Children with Cancer UK
Third floor
21-27 Lamb's Conduit Street
London, WC1N 3NL

0800 222 9000
info@childrenwithcancer.org.uk
childrenwithcancer.org.uk

Registered Charity Number: 298405
Children with Cancer UK is a company limited with guarantee
Registered in England No. 4960054

Animal Research Position Statement

Background

Our vision is a world where every child survives cancer. We are the leading national children's charity dedicated to the fight against childhood cancer. Almost 4,500 children and young people are diagnosed with cancer every year in the UK. Our aims are to determine the causes, find cures and provide care for children with cancer [1]. Thanks to scientific research, incredible progress has been made in treating childhood cancers and five-year survival rates have grown from just 67.3% in 1990 to a predicted 85.5% in 2018 [2]. However, cancer still poses a major challenge in child health and every day more than 12 children and young people are diagnosed with cancer in the UK. Of these 12 children and young people, 2 will die [1]. In addition, many cancer types still hold a poor prognosis for children, and young patients still face the risk of adverse and sometimes devastating treatment-related effects. Therefore, our primary mission is to improve survival rates across all types of childhood cancers and fund research to better understand the causes of cancer in children as well as fund research to find kinder, safer treatments – and ultimately find a cure.

In order to improve outcomes for young patients we need to advance our understanding of the basic biology of cancer, its causes and mechanisms, and to develop more effective and kinder diagnostic tests and treatments. We also need to understand the long-term negative health effects faced by the over 33,000 [1] childhood cancer survivors living in the UK and how these effects can be prevented or managed. To answer these important questions, researchers use a range of methods involving cells, computer models, human tissue and volunteers. However, it is sometimes also necessary to use animals in situations where other methods would not suffice.

Research using animals has produced some of the most important findings to date in childhood cancer and changed the lives of young patients across the world. Any new treatment designed for humans must, by law, be tested in animals first, and the current cancer treatments are only available because of animal research.

For example, leukaemia is the most common childhood cancer, accounting for nearly a third of all cases [1]. Research involving animals has been pivotal in transforming the outlook of this disease from being considered incurable at the beginning of the 1960s [3] to over 86% of childhood patients surviving today [1]. The key role of two types of white blood cells in leukaemia, called T cells and B cells,

was first discovered in the early 1960s in mice. Similarly, chemotherapy, the principle treatment for leukaemia, was also first developed in mice.

Animals still have an important role to play in childhood cancer research where no other alternatives are available. For example, brain and spinal tumours account for the highest number of cancer deaths in children [1] and, for those who do survive, the outlook is discouraging, with up to two thirds of survivors left with moderate to severe disabilities [4,5]. The complexity and inaccessibility of the brain make research into these tumours challenging and studies using rodents still offer the best possible chance for us to progress our understanding of these diseases and improve outcomes for young patients.

Our position

Children with Cancer UK is a member of the Association of Medical Research Charities (AMRC) and supports the AMRC's position statement on using animals in research. We support the principle of using animals in research when it is necessary to advance understanding of health and disease and to develop new treatments; we want to find improved treatments that will cure even the hardest-to-treat forms of childhood cancer, causing minimal side effects for the child. This research only takes place where there is no other alternative available and projects are only funded by us after rigorous assessment that specifically addresses the proposed use of animals.

All research involving animals in the UK is strictly regulated by the Home Office under the Animals (Scientific Procedures) Act 1986. Children with Cancer UK requires all researchers who are using animals in their projects to provide evidence of formal approval from their Institute's Research Ethics Committee, plus copies of their Home Office animal licences (or non-UK equivalents) before they can receive funding from the charity to start their work.

Around half of the research projects we currently fund involve animals and these currently only use mice, rats or developing chicken eggs (at the time of writing). The use of animals in research is not taken lightly and as a member of the AMRC we support the principles of the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) guidelines 'Responsibility in the use of animals in biomedical research: expectations of the major research council and charitable funding bodies'. In these guidelines, the NC3Rs outlines the principles of the 3Rs in animal research:

- **Replace** the use of animals with alternative techniques or avoid the use of animals altogether.
- **Reduce** the number of animals used to a minimum by seeking ways to find out information from fewer animals or more information from the same number of animals.
- **Refine** the way experiments are carried out, to maximise animal welfare. This includes better housing and improvements to procedures which improve animal welfare in situations where the use of animals is unavoidable.

The implementation of the 3Rs is integral in research, both for ethical reasons and to obtain the best possible scientific results. This ensures that the researchers we fund use the minimum number of animals required and implement measures to protect their physical and behavioural needs by minimising their pain, distress and discomfort during and after experimental procedures. Where it is scientifically possible, the replacement of animals in research is an ultimate goal. Through advances in science and technology there are now some opportunities to replace the use of animals, using methods such as mathematical and computer models.

Children with Cancer UK has signed the Concordat on Openness on Animal Research in the UK, alongside over 120 other organisations. Together, we have committed to enhancing our communication about the use of animals in research. In addition, we encourage the researchers we fund to be open and transparent about how they use animals in research. In particular, we recommend that researchers follow the ARRIVE (Animal Research: Reporting of In Vivo Experiments) guidelines to improve how they report research using animals to the scientific community. This is in order to maximise the information published and minimise unnecessary further studies.

Further information

How can I support childhood cancer research, but not projects that use animals?

We can restrict any donation to non-animal research projects on request. You simply need to let us know when making a donation.

If you have any questions, please contact research@childrenwithcancer.org.uk.

References

1. These statistics are agreed by the Children and Young People with Cancer (CYPC) Coalition of UK Cancer Charities. Survival rates are based on five-year survival.
2. Office for National Statistics (ONS) Childhood cancer survival in England: children diagnosed from 1990 to 2014 and followed up to 2015 and Cancer survival in England: adult, stage at diagnosis and childhood – patients followed up to 2018. Survival rates are based on five-year survival.
3. Steliarova-Foucher E, Stiller C, Kaatsch P et al (2004) Geographical patterns and time trends of cancer incidence and survival among children and adolescents in Europe since the 1970s (the ACCIS project): an epidemiological study Lancet 364:2097–2105
4. Boman K, Hove´n E, Anclair M, et al. Health and persistent functional late effects in adult survivors of childhood CNS tumours: a population-based cohort study. Eur J Cancer. 2009; 45(14):2552–2561.
5. Packer R, Gurney J, Punyko J, et al. Long-term neurologic and neurosensory sequelae in adult survivors of a childhood brain tumor: Childhood Cancer Survivor Study. J Clin Oncol. 2003; 21(17):3255–3261.