

Animal Aid's report into BHF grant-supported animal research

In June 2011, Animal Aid embarked on a high-profile public awareness campaign, investigating and exposing shocking examples of animal experiments that had been supported by leading medical research charities. An important new phase of the campaign came, in January 2014, with the launch of the Victims of Charity website, whose purpose is to offer site visitors the opportunity to register their feelings swiftly with the charities concerned.

The *Victims of Charity* initiative focuses on exposing shocking examples of experiments on animals that have been supported by medical research charities. The first of these had received financial support from the British Heart Foundation (BHF), and involved pregnant sheep and their unborn lambs being surgically mutilated, partially suffocated and then killed.ⁱ Next came a pair of experiments that had been co-funded by the Cure Parkinson's Trust and involved marmoset monkeys being deliberately brain-damaged, overdosed with a Parkinson's disease drug to induce debilitating side effects, and then given the street drug ecstasy, or a chemically similar substance.^{ii iii}

A few months later, we uncovered a third experiment – an invasive study on pigs that involved them being deliberately given heart attacks, then subjected to several other cruel and destructive 'procedures' before they were killed.^{iv} This 'study' appeared to have the BHF's fingerprints all over it, since the scientific paper describing the experiment declared that it had been 'sponsored' by the BHF, and cited a grant number. Two respected scientific databases (Europe PubMed Central^v and PubMed of the US National Institutes of Health^{vi}) also stated that the study had received grant support from the BHF. However, when approached by two national newspapers that were preparing to feature an exposé of the experiment, the BHF emphatically distanced itself from the research.

This unexpected development prompted us to look at the charity's longer-term funding of one of the key researchers involved in the pig experiment – Professor Nicholas Peters. Our research uncovered 14 studies that were supported by the BHF and involved Professor Peters. Some of these were clinical studies on humans, but six (including the original pig experiment) were either conducted on live animals or involved animals being killed so that their organs could be used. The six projects were described in scientific papers that had been published in academic journals. The papers each bore one of two grant numbers and publication went back to at least 2010. They involved appalling animal suffering, including dogs having their hearts surgically stretched and goats being forced to endure weeks of disruption to their natural heart rhythms. In another experiment, dogs were deliberately made to endure heart attacks by having their coronary arteries tied off. Two further studies involved rats and guinea pigs being killed so that their hearts could be removed and used for testing.

The details of what we uncovered

The paper that describes dogs having their arteries tied off to induce heart

attacks, and those that report guinea pigs and rats being killed so that their hearts could be used, acknowledge financial support through grant number RG10/11/28457. The BHF's annual record of research grants shows that RG10/11/28457 is the number of the research grant awarded to Professor Peters between 2010-2011 and is worth more than £1 million.^{vii} It is described as a renewal of a 'programme grant' – a type of award that the charity uses to provide researchers with '*long-term support on a 5 year rolling basis*'.^{viii} The other three experiments – involving pigs being made to suffer heart attacks, goats' heart rhythms being surgically disrupted and dogs having their hearts stretched – cite grant number RG05/009. However, there is no trace of this number in the annual records of research grants published on the BHF's website. Despite this omission, those three published papers cite Professor Peters as a co-author and acknowledge financial support from the BHF. In short, all of the experiments described in this report received financial support from the BHF. Professor Peters was involved in each of them and they appear to add up to a programme of work stretching over several years. It can also be confidently stated that the BHF's funding of Professor Peters continues, given that two of his academic profiles state that his research is principally funded by the BHF.^{ix x}

One of the many deficiencies of the papers we uncovered is a sketchy description of what was actually done to the animals, and a conspicuous lack of information about the suffering they endured. Nonetheless, the papers cannot help but reveal some details about the 'procedures', and these are briefly summarised in the text that follows.

1. Dogs made to suffer heart attacks

Where: Columbia University

When: Research published in 2014

BHF grant support: The scientific paper states that Dr (now Professor) Peters '*acknowledges funding from the British Heart Foundation (RG/10/11/28457 and Centre of Research Excellence)*'

The experiment: 10 dogs were anaesthetised and deliberately made to suffer heart attacks by having their left coronary arteries tied. Three to five days later, they were anaesthetised again, their chests opened up and an array of electrodes sutured over the left ventricle of their hearts. Electrical stimulation was then used to induce critically rapid heart rhythms.^{xi}

2. Dogs subjected to cruel heart-stretching 'procedure'

When: Research published in 2010

BHF grant support: The scientific paper states in its acknowledgements '*Supported by the British Heart Foundation RG/05/009...*'

The experiment: 27 'mongrel' dogs were anaesthetised, their chests

opened and their hearts exposed. Some of them then had a device sutured onto the right ventricle of their hearts, which was used to stretch it for six hours. The dogs then had heart dysfunction induced by electrical 'stimulation,' before they were killed and their hearts removed for dissection. We do not know where the dogs used in this experiment originated from, but we are concerned that they may have been acquired from pounds, having previously had a troubled life. Dogs who are purpose-bred for vivisection would not normally be mixed-breeds.^{xii}

3. Goats' heart rhythms surgically disrupted

When: Research published in 2010

BHF grant support: The scientific paper states that the study was funded by a BHF project grant, and that Professor Peters is '*supported by British Heart Foundation grant RG/05/009*'

The experiment: 10 female goats were anaesthetised, had their blood pressure measured and were administered a naturally occurring chemical that affects blood pressure. Every day for the next seven days, they were given a heart drug, and then re-anaesthetised so that further blood pressure measurements could be taken while the chemical was administered again.

In a subsequent 'procedure', 28 adult goats were anaesthetised and had a pacemaker device implanted via their external jugular veins, which was designed to disrupt the natural electrical activity of the heart. Some of the goats then endured the pacemaker being switched on for three separate 28-day periods. This is likely to have been extremely debilitating, and have caused the goats a great deal of suffering. Blood samples were taken frequently – also a stressful procedure that would have added to the goats' suffering.^{xiii}

4. Pigs made to suffer heart attacks

Where: St Joseph's Translational Research Institute, Atlanta

When: Research published in 2011

BHF grant support: The scientific paper states that the study was '*sponsored by Symphony Medical Inc. and British Heart Foundation (RG05/009)*'

The experiment: 16 pigs were anaesthetised and injected with a combination of substances, including gel spheres, to create a blockage in their coronary arteries and cause a heart attack. Some of the 16 pigs suffered severe irregular heart rhythms and an unspecified number was subjected to resuscitation through electric shock and injection. Half the pigs died during this phase of the study. The pigs also had a full-thickness piece of skin removed from their legs, so that cells could be collected and later injected into their damaged hearts.

Three weeks later, the eight survivors had 'electrode catheters' inserted into their hearts via their thigh veins, which were electrically 'stimulated' to induce critically rapid heartbeats. This was followed by further shock resuscitation. The pigs' chests were then cut open, and either their own skin cells or a saline solution was injected into the damaged area of their hearts. They then had recording devices implanted under their skin, which collected data for four weeks before they were killed and their hearts dissected.^{iv}

5. Guinea pigs killed for dissection

Where: Imperial College London

When: Research published in 2013

BHF grant support: The scientific paper states: *'This work was funded by the British Heart Foundation grants FS/03/031/15498 and RG/10/11/28457'*

The experiment: An unknown number of guinea pigs were killed and had their hearts removed, chemically treated and dissected. The paper does not state how the guinea pigs were killed, but legally permitted methods include cervical dislocation, a blow to the head or, in more restricted circumstances, decapitation. As part of the same study, heart muscle ethically obtained from six patients undergoing surgery was also used.^{xiv}

6. Rats killed and their hearts removed for testing

When: Study published in 2013

BHF grant support: The scientific paper states that the research was *'...supported by a British Heart Foundation Programme grant (RG/10/11/28457)'* to Professor Peters. It mentions that one of the other researchers has also been supported by a British Heart Foundation Intermediate Research Fellowship.

The experiment: 35 rats were killed and their hearts removed for testing. The experiment involved blocking blood flow to the excised hearts (ischaemia), restoring it (reperfusion), and administering a drug already used to prevent irregular heart rhythms in patients.^{xv} Experimental studies on rats to investigate ischaemia and reperfusion have been published for more than four decades.

A waste of time, resources and lives

Although the two Professor Peters-linked grants we investigated were also used to support clinical studies on human patients, the animal experiments we uncovered suggest an urgent need for the BHF to conduct a radical review of its research strategy.

There can be no doubt that the charity is a highly successful fundraising

machine. Each year, it is able to invest more than £100 million in research, and it boasts a 'portfolio' of 2,500 research projects and programmes.^{xvi} Behind these impressive figures are dedicated members of the public who have often suffered grievously (either directly or through their loved ones) as a result of heart disease. They are desperate for medical progress. Many donors hand over regular portions of their own income, or they spend hours organising fundraising events. They are unlikely to be impressed by research that focuses on abstract scientific questions. They expect the research they pay for to be directly relevant to the search for remedies for heart disease, or to the relief of its symptoms.

Research on animals is highly unlikely to achieve either of these outcomes. Some of the key reasons are these:

- There are fundamental differences between species. These can relate to anatomy, organ structure and function, metabolism, chemical absorption, genetics, mechanisms of DNA repair, behaviour and lifespan. Rodents, for example, have a resting heart rate five times higher than humans, but this report describes how rats' hearts were used in a BHF-supported experiment.
- A genetically similar group of animals living in controlled experimental settings cannot predict the response of varied human patients living in natural conditions.
- Artificially created diseases in animals in laboratories do not reflect naturally occurring human illness. This report describes a BHF-supported experiment in which dogs' coronary arteries were tied off to induce a heart attack. This cruel procedure is common practice, but clearly bears little relation to how humans come to have heart attacks.
- The stress caused to animals by routine laboratory practices such as handling, blood collection, physical restraint, injections and force-feeding, as well as recovery from wounds or surgery, results in altered physiological states, which compromise test results.
- Some of the most common and debilitating adverse reactions to drugs are not outwardly visible and therefore cannot be detected in animal tests. These include: nausea, mental disturbance, dizziness, fatigue, depression, confusion and double vision.

Encouragingly, an ever-increasing number of scientific and medical practitioners are drawing attention to the shortcomings of animal research. In June this year, an article published in the prestigious *British Medical Journal* (BMJ), cast serious doubt over the value of disease research using animals.^{xvii} The article was accompanied by an editorial, written by the journal's Editor in Chief, which stated: '*Funds might be better directed towards clinical rather than basic research [on animals], where there is a clearer return on investment in terms of effects on patient care.*'^{xviii}

The need to ensure that publicly-funded research translates into clear improvements for patients is heavily emphasised by the BHF itself, both on its website and in its research strategy, published in summer 2014. The strategy states, for example, that the charity aims to '*ensure that research funded by the BHF, and others, translates into better prevention, diagnosis and treatment outcomes.*'^{xvi} It is a point echoed by heart specialist and former animal researcher John Pippin MD FACC, who has stated: '*No matter where someone is on the ethical spectrum regarding animal experimentation, everyone can agree that deadly experiments that contribute nothing to human medicine should not be supported by the donations of a trusting public.*'^{xix}

Abandoning animal research and concentrating on directly human-relevant, non-animal methodologies would take the BHF some considerable way forward in its declared '*fight against heart disease*'. Additionally, evidence the charity itself offers suggests that it should place a far greater emphasis on how coronary heart disease can be prevented. According to its latest research strategy, 75 per cent of cardiovascular disease is avoidable.^{xvi} Yet in 2012-2013, just 25 per cent of BHF charitable expenditure was on disease prevention and patient care.^{xx}

Conclusion

Research charities that depend on public donations for their very existence are self-evidently answerable to that same public with regard to how they spend the large sums entrusted to them. When it comes to animal experiments, a strong indication as to public sentiment came with the results of a national opinion poll commissioned in April 2012 by Animal Aid. A decisive 80 per cent of respondents said they 'would not knowingly donate to a medical research or health charity that funds animal experiments'. And yet the public does give hundreds of millions of pounds each year to research charities that fund vivisection (the BHF's income for 2012-2013 was £133.3 million).^{xix} The gulf between sentiment and deed points to how little people are told about the way their donations are spent. Through our *Victims of Charity* campaigning, Animal Aid is determined to inform the public about the kind of purposeless animal suffering their donations are contributing towards. Meanwhile, we reiterate our call to the BHF to consider objectively the medical evidence relating to animal research. We believe it would then choose to use its considerable financial resources to fund only humane and reliable non-animal research.

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- vi <http://www.ncbi.nlm.nih.gov/pubmed/21866384>
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- viii <http://www.bhf.org.uk/research/research-grants/what-we-fund/programme-grants.aspx>
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