Norecopa: *what's in it for me?*

marksandspencer.com

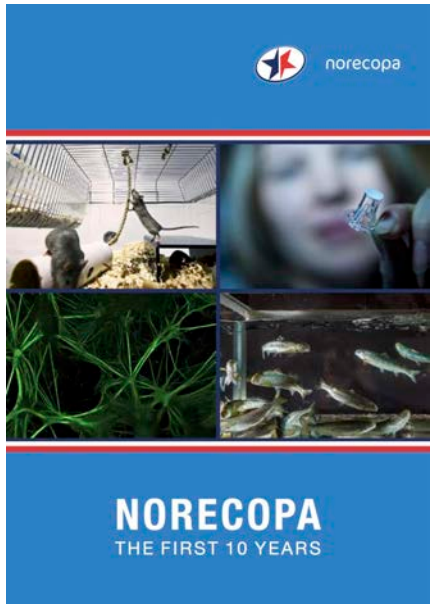
adrian.smith@norecopa.no

Norecopa

Norges konsensus-plattform for erstatning, reduksjon

og forbedring av dyreforsøk

Tilstreber å være en kilde til globale 3R-ressurser



Stiftet i 2007

https://norecopa.no

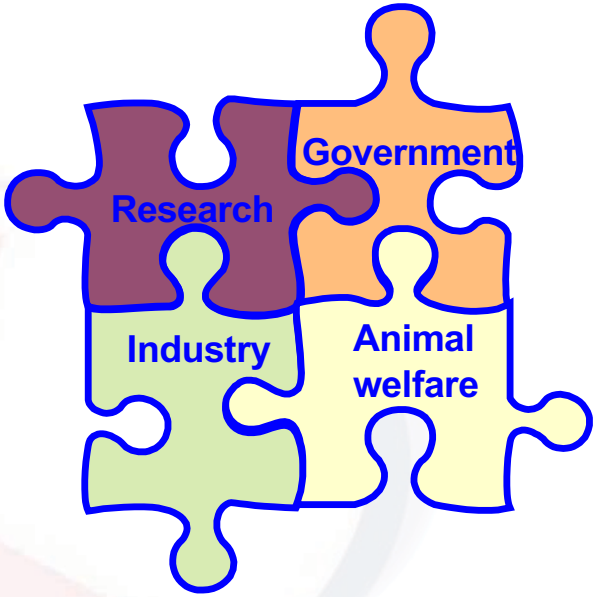
Norecopa: PREPARE for better Science

European Consensus-Platform for Alternatives

ecopa.eu

ecopa støtter nasjonal plattformer som har representanter for alle de 4 store interessepartene i sitt styre:

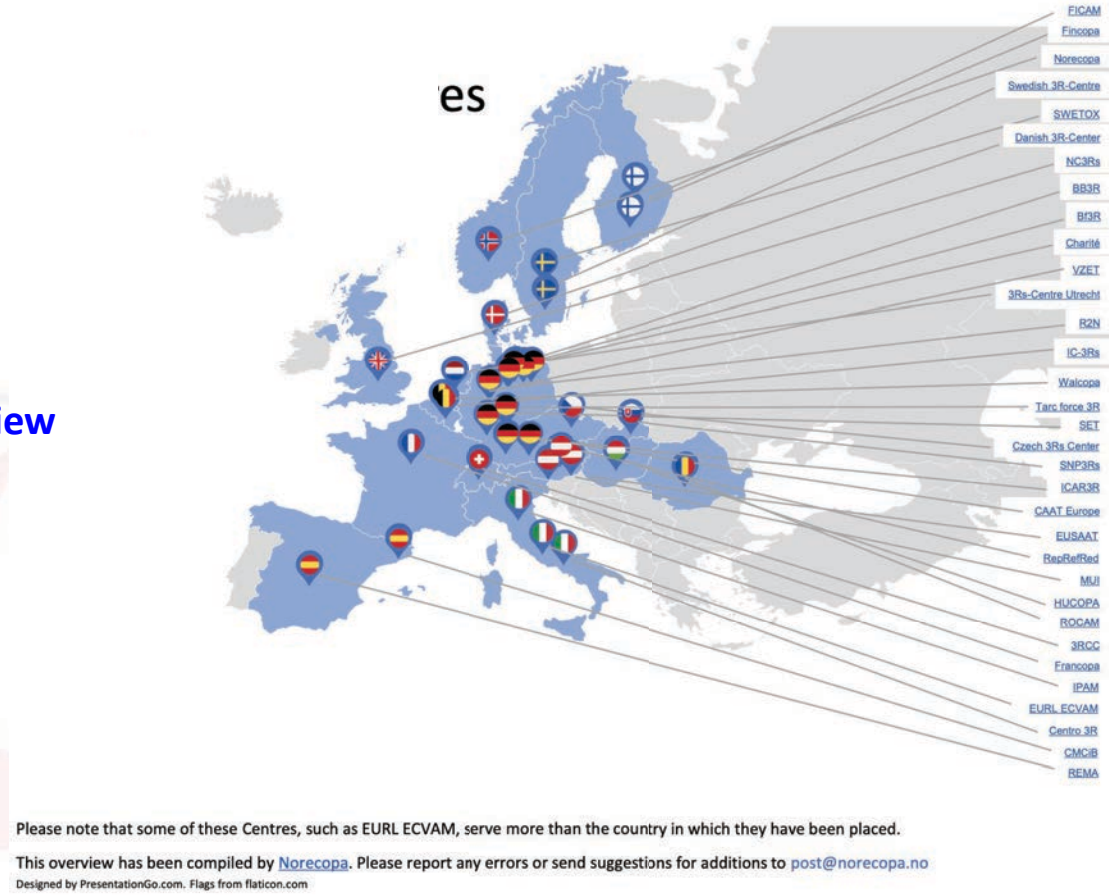
Opprettet i 2003:
Danmark
Finland
Frankrike
Italia
Norge
Spania
Sverige
Tyskland



European network of 3R Centres (EU3Rnet)

Interaktivt kart:

norecopa.no/3REuropeOverview



Styret:

- ***Bente Bergersen**, Mattilsynet, styreleder*
  vara: Gunvor Knudsen, Mattilsynet

- ***Chris Noble**, Nofima Tromsø*
  vara: Siri Kristine Gåsnes, Veterinærinstituttet

- ***Kristian Straume-Lie**, Biomark*
  vara: Ingebjørg Sævareid, Salmon Group

- ***Susanna Lybæk**, Dyrevernalliansen*
  vara: Birgitte Fineid, Dyrebeskyttelsen Norge

Norecopa er ikke

- **en dyrevernorganisasjon**
- **et forvaltningsorgan**
- **en forskerforening**

Norecopa er en selvstendig medlemsorganisasjon med egne meninger som tilstreber konsensus mellom partene

Årsrapporten fra 2019: Grovfordeling av Norecopas inntekter

Omtrentlig fordeling av Norecopas inntekter i 2019 på de ulike kostnadspostene

LMD, NFD | Underforbruk fra 2018 | NSMSD | Rahns legat | Kontingent | Moms-kompensasjon | Dyrevern-fondet

Én stilling (sekretær i 100%, bestemmes årlig)
Driftsmidler (kr. 500 000 i 2020), bestemmes årlig
Medlemskap: 40 institusjoner/avdelinger à kr. 2.000
20 personer à kr. 200
Momskompensasjon
Tilfeldig støtte fra andre kilder

Lønn og overhead stipulert av Veterinærinstituttet – sekretær, 100% stilling

Administrasjon
Vedlikehold og utvidelse av Norecopas nettsider, og innlemmelse av EUs 3R-database

PREPARE-film

3R-Pris
Faglige møter

Refinement 'Wiki

LMD: Landbruks- og matdepartementet
NFD: Nærings- og fiskeridepartementet

NSMSD: Nordisk Samfunn Mot Smertevoldende Dyreforsøk

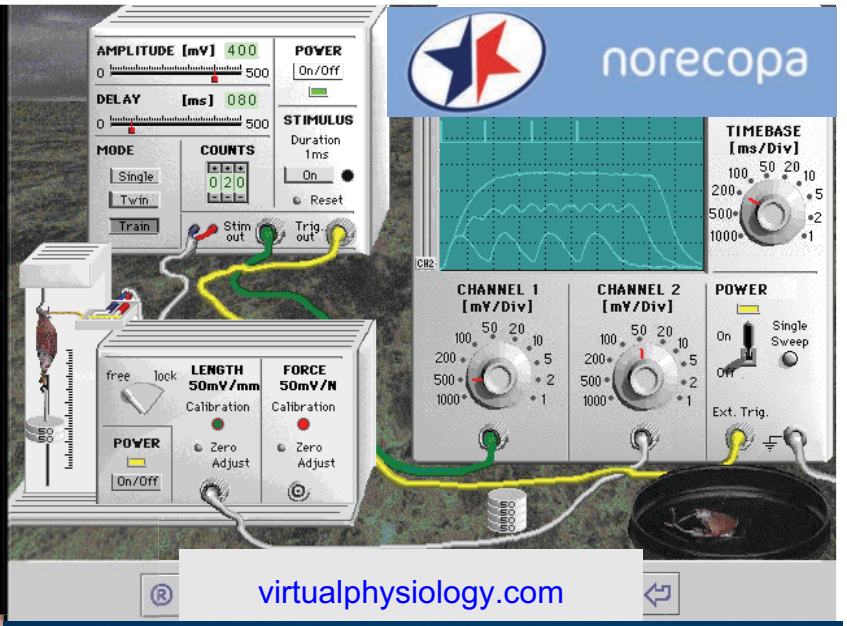
Er du eller din arbeidsplass medlem?

Norecopa: PREPARE for better Science

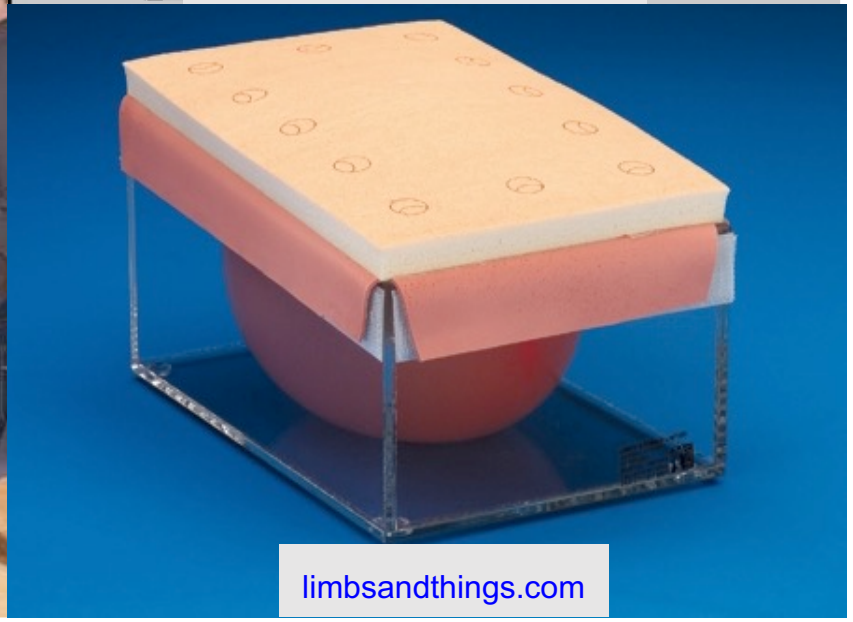
norecopa.no

over 9 000 nettsider
over 300 000 treff i 2020


norecopa.no/NORINA
3dglasshorse.com


norecopa
AMPLITUDE [mV] 400
0 500
DELAY [ms] 080
0 500
MODE
Single
Twin
Train
COUNTS
0 2 0
POWER
On/Off
STIMULUS
Duration
1ms
On
Reset
Stim out
Trig. out
TIMEBASE [ms/Div]
CHANNEL 1 [mV/Div]
CHANNEL 2 [mV/Div]
POWER
On
Off
Single Sweep
Ext. Trig.
free
lock
LENGTH 50mV/mm
Calibration
Zero Adjust
FORCE 50mV/N
Calibration
Zero Adjust
POWER
On/Off
virtualphysiology.com


rescuecritters.com


limbsandthings.com

norecopa.no/education-training/films-and-slide-shows

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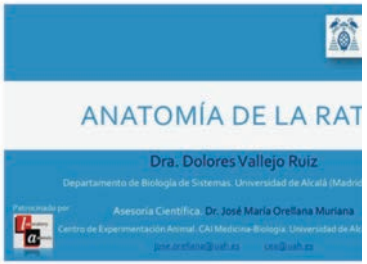
Rat s.c. injection
Norecopa | 1,380 views

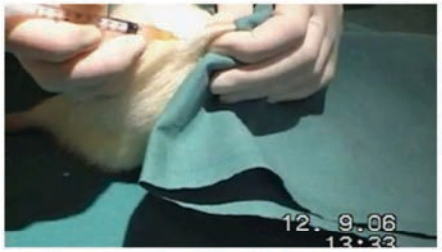
Rat i.p. injection (method 2)
Norecopa | 1,280 views



Anatomia de la rata
Norecopa | 977 views

Testing anaesthetic depth in the chicken
Norecopa | 598 views

Blood collection from the saphenous vein in the mouse
Norecopa | 6,777 views



Subcutaneous injection in the rat - Technique 1
Norecopa | 2,249 views

Blood san
Norecop

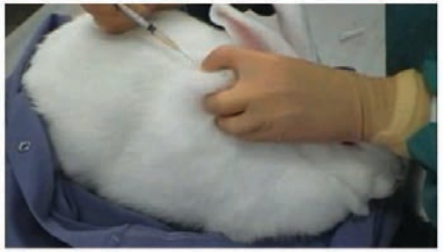
Blood san
Norecop

Blood san
Norecop

Blood sampling from the pig
Norecopa | 3,914 views

Intravenous injection in a rabbit
Norecopa | 2,025 views

Lifting a rabbit
Norecopa | 2,420 views



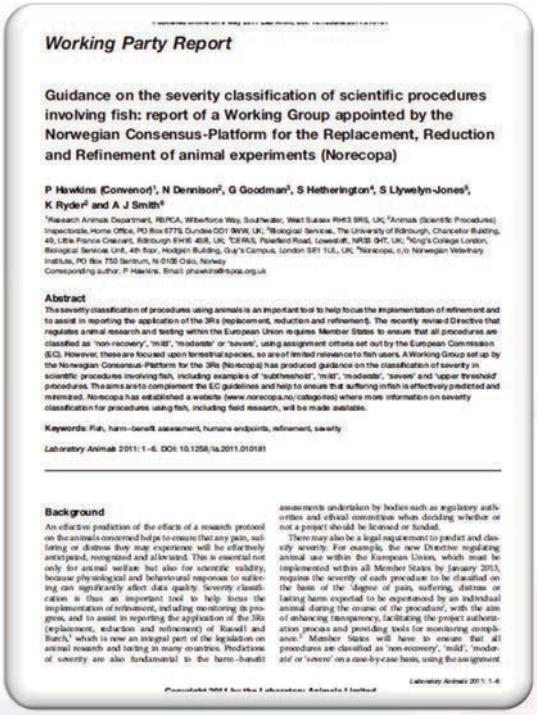
Subcutaneous injection in the rabbit
Norecopa | 1,479 views

Subcutaneous injection in the chicken
Norecopa | 1,806 views

Immobilisation of the rabbit
Norecopa | 2,072 views

Norecopa: PREPARE for better Science

3R-Guide (390 guidelines for animal research and testing): norecopa.no/3r-guide



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)

P Hawkins (Convenor)[1], N Dennison[2], G Goodman[3], S Hetherington[4], S Llywelyn-Jones[5], K Ryder[2] and A J Smith[6]

Abstract

Background

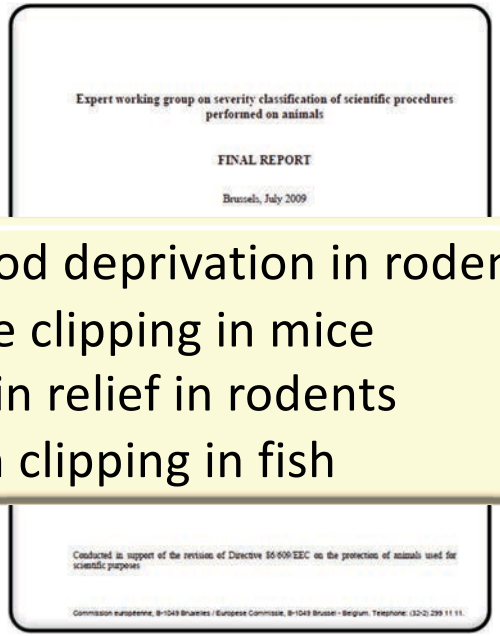
Guidance on the severity classification of procedures involving fish

Report from a Working Group convened by Norecopa

P Hawkins, N Dennison, G Goodman, S Hetherington, S Llywelyn-Jones, K Ryder and AJ Smith

Laboratory Animals, 45: 219-224, 2011

norecopa.no/categories



Expert working group on severity classification of scientific procedures performed on animals

FINAL REPORT

Brussels, July 2009

Conducted in support of the revision of Directive 86/609/EEC on the protection of animals used for scientific purposes

Food deprivation in rodents
Toe clipping in mice
Pain relief in rodents
Fin clipping in fish

ec.europa.eu/environment/chemicals/lab_animals/pdf/report_ewg.pdf

Norecopa: PREPARE for better Science

norecopa.no/3R-Guide

CCAC Guidelines on transgenic animals

3R Guide database/10676

Topics covered include investigator and animal care committee responsibilities, proposals to create new c
literat

Suppl

An overview of existing guidelines for handling, bleeding, administration and identification techniques in fish

3R Guide database/10810

A col h the
interr eld at
Gard

Guidelines for proper care and use of wildlife in field research

3R Guide database/10812

Prepared by a committee of The Wildlife Society.

Guidance on the severity classification of scientific procedures involving fish

3R Guide database/10666

Report from an international working group convened by Norecopa, intended to be a supplement to the EU

Blood sampling microsite

3R Guide database/10659

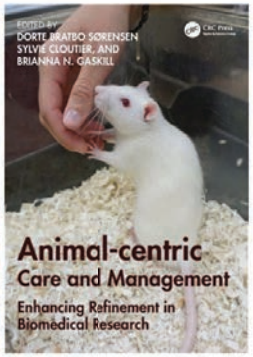
This microsite provides information on blood sampling from animals to help laboratory staff choose the most appropriate technique for removal of blood in an humane and efficient manner.

Supplier: National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs)

Animal-Centric Care and Management: Enhancing Refinement in Biomedical Research

By DB Sørensen, S Cloutier & B Gaskill (Eds.)

Record number: 143253



The concept of the 3Rs (Refinement, Reduction and Replacement) has been used as a framework for improving the welfare of laboratory animals for the last half century. By establishing an animal-centric view on housing and management, Animal-centric Care and Management: Enhancing Refinement in Biomedical Research takes Russell and Burch's definition of Refinement as "elimination of inhumanities" and goes further. Rather than fitting animals into experimental conditions, it encourages readers to adjust conditions to better meet the behavioral, emotional, physical, and physiological needs and preferences of the animals. The team of expert authors, from the fields of laboratory animal science, ethology, biology as well as animal training, provide ideas for creating housing conditions and handling procedures that induce, to the best of current abilities and knowledge, a long-term positive state of mind in the animals under our care.

This book is written for animal caretakers, animal health technicians, researchers, animal facility managers, laboratory animal veterinarians, and anyone who engages in work with living experimental animals or is interested in the continuous improvement of laboratory animal welfare. This interdisciplinary guide will act as a catalyst, resulting in multiple viewpoints and fields collaborating to optimize laboratory animal welfare.

Chapters include: Human-Animal Interactions; A Culture of Care; Animal Emotions; Abnormal behavior; Animal learning: the science behind animal training; Animal Training: The practical approach; and individual chapters on the zebrafish, mice, rat, rabbit, dog, non-human primate, and pig.

Paperback: £36.99; Hardback: £150.00; eBook: £33.29

ISBN 9780367180836. 204 pages, 51 black/white illustrations

Year: 2020

norecopa.no/textbase

norecopa.no/meetings/meetings-calendar

Webinar and Meetings calendar

November 2020

- Aquatic Animal Welfare Conference 2020, 2-6 November 2020 (virtual event)
- Improving the reproducibility of cell line research, webinar, 3 November 2020
- FSVO/UFAW/HSA Online Symposium: Humanely Ending the Life of Animals, 3-4 November 2020
- Symposium and Workshop: Replacing Fetal Bovine Serum (FBS) in Research and Testing, Munich, 3-4 November 2020
- EARA Media Training Workshop (for Spain), online workshop, 4 November 2020
- ABSA 63rd Annual Biosafety and Biosecurity Conference, 4 - 6 November 2020 (virtual event)
- EARA Media Training Workshop (for Switzerland), online workshop, 5 November 2020
- Minipigs in translational immunosafety assessment, webinar, 5 November 2020
- Responsible Research 101 Course: 9-19 November 2020
- Anaesthesia, analgesia and surgery in mice and rats, online/Stockholm, 9-13 November 2020
- Do's and don'ts in rodent surgery aseptic technique, webinar, 10 November 2020
- EPAA Annual Conference, 10 November 2020 (virtual event)
- Fondamenti di Gestione di un Moderno Stabulario per Roditori, webinar in Italian, 10-11 November 2020

Pdf-filer av 80+ presentasjoner ved Norecopas møter

norecopa.no/meetings/presentations

Most of the presentations on this page are from events arranged by Norecopa. A few of them are from external events where Norecopa's staff have lectured.
They are grouped into

Koenig 101017.pdf

- General presentations
- Care and use of animals in field research
- Care and use of farm animals in research
- Care and use of fish in research

Title	Speaker	Affiliation	Year
General presentations			
Design of animal studies: Increasing reproducibility and animal welfare	Adrian Smith	Norecopa	2020
PREPARE before you ARRIVE: Good reporting relies on good planning	Adrian Smith	Norecopa	2019
Animal-free testing and humans-on-a-chip: How far have we come?	Leopold Koenig	TissUse GMBH, Berlin, Germany	2017
Nordic 3R-Centres: What can we offer?	Tom Bengtsen	Denmark's 3R-Center	2017
Prize-winning 3R activity in Norway	Gøril Eide	University of Tromsø, Norway	2017
Have the 3Rs made any difference?	Elliot Lilley	RSPCA, UK	2017

norecopa.no/species

Deltar gjerne i forsknings- og utviklingsprosjekter, bl.a. med søknader til Forskningsrådet og legater

f.eks.

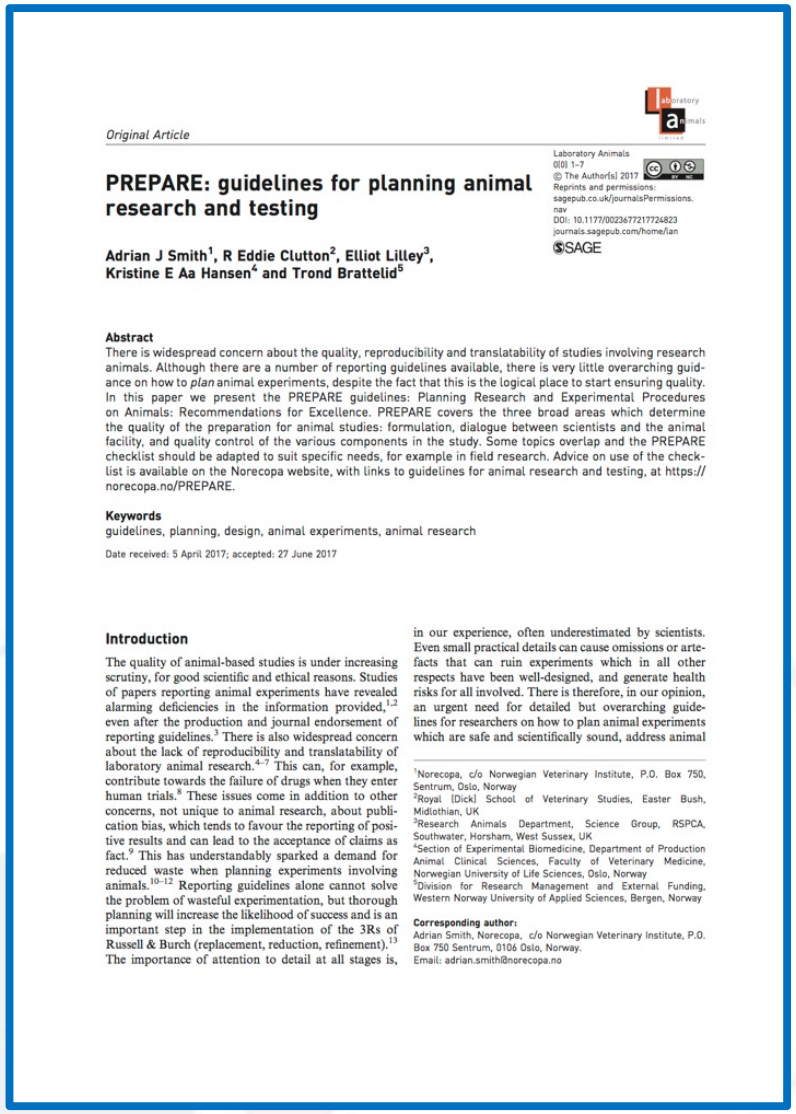
ENRICH Fish 3R-KART EU-datasett Fiskevaksiner NORINA Wiki Konferansestøtte

se f.eks. norecopa.no/species/fish/projects

Norecopas 3R-pris

(30.000 kroner + diplom)

Interesse??



Original Article

PREPARE: guidelines for planning animal research and testing

Adrian J Smith[1], R Eddie Clutton[2], Elliot Lilley[3], Kristine E Aa Hansen[4] and Trond Brattelid[5]

Laboratory Animals
0(0) 1–7

DOI: 10.1177/0023677217724823
journals.sagepub.com/home/lan
SAGE

Abstract

There is widespread concern about the quality, reproducibility and translatability of studies involving research animals. Although there are a number of reporting guidelines available, there is very little overarching guidance on how to *plan* animal experiments, despite the fact that this is the logical place to start ensuring quality. In this paper we present the PREPARE guidelines: Planning Research and Experimental Procedures on Animals: Recommendations for Excellence. PREPARE covers the three broad areas which determine the quality of the preparation for animal studies: formulation, dialogue between scientists and the animal facility, and quality control of the various components in the study. Some topics overlap and the PREPARE checklist should be adapted to suit specific needs, for example in field research. Advice on use of the checklist is available on the Norecopa website, with links to guidelines for animal research and testing, at https://norecopa.no/PREPARE.

Keywords

guidelines, planning, design, animal experiments, animal research

Date received: 5 April 2017; accepted: 27 June 2017

Introduction

The quality of animal-based studies is under increasing scrutiny, for good scientific and ethical reasons. Studies of papers reporting animal experiments have revealed alarming deficiencies in the information provided,[1,2] even after the production and journal endorsement of reporting guidelines.[3] There is also widespread concern about the lack of reproducibility and translatability of laboratory animal research.[4–7] This can, for example, contribute towards the failure of drugs when they enter human trials.[8] These issues come in addition to other concerns, not unique to animal research, about publication bias, which tends to favour the reporting of positive results and can lead to the acceptance of claims as fact.[9] This has understandably sparked a demand for reduced waste when planning experiments involving animals.[10–12] Reporting guidelines alone cannot solve the problem of wasteful experimentation, but thorough planning will increase the likelihood of success and is an important step in the implementation of the 3Rs of Russell & Burch (replacement, reduction, refinement).[13] The importance of attention to detail at all stages is, in our experience, often underestimated by scientists. Even small practical details can cause omissions or artefacts that can ruin experiments which in all other respects have been well-designed, and generate health risks for all involved. There is therefore, in our opinion, an urgent need for detailed but overarching guidelines for researchers on how to plan animal experiments which are safe and scientifically sound, address animal

[1]Norecopa, c/o Norwegian Veterinary Institute, P.O. Box 750, Sentrum, Oslo, Norway
[2]Royal [Dick] School of Veterinary Studies, Easter Bush, Midlothian, UK
[3]Research Animals Department, Science Group, RSPCA, Southwater, Horsham, West Sussex, UK
[4]Section of Experimental Biomedicine, Department of Production Animal Clinical Sciences, Faculty of Veterinary Medicine, Norwegian University of Life Sciences, Oslo, Norway
[5]Division for Research Management and External Funding, Western Norway University of Applied Sciences, Bergen, Norway

Corresponding author:
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Email: adrian.smith@norecopa.no

Norecopa: PREPARE for better Science

Pre-published under Open Access on 3 August 2017 in *Laboratory Animals*, sponsored by the Universities Federation for Animal Welfare (UFAW), UK

https://doi.org/10.1177/0023677217724823

Lest eller nedlastet over 15 000 ganger

Smith, AJ, Clutton, RE, Lilley, E, Hansen KEAa, Brattelid, T. (2018): PREPARE: Guidelines for planning animal research and testing. Laboratory Animals, 52(2): 135-141.
DOI: 10.1177/0023677217724823

PREPARE:

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

PREPARE dekker 15 temaer:

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

norecopa.no/PREPARE/prepare-checklist

PREPARE

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 Bratteli[e]

[a]Norecopa, c/o Norwegian Veterinary Institute, P.O. Box 750 Sentrum, 0106 Oslo, Norway; [b]Royal (Dick) School of Veterinary Studies, Easter Bush, Midlothian, EH25 9RG, U.K.; [c]Research Animals Department, Science Group, RSPCA, Wilberforce Way, Southwater, Horsham, West Sussex, RH13 9RS, U.K.; [d]Section of Experimental Biomedicine, Department of Production Animal Clinical Sciences, Faculty of Veterinary Medicine, Norwegian University of Life Sciences, P.O. Box 8146 Dep., 0033 Oslo, Norway; [e]Division for Research Management and External Funding, Western Norway University of Applied Sciences, 5020 Bergen, Norway.

PREPARE[1] consists of planning guidelines which are complementary to reporting guidelines such as ARRIVE[2].
PREPARE covers the three broad areas which determine the quality of the preparation for animal studies:

1. **Formulation of the study**
2. **Dialogue between scientists and the animal facility**
3. **Quality control of the components in the study**

The topics will not always be addressed in the order in which they are presented here, and some topics overlap. The PREPARE checklist can be adapted to meet special needs, such as field studies. PREPARE includes guidance on the management of animal facilities, since in-house experiments are dependent upon their quality. The full version of the guidelines is available on the Norecopa website, with links to global resources, at **https://norecopa.no/PREPARE**.
The PREPARE guidelines are a dynamic set which will evolve as more species- and situation-specific guidelines are produced, and as best practice within Laboratory Animal Science progresses.

Topic	Recommendation
(A) Formulation of the study	
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.
(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 training	☐ Assess the current competence of staff members and the need for further education or training prior to the study.
8. Health risks, waste disposal and decontamination	☐ Perform a risk assessment, in collaboration with the animal facility, for all persons and animals affected directly or indirectly by the study. ☐ Assess, and if necessary produce, specific guidance for all stages of the project. ☐ Discuss means for containment, decontamination, and disposal of all items in the study.
(C) Quality control of the components in the study	
9. Test substances and procedures	☐ Provide as much information as possible about test substances. ☐ Consider the feasibility and validity of test procedures and the skills needed to perform them.
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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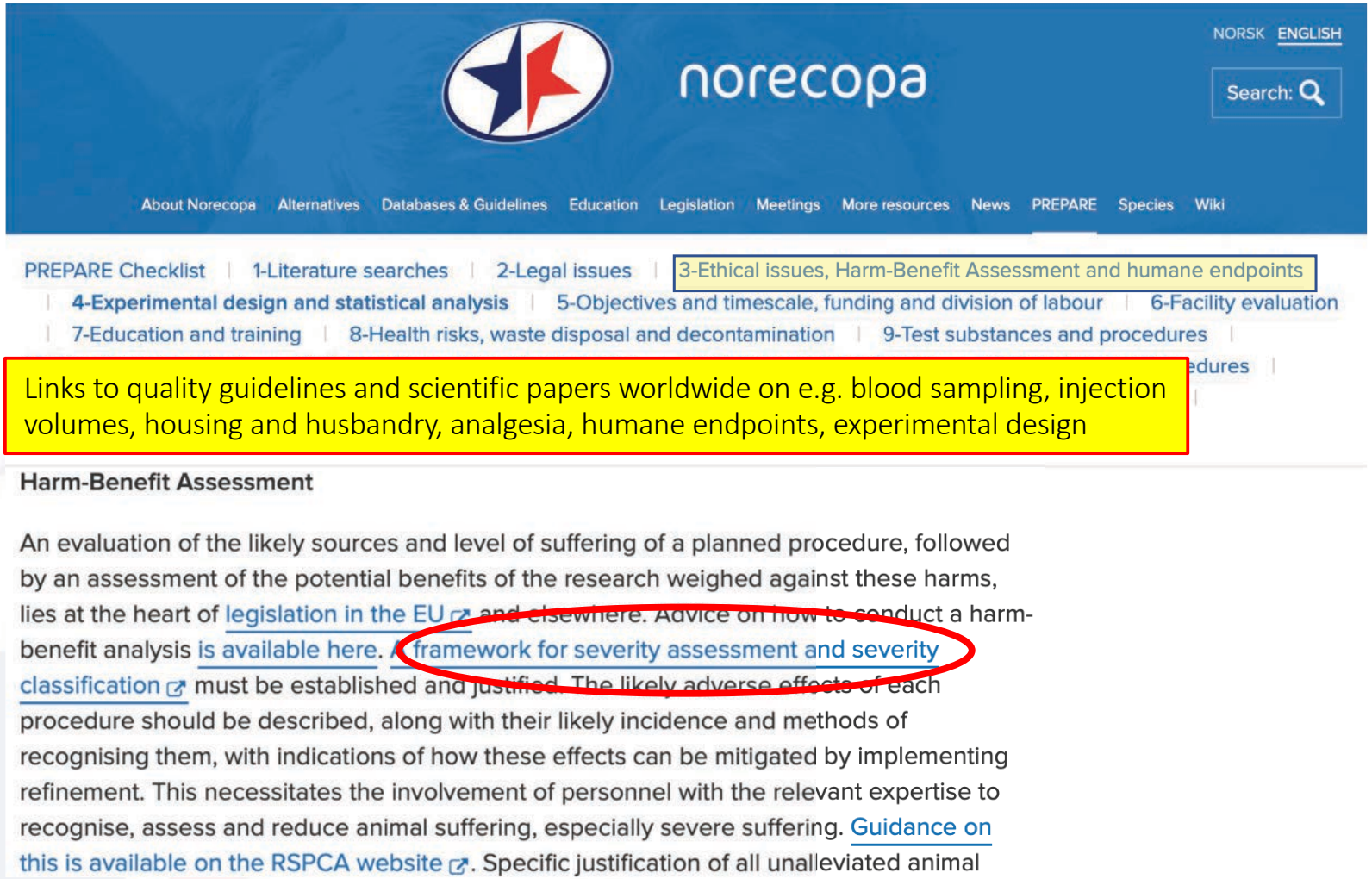
norecopa.no/PREPARE



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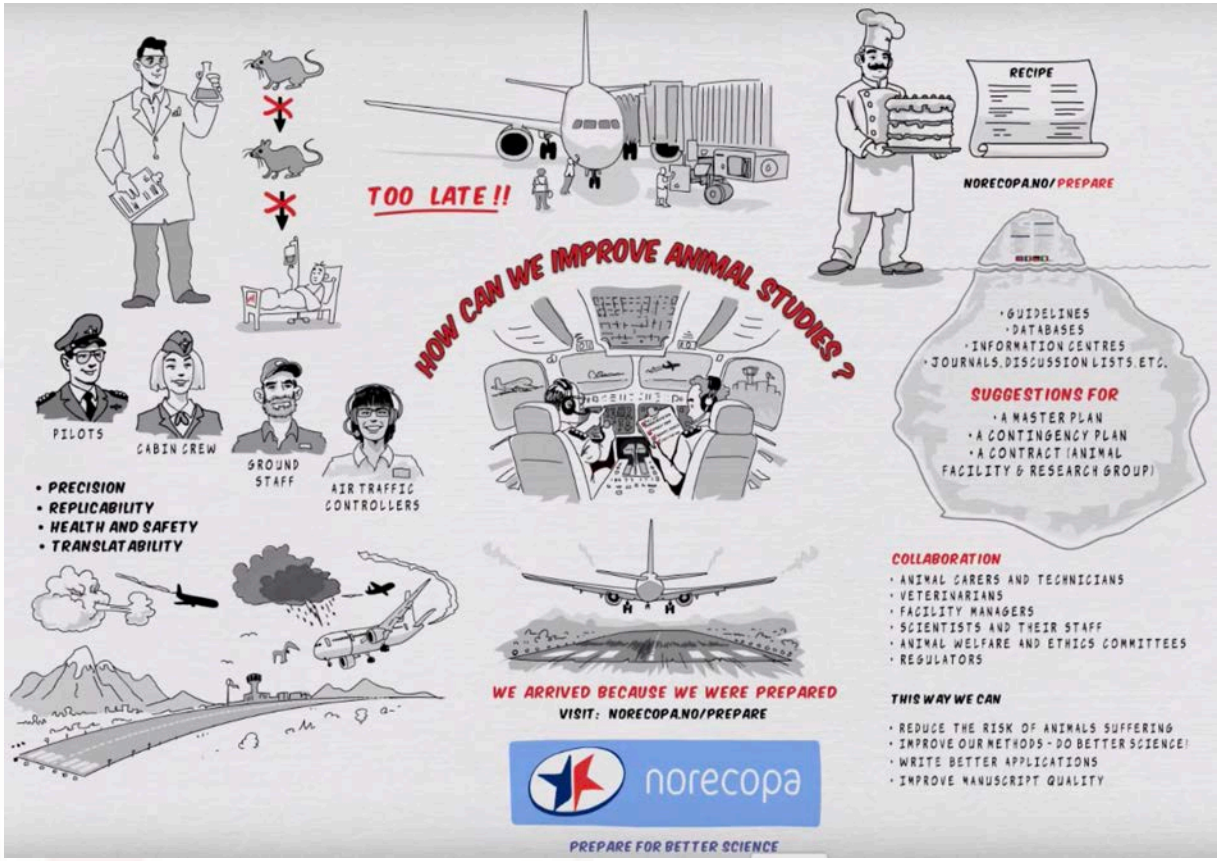

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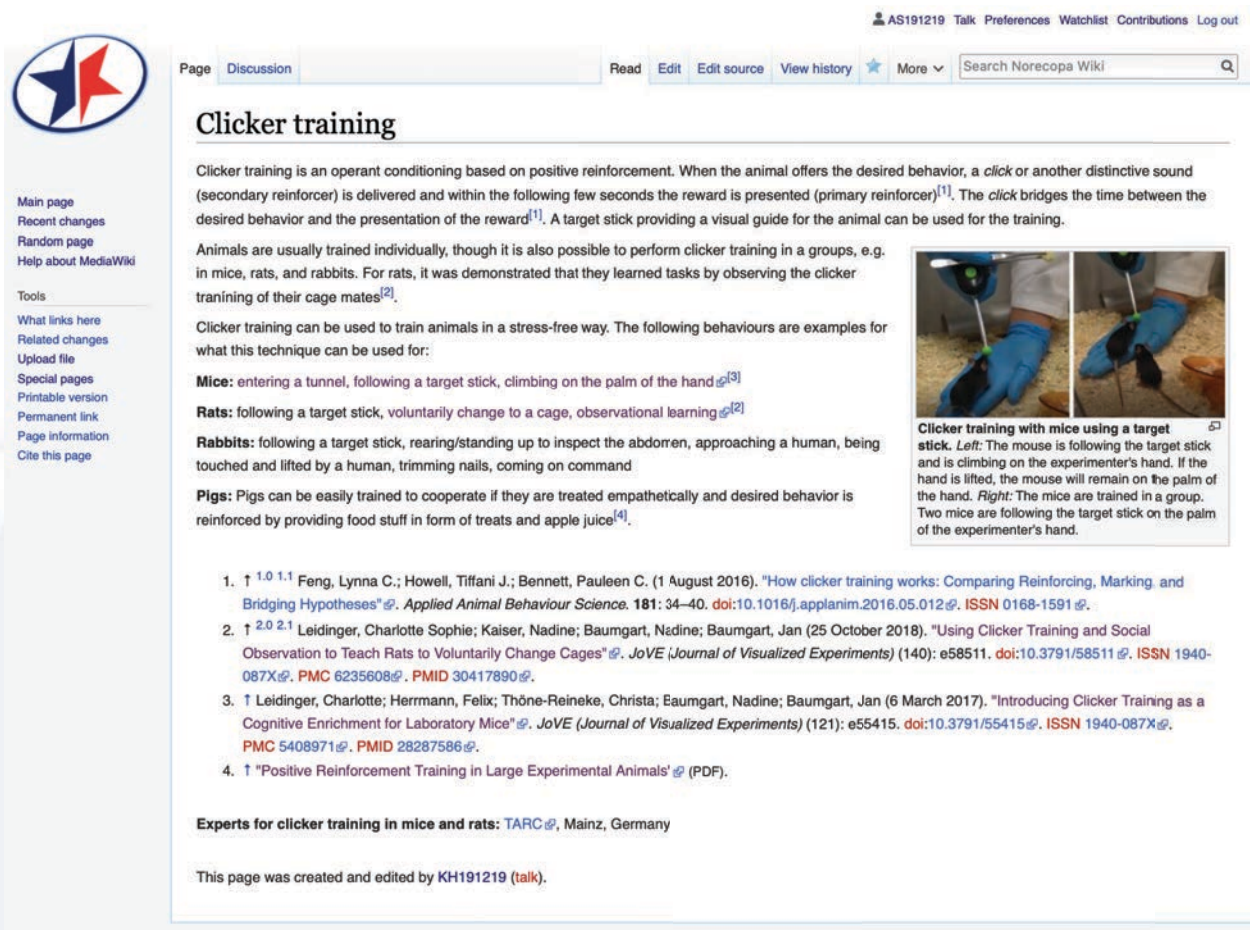

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Clicker training is an operant conditioning based on positive reinforcement. When the animal offers the desired behavior, a *click* or another distinctive sound (secondary reinforcer) is delivered and within the following few seconds the reward is presented (primary reinforcer)[1]. The *click* bridges the time between the desired behavior and the presentation of the reward[1]. A target stick providing a visual guide for the animal can be used for the training.

Animals are usually trained individually, though it is also possible to perform clicker training in a groups, e.g. in mice, rats, and rabbits. For rats, it was demonstrated that they learned tasks by observing the clicker tranining of their cage mates[2].

Clicker training can be used to train animals in a stress-free way. The following behaviours are examples for what this technique can be used for:

Mice: entering a tunnel, following a target stick, climbing on the palm of the hand[3]

Rats: following a target stick, voluntarily change to a cage, observational learning[2]

Rabbits: following a target stick, rearing/standing up to inspect the abdomen, approaching a human, being touched and lifted by a human, trimming nails, coming on command

Pigs: Pigs can be easily trained to cooperate if they are treated empathetically and desired behavior is reinforced by providing food stuff in form of treats and apple juice[4].

Clicker training with mice using a target stick. *Left:* The mouse is following the target stick and is climbing on the experimenter's hand. If the hand is lifted, the mouse will remain on the palm of the hand. *Right:* The mice are trained in a group. Two mice are following the target stick on the palm of the experimenter's hand.

1. ↑ [1.0] [1.1] Feng, Lynna C.; Howell, Tiffani J.; Bennett, Pauleen C. (1 August 2016). "How clicker training works: Comparing Reinforcing, Marking and Bridging Hypotheses". *Applied Animal Behaviour Science*. **181**: 34–40. doi:10.1016/j.applanim.2016.05.012. ISSN 0168-1591.
2. ↑ [2.0] [2.1] Leidinger, Charlotte Sophie; Kaiser, Nadine; Baumgart, Nadine; Baumgart, Jan (25 October 2018). "Using Clicker Training and Social Observation to Teach Rats to Voluntarily Change Cages". *JoVE (Journal of Visualized Experiments)* (140): e58511. doi:10.3791/58511. ISSN 1940-087X. PMC 6235608. PMID 30417890.
3. ↑ Leidinger, Charlotte; Herrmann, Felix; Thöne-Reineke, Christa; Baumgart, Nadine; Baumgart, Jan (6 March 2017). "Introducing Clicker Training as a Cognitive Enrichment for Laboratory Mice". *JoVE (Journal of Visualized Experiments)* (121): e55415. doi:10.3791/55415. ISSN 1940-087X. PMC 5408971. PMID 28287586.
4. ↑ "Positive Reinforcement Training in Large Experimental Animals' (PDF).

Experts for clicker training in mice and rats: TARC, Mainz, Germany

This page was created and edited by KH191219 (talk).

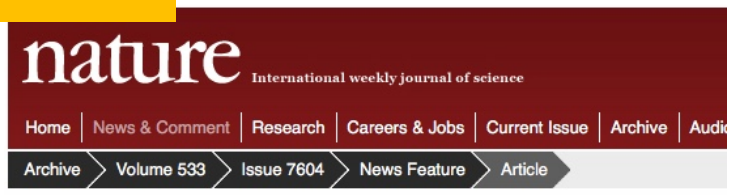
Norecopa: PREPARE for better Science

"The Reproducibility Crisis"

NATURE | NEWS

Swiss survey highlights potential flaws in animal studies

Poor experimental design and statistical analysis could contribute to widespread problems in reproducing preclinical animal experiments.



NATURE | NEWS FEATURE

1,500 scientists lift the lid on reproducibility

Survey sheds light on the 'crisis' rocking research.

Monya Baker

25 May 2016 | Corrected: 28 July 2016

More than 70% of researchers have tried and failed to reproduce another scientist's experiments, and more than half have failed to reproduce their own experiments. Those are some of the telling figures that emerged from *Nature*'s survey of 1,576 researchers who took a brief online questionnaire on reproducibility in research.

Norecopa: PREPARE for better Science

Foredrag om planlegging av dyreforsøk, f.eks. norecopa.no/CBMR

Summary

1. ***PLAN***, in collaboration with animal care staff from day one and consult the guidelines: *be PREPARED*

2. ***WRITE*** a good manuscript, showing that you have been aware of the potential causes of irreproducibility, and with enough detail that scientists can evaluate the model

3. ***FLAG*** any advances you have made within the 3Rs, preferably in the title or abstract (or write a separate method paper)

Lukket diskusjonsforum for nøkkelpersonell ved DVE

Nyhetsbrev

SHARE THE NEWSLETTER ON

Newsletter no. 6-2020 from Norecopa

Welcome to Norecopa's sixth newsletter in 2020. ***Please share this with your colleagues and friends!***

Norecopa maintains an international Webinars and Meetings Calendar, which is updated several times a week. You will find shortcuts to several other key resources on our front page.

We continue to update a list of resources related to the Covid-19 pandemic and about preparedness in general: Be PREPAREd

You can tip a friend, subscribe or unsubscribe, and share the newsletter on social media using the links above. We are on Facebook and Twitter.

All Norecopa's newsletters can be read here and their content is indexed by the search engine on Norecopa's website.

This newsletter contains the following items (if some links do not work, check that your mail program has opened the whole of the newsletter):

- Update on Norecopa
- Update on PREPARE
- National Committee statement
- News from other 3R Centres
- New book on refinement
- EU datasets on non-animal models for disease
- The use of horseshoe crabs in research and testing
- Glimpses from research
- Food for thought
- From the media
- Webinars and Meetings Calendar
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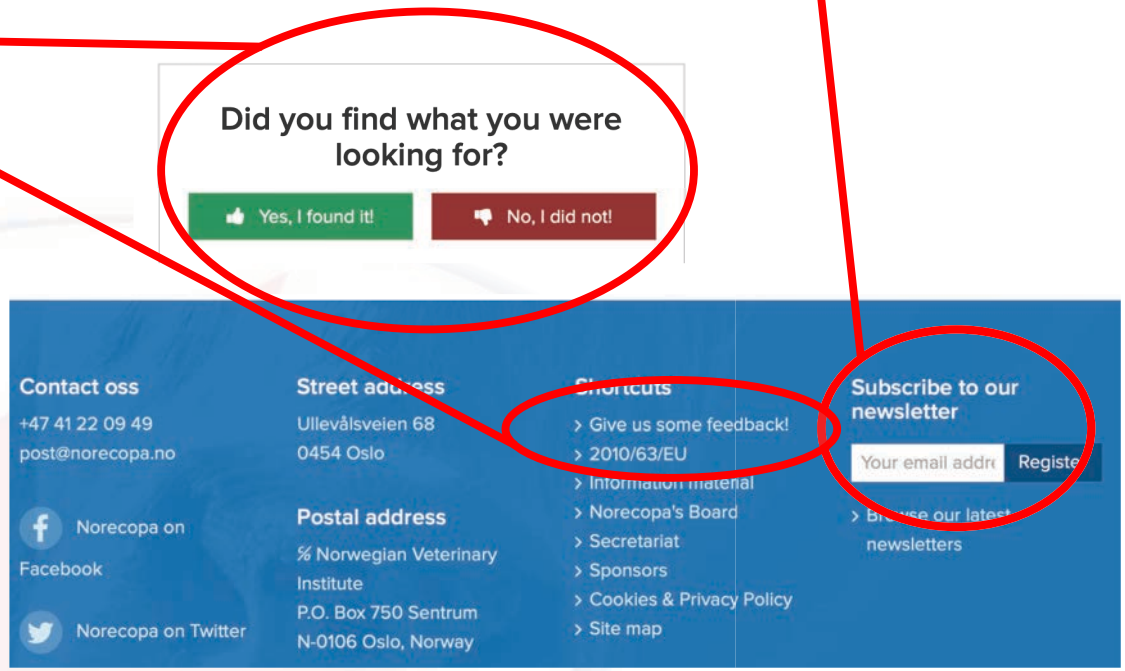
Nyhetsbrev

Tilbakemeldinger



Hva ønsker dere fra Norecopa?

Det har vært lite å hente fra

- Årsmøtene
- Diskusjonsforumet
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- Uoppfordret kontakt fra medlemmene

Uten dette må Norecopa sette sin egen dagsorden

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