

most birds, up to 1% of bodyweight (eg, 1.0 ml per 100 g bird) can be collected with few negative effects, but no more than 2% over a two-week period. The jugular vein is highlighted as one of the most useful sites for venipuncture, as it is often in a relatively featherless area of skin and easily seen, but the collection of blood by nail-clipping is discouraged as it is painful and can be associated with significant haemorrhages. Also discouraged are the use of neck ligatures and emetics for collecting food samples and laparotomies, because of their negative impact on the animal. Release criteria in the form of a number of questions that should be considered are detailed. These include: Is this an appropriate bird for release or should it be rehabilitated or euthanised? Do the birds require a period of acclimation or reconditioning to prepare them for release? Because euthanasia may be the appropriate option, the module also reminds researchers that the appropriate method for the species being captured should be known and that necessary material and equipment should be readily at hand. In the case of animals whose carcass may contain residues of toxic chemicals, appropriate methods of disposal should be known, to ensure that environmental contamination and impact is minimised.

It is not only the health of the birds that the module considers but the precautions necessary to maintain that of those researchers. In addition to physical injury, from the stabbing beaks of loons and grebes to the talons of raptors, and chemical risks from any drugs or marking agents being used, the risk of zoonoses such as chlamydiosis, salmonellosis and tuberculosis, are highlighted.

Finally, a list of agencies and organisations that can provide suitable training within the US are listed, along with 5 pages of references.

Migratory Birds in Research: Animal User Training, Companion notes (April 2008). 45 pp. Canadian Council on Animal Care, Ottawa, Ontario, Canada. Available at: http://www.ccac.ca/en/CCAC_Programs/ETCC/PDFs/Bird_Module_handouts-EN.pdf.

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Australian National Health and Medical Research Council's guidelines on care of animals used in scientific research and teaching

In June 2008, the National Health and Medical Research Council (NHMRC) of Australia published new guidelines aimed at promoting the well-being of animals used for scientific purposes and at minimising experiences of pain and distress. These guidelines adhere to the principles of Replacement, Reduction and Refinement and emphasise the responsibility of those who use animals for scientific activities. In his letter announcing the publication of these guidelines, NHMRC Chief Executive, Warwick Anderson, noted that an expert committee carried out much of the development work and that the process included targeted and public consultations. The Guidelines are divided into three parts. Part 1 entitled 'Animal well-being and scientific outcomes' deals with

general principles and definitions, and outlines well-being, distress and pain and the effects of animal well-being on scientific outcomes. Part 2 is on 'Planning, conducting and reviewing research protocols to maximise well-being and minimise pain and distress in animals' and includes a checklist of 18 points (eg 'Determine whether alternative, non-animal techniques could be used', 'Provide animals with adequate pain management...', 'Learn the normal behaviour of the species and the signs of pain and distress') for promoting animal well-being.

Part 3 includes 14 'factsheets' on a range of specific topics from 'Administration of substances and behaviour modification' to 'Environmental enrichment strategies', 'Tumour induction' and 'Wildlife research'. The term 'factsheet' is a bit of a misnomer here as some of these run to many pages. There are sections on food and water intake modification, humane killing and euthanasia, and on pain management (anaesthesia, analgesia and anxiolytics) and all of these 'factsheets' provide valuable outlines of the topics and include references.

These guidelines provide a great deal of valuable information covering general principles and technical details. They are well-written, clearly-presented and easy to navigate. They are designed to be read by all those responsible for animals used in scientific procedures in Australia, in conjunction with the Australian code of conduct for the care and use of animals for scientific purposes, 2004. However, it seems likely that they will also be found to be a valuable source of information, more widely.

Guidelines to Promote the Well-being of Animals Used for Scientific Purposes: The Assessment and Alleviation of Pain and Distress in Research Animals (2008). c200 pp. A4. Australian Government, National Health and Medical Research Council. Copies available from the NHMRC, GPO Box 1421, Canberra ACT 2601, Australia, by email from nhmrc.publications@nhmrc.gov.au and available online at: <http://www.nhmrc.gov.au>.

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The implications of castration and tail docking for the welfare of lambs

Castration and tail docking have been routinely used in the farming and production of sheep for many years and in many parts of the world. The FAWC report does not go into the history of these practices but notes that tail docking is a traditional procedure on many farms. Several million lambs are castrated and many more are tail-docked each year in Britain.

In its 1994 report on the welfare of sheep, FAWC stated that "it is difficult to give general approval to any system of husbandry that relies on painful mutilations to sustain the system but we see no alternative until the results of research provide further guidance". Since then, there has been considerable research in the UK and New Zealand into the physical effects of castration and tail docking and into the pain and distress caused by these procedures. However, FAWC notes that although clear recommendations have been made (eg in the Code of Recommendations for the