

Answers to the five questions anti-vivisectionists are most commonly asked.

1. If you take prescription medicines then you are a hypocrite!

Answer: since all medical drugs are tested on animals, we cannot choose between animal and non-animal tested drugs. The fact that drugs intended for humans are tested on animals does not make them safe for people. Adverse drug reactions (ADRs) are responsible for the deaths of 18 000 people in the UK every year, making ADRs the fourth leading cause of death, after heart disease, cancer and stroke.

In addition, hospitalisation of people who suffer the effects of adverse reactions costs the NHS around half a billion pounds annually.

In contrast to this situation, we do have a choice between purchasing cruelty-free cosmetics and animal-tested cosmetics.

2. Are you against abortion?

Answer: Be careful! This is a trick question that has nothing to do with animal experimentation. It is often used by people who don't care about animals and who simply want to waste your time and energy by dragging you into a debate of their choosing.

3. Are you in favour of using human stem cells to replace animal experiments?

Answer: Human stem cells can be obtained from three sources: adult stem cells, umbilical cord stem cells and embryonic stem cells. Adult stem cells can be obtained from donated fat or bone marrow, with informed consent. Umbilical cord stem cells can be obtained from the umbilical cord of new-born babies, without harming the infant.

However, the use of embryonic stem cells is controversial because it requires a fertilised human egg to be terminated by age 14 days. Modern technology allows researchers to make adult and umbilical cord stem cells behave almost like embryonic stem cells, which means they can avoid using real embryonic stem cells. In any case, controversial issues like the use of embryonic stem cells are best dealt with by society as a whole, e.g. through a referendum.

4. In medical research you can't just use cells. You need to study a whole living system.

Answer: Of course you do, but which living system are you referring to? The whole living system of the rat is not the same as the whole living system of the dog or the human. People are not 70kg rats. And vets don't test drugs for parrots on horses. Even the chimpanzee, our closest evolutionary cousin, is immune to HIV, hepatitis and malaria – three killer human diseases. So if the chimpanzee is the best animal model we have, what does that say about rats and dogs used to test human drugs?

If we test a drug on 10 different animal species, three will respond like a human. The problem is that we don't know which three responded like a human until we try the drug on people. So animal testing has a 33% power of predicting what will happen in a human. That's worse than a coin toss, which gets a correct answer 50% of the time.

5. What will we use if we don't use animals?

Vets study dog diseases in dogs and study cat diseases in cats. So we should study human diseases in humans, beginning with human cells. Human cells can be obtained from surgical waste, biopsies, donated bodies and organs and continuous cell lines (cancer cells). Once we have passed the cell stage, we can go on to study groups of cells, and (human) organ slices. After that, we can study more complex systems, such as "lab-on-a-chip", microfluidics, physiologically-based pharmacokinetic (PBPK) modelling, computer simulations, and so forth. The predictive power of such a tiered-testing strategy may range from 60% to 100% but that is still far better than the 33% predictive power of animal tests.

6. You are not a scientist

Answer: you can go to scientific websites like Antidote Europe (www.antidote-europe.org) or peer-reviewed scientific articles published by Dr Ray Greek (in Pubmed or Google Scholar) and see why animal models are not predictive for humans. In addition, if you have a specific question and would like one of our scientific advisers to answer you, just leave us your email address and we will get back to you.