

# Myth and fact

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- These slides present some common myths about animal research and responses to them.
- There are more slides here than are likely to be necessary for any one presentation.
- The first ten slides deal with the most common objections and the points that are most often made by anti-animal research organisations.

# Animals are too different from humans

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## Myth

- Research on animals is not relevant to humans because animals are so different from people.

## Fact

- All mammals have the same major organs.
- All mammalian organs are controlled in the same way via the bloodstream and nervous system.
- Vitamins and many hormones work in the same way in people and animals.
- Even differences can give important clues about diseases.

# Animals don't get human diseases

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## Myth

- Animal research on animals is not relevant because people and animals suffer from different illnesses.

## Fact

- Most human diseases exist in at least one other species, including cancer, heart failure, and malaria.
- The link between papillomavirus and cancer (which led to the vaccination against cervical cancer) was first observed in rabbits.
- Many veterinary medicines are the same as, or very similar to, those used to treat humans.

# Animal research hides side effects

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## Myth

- There is an endless list of drugs that have to be withdrawn because of side effects that animal testing missed.

## Fact

- Only around 4 in every 100 medicines are withdrawn because of undetected side effects
- Since 1961 only about 40 medicines have been withdrawn in the UK, US, France or Germany.
- Only 10 of the 40 medicines have been withdrawn in all four countries.

# Animal research is unnecessary

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## Myth

- Modern medical advances could be achieved without animal research.

## Fact

- Four independent reports since 2002 have found that animal studies make an important contribution to scientific and medical advances.

# Cosmetics are tested on animals

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## Myth

- Animals are used for testing cosmetics and that shouldn't be allowed.

## Fact

- Testing of cosmetics and cosmetic ingredients on animals has been banned in the UK since 1998. A Europe-wide ban is scheduled to come into force in 2010.

# Alternatives exist

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## Myth

- We no longer need to use animals for research because there are better alternatives.

## Fact

- By law, animals cannot be used for research if there is an alternative.
- Many alternative techniques such as computer modelling are used as well as animal research.
- We still need to use a small number of animals because the living body is much more than just a collection of its parts. We need to understand how the different parts interact.

# Animal research is cheap

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## Myth

- Animal research is a cheap and easy option and is carried out for profit.

## Fact

- Animal research is much more expensive than other, non-animal methods.
- The high cost is largely due to the number of staff required to look after the animals' welfare. Vets are on call 24/7 and all animal technicians must have months of specific training to look after the animals.



# Pointless animal research

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## Myth

- Many pointless, unnecessary animal experiments are carried out.

## Fact

- The law does not allow animals to be used if there is any alternative.
- Research using animals is very expensive and funds for biomedical research are limited, so each research proposal is rigorously assessed by panels of experts. Trivial, irrelevant or repetitive work will not attract funding.

# Research animals suffer too much

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## Myth

- Animal research inflicts great pain on animals. The gains cannot justify such suffering.

## Fact

- Most procedures are mild, such as taking a blood sample, giving an injection, or changing a diet.
- When more invasive procedures are necessary, anaesthetics and pain relief must be given whenever appropriate.
- Stressed animals are less likely to produce reliable results.
- Any animal suffering undue pain or distress must be put down immediately and painlessly.

# Public health not animal research

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## Myth

- Public health improvements like clean water and good sanitation have increased human life expectancy, not medical research.

## Fact

- Despite improvements in public health, diseases such as diphtheria and polio still thrived in the UK up until the 1950s.
- Vaccines developed through animal research have virtually eradicated diseases like TB, diphtheria and cholera in the UK.
- Smallpox was eradicated by vaccination.
- HIV and malaria will only be effectively tackled by vaccines.

# Human drugs poison animals

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## Myth

- Medicines that work in people are toxic to animals and vice versa.

## Fact

- The most common version of this myth is that penicillin is toxic to guinea pigs. It is only toxic at very high doses (a similar effect to long-term penicillin use in human patients). Like other medicines, at equivalent doses to those used to treat people, it is not toxic.

# Thalidomide

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## Myth

- Thalidomide was tested on animals but didn't cause birth defects which proves that animal testing doesn't work.

## Fact

- Thalidomide wasn't tested in pregnant animals before it was prescribed to pregnant women.
- Later tests showed it had very similar effects in many species.
- This led directly to the introduction of the UK Medicines Act in 1968.

# Vioxx

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## Myth

- The side-effects and subsequent withdrawal of the arthritis treatment Vioxx prove that animal research does not work

## Fact

- Only when over 80 million patients around the world had taken Vioxx and some long-term patient studies had been conducted was the increased risk of heart attack firmly established.
- Animal research showed that the medicine was safe for trialling but animal tests cannot replace human trials.

# Northwick Park

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## Myth

- The clinical trial tragedy (testing the medicine TGN1412) at Northwick Park shows that animal tests don't work.

## Fact

- There are around 300 clinical trials every year in the UK. Yet the kind of problem seen at Northwick Park Hospital is very rare, partly because animal and other tests are so good at discovering problems.

# Researchers are callous

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## Myth

- Researchers are cold, scientific people and do not care about the well-being of laboratory animals.

## Fact

- Researchers are people like everyone else and are often animal lovers with pets of their own.
- They have no reason to mistreat research animals and good reason for treating them well, because the use of unhealthy, stressed or frightened animals would reduce the reliability of an experiment's results.



# MRI

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## Myth

- Magnetic Resonance Imaging (MRI) can now be used on humans to get the same level of information as invasive brain studies in animals.

## Fact

- Functional MRI (fMRI) does not give anything like the same level of detailed information that can be achieved by painlessly inserting electrodes into brain tissue in animal or human studies.

# Microdosing

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## Myth

- Microdosing is a new technique that tests very small doses of potential medicines in human volunteers so we don't need animals any more.

## Fact

- Microdosing should make the drug discovery process more efficient by highlighting earlier whether a compound is effective.
- But compounds that look promising after microdosing trials still need to go through testing involving animals.
- There is no guarantee that a body's reaction to a microdose will be the same as it is to a full dose.