

Implementations of the 3Rs in research

“Prepare + ARRIVE + Experimental Design Assistant (EDA)”

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The Animal Welfare Body at Karolinska Institute



The Animal Welfare Body at KI

Recommendations from the Animal Welfare Body at Karolinska Institute to the Research community considering implementations of the 3Rs in research

When planning biomedical research, the Animal Welfare Body recommends that researchers as well as the organization make use of tools recently developed by the National Center for the 3Rs (NC3R) and Norecopa, the 3R Center in Norway. These tools aims to enhance the 3R impact level in scientific research and publications and also to increase the level of the publications on evidence based outcome. The Animal Welfare Body is aware that other guidelines exist but would like to recommend these ones to encourage the 3Rs in biomedical research.

The three tools can preferable be used together or separate:

Prepare + ARRIVE + Experimental Design Assistant (EDA)

1. Planning Research and Experimental Procedures on Animals: Recommendations for Excellence (PREPARE)

The PREPARE guidelines for planning animal experiments complement the ARRIVE guidelines and other guidance for reporting experiments. PREPARE focuses on a large number of factors which, although they are seldom reported in scientific papers, can dramatically influence the validity and outcome of studies on animals, as well as the health and safety of all those concerned. They cover all stages of quality assurance, from the management of an animal facility or population to the individual procedures which form part of a study. The guidelines are based upon the authors' experience in running animal facilities, collaborating with researchers (including those working with farm animals, fish and wildlife), serving on advisory and regulatory committees, and planning their own animal studies.

The image displays three main components: on the left, the 'PREPARE Guidelines Checklist' with a table of recommendations; in the center, an illustration of two hands shaking; on the right, the 'ARRIVE Guidelines Checklist' with a table of recommendations. The PREPARE checklist includes sections for 'Planning animal and experimental procedures', 'Quality control of the implementation of the study', and 'Reporting animal and experimental procedures'. The ARRIVE checklist includes sections for 'Title', 'Abstract', 'Introduction', 'Methods', 'Results', and 'Discussion'.

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- The **Animal Research: Reporting of *In Vivo* Experiments (ARRIVE)** guidelines are intended to improve the reporting of research using animals – maximizing published information and minimizing unnecessary studies. The ARRIVE guidelines, originally published in **PLOS Biology**, were developed in consultation with the scientific community as part of an NC3R's initiative to improve the standard of reporting of research using animals.



To request copies of the pocket-sized ARRIVE guidelines (English only) please email enquiries@nc3rs.org.uk with your name, postal address and the number of copies required.

The **ARRIVE checklist** is designed to be used when submitting manuscripts describing animal research. To complete the checklist, fill in the right-hand column with the section and paragraph (e.g. 'Methods, Paragraph 2') reporting the ARRIVE item. If the checklist item is not applicable to the study being reported, provide a reason for not reporting this information in the right-hand column. A completed checklist can be provided as supplementary information and will help reviewers and editors to ensure the high-quality reporting of animal research.

- The **Experimental Design Assistant (EDA)** is a free online tool from the NC3R, constructed to guide researchers through the design of their experiments, helping to ensure that they use the minimum number of animals consistent with their scientific objectives, use correct methods to reduce subjective bias, and use appropriate statistical analysis.

[Click here to access the EDA](#)





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References

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