Communication
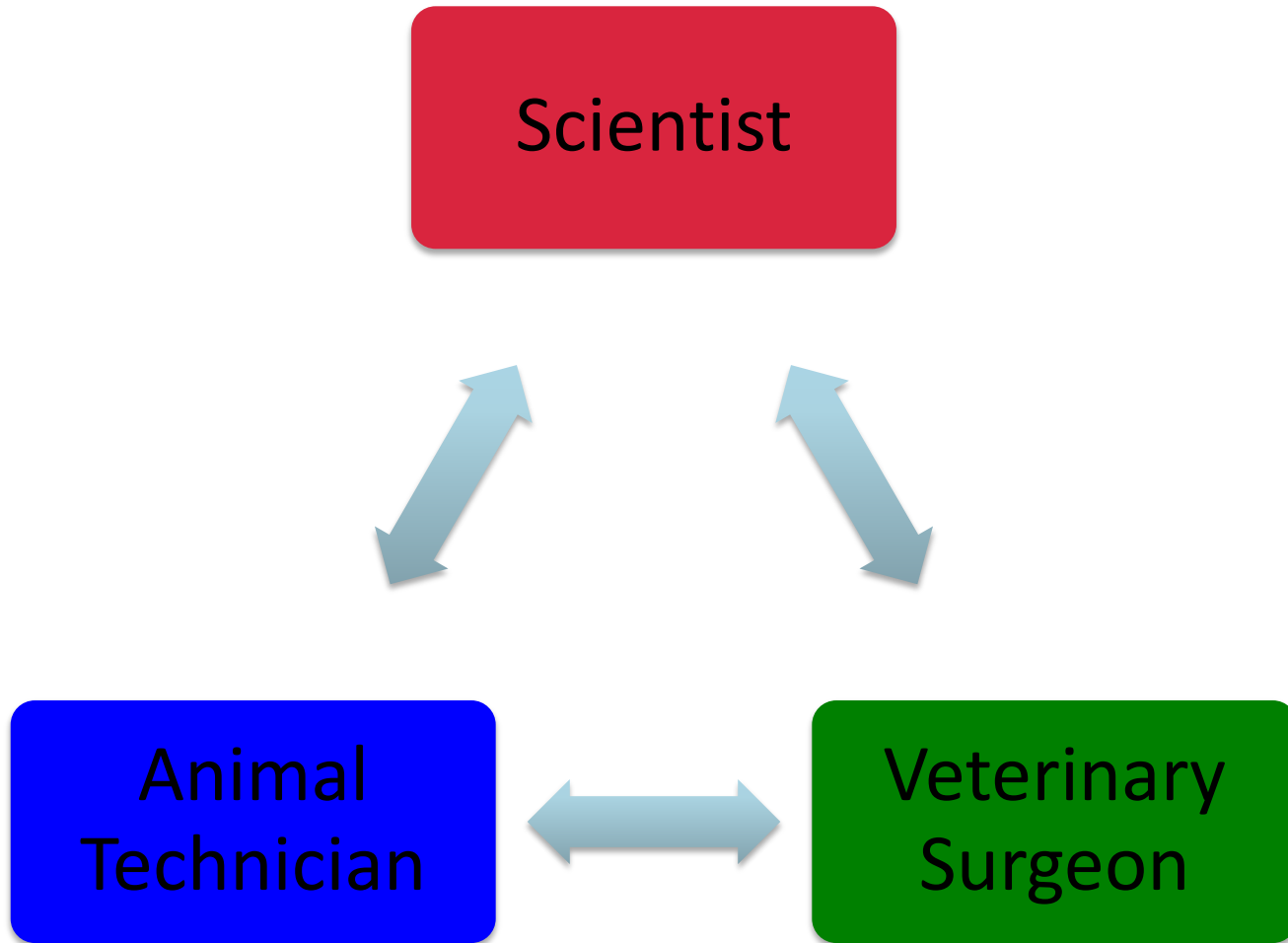# For A Better Future In Animal Welfare

By

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People Who Are Involved in Animal Welfare

Scientist

Animal Technician

Veterinary Surgeon

Why Do We Need To Communicate

- To get a better understanding of the Science

- To gain mutual respect.

- Help each other with the day to day issues surrounding animal welfare

- By discussing animal welfare we promote good science

Supervisors

- Assign technicians to specific Scientists Projects.
- Ensure the NACWO's are available within the animal rooms.
- Staff understand the correct process for reporting sick animals.
- Arrange for Scientist to visit the unit on a regular basis to meet technicians
- Allow staff to attend Lab Meetings

Animal Technicians

- Read Project Licenses and Phenotype Profiles
- Attend seminars and Unit Meetings
- Take photos and videos of animals as evidence
- Encourage Scientist to visit the unit
- Ask questions to get information about the animals you a care for.
- Offer advice to Scientist that may improve animals welfare.

What Results from Good Communication

- Animal Welfare Concerns are addressed by discussion and an amicable resolution found.
- Phenotype Profiles are available for all GM mice.
- Scoring Systems
- We all achieve our GOALS!

Introducing an Objective Animal Health and Welfare Assessment

Introduction

The introduction of the scoring system was developed by animal technicians, Researchers and the Named Veterinary Surgeon. This was developed to allow us to assess the lifetime experience of the animal . When assessing a sick mouse there are two opinions to be considered the mouse welfare and the science. Developing a scoring system has many advantages:
•Defined patterns of individual strain phenotypes .
•Health and Welfare monitoring of the mice against specific criteria.
•Detailed plan of action when mice exhibit signs of ill health.
•Standardized record of data for the individual.

How The Scoring System Was Developed

It was suggested by the staff there was a need to develop a scoring system to help them define observation patterns in mice with unknown phenotypes . It was decided a scoring system would cover the points of concerns when evaluating a sick mouse.
These are:
• Am I compromising the health and welfare.
• Will there be any additional information gained that can benefit the research.
• Have we reached the humane endpoint.
A group consisting of a researcher, the Named Veterinary Surgeon and an animal technician looked at the existing scoring systems that have been developed and are practiced. One particular scoring system of interest was the one developed by **Paster , Vilines and Hickman (2009)** Endpoints for Mouse Abdominal Tumors Models: Refinement of Current Criteria using body condition scoring and behaviour to assess their endpoints for sick mice. This scoring system had two levels of assessment which described a system where sick mice are identified by their body condition which is difficult to assess because it was very subjective. The other part of this scoring system assesses the mouse behavior which uses numbers to determine the level of sickness but this was also agreed it was too subjective, and it would be difficult to use as they had mild endpoints in the same place. It was also felt that this system had a complex scoring system and required a veterinary surgeon and two technicians to score each animal, which was deemed not to be practical. It was decided to develop our own scoring system that fitted in with the project license requirements and used clinical signs that were grouped within a four tier section each with its own action plan.

Developing the Scoring System

Once it was decided that we would develop our own scoring system we looked at clinical signs and observations of sick mice that would be relevant to the study, as some of the mice are of unknown phenotypes.
We divided the signs and observations into four categories white, green, yellow and red . We felt it would be useful to have color as a visual aide which makes the cages stand out and can immediately draw attention to anyone that may work in the room. Each of the categories has their own action plan which should be easy to be follow and allows for standardized outcomes and communication between technicians and the researcher.
The next step was to design a form that would be easy to use and records the data required, especially when a mouse is being monitored closely. Using Microsoft Excel we designed a form that contained only information relating to a specific mouse, the date of assessment and the signs that have been observed for this mouse using a tick system. This form is filled out every time a mouse becomes sick and if the mouse has further monitoring this form allows us to re-score and identify any further changes.

RED
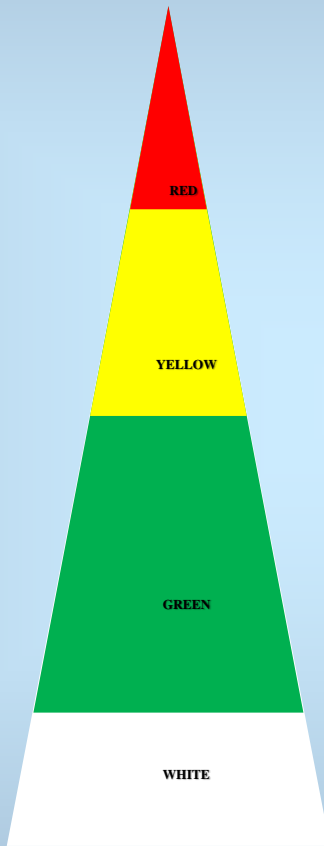
The most serious signs were classed as Red
•Hind Limb Paralysis
•Abdominal (Palpable Mass)
•Visible (Solid Mass)
•Ulcerated tumor
•Ulcerated wound
• Weight loss <20%
•Ataxia
•Unresponsive
This is the defined end point for a mouse and immediate action must be taken.

YELLOW

The next level is Yellow which consists of the signs
•Sustained hunch posture
•Nasal discharge
•Lethargic
•Significant abnormal breathing
• Prolonged fitting
•Weak and stiff limbs
It was felt that if any of these signs were exhibited action should be taken, and a decision made regarding closer monitoring or removal of the mouse from the experiment.

GREEN

Green Level Signs are
•Unusual gait,
•Piloerection
• Ungroomed appearance
• Eyes become dull,
•Unsustained hunch posture
• Pale extremities
•Hyperactivity,
•Tremors
•Agitation/ aggression
•Abnormal Breathing
•Fitting when handled
It was agreed these were the mild signs and could be the early indicators of a mouse becoming sick, and would therefore need closer monitoring. We could then see how long it would take the mouse to progress to a yellow level sign.

WHITE

White level. We grouped the common health problems that occur in mice from this lab. In this case this includes
•Overgrown teeth
• Dermatitis.
We felt there was a need for a separate scoring sheet for this level, which linked with the main scoring sheet which specifically showed the different levels of dermatitis which ensures the animal welfare is maintained.

How Does the Scoring System Work

Once we developed our theory of a scoring system we decided to trial it. In a daily checking routine we may come across and identify mice that look sick. We would remove the mouse from the IVC rack and place under the cleaning station for further observation. If it has cage mates they should be removed into a clean cage leaving the sick mouse in its own environment. This is when the observation process begins, and the mouse should be observed for 3 – 5 minutes. Once this has been achieved the paperwork can be filled in. It is very important to observe the animal first and not look at the paperwork because you may find yourself looking at the signs adapting to the mice rather than other way which gives a true interpretation of the observation . Next we transfer all the cage details to the form so it can be easily identified from others. It is also given a case number so we can also refer back to the specifics if needed. When the form is completed it is evaluated to see what action is taken. If a section in white is ticked for overgrown teeth we trim them twice and given mash diet. If no sign of improvement is seen then the mouse must be removed from the experiment . However, if dermatitis is ticked the specific scoring system is used and the Named Veterinary Surgeon is contacted to discuss appropriate treatment.
If there are two or more boxes ticked in the green section the researcher is contacted by email, suggesting further monitoring and the animal is placed on a special care on the mouse database.
If one or more boxes are ticked in the yellow section (either on its own or in combination with any ticks in the green section) the researchers are contacted by phone and email to come and see the mouse straight away. At this point the appropriate action must be taken and discussed with the researcher and then recorded on the database.
If any box is ticked in the red section immediate action must be taken, we inform all researchers within the team by phone and email but if we receive no response the NACWO or NVS must be informed to make the final decision. A quick video clip is taken and full post mortem is performed.

Conclusions

In conclusion we have tried to introduce a scoring system to help us standardize our assessment of mice with unknown phenotypes minimizing the amount of pain and distress the mouse may experience while identifying humane end points . A system has been developed which is easy to use by placing signs in four tier color band with their own individual plans .
The scoring system has been in place for a year and has proven to help us improve communication between the animal staff and research team and to date this has improved response times for urgent issues.
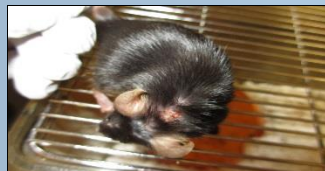
Dermatitis

Pilo-erection

Hunched posture

Abdominal (palpable mass)

Questions

Thank you for listening

are there any questions?