

Instructions: General welfare scoring table for small rodents (mouse and rat)

Attaching the scoring table to the licence is not always required. For example, the course of action defined in the application form for cases of mild harm is often sufficient and can be specified with the items to be taken into account in a specific experiment. Using the scoring table is recommended if the experiment is likely to cause more severe symptoms, the development of which needs to be monitored over a longer period of time.

If you use a scoring table, think about what kind of harm the experiment may cause and what symptoms the animals are likely to display, and customise the table accordingly. You may also use some other scoring table that is better suited for your experiment.

The table is intended as a tool to assist you in an objective animal welfare assessment, monitoring and action decisions as well as in the precise definition of humane endpoints.

The table includes a scoring model for **easily observable general welfare indicators**: posture, movements, activity, reactions to handling, condition of the fur, and openness of the eyes (pain face).

The table also contains scoring models for **changes in breathing and faeces**. These can be omitted if they are not expected to be affected by the procedure. Changes in breathing can be included, for example, in animal models of lung cancer, emphysema, respiratory infections, or heart failure. Changes in faeces can be included, for example, in intestinal inflammation models causing diarrhoea.

If **other specific symptoms** are expected in the experimental model, these should be included in the scoring table in addition to or instead of the general welfare indicators. For example, lameness or externally visible changes in the joints can be scored in arthritis models, skin lesions can be scored in dermatological models, etc.

The scoring table should be kept as simple as possible. Only the symptoms expected in the experiment should be included.

Endpoint limits for the **body weight (BW) loss and body condition score (BCS)** are defined separately from the other scores.

The **BW loss endpoint for small rodents is typically a 15% or 20% weight loss**, but it can be different depending on the requirements of the study. The reference weight depends on the study; usually it is the BW at the beginning of the experiment, but it can also be the highest observed weight during the experiment.

BCS is evaluated separately from other scores. In most cases, **the humane endpoint is BCS 2**, unless the study model requires letting the animal become thinner. This is the case in such studies as a cancer study, in which the detection of a drug response requires follow-up until the wasting stage.

If you do not have prior experience of using a scoring table with the study model, we recommend that you plan the items to be scored and score limits in cooperation with a veterinarian and animal technicians.

Score limits to be defined (separately for individual categories and total scores)

- Limits for enhanced observation:

In mild changes, if there is one or more score 1. The animal will be observed more closely, and supportive treatment is considered.

- Limits for close observation and supportive treatment:

If there is at least one score 2, or a pre-defined total score limit is exceeded. **The supportive treatment must be defined.** Common supportive treatments for small rodents include extra heat, fluid treatment, pain medication, and local treatment of skin lesions. Depending on the experimental model, other treatments may be applied. **A maximum duration of follow-up must be defined, after which the animal must be put down if its condition does not improve.**

- Limits for euthanasia:

Humane endpoints are defined based on **how much unavoidable harm needs to be allowed to achieve the objectives of the experiment.** Score limits for immediate euthanasia are defined for **individual items** and **total score**. In general, three points for any single item is used as a termination criterion unless there is scientific justification for allowing severe harm. The total score limit depends on the severity of allowed harm in the experiment and the number of items to score. When the total score limits are determined, consideration must be given to what combinations of symptoms the set limits allow.

Example:

<u>Score limits</u>
Enhanced observation and consideration of supportive treatment:
- Score 1 in up to three items
Start of supportive treatment and close follow-up (define the supportive treatment, frequency of follow-up and the maximum follow-up duration before termination if the animal's condition does not improve):
- Score 2 in one or more items - Total score 4-6 - Supportive treatment: Fluid therapy (0,5 ml NaCl SC twice a day), food softened with water on the cage floor, extra heat, analgesics if signs of pain appear - Frequency of monitoring at least three times a day - Termination if the animal's condition does not improve within two days
Humane endpoints (score limits of immediate termination for single items and total score):
- 2 points for breathing - 3 points for any other item - Total score 7 or more - Weight loss 20% from the start of the experiment - Body condition score 2 or less