

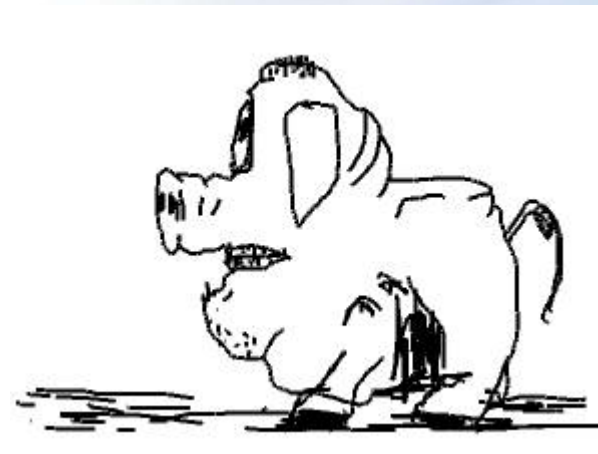


# My background



# Regulatory toxicity studies

- Preclinical program includes repeat dose studies
- Duration of such studies up to 12 months for non-rodents
- Certain procedures are repeated during a study, such as
  - dosing
  - ophthalmoscopy
  - electrocardiography
  - blood sampling



# Animal welfare and occupational health

- Healthy trustful well-being animals provides the best study results
- Fixation and lifting of animals often associated with stress
- Pigs vocalise when being handled in such situation
- Working conditions for the staff influenced by
  - heavy lifting
  - un-ergonomic working positions
  - level of noise
- How can animal welfare and occupation health be improved simultaneously?



# Pig behaviour and training

- Social behaviour
  - in relation to other pigs
  - human contact
- Diet has a high priority
  - regular diet can be used as reward
- Curiosity
- Intelligent animals
  - eager to learn
  - good memory
  - can learn complex behaviours



# Different wordings for the same thing...

- 👉 Positive re-inforcement training (PRT)
- 👉 Operant conditioning
- 👉 Clicker training



# What is PRT?

- First identified and described by Skinner (1904-1990)
- Process of training
- Wanted behaviour rewarded
- Un-wanted behaviour ignored
- Correct behaviour associated with a marker
- Widely used training pet animals, in zoos, aquariums etc.
- Not commonly used in laboratory animals



# Reasons for using PRT in minipigs

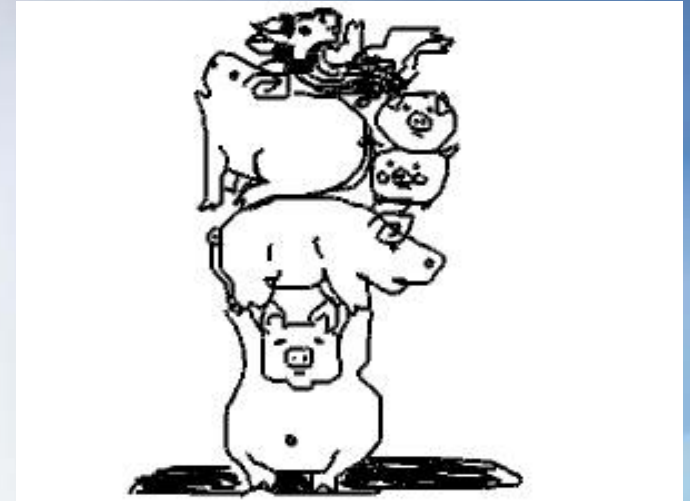
- ☛ Increased animal welfare
  - stimulated animals
  - un-stressed animals
  - more human contact
- ☛ Better physical working environment (no heavy lifting, no noise)
- ☛ More interesting and challenging way of working for animal caretakers
- ☛ Financial?





# Steps of PRT (I)

- 👉 Define a protocol
- 👉 Get confident with each animal
- 👉 Associate reward and marker
- 👉 Reward wanted behaviour – diet
- 👉 Ignore unwanted behaviour – do not punish!
- 👉 Simple behaviours may just need a single step of training
- 👉 Be precise with your marking – not too early, not too late



## Steps of PRT (II)

- ❏ Complicated behaviours must be split into various steps
- ❏ Use simple and uniform commands for desired behaviour
- ❏ Training is needed on a daily basis for days/weeks
- ❏ Limit time of training
- ❏ Stop training as soon as the animal loose interest
- ❏ Educate several trainers



# What caught our interest in PRT?

- 👉 Technicians use the technique privately with their pets
- 👉 Participance in general course
- 👉 Intranasal study, dosing 10 times daily
- 👉 General wish to increase working environment
- 👉 Constant review of how to increase animal welfare
- 👉 Trial experiment: fantastic results!
- 👉 Implemented in study – high success rate
- 👉 Further ideas developed from here within the organisation



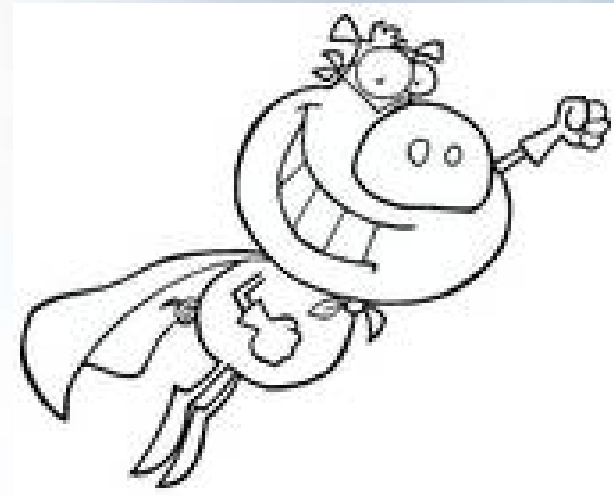
# Status of PRT at Scantox today

- Educated team of trainers
- Used for
  - weighing procedures
  - dermal dosing procedures
  - intranasal dosing procedures
- Next steps
  - subcutaneous dosing procedures
  - ecg recordings
  - ophthalmoscopy procedures
  - more?
- Ultimate goal - blood sampling



# The future

- ☛ This is not a temporarily used tool
- ☛ We see great potentials using this training technique
- ☛ Will also be used in other animal species
- ☛ Provides
  - happy animals
  - happy staff
  - sometimes a happy financial director
  - and not at least: better study results!



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Questions?



# And now some video...



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