

Inside this issue:

*Animal Welfare Decision
Faces Legal Challenge* 1

*Should undergraduate
students be allowed to
undertake laboratory and
/or field studies involving
animals?* 3

Code Update 4

*ANZCCART to establish
a College of Experts* 4

*Nominations for Honorary
Life Membership* 5

*ANZCCART News
Reader Survey* 5

2014 INVEST Conference 5

Recent Articles of Interest 6

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Animal Welfare Decision Faces Legal Challenge

Geoff Dandie, CEO, ANZCCART

In an Australian first, a decision by the NSW government to refuse to grant a licence under legislation underpinned by *The Australian code of practice for the care and use of animals for scientific purposes, 7th Edition* (being the version that was in force at the time of this hearing) and relevant guidelines that involved the use of animals for research purposes, has faced a legal challenge. While this was a decision by the relevant government department (rather than an AEC) refusing to license premises for the purposes of supplying and housing guinea pigs, it was based on the same criteria as should be applied by any AEC. Namely, the need to balance out the reasonable welfare requirements of animals that are to be used for research purposes against the expected outcomes from the proposed research.

At issue was a project designed to test potential vaccines for Q fever using guinea pigs. The fact that this work would necessitate the use of live pathogens (*Coxiella burnetii*) meant that the work would need to be conducted under Physical Containment level 3 (PC-3) conditions and the plan was to house guinea pigs

separately in individually ventilated cages (IVC) with a floor area of just over 900cm². The problem was that the researchers were limited by (a) the need to maintain their animals under PC-3 conditions and (b) the size of their facility which prevented them from using IVC that were large enough to meet the standards prescribed in NSW for housing guinea pigs. This meant the relevant NSW government department declined to license the premises as they did not believe the laboratory met the standards required. This essentially left the researchers with two alternatives: move their work to more suitable facilities such as the CSIRO AAHL laboratories in Victoria or appeal the decision, and it was this later course of action that was pursued.

The appeal went before a Magistrate of the NSW Administrative Appeals over three days in May this year, with the decision of the tribunal being published nearly five months later – which in itself suggests that the process was taken very seriously. If you read the published decision (and I do recommend it to everyone with an interest in this area), there is no doubt that the Magistrate did take this appeal very seriously indeed.

While I may not fully agree with every aspect of the ruling *per se* (and I will come back to this point later), the superbly logical process followed by the Magistrate in preparing the ruling is an excellent example of the kind of process every AEC follows (or should follow), when it comes to resolving difficult issues. The full decision can be found at: <http://www.caselaw.nsw.gov.au/action/PJUDG?jgmid=167664> and it does describe the decision making process very clearly and logically.

In ruling that the original decision to decline a licence was correct, the Magistrate carefully analysed testimony and appropriate information that focussed on the following five key issues:

1. Is the research essential for the maintenance and improvement of human health and welfare? (If not, the research should not be conducted)
2. Can animals be replaced with other methods, or the number of animals be reduced? (If so, these steps should be taken.)
3. Does the design and management of the animal accommodation meet the species-specific needs of the animal? In particular, does housing the guinea pigs singly in cage sizes of 900cm² meet their species-specific needs?
4. If not, do the requirements of the project prevent those needs being met? (If so, housing should still meet the physiological and behavioural needs of guinea pigs as closely as possible.)
5. When the predicted scientific value of the research is weighed against the potential effects on the welfare of the animals, should the applicant be accredited and/or licenced?

In considering each of these issues separately, the Magistrate came to the following conclusions:

1. The researcher's opinion that the proposed research to develop a new vaccine for humans against Q fever is essential for the maintenance and improvement of human health and welfare was upheld. This part of the ruling was based on the conclusion that the researchers had no other rationale for the use of animals other than to test the vaccine.
2. The Magistrate also accepted that animal testing is essential in developing a new vaccine as a human ethics committee is unlikely to approve any trial without prior supporting animal study data.
3. The issue of the housing conditions meeting the species-specific needs of the guinea pigs was considered in some detail. The Magistrate weighed up expert opinions from both sides as well as a number of published guideline documents and concluded that housing guinea

pigs singly did not meet their species-specific requirements, but then decided that this was not a fatal flaw in the application.

4. Again, when considering the cage size issue, the Magistrate had to consider a number of publications, divergent expert opinions and a number of other issues. In this case, the ruling was that a cage with floor space of just over 900cm² containing some environmental enrichment such as hay for foraging, plastic pipe for shelter and a ceramic bowl for food was sufficient. However, the ruling against single housing of guinea pigs rendered this ruling irrelevant.
5. The fact that a vaccine against Q fever already exists meant that the Magistrate considered the value of research to be fairly low.

In concluding the findings of the hearing the Magistrate made the following observation:

The Code acknowledges that there are "difficult ethical judgements to be made regarding the use of animals for scientific purposes." In making that judgement, "refinement" is one of the principles that I must consider. In this case, refining the experiment so that the guinea pigs are housed together would reduce the adverse impact on their welfare. That refinement is not precluded by the requirements of the project. Given that fact and the fact that the predicted scientific value of the project is relatively low, I am not satisfied that the way in which the applicant intends to house the guinea pigs is justified.

This meant that the decision not to grant a licence was affirmed.

The one single aspect of this decision I find a little surprising was the conclusion that the proposed cages were considered large enough to house guinea pigs. Just to be clear, the cages under consideration are just standard IVC used for housing rats and mice with the following dimensions:

Width:	395mm
Depth:	346mm
Height:	213mm

and having a 10cm deep layer of hay on the floor, which has a surface area of 904cm².

One additional consideration I believe an AEC would need to factor into the decision making process that was probably outside the brief of the tribunal, would be the potential effects the isolation and rather cramped conditions might have on the experimental outcomes had the work been allowed to go ahead. It is generally well accepted and supported by numerous published works, that the effects of stress or distress on the immune system can be quite profound. This would in turn suggest that the immune responses elicited

in test guinea pigs under such conditions might not be truly representative of what would normally be expected to occur. It might therefore be appropriate to question the validity of the guinea pig model if they are being kept under such cramped conditions as the animals' immune responses would in all likelihood, be adversely effected by their environment. So even though I am supportive of the tribunal's decision, my suspicion is that the magistrate may have been slightly more generous than an AEC asked to consider the resulting work.

Should undergraduate students be allowed to undertake laboratory and/or field studies involving animals?

Mandy Paterson

My answer to this question is 'no'; I believe it is completely unnecessary for undergraduate students to undertake practical classes which use animals or pre-prepared animal tissue. I also have concerns about students undertaking wildlife trapping exercises. The following article outlines my arguments in support of this position.

Before going any further I should state that I am the animal welfare member of an animal ethics committee (AEC) and work for the RSPCA. However, I have animal research experience, have taught at a university and conducted practical classes using animals and animal tissues. I am also a veterinarian so I believe I approach this question with a broad understanding of most of the issues involved.

The *Australian code for the care and use of animals for scientific purposes, 8th edition*, sets out replacement, reduction and refinement (3Rs) as a governing principle (Section 1). This requires that all AECs consider the 3Rs when assessing a proposal for teaching or research and wherever possible ensure that the numbers of animals used are reduced or the use is eliminated entirely through replacement. If animals are to be used, such use must be justified by the research or teaching outcomes. I believe undergraduate teaching is the perfect place from which to eliminate animal use.

What are the teaching outcomes that justify the use of animals? If we consider the undergraduate laboratory then I argue there are few, if any. Academics may claim that using animals or animal tissue provides the students with their first experience of this type of work and that in itself is valuable. It may attract students

to science and that would be a good thing. However, most laboratory classes are large and few students, if any, will be involved in preparing the animal or animal tissue for the experiment. Most students will see a piece of tissue in an organ bath. This work bears little resemblance to the work carried out by researchers and it could be argued that students end up with careers in research despite this early experience rather than because of it!

Most students approach the animal experiment task by following the instructions in the practical guide step by step. It is a job to do and the outcome for the students is to get results which will be deemed correct. From my experience, few students prepare beforehand and most want to complete the task as quickly as possible and leave. It is only later when they are required to make sense of the results so that they can write a report do they start to think about what the results mean. It is the numbers that are important at this stage not the animal that produced those results. To be fair, there may be a few students who approach the experiments differently than this, but even for these more conscientious students, again, it is understanding the physiological or biochemical processes that are important to them, not the animal itself.

A clear articulation of the aims of the practical class would allow an informed choice about ways to achieve those aims. My experience suggests that the aims of this type of practical class are the understanding of physiological, biochemical, anatomical, pathological, or other principles of the human body. There are many ways to achieve these aims without using animals or animal tissue, for example, computer simulations, watching a video of the experiment carried out previously, and so on.

Some academics may argue that to address the 3Rs in laboratory classes, they have drastically reduced the number of animals used and that they prepare the dissections and set up the preparations beforehand. While it is true that this practice does reduce the number of animals used (several tissue samples are obtained from the one animal), I argue that it further distances the students from the animal as an animal and defeats the purpose of using an animal completely. Again it is observing the result of their actions or obtaining a set of numbers that is the outcome of these practical classes.

I think we can assume that students who enrol in courses which offer practical classes using animals have some interest in animals and at least to some extent, feel some connection with the animal kingdom and perhaps plan to choose a career involving animals and/or research. If this is the case then introducing them early on to animals via tissue in an organ bath does in no way enhance their empathy with animals.

Rather, it tends to teach a culture of commodification of animals. Animals are on earth to serve the needs of humans and we have the right to use them as we see fit. Is this the attitude we want to teach our future scientists, veterinarians, dentists, and so on?

The second use of animals in undergraduate teaching is the trapping of wildlife. Students go out into the field and set traps and catch wildlife. Students could set traps and gain experience with that activity without necessitating the stress experienced by some poor wildlife that happens to pass by from which no other useful information is to be gathered. Some academics might argue that the students also gain experience handling animals and perhaps some other techniques. These are skills that can be learnt by those students who in fact do go on to a career involving trapping and/or handling wildlife. They are not necessary for most of the students who undertake the courses who may never work with wildlife again. An empathetic approach to animals with a greater understanding of their inherent worth and place in ecosystems would be a much better learning outcome and this can be achieved without trapping some hapless animals.

Another argument that is often made is that having contact with animals attracts students to a course. While this is probably true, it is not a sufficient justification to have them. Of course, funding is often attached to student numbers so attracting students may become vital for the viability of a course or program. However, once again, this is not sufficient justification for the use of animals.

To sum up, I urge AECs to carefully scrutinise proposals to use animals for undergraduate classes and demand a full discussion of alternatives. Many of these classes have been held for many years and the simplest approach is just to approve because they have been approved previously. This is unnecessary. Such classes are generally unnecessary.

Code Update

Regular readers of ANZCCART News might have noticed an article in our last edition about the new Code (*Code for the Care and Use of Animals for Scientific Purposes, 8th Edition*) that considered some of the changes made with this edition and bemoaned the lack of an index. It would seem that we were not alone.

The NHMRC recently updated the web page for the 8th Edition of the Code and you can now download a copy

(HTML with links or .pdf) with an index.

To whomever it was within the NHMRC who thought to include an index at the back of the Code, thank you!

The new version, complete with index is available from the NHMRC web site at: <http://www.nhmrc.gov.au/guidelines/publications/ea2>

The NHMRC have also just added a file to their web site that includes a copy of all the slides used in a recent presentation they gave in Adelaide that highlighted and explained changes that have been made in the 8th Edition of the Code. This presentation was well received by both researchers and Animal Ethics Committee members who were able to attend and we recommend using these slides to help familiarize yourself with the updated Code.

A copy of this presentation can be found at: http://www.nhmrc.gov.au/files_nhmrc/file/publications/presentation_australian_code_care_and_use_of_animals_8th_edition_131120.pdf

ANZCCART to establish a College of Experts

In order to help ANZCCART with the work we do assisting AEC members, researchers, teachers, and the general public by answering questions that fall within our brief, we have decided to form a College of Experts. In taking this step, we are also conscious of the fact that membership of the College should be seen as recognition for the efforts of the group of experts that we regularly draw upon to ensure that the answers we provide are accurate and of course, current. To this end, we will shortly begin contacting people whom we have regularly used as a source of expertise.

While it is proposed that membership of the college should be seen as recognition of expertise, one thing we are keen to avoid is any perception that it would be a burden on anyone. We would therefore be careful to ensure that no one would be overloaded with requests for help and suggest that this will not change the workload of any of our college members at all.

To those people who do regularly assist ANZCCART with the provision of expert advice, I would like to take this opportunity to thank you and we look forward to

continuing to work with you in the future. If anyone would like to volunteer to help out in this area, we would always be happy to have you contact ANZCCART with some information about your areas of expertise.

The first group of members will be contacted before the end of this year.

Nominations for Honorary Life Membership of ANZCCART

The Board of ANZCCART is once again calling for nominations for Honorary Life Membership. This annual call gives all members and friends of ANZCCART the opportunity to nominate someone they feel has provided exceptional service to both ANZCCART and the broader animal welfare community over a long period. Such services would have to be considered to go above and beyond what would normally be expected of someone in their role and worthy of receiving ANZCCART's ultimate acknowledgement for services rendered.

Nominations should explain why you believe the nominee is worthy of such an award and must be submitted to the Board of ANZCCART by email to ANZCCART@adelaide.edu.au.

Nominations will close on 31 January 2014.

ANZCCART News Reader Survey

Most readers of ANZCCART News will have received a request to fill out a brief survey in October this year. We asked this of you with a view to determining who was reading ANZCCART News and whether it is serving the interests of our regular readers in its current format or if there is anything we can do to improve ANZCCART News and the services we provide to you.

Each edition of ANZCCART News is sent via email to around 1300 people and we ended up getting over 155 responses to this survey, so thank you very much to those of you who took the time to help out. We were very pleased with this response and the additional comments and suggestions many people included

will be extremely useful in planning future editions of ANZCCART News and will also guide us in adapting it to better suit the requirements of our readers.

The results of the survey were generally positive and showed that over 80% of readers always or generally open up each edition of ANZCCART News and nearly 90% of respondents read some or all of the articles. It was also interesting to learn that over 60% of readers use ANZCCART News as a reference source and a similar proportion refer others to articles in ANZCCART News.

If you are interested in the results, we have put them up on the [ANZCCART News](#) web page so you will be able to access a summary of the results.

2014 INVEST Conference

Registration is now open for the 2014 INVEST (International Veterinary Simulation in Teaching) Conference.

The Conference will take place from 1 - 3 March, on the island of St Kitts, the Caribbean.

Further information: www.INVEST2014.com

Recent Articles of Interest

ABC Science Show on Radio National discusses reducing the use of animals in experiments

The National Centre for the Replacement, Refinement and Reduction of Animals in Research is a scientific body set up by the UK government which aims to develop alternatives to the use of animals in experimentation and to develop ways to increase animal welfare. The transcript of an interview with Dr Mark Prescott, Head of Resource Management and Professor Sue Eccles, Cancer Research Institute, describes how the centre operates and highlights some of its achievements.

<http://www.abc.net.au/radionational/programs/scienceshow/reducing-the-use-of-animals-in-experiments/4971624>

No sting in centipede painkiller

Researchers from the University of Queensland studying the Chinese red-headed Centipede have found a molecule with the potential to control the pain experienced by people with chronic, untreatable illnesses. It would emulate a rare condition known as congenital insensitivity to pain, or CIP, by disabling one of the "sodium channels" that generate electrical signals in the nerves.

<http://www.theaustralian.com.au/higher-education/no-sting-in-centipede-painkiller/story-e6frgcjx-1226730196926>

Chilly lab mice skew cancer studies

The article on "Room-temperature conditions cause stress, suppressing immune responses" appears in the latest edition of the journal *Nature*. It promotes the idea that standard temperatures for housing laboratory mice may not be ideal for mice and might even affect the experimental results that often form the foundation of medical research, including the development of anti-cancer drugs and therapies.

International guidelines call for laboratory mice to be kept at room temperature (20-26°C). Yet some scientists like immunologist Elizabeth Repasky of the Roswell Park Cancer Institute in Buffalo, New York believe that rodents find that range uncomfortably chilly. Mice, she notes, lose body heat more rapidly than humans and when given a choice, prefer to reside at a balmy 30°C.

At stake might be more than just creature comforts. In a study published today by *Proceedings of the National Academy of Sciences*, Repasky and her colleagues report that in mice housed at room temperature, tumour growth was faster than in those housed at 30°C, and immune responses to cancer were suppressed. Other scientists like physiologist Ajay Chawla of the University of California, San Francisco, agree and go further to suggest that mice living at room temperature have to work overtime to maintain their body temperature and so have high heart and metabolic rates. Chawla went on to say that this study addressed an important issue that most of us have ignored. "I tell my colleagues, 'You're modelling human disease and pathology in an organism that is like somebody who is on speed'."

http://www.nature.com/news/chilly-lab-mice-skew-cancer-studies-1.14190?WT.ec_id=NEWS-20131119

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The opinions expressed in *ANZCCART NEWS* are not necessarily those held by ANZCCART.

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