

Clicker training and positive reinforcement – less stress, better welfare and timely results

Sofie Nielsen Animal technician
Martin Carlsen Animal technician/ Stine Øvlisen head Animal Unit Ga
Novo Nordisk A/S



Novo Nordisk at a glance

- Novo Nordisk is a global healthcare company
- We have been experts in diabetes for more than 90 years
- Capabilities within the therapy areas of haemophilia, obesity and growth disorders
- 4,500+ employees work within Novo Nordisk R&D across the globe

PRODUCTS MARKETED IN
180 COUNTRIES



APPLIQUES IN COUNTRIES
75



R&D CENTRES
IN BRAZIL, CHINA AND THE US



EMPLOYS APPROXIMATELY
40,000
PEOPLE

DKK 88.8
BILLION
IN TOTAL REVENUE

STRATEGIC PRODUCTION SITES
IN BRAZIL, CHINA, DENMARK,
FRANCE AND THE US



200,000
SHAREHOLDERS



SUPPLIER OF MORE THAN
HALF OF THE
WORLD'S
INSULIN

24,400,000
PEOPLE USE OUR PRODUCTS

Lundbeck  **PROGRESS
IN MIND**

Lundbeck is a global pharmaceutical company highly committed to improving the quality of life of people living with brain diseases.

Lundbeck celebrated its 100th anniversary in 2015

Lundbeck employs approximately 5,000 people worldwide. We have employees in more than 50 countries, and our products are registered in more than 100 countries



Background for implementing (clicker) training

- Legislation
- Roll out from what we already do with dogs
- Better handling is the next step in refining animal welfare
- Better working environment



Socialization, habituation and training

- Socialization
 - Making the animal comfortable with humans
- Habituation
 - Habituate the animal to procedures
- Training
 - Working with the animal, in an interactive way, so the animal voluntarily do the things we want it to do
- Mostly used for dogs and primates
- Other species are next in line



Positive reinforcement



- The use of positive reinforcement training is focused on developing a positive human – animal relationship, gaining safe and positive interactions, where animals voluntarily cooperate, so that negative forms of restraint can be reduced or eliminated
- Less stressed animals make better research models and produce the most reliable research results
- We use positive reinforcement training in form of clicker training



Implementing the programme

- Facility management must dedicate resources and allocate time for training
 - Implementation
 - Further training of personnel
 - If the training are to be successful, a thorough, continuous and qualified education of the trainers is needed
 - Allocate time for training as a daily task



Our experiences

- Pigs and minipigs are routinely trained
- Time consumption to socialise and train animals is low for simple tasks
 - Differences between species
- Uniform training
 - Simple training logs
 - Training hand-over readily accessible and informative




Presentation title Date 10

Planning the training carefully

Training Schedule		Date: 10.NOV2017
Animal /ID: _8 minipigs in stable S.38		
Species: Minipig	Gender: Female	Age: 4 month
Animal history: Directly from Ellegaard		
Behavior to be trained: Freezing on fixed target		
Reward: Apples and raspins		Bridge: Clicker

Goal <i>One sentence!</i>	Freezing on fixed target
Define all variables	
All elements and how to link them	<ol style="list-style-type: none"> 1. Conditioning treat 2. Show interest for fixed target 3. Approaching fixed target 4. Snout touches fixed target 5. Freezing on fixed target 6. Extend the time the animal freezes on fixed target 7. Touching the animal while it is freezing <p>Freezing on fixed target (standing completely still) with the snout touching the target while trainer is touching ear, neck, and back of the animal and pricking with a thin stick behind ear. Lifting front leg and simulating slight sound sawing. Small volumes of medicine is to be injected with a very thin needle. Non irritant. Handling of catheters in backpack. Stand still while getting a measurement apparatus attached to the acts. Non irritant, but a small prick.</p>
Other:	



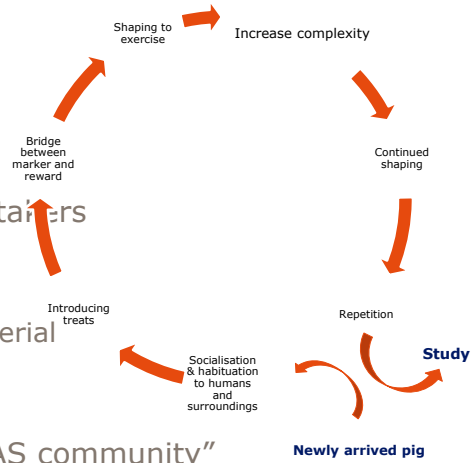
Training log needs to be very simple and easy to fill in

01-08-2018	stdl	Trained to follow targetstick, treat A38. Very good and eager
08-08-2018	Macn	Started training to freeze on target, looks like she understand it, already offering freezing
13-08-2018	MAcn	Offering a little freezing on target. Very good.
14-08-2018	MAcn	Offering a little freezing on target. Very good.
16-08-2018	MAcn	offering freezing for a second, went well.
16-08-2018	Macn	offering freezing for a second, went well.
17-01-1900	MAcn	Started extending freezing.
17-08-2018	macn	Started extending freezing. Be patient.
20-08-2018	MAcn	Freezing 4-5 seconds. Eager.
20-08-2018	MAcn	Freezing 4-5 seconds.
21-08-2018	MAcn	Freezing 4-5 seconds. Try to extend tomorrow.
21-08-2018	MAcn	4-5 seconds
23-08-2018	MAcn	5-6 seconds, went well
23-08-2018	Macn	4 seconds while touching the ear
24-08-2018	Macn	3-4 seconds freezing while touching the ear
27-08-2018	MAcn	4 seconds. Less concentrated today. Give a few days off.
04-09-2018	MAcn	5 seconds freeze
06-09-2018	Macn	4-5 seconds freeze while touching the back
11-09-2018	Macn	7 seconds freeze while touching back and ear.



How do we do it

- Training responsible
- Education of animal caretakers
 - Internal & external
- Recording of training
 - both log and video material
- Dialogue with users
 - Tailor needs
- Knowledge sharing in "LAS community"



Share better practice between NN & Lundbeck



Lundbeck experience

Getting started

Better animal welfare, better results and optimized working environment through training

Clickertraining course for two animal technicians

Having minipigs housed for the purpose of practicing training skills

Getting good support from co-workers and a lot of time to make experience training the pigs

Catheter pigs in PK studies



How we implement the training in the daily work

Trainers have their own pigs who they are responsible for

High priority in the stable calendar

"Super"-trainers makes a plan for the other trainers

Trainers have deadlines prior to study start



What do we train and for how long?



Time overview

	Minutes	Sessions	Days
Targetstick	50	7	5
Ramp	60	8	6
Stand still 3-4sek.	90	14	10
Blood sample / IV dosing	110	16	12

Getting the pigs 14 days prior to study, is enough to train them to the procedure.



Training in practise

!!film kommer her!!



Benefits

Improved animal welfare

Less heavy lifts

Less noise

Better results

