ISTITUTO ZOOPROFILATTICO SPERIMENTALE DELLA LOMBARDIA E DELL'EMILIA ROMAGNA
"BRUNO UBERTINI"
ENTE SANITARIO DI DIRITTO PUBBLICO

L'ABBATTIMENTO DEI CONIGLI: METODICHE E STRUMENTAZIONI

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Normativa e documentazione

Reg. 1099/2009

18.11.2009 EN Official Journal of the European Union L 303/1

I

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

REGULATIONS

COUNCIL REGULATION (EC) No 1099/2009
of 24 September 2009
on the protection of animals at the time of killing
(Text with EEA relevance)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 37 thereof,

Having regard to the proposal from the Commission,

Having regard to the Opinion of the European Parliament (1),

Having regard to the Opinion of the European Economic and Social Committee (2),

After consultation of the Committee of the Regions,

Whereas:

(1) Council Directive 93/119/EC of 22 December 1993 on the protection of animals at the time of slaughter or killing (3) establishes common minimum rules for the protection of animals at the time of slaughter or killing in the Community. That Directive has now been substantially amended since its adoption.

(2) Killing animals may induce pain, distress, fear or other forms of suffering in the animals even under the best available technical conditions. Certain operations related to the killing may be stressful and any stunning technique presents certain drawbacks. Business operators or any person involved in the killing of animals should take the necessary measures to avoid pain and minimise the distress and suffering of animals during the slaughtering or killing process, taking into account the best practices in the field and the methods permitted under this Regulation. Therefore, pain, distress or suffering should be considered as avoidable when business operators or any person involved in the killing of animals breach one of the requirements of this Regulation or use a permitted practice without reflecting the state of the art, thereby inducing by negligence or intension, pain, distress or suffering to the animals.

(3) The protection of animals at the time of slaughter or killing has been covered by Community law since 1974, and was subsequently reinforced by Directive 93/119/EC. However, large discrepancies have been observed between the Member States in implementing this Directive and major welfare concerns and differences susceptible to affect competitiveness between business operators have been pointed out.

(4) Animal welfare is a Community value also as enshrined in the Protocol (No 33) on protection and welfare of animals annexed to the Treaty establishing the European Community (Protocol (No 33)). The protection of animals at the time of slaughter or killing is a matter of public concern also affects consumer attitudes towards agricultural products. In addition, improving the protection of animals at the time of slaughter contributes to higher meat quality and indirectly has a positive impact on occupational safety in slaughterhouses.

(5) National law concerning the protection of animals at the time of slaughter or killing has an impact on competition and, accordingly, on the operation of the internal market in products of animal origin included in Annex I to the Treaty establishing the European Community. It is necessary to establish common rules in order to ensure the rational development of the internal market in those products.

(1) Opinion of 6 May 2009 (not yet published in the Official Journal).
(2) Opinion of 29 February 2009 (not yet published in the Official Journal).
(3) OJ L 340, 31.12.1993, p. 21.

Pareri EFSA

SCIENTIFIC OPINION

EFSA Journal

ADOPTED: 21 November 2019

doi: 10.2903/j.efsa.2020.5927

Stunning methods and slaughter of rabbits for human consumption

EFSA Panel on Animal Health and Welfare (AHAW),
Søren Saxmose Nielsen, Julio Alvarez, Dominique Joseph Bicout, Paolo Calistri, Klaus Depner, Julian Ashley Drewe, Bruno Garin-Bastuji, Jose Luis Gonzales Rojas, Christian Gortázar Schmidt, Virginie Michel, Miguel Angel Miranda Chueca, Helen Clare Roberts, Lisa Helena Sihvonen, Karl Stahl, Antonio Velarde Calvo, Arvo Viltrop, Christoph Winckler, Denise Candiani, Chiara Fabris, Olaf Mosbach-Schulz, Yves Van der Stede and Hans Spoolder

Abstract

This opinion on the killing of rabbits for human consumption ('slaughtering') responds to two mandates: one from the European Parliament (EP) and the other from the European Commission. The opinion describes stunning methods for rabbits known to the experts in the EFSA working group, which can be used in commercial practice, and which are sufficiently described in scientific and technical literature for the development of an opinion. These are electrical stunning, mechanical stunning with a penetrative and non-penetrative captive bolt and gas stunning. The latter method is not allowed in the EU anymore following Council Regulation (EC) No 1099/2009, but may still be practiced elsewhere in the world. Related hazards and welfare consequences are also evaluated. To monitor stunning effectiveness as requested by the EP mandate, the opinion suggests the use of indicators for the state of consciousness, selected on the basis of their sensitivity, specificity and ease of use. Similarly, it suggests indicators to confirm animals are dead before dressing. For the European Commission mandate, slaughter processes were assessed from the arrival of rabbits in containers until their death, and grouped in three main phases: pre-stunning (including arrival, unloading of containers from the truck, lairage, handling/removing of rabbits from containers), stunning (including restraint) and bleeding (including bleeding following stunning and bleeding during slaughter without stunning). Ten welfare consequences resulting from the hazards that rabbits can be exposed to during slaughter are identified: consciousness, animal not dead, thermal stress (heat or cold stress), prolonged thirst, prolonged hunger, restriction of movements, pain, fear, distress and respiratory distress. Welfare consequences and relevant animal-based measures (indicators) are described. Outcome tables linking hazards, welfare consequences, indicators, origins, preventive and corrective measures are developed for each process. Mitigation measures to minimise welfare consequences are also proposed.

Keywords: rabbit, slaughter, hazards, animal welfare consequences, welfare indicators, preventive/corrective measures

Requestor: European Parliament and European Commission

Question numbers: EFSA-Q-2018-00594 and EFSA-Q-2018-00909

Correspondence: alpha@efsa.europa.eu

SCIENTIFIC OPINION

EFSA Journal

ADOPTED: 10 December 2019

doi: 10.2903/j.efsa.2020.5948

Scientific opinion concerning the killing of rabbits for purposes other than slaughter

EFSA Panel on Animal Health and Welfare (AHAW),
Søren Saxmose Nielsen, Julio Alvarez, Dominique Joseph Bicout, Paolo Calistri, Klaus Depner, Julian Ashley Drewe, Bruno Garin-Bastuji, Jose Luis Gonzales Rojas, Christian Gortázar Schmidt, Virginie Michel, Miguel Angel Miranda Chueca, Helen Clare Roberts, Lisa Helena Sihvonen, Karl Stahl, Antonio Velarde Calvo, Arvo Viltrop, Christoph Winckler, Denise Candiani, Chiara Fabris, Olaf Mosbach-Schulz, Yves Van der Stede and Hans Spoolder

Abstract

Rabbits of different ages may have to be killed on-farm for purposes other than slaughter (where slaughter is defined as killing for human consumption) either individually or on a large scale (e.g. for production reasons or for disease control). The purpose of this opinion was to assess the risks associated to the on-farm killing of rabbits. The processes during on-farm killing that were assessed included handling, stunning and/or killing methods (including restraint). The latter were grouped into four categories: electrical methods, mechanical methods, controlled atmosphere method and lethal injection. In total, 14 hazards were identified and characterised, most of these related to stunning and/or killing. The staff was identified as the origin for all hazards, either due to lack of the appropriate skill sets needed to perform tasks or due to fatigue. Possible corrective and preventive measures were assessed: measures to correct hazards were identified for five hazards and the staff was shown to have a crucial role in prevention. Five welfare consequences of the welfare hazards to which rabbits can be exposed to during on-farm killing were identified: not being dead, consciousness, pain, fear and distress. Welfare consequences and relevant animal-based measures were described. Outcome tables linking hazards, welfare consequences, animal-based measures, origins, preventive and corrective measures were developed for each process. Mitigation measures to minimise welfare consequences are proposed.

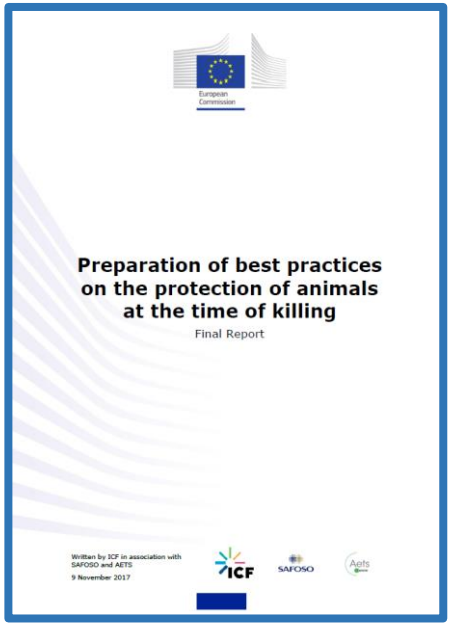
Keywords: rabbit, on-farm killing, hazards, animal welfare consequences, welfare indicators, preventive/corrective measures

Requestor: European Parliament and European Commission

Question numbers: EFSA-Q-2019-00518 and EFSA-Q-2019-00519

Correspondence: alpha@efsa.europa.eu

Buone pratiche



European Commission

Preparation of best practices on the protection of animals at the time of killing

Final Report

Written by ICF in association with SAFOSO and AETS

9 November 2017

ICF SAFOSO Aets

Factsheets

COME STORDIRE/ABBATTERE I CONIGLI PRESSO L'AZIENDA AGRICOLA

I conigli che non sono idonei al trasporto o con scarso accrescimento devono essere abbattuti in allevamento. L'abbattimento in allevamento può essere fatto con lo scopo di fornire la carne direttamente ai consumatori o ai rivenditori. In tutti i casi è obbligatorio lo stordimento. Allo stordimento deve seguire subito l'abbattimento, in modo da provocare una morte indolore. Le informazioni riportate non prevalgono sulle norme nazionali nel caso in cui queste procedure siano variate o oggetto di limitazione da parte di quest'ultime.

Lo stordimento e l'abbattimento devono essere eseguiti da operatori con un adeguato livello di competenza.

INFORMAZIONI SUI CONIGLI

STORDIMENTO/ABBATTIMENTO

1. PISTOLA A PROIETTILE CAPTIVO PENETRANTE/NON PENETRANTE

Reg. 1099/2009

FORNITURA DIRETTA PICCOLI QUANTITATIVI

- <50UBE = <6250 CONIGLI → **ART.3 PAR.1** → **METODI STORDIMENTO ALLEGATO**
- >50UBE = >6250 CONIGLI → **REGOLAMENTO** → **CERTIFICATO IDONEITÀ**

MACELLO INDUSTRIALE

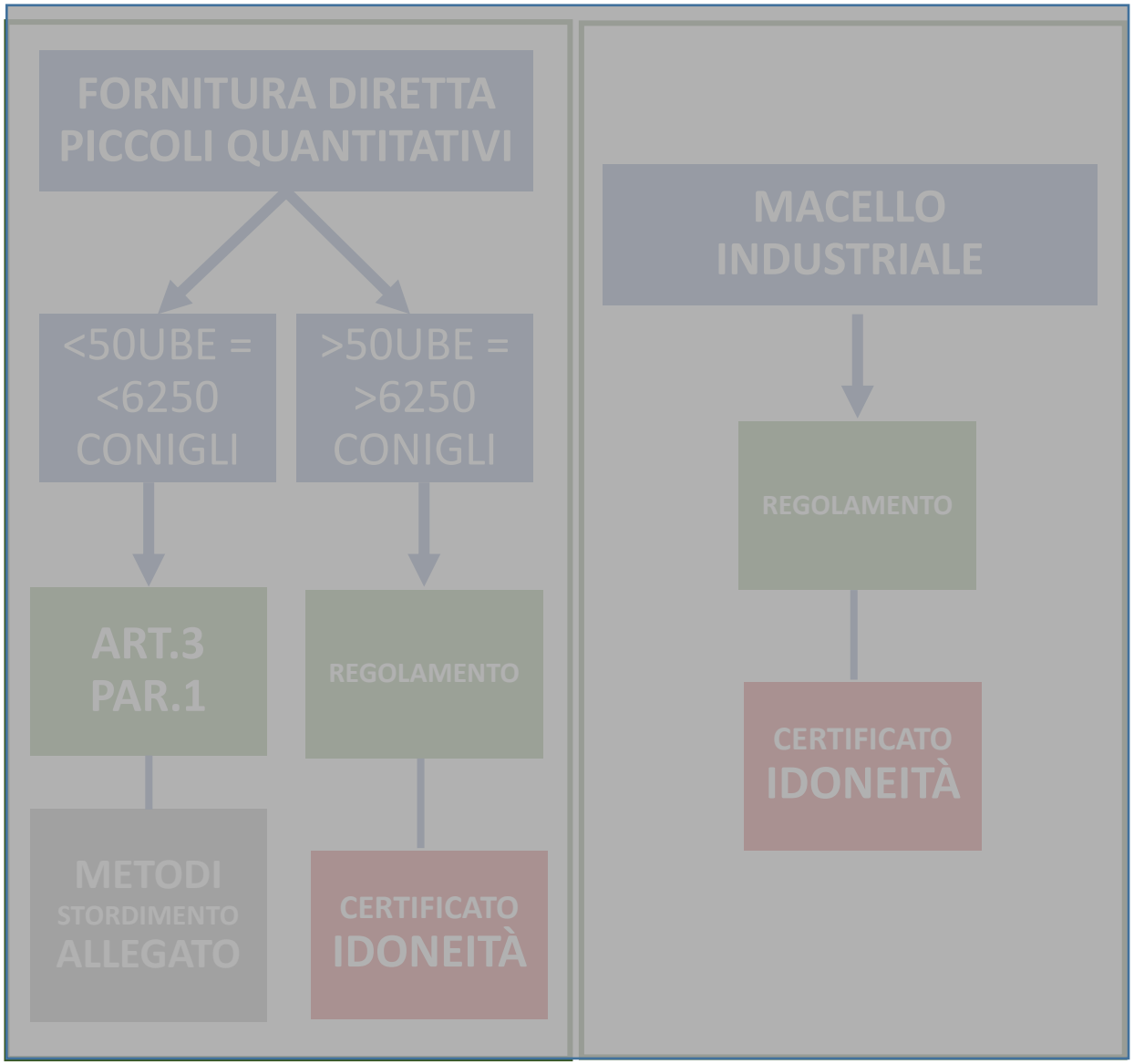
→ **REGOLAMENTO** → **CERTIFICATO IDONEITÀ**

ALLEVAMENTI FAMIGLIARI

→ Codice Penale Art. 544-ter. - (Maltrattamento di animali)

ALLEVAMENTI INDUSTRIALI

→ **ART.3 PAR.1** → **METODI STORDIMENTO ALLEGATO**



ALLEVAMENTI FAMIGLIARI

Codice Penale
Art. 544-ter. -
(Maltrattamento di animali)

ALLEVAMENTI INDUSTRIALI

ART.3 PAR.1

METODI STORDIMENTO ALLEGATO

Regolamento 1099

Articolo 2

Definizioni

Ai fini del presente regolamento si intende per:

f) «stordimento»: qualsiasi processo indotto intenzionalmente che provochi in modo indolore la perdita di coscienza e di sensibilità, incluso qualsiasi processo determinante la morte istantanea;

1 2 3 4

COSCIENZA

Controllare movimenti volontari

Capacità di percepire emozioni

- Perde la naturale posizione eretta
- Non è in stato di veglia
- Non mostra segni di emozioni positive o negative quali paura e agitazione

SENSIBILITÀ

Capacità di percepire il dolore

Non mostra riflessi o reazioni a stimoli quali:

- suoni
- luci
- odori
- contatto fisico

SEMPLICE STORDIMENTO

NON

COMPORTANO LA MORTE ISTANTANEA

PROCEDURA CHE PORTI A MORTE

DISSANGUAMENTO, ENERVAZIONE, ELETTROCUZIONE, ANOSSIA PROLUNGATA

Reg. 1099/2009

Metodi ammessi nei conigli

Metodo	Categorie di conigli
Dispositivo a proiettile captivo penetrante (s)	Tutte
Dispositivo a proiettile captivo non penetrante (s)	Tutte
Arma a proiettile libero (a)	Tutte
Colpo da percussione alla testa (a)	Fino a 5 kg
Elettronarcosi con applicazione limitatamente alla testa (s)	Tutte
Elettronarcosi con applicazione di corrente testa e corpo (a)	Tutte
Iniezione letale	Tutte

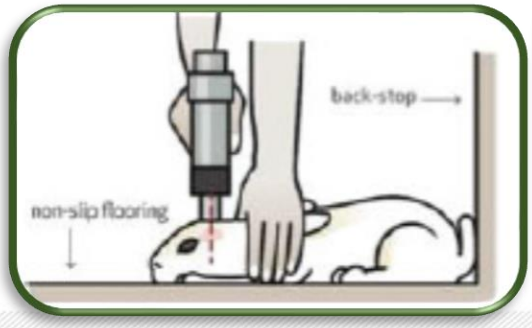
(a): abbattimento
(s): stordimento semplice

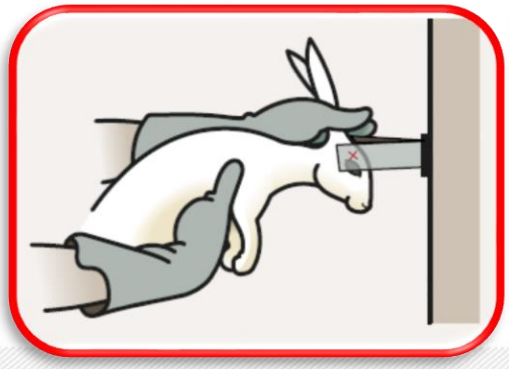
Reg. 1099/2009

Metodi ammessi nei conigli

Metodo	Categorie di conigli	
Dispositivo a proiettile captivo penetrante (s)	Tutte	ALLEVAMENTO
Dispositivo a proiettile captivo non penetrante (s)	Tutte	
Arma a proiettile libero (a)	Tutte	
Colpo da percussione alla testa (a)	Fino a 5 kg	ALLEVAMENTO
Elettronarcosi con applicazione limitatamente alla testa (s)	Tutte	MACELLO
Elettronarcosi con applicazione di corrente testa e corpo (a)	Tutte	
Iniezione letale	Tutte	ALLEVAMENTO

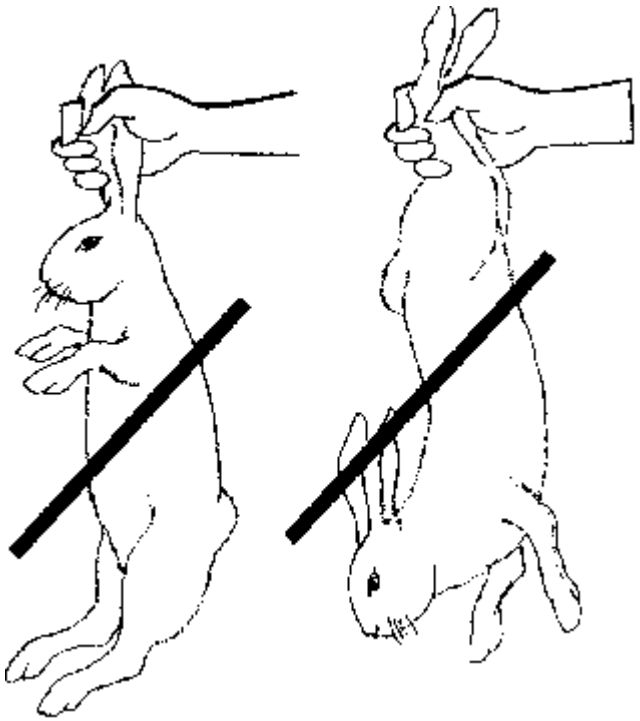
(a): abbattimento
(s): stordimento semplice





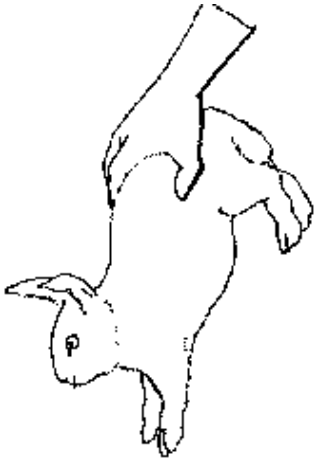
Manipolazione

SCORRETTA



CORRETTA

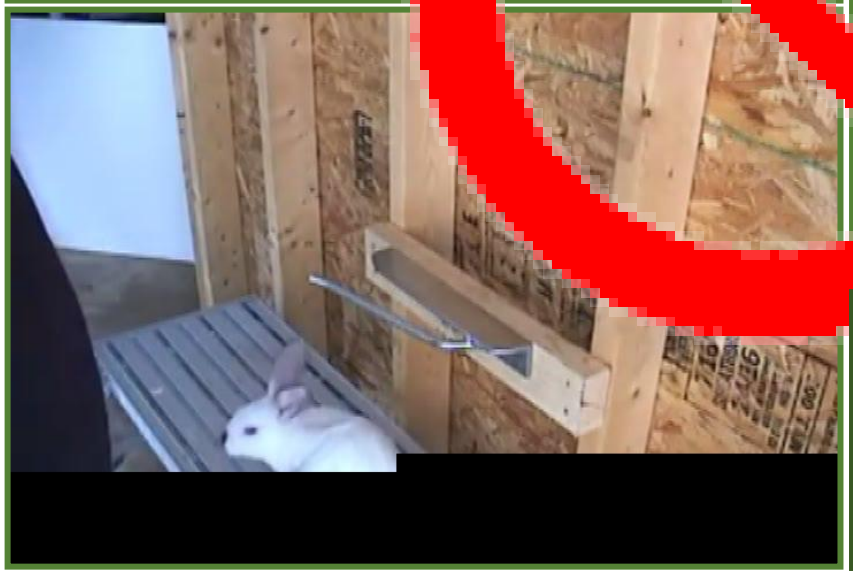
Leggero



Pesante

Manipolazione

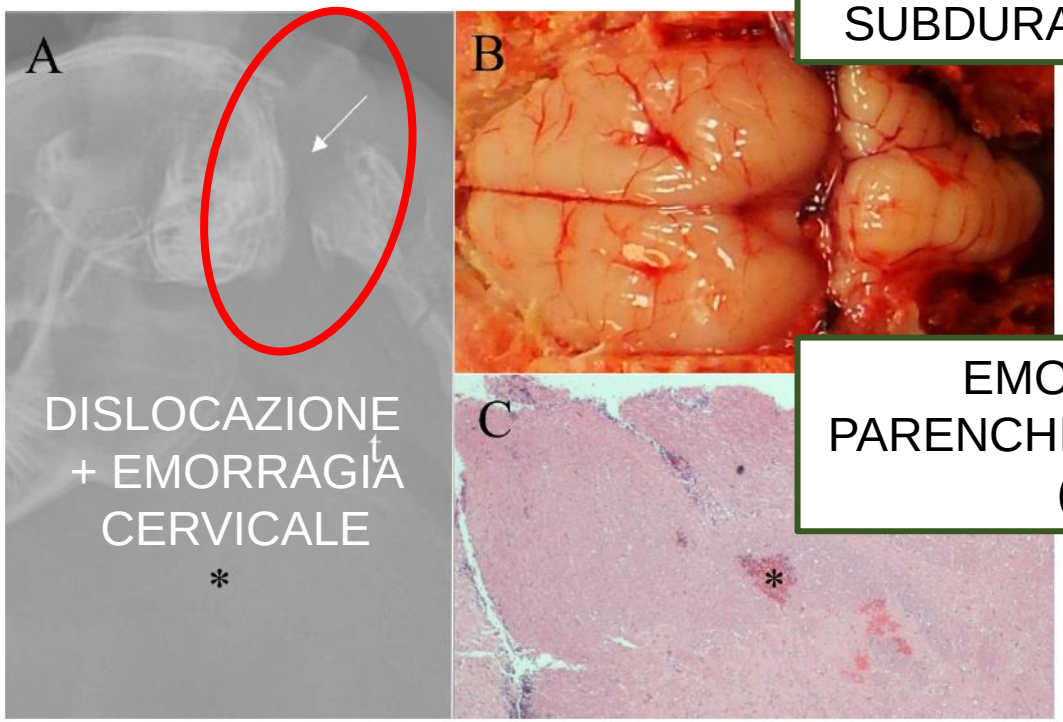
Dislocazione cervicale (non ammessa)



La perdita di conoscenza può non essere istantanea: l'attività elettrica perdura nel cervello per 13 secondi dopo la dislocazione cervicale

Dislocazione cervicale (non ammessa)

EMORRAGIA SUBDURALE ASSENTE



EMORRAGIA PARENCHIMALE MINIMA (0%)

Figure 5. Eight week-old grower rabbit euthanized by mechanical cervical dislocation. (**A**) Survey radiograph shows a clean dislocation between the base of the skull and the first vertebrae (arrow) and marked cervical hemorrhage (*), t = trachea; (**B**) Grossly, no subdural dorsal hemorrhage was noted (gross score of 0/4); (**C**) Photomicrograph of midbrain demonstrating a lack of subdural hemorrhage (histologic score of 0/4) and minimal parenchymal hemorrhage (*) (histologic score of 1/4) (H & E, ×20).

Walsh et al., 2017

Iniezione letale

- **Sodio pentobarbital** IP 180 mg/kg alla concentrazione di 60 mg/mL o meno (Flinders University Safe Work Method Statement Rabbit – Humane Euthanasia 18/06/19)
- **Xylazina** (4.3 mg/kg pv) e **ketamina** (29.1 mg/kg), dopo 90 s iniezione di **ketamina** (600 mg, IV). Persistenza attività circolatoria per max 240 s. Baneux (PJ, Garner D, McIntyre HB, Holshuh HJ. Euthanasia of rabbits by intravenous administration of ketamine. J Am Vet Med Assoc. 1986 Nov 1;189(9):1038-9. PMID: 3505922).

MECCANICO

STORDIMENTO

IRREVERSIBILE

(SEMPLICE)

METODO CHE PROVOCHI LA MORTE

- **DISSANGUAMENTO**
- **PITHING**

MECCANICO

COLPO DA PERCUSSIONE ALLA TESTA

PISTOLA A PROIETTILE CAPTIVO NON PENETRANTE

SEMPLICE

PISTOLA A PROIETTILE CAPTIVO PENETRANTE

SEMPLICE

MECCANICO

COLPO DA PERCUSSIONE ALLA TESTA

*SOLO COME METODO DI RISERVA
**<70 ANIMALI/PERSONA

PISTOLA A PROIETTILE CAPTIVO NON PENETRANTE

SEMPLICE

PISTOLA A PROIETTILE CAPTIVO PENETRANTE

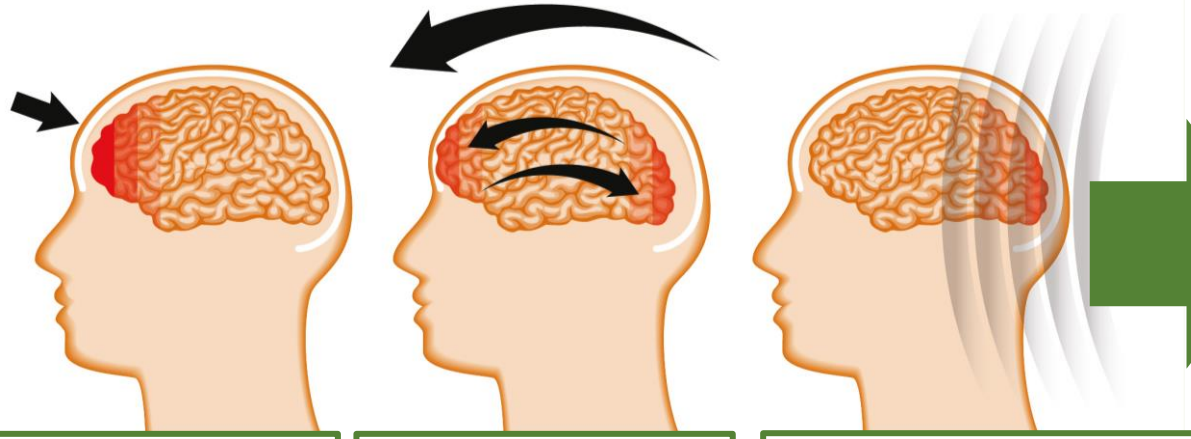
SEMPLICE

COLPO PERCUSSIVOALLA TESTA

STORDIMENTO

COLPO PERCUSSIVO

- colpo da percussione alla testa
- captivo non penetrante
- captivo penetrante



Danni nella sede di impatto

Rapida accelerazione della testa

Impatto del cervello contro la scatola cranica

Danno e/o distruzione ai nervi e ai vasi cranici, diminuzione della circolazione ematica

Interruzione della normale attività elettrica per l'aumento e poi calo improvviso della pressione intracraniale

INSENSIBILITÀ

Durata in base alla gravità dei danni ai nervi e alla riduzione di flusso ematico

Segni clinici

Indicatore	Segno di
Stazione quadrupedale Riflesso di sollevamento Vocalizzazione volontaria Ammiccamento volontario Occhio vigile (segue movimenti) Risposta alla minaccia	PRESENTI Coscienza
Assenza riflesso corneale Assenza riflesso palpebrale Assenza di respirazione ritmica	ASSENTI Incoscienza

Segni clinici

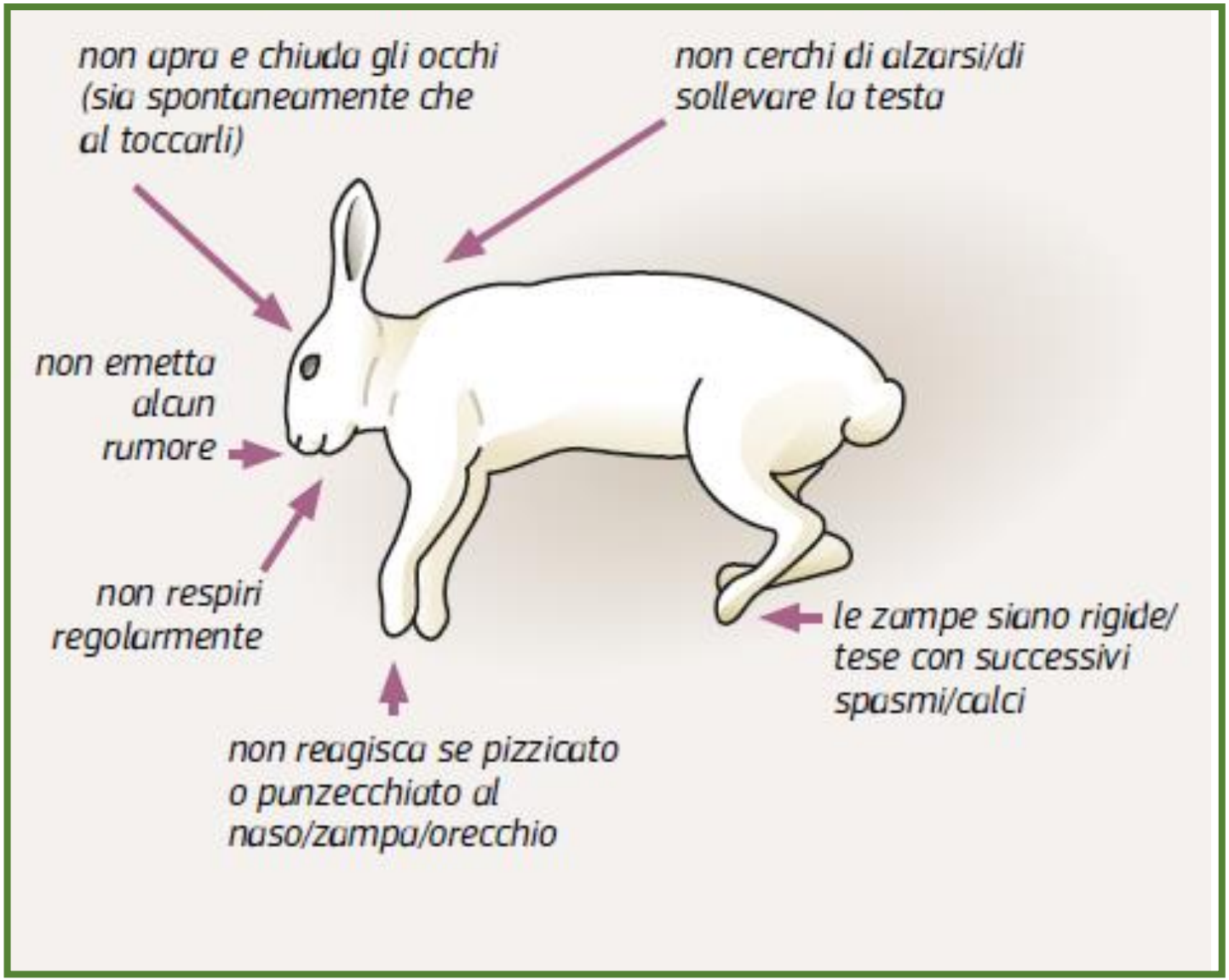
Indicatore	Segno di
Stazione quadrupedale	
Riflesso di sollevamento	
Vocalizzazione volontaria	
Ammiccamento volontario	
Occhio vigile (segue movimenti)	
Risposta alla minaccia	
Assenza riflesso corneale	
Assenza riflesso palpebrale	
Assenza di respirazione ritmica	

SE PRESENTI = SICURAMENTE COSCIENTI

DEVONO ESSERE ASSENTI PERCHE' L'ANIMALE SIA INCOSCIENTE

Segni corretto stordimento

- collasso dell'animale
- assenza di respirazione ritmica
- espressione fissa degli occhi (no nistagmo)
- (insorgenza di una fase tonico – clonica)
- assenza di riflesso corneale
- nessuna vocalizzazione
- mandibola rilassata
- lingua penzolante


non apra e chiuda gli occhi (sia spontaneamente che al toccarli)
non cerchi di alzarsi/di sollevare la testa
non emetta alcun rumore
non respiri regolarmente
non reagisca se pizzicato o punzecchiato al naso/zampa/orecchio
le zampe siano rigide/ tese con successivi spasmi/calci

COLPO PERCUSSIVO

3. COLPO DA PERCUSSIONE ALLA TESTA

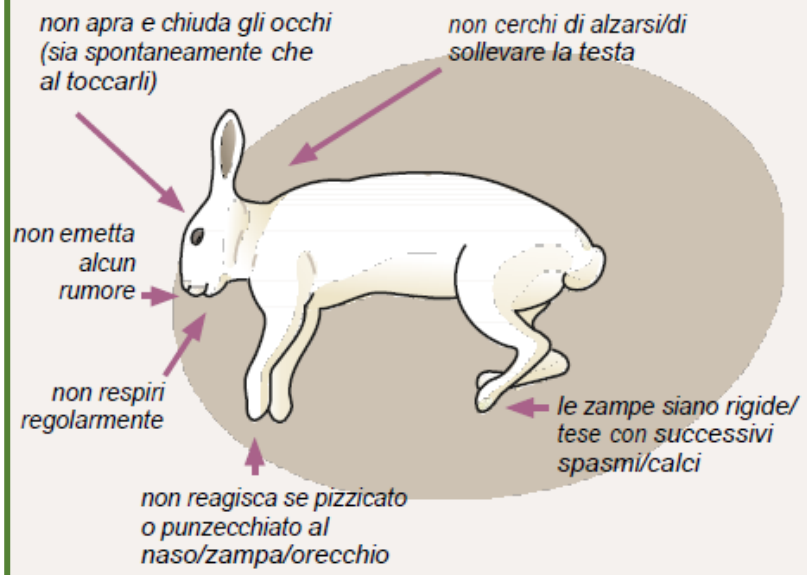
Utilizzato correttamente, questo metodo conduce a morte. Con questo metodo non si possono abbattere più di 70 conigli al giorno.

Posizionare il coniglio

- Sostenere il coniglio dalle zampe posteriori
- Utilizzare un oggetto pesante ma facile da maneggiare (ad esempio una mazza, una sbarra di ferro)
- Colpire il coniglio sulla parte superiore della testa, dietro le orecchie

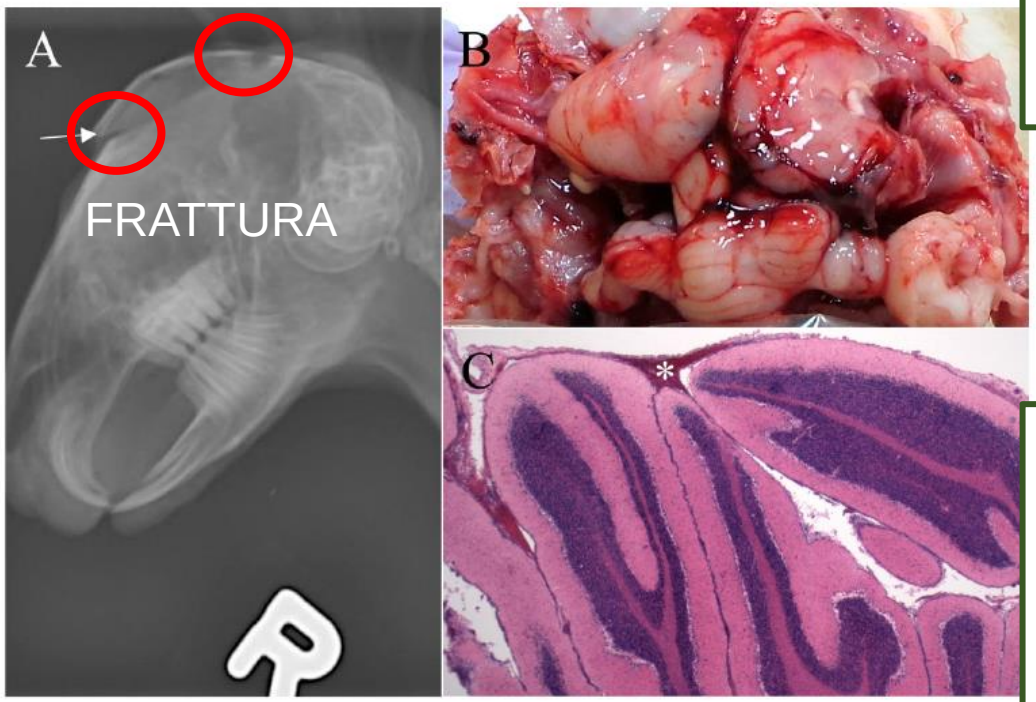
Controllare che sia incosciente

Assicurarsi che i conigli siano incoscienti prima di provvedere al dissanguamento. Controllare che:



Factsheet

COLPO PERCUSSIVO



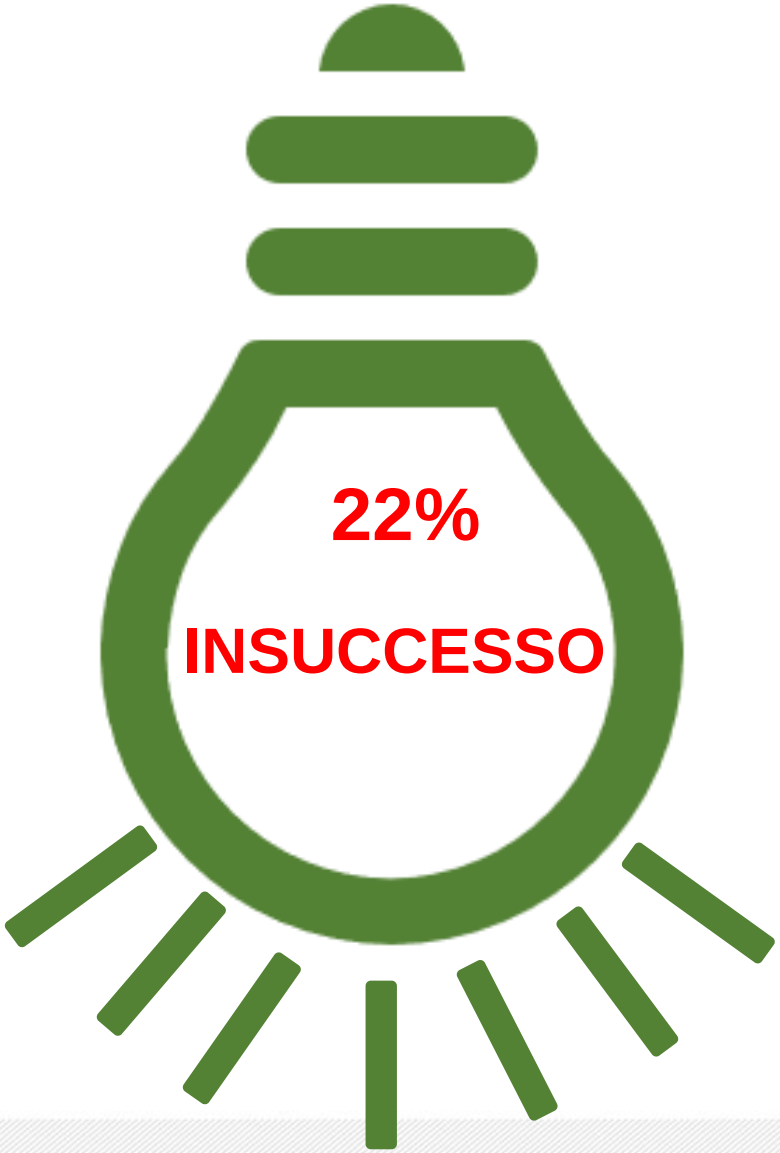
EMORRAGIA SUBDURALE DORSALE LIMITATA (<25%)

CERVELLETTO: EMORRAGIA SUBDURALE MODICA E NESSUNA EMORRAGIA PARENCHIMALE (0%)

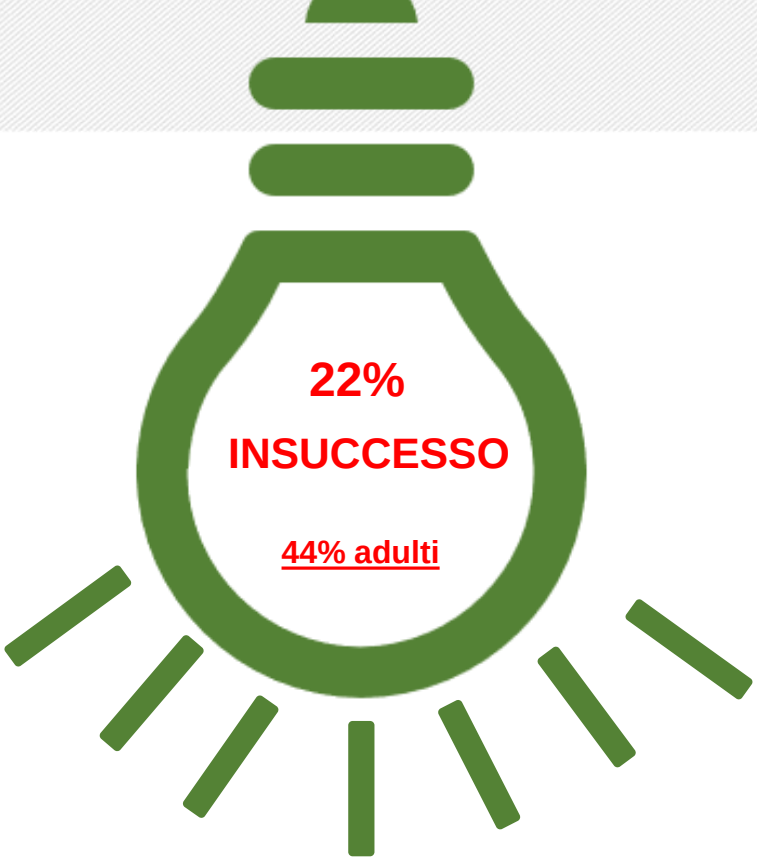
Figure 4. Six week-old grower rabbit euthanized by blunt force trauma. (**A**) Survey radiograph demonstrating fractured cranium (arrow); (**B**) Minimal subdural dorsal hemorrhage covers less than 25% of the brain surface (gross score of 1/4); (**C**) Photomicrograph of cerebellum (demonstrating mild subdural hemorrhage (*) (histologic score of 2/4) and no parenchymal hemorrhage (histologic score of 0/4). No subdural or parenchymal hemorrhage were noted in the midbrain. (H & E, ×20).

Walsh et al., 2017

COLPO PERCUSSIVOALLA TESTA



Walsh et al., 2017



MATERIALE

FORZA

AREA TARGET

CONTENIMENTO

Walsh et al., 2017, Li K. et al., 2012

PISTOLA A PROIETTILE CAPTIVO NON PENETRANTE

STORDIMENTO SEMPLICE

ISTITUTO ZOOPROFILATTICO SPERIMENTALE
DELLA LOMBARDIA E DELL'EMILIA ROMAGNA
"BRUNO UBERTINI"
ENTE SANITARIO DI DIRITTO PUBBLICO

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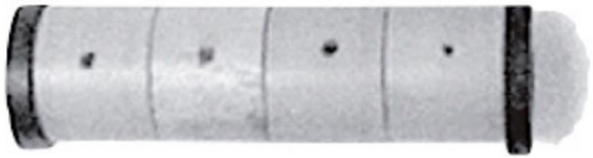
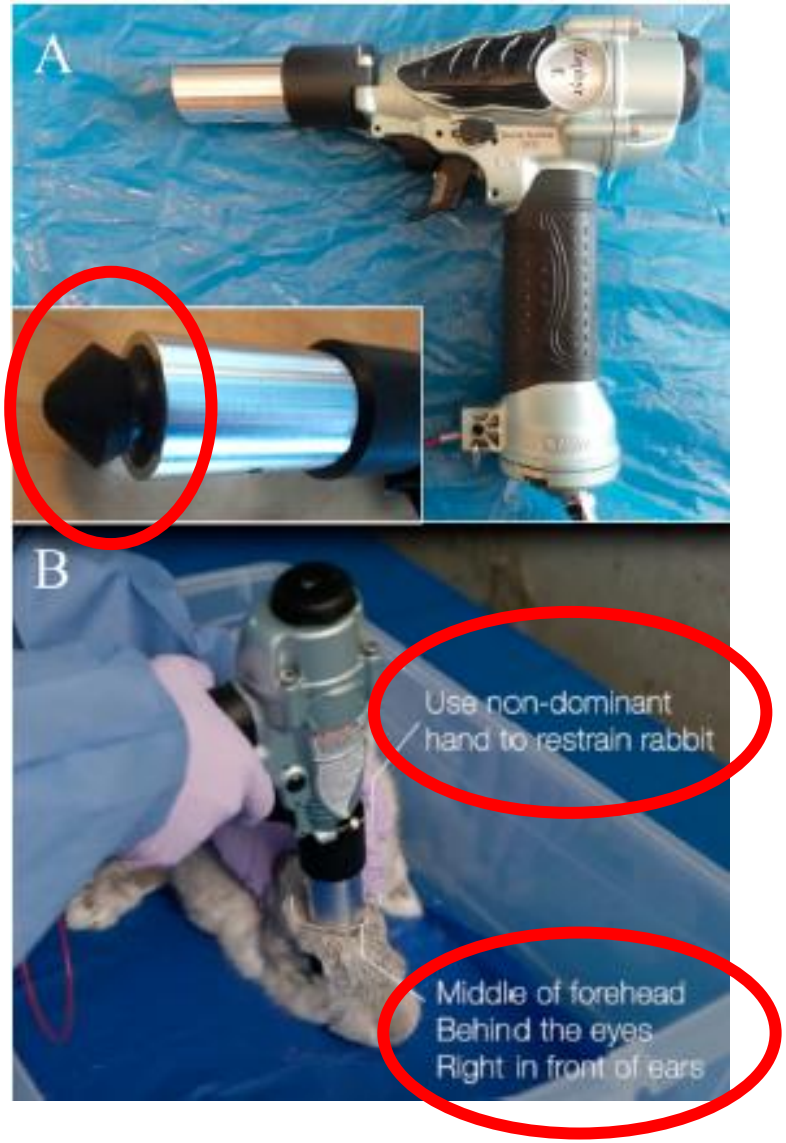
Convex head

Recuperator sleeves



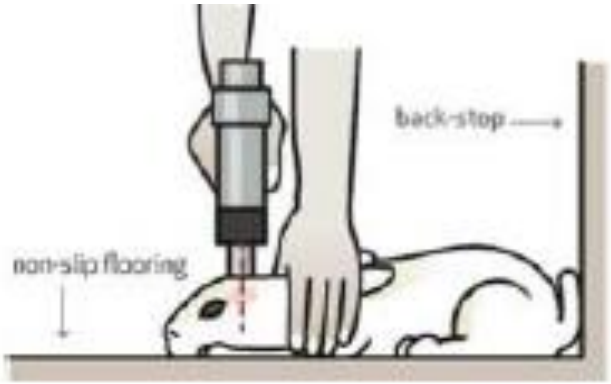
Captive bolt body

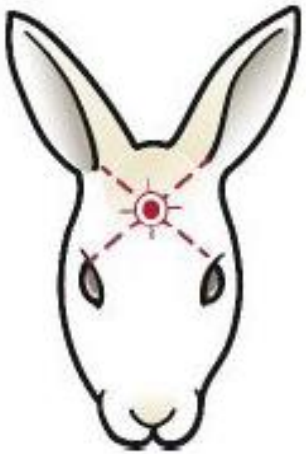
Conigli



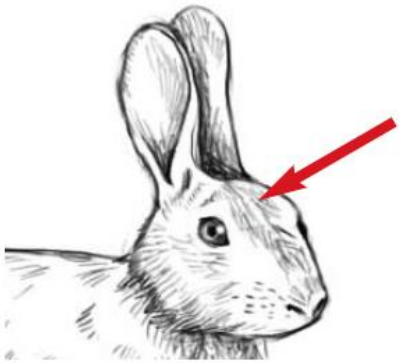
Walsh et al., 2017

Stordimento con pistola a proiettile non penetrante





- Stilo:
  - 6 mm diametro
  - Penetrante: 27 mm lunghezza
  - Non penetrante (aria compressa, 70 PSI*): 20 mm lunghezza



*Pound Square Inch

Walsh et al., 2017

Factsheet

Commissione europea

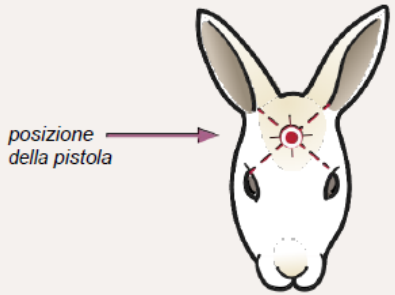
COME STORDIRE/ABBATTERE I CONIGLI PRESSO L'AZIENDA AGRICOLA

I conigli che non sono idonei al trasporto o con scarso accrescimento devono essere abbattuti in allevamento. L'abbattimento in allevamento può essere fatto con lo scopo di fornire la carne direttamente ai consumatori o ai rivenditori. In tutti i casi è obbligatorio lo stordimento. Allo stordimento deve seguire subito l'abbattimento, in modo da provocare una morte indolore. Le informazioni riportate non prevalgono sulle norme nazionali nel caso in cui queste procedure siano vietate o oggetto di limitazione da parte di quest'ultime.

Lo stordimento e l'abbattimento devono essere eseguiti da operatori con un adeguato livello di competenza.

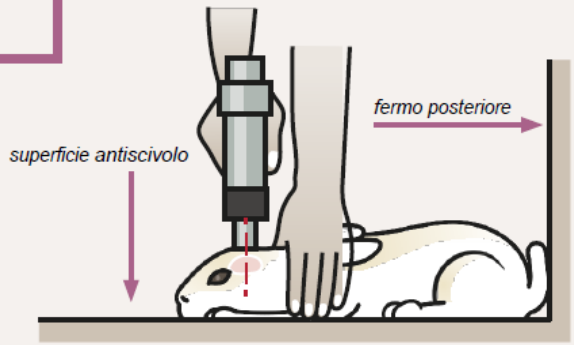
INFORMAZIONI SUI CONIGLI

- In caso di timore, dolore o stress, i conigli assumono la posizione di "freezing", portandoli a non mostrare alcuna reazione visibile
- Maneggiare i conigli agitati **con cura** per evitare di causare ferite all'animale o a se stessi.
- Sollevarli dalla **collottola** o dalla pelle **delle spalle** (**non sollevarlo mai dalle orecchie** – sono molto sensibili)



STORDIMENTO/ABBATTIMENTO

Per uno stordimento efficace è fondamentale maneggiarli e immobilizzarli in modo appropriato. Una volta che il coniglio è immobilizzato, si può procedere con uno dei metodi di seguito illustrati.



1. PISTOLA A PROIETTILE CAPTIVO PENETRANTE/NON PENETRANTE

Un proiettile captivo penetrante viene sparato sul cranio per raggiungere il cervello. Un proiettile captivo non penetrante colpisce la fronte senza penetrare nel cranio. Dopo aver stordito il coniglio, procedere con il dissanguamento entro 10 secondi in modo da non farlo soffrire.

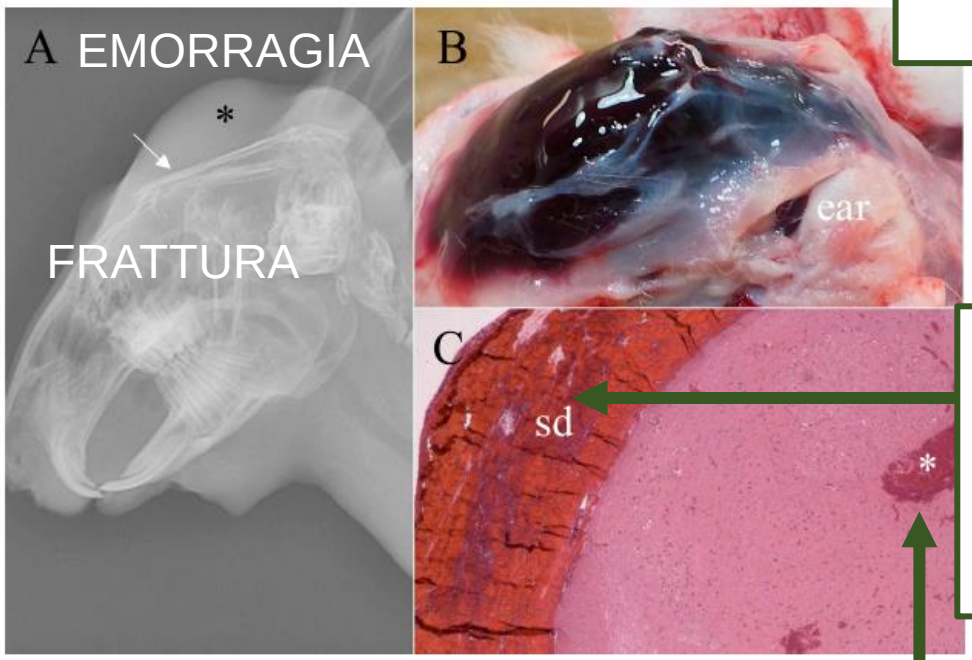
Immobilizzare e posizionare

- Posizionare il coniglio su una superficie antiscivolo con un fermo posteriore in modo che non possa indietreggiare
- Sostenere il coniglio con una mano sul collo e sulle spalle, con il pollice e l'indice sui due lati del collo
- Maneggiare la pistola con l'altra mano

Parametri

- Leggere le istruzioni del produttore per assicurarsi che la pistola a proiettile captivo sia adeguata per conigli
- I proiettili captivi penetranti devono avere un diametro di almeno 6 mm

EMORRAGIA SUBCUTANEA



EMORRAGIA SUBDURALE MARCATA DEL MESENCEFALO + MODERATA EMORRAGIA PARENCHIMALE

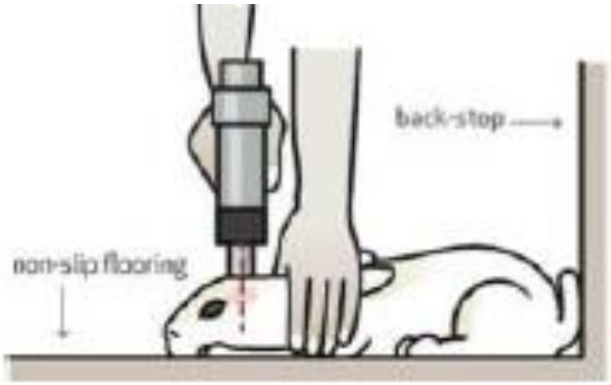
Figure 3. Eight week-old grower rabbit euthanized with the non-penetrating captive bolt device. (A) Survey radiograph demonstrating fractured and depressed cranium (arrow) and marked subcutaneous swelling and hemorrhage (*); (B) Skin reflected to demonstrate marked subcutaneous hemorrhage completely covering the area from the eyes to the base of the skull (gross score of 4/4); (C) Photomicrograph of midbrain demonstrating marked subdural hemorrhage (sd) (histologic score of 4/4) and moderate parenchymal hemorrhage (*) (histologic score of 3/4) (H & E, ×20).

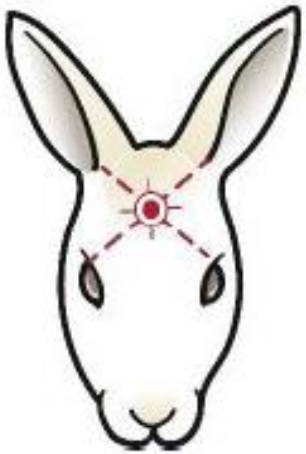
Walsh et al., 2017

PISTOLA A PROIETTILE CAPTIVO
NON PENETRANTE

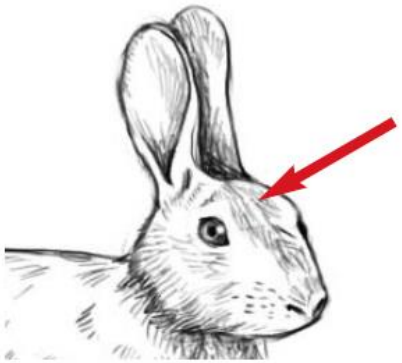
PISTOLA A PROIETTILE CAPTIVO PENETRANTE

Stordimento con pistola a proiettile non penetrante

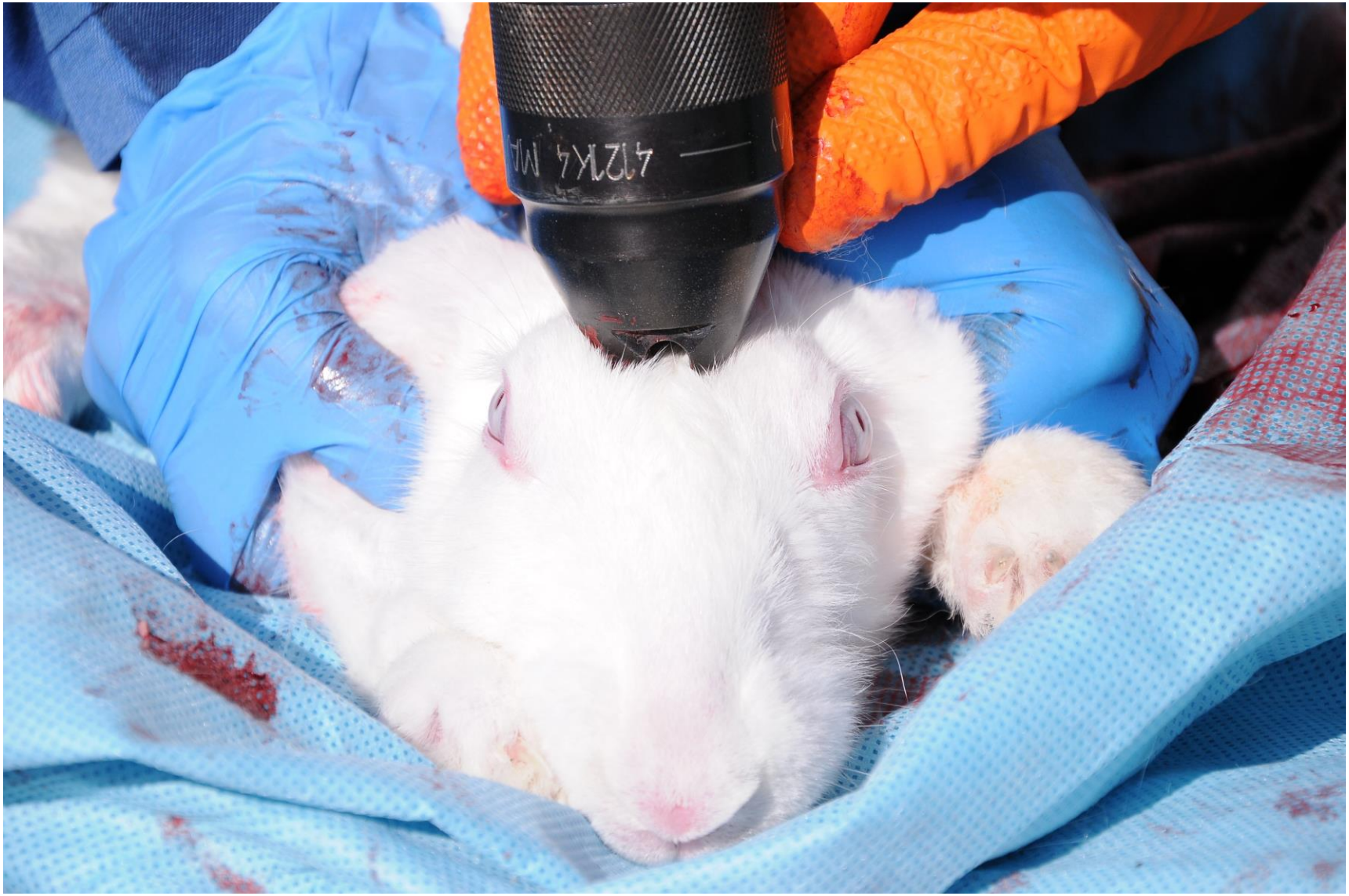


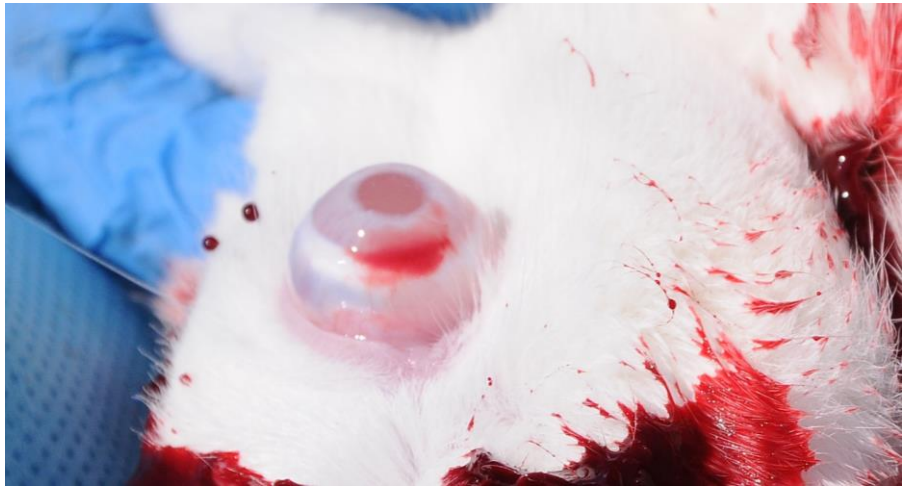


- Stilo:
  - 6 mm diametro
  - Penetrante: 27 mm lunghezza

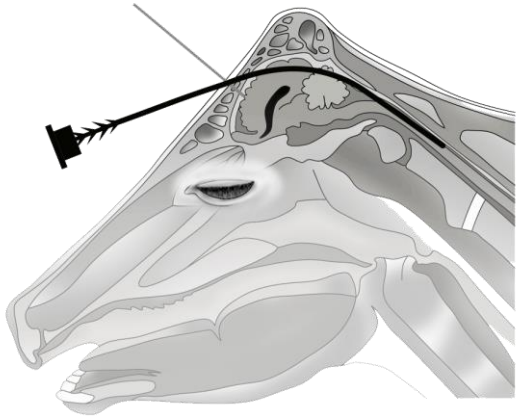



MAX

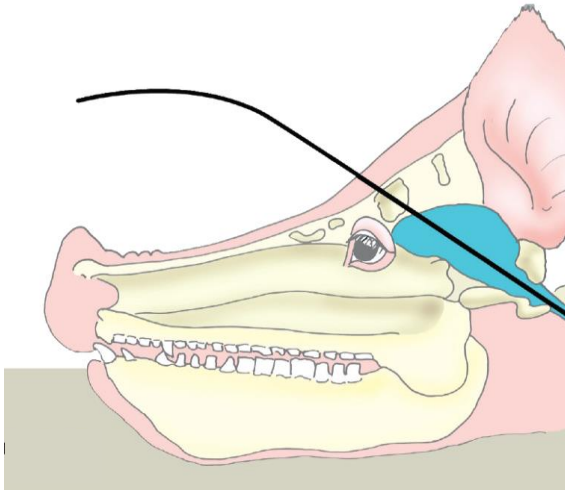




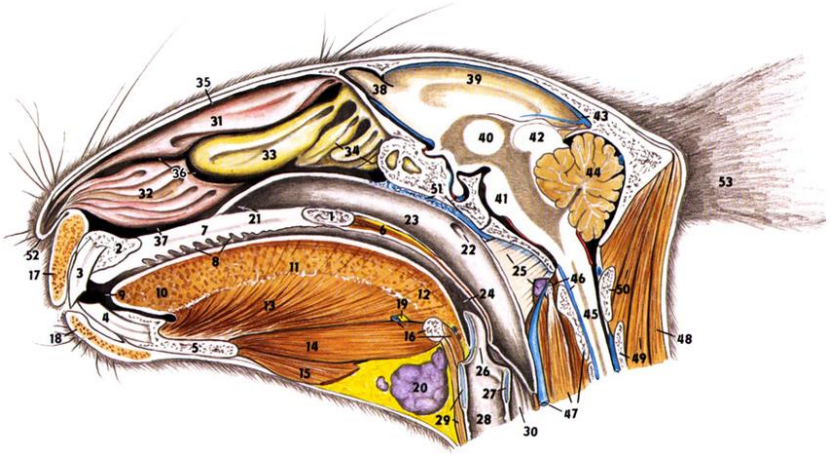
Pithing



- Diamtero: 6mm
- Suini 30 kg, minimo 20 cm through
- Scrofe minimo 1-1.5 m



Pithing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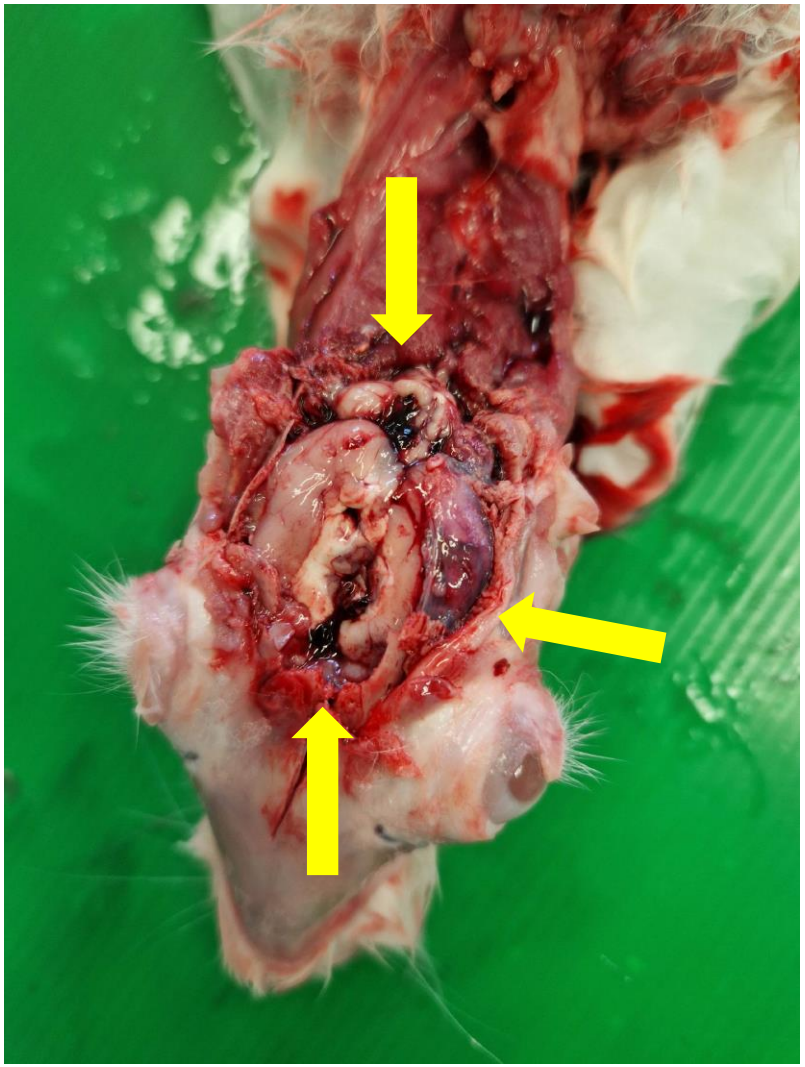
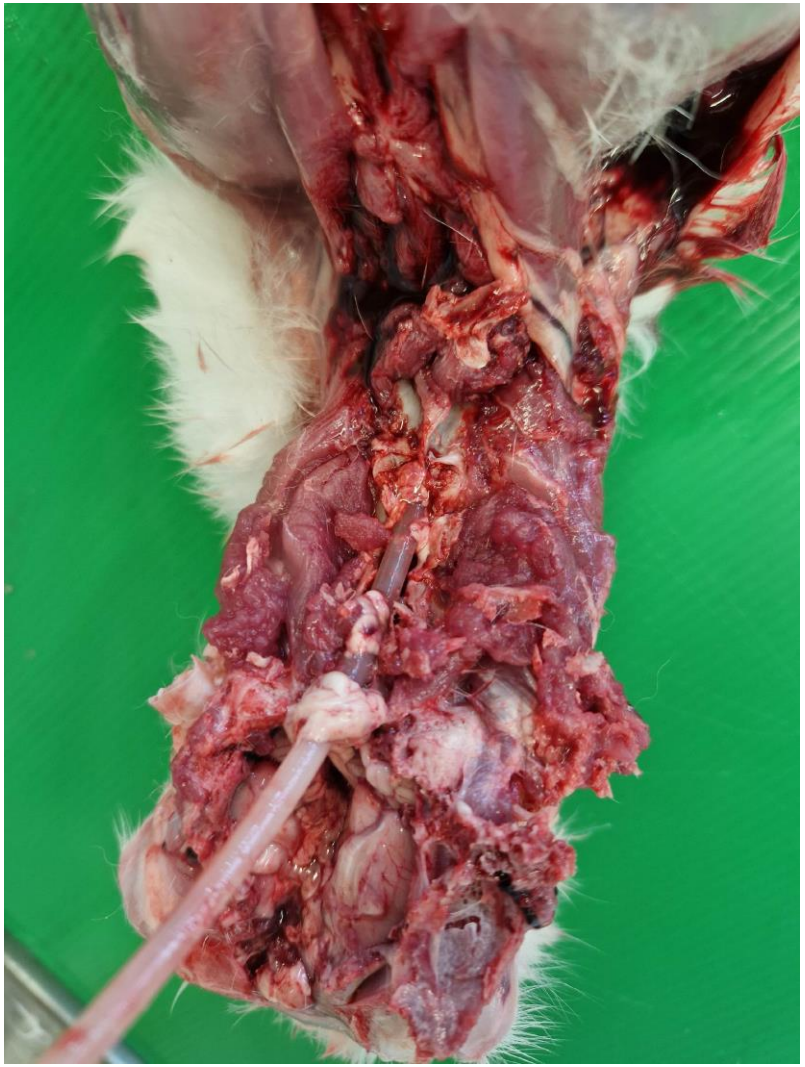




DISSANGUAMENTO

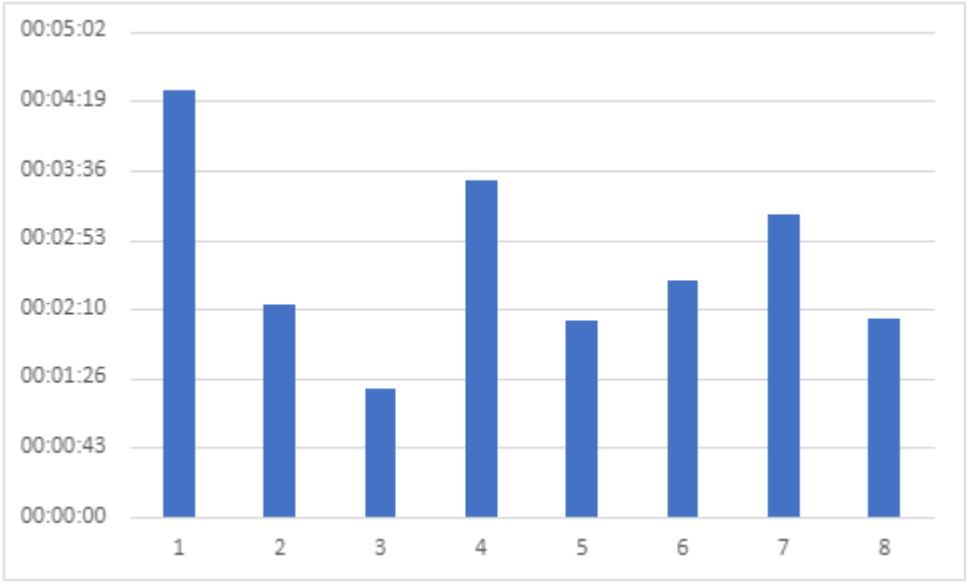
- E’ importante che siano recisi tutti i principali vasi emergenti dal cuore affinché il dissanguamento avvenga rapidamente
- Se viene recisa una sola carotide l’animale impiega più tempo

MORTE

Stato fisiologico dell' animale in cui la respirazione e la circolazione del sangue sono cessate. I centri respiratorio e circolatorio nel midollo allungato sono irreversibilmente inattivi a causa della permanete assenza di sostanze nutritive e ossigeno nel cervello. La coscienza è irreversibilmente persa.

- **CESSAZIONE DISSANGUAMENTO**
- **PERDITA TONO MUSCOLARE**
- **ASSENZA BATTITO CARDIACO**
- **PUPILLE DILATATE**

Cessazione battito (pithing)



SCIENTIFIC OPINION

EFSA Journal

ADOPTED: 21 November 2019

doi: 10.2903/j.efsa.2020.5927

Stunning methods and slaughter of rabbits for human consumption

EFSA Panel on Animal Health and Welfare (AHAW),
Søren Saxmose Nielsen, Julio Alvarez, Dominique Joseph Bicout, Paolo Calistri, Klaus Depner, Julian Ashley Drewe, Bruno Garin-Bastuji, Jose Luis Gonzales Rojas, Christian Gortázar Schmidt, Virginie Michel, Miguel Ángel Miranda Chueca, Helen Clare Roberts, Liisa Helena Sihvonen, Karl Stahl, Antonio Velarde Calvo, Arvo Viltrop, Christoph Winckler, Denise Candiani, Chiara Fabris, Olaf Mosbach-Schulz, Yves Van der Stede and Hans Spoolder

Abstract

This opinion on the killing of rabbits for human consumption ('slaughtering') responds to two mandates: one from the European Parliament (EP) and the other from the European Commission. The opinion describes stunning methods for rabbits known to the experts in the EFSA working group, which can be used in commercial practice, and which are sufficiently described in scientific and technical literature for the development of an opinion. These are electrical stunning, mechanical stunning with a penetrative and non-penetrative captive bolt and gas stunning. The latter method is not allowed in the EU anymore following Council Regulation (EC) No 1099/2009, but may still be practiced elsewhere in the world. Related hazards and welfare consequences are also evaluated. To monitor stunning effectiveness as requested by the EP mandate, the opinion suggests the use of indicators for the state of consciousness, selected on the basis of their sensitivity, specificity and ease of use. Similarly, it suggests indicators to confirm animals are dead before dressing. For the European Commission mandate, slaughter processes were assessed from the arrival of rabbits in containers until their death, and grouped in three main phases: pre-stunning (including arrival, unloading of containers from the truck, lairage, handling/removing of rabbits from containers), stunning (including restraint) and bleeding (including bleeding following stunning and bleeding during slaughter without stunning). Ten welfare consequences resulting from the hazards that rabbits can be exposed to during slaughter are identified: consciousness, animal not dead, thermal stress (heat or cold stress), prolonged thirst, prolonged hunger, restriction of movements, pain, fear, distress and respiratory distress. Welfare consequences and relevant animal-based measures (indicators) are described. Outcome tables linking hazards, welfare consequences, indicators, origins, preventive and corrective measures are developed for each process. Mitigation measures to minimise welfare consequences are also proposed.

Keywords: rabbit, slaughter, hazards, animal welfare consequences, welfare indicators, preventive/corrective measures

Requestor: European Parliament and European Commission

Question numbers: EFSA-Q-2018-00594 and EFSA-Q-2018-00909

Correspondence: alpha@efsa.europa.eu

SCIENTIFIC OPINION

EFSA Journal

ADOPTED: 10 December 2019

doi: 10.2903/j.efsa.2020.5943

Scientific opinion concerning the killing of rabbits for purposes other than slaughter

EFSA Panel on Animal Health and Welfare (AHAW),
Søren Saxmose Nielsen, Julio Alvarez, Dominique Joseph Bicout, Paolo Calistri, Klaus Depner, Julian Ashley Drewe, Bruno Garin-Bastuji, Jose Luis Gonzales Rojas, Christian Gortázar Schmidt, Virginie Michel, Miguel Ángel Miranda Chueca, Helen Clare Roberts, Liisa Helena Sihvonen, Karl Stahl, Antonio Velarde Calvo, Arvo Viltrop, Christoph Winckler, Denise Candiani, Chiara Fabris, Olaf Mosbach-Schulz, Yves Van der Stede and Hans Spoolder

Abstract

Rabbits of different ages may have to be killed on-farm for purposes other than slaughter (where slaughter is defined as killing for human consumption) either individually or on a large scale (e.g. for production reasons or for disease control). The purpose of this opinion was to assess the risks associated to the on-farm killing of rabbits. The processes during on-farm killing that were assessed induded handling, stunning and/or killing methods (including restraint). The latter were grouped into four categories: electrical methods, mechanical methods, controlled atmosphere method and lethal injection. In total, 14 hazards were identified and characterised, most of these related to stunning and/or killing. The staff was identified as the origin for all hazards, either due to lack of the appropriate skill sets needed to perform tasks or due to fatigue. Possible corrective and preventive measures were assessed: measures to correct hazards were identified for five hazards and the staff was shown to have a crucial role in prevention. Five welfare consequences of the welfare hazards to which rabbits can be exposed to during on-farm killing were identified: not being dead, consciousness, pain, fear and distress. Welfare consequences and relevant animal-based measures were described. Outcome tables linking hazards, welfare consequences, animal-based measures, origins, preventive and corrective measures were developed for each process. Mitigation measures to minimise welfare consequences are proposed.

Keywords: rabbit, on-farm killing, hazards, animal welfare consequences, welfare indicators, preventive/corrective measures

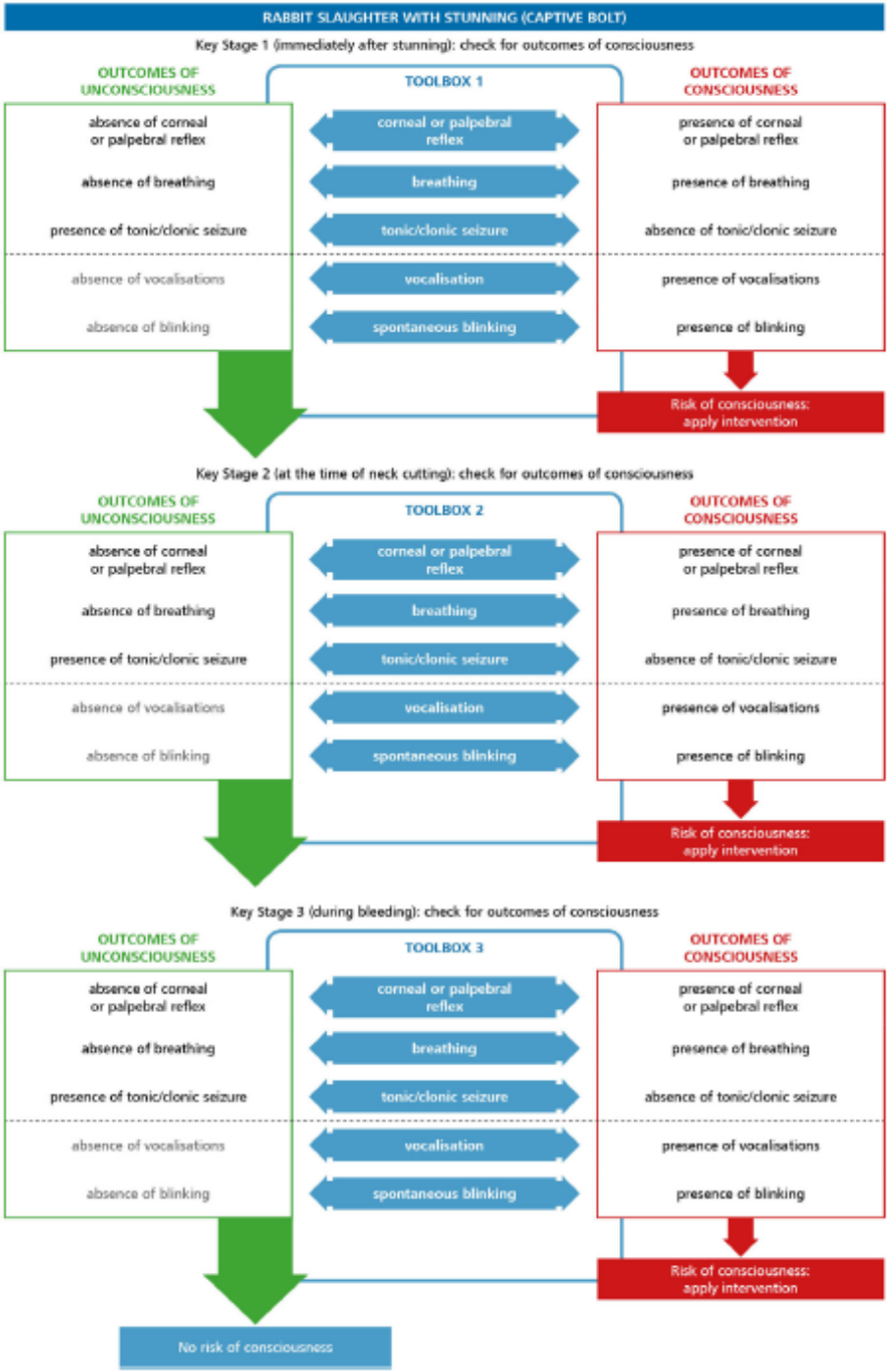
Requestor: European Parliament and European Commission

Question numbers: EFSA-Q-2019-00518 and EFSA-Q-2019-00519

Correspondence: alpha@efsa.europa.eu

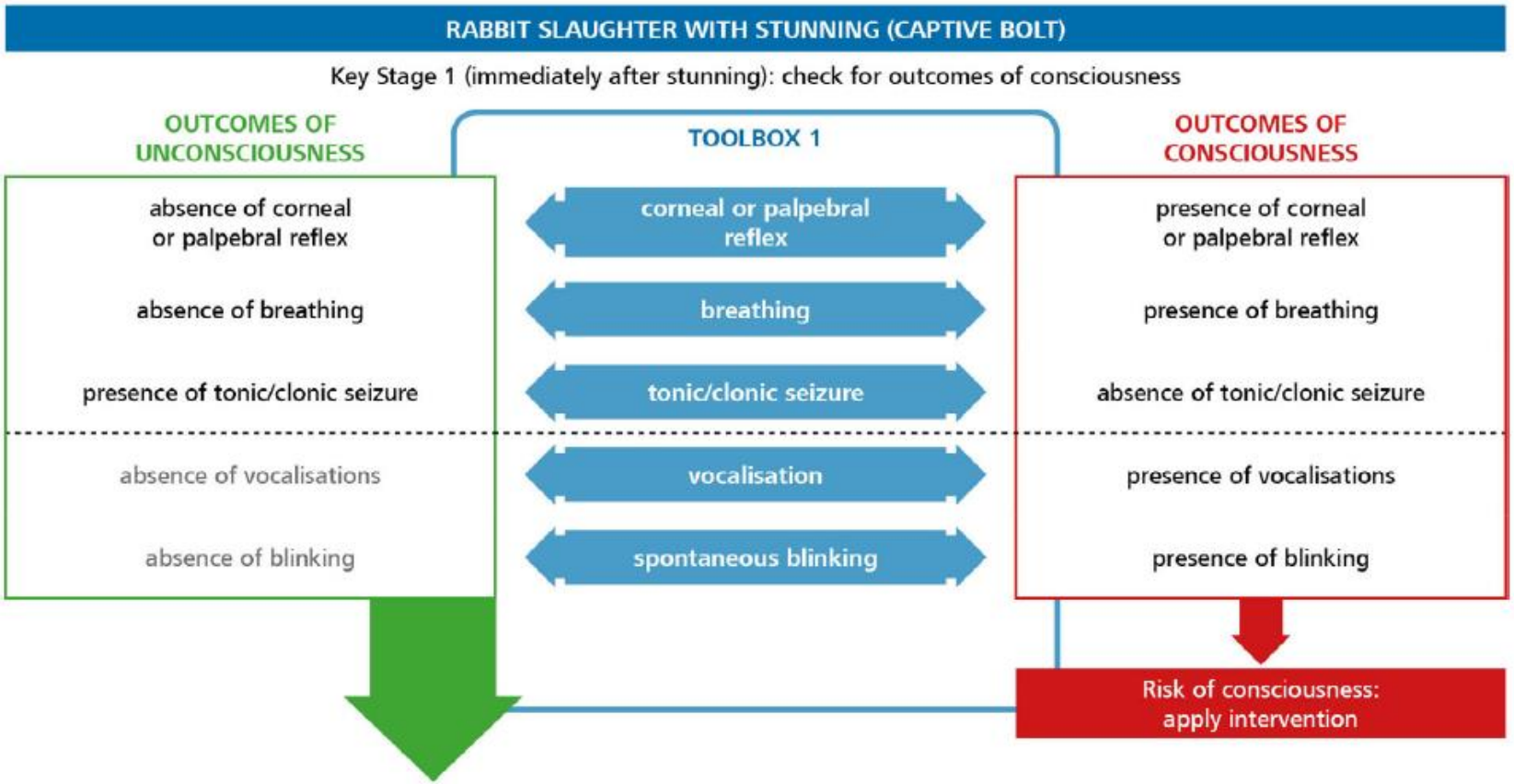
Pericoli allo stordimento

PERICOLO	ELETTRICO SOLO TESTA	PISTOLA A PROIETTILE CAPTIVO	COLPO PERCUSSIVO
CONTENIMENTO MANUALE	x	x	x
INVERSIONE	x		x
APPENDIMENTO	x	x	
CONTATTO ELETTRICO SCADENTE	x		
APPENDIMENTO INADEGUATO	x	x	
TEMPO DI ESPOSIZIONE TROPPO BREVE	x		
PARAMETRI ELETTRICI INAPPROPRIATI	x		
POSIZIONE DELLO SPARO SCORRETTA		x	
PARAMETRI DELLO STILO SCORRETTI		x	
APPLICAZIONE SCORRETTA DEL COLPO			x
N° TOTALE DI PERICOLI	**6**	**3**	**3**


RABBIT SLAUGHTER WITH STUNNING (CAPTIVE BOLT)
Key Stage 1 (immediately after stunning): check for outcomes of consciousness
OUTCOMES OF UNCONSCIOUSNESS
TOOLBOX 1
OUTCOMES OF CONSCIOUSNESS
absence of corneal or palpebral reflex
absence of breathing
presence of tonic/clonic seizure
absence of vocalisations
absence of blinking
corneal or palpebral reflex
breathing
tonic/clonic seizure
vocalisation
spontaneous blinking
presence of corneal or palpebral reflex
presence of breathing
absence of tonic/clonic seizure
presence of vocalisations
presence of blinking
Risk of consciousness: apply intervention
Key Stage 2 (at the time of neck cutting): check for outcomes of consciousness
OUTCOMES OF UNCONSCIOUSNESS
TOOLBOX 2
OUTCOMES OF CONSCIOUSNESS
absence of corneal or palpebral reflex
absence of breathing
presence of tonic/clonic seizure
absence of vocalisations
absence of blinking
corneal or palpebral reflex
breathing
tonic/clonic seizure
vocalisation
spontaneous blinking
presence of corneal or palpebral reflex
presence of breathing
absence of tonic/clonic seizure
presence of vocalisations
presence of blinking
Risk of consciousness: apply intervention
Key Stage 3 (during bleeding): check for outcomes of consciousness
OUTCOMES OF UNCONSCIOUSNESS
TOOLBOX 3
OUTCOMES OF CONSCIOUSNESS
absence of corneal or palpebral reflex
absence of breathing
presence of tonic/clonic seizure
absence of vocalisations
absence of blinking
corneal or palpebral reflex
breathing
tonic/clonic seizure
vocalisation
spontaneous blinking
presence of corneal or palpebral reflex
presence of breathing
absence of tonic/clonic seizure
presence of vocalisations
presence of blinking
Risk of consciousness: apply intervention
No risk of consciousness

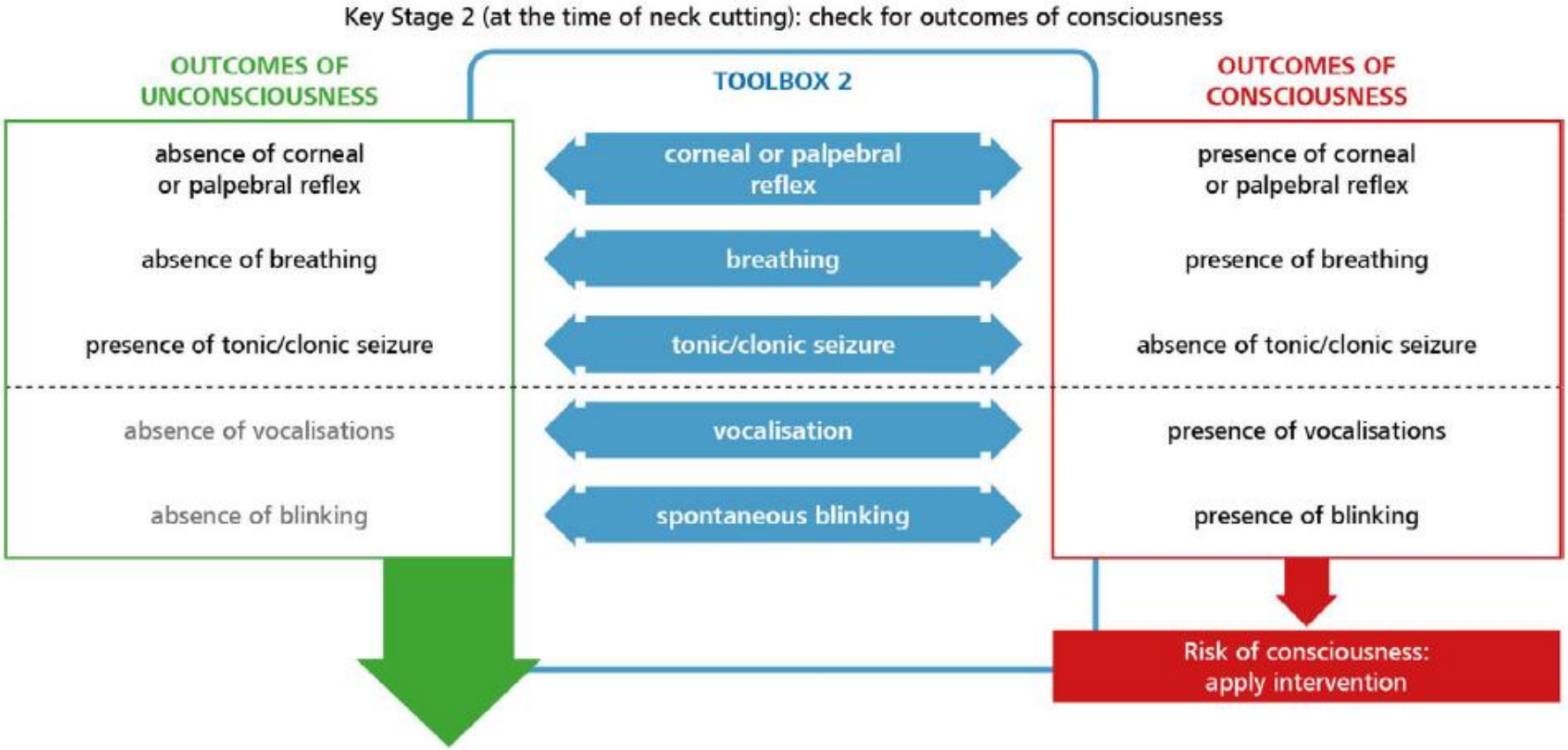
ALMENO 2
INDICATORI

STORDIMENTO



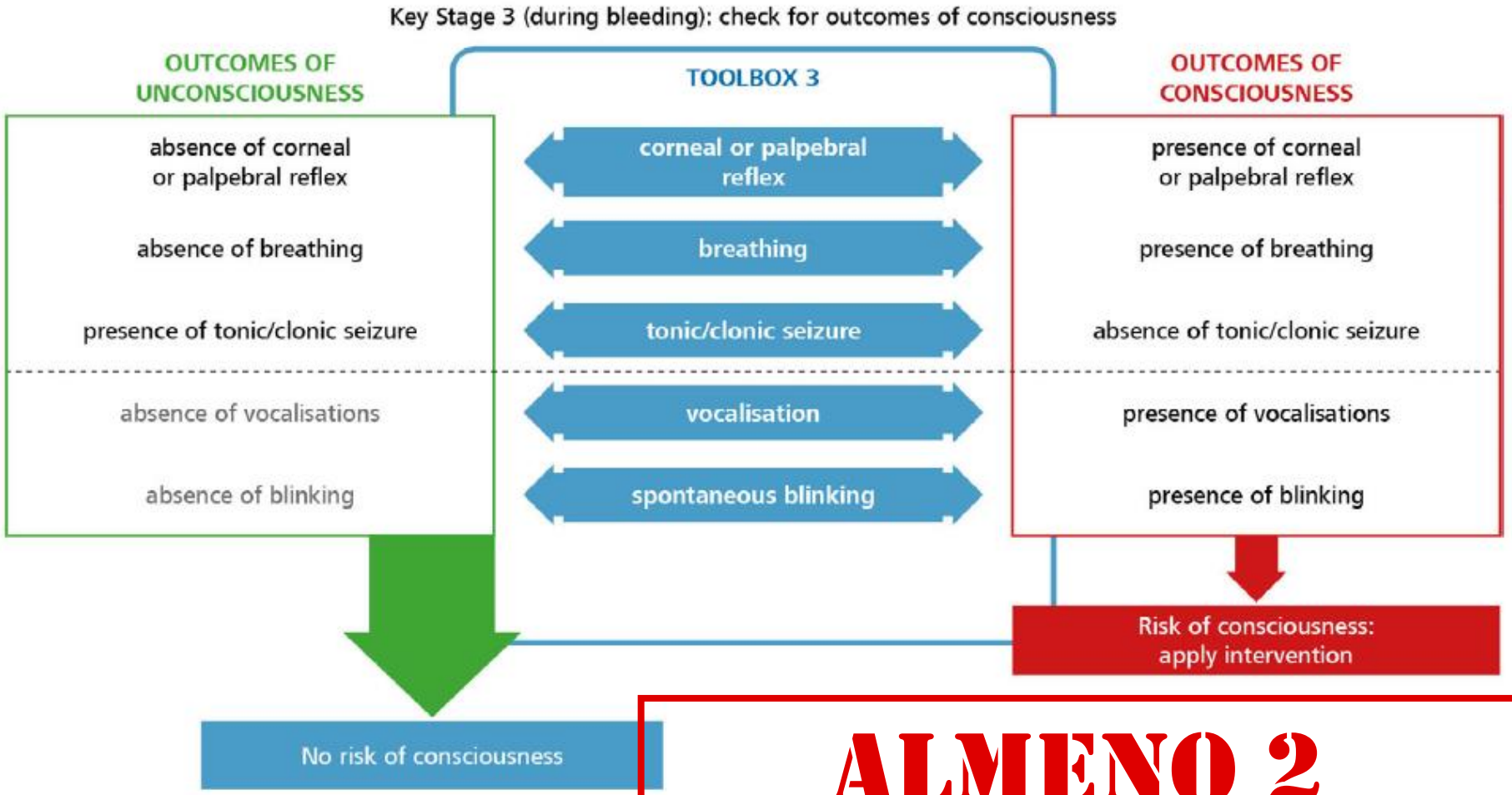
ALMENO 2 INDICATORI

TAGLIO



ALMENO 2 INDICATORI

DISSANGUAMENTO



ALMENO 2 INDICATORI

STORDIMENTO	INDICATORE	FASE	SENSIBILITÀ			SPECIFICITÀ			FACILITÀ DI APPLICAZIONE		
			Risultati								
			Mediana	P5	P95	Mediana	P5	P95	FASE 1 (stord)	FASE 2 (jugul)	FASE 3 (dissang)
			[%]	[%]	[%]	[%]	[%]	[%]	Media della categoria		
ELETTRICO	Tonico Clonico	FASE 1	92.9%	78.2%	98.9%	95.9%	86.7%	99.4%	1.1		
C CAPTIVO			85.5%	57.4%	98.0%	93.1%	73.5%	99.5%	1.0		
ELETTRICO		FASE 2	92.6%	73.1%	99.3%	95.5%	81.9%	99.7%		1.8	
C CAPTIVO			88.7%	62.0%	98.9%	85.5%	57.7%	98.0%		1.9	
ELETTRICO		FASE 3	90.9%	66.1%	99.3%	87.3%	55.7%	99.0%			2.3
C CAPTIVO			87.7%	56.8%	99.0%	73.3%	32.4%	96.4%			2.1
ELETTRICO	Riflesso corneale e palpebrale		94.1%	76.8%	99.5%	97.4%	89.1%	99.8%	2.3	2.0	2.1
C CAPTIVO			96.4%	85.4%	99.7%	97.7%	90.6%	99.8%	1.9	1.9	2.1
ELETTRICO	Ammiccamento spontaneo		69.5%	20.8%	97.3%	98.8%	95.8%	99.9%	1.5	1.4	1.4
C CAPTIVO			69.4%	20.7%	97.3%	98.8%	96.1%	99.8%	1.4	1.1	1.4
ELETTRICO	Respirazione ritmica		92.1%	70.0%	99.4%	97.0%	87.7%	99.8%	2.6	2.6	2.5
C CAPTIVO			91.6%	68.3%	99.3%	97.0%	87.7%	99.8%	2.6	2.6	2.5
ELETTRICO	Riflesso di raddrizzamento		76.8%	34.9%	97.6%	98.2%	92.6%	99.9%	1.7	2.1	2.2
C CAPTIVO			76.8%	34.9%	97.6%	98.2%	92.6%	99.9%	1.7	2.1	2.2
ELETTRICO	Collasso Immediato		76.8%	32.0%	98.1%	95.0%	80.0%	99.6%	2.1	3.0	3.0
C CAPTIVO			76.8%	32.0%	98.1%	96.6%	86.2%	99.7%	1.9	3.0	3.0
ELETTRICO	Vocalizzazione		56.7%	8.6%	95.9%	97.8%	90.9%	99.8%	1.0	1.1	1.1
C CAPTIVO			71.0%	37.0%	93.3%	98.1%	92.0%	99.9%	1.0	1.2	1.2

Facile(1.0 ≤ x ≤1..66)

Normale (1.66 < x ≤ 2.33)

Difficile(2.33 < x ≤ 3,0)

On farm killing

PERICOLO	MANIPOLAZIONE	ELETTRICO SOLO TESTA	PISTOLA CAPTIVA	COLPO PERCUSSIVO	INIEZIONE LETALE
Persone che entrano nei locali	X				
Manipolazione errata	X				
Rumori forti improvvisi	X				
Inversione				X	
Contenimento manuale	X	X	X	X	X
Scarso contatto elettrico		X			
Parametri elettrici inappropriati		X			
Intervallo stordimento-dissanguamento prolungato		X			
Tempo di esposizione troppo breve		X			
Posizione dello sparo scorretta			X		
Parametri della pistola scorretta			X		
Applicazione scorretta del colpo alla testa				X	
Via di somministrazione inappropriata					X
Dose subletale					X
Totale dei pericoli	**4**	**5**	**3**	**3**	**3**

On farm killing

PERICOLO	MANIPOLAZIONE	ELETTRICO SOLO TESTA	PISTOLA CAPTIVA	COLPO PERCUSSIVO	INIEZIONE LETALE
Persone che entrano nei locali	X				
Manipolazione errata	X				
Rumori forti improvvisi	X				
Inversione					
Contenimento manuale					X
Scarso contatto e					
Parametri elettric					
Intervallo stordime dissanguamento p					
Tempo di esposizio breve					
Posizione dello spar					
Parametri della pist					
Applicazione scorrett alla testa				X	
Via di somministrazione inappropriata					X
Dose subletale					X
Totale dei pericoli	**4**	**5**	**3**	**3**	**3**

STAFF

FORMAZIONE

SCIENTIFIC OPINION

EFSA Journal

ADOPTED: 21 November 2019

doi: 10.2903/j.efsa.2020.5927

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Requestor: European Parliament and European Commission

Question numbers: EFSA-Q-2018-00594 and EFSA-Q-2018-00909

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SCIENTIFIC OPINION

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Scientific opinion concerning the killing of rabbits for purposes other than slaughter

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Abstract

Rabbits of different ages may have to be killed on-farm for purposes other than slaughter (where slaughter is defined as killing for human consumption) either individually or on a large scale (e.g. for production reasons or for disease control). The purpose of this opinion was to assess the risks associated to the on-farm killing of rabbits. The processes during on-farm killing that were assessed included handling, stunning and/or killing methods (including restraint). The latter were grouped into four categories: electrical methods, mechanical methods, controlled atmosphere method and lethal injection. In total, 14 hazards were identified and characterised, most of these related to stunning and/or killing. The staff was identified as the origin for all hazards, either due to lack of the appropriate skill sets needed to perform tasks or due to fatigue. Possible corrective and preventive measures were assessed: measures to correct hazards were identified for five hazards and the staff was shown to have a crucial role in prevention. Five welfare consequences of the welfare hazards to which rabbits can be exposed to during on-farm killing were identified: not being dead, consciousness, pain, fear and distress. Welfare consequences and relevant animal-based measures were described. Outcome tables linking hazards, welfare consequences, animal-based measures, origins, preventive and corrective measures were developed for each process. Mitigation measures to minimise welfare consequences are proposed.

Keywords: rabbit, on-farm killing, hazards, animal welfare consequences, welfare indicators, preventive/corrective measures

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