

# Ethical aspects and animal rights in preclinical research

## What is research ethics?

Research ethics means **doing science responsibly** and with integrity: protecting people's privacy and consent, treating animals with care, and reporting results honestly. The goal is to gain knowledge while respecting everyone involved.

## What are the main ethical issues in preclinical research?

**Transparency:** share methods and results (including negative ones) so others can learn.

**Honesty:** avoid exaggerating results or giving false hope.

**Responsible use of materials:** only use animals or human tissues when necessary and source them ethically.

## Why are animals used in neurodegenerative disease research?

Animals help researchers understand how Alzheimer's, Parkinson's, and other neurodegenerative diseases develop and progress. They allow scientists to test potential treatments safely before trying them with people. Animal experiments are essential for advancing knowledge and developing effective therapies for these complex conditions.

## **What are the main ethical concerns about using animals in laboratories?**

- Preventing pain and distress in animals.
- Using as few animals as possible.
- Justifying clearly why animals are needed instead of other methods.

## **Why is ethics important in animal research?**

Ethics means that scientific progress does not override animal welfare. Researchers must follow strict rules, look for alternatives (like cell cultures, computer models, or organ-on-a-chip technologies), and improve animals' living conditions.

## **How do researchers ensure animal welfare in studies?**

- Research plans are approved by ethics committees.
- Staff are trained in proper animal care.
- Animals get appropriate housing, food, and medical care.
- Pain is minimized, and humane methods are used if euthanasia is necessary.

## **Are animals always necessary in preclinical neurodegenerative research?**

Not always. Scientists use alternatives whenever possible, but some complex brain functions such as cognition, behavior, and disease progression can only be studied in animals.

## **Why can't we eliminate animal research entirely?**

The long-term goal is to stop using animals in research, but we're not there yet. Alternatives like organoids, AI, and computer models are improving but they still can't fully replace live animals. Until then, some animal research is still necessary to keep treatments safe and effective.



# REBALANCE



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