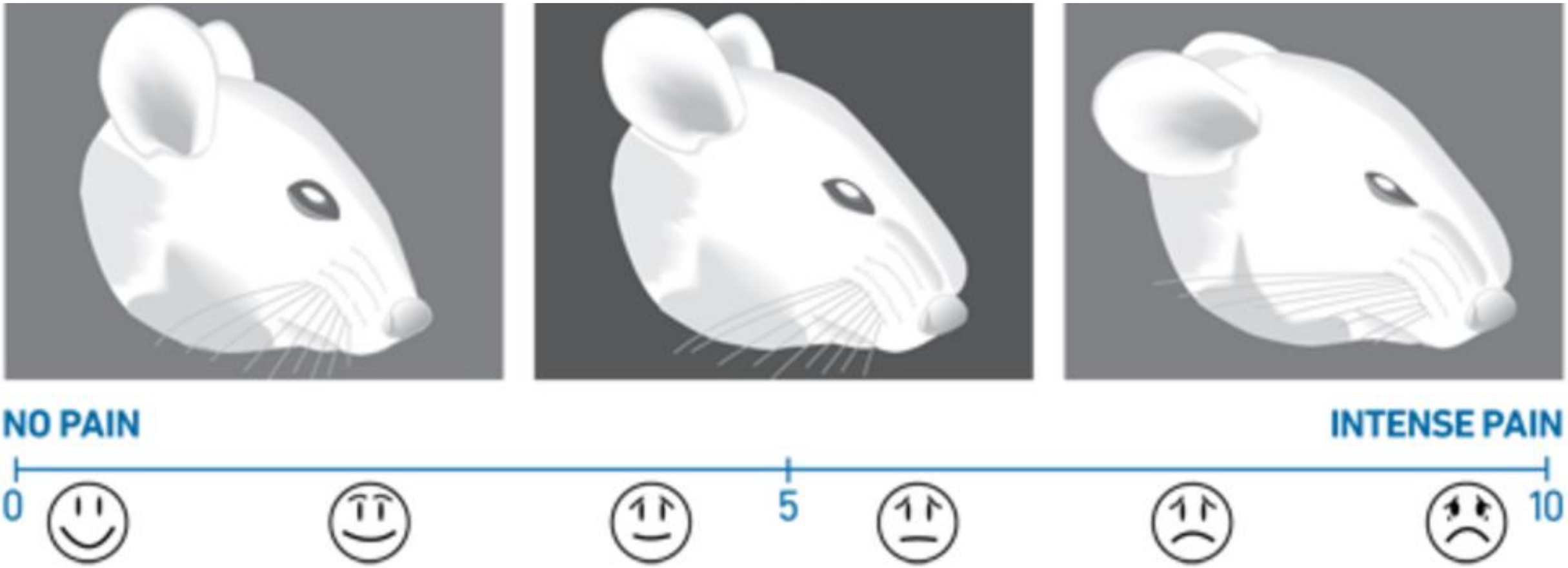
Ratto

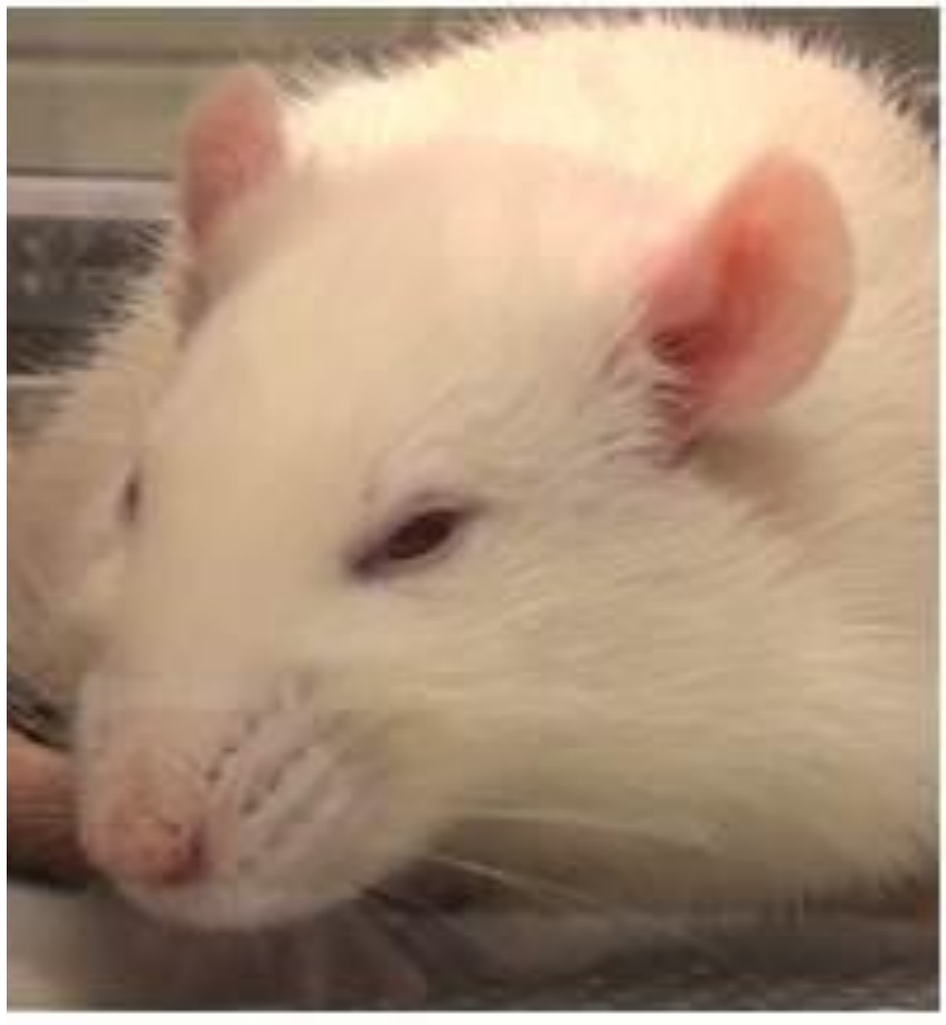
Valutazione del dolore: Rat Grimace Scale (RGS)



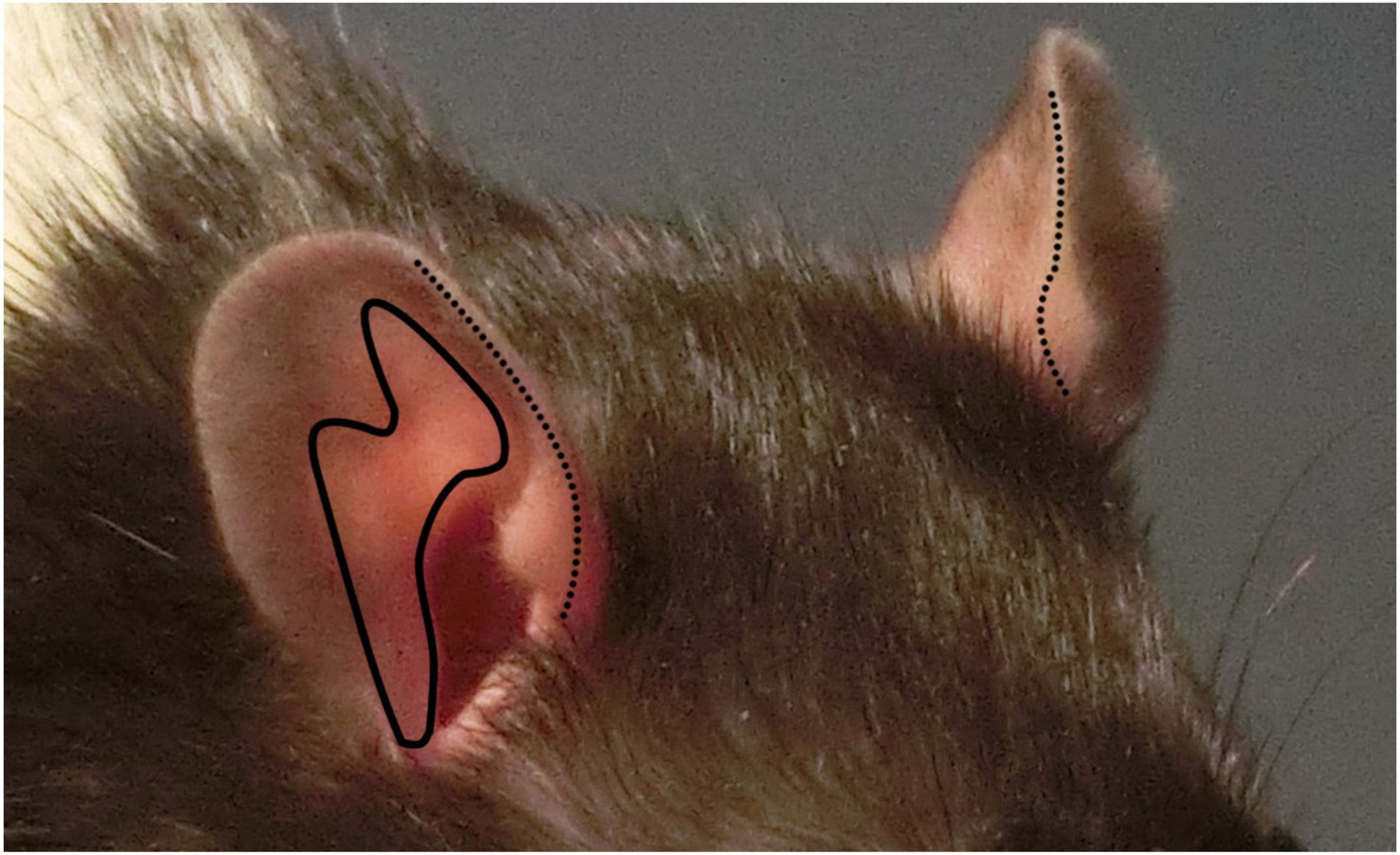
- orbital
- nose/cheek
- ear
- wiskers

Ratto

VS



Ratto: ride con le orecchie!!!



Ratto: no valutazione mentre dorme

Topo

- Perdita del “gusto” per il dolce: il topo tende a prediligere una soluzione zuccherina, in condizioni di stress non fa nessuna differenza

- Tende a raggomitolarsi e cercare posti con meno luce

- Perdita del comportamento interattivo

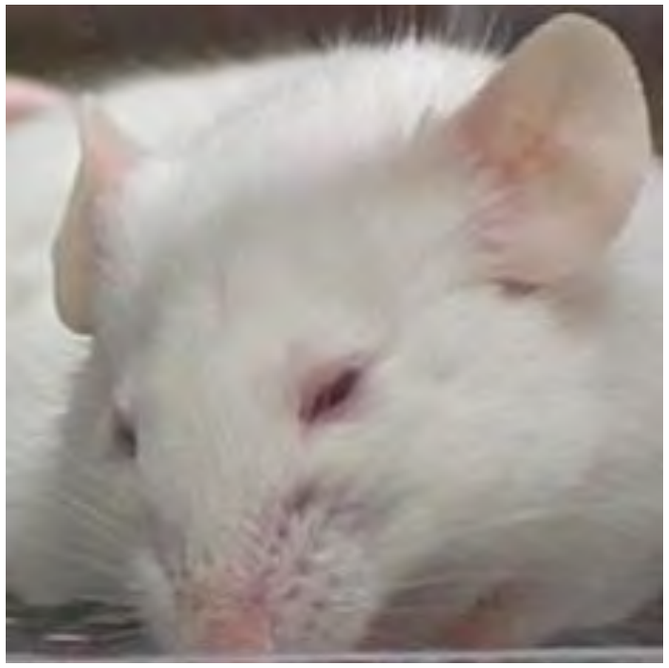
- Riduzione della capacità di reazione: ***“tail suspension test”***

Topo

Valutazione del dolore: Mouse Grimace Scale (MGS)

"0"

"1"

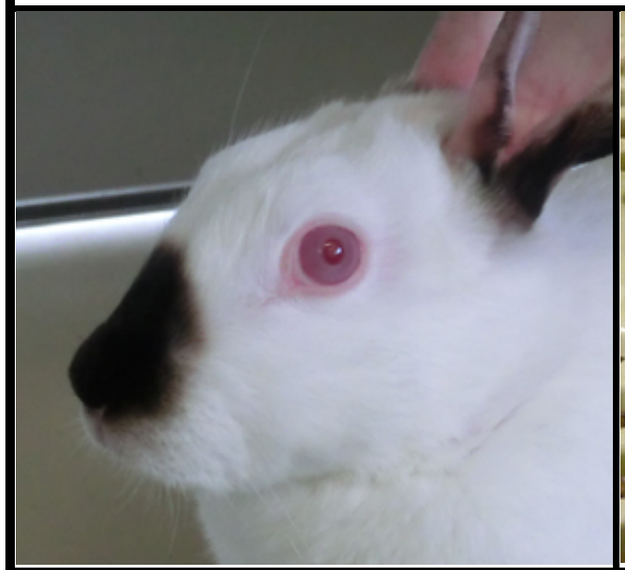
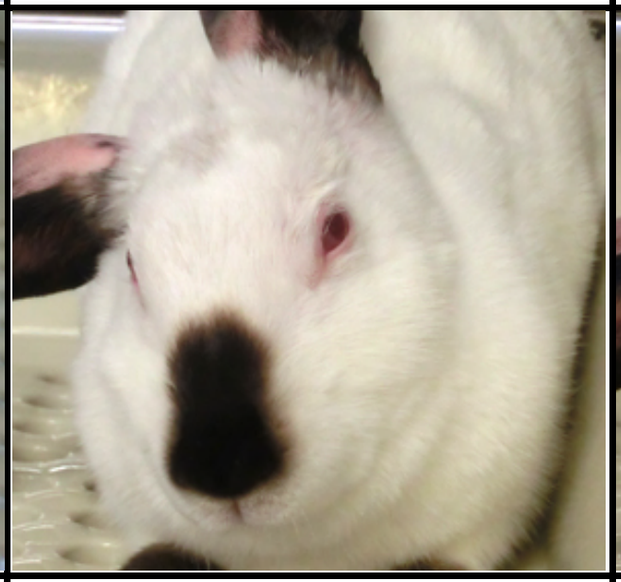


"2"

Segni Clinici: Coniglio

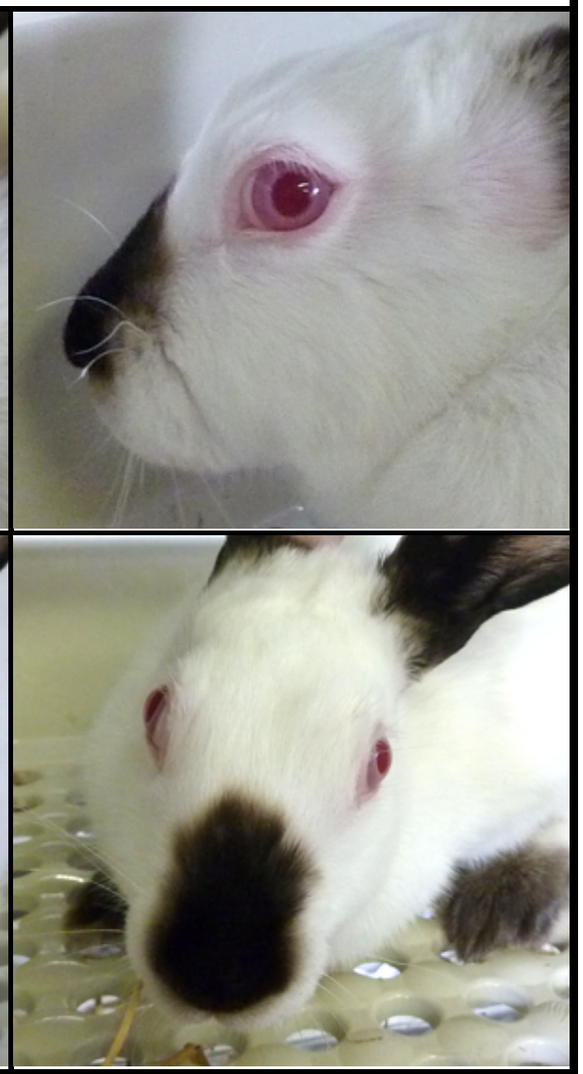
- perdita appetito, ansioso, inattivo
- può reagire in maniera esagerata alle manipolazioni
- automutilazione
- schiena inarcata, contrazioni addominali
- ileo paralitico e costipazione

Rabbit Grimace Scale

Orbital Tightening		
		
		
0	1	2
Not Present	Moderately Present	Obviously Present

- Closing of the eyelid (narrowing of orbital area)
- A wrinkle may be visible around the eye

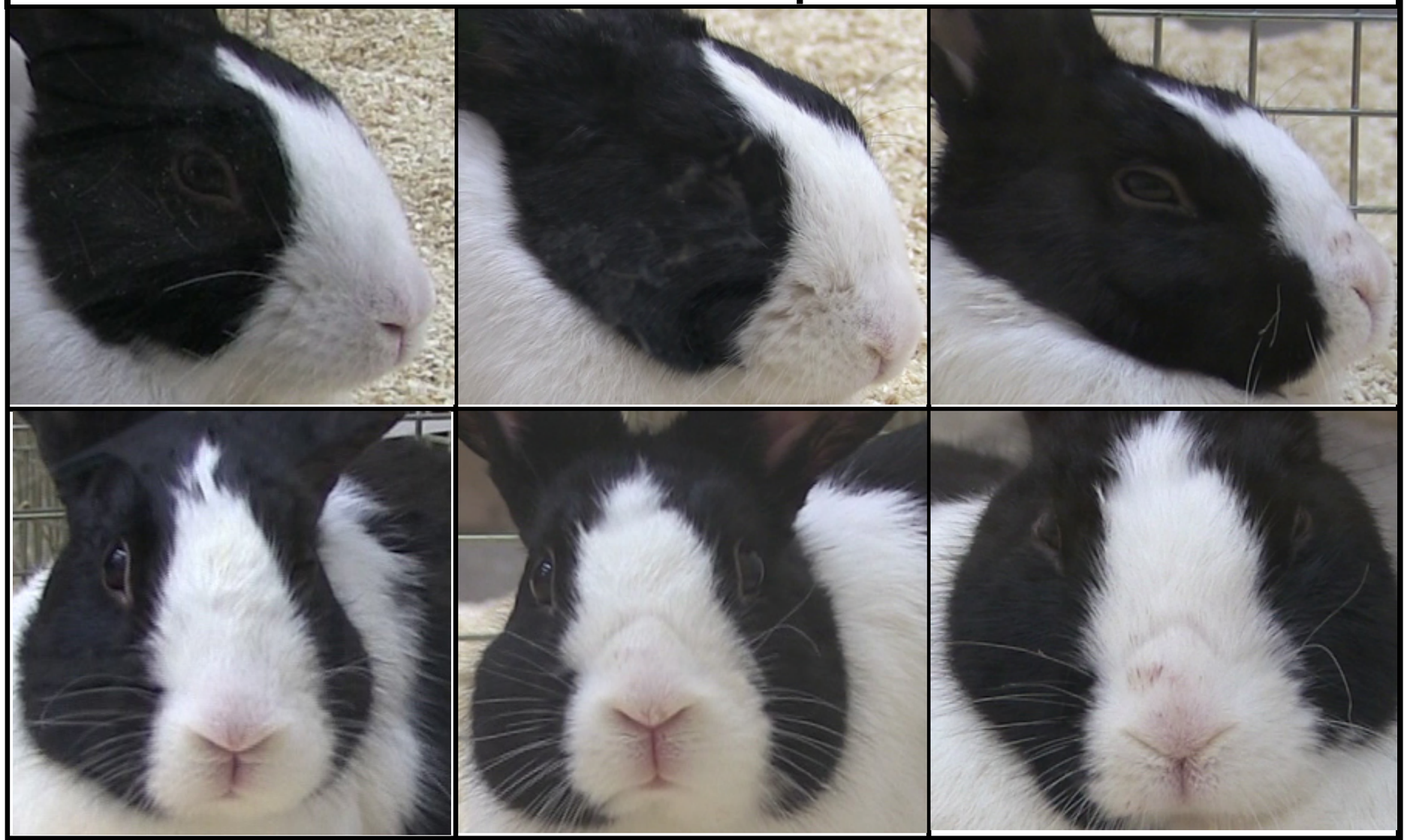
Rabbit Grimace Scale

Cheek Flattening		
		
0	1	2
Not Present	Moderately Present	Obviously Present

- Flattening of the cheeks. When ‘obviously present’, cheeks have a sunken look.
- The face becomes more angular and less rounded

Rabbit Grimace Scale

Nostril shape



0	1	2
Not Present	Moderately Present	Obviously Present

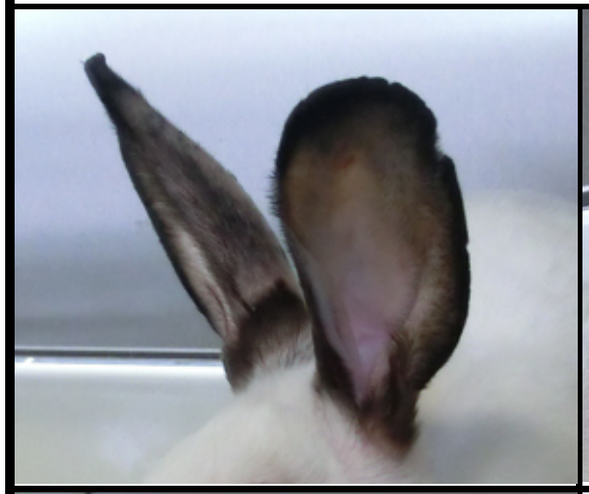
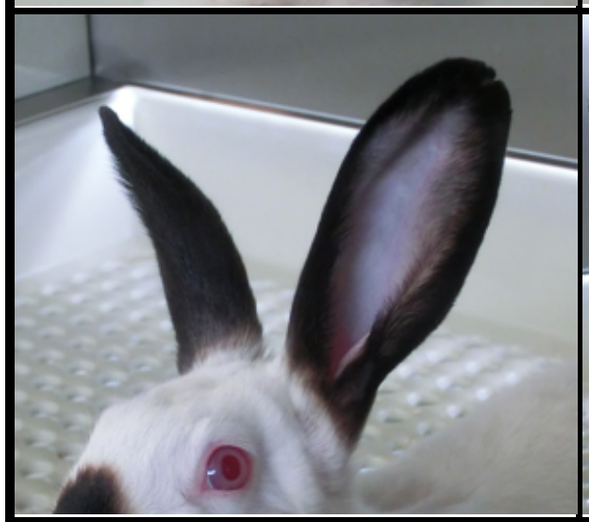
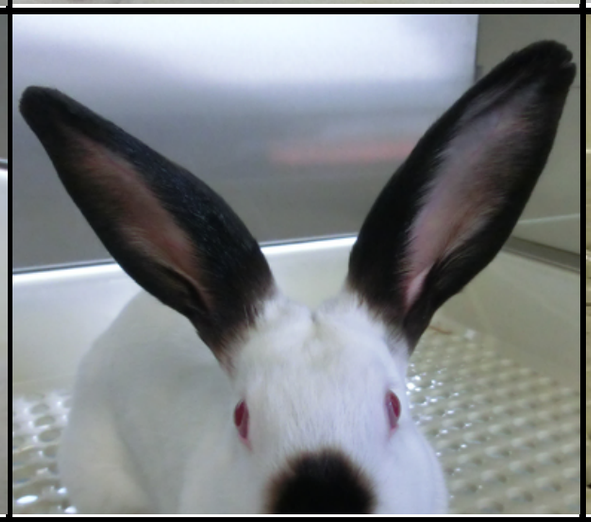
- Nostrils (nares) are drawn vertically forming a ‘V’ rather than ‘U’ shape
- Nose tip is moved down towards the chin

Rabbit Grimace Scale

Whisker Change & Position		
		
0	1	2
Not Present	Moderately Present	Obviously Present

- Whiskers are pushed away from the face to ‘stand on end’
- Whiskers stiffen and lose their natural, downward curve
- Whiskers increasingly point in the same direction. When ‘obviously present’, whiskers move downwards

Rabbit Grimace Scale

Ear Shape & Position		
		
		
0	1	2
Not Present	Moderately Present	Obviously Present

- Ears become more tightly folded / curled (more cylindrical) in shape
- Ears rotate from facing towards the source of sound to facing towards the hindquarters
- Ears may be held closer to the back or sides of the body

Valutazione dolore coniglio

OPEN ACCESS Freely available online

PLoS one

Are We Looking in the Wrong Place? Implications for Behavioural-Based Pain Assessment in Rabbits (*Oryctolagus cuniculi*) and Beyond?

Matthew C. Leach*, Claire A. Coulter, Claire A. Richardson, Paul A. Flecknell

Institute of Neuroscience, Newcastle University, Newcastle upon Tyne, United Kingdom

Conclusions: In conclusion, irrespective of experience and gender, observers focused on the face when using behaviour to assess pain and were unable to effectively identify rabbits in pain. Focusing on the face is unlikely to be effective when using behavioural indicators of pain since they involve other body areas. Alternatively, if animals exhibit pain-related facial expressions, then it could improve our ability to assess pain. In addition, these results have potential implications for the use of behaviour to assess how rabbits and potentially other species feel.

Table 1. Pain severity classification and description of each of the video sequences observed.

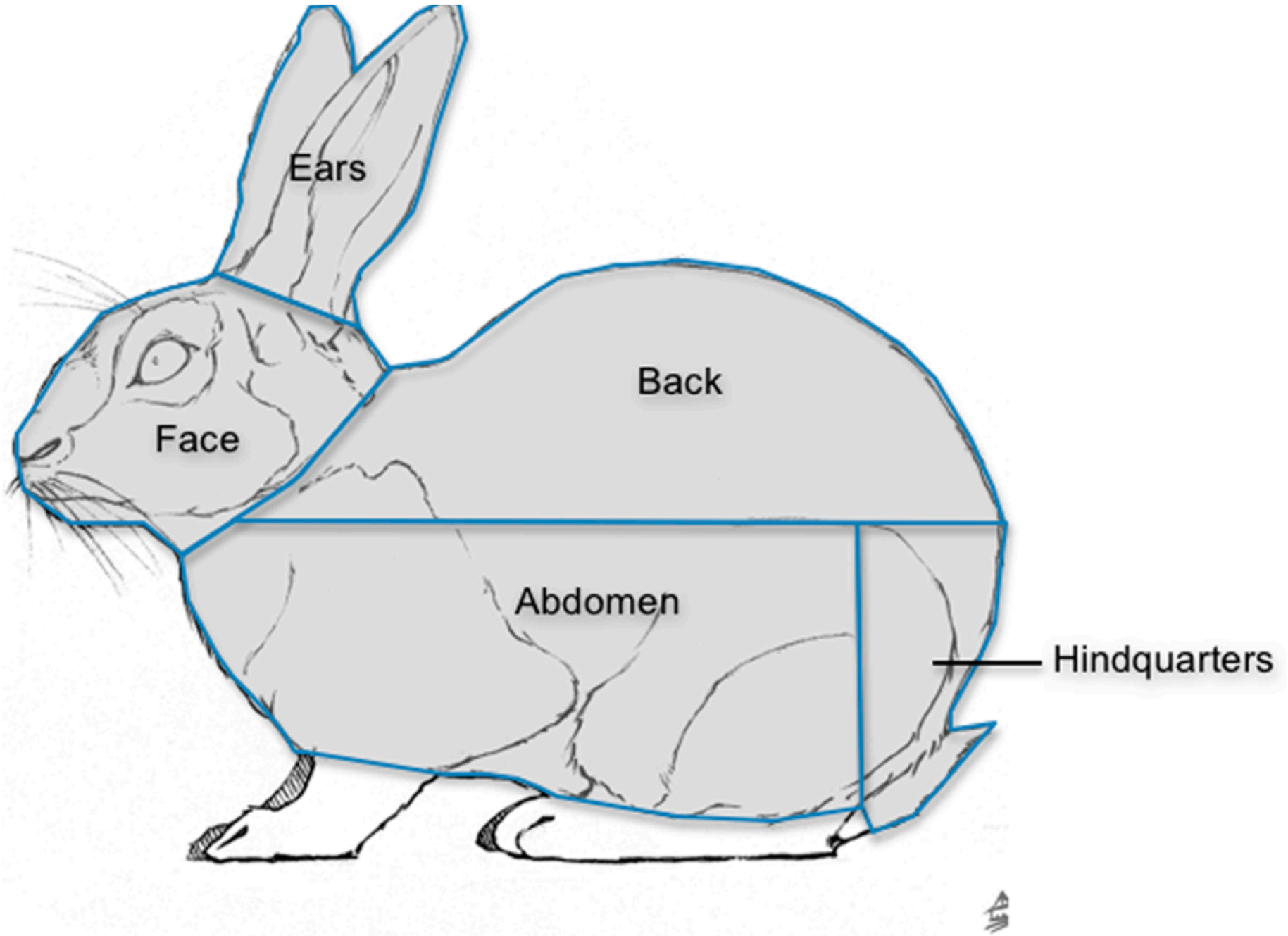
Sequence	Severity	Description
1	Normal	Exhibiting no pain related behaviour or postures
2	Mild	Exhibiting less than 2 pain related behaviour or postures
3	Moderate	Exhibiting between 3–5 pain related behaviour or postures
4	Severe	Exhibiting greater than 6 pain related behaviour or postures

Valutazione dolore coniglio

Behaviour	Description
Twitch	Rapid movement of fur on back
Flinch	Body jerks upwards for no apparent reason.
Wince	Rapid movement of the backwards in a rocking motion accompanied by eye closing and swallowing action
Stagger	Partial loss of balance
Fall	Complete loss of balance when moving
Press	Abdomen pushed towards floor, usually before walking
Arch	Full arching of the back upwards
Writhe	Contraction of the oblique flank muscles
Shuffle	Walking at a very slow pace
Quiver	Slow rhythmic side-to-side movement

Behavioural and postural indicators of rabbit pain following ovariohysterectomy [1].
doi:10.1371/journal.pone.0013347.t002

Valutazione dolore coniglio

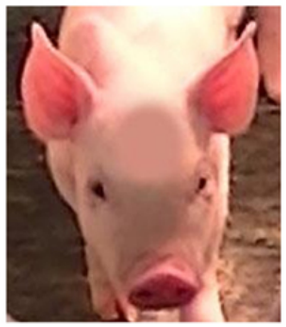


Segni Clinici: Maiale

- perdita appetito, ansioso, inattivo
- può reagire alle manipolazioni e urla se toccato nella zona dolente
- perdita del sonno e della preparazione del “letto”
- alterazioni della postura e della camminata

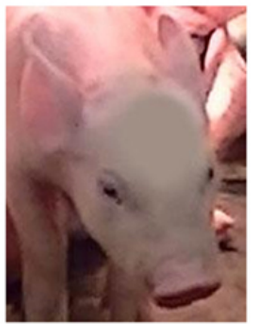
Maiale

Ear Position



Absent (0)

Moderately present (1)

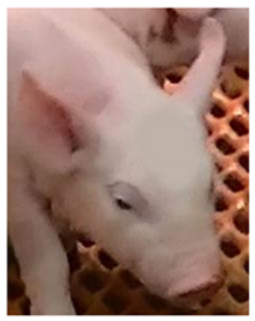


Obviously present (2)

When the animal is in pain, the ears are drawn back from forward (baseline) position

Cheek Tightening/Nose Bulge

Absent (0)

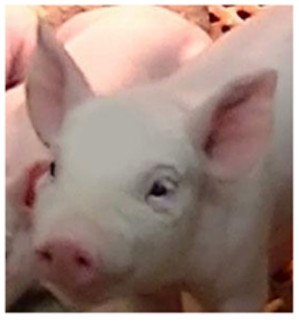


Moderately present (1)

Obviously present (2)

When the animal is in pain, a bulge of skin is apparent on the snout in response to cheek tightening

Orbital Tightening



Absent (0)

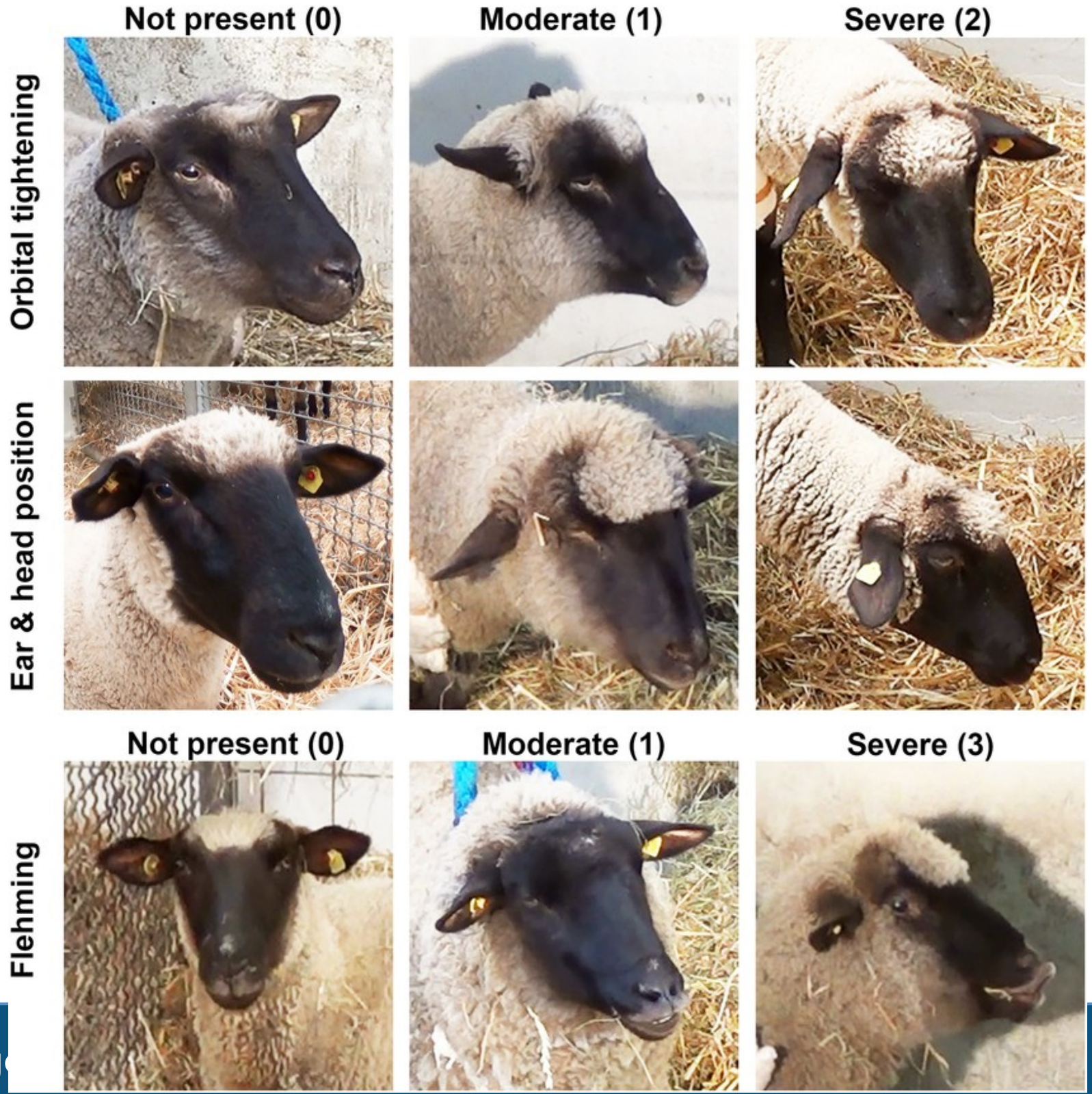
Present (1)

When the animal is in pain, the orbital area is narrowed as the eyelids are squeezed together (scored on a two-point scale)

Segni Clinici: Pecora

- perdita appetito, cessazione della ruminazione
- aumento del movimento, dello stato di ansia
- digrignano i denti, cambiamenti frequenti della postura e appaiono agitate
- vocalizzazioni

Pecora


Not present (0)
Moderate (1)
Severe (2)
Orbital tightening
Ear & head position
Not present (0)
Moderate (1)
Severe (3)
Flehming

Pesci

- movimenti violenti, tendono a grattarsi contro i sassi o il fondale
- comportamento di apprendimento di evitamento del dolore

Utilizzo pratico della valutazione del dolore

- valutare lo stato di benessere degli animali: prima e dopo il trattamento

- valutare l'efficacia del trattamento analgesico (evitare "buchi analgesici")

- valutare le tempistiche di riduzione/sospensione del trattamento analgesico (evitare effetti collaterali dei farmaci analgesici)

- approcciare la gestione de dolore in maniera sistematica

Utilizzo pratico della valutazione del dolore

- migliorare e approfondire interazione uomo/animale
- riconoscere precocemente stati di distress
- intraprendere rapidamente trattamenti o modifiche per migliorare il benessere
- ridurre o stress correlato alla sperimentazione

riassunto segni clinici di dolore

TABLE 3-1 Behavioral Signs of Persistent Pain

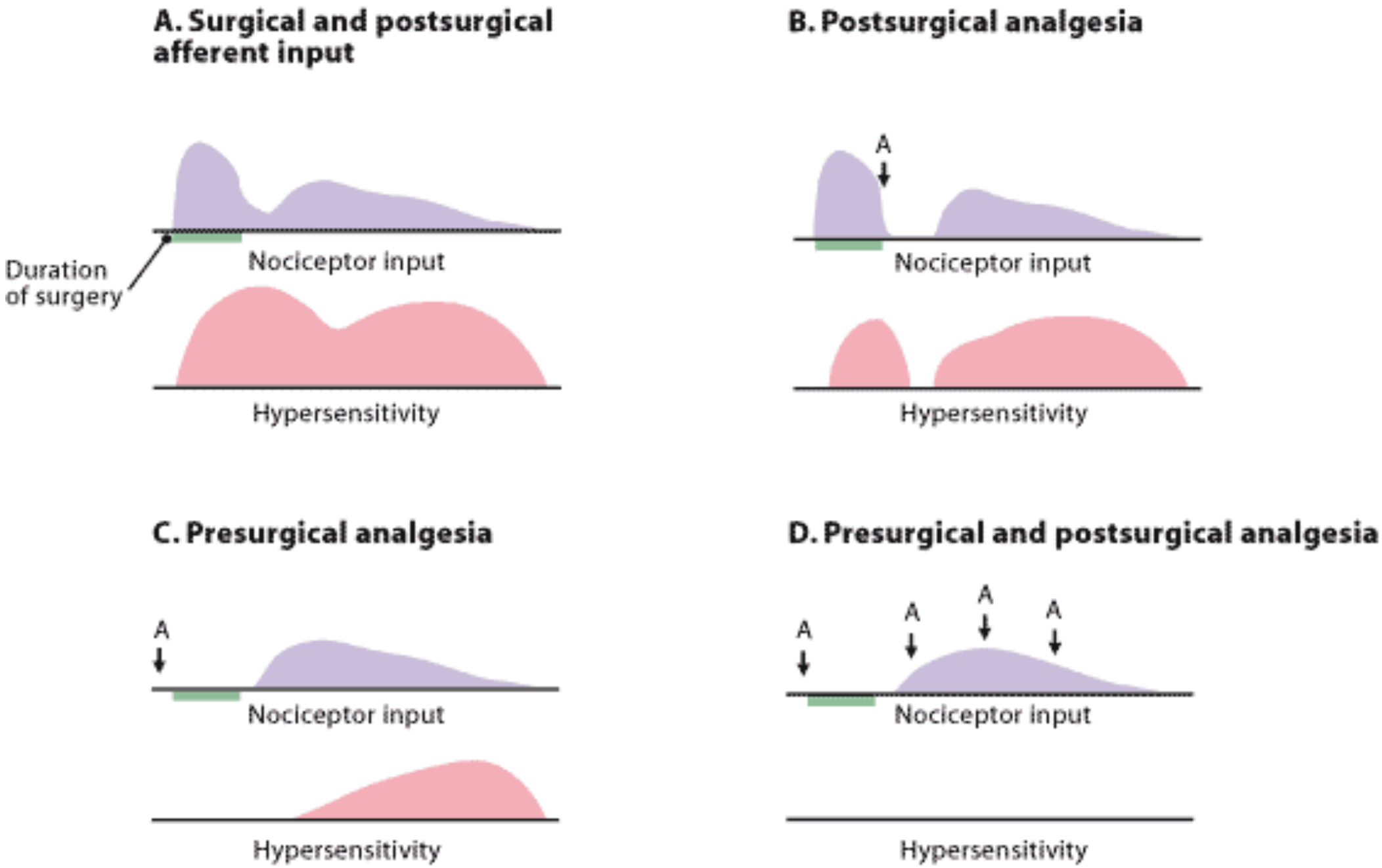
Sign	Explanation
Guarding	The animal alters its posture to avoid moving or causing contact to a body part, or to avoid the handling of that body area.
Abnormal appearance	Different species show different changes in their external appearance, but obvious lack of grooming, changed posture, and a changed profile of the body are all observable signs. In species capable of some degree of facial expression, the normal expression may be altered.
Altered behavior	Behavior may be depressed; animals may remain immobile, or be reluctant to stand or move even when disturbed. They may also exhibit restlessness (e.g., lying down and getting up, shifting weight, circling, or pacing) or disturbed sleeping patterns. Large animal species may grunt, grind their teeth, flag their tail, stomp, or curl their lips (especially sheep and goats). Primates in pain often roll their eyes. Animals in pain may also show altered social interactions with others in their group.
Vocalization	An animal may vocalize when approached or handled or when a specific body area is touched or palpated. It may also vocalize when moving to avoid being handled.
Mutilation	Animals may lick, bite, scratch, shake, or rub a painful area.
Sweating	In species that sweat (horses), excessive sweating is often associated with some types of pain (e.g., colic).
Inappetence	Animals in pain frequently stop eating and drinking, or markedly reduce their intake, resulting in rapid weight loss.

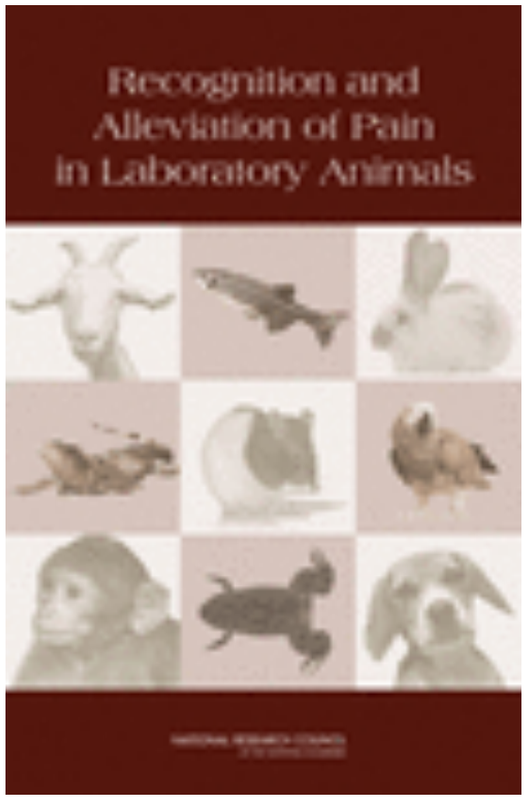
BOX 3-1
Pain Assessment Protocol

The following approach can be helpful for assessing pain in particular animal models:

- Prepare a checklist of the examinations to be undertaken, allow space for a general comment, and perhaps include an overall assessment tool (e.g., a visual analogue scale (VAS) score sheet). Familiarize all staff who will be involved in the assessment with this checklist and any other assessment tools that will be used. Whenever possible, the same staff member should conduct each assessment of the same animal. Specific training must be provided for new or inexperienced staff.
- Begin by observing the animal without disturbing it. If the animal's behavior changes markedly in the presence of an observer (e.g., as is the case with nonhuman primates, rabbits, and guinea pigs) it may be more practical to assess postoperative or postprocedural behavior by setting up a video camera or viewing panel.
- Assess the animal's response to the observer (the technician who routinely cares for the animal may be best able to assess this).
- Examine the animal and assess its response to gentle palpation or handling of any presumed painful areas (e.g., the site of surgery, the site of a lesion) when practicable.
- Weigh the animal, record its food and water consumption if possible, and examine the cage or pen for signs of normal or abnormal urination or defecation.
- Administer analgesic treatment if necessary, and repeat the assessment outlined above 30-60 minutes after treatment to determine whether the drug and the dose administered have been effective. In the absence of certainty about the presence of pain, assessing the response to an analgesic can be helpful.
- Review these protocols regularly.
- Remember that:
  - the signs described here can be caused by conditions other than pain,
  - the signs may vary between animals of the same species, even after the same procedure, and
  - the signs will vary between different strains and breeds.

Gestione analgesia





Recognition and Alleviation of Pain in Laboratory Animals

Committee on Recognition and Alleviation of Pain in Laboratory Animals, National Research Council

ISBN: 0-309-12835-8, 196 pages, 6 x 9, (2009)