

Vivisectors' Tools of Torture

In an era of incredible advancements in technology, we are awed by the ingenuity of others. The technology underlying improving our lives has been phenomenal and we continue to await developments that will make our lives happier and healthier. However, the tools we currently use are antiquated and cruel.

We hope for medical interventions that will save us from illness and suffering and place great store in the funding of any such advancement. However in some areas of health and medical research, time has virtually stood still with the continued use and funding of outdated and cruel methods. Of all industries, the medical research industry is guilty of using some of the most antiquated methods of all.

To rely on these (animal) models, without putting funding and resources into seeking human-relevant technologies, Australia risks slipping behind other countries in medical advancement while others race to develop superior technologies that emulate the human condition.

Aside from the hapless millions of animals used as laboratory tools in Australia each year, the devices and equipment that animals are tied to, strapped into, or restrained within are antiquated and cruel. The equipment described in this bulletin is just a small example of some of the crude tools currently used in Australia's vivisection industry.

The stereotaxic frame

The use of a stereotaxic frame is a standard procedure for brain research in Australia. It is an instrument that holds the animal's head to enable the precise placement of other experimental tools such as needles to ensure exact coordinates, in the exposed skull. At Monash,¹ marmosets are fixed to the stereotaxic frame with a stainless steel bolt secured on the frontal midline, using dental acrylic.



Photo: Marmoset held in stereotaxic frame.
Yun et al *Lab Anim Res.* 2015 Dec;31(4):155-65.



Photo: A stereotaxic frame for holding head of animal.

¹ Preparation for the in vivo recording of neuronal responses in the visual cortex of anaesthetised marmosets (*Callithrix jacchus*); James A.Bourne, Marcello G.P.Rosa Brain Research Protocols 11 (2003) 168-177

The weight drop machine

At various Australian universities including the University of Western Australia, Monash University and the University of Melbourne (Florey Institute of Neuroscience and Mental Health) researchers attempt to replicate traumatic brain injury (TBI) in mice and rats by dropping a weight on to the exposed brain, or closed head, of the animal. This crude form of attempting to replicate the human condition takes place despite the unreliability of translating the results to the human condition.

Visual footage of the machine in use please refer to² <https://www.jove.com/video/51820/a-novel-model-of-mild-traumatic-brain-injury-for-juvenile-rats>

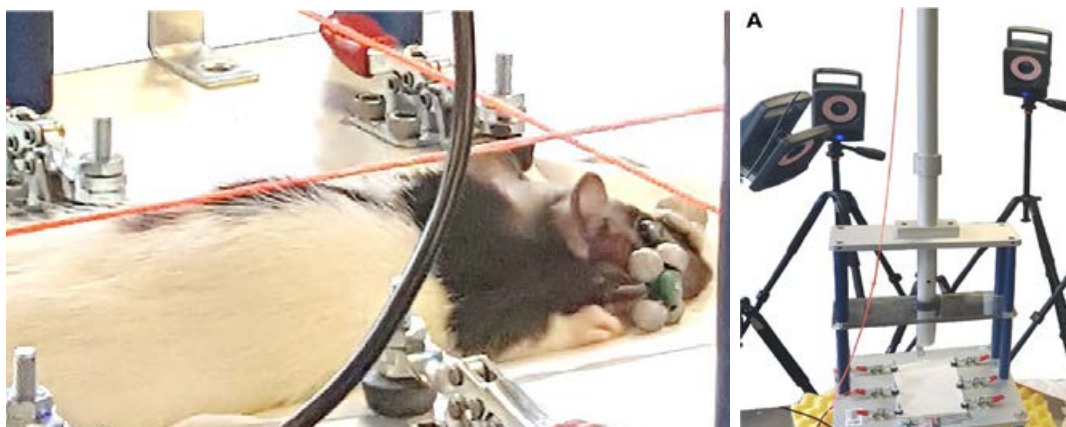


Photo: Weight drop machine used at University of Western Australia³

The smoke inhalation chamber

Although the effects of cigarette smoking in humans and the association with smoking and bowel inflammation are well known, researchers at the University of Newcastle⁴, use a smoke chamber to tightly restrain and force mice to inhale cigarette smoke for periods up to 12 weeks. This is despite the fact animals in laboratories are not exposed to cigarette smoking in the same manner or time frame as human smokers and that different animals have different reactions to toxins. In fact, different species of the mouse react differently to the smoke exposure.



Photo: [Journal of Allergy and Clinical Immunology 131\(3\) 752-762](#)

² Video: A Novel Model of Mild Traumatic Brain Injury for Juvenile Rats. Mychasiuk, R., Farran, A., Angoa-Perez, M., Briggs, D., Kuhn, D., Esser, M. J.; J. Vis. Exp. (94), e51820, doi:10.3791/51820 (2014)

³ Repeated mild traumatic brain injury in female rats increases lipid peroxidation in neurons; Nathanael J. Yates, Stephen Lydiard, Brooke Fehily, Gillian Weir, Aaron Chin, Carole A. Bartlett, Jacqueline Alderson, and Melinda Fitzgerald. *Exp Brain Res* (2017) DOI 10.1007/s00221-017-4958-8

⁴ Targeting PI3K-p110 α Suppresses Influenza Virus Infection in Chronic Obstructive Pulmonary Disease Hsu, A C-Y., Starkey, M.R., Hanish, I., Parsons, K., Haw, T.J., Howland, L.J, Barr, I., Mahony, J.B., Foster, P.S., Knight, D.A., Wark, P.A., Hansbro, P.M. *American Journal of Respiratory and Critical Care Medicine* V191, No. 9 (2015)

The primate halo and the primate chair

At the University of Melbourne macaques have their heads fixated to make them focus on stimuli and allow for recording⁵. This type of fixation of the head when performing neurological experiments is called the "halo method". The researchers describe how this halo was fixed to the monkey's skull by means of five posts inserted through incisions in the skin and separating soft tissue until bone is reached, with the halo remaining while recordings are made via electrodes. One monkey had this device implanted on numerous occasions for 8 years. At the same time the halo is used the animal is held in a primate restraint chair.

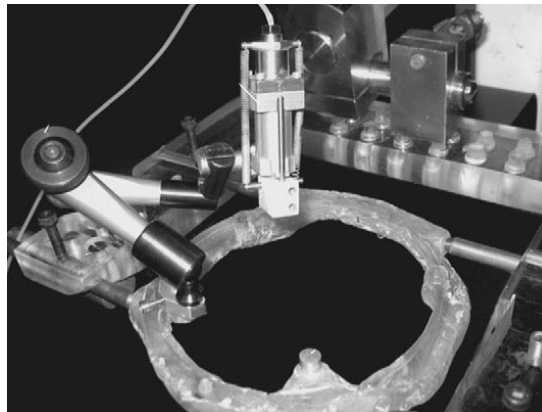


Photo: Primate halo as used at University of Melbourne. Pigarev et al., *Journal of Neuroscience Methods* 181 (2009) 151–158

5 Information processing bottlenecks in macaque posterior parietal cortex: an attentional blink? Maloney, R. T.; Jayakumar, J.; Levichkina, E. V.; Pigarev, I. N.; & Vidyasagar, T. R. *Experimental Brain Research* (2013) 228:365–376

In experiments where consistent training and immobilization is required, monkeys are restrained in a primate chair similar to those shown.

These sensitive intelligent animals have their bodies immobilized until the researcher deems the experiment is over. They are then returned to their housing system.

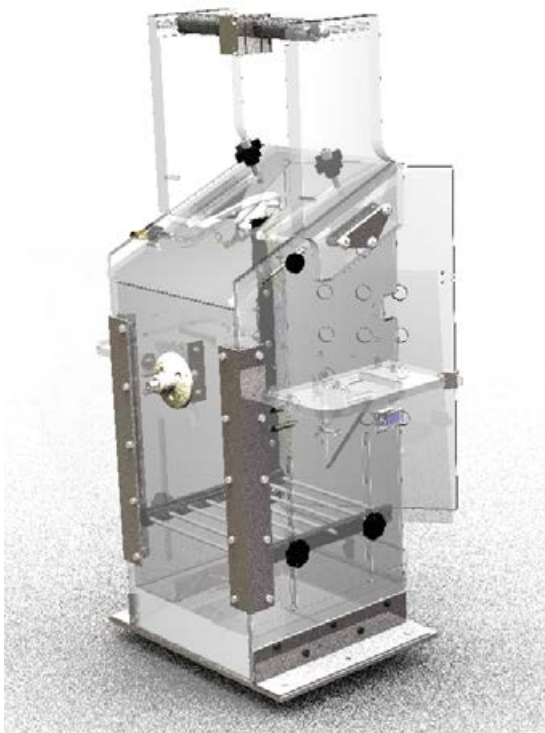


Photo: Primate chair



Photo: Primate housing system - referred to as 'comfortable and secure' at the website offering it for sale.

WHAT YOU CAN DO

Please email the Minister for Health and the Australian government agency, the National Health & Medical Research Council (NHMRC), asking that, as a matter of urgency, funding be allocated for research that does NOT in any shape or form use animals.

Minister for Health
Parliament House
Canberra ACT
enquiries@health.gov.au

NHMRC
National Health and Medical
Research Council
16 Marcus Clarke St,
Canberra ACT 2601
ethics@nhmrc.gov.au



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