



## DID YOU KNOW...

when happy, rats chatter or grind their teeth, often accompanied by vibrating eyes?

# WHAT IS THE CODE OF PRACTICE?

The Code of Practice for Housing and Care of Laboratory Mice, Rats, Guinea Pigs and Rabbits states:

*"Animals must be able to perform a variety of natural activities consistent with species specific behaviour, including the opportunity for sufficient exercise within their enclosure".*

It also states:

*"The provision of environmental enrichment for mice and rats should mimic natural habitat and behavioural requirements including in particular tunnelling, foraging, climbing, social groupings and nesting."*

The current minimum standards, where these animals are kept in small containers, cannot accommodate the innate behavioural needs of a naturally foraging animal, nor allow for sufficient environmental enrichment.



# RATS & MICE

## MALIGNED & MISUNDERSTOOD

Rats and mice are complex, unique beings with the capacity to experience a wide range of emotions. As highly intelligent as our canine friends, they excel at learning and understanding concepts.

Much like us, rats and mice are very social creatures. They become attached to one another, love their families, enjoy playing, wrestling, and sleeping curled up together.

Rats and mice are fastidiously clean animals who groom themselves several times a day and are less likely than dogs or cats to transmit parasites and viruses.

Laboratory rats and mice are derived from a largely nocturnal and climbing ancestor and as such they retain many of the traits of their wild counterparts – exploratory activity, searching for food and climbing. They also like to compartmentalise their behaviours and often use urine marking and bedding to assist.

## WHO THE PERSONALITIES OF RATS & MICE



## DID YOU KNOW...

rats have excellent memories, and once they learn a navigation route, they never forget it?

## WHY THE BAD REPUTATION?



AFTER being maligned for centuries as greedy and selfish creatures, rats have been observed displaying compassion toward their companions for the first time in a lab setting.

Researchers observed two rats in a shared compartment whereby one was allowed to roam free and the other was trapped in a tiny cage.

After the free rat learned how to open the cage's door and liberate his distressed companion, he did so almost immediately in each trial. Not even a chocolate reward could sway the rat from freeing his mate - he chose to end the trapped rat's distress.

# 928,217

## WHAT ARE THE STATS?

In 2011, **928, 217** mice & **82,422** rats were used for testing in Australian laboratories

**20.5%** of ALL animals used in laboratory testing were rats & mice





## HERE ARE JUST TWO EXAMPLES OF THE UNDIGNIFIED UNNECESSARY EXPERIMENTS TAKING PLACE ON RATS & MICE IN RESEARCH LABORATORIES ACROSS AUSTRALIA

Full details of these and other case studies can be found at [www.humanersearch.org.au](http://www.humanersearch.org.au)

### CASE STUDY 1

#### FEEDING JUNK FOOD TO RATS

##### BACKGROUND

If rats are fed high fat & high sugar junk food, whilst pregnant & during lactation it changes the central reward system located in the brain (mesolimbic reward pathway) = a higher preference for high fat & high sugar foods.

##### THE EXPERIMENT

12 female Albino Wistar rats were individually housed and acclimatised to their environment for one week. Control rats were given free access to rat chow while the JF (junk food) rats were fed a junk food diet (peanut butter, chocolate cookies, savoury snacks, processed meat, lard and standard rat chow.)

Rats had daily vaginal smears to determine the stage of their estrous cycle then mated. After successful mating, females returned to individual housing and ate their respective diets throughout pregnancy and lactating.

After weaning, male and female pups were separated and all had access to both the rat chow and the cafeteria diet. The dam and one female & one male pup from each litter were killed at weaning and a further male & female pup from each litter were killed at six weeks and three months of age for blood samples and tissue collection.

##### RESULTS

- JF fed dams and pups had high % of body fat, but it reverted back at 3 mths of age.
- Pups of JF fed dams showed a preference for fat from weaning to age three months.
- A proven relationship between a mother's high fat diet during pregnancy & lactation, and childhood obesity may be caused by alterations in the central reward pathway.

### CASE STUDY 2

#### RATS CONSUMING ECSTASY & SPEED

##### BACKGROUND

Recreating effects of methylenedioxymethamphetamine (ecstasy) & methamphetamine (speed) in animals, researchers replicated lasting social behavioural effects of repeated doses of the drugs in rats.

##### THE EXPERIMENT

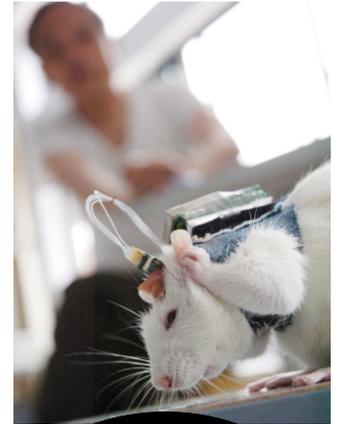
32 female Albino Wistar rats were injected with the drugs once a week for 16 wks. After 7 wks there was a decrease in social interaction in chronically drug-treated rats. To induce stress & depression they were forced to swim for long periods of time.

##### RESULTS

The purpose was to compare results of the repeated weekly exposure to the drugs with experiments that studied the effects of a single day of dosing in rats. However experimenters acknowledge well-known results of using ecstasy and speed together in humans & the severe long-term cognitive behavioural and neurological changes. NHMRC funding was provided for this experiment.

##### BUT...

This is not an isolated incidence of wasteful research. In another project 59 male rats were trained to self administer speed in a high temp enclosure - to recreate heat in nightclubs where the drug is often consumed & ambient temp is high. In order to self administer intravenously, rats had surgery to implant a catheter in the jugular vein and a screw assembly heat mount so the number of drug infusions could be recorded. The experiment found hyperthermia & that high ambient temperatures encourage higher levels of drug intake in rats.



### DID YOU KNOW...

rats and mice are so smart that they can recognise their names and respond when called?

### WHY

#### DOES UNNECESSARY RESEARCH CONTINUE?

The evidence that research taking place on animals, including rats & mice is simply not useful, is profound! Here are the FACTS...

- The attempt to replicate in rats the results that are already known in humans is **wasting valuable resources.**

- It is unscientific to base this research on animals. Humans are simply not large rats and the physiological, social, behaviours and anatomical **differences are too great** to attempt to extrapolate results to humans.

- **90%** of drugs tested 'successfully' on animals fail when they are translated to humans

- Huge amounts of taxpayers' **\$\$\$** are spent on these experiments; it could be better spent on awareness campaigns.



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