End Animal Testing

REPLACING ANIMALS IN RESEARCH

Did you realise that **90% of drugs tested** 'successfully' on animals **fail when they are translated to humans?** Is this just a co-incidence or is it time to face reality? **Animal testing just doesn't work.**

A sample of water is injected into the abdomen of a mouse. No anaesthetic is used. She displays disorientation, paralysis of hind limbs, breathing difficulties and a violent jumping reaction. She becomes unresponsive and cold to the touch.

Within 5 hours she has died from heart failure.

(Mouse Bioassay – used to determine the toxicity caused by algal blooms in water supplies.)

Internationally, and now, within Australian water authorities, the mouse bioassay has been replaced with a number of alternatives, including the Elisa test - a similar technology to those used in home pregnancy tests - and the Lawrence Method (HPLC) .These methods have proven to be far more accurate than the mouse bioassay which was often criticized for its inconsistency between laboratories.

As new technologies emerge, the range of non-animal methods continues to grow. Despite claims by some researchers that alternative methods are not yet sophisticated enough to replace animal tests, they are more dependable and produce more accurate results than tests on species who differ from humans in their metabolism of toxins, absorption of chemicals, mechanisms of DNA repair and lifespan - all factors that have a profound effect on the efficacy of drugs.

HRA advocates for the replacement of animals, not just because of the unethical and cruel treatment, but just as importantly for the ability of science to advance in delivery of vital drugs and other treatments to humans.

Here are a few examples of the inefficient and unethical use of animals, and what could be used to replace the animal to provide an accurate and effective result.

Instead of drug testing on dogs:

• Microdosing - involves giving research participants miniscule doses of an experimental drug then tracking the drug's movement through the body by radio labelling. Its distribution and metabolism in bodily fluids is measured and enables researchers to quantify its concentrations in blood, urine, saliva and white blood cells.

• Microfluidic chips - consist of a network of interconnected reservoirs mimicking the organ systems of a living being. Researchers can place lung, liver, fat, gastric or heart cells inside the reservoirs, add a particular drug and quickly evaluate how the chemical is distributed, metabolised and excreted.

Instead of invasive brain research on marmosets:

• Non-invasive imaging techniques - such as Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) allow us to visualize internal structures of the human brain.

• Transcranial Magnetic Stimulation (TMS) - a non-invasive treatment using a magnetic field to stimulate nerve cells in areas of the brain. It has been shown to affect mood, motor and cognitive functioning. TMS has few side effects, and is also used as a treatment for mental illness.

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Instead of eye irritancy and skin abrasion tests in rabbits:

• Eytex(TM) - uses a vegetable protein extracted from jack beans. Like the cornea of the eye, this clear protein gel becomes cloudy when in contact with an irritating substance. The degree of cloudiness ("damage") is measured with a spectrophotometer, which is much more accurate than assessing the damage to a rabbit's eyes.

• Reconstructed human epidermis - involves a multi-layered human skin grown in the laboratory. Cells can be examined under the microscope, membrane damage can be assessed by leakage of enzymes, or inflammation can be determined by release of proteins and molecules called interleukins.

Instead of antibody production in mice:

• Phage Display - is the interaction between a virus and a bacterium to produce antibodies, which can be produced in a much shorter time than traditional animal methods.

These examples provide a simple snapshot of non-animal methods already available that not only eliminate animal suffering, but are also more predictive of human outcomes.

It's imperative that we move away from archaic animal tests and instead embrace new technologies.

Other nations are already doing this, with government-funded centres in the UK, Europe and the United States dedicated to the development and validation of non-animal methods. Sadly, Australia has no such commitment.

What you can do

Please write to the Federal Minister for Health and ask that Australia invests in the development and validation of non-animal methods.

The Hon Peter Dutton,
Federal Minister for Health,
PO Box 2012, Strathpine Qld 4500
Email Peter.dutton.mp@aph.gov.au

And write to the NHMRC asking that funding be redirected from animal-based research to human-specific research that will replace animal experiments.

Warwick Anderson CEO
National Health & Medical Research Council
GPO Box 1421, Canberra ACT 2601
Email nhmrc@nhmrc.gov.au

Animals should NOT suffer when there are more efficient methods. We need your help!

Please support Humane Research Australia with your membership and/or donation so that we can continue the fight to end cruel and ineffective animal experiments and promote a better future - for both animals and for human medical progress.

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