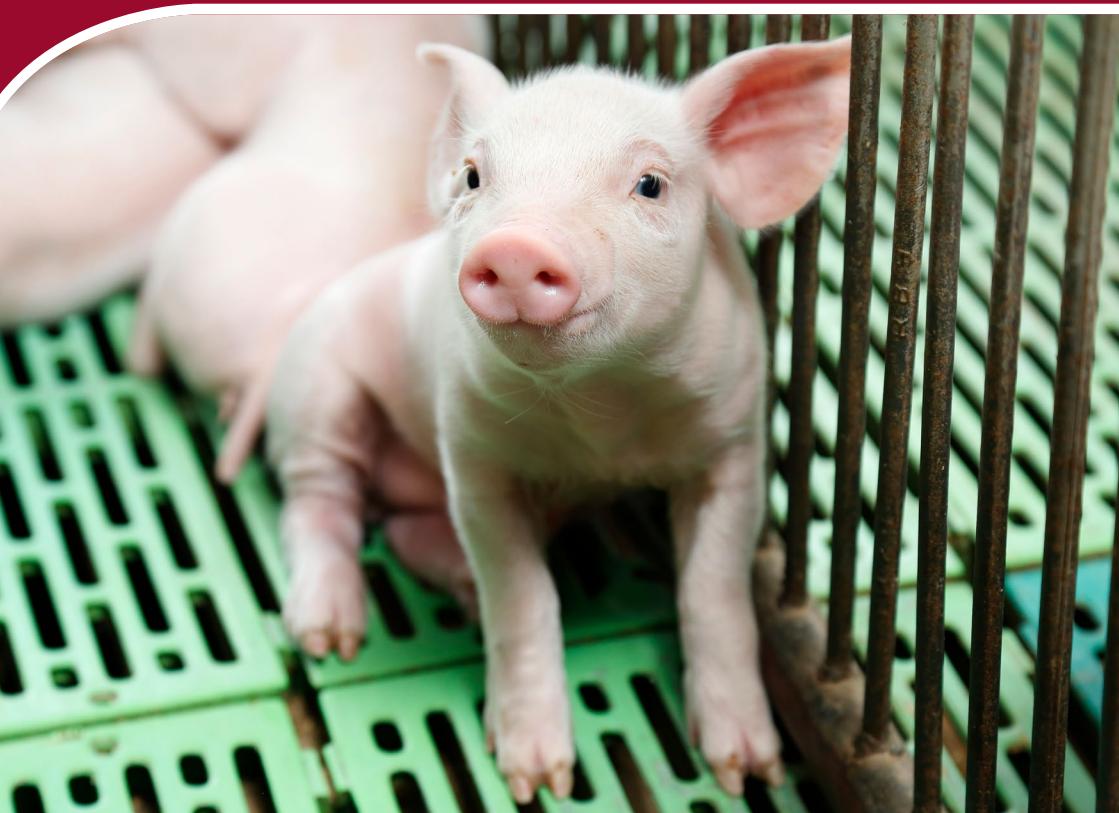


FARM ANIMAL WELFARE ADVISORY COUNCIL



ANIMAL WELFARE GUIDELINES FOR EMERGENCY KILLING OF **PIGS ON FARM**



An Roinn
**Talmhaíochta,
Bia agus Mara**

Department of
**Agriculture,
Food and the Marine**

Farm Animal Welfare Advisory Council

ANIMAL WELFARE GUIDELINES FOR EMERGENCY KILLING OF PIGS ON FARM

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AN INTRODUCTION BY

PROFESSOR PATRICK FOTTRELL

Chairperson of the Farm Animal Welfare Advisory Council

In every pig production system, animals will become ill or injured in such a way that euthanasia will be necessary. In the absence of a permanent veterinary presence on a pig farm, producers, under instruction from their veterinary practitioner, often need to be able to humanely euthanase pigs. The word "euthanasia" comes from the Greek word "euthanatos" which literally means "good death".

When arriving at a decision regarding the management of ill or injured pigs, producers must consider pig welfare, public health and economics. These guidelines are designed to aid producers in making the appropriate decisions regarding euthanasia of pigs. It would be inappropriate for a producer or farm operative to euthanase large numbers of pigs. In these cases the private veterinary practitioner (PVP) must be contacted immediately.

Pig producers and their employees should read these guidelines, discuss the various options with their PVP and complete a documented action plan for dealing with casualty pigs on farm. The action plan should be reviewed annually as part of the animal health and welfare plan with the PVP and all employees. The PVP will be in a position to train producers and their operatives in the most appropriate method to euthanase pigs having regard to the various ages and weights of pigs that might require euthanasia at a given time.

Maintaining these guidelines will help to protect the stock's welfare and owners, managers, animal handlers, transporters and others can demonstrate Ireland's prominence in the practice of farm animal welfare standards.

The guidelines are not meant to replace expert advice such as from a veterinary practitioner.

*Professor Patrick Fottrell
Chairperson
Farm Animal Welfare Advisory Council
October 2017*

THE FIVE FREEDOMS CONCEPT

The five freedoms provide a framework that underpins best practice to ensure animal health and welfare at farm level and are listed below.

1. Freedom from hunger, thirst and malnutrition

- Absence of prolonged hunger
- Absence of prolonged thirst

2. Freedom from discomfort

- Comfort around resting
- Thermal comfort
- Ease of movement

3. Freedom from pain, injury and disease

- Absence of injuries
- Absence of disease
- Absence of pain induced by management procedures

4. Freedom to express normal patterns of behaviour

- Expression of social, locomotory and other important behaviours

5. Freedom from fear and distress

- Good human-animal relationship
- Positive emotional state

In acknowledging these freedoms, those who have care of pigs should practice:

- Caring and responsible planning and management;
- Skilled, knowledgeable and conscientious stockmanship;
- Appropriate environmental design (for example, of the husbandry system);
- Considerate handling and transport;
- Provision of ready access to fresh water and a diet to maintain full health and vigour;
- Provision of an appropriate environment including shelter and a comfortable resting area;
- Prevention or rapid diagnosis of disease and treatment and minimisation of mutilations such as tail docking and tooth reduction;
- Provision of sufficient space, suitable facilities, company of the animals' own kind and environmental enrichment materials for investigation and manipulation activities;
- Ensuring housing conditions and stockmanship avoid mental suffering in pigs;
- Using established animal based measures to monitor and identify problems in pig health and welfare;*
- Humane slaughter.

*See Appendix 2 for links to Welfare Quality Assessment Protocol for Pigs and AssureWel animal welfare indicators for pigs

DECISION OPTIONS FOR THE CASUALTY PIG

Factors such as human safety, animal welfare, practicality and technical skill requirements, cost, limitations, and aesthetics are all important considerations when determining the most appropriate method of killing casualty pigs humanely. When making a decision on the correct action to take with a casualty pig one should consider:-

(1) Is the Pig Fit to Travel?*

It is an offence to cause or permit an animal to be transported in a way that causes or is likely to cause injury or unnecessary suffering to the animal. Issues that should be considered include: **

- Can the pig bear weight on all four legs?
- Can the pig move independently without pain and walk unassisted onto the transport vehicle?
- If it is likely to stand during the journey, can it do so without pain or distress?
- Does the pig have any open wounds or a prolapse?
- Will transport cause the condition of the pig to deteriorate?
- How far does the pig have to travel? Is there a suitable adjacent slaughterhouse? (The animal should be sent to the nearest available slaughterhouse **that will accept the animal** not necessarily the one to which the stockperson usually sends pigs for slaughter)***
- Can the animal be penned separately on the lorry and be provided with suitable and adequate bedding for the journey?

* See Appendix 2 for Links to FAWAC publication “Best Practice for the Welfare of Animals during Transport” and relevant EC and National Transport Legislation

**For a complete list see Annex 1, Chapter 1 of Council regulation (EC) No 1/2005

*** See Appendix 2 for Links to DAFM and Food Safety Authority of Ireland’s websites for a list of approved slaughterhouses

(2) Will the Carcass be Fit for Human Consumption?*

- Is there likely to be a condition such as septicaemia, abscesses, emaciation, and jaundice, known or suspected zoonotic diseases? It is illegal to send a pig to slaughter that is knowingly diseased.

*See Appendix 2 for link to Council Regulations (EC) No 852/2004 and (EC) No 853/2004

If the answer to either questions 1 or 2 is ‘No’ then:-

(3) Is the Animal Suitable for Treatment? or Should it be Killed on the Farm on Humane Grounds?*

In order to be clear on these issues the private veterinary practitioner (PVP) should be contacted for advice. The PVP may wish to contact the abattoir operator and/or the Official Veterinarian (OV) at the abattoir to discuss the matter and ascertain what conditions they would be prepared to accept, before giving advice on any individual animal. The welfare of the pig is paramount. The availability of slaughterhouse services and even the location of the slaughterhouse may affect whether a pig is sent for slaughter or killed on the farm.

*See Appendix 2 for Link to FAWAC publication “Managing Acutely Injured Livestock on Farm”

POSSIBLE OUTCOMES

There are three possible outcomes for a casualty pig:

1) TREATMENT: Give suitable treatment with veterinary advice and review progress daily. If the pig does not improve then it must be euthanased promptly and humanely and removed to the knackery.

2) EMERGENCY SLAUGHTER: An acutely injured pig may be suitable for transport and slaughter in the nearest suitable slaughterhouse. It must be accompanied by an owner’s written declaration (Food Chain Information (FCI)) and veterinary certification.

3) EUTHANASIA: The on-farm humane killing of the pig, where the pig is unfit to be transported alive or where there is no hope of treatment being successful.

If there is any doubt as to the course of action that is most appropriate you should contact your private veterinary practitioner (PVP) for advice.

1) TREATMENT

Any pig that appears to be ill or injured should be cared for without delay and, where they do not respond to this care, veterinary advice should be obtained as soon as possible.

- Sick or injured pigs should be housed in suitable ‘hospital’ accommodation (or ‘treatment’ pens) where they can receive appropriate treatment and nursing. It is preferable that the supervision of the hospital areas should be the responsibility of one named individual (with general responsibility for

welfare in the unit) to ensure a continuity of care for the sick pigs and the monitoring of progress.

- The pigs, particularly if lame should have access to a dry comfortable bed. Small pens, which are well drained, deep bedded, with easy access to food and water, are ideal as a treatment and recovery pen. Additional heat may be needed for smaller pigs, and good lighting is essential for ease of inspection by the stockperson. Ideally, several pens should be available so that they can be filled and emptied on an all-in, all-out basis in order to reduce the build-up of disease-causing organisms in these pens.
- For some conditions, separation and isolation from the main group is important but for others the distress associated with isolation may outweigh the benefits. In the latter case, pigs with similar conditions could be maintained together. Nevertheless, isolation generally prevents further injury to the pig and reduces the risk of spread of infection.
- In some circumstances, pigs with minor ailments can be treated in their usual pen group, but this should be constantly reviewed (at least daily), and the pig removed to a treatment pen if any deterioration is noted.
- Tagging or colour marking pigs removed from their home pen to hospital accommodation allows easy identification and observation of the affected animal(s), facilitates appropriate treatment and tracking of the treated animal once it has recovered.
- Although it is not a legal requirement, it is recommended that pigs treated in the finishing stage are ear tagged. This allows easy identification of the treated animal and confident completion of the FCI “additional declaration”. It also allows monitoring and assessment of treatment outcomes and makes it easier to ensure that such pigs do not end up being mixed back into the normal flow of production where they could act as vectors for disease.
- As well as specific treatments, pain-killers/anti-inflammatories should always be considered to help alleviate pain and discomfort. There are several non-steroidal anti-inflammatory drugs (NSAIDs) available and licensed for pigs. Some of these have a short withdrawal period. Further information is available from your veterinary practitioner or from the Health Products Regulatory Authority (HPRA) website <http://www.hpra.ie/homepage/veterinary/veterinary-medicines-information/find-a-medicine>
- All pigs on treatment should be assessed daily. If there is no response to treatment, treatment should be reviewed. However if the response

continues to be poor or absent, prompt humane euthanasia may be the best option. Stockmen should always seek a “second-opinion” from a colleague and if there is any doubt as to the most appropriate course of action the PVP should be contacted for advice.

Record Keeping*

- Comprehensive and clear records should be kept of each individual pig's treatment and progress. These records should be attached to or placed adjacent to each pen.
- It is a legal requirement that permanent records of treatment must be maintained, including the name of the product, the supplier, the date of purchase and administration, the quantity administered, the identity of the animals treated, and the withdrawal period.

*See Appendix 2 for link to S.I. No. 786/2007 - European Communities (Animal Remedies) (No. 2) Regulations 2007

2) EMERGENCY SLAUGHTER OF AN ACUTELY INJURED PIG*

REASONS

There are relatively few conditions that render a pig suitable for emergency slaughter. This requires an owner's FCI written declaration and veterinary certification. Ideally pigs will be treated successfully, recover, and later be sent for slaughter in the usual way.

Many conditions will result in pigs being unsuitable for slaughter, either because welfare considerations prevent them from being transported, or because the condition would render the carcass unfit for human consumption. If in doubt, you should always seek veterinary advice.

*See Appendix 2 for link to European Communities (Animal Transport and Control Post) Regulations 2006 (S.I. No. 675 of 2006)

ASSESSMENTS AND DECISIONS OF COMMON CONDITIONS INCLUDE:

Sows

Abscesses

- Treat and move to a hospital pen. When completely healed retain in the herd or market. However, if there is joint involvement and/or abscess which does not respond to treatment then euthanase.

Prolapses

- Uterus: Must be corrected immediately otherwise euthanase.
- Vagina: Must be corrected and retained. However emergency slaughter may be an option for very recent undamaged smaller prolapses.
- Rectum: Can be corrected in the case of very recent undamaged prolapses, or emergency slaughtered without delay.

Wounds

Traumatic injuries, cuts/lacerations and burns

- If severe (deep lacerations, multiple wounds or burns), contact your PVP for appropriate course of action which may include euthanasia.
- If not severe - treat then retain in herd or market when healed.

Sores and ulcers (e.g. to the shoulder/hocks)

- If severe (deep tissue involvement with or without infection, or if there is joint involvement), contact your PVP for appropriate course of action which may include euthanasia.
- If not severe - isolate and move to a well-bedded hospital pen, treat then retain in herd and return to usual accommodation or market when completely healed.

The transportation of animals with open ulcers, wounds or burns is not permitted.*

*See Annex 1, Chapter 1 of Council Regulation (EC) No 1/2005)

Lameness

Unable to stand on hind legs – sow may have splayed hind-limbs

- Euthanase immediately as recovery is unlikely

Acutely lame - sow is unable to bear weight on one limb

- If the cause is an obvious fracture, a severe injury (e.g. complete amputation of a weight bearing claw) or generalised swelling of the limb – euthanase or emergency slaughter on farm.
- If there is no obvious cause then consider treatment (max of 5 days) in a deep bedded pen or euthanase or emergency slaughter on farm. If the cause is a less severe claw injury or an accessory digit amputation, treat (including removal to a deep bedded pen) and euthanase or emergency slaughter on farm if no response to treatment.

Moderately lame - a limp is evident while sow is walking but she is able to bear weight on all limbs

- Either treat or cull (provided the sow can move independently without pain and walk unassisted on to the transport vehicle).

Stiff – often bilaterally, lack of fluidity while walking

- Either treat or cull (provided the sow can move independently without pain and walk unassisted on to the transport vehicle).

Emaciation

If sows are of body condition score 1 with ribs visible the sow should be euthanased.

Body Condition Score, Illustration and Short Text Description¹

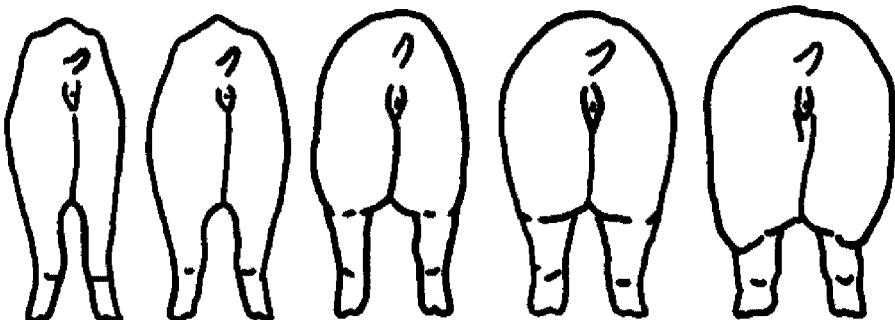
1

2

3

4

5



Poor

Hips and backbone prominent

Moderate

Hips and backbone easily felt without palm pressure

Good

Hips and backbone only felt with firm palm pressure

Very Good

Hips and backbone cannot be felt

Fat

Hips and backbone heavily covered

1 Source Text: ADAS Condition scoring method.

Illustration: Kentucky Co-operative Extension Service.

Dystocia (difficult farrowing)

- Treat and assist, and then retain in the herd only if sow gives birth with assistance and recovers; otherwise
- Euthanase - Sows cannot be sent for slaughter within one week of farrowing on welfare grounds. Neither can a sow be sent to slaughter if she has retained piglets.

Note: It is also prohibited for sows to be transported if they are more than 104 days in-pig; (transport regulations state that not more than 90% of gestation should have passed).*

*See Annex 1, Chapter 1 of Council Regulation (EC) No 1/2005)

Growing and finishing pigs

Lameness

Unable to stand on hind legs - pig may have splayed hind-limbs

- If the affected pig can be housed separately in a suitable well bedded environment then treat and assess response to treatment carefully for a maximum of 5 days. If there is no response to treatment then euthanase.

Acutely lame with one or more swollen and infected joints

- Euthanase - Pigs with multiple joint infections or with large swollen joints are likely to be condemned at meat inspection and should be euthanased on farm.

Lame with no obvious cause - no open wounds, nor gross swelling and no raised temperature:

- If not severe: pig can bear weight on affected limb – emergency slaughter to the abattoir provided the pig can move independently without pain and walk unassisted on to the transport vehicle.
- If severe: pig cannot bear weight on affected limb – treat or euthanase or emergency slaughter.

Severely damaged claw

- Treat only those that have a good chance of recovery (i.e. possibility of isolating pig in a well bedded pen for treatment).
- Euthanase if there no reasonable prospect of rapid healing.

Broken legs, severe sprains and dislocations

- Euthanase or emergency slaughter (as recovery in the short term is not possible).

Injuries

Note: With many of the following conditions it is advised that once the wound has healed, you should market the pig as soon as possible or practical, as many conditions may recur or relapse, and frequently growth will be retarded. Some abattoirs may request an (FCI) owner's written declaration for these conditions even when healed.

Tail lesion (caused by tail biting)

- Complete absence of tail with open wound – euthanase.
- Complete absence of tail with no wound (i.e. no tail, tail was bitten previously but fully healed) - send for slaughter.
- Swollen tail (with or without open wound) – treat and then market with an FCI declaration once the swelling has gone, the wound (if present) has healed and the withdrawal period for the medicine has elapsed.
- Tail with open wound and no swelling – treat and then market with an FCI

declaration once the wound has healed and pig is outside the withdrawal period.

Severe traumatic injuries - e.g. recent open wound/laceration

- Treat only if there is a reasonable chance of recovery and send for slaughter once healed and the withdrawal period for the medicine has elapsed.
- Euthanase if there is no prospect of a rapid recovery.

Note: These animals are not suitable to go to slaughter until the wound has healed completely.

Ear and flank lesions (caused by biting/necrosis)

- Treat and send for slaughter once healed and outside the withdrawal period with treatments declared in the FCI document.
- Euthanase if severe - ears amputated (with or without infection) or flank lesions penetrate deep tissues).

Pigs with numerous superficial skin wounds from fighting

- Treat – it is essential that these cases are isolated immediately and are kept isolated during treatment to avoid further bullying.

Aural haematoma /Ear bruising

- Recent – treat, and sell with an FCI owner's written declaration once recovered.
- Older cases that have fully healed can be sent to the abattoir in the normal way.

Rectal Prolapse

- Emergency slaughter is the best option if the rectal prolapse is fresh and undamaged; otherwise
- Treat and then market for slaughter as soon as possible with treatments declared in the FCI document; or
- Euthanase if there is no prospect of a rapid recovery.

Ruptures/hernias

In general, marketing of such pigs is recommended as soon as possible; the hernia should never be allowed to get to stage 4) below.

1) Small, undamaged (smaller than 6cm in diameter)

- Market with an FCI owner's written declaration as soon as possible because they may enlarge at any time.

2) Small, damaged

- Treat and then market with FCI owner's written declaration as soon as

- possible once healed; or
 - Euthanase
- 3) Large, undamaged
- Consult food business operators and/or OV at slaughterhouse to determine if the pig will be accepted for slaughter; or
 - Euthanase
- 4) Large with ulcerated skin
- Euthanase

Runts, Poor pigs, Chronic Pneumonia

- Euthanase as recovery is unlikely

Rectal Strictures ('Barrel' or 'Pot-bellied' pigs)

- Euthanase

Disease outbreaks in the finishing period

Where there has been a previous disease outbreak in the finishing period, it is advisable to consult with the Official Veterinarian (OV) at the abattoir before sending in large batches of pigs. Damage and resolved lesions from previous outbreaks of disease e.g. pneumonia and pleurisy, may cause considerable difficulties in processing, although the pigs are still likely to be fit for human consumption. It may be necessary to market them in smaller batches.

3) THE HUMANE EUTHANASIA (KILLING) OF PIGS ON THE FARM

ASSURING COMPETENCE

One should never attempt to kill a pig unless you have received suitable training.

The EU Council Regulation ((EC) No 1099/2009* on the protection of animals at the time of killing) requires slaughter personnel to demonstrate competence. A training plan for personnel involved in on-farm euthanasia of pigs, developed in conjunction with a Private Veterinary Practitioner, must be in place. Further information can be obtained from Animal Health and Welfare Division, Department of Agriculture, Food and the Marine.
Email address: animalwelfare@agriculture.gov.ie

(*See Appendix 2 for link to Regulation)

COPING WITH EUTHANASIA-RELATED STRESS

When dealing with this difficult but necessary task, it is very important, that pig producers create a culture in their pig unit where the stockmen feel comfortable voicing their attitudes and those who are unwilling to euthanase pigs should not be forced to do so. The stockperson may find it difficult to find others who can listen, without judgment. Often in the unit, there is an expectation of “toughness” and stockmen who struggle with euthanasia may fear being seen in a negative way or as not successful in their work. Pig producers should observe their staff for signs of this aversion or reluctant exposure to euthanasia, especially signs of dissatisfaction with the work or careless handling of pigs. Individually, every stockperson/employee finds ways of coping with the stress of euthanasia. A number of studies have indicated the possible ways that employees and stockmen managed that stress and include:

- separation or avoiding euthanasia tasks;
- recognition that euthanasia is humane, necessary and important;
- gaining competence and confidence through training that the euthanasia was done well; and
- a calling to a moral obligation to “do it correctly”.

CONSIDERATIONS FOR EUTHANASIA

When euthanasia is the most appropriate option for a pig, the following needs to be considered in order to select the most suitable method:

- **Pig Welfare:** Any method must minimize pain or distress of the pig during administration.
- **Human Safety:** The method must not put pig producers or their employees

at unnecessary risk.

- **Practicality/Technical Skill Requirements:** The method should be easily learned and repeatable with the same expected outcome.
- **Stockperson Compliance:** Pig producers and their employees must be comfortable with, and willing to perform, the chosen method when needed (see above). Lack of compliance compromises the well-being of the pig.
- **Aesthetics (degree of unpleasantness for the observer and operator):** The method should not be objectionable to the person administering the procedure. Public perception of the method and its application also may be a consideration.
- **Limitations:** Some methods are only suitable for certain sizes of pigs or under certain circumstances. The availability of equipment in good working order and carcass disposal options may also be limiting factors for choosing a method.

Methods of Humane Euthanasia (Annex 1 of Council Regulation (EC) No 1099/2009 refers)

Veterinary Practitioner Administered Anaesthetic Overdose

Euthanasia solutions (barbiturates) are used to depress the central nervous system, causing deep anaesthesia progressing to respiratory and cardiac arrest. This method of euthanasia does require intravenous injection into the pig. National drug regulations require these controlled substance drugs to be bought, stored, and used by a registered Veterinary Practitioner (Veterinary Surgeon Only Classification).*

Other humane alternative means of euthanasia must therefore be used for emergency euthanasia on farm. There are a number of considerations that need to be addressed when deciding on an emergency slaughter policy.

***If this method of euthanasia is used, special considerations must be taken when disposing of the carcass in order to prevent incidental exposure of scavenging animals or pack hounds to chemical residues in the carcass.**

Percussion

Percussion stunning when carried out properly ensures a painless death for the pig. It leads to an immediate loss of consciousness when the method is performed properly. The pig will usually show **tonic** and **clonic** movements. In **tonic** activity, the body becomes extremely tense followed by gradual relaxation. This stage is typically followed by **clonic** motion, or involuntary kicking or paddling movements, for a minute or two.

Immediately post stunning there should be a period of collapse for 5-10 seconds. Thereafter, there will be some spasm and nervous excitement for up to 30

seconds. Finally, there will be another period of calm, the palpebral reflex is lost and breathing stops.

Captive Bolt or Gunshot - Methods that physically damage the brain

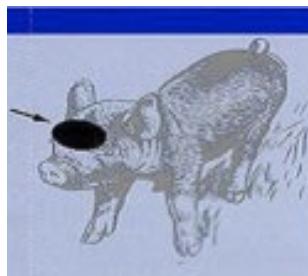
Best practice is to restrain the pig prior to shooting so as to avoid misfiring. Shooting an unrestrained pig should never be considered as it might move at the time of firing and receive an off-site shot which injures, but does not render it unconscious. The primary indicators of properly stunned and insensible (unconscious) animals are:

- No eye movements and eyes open to a wide blank stare. The corneal reflex (touch the eye) natural spontaneous blinking and nystagmus (vibrating eyelid) must all be **ABSENT**. Verify unconsciousness by touching the eye;
- No rhythmic breathing (ribcage moves in and out);
- No righting reflex; no attempt to lift head or stand up; and
- No vocalization – squeal.

Figure 1



Figure 2



1) Non Penetrative Captive-Bolt

According to Council Regulation (EC) No 1099/2009 the use of a non-penetrating captive bolt is not permitted to kill pigs on the farm.

2) Penetrative Captive-Bolt

The site of stunning is on the mid-line of the forehead, one finger's width above eye level, and the muzzle of the stunner should be placed against the head and directed towards the brain, aiming for the back of the pig's throat.

Figure 3



Figure 4



It is recommended that the most powerful cartridge available be used. The cartridges typically use 2 to 3 grains (130 to 190 mg) of smokeless powder, but can use up to 7 grains (450 mg) in the case of adult pigs. It is important however to refer to the manufacturers' instructions so that the correct cartridges are used for each model of stunner; they are identified by calibre (0.22 or 0.25), colour and headstamp. Using the appropriate sized penetrative captive-bolt is an effective way to stun all pigs, and may kill pigs outright up to 24 weeks of age (but remember that legally it is only a method of stunning, not killing). However, it will only stun adult pigs. **After the pig has been stunned it should in all cases be either pithed (a process requiring considerable skill) or bled out before it regains consciousness.**

Pithing rods (as illustrated below) are commercially available but can also be hand-made.

Pithing Rod



In practice, all pigs stunned with a penetrative captive-bolt, if not pithed, should be bled by means of a deep cut across the throat from ear to ear with a sharp knife in order to sever all the major blood vessels to bring about fast and continuous bleeding so that the pig 'bleeds out'; or if you have been trained, stuck through the base of the neck into the chest to sever the major thoracic blood vessels, as

is done in abattoirs. It is strongly recommended that you are trained to use this method as it is the most reliable as it results in rapid blood loss. This process does not necessarily render the carcass fit for human consumption. For smaller pigs a restraint frame can be used to prevent movement.

- **Advantages:** Although not without risk, penetrating captive bolt is generally safer for the operator and bystanders. Beyond the initial investment of a penetrating captive bolt, continued use is inexpensive.
- **Disadvantages:** Death may not occur unless followed by exsanguination or pithing. The operator must be close to the animal and have it adequately restrained in order to get proper placement of the penetrating captive bolt. The penetrating captive bolt should not be fired when the animal is moving its head.

Checklist for safe operation of a captive bolt gun*

1. Must only be used by trained operators.
2. Never point the captive bolt gun at people.
3. Never leave the captive bolt unattended.
4. Take pig to a secure area.
5. Have two people present.
6. Restrain pig by snare. The holder of the snare should stand behind the operator of the captive bolt gun.
7. Load captive bolt. Keep captive bolt pointed towards the ground.
8. Use captive bolt.
9. Clean and maintain captive bolt.
10. Return captive bolt to locked gun cupboard and store in a dry place.

*See Appendix 2 for a list of websites providing extra information on captive bolt usage



3) 0.22 Rim Fire Rifle*

The site of shooting is the same as for the captive-bolt, but the muzzle of the rifle should be held between 10 and 25 cm way from the head. This is only suitable for pigs up to 24 weeks of age (approximately 110 Kg).

- **Advantages:** When properly positioned a bullet, birdshot from a shotshell or a slug will cause massive brain destruction and immediate unconsciousness. Gunshot is inexpensive and does not require close contact with the animal.
- **Disadvantages:** Gunshot may be dangerous. When using a rifle or handgun, ricochet of the bullet is possible and therefore, the operator and bystanders must use extreme care in positioning of themselves and others when the procedure is performed. Another disadvantage is that in cases involving fractious animals, it may be difficult to get close enough to accurately hit the vital target area.

***This should be used only in an extreme emergency when no other firearm is available. By law 0.22 rim-fire rifles may only be used for the purposes specified on the firearm certificate. (See Appendix 2 for links to the Firearms Act 1925 and Revised Act up to September 2015)**

4) Free Bullet Humane Killer

The site of shooting is the same as for the captive bolt. It is very important to ensure that if the bullet should pass out of the pig's body it will not ricochet off concrete floors or walls (these are prohibited weapons and require a firearms certificate, and licences are restricted to a very small number of professions).

5) Gas Euthanasia of Pigs

Carbon dioxide (CO₂) is the most common gas used to euthanase young pigs. It is a rapid depressant with established analgesic and anaesthetic properties. High concentrations of CO₂ cause central nervous system depression leading to loss of consciousness and subsequent death. However CO₂ does not provide instantaneous loss of consciousness and being mildly acidic irritates the mucus membranes. Therefore it causes aversion and discomfort in animals and humans. In general however, very young (i.e. neonatal) pigs succumb very quickly to the effects of CO₂ euthanasia.

CO₂ chambers can be purchased online (Ex. <http://www.v-ast.com/euthanex.aspx>) and The Pig Site (<http://www.thepigsite.com/articles/2601/using-carbon-dioxide-to-euthanise-young-pigs/>) offers instructions on how to construct your own chamber although this is directed towards US producers. The cover of the container should be secured so that the pig is not able to lift the lid and escape. It is also important to remember that incomplete filling of a chamber may permit animals to climb or raise their heads above the higher concentrations and avoid

exposure. Once the CO₂ is released to the container, it will stay contained until the space is disturbed or the CO₂ is “dumped out” via an outlet. Flow to the container must be controlled by a carbon dioxide control valve. A heavy rubber hose is used to transfer the CO₂ from the tank to the box. For pigs, a minimum concentration of 80% CO₂ must be used for euthanasia with a five-minute exposure time. The suggested optimal inflow rate is 20 per cent of the container volume per minute. The container design should allow for it to be pre-charged with CO₂. Pigs should be unconscious within 45 seconds and experience respiratory arrest within five minutes.



Using CO₂ is considered relatively employee-safe. However, caution needs to be taken if the euthanasia box is located in a small enclosed work room. CO₂ detectors, similar to smoke detectors, are available and should be installed if the unit is located in a tight space. Dead animals should be dumped from the container rather than picked out by the worker to avoid breathing in the carbon dioxide. All animals must be checked for effective euthanasia and confirmed dead before moving for disposal.

NOTE: ADVICE SHOULD ALWAYS BE OBTAINED FROM PROFESSIONALS WHEN HANDLING GASES AND THIS ACTIVITY **MUST** BE INCLUDED IN FARM SAFETY PLANS

CONFIRMING INSENSIBILITY AND DEATH

Regardless of the method used, it is important to be able to recognize ineffective stunning or euthanasia if it occurs. It is also important to confirm the death of the pig.

Confirming Insensibility

Insensibility should be checked within 30 seconds after the method is administered and should be monitored and maintained until death. Ineffective stunning and euthanasia can be recognized by the presence of one or more of the following signs:

- Rhythmic breathing;
- Constricted pupils;
- Attempts to raise the head (righting reflex);
- Vocalization – squeal;
- Palpebral reflex (run finger along the eyelash and if the pig blinks or moves its eye, the pig is sensible); or
- Response to a painful stimulus (such as a nose prick with a needle)

If the pig shows any of these signs, a backup euthanasia method should be used.

Confirming Death

The pig should be confirmed dead before it is moved for disposal. All the following vital signs should be checked three minutes after the euthanasia method has been applied:

- No breathing;
- No heart beat;
- No movement or muscle tone;
- No response to painful stimulus (such as a nose prick with a needle);
- No vocalization– squeal; and
- Dilated pupils

DISPOSAL OF DEAD STOCK

Animals which are humanely destroyed on farm must be disposed of by collection by a licensed animal collector. (*See Appendix 2 for link to EU approved Animal Collectors. Section XI refers*).

EUTHANASIA ACTION PLAN*

This plan is developed in conjunction with the PVP and appropriate for each stage of production on your farm. The plan should be kept in an obvious location in the piggery. The plan must be reviewed with any new employees and annually with all staff and the PVP attached to the piggery.

(See Appendix 1).

APPENDIX 1

Euthanasia Action Plan

Farm Name: _____

Date: _____

Drafted By: _____

Stage of Production	Method of Euthanasia	Alternative Method
Piglets (<5 kg)		
Piglets (>5 kg)		
Weaners (<35 kg)		
Grower/finisher		
Mature animals (sows, boars)		

1. Veterinary Practitioner: _____

Phone: _____

After Hours/Emergency: _____

2. Transporter: _____

Phone: _____

3. Deadstock (Licence ABP Haulier) Removal: _____

Phone: _____

APPENDIX 2

Welfare Quality Assessment Protocol for Pigs

<http://www.welfarequalitynetwork.net/downloadattachment/45627/21651/Pig%20Protocol.pdf>

AssureWel animal welfare indicators for pigs <http://assurewel.org/pigs>

FAWAC Publications

Managing Acutely Injured Livestock on Farm

http://www.fawac.ie/media/fawac/content/publications/animalwelfare/AW_GuidelinesManagingAccutelyInjuredLivestock.pdf

Best Practice for the Welfare of Animals during Transport

<http://www.fawac.ie/media/fawac/content/publications/animalwelfare/BestPracticeWelfareAnimalsTransport.pdf>

National and EC Legislation

Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:303:0001:0030:EN:PDF>

<http://www.agriculture.gov.ie/media/migration/legislation/statutoryinstruments2013/SI2922013.pdf> EU (Protection of Animals at the Time of Killing) Regulations 2013

Council Regulation (EC) No 1/2005 on the protection of animals during transport

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32005R0001#ntr1_L_2005003EN.01000101-E0001

European Communities (Animal Transport and Control Post) Regulations 2006 (S.I. No 675 of 2006)

<http://www.agriculture.gov.ie/media/migration/legislation/statutoryinstruments2006/SI675-2006.pdf>

European Communities (Animal Remedies) (No.2) Regulations 2007 (S.I. No 786 of 2007)

<http://www.agriculture.gov.ie/media/migration/legislation/statutoryinstruments2007/SI786-2007.pdf>

Council Regulation (EC) No 852/2004 on the hygiene of foodstuffs

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:226:0003:0021:EN:PDF>

Council regulation (EC) No 853/2004 on the hygiene of foodstuffs

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:139:0055:0205:EN:PDF>

Firearms Act 1925

<http://revisedacts.lawreform.ie/eli/1925/act/17/front/revised/en/html>

<http://www.irishstatutebook.ie/eli/1925/act/17/enacted/en/html>

Approved Slaughterhouses

<https://oapi.fsai.ie/LAApprovedEstablishments.aspx>

<http://www.agriculture.gov.ie/foodsafetyconsumerissues/dafmapprovedestablishments/>

Approved Animal Collectors

<http://www.agriculture.gov.ie/agri-foodindustry/animalbyproducts/euapprovedabplants/>

Captive Bolt Usage Sites

<http://www.grandin.com/humane/captive.bolt.html>

<http://www.hsa.org.uk/downloads/publications/captiveboltstunningdownload.pdf>



An Roinn
**Talmhaíochta,
Bia agus Mara**
Department of
**Agriculture,
Food and the Marine**

For further information please contact:
The Secretary
Farm Animal Welfare Advisory Council
Animal Health and Welfare Division
Agriculture House
Kildare Street
Dublin 2.

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October 2017