



## Schools' Pack

Over the course of four days, from the **6 to 12 March 2017**, university debating societies across the UK and beyond will debate the motion that **'This House Would Ban All Forms of Animal Research'**. Many debates will be streamed online at [www.animalresearchdebate.org](http://www.animalresearchdebate.org).

To complement this event, we are inviting teachers from all over the country to sign up to hold a debate at their school. Each debate will end with an audience vote that will allow all pupils to indicate where they stand on the motion. The results of the votes can be published online along with results from the participating universities allowing your school to contribute to an important national debate. Contact [schools@animalresearchdebate.org](mailto:schools@animalresearchdebate.org) to register your interest or inquire further.

This pack aims to support teachers to run a debate at their school. It includes some useful 'for and against' articles and links which students can use to support their speeches (pages 5 – 11). These articles are scaled by complexity from 1 - 3, with 3 being the most challenging. All supporting materials have been written specifically for the Big Animal Research Debate and do not necessarily reflect the views of either IDEA UK or Understanding Animal Research.



Idebate (The International Debate Education Association UK) (<http://idebate.org/>) is a charity (no. 1139452) which teaches and facilitates debate in the UK and beyond



Understanding Animal Research (<http://www.understandinganimalresearch.org.uk/>) is a not-for-profit organisation which provides scientific information on the role of animals in medical research

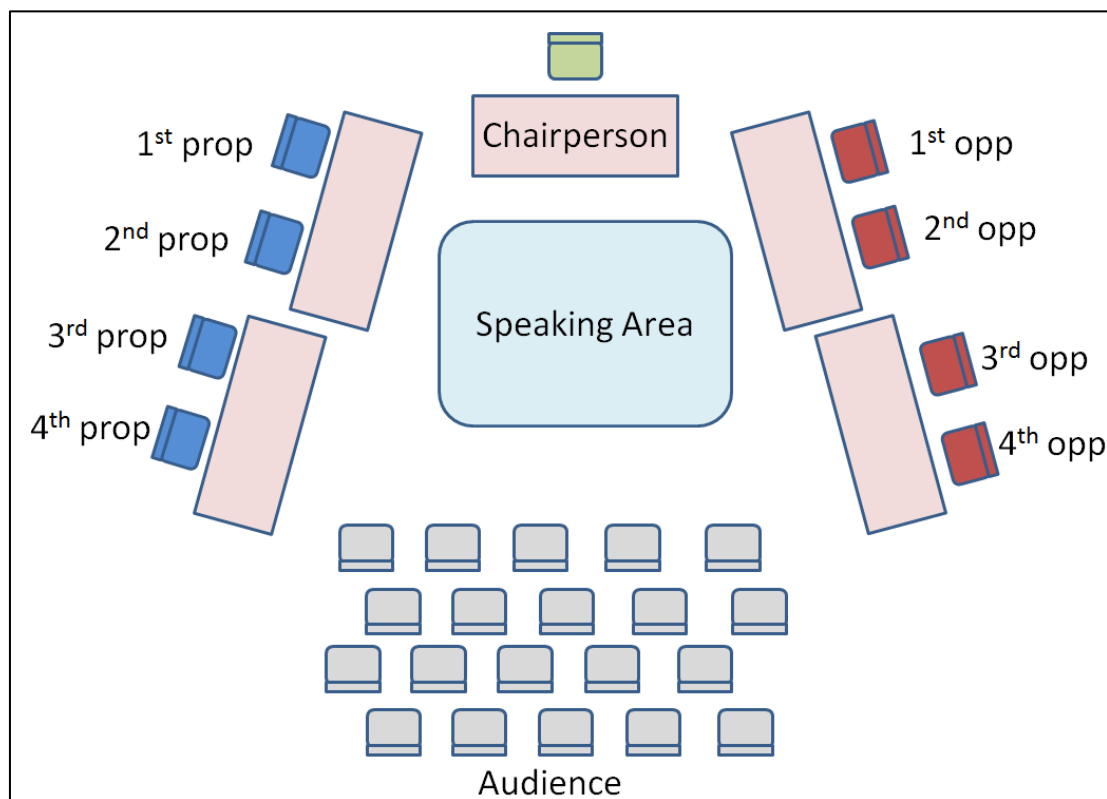
[www.AnimalResearchDebate.org](http://www.AnimalResearchDebate.org)

## 'This House Would Ban All Forms of Animal Research'

The Big Animal Research Debate can be held during lesson time, in a lunch break or after school. It is best held with at least 20 students. All schools and universities will be debating the same motion (above).

Move most of the tables to the side of the classroom. Put one at the front for the chairperson, and one or two each side depending on the number of speakers taking part (this will depend on the time available and number of students involved). Then place chairs facing the chairperson for the students who will make up the audience.

Debates are best run when the students involved are given the motion in advance and have time (a few days or more) to prepare their speech. You may wish to allow students to volunteer to argue one side or another. However students are more likely to develop important debate skills if they are assigned to one side of the motion, irrespective of their personal views. You may need to encourage students to argue against their personal views.



The chairperson is responsible for managing the debate and timing the speakers. This is a great role for one of the students. You may also wish to separate the chairperson and the timekeeper to involve more students in the debate. The timekeeper should be provided with a stopwatch and bell. They should ring the bell once to warn the speaker they have 30 seconds remaining and twice when all the speaker's time as elapsed.

The debate is modelled on the British Parliamentary Format (see below). Each side should consist of 2 to 4 speakers who will each have slightly different roles.

## Why should my school take part in the Big Animal Research Debate?

Debating is a method of presenting arguments, ideas and opinions on a range of different subjects in a way that is exciting, engaging and accessible. Debating requires participants to create and present reasoned arguments for a point of view, and use rhetoric, pathos and humour to make their speeches more persuasive.



Many university debating societies, such as the Oxford Union (left), organise debates using the British Parliamentary style, which is modelled on the House of Commons (right) and House of Lords.

Debating is at the heart of our democratic systems of government. Deliberative bodies such as parliament engage in discussions about the values, policies and laws that their members want to support or oppose. Many university students take part in competitive debates which are also becoming more common in schools across the UK. Regular debating activities allow students to look at arguments from a new perspective and often forces them to challenge their own beliefs.

The **Big Animal Research Debate** aims to lay out the best arguments for and against banning animal research in order that those watching it, in the audience or online through their computer, have the information necessary to make up their own minds.

### School Curriculum

The **Big Animal Research Debate** is an excellent opportunity to develop and apply research, speaking and analytical skills across **Key Stage 3-5 English, Science and Citizenship**. In **English** students will build reading skills researching their topic, hone persuasive writing skills creating their speech and develop speaking skills by participating in a formal debate.

Within **Science**, students will hone their understanding of the 'uses and implications of science today and for the future.' Applying scientific attitudes students will objectively evaluate evidence, consider the ethical issues and draw their own conclusions. **Biology** students can also apply their knowledge of the similarities of structure and function across animal species and deepen their understanding of the development of medicines. The event is also a great way to launch **British Science Week!**

**Citizenship** students will weigh evidence for and against, debate and make reasoned arguments. Building on the provided resources students will 'develop their skills to be able to use a range of research strategies' and use evidence to substantiate their conclusions.

## Structure of the debate

The Chairperson will start by introducing the motion, and then introducing the first speaker for the proposition side. Speakers on the proposition will argue in favour of animal research.

Speeches should be delivered by students from the speaking area. While many students will need to write down their speech, they should be encouraged to regularly look up at the audience, who will be responding to their body language as well as their arguments.

After the first proposition speaker has completed their speech the chair should introduce the next speaker. Speeches will continue as laid out in the table below.

Speaker	Time	Role
Proposition Speaker 1	2-5 mins	Introduce the argument to ban animal research
Opposition Speaker 1	2-5 mins	Introduce the argument for continued animal research
Proposition Speaker 2	2-5 mins	Reply to the points made by Opposition Speaker 1
Opposition Speaker 2	2-5 mins	Reply to the points made by Proposition Speaker 1 and 2
Audience Questions	3 mins	
Proposition Speaker 3	2-5mins	Introduce a new argument to ban animal research
Opposition Speaker 3	2-5 mins	Introduce a new argument to continue animal research
Proposition Speaker 4	2-5 mins	Summarise the arguments to ban animal research
Opposition Speaker 4	2-5 mins	Summarise the arguments to continue animal research
Audience Questions	3 mins	
Teacher Summary	2 mins	Briefly summarise all arguments from both sides
Vote		
** If only 2 speakers per side then use prop/opp 1 and 3		
** If only 3 speakers per side then combine the roles of speakers 3 and 4 on each side		

The timings of each speaker will depend on the time available and the age and ability of the students. A rule of thumb is to give each speaker the same number of minutes as their class's key stage; so Year 9-11, who are KS4, should be allowed 4 minutes to speak. The timekeeper should ring a bell once when the speaker has 30 seconds left, and twice to mark the end of the speaker's allotted time.

At the mid-point of the debate and end of the debate the audience should be given a chance to ask the debators questions. After the final questions from the audience the teacher should provide a clear and concise summary of the debate's core arguments (this is particularly important for younger groups). Finally, a vote by show of hands should be held to determine whether or not the students in the audience believe that all forms of animal research should be banned.

The structure of the debate means that students from each team should be aware of their role before the event, and should consult with their team mates to put together the strongest overall argument.

## **Against Animal Research – Article 1**

### **Ethics:**

Jeremy Bentham famously wrote “*The question is not, can they reason? Nor can they talk? But, can they suffer?*” The answer to this question is very obvious – of course animals can suffer – they can feel pain, they can feel stress and they can feel lonely. Imagine if you were locked in a laboratory all day on your own, and then taken out by strange people to be injected with needles or cut open. If we ignore the suffering of animals because “they are just animals” then we are being speciesist. Speciesism is like racism – it is treating animals differently just because they are not humans. Why is an animal life worth any less than our own?

All animals have different needs. Some need big areas to run around, some need lots of love and attention of their fellow animals, some need to be able to climb around. We must treat animals based upon their needs, not ours.

### **Harm:**

The very nature of animal research means animals are likely to be harmed in the research. Even if they are not in actual pain, they will suffer from the stress of not being in their natural habitat. These animals are purpose-bred so that they can undergo experiments. It is their entire life. In this day and age is that really ethical?

### **Consent:**

When we go to the doctor, or the hospital, tests are carried out with our permission. We know what is coming and can prepare for it. We know what the benefits are, and that it is done for our own good. None of this is true in the laboratory. Animals cannot give their permission, nor do they have a voice to say “no”. It would be illegal to carry out tests on humans in this situation, yet we do so on animals.

### **Alternatives:**

The speed at which our technology moves forward is incredible. If we were to ban animal research tomorrow then we would be forced to rethink our whole approach to medical research. Scientists would be forced to find new, clever ways to get the information they required without using animals. There are already many promising research techniques being developed – computers are getting faster at modelling the human body, we can use human skin cells to study the effect of certain drugs, and we can also use MRI and PET scans on humans to study human diseases.

### **Society:**

Our country believes it is wrong to abuse animals. We have laws which prevent us mistreating our pets. We ban tests for cosmetics and great apes. Surely, if we follow this process through, we should ban animal research. Ghandi said that “You can judge a society by how they treat their weakest members”, and surely it would send a strong message around the world if we were to ban animal research.

## For Animal Research – Article 1

### **Ethics:**

Humans are very complex creatures indeed. We have such impressive abilities to think, create and communicate that we have built up cities, invented complex languages, and even are able to have conversations about whether or not it is moral to research on animals. No other animal comes close to this level of complexity. We are able to weigh up the greater good – to see that careful research on a small number of animals can help treat thousands or millions of people.

### **Harm:**

If we were to ban animal research then we would be throwing away a key that could help prevent the suffering of millions of people. Over a million people die from malaria every year. Tens of millions of people suffer from HIV. People die all over the world from diseases we do not yet have a cure for. Animal research is an important step in the process of finding these cures. Polio, a crippling disease that affects mainly children, had all but been eliminated thanks to a vaccine developed in monkeys. Many tens of thousands of children will never have to suffer this terrible disease.

Animals are also used to test new drugs before they are given to humans. Thousands of potentially dangerous chemicals have been prevented from reaching humans thanks to these tests. Would you take a new medicine if you did not know if it was safe?

### **Welfare:**

Given the important role that animals play in medical development, it is important that we treat the animals well. The law states that animals must only be used if there is no other method which could be used to provide the same information; it also provides minimum standards of care for the research animals. Within the Animal (Scientific Procedures) Act, 1986, which protects animals used in research, are the 3Rs – Refinement, Replacement and Reduction. Refinement means that scientists need to find ways to better provide for the animals they use – this might be by providing toys or making enclosures more similar to the animals' natural habitat; it could also be better training for the veterinarians and technicians who take care of the animals. Reduction means finding ways of using fewer animals while still allowing good science to continue. And Replacement means finding ways to develop and use non-animal methods like computers and cell cultures. While there are many of these methods, there is a lot of research we cannot yet completely replace. This is because the human body is very complicated and we need a whole biological system in order to model it.

### **The Successes:**

Animal research has played a role in many major medical developments including Insulin, Penicillin, the Polio vaccine, Meningitis vaccine, and deep brain stimulation for Parkinson's patients. Over 85% of the Nobel Prizes awarded for physiology or medicine have been given to scientists who used animals in their research. Thanks to these medical developments people around the world are living longer, healthier lives.

It is not just humans who benefit. The medicine (e.g. vaccines or pain killers) you give your pets at the vet were developed through animal-based research. When your pet has surgery, the methods used were perfected in animals.

This article summarises some of the key arguments made here: <http://idebate.org/debatatabase/debates/animal-research-debate/house-would-ban-animal-testing>



## **Against Animal Research – Article 2**

### **Animals have rights because they are intelligent and should not be used as if they were just ‘things’.**

For much of history we distinguished between animals and people because it was believed that human beings had special mental capacities that made them special (consciousness, memory, culture, etc.). This is sometimes called the theory of ‘human exceptionalism’. As humans were thought to be so different, it made sense to believe that only humans had rights. However, we now know that other animals share many of these human qualities to varying degrees. This should not be a surprise as scientists agree that we all evolved from a single common ancestor. We have to learn to think of humans as animals and so the rights that we give to humans should also be shared with all animals, from mice to monkeys. When we recognise this, we will see that experimenting on an animal is no better than experimenting on a human being without her consent.

### **There are alternatives to animal research.**

It may have been necessary to use animals in the past for medical research, but these days we have powerful computers and alternatives such as human cell cultures and ‘micro-dosing’ that can be used instead. If we spent as much money looking for alternatives as we do on animal research we would soon be able to find alternatives to all forms of animal research.

### **Many research animals are genetically modified to suffer terrible and painful deformities.**

More and more research involves changing the genetic makeup of animals to use in experiments. This is unnatural, like playing god, and leads to the creation of deformed ‘monsters’ that live and die in pain. All this is done just to satisfy the curiosity of scientists. After all, no genetic therapies have been successful in humans so far.

### **Animals are too unlike humans to be good models for disease.**

Even if it was morally acceptable to use animals for research, they do not make good models of disease. Animals are different from humans in crucial ways and suffer from different diseases. Many of the things that are poisonous in animals are not poisonous to humans and vice versa. Chocolate can kill dogs, whereas it can be enjoyed safely by most humans. Paracetamol will provide pain relief to humans, but will kill cats. We are wasting time and money and may well be missing the things that *would* work in humans if we hadn’t tested them in animals first.

### **Side effects in modern medicines prove that safety testing in animals is ineffective.**

Even the medicines that do work in people often have undetected side effects that can be deadly. Drugs such as Vioxx, for example, caused heart attacks in humans but the animal tests showed it to be safe which means that the animal testing was a waste of time as well as being cruel.

### **Vested commercial interests in animal research prevent alternatives being found.**

So why do we keep using animals when there are alternatives and the animals are not good models? Because the animal research industry is worth billions of dollars. The people who make the money, such as breeders and cage makers and some scientists and laboratory technicians, want to protect the industry that employs them.

## For Animal Research – Article 2

### **Animal rights do not trump human rights**

It is perfectly possible to agree that animals are sentient like people and share many or most human attributes to some degree without believing that they have exactly the same rights. Animals have rights, but different ones. After all, most people think it is permissible to kill and eat animals, at least in some circumstances (such as during famine), or to keep them as pets, things we do not think it would ever be acceptable to do to humans. We have a duty to respect animals and to do what we can to prevent their suffering, but we also have a duty to do whatever we can to prevent human suffering from illness and disease, and that means experimenting with some animals.

### **There can be no new medicines without some animal research**

It is not always necessary to use an animal for research and, in fact, the law (Animals (Scientific Procedures) Act, 1986) says that if there is an alternative then you **have** to use it. Advances in tissue cultures and computer models have meant that a lot of animal work has been replaced with other things and more alternatives are being invented all the time. But, our bodies are so complex that we cannot model everything in cell cultures or computers. A computer programme is only as good as the data that you put in, and we just don't have all the data. At some point we will need to see what happens to a medicine in a whole body with all the many parts interacting, or to study the disease in a complete organism and, at the moment, we need animals for that. The proof that animal research is necessary lies in history: animal research has been a part of the discovery of nearly every single modern medicine or medical treatment.

### **New areas of research demand new approaches**

The study of genes and DNA is one of the most promising areas of modern medicine. We haven't found all the answers yet, but there is every sign that genetic medicines will help in the treatment of hundreds of human diseases. Without using animals to study the very complex field of genetics, we will just not be able to make the necessary advances. To see what a gene does to a body, we have to modify the gene in a body; studying the gene outside of a living animal does not tell us what it does.

### **Animal research is expensive and difficult**

Laboratories spend hundreds of thousands of pounds on staff, food, space and equipment to keep animals in the correct conditions. Creating and using animal models is also time consuming and involves specialist skills which make it doubly expensive. If animals could be replaced with alternatives, scientists would save a lot of money.

### **Animal research is highly professional and regulated.**

You can sometimes get the impression that animal research is done secretly. But that isn't true. Every animal experiment has to have a licence from the government and inspectors visit labs on average once every month. Inspectors do not have to say in advance they are coming. In fact, animal research in the UK is more highly regulated and inspected than any other field in which animals are involved. This is good for animal welfare and also good for the science, since stress, pain and discomfort can all affect the body chemistry of the animals and interfere with the research being done. Inspectors will make sure the law is obeyed and that researchers are applying the 3Rs: **replacing** animals with alternatives if that is possible; **reducing** the number of animals they use; and **refining** experiments to make them as stress and pain free as possible.



## **Against Animal Research – Article 3**

While research should be considered of paramount importance in this day and age, we must ensure that such research is *scientifically* conducted. Animal research does not fit this criteria – it is scientifically fraudulent and ethically unconscionable. This essay illustrates both of these facts.

### **The Ethics**

Many humans around the world are involved in clinical trials for drugs and other medical research. They are exercising a choice to be part of the research, being well aware of the risks they are undertaking. Animals do not benefit from such a choice. When humans have been used without their consent, such as by the Nazi experimenter, Dr Mengele, we declare them to have acted in a sickening manner.

Why should our society deem it unacceptable to induce heart attacks in children, and stand by idly as men in white coats do the same thing to mice in the name of science? Do mice suffer any less than humans do? Do we deny that the pain they feel is any less than our own? What makes our pain more important? We would not carry out such experiments on the severely mentally handicapped; those whose cognitive abilities are often lower than the animals we use instead. This is speciesism, the act of giving the like-for-like suffering of humans a higher priority than that of animals. Animals have the same need as we do – they feel stress, they feel pain, they feel isolation – they need food, water, shelter, freedom from pain and the love and contact of those around them.

### **The Science**

Potential drug candidates can be identified through animal research, but how many of these becomes actual treatments? From over 85 candidate AIDS vaccines or over 100 stroke remedies tested successfully in primates, not one has worked effectively in human patients. This represents billions of dollars of wasted research.

Across species there are huge differences. While penicillin might effectively cure a man from an infection, it will kill a guinea pig. Had Florey and Chain studied penicillin in such species as opposed to mice, we might never have seen the development of this important medical breakthrough. According to the USDA, over 90% of drugs which pass animal safety tests will go on to fail in humans.

The reality is that humans are not large mice. We may share some of our genetics, but we also have many unique genes. When we are ill we do not go to the vet. The obvious reality that humans need human-based medicine seems to still escape many researchers.

### **Conclusions**

Proponents of animal research (who are usually the scientists who carry out such research) claim that the different cognitive capabilities of humans and animals justify the ethics of conducting animal research. Yet they also claim that it is the biological similarity that makes animals such useful models. What they cannot do is reconcile these two ideas.

As the UK now uses over 4 million animals in medical research every year, we must start calling on our policy makers to do more to replace this vile industry. In a world of super computers, incredibly accurate scanning techniques like MRI, hugely complex organ-on-chip technologies and vast quantities of human data, surely it is time to show animal research the door.

This article summarises some of the key arguments made by Michelle Thew of the British Union for the Abolition of vivisection here: <http://www.speakerscornertrust.org/6342/animal-experimentation-indispensable-or-indefensible/>

### For Animal Research – Article 3

The history of medicine is a catalogue of successes made possible by the use of animals in research. It is not just humans that benefit – veterinary medicines rely on the same principles.

The past medical breakthroughs are no small change. Dogs played a vital part in the discovery of insulin which helps the 3 million sufferers diagnosed in the UK with the condition. Guinea pigs have been crucial to the development of several types of drugs aimed at treating asthma, a condition that affects over 5 million people in the UK. There are many more examples including the development of the Polio vaccine (monkeys), anaesthetics (rabbits), blood transfusions (monkeys & dogs), antibiotics against tuberculosis (guinea pigs), meningitis vaccine (mice) and penicillin (mice).

These developments continue. Genetically modified mice helped scientists replicate the symptoms of Progeria (which causes premature aging), leading to the first ever treatment in 2012. The HPV vaccine given to teenage girls to protect them from cervical cancer is a humanized mouse protein. These developments would not have come about if not for the role of animals in research.

While we often rue the lack of cures for major diseases like AIDS and cancers, we have a huge number of treatments that improve lives. Highly Active Anti-Retroviral Treatments, created through various animal models of HIV, has changed HIV from being a death sentence to being a manageable disease. Anti-cancer drugs, like Herceptin (mice), and improved screening techniques, have resulted in huge increases in life expectancy for those suffering.

It is not just humans that benefit. Animal vaccines are all based on work using those animals. Rinderpest, a terrible disease afflicting cattle, was wiped out thanks to early research and the development of a vaccine. Recently, studies on wild squirrels shown that a virus may be responsible for the decline of the red squirrel populations, and hopefully this will also lead to future treatments.

Now that we understand the benefits of such research, let us put it into context. In the UK, in 2015, scientists used animals in 4.1 million procedures. 96% of these were mice, rats, birds or fish. Less than 0.2% were dogs, cats or primates. During the same year we ate approximately 900 million chickens, 1.5 billion fish, and cats killed over 200 million other animals. The benefits of that research allowed 7,000 artificial heart valves to be fitted, 400,000 diabetics to take insulin to live and 40 million prescriptions for antibiotics to be made in the UK.

Nonetheless, animals have an intrinsic value and as such animal welfare must remain a priority in laboratories. The UK legislation means that all projects must pass an ethical review process where the researcher must show that the potential benefit to humans and animals outweighs any harm to the animals involved. Researchers must also show that their research could not be done using an alternative non-animal method. These rules aim to make sure that only essential and ethical animal research can be conducted in the UK. The Animals (Scientific Procedures) Act also support the 3Rs of Replacement, Refinement and Reduction, which are the heart of good animal research.

The overwhelming support for animal research (around 70%) shows that the British public believes that using animals in a regulated manner should be permitted. It is our human characteristic to empathise with one another that drives researchers to help make the medicines of tomorrow. We must ensure that this is allowed to continue, or else many people will needlessly suffer from diseases we are not yet able to cure.

This article summarises some of the key arguments made by Tom Holder of Speaking of Research here:

<http://www.speakerscornertrust.org/6342/animal-experimentation-indispensable-or-indefensible/>

## Links

### For Animal Research

[www.understandinganimalresearch.org.uk](http://www.understandinganimalresearch.org.uk) – *Understanding Animal Research*

Medical Advances - <http://www.understandinganimalresearch.org.uk/files/7214/1041/0599/medical-advances-and.pdf>

Why are animals used in research? - <http://www.understandinganimalresearch.org.uk/why/human-health>

[www.animalresearch.info](http://www.animalresearch.info) – *Animal Research Info*

Timeline of medical advances - <http://www.animalresearch.info/en/medical-advances/timeline/>

Nobel Prizes and animal research - <http://www.animalresearch.info/en/medical-advances/nobel-prizes/>

[www.speakingofresearch.com](http://www.speakingofresearch.com) – *Speaking of Research*

Does intelligence matter? - <https://speakingofresearch.com/2016/12/06/not-just-intelligence-why-humans-deserve-to-be-treated-better-than-animals/>

Bad Science: myth and fact - <http://speakingofresearch.com/extremism-undone/bad-science/>

[www.pro-test.org.uk](http://www.pro-test.org.uk) – *Pro-Test*

Ethics of animal research - <http://pro-test.org.uk/facts.php?lt=a>

FAQ on use of animals in research - <http://pro-test.org.uk/facts.php?lt=b>

[www.eara.eu](http://www.eara.eu) – *European Animal Research Association*

Veterinary Medicine - <http://eara.eu/en/animal-research/veterinary-medicine/>

What have guinea pigs ever done for us? - <http://www.guardian.co.uk/science/2005/sep/01/medicalresearch.health>

Helping us beat cancer - <http://scienceblog.cancerresearchuk.org/2011/06/21/animal-research-is-helping-us-beat-cancer/>

### Against Animal Research

[www.peta.org](http://www.peta.org) - *People for the Ethical Treatment of Animals*

Alternatives to testing - <http://www.peta.org/issues/animals-used-for-experimentation/alternatives-to-animal-testing.aspx>

What is Animal Liberation? - <http://www.peta.org/about-peta/learn-about-peta/ingrid-newkirk/animal-liberation/>

[www.animalaid.org.uk](http://www.animalaid.org.uk) - *Animal Aid*

The case for an EU ban on primate experiments - <http://www.animalaid.org.uk/images/pdf/euban.pdf>

The scientific case for non-animal research <http://www.animalaid.org.uk/images/pdf/factfiles/MEPnewsletter6.pdf>

[www.crueltyfreeinternational.org](http://www.crueltyfreeinternational.org) – *Cruelty Free International*

Arguments Against Testing - <https://www.crueltyfreeinternational.org/why-we-do-it/arguments-against-animal-testing>

Alternatives to Animal Testing - <https://www.crueltyfreeinternational.org/why-we-do-it/alternatives-animal-testing>

[www.hsi.org](http://www.hsi.org) - *Humane Society International*

Alternative Methods - [http://www.hsi.org/issues/becrueltyfree/facts/alternative\\_methods.html](http://www.hsi.org/issues/becrueltyfree/facts/alternative_methods.html)

Animal Test Q & A - [http://www.hsi.org/campaigns/end\\_animal\\_testing/qa/about.html](http://www.hsi.org/campaigns/end_animal_testing/qa/about.html)

[www.navs.org.uk](http://www.navs.org.uk) – *National Anti-Vivisection Society*

Animal Experimentation – The Facts - [http://www.navs.org.uk/about\\_vivisection/27/46/388/](http://www.navs.org.uk/about_vivisection/27/46/388/)

Overlooking the Failings - [http://www.huffingtonpost.co.uk/michelle-thew/overlooking-the-importanc\\_b\\_1123061.html](http://www.huffingtonpost.co.uk/michelle-thew/overlooking-the-importanc_b_1123061.html)

Animal research provides a flawed model, so why stop? - <https://theconversation.com/animal-research-provides-a-flawed-model-so-why-not-stop-7890>

### Providing both sides:

<http://www.aboutanimaltesting.co.uk>

[http://en.wikipedia.org/wiki/Animal\\_research](http://en.wikipedia.org/wiki/Animal_research)

[http://www.bbc.co.uk/ethics/animals/using/experiments\\_1.shtml](http://www.bbc.co.uk/ethics/animals/using/experiments_1.shtml)

<http://www.speakerscornertrust.org/6342/animal-experimentation-indispensable-or-indefensible>

<http://idebate.org/debatabase/debates/science-technology/house-would-ban-animal-testing>

<http://www.stanford.edu/group/hopes/cgi-bin/wordpress/2010/07/animal-research/>