felasa 2025
June 2–5
Athens, Greece

The Norecopa website:
A Guided Tour of Global 3R Resources

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slides at norecopa.no/Tour

felasa2025.eu

Disclosures

norecopa

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"Norecopa: A one-stop-shop for global 3R resources"

Our aim – and you decide whether this is a justifiable claim

Manager of the Norecopa website

- Co-author of several databases and a Refinement Wiki
- Lead author of the PREPARE guidelines

Norecopa is a member of AAALAC International, based upon our positive experiences in accrediting animal facilities

*We are promoting **your** resources!*
Let us know what's missing!

We ourselves have needed quality resources:

norecopa

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Held approx. 80 courses since 1985 and lectured on many more

Written compendia & book chapters on Lab Animal Science

Achieved AAALAC accreditation of animal facilities

Discussed research projects with scientists and animal care staff

Supervised and performed animal studies

Myth busting

norecopa.no/Tour

1. Norecopa's finances are actually in good shape, but it's taking time to convince the authorities to create a ***larger*** 3R centre in Norway
2. Norecopa actually involves 20 people, even if only three of us get paid

Elisabeth Pagels

Øyvind Wærenskjold

Myth busting

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1. Norecopa's finances are actually in good shape, but it's taking time to convince the authorities to create a ***larger*** 3R centre in Norway
2. Norecopa actually involves 20 people, even if only three of us get paid

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Aivero
Architect Finn Rahn's Legacy
Laboratory Animals Ltd.
Nordic Society Against Painful Experiments (NSMSD)
Norwegian Society for Animal Protection (Dyrebeskyttelsen Norge)
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Novo Nordisk
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PHARMAQ part of zoetis

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Replacing Animal Research

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SCANBUR Improving Life Sciences

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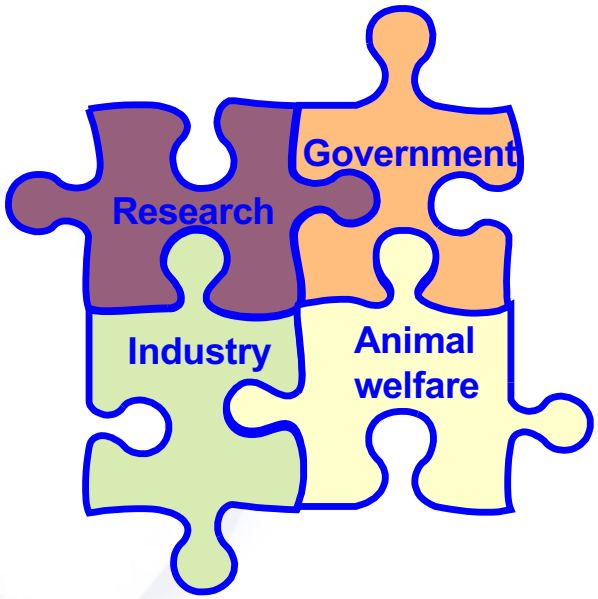
A member of ***ecopa****:*
European Consensus-Platform for Alternatives

ecopa

ecopa.eu

which recognises National Consensus Platforms (NCPs) with 4 stakeholders equally represented on their Boards:



Norecopa founded in 2007

All three Rs!

Norecopa: PREPARE for better Science

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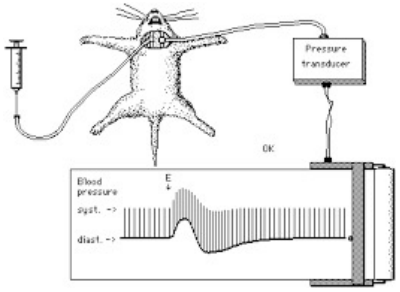
The work actually started nearly 40 years ago ...

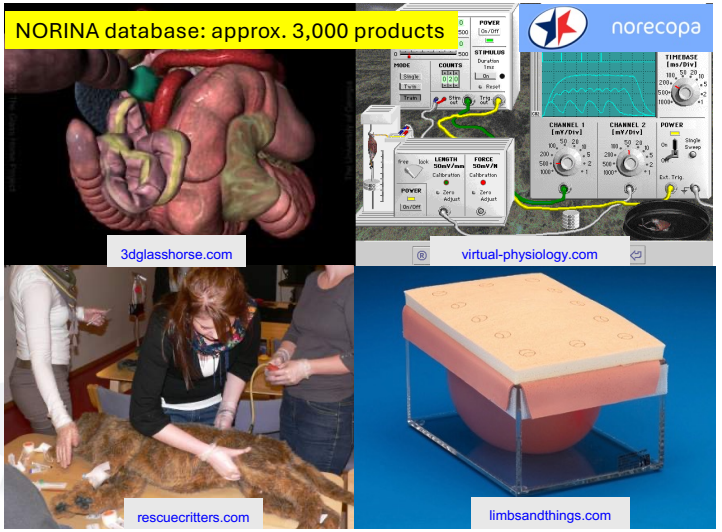
wikipedia.org



Pharmatutor

1991: NORINA

1996: Laboratory Animals Ltd



Norecopa: PREPARE for better research

3R-Guide (over 400 guidelines for implementation of the 3Rs)

norecopa.no/3r-guide

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Working Party Report

Guidance on the severity classification of scientific procedures involving fish: report of a Working Group appointed by the Norwegian Consensus-Platform for the Replacement, Reduction and Refinement of animal experiments (Norecopa)

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Abstract

The severity classification of procedures using animals is an important tool to help focus the implementation of refinement and to assist in reporting the application of the 3Rs (replacement, reduction and refinement). The recently revised Directive that regulates animal research and testing within the European Union requires Member States to ensure that all procedures are classified as 'non-recovery', 'mild', 'moderate' or 'severe', using assignment criteria set out by the European Commission (EC). However, these are focused upon terrestrial species, so are of limited relevance to fish users. A Working Group set up by the Norwegian Consensus-Platform for the 3Rs (Norecopa) has produced guidance on the classification of severity in scientific procedures involving fish, including examples of 'subthreshold', 'mild', 'moderate', 'severe' and 'upper threshold' procedures. The aims are to complement the EC guidelines and help to ensure that suffering in fish is effectively predicted and minimized. Norecopa has established a website (www.norecopa.no/categories) where more information on severity classification for procedures using fish, including field research, will be made available.

Keywords: Fish, harm–benefit assessment, humane endpoints, refinement, severity

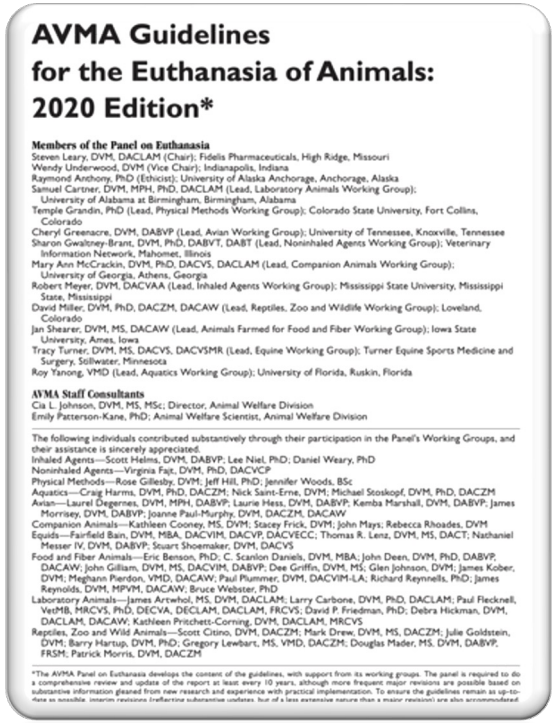
Laboratory Animals 2011; 1–6. DOI: 10.1258/la.2011.010181

Background

An effective prediction of the effects of a research protocol on the animals concerned helps to ensure that any pain, suffering or distress they may experience will be effectively anticipated, recognized and alleviated. This is essential not only for animal welfare but also for scientific validity, because physiological and behavioural responses to suffering can significantly affect data quality. Severity classification is thus an important tool to help focus the implementation of refinement, including monitoring its progress, and to assist in reporting the application of the 3Rs (replacement, reduction and refinement) of Russell and Burch,[1] which is now an integral part of the legislation on animal research and testing in many countries. Predictions of severity are also fundamental to the harm–benefit assessments undertaken by bodies such as regulatory authorities and ethical committees when deciding whether or not a project should be licensed or funded.

There may also be a legal requirement to predict and classify severity. For example, the new Directive regulating animal use within the European Union, which must be implemented within all Member States by January 2013, requires the severity of each procedure to be classified on the basis of the 'degree of pain, suffering, distress or lasting harm expected to be experienced by an individual animal during the course of the procedure', with the aim of enhancing transparency, facilitating the project authorization process and providing tools for monitoring compliance.[2] Member States will have to ensure that all procedures are classified as 'non-recovery', 'mild', 'moderate' or 'severe' on a case-by-case basis, using the assignment

Laboratory Animals 2011; 1–6



AVMA Guidelines for the Euthanasia of Animals: 2020 Edition*

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*The AVMA Panel on Euthanasia develops the content of the guidelines, with support from its working groups. The panel is required to do a comprehensive review and update of the report at least every 10 years, although more frequent major revisions are possible based on substantive information gleaned from new research and experience with practical implementation. To ensure the guidelines remain as up-to-date as possible, interim revisions (reflecting substantive updates but of a less extensive nature than a major revision) are also recommended

ATLA 38, 167–182, 2010

A Gold Standard Publication Checklist to Improve the Quality of Animal Studies, to Fully Integrate the Three Rs, and to Make Systematic Reviews More Feasible

Carlijn R. Hooijmans, Marlies Leenaars and Merel Ritskes-Hoitinga

Radboud University Nijmegen Medical Centre, Central Animal Laboratory and 3R Research Centre, Nijmegen, The Netherlands

Summary — Systematic reviews are generally regarded by professionals in the field of evidence-based medicine as the highest level of medical evidence, and they are already standard practice for clinical studies. However, they are not yet widely used nor undertaken in the field of animal experimentation, even though there is a lot to be gained from the process. Therefore, a gold standard publication checklist (GSPC) for animal studies is presented in this paper. The items on the checklist have been selected on the basis of a literature analysis and the resulting scientific evidence that these factors are decisive in determining the outcome of animal studies. In order to make future systematic reviews and meta-analyses of animal studies possible, to allow others to replicate and build on work previously published, diminish the number of animals needed in animal experimentation (*reduction*), improve animal welfare (*refinement*) and, above all, improve the quality of scientific papers on animal experimentation, this publication checklist needs to be used and followed. We have discussed and optimised this GSPC through feedback from interviews with experts in the field of animal experimentation. From these interviews, it became clear that scientists will adopt this GSPC when journals demand it. The GSPC was compared with the current instructions for authors from nine different journals, selected on the basis that they featured a high number of publications on animal studies. In general, the journals' demands for the description of the animal studies are so limited that it is not possible to repeat the studies, let alone carry out a systematic review. By using the GSPC for animal studies, the quality of scientific papers will be improved. The use of the GSPC and the concomitant improvement in the quality of scientific papers will also contribute to decreased variation and increased standardisation and, as a consequence, a reduction in the numbers of animals used and a more reliable outcome of animal studies. It is of major importance that journal editors become convinced of and adopt these recommendations, because only then will scientists follow these guidelines to the full extent.

Key words: *animal experimentation, meta-analysis, publication checklist, scientific quality, systematic review.*

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Introduction

A systematic review (SR) is a literature review focused on a single question which tries to identify, appraise, select and synthesise all available high-quality research evidence relevant to that question (1). SRs are generally regarded by evidence-based medicine professionals as the highest level of medical evidence, and they are already standard practice in clinical studies. However, SRs are not yet widely used nor undertaken in the animal experimentation field, although there would be a lot to be gained from the process. A systematic approach to incorporate all available relevant literature into the design of an animal experiment is a prerequisite for research which is of high scientific quality. Good science, from a scientific as well as an animal welfare point of view, is the basis of the book. *The Principles of Humane Experimental Technique*, by Russell and Burch (2). In this book, they recommend that the Three Rs principles (*Refinement, Reduction* and *Replacement*) should be applied whenever possible in animal studies. Besides producing high-quality research, SRs of animal experiments will result in direct implementation of the Three Rs. SRs may provide the proper argumentation to decide which animal model will give the best answer to the (clinical) research question (3, 4) and to detect whether there are gaps in scientific knowledge that require new animal experiments (*replacement* and *refinement*). This will also aid in preventing unnecessary duplication of animal experiments (*reduction*), and thus discourage unnecessary animal use and time loss. A SR of animal studies will also lead to a better interpretation of the already existing scientific results from animal experiments, through which a better

Tim Allen, USDA

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TextBase:

2,000 books related to Lab Animal Science, welfare and alternatives:

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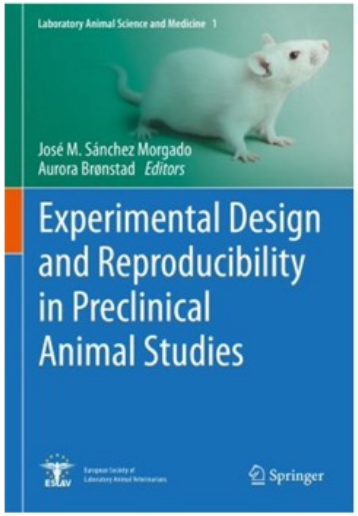
Experimental Design and Reproducibility in Preclinical Animal Studies

By José M. Sánchez Morgado & Aurora Brønstad (Eds.)

Record number: 8619d

This book provides grounds on how to plan and conduct animal experiments that can be reproduced by others. It touches on factors that may impact the reproducibility of animal studies including: the animal genetic background, the animal microbial flora, environmental and physiological variables affecting the animal, animal welfare, statistics and experimental design, systematic reviews of animal studies, and the publishing process.

The book addresses advanced undergraduates, graduate students and all scientists working with animals.



norecopa.no/textbase/experimental-design-and-reproducibility-in-preclinical-animal-studies

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Databases & Guidelines

norecopa.no/databases-guidelines

- 3R Guide: a global overview of **databases, guidelines, information centres, journals, email lists, regulations and policies** which may be of use when planning experiments which might include animals. A quick overview of all the guidelines can be accessed here. Norecopa has written several of these, including the PREPARE guidelines for planning animal research and testing.
- NORINA: a global overview of audiovisual aids and other items which may be used as **alternatives or supplements to animals in education and training** at all levels from junior school to University, including dissection alternatives and surgical simulators.
- TextBase: a global overview of **textbooks and other literature within laboratory animal science** and related topics.
- Classic AVs: a subset of NORINA covering **audiovisual aids that are based on older technology**.

These databases are updated regularly. Please give us feedback if you discover errors or omissions.

The Norecopa website also includes five other collections:

- NAL: a collection of literature references relating to the 3Rs from the US National Agricultural Library
- European Commission datasets:
  - 3Rs Knowledge Sources: over 800 resources collected by the Commission in 2016
  - 3Rs Education and Training Resources, over 560 items collected in 2018
  - Non-animal models for respiratory tract diseases, over 280 models identified in a literature review of over 21,000 papers, published in 2020
  - Non-animal models for cardiovascular diseases, citing over 400 models, identified in a literature review of over 14,000 papers, published in 2022

The EU Commission has now published 30 datasets of this type.

links to over 70 other databases

Here is an alphabetical global list of all the databases cited on the Norecopa website.

"Aims to be the most comprehensive and best updated website for global 3R resources

over 10,600 webpages
nearly 1,000 hits per day

7-8 detailed newsletters a year (127 in total so far)

norecopa.no

Guided tour webinar (50 min.)

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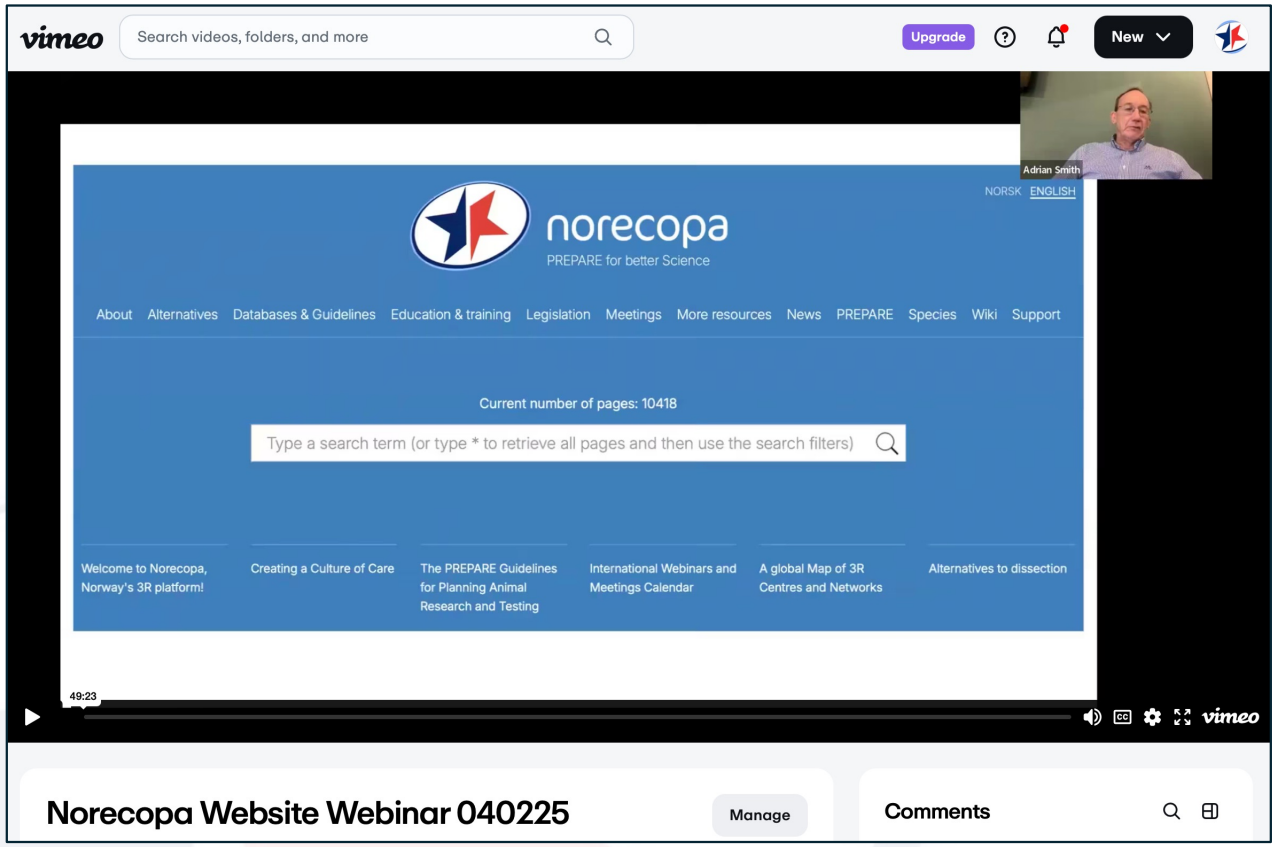

vimeo.com/1053518017

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Norecopa: PREPARE for better Science

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Presentations about the 3Rs, planning animal studies and the PREPARE guidelines

2021-2024: 115 presentations in 27 countries (of which 84 were invited lectures)

Albania, Argentina, Australia, Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hong Kong, India, Iran, Italy, Croatia, Netherlands, Nigeria, Norway, Portugal, Romania, Slovenia, Sri Lanka, Sweden, Switzerland, UK & USA

+ webpages for recorded meetings, sorted by PREPARE topics

- Biennial LAWTE conference, Raleigh, 1-4 June 2025
- 16th FELASA congress: Reducing severity in animal research, Athens, 2-5 June 2025
- Laboratory Animal Welfare Workshop 2: Managing Post-Operative Pain
- How to promote your research, Springer Nature webi
- Leveraging Technology to Enrich Anim
- Experimental Design f
- Mi
- S. Ferreira & TBC), 10 June
- Design, Dublin, 11-13 June 2025
- Animal Technicians Symposium, London, 12 June 2025
- Dyrevelfærdsorganernes Årsmøde, Valby, 12 June 2025
- Open Science Workshop on Preregistration and Registered Reports, Bern,
- The 3Hs initiative: housing, handling and habituation methods to benefit rode
- UK Home Office Training Course for Wildlife Researchers, Edinburgh, 16 Ju
- 3rd Workshop on the Commission roadmap towards phasing our animal testi
  2025
- FENS Regional Meeting, Oslo, 16-19 June 2025
- Tools for Responsible (Preclinical) Research, webinar (Nikki Osborne), 17 J
- 2nd Beginners Training School on the Use of Home-Cage Technologies to M
- Research integrity, Springer Nature webinar, 18 June 2025
- How to assess pain in laboratory animal species, webinar (Matt Leach), 18
- Stem Cell Summer School, Nijmegen , 23-27 June 2025
- Swiss 3Rs Day: 3Rs in Neuroscience, Zurich, 24 June 2025
- UFAW International Animal Welfare Conference, online, 24-26 June 2025
- Real world examples of accepted and rejected submissions, Springer Natu
- ENROL - International Conference on Engineering for Life Sciences, Vienn
- Responsible Aquatic Animal Research: Critical, Challenging and Creative Thir
  July 2025

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The Path to Better Science:

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Universiteit Utrecht

norecopa.no/PREPARE *and*
https://riojournal.com/article/105198

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PREPARE:

Planning **R**esearch and **E**xperimental **P**rocedures on **A**nimals: **R**ecommendations for **E**xcellence

PREPARE covers 15 topics:

Formulation of the study

1. Literature searches
2. Legal issues
3. Ethical issues, harm-benefit assessment and humane endpoints
4. Experimental design and statistical analysis

Dialogue between scientists and the animal facility

5. Objectives and timescale, funding and division of labour
6. Facility evaluation
7. Education and training
8. Health risks, waste disposal and decontamination

Methods

9. Test substances and procedures
10. Experimental animals
11. Quarantine and health monitoring
12. Housing and husbandry
13. Experimental procedures
14. Humane killing, release, reuse or rehoming
15. Necropsy

Items in pink are not typically highlighted in reporting guidelines

norecopa.no/PREPARE/prepare-checklist

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PREPARE

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The PREPARE Guidelines Checklist

Planning Research and Experimental Procedures on Animals: Recommendations for Excellence

Adrian J. Smith[a], R. Eddie Clutton[b], Elliot Lilley[c], Kristine E. Aa. Hansen[d] & Trond Brattelid[e]

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PREPARE[1] consists of planning guidelines which are complementary to reporting guidelines such as ARRIVE[2].

Topic	Recommendation
	(B) Dialogue between scientists and the animal facility
5. Objectives and timescale, funding and division of labour	☐ Arrange meetings with all relevant staff when early plans for the project exist. ☐ Construct an approximate timescale for the project, indicating the need for assistance with preparation, animal care, procedures and waste disposal/decontamination. ☐ Discuss and disclose all expected and potential costs. ☐ Construct a detailed plan for division of labour and expenses at all stages of the study.
6. Facility evaluation	☐ Conduct a physical inspection of the facilities, to evaluate building and equipment standards and needs. ☐ Discuss staffing levels at times of extra risk.
7. Education and	☐ Assess the current competence of staff members and the need for further education or training prior

Fillable Word file that can be used to write a Study Plan

1. Literature searches	☐ Form a clear hypothesis, with primary and secondary outcomes. ☐ Consider the use of systematic reviews. ☐ Decide upon databases and information specialists to be consulted, and construct search terms. ☐ Assess the relevance of the species to be used, its biology and suitability to answer the experimental questions with the least suffering, and its welfare needs. ☐ Assess the reproducibility and translatability of the project.
2. Legal issues	☐ Consider how the research is affected by relevant legislation for animal research and other areas, e.g. animal transport, occupational health and safety. ☐ Locate relevant guidance documents (e.g. EU guidance on project evaluation).
3. Ethical issues, harm-benefit assessment and humane endpoints	☐ Construct a lay summary. ☐ In dialogue with ethics committees, consider whether statements about this type of research have already been produced. ☐ Address the 3Rs (replacement, reduction, refinement) and the 3Ss (good science, good sense, good sensibilities). ☐ Consider pre-registration and the publication of negative results. ☐ Perform a harm-benefit assessment and justify any likely animal harm. ☐ Discuss the learning objectives, if the animal use is for educational or training purposes. ☐ Allocate a severity classification to the project. ☐ Define objective, easily measurable and unequivocal humane endpoints. ☐ Discuss the justification, if any, for death as an end-point.
4. Experimental design and statistical analysis	☐ Consider pilot studies, statistical power and significance levels. ☐ Define the experimental unit and decide upon animal numbers. ☐ Choose methods of randomisation, prevent observer bias, and decide upon inclusion and exclusion criteria.
10. Experimental animals	☐ Decide upon the characteristics of the animals that are essential for the study and for reporting. ☐ Avoid generation of surplus animals.
11. Quarantine and health monitoring	☐ Discuss the animals' likely health status, any needs for transport, quarantine and isolation, health monitoring and consequences for the personnel.
12. Housing and husbandry	☐ Attend to the animals' specific instincts and needs, in collaboration with expert staff. ☐ Discuss acclimatization, optimal housing conditions and procedures, environmental factors and any experimental limitations on these (e.g. food deprivation, solitary housing).
13. Experimental procedures	☐ Develop refined procedures for capture, immobilisation, marking, and release or rehoming. ☐ Develop refined procedures for substance administration, sampling, sedation and anaesthesia, surgery and other techniques.
14. Humane killing, release, reuse or rehoming	☐ Consult relevant legislation and guidelines well in advance of the study. ☐ Define primary and emergency methods for humane killing. ☐ Assess the competence of those who may have to perform these tasks.
15. Necropsy	☐ Construct a systematic plan for all stages of necropsy, including location, and identification of all animals and samples.

References

1. Smith AJ, Clutton RE, Lilley E, Hansen KEA & Brattelid T. PREPARE:Guidelines for Planning Animal Research and Testing. *Laboratory Animals*, 2017, DOI: 10.1177/0023677217724823.
2. Kilkenny C, Browne WJ, Cuthill IC *et al.* Improving Bioscience Research Reporting: The ARRIVE Guidelines for Reporting Animal Research. *PloS Biology*, 2010; DOI: 10.1371/journal.pbio.1000412.

Further information
https://norecopa.no/PREPARE / *post@norecopa.no* / @norecopa

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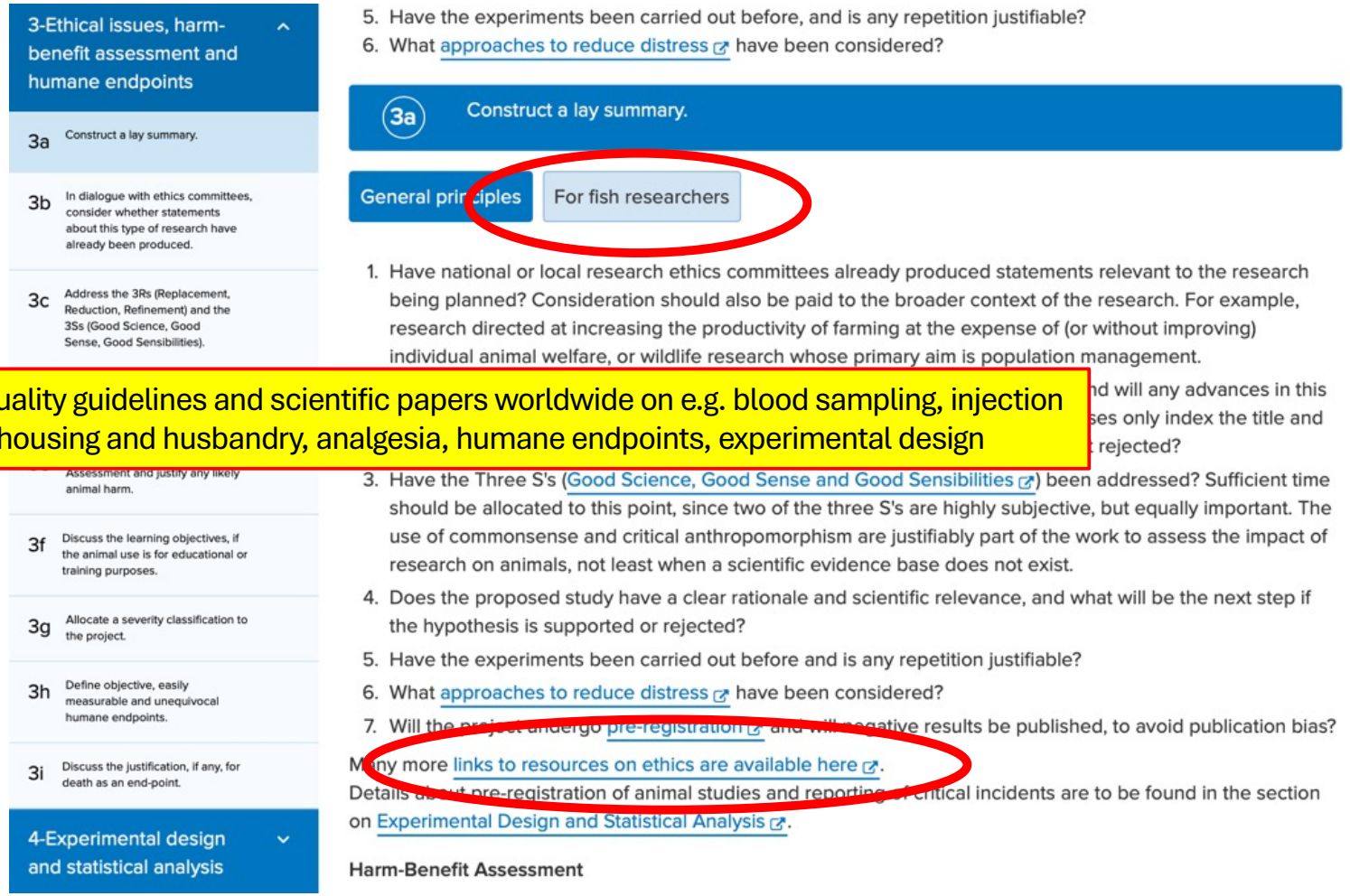
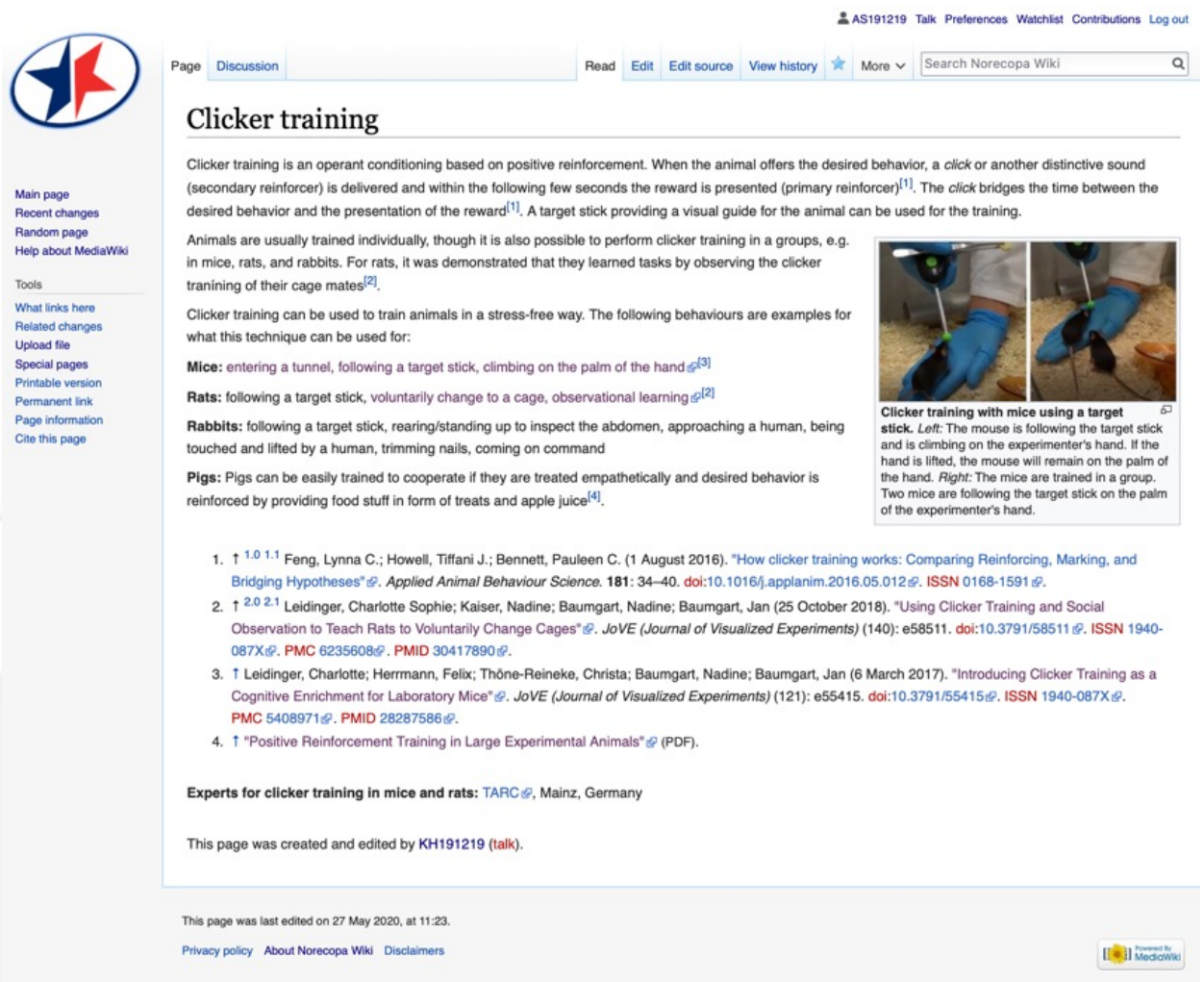


Links to quality guidelines and scientific papers worldwide on e.g. blood sampling, injection volumes, housing and husbandry, analgesia, humane endpoints, experimental design

Refinement Wiki: wiki.norecopa.no



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c. 75 topics (May 2025)

- Alphaxalone
- Anaesthesia in neonates
- Analgesia
- Asepsis
- Blood sampling of hamsters
- Blood sampling of pigs
- Blood sampling of rainbow trout
- Breeding strategies for mice
- Clicker training
- Contingency plans
- Decapitation
- Dehydration
- Detecting early onset of clinical signs in the mouse model of Covid-19
- Detection of pain and distress in mice
- EMLA cream
- Embryo transfer
- Experimental Autoimmune Encephalomyeltis (EAE)
- Facial expression analysis
- Food crunchers
- Forced swim test
- General discusson on use of analgesics
- Genotyping mice
- Geriatric mice
- Habituation training
- Health monitoring
- High-fat diets
- Hot Bead Sterilisers
- Housing nude mice
- Housing research fish
- Humane endpoints
- Hydrodynamic gene delivery
- Intra-ocular injections
- Intranasal administration
- Intraperitoneal injection
- Intraperitoneal pentobarbitone
- Irradiation for haematology studies
- Ketamine and alpha-2 agonist combinations
- Lockbox enrichment
- Long-term anaesthesia in rodents
- Lumpfish
- MDA (micropipette-guided drug administration) Method
- Main Page
- Marble Burying Test
- Metabolic cages
- Microchipping rats and mice
- Minipumps
- Montanide adjuvant
- Mouse Grimace Scale
- Mouse handling
- Nest building material
- Non-invasive genetic sampling in wildlife research
- Oestrus suppression in ferrets
- Pneumocystis murina
- Recapping needles
- Refinement of oral gavage
- Rotarod Test
- Screening cell lines
- Sedation of cattle
- Splenectomy
- Sterilisation of instruments
- TTEAM and TTouch
- Tail vein injection
- Tamoxifen
- Tamoxifen information sheet V4.pdf
- The use of DMSO
- Tramadol
- Transport stress
- Tumour cell implant into mammary fat pad
- Ulcerative Dermatitis in Mice
- Water quality
- Xenopus laevis
- Zebrafish swabbing

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Culture of Care

The International Culture of Care Network

norecopa.no/coc

A demonstrable commitment, throughout the establishment, to improving:

- animal welfare
- scientific quality
- care of staff
- transparency for all stakeholders, including the public

Centres

- Replacement
- Reduction
- Refinement
- ecopa

Associations

- ACURET
- AFLAS (includes South Korea)
- Concordat on Openness
- Culture of Care Network
- ecopa
- ENAWB
- EU-NETVAL
- EU3Rnet
- FELASA
- FESSACAL
- ICLAS (includes South Korea)
- Scand-LAS
- Presentations by Norecopa

ENAWB: European Network of National Networks of Animal Welfare Bodies

norecopa.no/ENAWB

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25 May 2025

Prediction of reproductive and developmental toxicity using an attention and gate augmented graph convolutional network

While current REACH regulations and OECD guidelines emphasize reducing animal testing and adopting alternative test methods 13 , they also

25 May 2025

A next-generation system for smoke inhalation integrated with a breathing lung-on-chip to model human lung responses to cigarette exposure

Humane Research and Testing Act, is driving efforts to reduce animal testing. Alternatives are needed due to high costs, time constraints,

23 May 2025

Development of a silkworms-based evaluation system for the extracts and compounds for their obesity and lipid metabolism improving activity

testing due to animal welfare concerns. Consequently, alternative methods to animal testing are being advocated 6 . The primary alternative

English-language newsletters

norecopa.no/news/newsletters 1,500 international subscribers

7-8 times a year

- Urgent: Register now for our Summer School in Bergen!
- News of Norecopa
- Highlights from Norecopa's Annual Meeting
- Aurora Brønstad wins Norecopa's 3R Prize
- UFAW Handbook - new edition published
- Website of the Nordic Zebrafish Network
- Refinement of oral administration
- European Network of National Networks of Animal Welfare Bodies
- Mouse tail simulator for i.v. injection
- News of other 3R Centres and activities
- Glimpses from research
- Food for thought
- For Norwegian readers
- From the media
- Webinars and Meetings Calendar
- Have your colleagues subscribed?

Aurora Brønstad wins Norecopa's 3R Prize

We congratulate Aurora Brønstad, laboratory animal veterinarian at the University of Bergen, who was awarded Norecopa's annual 3R Prize on 4 June, after the annual meeting.

There were two nominees for this year's prize in addition to Aurora Brønstad:

• Cesilie Røtnes Amundsen at Nord University was nominated for her contributions to fish welfare, teaching and implementation of the 3Rs, including the initiative to start a Nordic Zebrafish Network, of which she is the leader.

Website of the Nordic Zebrafish Network

In a previous newsletter we informed of the creation of a Nordic Zebrafish Network, founded in November 2023.

The Network has started to build its website, which is hosted by the Karolinska Institutet in Stockholm.

The Network will arrange its second course on the husbandry and use of zebrafish in November, followed (like last year) by a Network meeting to discuss the way ahead.

Suggestions for resources to add to the website are very welcome.


The Nordic zebrafish network

The Nordic Zebrafish Network (NZN) was established as a result of a workshop meeting in Stockholm, with the aim to bring together scientists and animal caretaker staff to improve the quality of husbandry and science.

In November 2023, almost all zebrafish facilities from the Nordic countries met in Stockholm. For two days, animal caretakers, facility heads and scientists discussed how research in zebrafish and husbandry of this laboratory animal can be optimized and harmonized to facilitate animal welfare and improve the significance and reproducibility of scientific data.

Photo: Getty Images

norecopa.no/ScandLASposter

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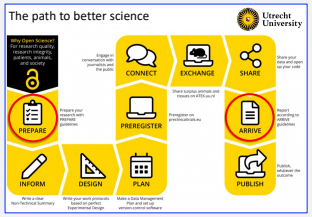
Adrian Smith, Norecopa, c/o Norwegian Veterinary Institute, P.O. Box 64, 1431 Ås, Norway
adrian.smith@norecopa.no

What's the problem?

Preclinical *in vivo* research needs to be reproducible and translatable, while maximising the animals' welfare and replacing them with alternatives wherever possible. This can be summed up in **the 3Rs** of Russell & Burch: ***Replace, Reduce & Refine***.

Scientists are usually well aware of ***reporting*** guidelines when publishing research. These are important, but a sub-standard study, like a burnt cake, cannot be improved by a better description. Guidelines for ***planning***, although not mandatory, are of great help in designing better experiments.



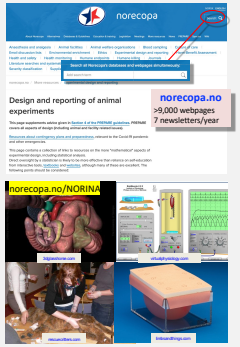
norecopa.no/PREPARE

What can Norecopa offer?

Norecopa maintains a comprehensive database of resources for scientists, which include:

- over 9,000 searchable webpages of quality 3R resources, with filters to facilitate searching
- the PREPARE guidelines for planning animal experiments, with a checklist in over 30 languages
- links to recordings of webinars covering all aspects of animal research
- an International Webinars & Meetings Calendar
- a collection of over 400 guidelines for planning and conducting animal research
- an English-language newsletter with the latest developments within the 3Rs
- the NORINA database of alternatives to animal use in education and training
- a slide set describing the 3R concept in detail: norecopa.no/3Rs
- a Refinement Wiki

Examples of Norecopa's resources:



PREPARE covers:

- ✓ *Formulation of a study*
- ✓ *Dialogue between scientists and the animal facility*
- ✓ *Quality control of the components in the study*

norecopa.no/PREPARE

The Refinement Wiki
wiki.norecopa.no

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Toolbox graphic: colourbox.com

norecopa.no/Tour

English-language newsletters

Thank you for listening!

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