
1. PURPOSE

This Standard Operating Procedure (SOP) describes the evaluation of animal welfare.

2. RESPONSIBILITY

Veterinary Care staff.

3. INTRODUCTION

Animal welfare is the ability of an animal to cope physiologically, behaviorally, cognitively and emotionally with its physiochemical and socio-life environment.

The term 'welfare assessment' applies not only to monitoring animals for signs of pain, suffering and distress associated with procedures, but also to the routine assessment of all animals to check for any health or welfare problems. Welfare assessment is a component of the scientific method, because physiological and psychological responses to suffering can significantly affect data quality.

Animal welfare assessment uses intrinsic study data to provide a clear visualization of the stresses involved during the animal's life history. It provides opportunity for researchers/veterinary services to identify and refine key events which impact on the welfare of an animal, and to explain the totality of any necessary harms when justifying the research.

The animal welfare assessment can be applied to all types of studies, even those not requiring invasive techniques. It provides great opportunities to identify areas where to implement 3Rs and to improve quality of research.

This may also be used as part of the establishment and monitoring of human endpoints.

4. MATERIALS

4.1. Animal welfare assessment grid (Rodents: Annex 1, Large animals: Annex 2)

5. PROCEDURES

- 5.1. Assessment should be performed on periodic intervals, i.e., monthly, quarterly, biannually, etc., or after any significant event or change in circumstances, e.g., a procedure, room move or fight injury.
- 5.2. The assessment is suitable for all animal species and can be performed on individual animals or groups, by room, experiment or protocol.
- 5.3. A score of "1" indicates the best possible state (lowest possible impact on welfare for the factor whilst a score of "10" would be the worst possible state (highest possible impact on welfare).
- 5.4. The assessment consists of 4 distinct sections englobing the overall animal welfare: physical, behavioral, environmental and procedural. Each section has several factors to consider when performing the assessment. Factors that are not relevant should be left empty.
- 5.5. Once all relevant scores have been made for a section, an average will be applied for each section. A graphic will be presented with a value of the area under the curve (AUC). This value will be the final score of the animal welfare assessment. The higher the value, the more the animal welfare is negatively impacted.
- 5.6. Animal welfare records can be compared to previous ones or can be projected for upcoming procedures, surgeries, etc. This will assess if improvement in animal welfare is required and will target specific area(s) where improvement needs to be implemented.

6. REFERENCES

- 6.1. Canadian Council of Animal Care (CCAC). <http://3rs.ccac.ca/en/>
- 6.2. *Guidelines to promote the wellbeing of animals used for scientific purposes*. National Health and Medical Research Council, Australian Government 2008.

- 6.3. Hawkins et al. *A guide to defining and implementing protocols for the welfare assessment of laboratory animals: eleventh report of the BVAAWF/FRAME/RSPCA/UFAW Joint Working Group on Refinement. Laboratory Animals* 2011; 45: 1–13.
- 6.4. *National Competent Authorities for the implementation of Directive 2010/63/EU on the protection of animals used for scientific purposes*. Brussels 2012.
- 6.5. NC3R. <https://www.nc3rs.org.uk/>
- 6.6. Sejian et al. *Assessment methods and indicators of animal welfare*. *Asian Journal of Animal and Veterinary Advances*.2011; 6 (4), p. 301—315.
- 6.7. Wolfensohn et al. *Refinement of welfare through development of a quantitative system for assessment of lifetime experience*. Universities Federation for Animal Welfare 2015. www.ufaw.org.uk

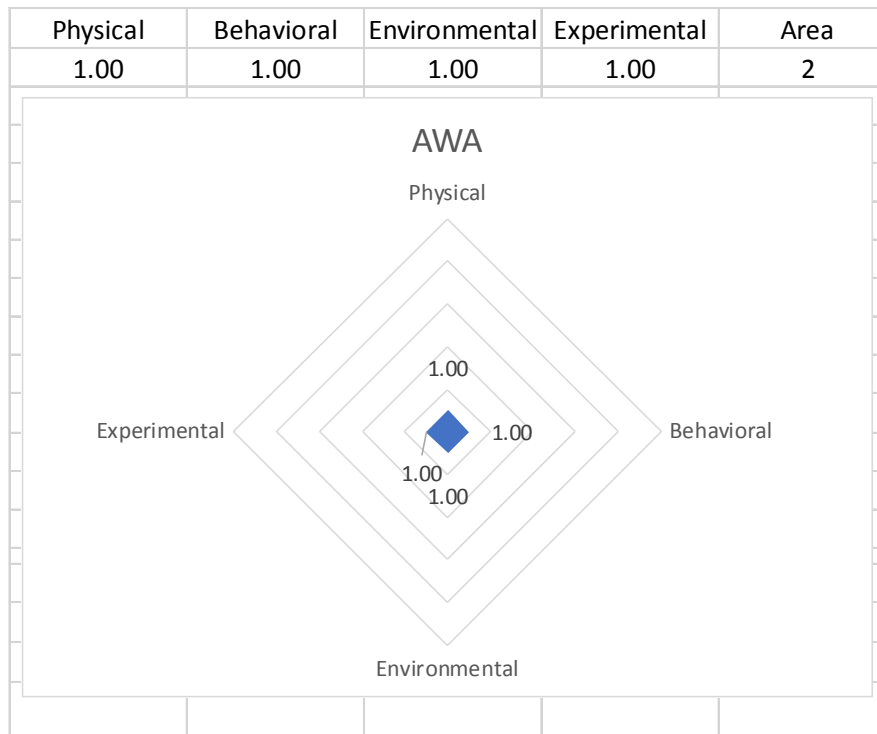
ROOM NUMBER:
SPECIES:

How to use this scoring grid:

- Assessment should be performed at intervals of one month or after any significant event or change in circumstances, e.g., a procedure, room move or fight injury.
- A score of “1” indicates the best possible state (lowest possible impact on welfare for the factor whilst a score of “10” would be the worst possible state (highest possible impact on welfare).
- Once all relevant scores have been made for a section, calculate the average score.
- Factors that are not relevant should not be scored and the factor should not be counted in the average calculation, e.g., in the Experimental/Clinical section, if there has been no surgical event then do not score and divide the total score by 5 rather than 6.

SCORE FROM PREVIOUS ASSESSMENT	P:	B/P:	E:	EX/C:
DATE OF LAST ASSESSMENT:				
REASON FOR CURRENT ASSESSMENT:				

NEW ASSESSMENT SCORE	P:	B/P:	E:	EX/C:
PERFORMED BY:				
DATE:				



PHYSICAL

	SCORE	1	2	3	4	5	6	7	8	9	10
1	General condition (weight loss, body condition score)										
2	Activity level, mobility										
3	Presence of injury										
4	Not eating/drinking										
Average score (average of scoring factors)											
COMMENTS:											

BEHAVIORAL/PSYCHOLOGICAL

	SCORE	1	2	3	4	5	6	7	8	9	10
1	Stereotypy, self-harming, unusual self-grooming										
2	Hierarchy upset/dispute, aggression/bullying										
3	Alopecia score										
4	Use of enrichment										
5	Aversion to normal events, e.g., staff interaction, cage cleaning, etc.										
Average score (average of scoring factors)											
COMMENTS:											

ENVIRONMENTAL

	SCORE	1	2	3	4	5	6	7	8	9	10
1	Housing (type of cage, litter, nesting material, etc.)										
2	Group size										
3	Provision of 3D enrichment										
4	Provision of manipulable enrichment (forage, food provision)										
5	Contingent event (room move, building works, etc.)										
6	Room environment (temperature, light, etc.)										
Average score (average of scoring factors)											
COMMENTS:											

EXPERIMENTAL/CLINICAL

	SCORE	1	2	3	4	5	6	7	8	9	10
1	Sedation										
2	Restraint										
3	Surgical event										
4	Water deprivation										
5	Change in daily routine, withholding enrichment, food, restricted access to usual living area, etc.										
6	Effect of procedural intervention										
Average score (average of scoring factors)											
COMMENTS:											

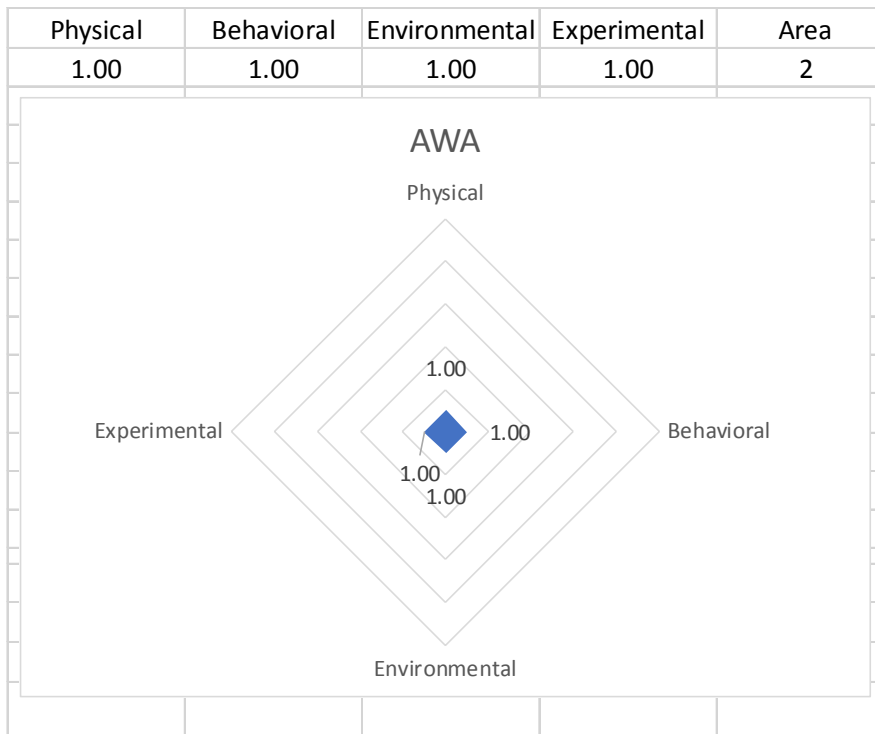
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DATE OF LAST ASSESSMENT:				
REASON FOR CURRENT ASSESSMENT:				

NEW ASSESSMENT SCORE	P:	B/P:	E:	EX/C:
PERFORMED BY:				
DATE:				



PHYSICAL

	SCORE	1	2	3	4	5	6	7	8	9	10
1	General condition (weight loss, body condition score)										
2	Clinical assessment, e.g., cough, diarrhea, ascites										
3	Activity level, mobility										
4	Presence of injury										
5	Not eating/drinking										
Average score (average of scoring factors)											
COMMENTS:											

BEHAVIORAL/PSYCHOLOGICAL

	SCORE	1	2	3	4	5	6	7	8	9	10
1	Stereotypy, self-harming, unusual self-grooming										
2	Response to catching event										
3	Hierarchy upset/dispute, aggression/bullying										
4	Alopecia score										
5	Use of enrichment										
6	Aversion to normal events, e.g., staff interaction, cage cleaning, etc.										
Average score (average of scoring factors)											
COMMENTS:											

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