

The Rabbit Grimace Scale

Research has demonstrated that changes in facial expression provide a means of assessing pain in rabbits.

The specific facial action units shown below comprise the Rabbit Grimace Scale. These action units increase in intensity in response to post-procedural pain and can form part of a clinical assessment alongside other validated indices of pain.

The action units should only be used in awake animals. Each animal should be observed for a short period of time to avoid scoring brief changes in facial expression that are unrelated to the animal's welfare.

	Action units		
	Not present "0"	Moderately present "1"	Obviously present "2"
<p>Orbital tightening</p> <ul style="list-style-type: none"> Closing of the eyelid (narrowing of orbital area) A wrinkle may be visible around the eye 			
<p>Cheek flattening</p> <ul style="list-style-type: none"> Flattening of the cheeks. When 'obviously present', cheeks have a sunken look. The face becomes more angular and less rounded 			
<p>Nostril shape</p> <ul style="list-style-type: none"> Nostrils (nares) are drawn vertically forming a 'V' rather than 'U' shape Nose tip is moved down towards the chin 			
<p>Whisker shape and position</p> <ul style="list-style-type: none"> 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 			
<p>Ear shape and position</p> <ul style="list-style-type: none"> 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 			

Read the original paper: Keating SCJ, Thomas AA, Flecknell PA, Leach MC (2012) Evaluation of EMLA cream for preventing pain during tattooing of rabbits: Changes in physiological, behavioural and facial expression responses. PLOS ONE 7(9): e44437. doi:10.1371/journal.pone.0044437

For guidance on using the Rabbit Grimace Scale, additional images of each action unit, research papers that underpin this technique, and for grimace scales in other species, visit: www.nc3rs.org.uk/grimacescales

To request copies of this poster, please email: enquiries@nc3rs.org.uk
The NC3Rs provides a range of 3Rs resources at www.nc3rs.org.uk/resources

Images kindly provided by Dr Matthew Leach, Newcastle University

The Rabbit Grimace Scale would not have been developed without the continuing work of the Pain and Animal Welfare Sciences Group (PAWS) at Newcastle University