

## REPORT ON THE INTERNATIONAL SEMINAR “REVISITING REFINEMENT IN CARE AND USE OF LABORATORY RODENTS”

FGB Conference Centre, 25-26 June 2015



With an attendance of over 80 delegates including speakers we quickly settled down to see what was new with regards to 'refinements' in our industry.

Many of us have been brought up with the three Rs and refinement had been talked about at many meetings, many people may think there is no more refinement that can be sought – we had done it all. Well, we were in for a surprise as many of the talks

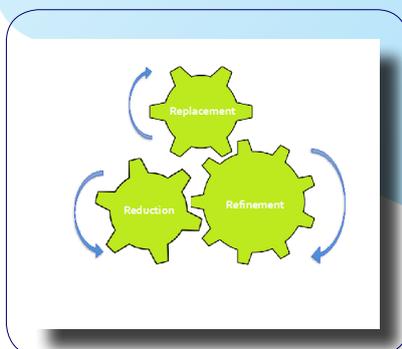


A thought provoking lecture was given on the use of running wheels. It concluded that these could well be beneficial and that the correct size and structure of wheel being offered to the rodents was vital. An excellent video was shown of the rodents using the wheels, interestingly, often for periods limited to less than 1 minute.

We were reminded that lack of animal species-specific knowledge could have a detrimental effect, i.e., on breeding performance; a simple change to the bedding may bring breeding performance back on line. For example, it was mentioned that corncob bedding has been routinely used in the past in America, but it is now shown that it may alter oestrus cycling in rats due to high levels of oestrogen (xenoestrogens).

The number of mice per cage has an impact on aggression; shelters were shown to increase the aggression in that they provided a 'site of ambush', thus destabilising the social hierarchy. So keeping male mice in small stable groups with transference of nesting material when cleaning out and keeping disturbance to a minimum helps to ensure refinement of husbandry procedures for mice.

at this seminar really opened our eyes as to what refinement really means to our rodents. Refinement was discussed in husbandry and experimental procedures; for example, by reducing the room temperature scientists saw a reduction in mouse fighting and in some strains an increase in milk production by up to 20%.



Even the simple clipping of mouse toe nails was proven to reduce and, in some cases, eliminate the ulcerative dermatitis seen in mouse colonies. Interestingly, once the claws grew back, the ulcerative dermatitis did not return. The use of 'crinkled paper' as a nesting material for mice was shown to be beneficial; we were given good evidence that mice go through various stages of nest building and the correct volume of nesting material is highly relevant.



Training was discussed especially, but not exclusively, on surgical procedures; explanation was given whether to use sharp or blunt dissection, on correct size wound and on ensuring that sutures are of the correct type by using low tension.

Assessing whether an animal



is in pain needs considerable training; if we don't evaluate it correctly the validity of data collected is reduced.

Incorporating facial grimacing alongside stagger, twitch, flinch, etc. mixed in with good observational skills ensures refinement in clinical observations.

An update on improvements in pain therapy was discussed leading to the implementation of severity classification of procedures. A matrix table was devised and everything that is done to the animals: housing, husbandry and training was documented.



Refining identification methods were covered, micro tattooing and various other methods. It would be nice to see a consistent approach across the EU; I am sure this is a topic that requires more work to establish what is best for the animal. An interesting talk on improving rodent welfare during euthanasia was covered. Rising concentration of carbon dioxide v argon were debated and whilst this debate will continue for some time it was clear that killing rats in their home cage whilst relaxed (even sleeping) reduced the "procedural stress".

Out of all the topics on refinement this for me was the one that hit home the most: "poor experimental design". I was shocked to learn that we find it so difficult to replicate results: poor animal models, experimental design publication bias and selective reporting (and the list went on). Only 12% report randomising animals, 14% blinding (removing bias), and 0/48 so none reported sample size calculation (power). The sad conclusion was that animal research was based on flawed concept of standardisation. An area, I suspect, we will hear a lot more of over the coming years.

An excellent overview followed describing how a company had introduced a 'community of practice in animal welfare group' i.e. sharing best practice. It was explained that the group would ask staff for their opinions and, more importantly, listen to their feedback. In turn, this had led to the introduction of long term rats getting play times once a week, rabbits on floor pens being habituated to their handlers as staff were encouraged to sit on the floor and allow the rabbits to seek them out (rather than the other way round). Pigs were given water to play with and dogs were trained to walk on leads rather than being carried to procedure rooms etc. Metabolism cages for mice were provided with an 'igloo' dome shelter. Behavioural performance standards were recorded – defining relevant behaviours for each species. This ensured all company's sites worldwide were covered and information shared.

This led neatly on to an excellent talk on how environmental factors can contribute to colitis development and how we can refine the housing and care of rodents on telemetry studies. New developments in the telemetry technology are advancing quickly and will in the future allow animals to be group housed.

Coffee breaks offered us not only beautiful Italian pastisseries but permitted everyone to socialise in an informal setting. The mix of nationalities was encouraging and many conversations and alliances were forged in the 1.5 days.

A very big thank-you to FGB for putting on this International Seminar. I would encourage everyone to share the above and hopefully we will hit the 100 attendance mark next year.

written by Kate Heath, © The Learning Curve, UK

We are very pleased to announce that during the last Scand-LAS annual meeting (9-12 June 2015, Turku, Finland) Ann-Christine Eklöf, a prestigious member of FGB Scientific Committee, awarded Lars Wass price.

This award is given to a person who, during his/hers career, has worked in the spirit of Lars Wass who, very early in his professional life, understood that education and training were extremely important specially for technicians and very young researchers.



The second session of the FGB course in Milan, 17-19 June 2015

# REPORT ON THE COURSE “ORGANIZING AND OPERATING ACTIVITIES IN A LABORATORY ANIMAL FACILITY”



FONDAZIONE GUIDO BERNARDINI  
BETTER EDUCATION FOR BETTER SCIENCE

THREE DAY COURSE  
Organizing and Operating Activities  
in a Laboratory Animal Facility  
second edition - 17<sup>th</sup> to 19<sup>th</sup> of June 2015

**OBJECTIVES**  
The most relevant aspects of the general functioning of laboratory animal facilities are covered with particular attention to new technological developments, scientific needs of research and management concepts.  
The course aims to enhance participants' knowledge and to improve their skills on everyday activities through theoretical and practical examples applicable to a modern laboratory animal facility in all its aspects.  
The training environment fosters the interaction between speakers and attendees who are encouraged to share information and practical experiences.



**CONTENTS**  
Layouts, functional areas, equipment and workflows; Bio-containment and bio-exclusion: definitions and technical solutions; Main procedures in "clean" and "dirty" areas; Washing and decontamination; Health monitoring programmes; Colony management; Staff management: duty assignment and work scheduling; Per diem calculation and attribution.

**RECIPIENTS**  
Facility and area managers and supervisors, manager assistants, persons responsible for overseeing the welfare and care of animals, designated and assistant veterinarians, senior animal technologists, quality assurance managers.

Due to a high demand a second edition of the course «Organization and operating activities in the laboratory animal facility» was successfully held at IFOM-IEO Campus in Milan, Italy, from 17th to 19th of June 2015.

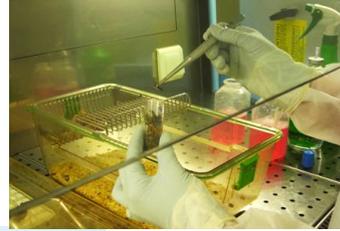
The following topics were presented during the course: biocontainment and bioexclusion; cage changing procedures; cleansing, washing, autoclaving and decontamination procedures;

health monitoring; management of routine activities in the animal facility.

Among the 14 attendees there were several veterinarians and specialized technicians from different European countries, such as Italy, Slovakia, U.K., Finland, Portugal, Spain, Switzerland. All participants have found this course very useful and insightful. The course was of special interest for the attendees who were actively involved in organizing their new/renewed laboratory animal facilities.



I particularly appreciated the practical aspects of the course, as well as the enriching interactions and discussions with the teachers and with the other participants. The speakers readily shared their working experiences through well-documented presentations, nicely illustrated examples and interesting talks.



The “Lean” management techniques were very inspiring. I also found very interesting the use of automated systems (robots) in order to decrease the workload of the animal caretakers and to minimize their occupational hazards.

One of the key-elements of the course was the visit to the IFOM – IEO mouse facilities, accompanied by detailed presentations of the routine activities. The presentations were made by the two veterinarians of the facility and their assistant. We had the chance to assist to several demonstrations of the various activities within the facility.

I am looking forward to attend other courses organized by the **Fondazione Guido Bernardini, whose motto is also mine: «Never stop learning» !**

Written on June 29th 2015 by Corina Berset, DVM, from CIBM, EPFL (Swiss Institute of Technology, Lausanne), Switzerland

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*November 16-18, 2015*

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