AN INTERDISCIPLINARY APPROACH TO **BEHAVIOURAL MEDICINE, ANIMAL WELFARE, ETHICS AND LAW**

7th annual meeting of the European Veterinary Congress of Behavioural Medicine and Animal Welfare

PROCEEDINGS

18th – 19th September 2025 Helsinki University Main Building | Fabianinkatu 33, Helsinki, Finland

ESVCE Animal Welfare and Behavioural Medicine AWSELFA EHK ELÄINTEN HYVINVOINTIKESKUS UNIVERSITY OF HELSINKI FACULTY OF VETERINARY MEDICINE

Welcome to EVCBMAW 2025

We are delighted to welcome you to the European Veterinary Congress of Behavioural Medicine and Animal Welfare (EVCBMAW) in Helsinki, Finland, on September 18–19, 2025.

As many of you will be arriving on Wednesday, the opening ceremony will be held at a cocktail reception organized by the City of Helsinki at Helsinki City Hall in the city center. The entire congress and closing dinner will also be held in the city center.

The theme of the congress – a multidisciplinary approach to behavioral medicine, animal welfare, ethics, and law – brings together several scientific disciplines into an interesting whole. In addition to research in clinical behavioral medicine and animal welfare science, the congress will offer societally significant scientific reflection on the ethics of non-human-animal use and handling, as well as legislation concerning them.

We are looking forward to an interesting, multidisciplinary scientific interaction featuring three outstanding keynote speakers, 55 oral presentations, and 56 posters. We want to give the posters more visibility, which is why they will be presented exclusively on Thursday evening at the Beer/Wine by the posters event.

We hope you get the most out of your visit and enjoy Helsinki to the fullest. Helsinki is a unique combination of a distinctive cityscape and peaceful nature, offering tranquility and space to feel, hear, and experience more. And don't forget the sauna—a culturally important place where we can bathe and relax. Helsinki has several public saunas, many of which also have swimming pools.

On behalf of the organising and scientific committees,

Laura Hänninen Chair of the organising committee
& **Anna Valros** Chair of the scientific committee

Acknowledgements

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EVCBMAW 2025 PROGRAM (changes may apply)

17 SEPT	18:00–19:30	**WELCOME COCKTAIL** address: Pohjoisesplanadi 11-13

18 SEPT – DAY 1

AUDITORIUM	time	title (presenter) (links to abstracts)
OPENING	09:00	
PLENARY 1 Chair: Anna Valros	09:15	One health and one welfare in interactions of pets and their humans (Miiamaaria Kujala)
SESSION Chair: Anna Valros	10:00	Rethinking responsibility: dog owners experiencing homelessness (Andrew Gardiner)
	10:15	The effect of consultation modality on dog owners' experiences of a post-adoption behaviour support service. (Hannah Dempsey)
COFFEE & EXHIBITION	10:30–11:45	
SESSION Chair: Andrew Knight	11:45	Creating a multidisciplinary expertise centre for bite incidents in Flanders, Belgium (Rian Lensen)
	12:00	The LINK Between Animal Abuse and Social Risk: Five Case Studies (Chiara Caslini)
POSTER TEASERS 1 Chair: Andrew Knight	12:15–12:30	Posters 1–9
LUNCH & AGM	12:30	

SMALL FESTIVE HALL	time	title (presenter) (links to abstracts)
SESSION Chair: Siobhan Mullan	10:00	Veterinarians' perceptions of medication safety risks and defences in sow farms (Kati Tuomola)
	10:15	Is there scope to refine decontamination to improve patient welfare? A survey of Australian Veterinarians (Anne Quain)
COFFEE & EXHIBITION	10:30–11:30	
SESSION Chair: Tiina Kauppinen	11:30	Advisors' perspectives on robotic milking in cow-calf contact systems (Sabine Ferneborg)
	11:45	Norwegian dairy farmers' trust in veterinarians and their perception of the National Animal Welfare Programme (Conor Barry)
	12:00	Farmer's perspectives on rearing dairy calves with their dams in North America (Emeline Nogues)
POSTER TEASERS 3 Chair: Tiina Kauppinen	12:15–12:30	Posters 17–26
LUNCH & AGM	12:30	

AUDITORIUM	time	title (presenter) (links to abstracts)
PLENARY 2 Chair: Kati Tuomola	14:00	What can we learn from bees? (Olli Loukola)
SESSION Chair: Kati Tuomola	14:45	Exploring horse owner experience of problem behaviour: why is this happening? (part I) (Tamzin Furtado)
	15:00	Exploring horse owner experience of problem behaviour: where do I go for help? (part II) (Gemma Pearson)
	15:15	Factors associated with human approach assessment outcomes in horses (Essi Wallenius)
	15:30	Understanding the Impact of Relationship Factors on Horses' Responses to Humans (Océane Liehrmann)
	15:45	Fear Free Award (Gary Landsberg)
COFFEE & EXHIBITION	15:50–16:30	
SESSION Chair: Christel Moons	16:30	Effects of trazodone or gabapentin on physiological and behavioural signs of stress during travel (Gary Landsberg)
	16:45	Long-term use of tasipimidine to treat separation anxiety in dogs: A 8-week clinical study (Mira Korpivaara)
	17:00	Effect of gabapentin on a desensitization-counter-conditioning protocol for cats with healthcare phobias (Lua Raucourt)
POSTER TEASERS 2 Chair: Christel Moons	17:15–17:30	Posters 10–16

SMALL FESTIVE HALL	time	title (presenter) (links to abstracts)
SESSION Chair: Xavier Mantega	14:45	Long-distance Transport of Pregnant Heifers – Stress Responses and Recovery Time (Nina Dam Otten)
	15:00	Ante mortem welfare and the pathophysiology of slaughter and stunning of equids (Kate Fletcher)
	15:15	An observational study of rump pusher use in a UK cattle abattoir (Ellie Wigham)
COFFEE & EXHIBITION	15:30–16:30	
SESSION Chair: Marianna Norring	16:30	Taboo subjects and moral blind spots in companion animal ethics (Lisa Moses)
	16:45	Dimensions of dual loyalty in animal experimentation: a qualitative study with Swiss researchers (Edwin Louis-Maerten)
POSTER TEASERS 4 Chair: Marianna Norring	17:00–17:15	Posters 27–34

AGORA HALL	17:45–21:00	**BEER/WINE BY THE POSTER** (sponsored by ORION-PHARMA)

19 SEPT – DAY 2

AUDITORIUM	time	title (presenter) (links to abstracts)
PLENARY 3 Chair: Laura Hänninen	09:15	A Look Inside the Lives of Cats: The science behind cat-human and cat-cat interactions (Kristyn Vitale)
SESSION Chair: Laura Hänninen	10:00	Low-Stress Cat Handling Techniques for Veterinary Professionals: Case Series (Margarida Araújo)
	10:15	Interpretation of Cats' Emotions by Animal Health Professionals and Cat Caregivers (Joana Pereira)
COFFEE & EXHIBITION	10:30–11:15	
SESSION Chair: Kirsi Swan	11:15	Suckling behaviors in cats: normal or repetitive? A study of environment and development conditions (Caroline Gilbert)
	11:30	Ethogram of domestic cat (Felis silvestris catus) intraspecific social behaviour in multicat households (Morgane J.R. Van Belle)
	11:45	Risk Factors Related to Behavioral Problems in Ferrets: Preliminary Results (Ángela González Martínez)
	12:00	A qualitative study of Spanish Greyhounds' abuse (Emmylou Barral)
SPONSORS Chair: Kirsi Swan	12:15	Orion-Pharma
	12:20	Purina
LUNCH	12:25–14:00	

SMALL FESTIVE HALL	time	title (presenter) (links to abstracts)
SESSION Chair: Satu Raussi	10:00	Effect of different approaches to providing partial outdoor access on the welfare of dairy cows (Peter Krawczel)
	10:15	Dairy cattle health and welfare in cow-calf contact systems on commercial farms in North America (Marine Durrenwachter)
COFFEE & EXHIBITION	10:30–11:15	
SESSION Chair: Sofia Väärikkälä	11:15	ANIMALAW: examining veterinary evidence in legal cases of animal welfare offences in animal transport (Kirstin Dahl-Pedersen)
	11:30	ANIMALAW: Ethical Perspectives in Danish Animal Welfare Legislation (Anna Ulrikke Bruun)
	11:45	Erroneous citations of the Universal Declaration of Animal Rights: a failure of the peer-review process (Alexandre Azevedo)
	12:00	Neutralisation techniques used by defendants charged with animal welfare offences in Finland (Elli Valtonen)
	12:15	Revising the Portuguese Veterinary Code of Conduct: Lessons Learned and Implications for Regulatory Reform (Manuel Magalhães-Sant'Ana)
LUNCH	12:30–14:00	

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AUDITORIUM	time	title (presenter) (links to abstracts)
SESSION Chair: Claudia Vinke	14:00	Increased mean platelet volume in horses displaying behavioural problems (Tomás Casqueiro)
	14:15	Detection of maladaptive pain in dogs referred for behavioral complaints: challenges and opportunities (Jenthe Kwik)
	14:30	Spiro ergo sum: the gut-lung axis and the impact in veterinary clinical ethology (Manuel Mengoli)
	14:45	Dissociative syndrome in a mixed-breed dog: differential diagnosis and therapeutic management (Sylvia Masson)
COFFEE & EXHIBITION	15:00–16:00	
SESSION Chair: Andrew Gardener	16:00	Vegan versus meat-based dog food: health outcomes in 2,536 dogs (Andrew Knight)
	16:15	Use of psychometric scales beyond borders: PANAS and DIAS (Umut Burak Ağan)
	16:30	Puppy (3-7-month-old) cognitive tests as predictors of everyday behaviour in adulthood (Saara Junttila)
	16:45	Evolution of the e-collar use in dog training: - A comparative study in Europe (Olga Gutierrez)
CLOSING	17:00–18:00	Awards, goodbye and see you in Slovenia in 2026.

SMALL FESTIVE HALL	time	title (presenter) (links to abstracts)
SESSION Chair: Christine Leeb	14:00	On-Farm Welfare of Slaughtered bulls (Tuomas Herva)
	14:15	Animal welfare assessment in dairy herds: measurements for suckling calves (Lilli Frondelius)
	14:30	The use of non-steroidal anti-inflammatory agents on Finnish calf rearing farms (Outi Hälli)
	14:45	Animal caretaker perceptions and experiences of the use of local anaesthesia in piglet castration (Saara Kupsala)
	15:00	Practices to administer local anesthesia before piglet castration at Finnish pig farms (Ann-Helena Hokkanen)
COFFEE & EXHIBITION	15:15–16:00	
SESSION Chair: Emanuella Della Costa	16:00	Keel bone damage in laying hens; Comparisons of longitudinal radiographic measures versus post-mortem measures (Stefan Gunnarsson)
	16:15	Efficacy of differential negative reinforcement of an incompatible behaviour to reduce avoidance behaviours in horses (Angelo Telatin)
	16:30	Evaluating clinical behavioural tools for equine pain assessment: a systematic review (Olivia Curry)
	16:45	Innate or learned? How early social environment shapes horses' understanding of humans (Veera Riihonen)

RESTAURANT DYLAN Marmoripiha, Keskuskatu 3	19:30–01:00	**CONGRESS DINNER**

ORALS

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1 Can transcranial Direct Current Stimulation improve attention in working dogs? A pilot investigation (Gaëlla van Walraven)
2 Noise Sensitivity in Dogs: a Case Report on Alternative Therapeutic Approaches (Sofia Benati)
3 Comparing the Analysis of a Veterinary Behaviorist and an AI-Generated Plan for a Border Collie (Ann-Kathrin Fritsche)
4 Use of fluoxetine for behavioral problems in dogs: a retrospective study of 173 cases (Juan Argüelles)
5 Current and Emerging Biomarkers of Cognitive Dysfunction in Aging Dogs: A Systematic Review (Luca Ciurli)
6 Effects of gabapentin on the treatment of behavioral disorders in dogs: a retrospective evaluation (Caitlin Waring)
7 Enhancing owner understanding and treatment outcomes using advanced imaging in canine behavioural and neurological disorders (Anouck Haverbeke)
8 Preliminary Evaluation of the Canine Behavioral Assessment and Research Questionnaire (C-BARQ) in Türkiye (Didem Pekmezci)
9 Evaluating dopaminergic and serotonergic alterations following noninvasive neuromodulation in healthy and anxious dogs (Sofie Salden)

POSTER TEASER 2 at 17:15–17:30

10 An interdisciplinary approach to treatment of bucking in a Connemara pony gelding (Eleanor Girgis)
11 Factors affecting sleep disturbances in horses – results from a Nordic questionnaire (Heli Suomala)
12 Evaluation of the Welfare of Urban Carriage Horses in Malta: a holistic approach (Pantaleo Gemma)
13 Does Fear-Free® certification impact on physiology and behaviour of horses undergoing clinical examination? (Emanuela Dalla Costa)
14 From Gut to Mind: Could Giardia Influence Canine Behavior? (Daniëlle Hartman)
15 Adjunctive pipamperone in dogs with pathological compulsive states unresponsive to fluoxetine: a retrospective case series (Alexandra Lionnet)
16 Evaluation of Neuropeptide S and Brain-Derived Neurotrophic-Factor of potential biomarkers in dogs with state anxiety (Durmuş Atılgan)

POSTER TEASER 3 at 12:15–12:30

17 Body condition score, interleukin-1β, and interleukin-10 predict cognitive changes in senior cats (Carlo Siracusa)
18 Preoperative Meloxicam vs. Butorphanol for Post-Ovariohysterectomy Pain in Cats: A Preliminary Comparison (Batuhan BARDAKCI)
19 An integrative medicine approach in a cat with feline hyperesthesia syndrome: A Case Report (Greta Veronica Berteselli)
20 Multimodal Management of Inappropriate Urination and Spraying in Cats with Suspected Musculoskeletal Pain (Emma Gatehouse)
21 Association of Agonistic Behavior with Urinary Tract Disorders in Cats: 150 Case Studies (Ebru Yalcin)
22 Welfare concerns in show cats: a pilot study (Veronika Vojtkovská)
23 From Timid to Tame: Foster home caring practices for found cats (Laura Hänninen)
24 Integrating behavioral health into veterinary care: a national survey in Belgian companion animals (Christel Moons)
25 Genetic Vasectomy: An ethical approach to refinement and reduction in mouse cryobiology and behavioral research (Sara Fuochi)
26 Meta-Analysis of Thermal Stress Assessment in Poultry Using Infrared Thermography (Elein Hernandez)

POSTER TEASER 4 at 17:00–17:15

27 How to fight biting dogs? Identifying common factors of dog aggression in Lombardy, Italy (Alice Garegnani)
28 Coat Color Matters: Behavioral Variations in the Australian Shepherd (ValentinaGazzano)
29 Investigating dog welfare in different Animal-Assisted Intervention (AAI) settings (Giulia Russo)
30 The growth of the Dog Friendly Clinic scheme and why it matters (Rachel Malkani)
31 Validation of localised thermal differences using a force plate – a case study (Francesca Guagliumi)
32 VetAI: Artificial Intelligence methods unveil novel insights from animal omic studies (Martyna Woszczyło)
33 Factors influencing human recognition of emotional valence and arousal in zoo animals (Laura Hiisivuori)
34 Comparison between continuous and instantaneous sampling methods in brown bears (Ursus arctos): a pilot study (Irene Redtenbacher)

POSTERS WITHOUT TEASERS

35 Assessment of emotional changes and pain in horses using infrared thermal measurement of the eye (Océane Liehrmann)
36 Blood Collection in Panthera Felids: Anatomical Aspects and Medical Training (Caroline Gilbert)
37 Possessive aggression" and pain, is this a resource-maximisation strategy? (Beverley Wilson)
38 Preparing the family dog for a new baby- Can we do better? (Jacqui Ley)
39 Targeted lipidomics showed altered serum phosphatidylcholine levels in fearful dogs (Luigi Sacchettino)
40 Puppies, microbiome and behaviour: a scoping review (Alessandra Laureano)
41 The effects of trazodone as an anxiolytic for hospitalized cats: a pilot study (Cecília Veloso Delgado)
42 The Americas' cage-free egg transition: egg-citing news for 2025 (Elein Hernandez)
43 Does housing condition impact on lying behaviour of horses? A pilot study applying triaxial accelerometers (Emanuela Dalla Costa)
44 Effect of night duration on milk yield and feed intake in dairy cows (Muhammad Asad Rasool)
45 Application of rapid microbial detection for hygiene monitoring in pig farrowing units (Michal Kaluža)
46 Behavioural response of guide dogs under training to a mildly stressful situation: a preliminary study (Simona Cannas)
47 Molossoid and bull-type dogs in northern Italy: a preliminary analysis from Lombardy shelters (Sara Boero)
48 End-of-life emergency situations in pigs: laws, regulations, and lived experiences in the EU (Mette Herskin)
49 Impact of noise during the Fallas festival in Valencia on domestic rabbits: a pilot study (Juan Argüelles)
50 Effectiveness of sertraline and trazodone in treating compulsive behavior in a pug: case report (Joao Pedro Silva-Monteiro)
51 Happy and angry human images differentially affect dogs' postural stability (Nadja Affenzeller)
52 Pet chelonian ownership in Portugal and Italy: a comparative utilitarian harm-benefit analysis (Alexandre Azevedo)
53 When utilitarian ethics falls short: alternative approaches to ethical challenges in the shelter sector (Anne Quain)

PLENARY 1

DAY 1
09:15

Auditorium

One health and one welfare in interactions of pets and their humans

Miiamaaria Kujala
University of Jyväskylä

Humans, non-human animals, and the environment are intricately connected within our shared planet. The concepts of One Health and One Welfare reflect this complexity, emphasizing the importance of multidisciplinary approaches to understanding human–nonhuman interactions. But how are these concepts relevant for animals kept as pets, for companionship, and their caretaker humans?

Human wellbeing directly influences the welfare of companion animals—and vice versa. Therapy animals contribute to enhancing human wellbeing, yet human mental health challenges can impact their ability to care for the health and welfare of their companion animals. The co-modulation of wellbeing in human-nonhuman interactions also appears at more subtle levels: the stress levels can synchronize between humans and dogs, and human personality traits are linked to both the nature of the human–dog relationship and the dog behavior. Notably, these effects may also vary across different dog breeds.

Moreover, human personality influences the emotional bond between people and their dogs, which can have both positive and negative consequences. While emotional closeness can provide mutual support, strong attachments may also lead to separation-related issues. An additional layer of complexity arises from the interplay of empathy, anthropomorphism, and knowledge in human–animal interactions. Empathy is essential for recognizing animal experiences and promoting welfare, but without adequate knowledge and accuracy, empathy can lead to misinterpretations and anthropomorphic assumptions.

As our understanding of the emotional and physiological bonds between humans and their pets increases, we are reminded that wellbeing is not isolated—it is shared, shaped, and sustained through interaction.

Rethinking responsibility: dog owners experiencing homelessness

Professor Andrew Gardiner[1]
[1]University of Edinburgh

Background: Around one in ten to one in twenty people experiencing homelessness in Great Britain seek dog-friendly accommodation. Dogs belonging to people experiencing homelessness are generally happy and healthy, but the owners are often deemed 'not responsible'. It would be unlikely that any homeless person could obtain a dog from a shelter, for example. Erasure of a homeless person's existing affection and relationship with a dog, via exclusionary rules and regulations, is discriminatory; prohibition of acquisition of a new dog similarly so. The benefits of companion animal ownership are denied and marginalised people get excluded more.

Methods: Interpretative phenomenological analysis (IPA) was used to survey both service providers and people experiencing homelessness at a well-established (15 years) veterinary outreach clinic for homeless and vulnerably-housed animal owners in Edinburgh. The topic of 'joint provision of animal and human healthcare' was used as a means of exploring relevant issues through a One Health lens.

Findings: The study raised questions for inclusive veterinary practice. There is a need for an empathetic approach to veterinary services 'at the periphery'. Service learning could allow student veterinarians to underźstand the value and depth of the human-animal bond and see first-hand how animal and human health and well-being are linked for some of the most under-served people in society. Underlying assumptions of 'responsible pet ownership' need to be addressed and this often-used trope critiqued from the perspectives of discrimination and animal agency. Further qualitative research is required.

The effect of consultation modality on dog owners' experiences of a post-adoption behaviour support service

Ms Hannah Dempsey[1], Ms Kassandra Giragosian[1], Dr Naomi Harvey[1], Dr Ben Cooper[1], Dr Jane Murray[1], Dr Rachel Casey[1], Dr Sara Owczarczak-Garstecka[1]
[1] Dogs Trust

Many clinicians now offer behaviour consultations virtually. This study aimed to measure the effect of consultation modality (in-person vs Zoom) on owner experience with a post-adoption behaviour-support service.

Participants struggling with their dogs' unwanted behaviours were randomly allocated to an in-person or Zoom consultation with a behaviourist. Survey responses were collected four-days (Survey 1; n=221), three-months (Survey 2; n=177) and six-months (Survey 3, n=160) after the consultation. A zero-inflated Poisson (ZIP) or negative binomial (ZINB) generalised linear model were fitted to explore the effect of modality on satisfaction scores (recorded as 0-10, with 10 being positive). These scores were reversed to improve model fit. A multilevel ZIP model was also constructed to explore whether modality influenced changes in scores over time.

Both modalities scored very highly though variability increased over time. The medians (IQR) for each survey were: Survey 1 in-person=10 (0), Zoom=10 (0); Survey 2 in-person=10 (2), Zoom=9.5 (2.25); and Survey 3 in-person=9 (2.75), Zoom=9 (3). The count component of the ZIP was significant for Survey 1, with Zoom consultations rated 0.89 points lower (95% CI: -1.87, -0.02) than in-person (n=208, p=0.048). No significant difference in satisfaction scores between modalities were found for Survey 2 (n=161) or Survey 3 (n=150). The count component of the multilevel ZIP (n=100) revealed scores decreased significantly over time, however there was no interaction with consultation type.

These results suggest that although modality seems to affect immediate overall satisfaction slightly, it does not influence the rate of change in satisfaction scores over time.

DAY 1
11:30

Auditorium

AN INTERDISCIPLINARY APPROACH
TO **BEHAVIOURAL MEDICINE,**
ANIMAL WELFARE, ETHICS AND LAW

CANCELLED

Implementation of an online tool to improve practising veterinarians' and veterinary nurses' resilience

Doctor Angéline Kirschten[2], Professor Denise Remy[1]
[1] Vetagro Sup Veterinary Campus, [2] Entrechats Feline Veterinary Clinic

Numerous studies worldwide have shown that practising veterinarians and veterinary nurses endure significant stress and suffer from high psychological distress. Therefore, supporting them in coping with these issues is crucial, as it inevitably impacts their performance and thus the quality of animal care.

This study is grounded on a previous piece of mixed-methods research carried out in France by the authors which enquired about veterinarians' and nurses' resilience and provided results about factors of resilience. This previous study was very recently submitted to the Veterinary Record.

Based on these results, the authors are now developing an application tool for veterinarians and nurses that aims to enhance their resilience. The outline of the programme and its rationale will be presented as well as examples. The methodology planned to test the user-friendliness, and the efficacy of the application tool will also be presented.

Many studies showed that increasing resilience leads to better wellbeing and that wellbeing at work in turn spurs motivation and salary workers' loyalty, both being important performance factors. Nurturing resilience is therefore an opportunity to maximise care for animals and their owners and increase customer satisfaction.

Creating a multidisciplinary expertise centre for bite incidents in Flanders, Belgium

dr. Rian Lensen[1], dr. Christine Halsberghe, Ellen Van Krunkelsven[2], Gaëlla van Walraven[1], Liesl Decock, dr. Claudia Vinke[3], prof. dr. Jimmy Saunders[1], prof. dr. Anouck Haverbeke[1]
[1] Ghent University, [2] Federal Police - Canine Unit, [3] Utrecht University

Dog bite incidents are a current, societal issue in Belgium. No legal framework currently exists for performing risk analyses for bite incidents, which means that municipalities often lack the technical knowledge to make informed decisions concerning the dog, its owner and society. However, a weighed assessment of multiple factors is needed to prevent further incidents and give well-considered advice in the interest of animal welfare. Therefore, the "Veterinary Expertise Centre for Risk Analyses" (VECRA) was created at Ghent University.

A multidisciplinary approach was adopted. Six animal professionals with different educational backgrounds (veterinary medicine, biology, psychology) collaborated to create objective, science-based protocols for risk analyses of dog bites. Input was asked from stakeholders in the field, including municipal and police representatives. Also, a pool of external experts was assembled to consult when needed: lawyer, human & veterinarian pathologist, spokesperson. Furthermore, the well-established protocol of Utrecht University (implemented, and further developed, since 2009) served as a guideline for creating a professional procedure.

The different weigh offs for creating the expertise centre are presented, including team functioning, safety measures, data collection, and promotion. VECRA currently focuses on dog bites but will continue to develop and include other animal species as needed. Also, it provides opportunities for educating students and informing professionals in the field about the complexities of such cases.

By sharing current process, we hope to launch open discussions on procedures in different countries, so that together we can identify best practices for performing professional risk analyses.

ORAL

DAY 1
12:00

Auditorium

AN INTERDISCIPLINARY APPROACH TO **BEHAVIOURAL MEDICINE, ANIMAL WELFARE, ETHICS AND LAW**

The LINK Between Animal Abuse and Social Risk: Five Case Studies

Dr Chiara Caslini[1], Dr. Francesca Sorcinelli[2], Dr Antonio Sorice[1], Dr. Annalisa Previti[3], Prof. Annamaria Passantino[3], Prof. Susi Pelotti[4], Prof. Angelo Peli[5]
[1] Veterinary Department, ATS (Agenzia di Tutela della Salute) of Bergamo, [2] Associazione LINK-Italia, [3] Department of Veterinary Sciences, University of Messina, [4] Department of Medical and Surgical Sciences, Unit of Legal Medicine, University of Bologna, [5] Department for Life Quality Studies, University of Bologna

Background and Objective(s): The term "LINK" denotes the established correlation between animal maltreatment and/or killing, interpersonal violence, and antisocial or criminal behaviours. The aim of this report is to describe and analyse the different ways animal abuse can manifest itself associated with antisocial or criminal behaviours, by presenting five cases where animals have suffered as a result of acts of physical cruelty or neglect by humans.

Data and Methods: Here are five case studies emblematic of the link phenomenon, that occurred in the province of Bergamo (Italy), from 2014 to 2024. The cases highlight the following manifestations of animal abuse and their correlation with social risk factors: (1) intentional animal cruelty, with fatal outcomes and a diagnosis of antisocial personality disorder ("The Killer of Cats"); (2) pathological animal hoarding and neglect ("The Dog Accumulator"); (3) severe animal neglect in an agricultural setting, accompanied by a history of interpersonal violence ("The Violent Breeder"); (4) animal neglect in a farming environmental linked to social isolation ("The Abandoned Breeder"); and (5) severe domestic animal neglect with potential links to human family members' safety ("The Negligent Owner").

Results: The cases offer empirical evidence that clearly underscores the co-occurrence of animal abuse, social danger, and individual or familial distress.

Conclusions: The findings emphasize the value of the collaboration of veterinary public services with law enforcement and with social services in recognizing animal abuse not only as a crime against sentient beings but also as a potential indicator of heightened risks to human safety.

PLENARY 2

DAY 1
14:00

Auditorium

What we can learn from bees?

Olli Loukola
University of Turku

Bumblebees (Bombus spp.) have become a valuable model for exploring animal cognition. Despite their small brains, they display surprising behavioural flexibility, raising important questions about how intelligence evolves.

In this plenary, I will outline my research on bumblebee cognition, with a focus on what kinds of problems bees are capable of solving and the mechanisms that may underlie these abilities. For example, bees can learn through observation, learn to cooperate, and solve tasks that involve moving objects in ways resembling tool use. Such findings suggest that complex behaviour can arise from relatively simple systems.

I will also briefly review current knowledge on two topics of growing relevance for animal welfare: whether bumblebees are capable of experiencing pain, and whether they show play-like behaviour.

Although interpretations remain debated, these studies encourage us to reconsider how we evaluate the mental lives of insects.

This talk will connect cognitive research on bees with broader questions in behavioural medicine and welfare, illustrating what these insects can reveal about cognition, evolution, and the ethical dimensions of studying animals.

Exploring horse owner experience of problem behaviour: why is this happening? (part I)

Dr Tamzin Furtado[1], Professor Elizabeth Perkins[1], Dr Gemma Pearson[2,3], Professor Cathy McGowan[1], Professor Carri Westgarth[1], Dr Shona Bloodworth[1], Professor Gina Pinchbeck[1]
[1] University Of Liverpool, [2] Royal (Dick) School of Veterinary Studies, University of Edinburgh, [3] Horse Trust

Background: Problematic behaviours (PBs) such as bucking, biting, and aggression are relatively common occurrences, representing potential indications of compromised welfare. However, research highlights that owners can be poor at identifying and responding to early signs of equine stress or pain. This study explores horse owner experience of PBs, with the aim of ultimately assisting owners in identifying issues earlier.

Data and methods: Data included 17 threads around PB on UK-based discussion fora; 22 semi-structured interviews with equestrians; 31 clinical history recordings taken by a veterinary behaviourist, and 10 days of observation at UK equestrian events. Data were analysed using grounded theory with a critical realist epistemology.

Results: When experiencing problem behaviours, individuals entered a dynamic process of sense-making aimed at exploring and resolving the behaviour. They could simultaneously hold conflicting explanations for behaviour such as "naughtiness", "possible pain", and "training issue". Sense-making was iterative, with accumulated knowledge leading to new explanations and solutions. The analogy of a "Rubik's cube" illustrates how owners' piece together information in different ways over time, adjusting their understanding in a dynamic and unstructured process of sense-making. Importantly, the process was often highly emotionally charged, with equestrians feeling fear, uncertainty, shame, embarrassment and stress.

Conclusions: This study highlights the complexity and emotionality of human experience during PBs equine behaviour: fear and stress are likely to inhibit owners' ability to make sense of information in an evidence-based way or seek help appropriately. This is important in designing interventions aimed at improving horse-human interactions.

Exploring horse owner experience of problem behaviour: where do I go for help? (part II)

Dr Gemma Pearson[1,2], Prof Elizabeth Perkins[4], Prof Cathy McGowan[3], Dr Carri Westgarth[3], Dr Shona Bloodworth[3], Prof Gina Pinchbeck[3], Dr Tamzin Furtado[3]
[1] The Horse Trust, Buckinghamshire, [2] Royal (Dick) School of Veterinary Studies, University of Edinburgh,
[3] Institute of Infection, Veterinary, and Ecological Sciences, University of Liverpool,
[4] Institute for Population Health, University of Liverpool

Background: Problematic behaviours (PB) in horses are common [1]. As well as the obvious safety considerations, riding a horse is 20x more likely to result in a serious accident than riding a motorbike per hour [2], the breakdown in horse-human relationship may compromise welfare and result in relinquishment or euthanasia. This project aimed to understand how owners navigate PB and identify potential interventions to improve success.

Data and methods: Data included 17 threads around PB on UK-based discussion fora; 22 semi-structured interviews with equestrians; 31 clinical history recordings taken by a veterinary behaviourist, and 10 days of observation at UK equestrian events. Data were analysed using grounded theory with a critical realist epistemology.

Results: Owners could simultaneously hold several explanations for the PB which were updated as they searched for new knowledge: for vets/behaviourists this resulted in a complex model of presenting complaint. Owners sought veterinary assistance to "check for pain" as an explanation for the behaviour, but often reported feeling unsupported by first opinion vets, and not knowing what other sorts of advice to seek. This led to an unstructured approach to seeking help from multiple sources. Alongside help-seeking, participants relied on a combination of trial and error, knowledge from existing toolboxes and consideration of new approaches.

Conclusions: Vets and behaviourists would benefit from understanding human behaviour under stress. Successful outcomes were more likely when owners had emotional capacity to deal with the PB, were able to sense-make about the PB and had potential solutions to resolve the PB.

Factors associated with human approach assessment outcomes in horses

MSc Essi Wallenius[1], Dr. Kati Tuomola[2], Prof. Anna Valros[3]
[1] University of Helsinki, [2] University of Helsinki, [3] University of Helsinki

Reliable and comprehensive animal welfare assessment protocols require scientifically validated measurements. Among the recognized factors affecting equine welfare, the human-animal relationship has been identified as an important element. This study explored the associations between voluntary and forced human approach assessments, management-related factors and use-related pain indicators in horses, including mild and severe mouth injuries and back pain.

The welfare of 188 horses over 2 years of age was evaluated using a comprehensive welfare assessment protocol across 22 Finnish stable settings.

During the human approach assessments, 57.5% of horses voluntarily approached within 30 seconds (VAA_POS), 28.7% did not approach voluntarily but showed a positive response to forced human approach (FAA_POS), and 13.8% exhibited aggression. Horses housed and turned out alone were significantly more likely to score VAA_POS (74.2%) than horses housed alone but turned out in groups (55.2%) or horses in group housing (43.9%) (Fisher's exact test p = 0.02 and 0.002, respectively). Furthermore, 71.4% of horses in the "suboptimal" roughage provision category scored VAA_POS, compared to 61.1% in the "medium" and 46.2 % in the "good" categories (Fisher's exact test p=0.003). No significant association was identified between human approach assessments and use-related pain indicators. However, a trend was observed suggesting that horses with higher number of use-related pain observations were more likely to score VAA_POS (Cochran-Armitage test Z=1.9, p = 0.05).

These findings suggest that approach assessment outcome may be influenced by various factors other than the quality of human-animal bond. Thus, the validation of such assessments requires further research.

Understanding the Impact of Relationship Factors on Horses' Responses to Humans

Phd Océane Liehrmann[1]
[1] University of Tuku

Since their domestication 4000 years ago, horses have evolved from working animals to athletes and companions in leisure riding. Today, they spend substantial time in close contact with humans, impacting their welfare, physiology, and behavior. While some horses form long-term bonds with caregivers, many face frequent ownership changes, requiring them to establish new relationships. Understanding how relationship factors influence horse-human interactions is essential, given the importance of communication in their management.

We investigated how handler familiarity, relationship duration, number of handler and past ownership as well as living conditions affect horse-human interactions.
1: In a novelty exposure test (N=76), horses were led over a novel surface by either a familiar or unfamiliar handler.
2: In a communication task (N=57), horses completed a 10-trial object-choice test in which a familiar or unfamiliar human pointed to a target.

Data were analyzed using GLMM, CLMM, and survival analyses. Longer relationships, fewer ownership changes and handlers significantly reduced reluctance toward novelty (estimate ± SE = −0.15 ± 0.07, P=0.033; estimate ± SE = −1.09 ± 0.49, P=0.028), suggesting increased trust with consistent human contact. Horses kept in herds and pastures responded more accurately to human cues than those housed alone in paddocks (estimate ± SE = −0.91 ± 0.08, P=0.004), indicating that enriched environments support social learning and cognitive development.

These findings highlight the importance of stable human relationships and appropriate living conditions in promoting cooperation and responsiveness to human communication in horses.

Effects of trazodone or gabapentin on physiological and behavioural signs of stress during travel

Dr. Gary Landsberg[1,2], Jessica Mendes[3], Whitney Kosziwka[3], Andrew King[3], Christina de Rivera[3]
[1] Veterinary Behavior and Scientific Consultant, [2] CanCog Technologies, [3] Transpharmation Ltd

This study assessed the effects of trazodone or gabapentin on physiological and behavioural signs of stress in laboratory Beagles during short vehicular travel.

Thirty-six dogs demonstrating significantly elevated serum cortisol in response to a 10-minute travel test were selected. Subjects were allocated to 3 groups balanced by baseline cortisol, and randomly assigned in a blinded, parallel group design to 10 mg/kg trazodone, 30 mg/kg gabapentin, or placebo, administered 2 hours before travel. Both at baseline and under treatment, measures included behavioural assessments, heart rate (HR), and pre/post-test serum cortisol. Treatment phase data were analysed using descriptive and inferential statistics, as appropriate.

Trazodone significantly reduced post-travel serum cortisol and behavioural stress indicators including global scores and lip-licking frequency, and scores compared to gabapentin and control ($p \leq 0.02$).

Significant group differences were found in the number of dogs with decreased global scores ($p=0.014$), lip-licking frequency ($p=0.017$), and urination events (OR=0.03; 95%CI:<0.001-0.46), with trazodone decreasing greater than gabapentin and control. With trazodone, standing durations were significantly lower compared to gabapentin ($p=0.032$) and near significance compared to control ($p=0.087$), indicative of reduced vigilance. During the pre-travel phase, HR was significantly higher in the trazodone group compared to gabapentin and control ($p \leq 0.004$), and significantly higher with trazodone during travel compared to gabapentin ($p=0.019$) and near significance compared to control ($p=0.054$).

In conclusion, trazodone significantly reduced both physiologic and behavioural measures of stress compared to gabapentin and control, supporting the use of trazodone for treatment of situational stress in dogs. There were no measurable improvements with gabapentin.

Long-term use of tasipimidine to treat separation anxiety in dogs: A 8-week clinical study

Mira Korpivaara[1], DVM Terttu Lamminen[1], Tarmo Laine[1], DVM, PhD, ECAWBM-BM Clara Palestrini[2], MA, VMD, PhD, DACVB Karen Overall[3]
[1] Animal Health Research & Development, Orion Corporation, [2] Department of Veterinary Medicine and Animal Science, University of Milan, [3] Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown

224 dogs diagnosed with separation anxiety were enrolled in a randomized, double-blind, placebo-controlled study to evaluate long-term safety and efficacy of tasipimidine. Tasipimidine 30 µg/kg (n=114) or placebo (n=110) oral solution was administered 1 hour prior to owner departure for 8 weeks on average 3 times per week in both groups. If needed, a rescue treatment, clomipramine (1-2 mg/kg) combined with behaviour modification could be introduced. Treatment effect was assessed using video recordings. Adverse events (AE) were recorded throughout the study and dog owners were able to discontinue the study at any time.

The owner-assessed treatment effect at week 8 favoured tasipimidine (odds ratio [OR] 3.56, 95% CI 1.91, 6.64; p = 0.0004) over placebo. 64 (59.8%) dogs in the placebo group and 15 (14.2%) dogs in the tasipimidine group required rescue treatment. In most cases, rescue criteria were met by the second week. Additionally,14 dogs in the placebo group discontinued the study due to lack of efficacy.

Dogs treated with tasipimidine consistently exhibited lower overall weekly median anxiety scores (estimate -2.17; 95% CI -2.95, -1.39; p < 0.0001). Tasipimidine reduced specific signs of anxiety, including panting and vocalization (p<0.001) and destructive/rearranging behaviour and restlessness/pacing (p<0.05), respectively. The most common AE was emesis (29 tasipimidine dogs (25.4%); 11 placebo dogs (10.1%).

In conclusion, use of tasipimidine in the long-term was shown to be safe and effective treatment for separation anxiety in dogs.

Effect of gabapentin on a desensitization-counterconditioning protocol for cats with healthcare phobias

Lua Raucourt[1], Sylvia Masson[2]
[1] Ecole nationale vétérinaire de Nantes, Oniris, [2] Clinique vétérinaire de la Tivollière, Voreppe

This study evaluated the impact of gabapentin on learning speed and effectiveness in a desensitization-counterconditioning (DS-CC) protocol in cats with healthcare phobias. The hypothesis was that gabapentin, beyond its anxiolytic effects (Kruszka et al., 2021; Pankratz et al., 2018; Salamon et al., 2023; Van Haaften et al., 2017), would enhance learning and that it is not just a sedative but an anxiolytic treatment that facilitates behavioural therapy.

Forty-two cats participated in a double-blind crossover trial. Each received either gabapentin (100 mg) or a placebo two hours before ten 10-minute training sessions over 10 days. Training involved an eight-steps protocol designed to desensitize cats to nail trimming, paired with positive reinforcement. Progress was assessed based on the number of steps completed.

A linear mixed-effects regression model showed that cats receiving gabapentin progressed significantly faster than those receiving placebo (Wilcoxon signed-rank test, p-value < 0.0001). The effect size was high (d = 0.87), with no order effect or other significant confounders.

Gabapentin not only facilitates handling but also enhances learning in DS-CC protocols for cats with healthcare phobias. These findings highlight its potential to address behavioural challenges and improve animal welfare in clinical settings. Further studies should explore its integration into other therapeutic regimens. Gabapentin is not merely a chemical restraint but a treatment enabling effective behavioural therapy. Its routine use in DS-CC protocols should be considered essential for feline welfare during veterinary consultations.

Veterinarians' perceptions of medication safety risks and defences in sow farms

DVM PhD Kati Tuomola[1], Doctoral researcher Kristina Ahlqvist[1], Professor Mari Heinonen[1],
Clinical instructor Kirsi-Marja Swan[1], Professor Anna Valros[1], Associate professor Anna-Riia Holmström[2]
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Medication safety is integral to patient safety and animal welfare. However, research on medication safety in veterinary medicine, especially concerning farm animals, is limited. This study explored Finnish veterinarians' perceptions of medication safety risks and defenses [i.e. protective mechanisms (safeguards) supporting safe medicine use] in sow farms.

Semi-structured individual interviews were conducted with 15 veterinarians responsible for veterinary advice services to pig producers. Thematic analysis of the transcribed interviews was performed using ATLAS.ti software.

The interviews revealed several key risks: veterinarians' overreliance on caretakers' expertise and insufficient knowledge of farm practices; insufficient veterinary guidance on disease diagnostics and medical care; challenges in communication and information barriers; challenges in medicine logistics and availability; unhygienic and inappropriate medication practices; caretakers' insufficient clinical examination, diagnostics and monitoring of sick sows; pain and fear associated with injections and inadequate pain management; challenging farm conditions compromising sow welfare, staff retention, and veterinary work.

The identified defenses included: veterinary awareness and oversight of medication practices, and sow welfare; simplified medical care with clear guidelines for diagnosis, treatment and medication; effective communication and collaboration between veterinarians and caretakers; reliable medicine logistics; hygienic and appropriate medication practices; adequate recognition, examination, diagnostics, and daily monitoring of sick sows; pain management and stress reduction in sow treatment; sufficient farm resources; prudent medicine use while providing adequate treatment.

Identifying these key medication safety risks and defenses can inform policymakers and support the development of targeted protocols that promote animal welfare and enhance responsible and safer medication use in pig farms.

Is there scope to refine decontamination to improve patient welfare? A survey of Australian Veterinarians.

Dr Anne Quain1, Ms Jessica Tsitonakis[1], Dr Evelyn Hall[1]
[1] Sydney School of Veterinary Science

Veterinarians commonly induce vomiting when animals ingest a potential toxicant or foreign body. To refine this aversive experience, we sought first to describe the agents used by Australian veterinarians inducing emesis in dogs and cats, adverse effects, and anti-emetic administration.

An anonymous, online, survey incorporating closed and open-ended questions was distributed to Australian veterinarians via e-newsletters and social media between April and June 2024. From 317 valid responses, 316 respondents induced emesis in a dog (99.7%) and 128 (40.4%) in a cat in the previous 12 months.

Most frequently administered were subcutaneous injection of apomorphine (n = 310/316, 98.1%) in dogs and intramuscular injection of dexmedetomidine or medetomidine (n = 79/128, 61.7%) in cats. Respondents reported significantly reduced success (n = 74/128, 57.8%) inducing emesis in cats vs dogs (n = 312/316, 98.7%) (p=<0.001). The subconjunctival route of apomorphine was found to significantly increase the risk of adverse effects in dogs, compared to the subcutaneous route (p = 0.03). Antiemetics were more frequently administered to dogs than cats. Univariable logistical regression analysis revealed that veterinarians with fewer than 5 years experienced were significantly more likely to use an antiemetic drug when inducing vomiting in dogs (p = 0.05) compared to veterinarians with 31 or more years of experience. Concerningly, a number of respondents volunteered that they “spin” cats to promote vomiting.

There is scope to refine common practices such as inducing emesis to improve the welfare of veterinary patients. There is a strong need for reliable emesis protocols for cats.

Advisors' perspectives on robotic milking in cow-calf contact systems

Phd Sabine Ferneborg[1], Associate Professor Emma Ternman[2], PhD Stine Grønmo Kischel[3]
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[3] TINE SA, R&D Department, Farm Advisory services

This pilot investigated specific problems experienced by cow-calf contact (CCC) farmers using Lely robots in Norway. Fifteen advisors with special competence in Lely robotic milking were invited to a workshop consisting of a short survey and an open discussion.

A majority (13/15) of the advisors had experience from working with farms combining robotic milking with CCC. The primary issues reported by the advisors were Failed milkings (11/15) and Low milk yield (11/15). Udder health issues were reported by six advisors, while Milk ejection problems, Frequent alarms and Low milking frequencies each were reported by five advisors. Five advisors experienced that type of CCC system (for example daily duration of contact) and routines around milking had the most influence on milking related issues.

Suggestions to address the main issues of failed milkings and low milk yield in the open discussion, were supervised milkings and manual calculation of concentrate ration. Efficient supervision of milkings can be achieved by setting milking allowance to twice a day within a set time window, when there is staff in the barn. Automatic concentrate allowances, based on recorded milk yields, are incorrect as recorded milk yield does not reflect actual milk yield, and the advisors explicitly stated that it is very important to maintain a high concentrate supplementation, especially around separation of cow and calf.

The advisors stated that CCC farmers do not necessarily perceive the issues around milking as very important, and that CCC farmers perhaps are tolerant to these issues to enable CCC farming.

Norwegian dairy farmers' trust in veterinarians and their perception of the National Animal Welfare Programme

Dr Conor Barry[1], Dr Karianne Muri[2], Dr Marit Nesje[1], Dr Camilla Kielland[1]
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[2] Department for Animal Health, Animal Welfare and Food Safety, Norwegian Veterinary Institute

Trust is a key determinant of dairy farmers' receptivity to animal welfare advice and their willingness to enact change. The National Animal Welfare Programme (NAWP), structured around advisory visits by veterinarians, began in 2022 with the ambition of documenting, safeguarding, and improving animal welfare in Norwegian cattle herds. We aimed to investigate whether Norwegian dairy farmers' perception of the NAWP varied depending on their trust in veterinarians as sources of information about animal welfare.

A questionnaire was distributed among Norwegian dairy farmers in 2023. Respondents (n=345) rated how motivated or demotivated they were to make changes to improve animal welfare by the NAWP on a Likert scale from 1 (highly motivated) to 7 (highly demotivated). Respondents also rated their trust in veterinarians as sources of information about animal welfare from 1 (high degree of trust) to 7 (no trust). Perception of the NAWP was the dependent variable in a univariable ordinal logistic regression model with an independent variable for degree of trust in veterinarians.

The probability of a respondent being demotivated rather than motivated by the NAWP increased significantly ($P < 0.05$) at each level as trust in veterinarians decreased from a high degree of trust to no trust.

Trust in veterinarians as sources of information about animal welfare was significantly associated with the extent to which Norwegian dairy farmers are motivated or demotivated to make changes to improve animal welfare by the NAWP. Dairy farmers' trust in their veterinarians may be a determinant of the success of the NAWP.

Farmer's perspectives on rearing dairy calves with their dams in North America

Dr Emeline Nogues[1,2], Marine Durrenwachter[2], Rowan Yuan[2], Dr Christopher Holtkamp[3], Dr Dave L. Renaud[4], Dr Joao H.C. Costa[2], Dr Kate Creutzinger[2]
[1] Aarhus University, [2] University of Vermont, [3] University of Wisconsin-River Falls, [4] University of Guelph

This study explored dairy farmers' perspectives on dam-calf contact from birth to weaning, a practice gaining traction in part because it addresses public concerns about the ethics of early calf separation.

Eighteen farmers from 12 dairy farms practicing dam-calf contact (USA=10, Canada=2) were interviewed using a semi-structured guide to explore their reasons for adoption, perceived benefits, challenges, and views on its potential role in the future of the dairy industry.

Most interviewees were (co-)owners of the farm (n=14), between 41 and 60 years old (n=9) and identified as men (n=11). Thematic analysis of the interviews revealed that farmers' perceptions toward dam-calf contact were informed by four key themes: 1) Health and productivity, 2) Behavior and emotions, 3) Farm-level considerations, and 4) Exchanges with the outside world. These early adopters continuously refined their system since implementation, gauging their level of satisfaction in part on calf growth, cow udder health, milk production, and ability to retain desirable genetic traits. Farmers closely monitor animal behavior and affective states, specifically the dam-calf bond and the animals' interactions with the rest of the herd and caretakers. Willingness of the farmers to implement and retain dam-calf contact was also based on personal ethics, job satisfaction, and its effect on labor and finances. Farmers lacked a community of peers but shared about positive exchanges with members of the public. They also reflected on alternative rearing systems and the potential generalizability of this practice.

All viewed dam-calf contact as a positive change and opposed reverting to early separation.

Long-distance Transport of Pregnant Heifers – Stress Responses and Recovery Time

Nina Dam Otten[1], Anne Marie Michelsen[1], Kirstin Dahl-Pedersen[2]
[1] University Of Copenhagen, Department of Animal and Veterinary Sciences,
[2] University Of Copenhagen, Department of Veterinary Clinical Sciences

It is widely accepted that transport is a stressful experience, and due to lack of scientific evidence, the present pilot study sought to investigate the effects of long-distance transports on the welfare of pregnant heifers by developing a feasible assessment protocol.

In an experimental study, 34 Holstein heifers in early pregnancy were subjected to a transport situation mimicking a commercial long-distance export (~100 hours) in accordance with the EU Transport Regulation 1/2005 in terms of driving and resting periods, and stocking density. The study protocol included clinical examinations, saliva and blood sampling before transport, after unloading for each rest between stages and in the following days after the last unloading. Ambient temperature was measured using data loggers inside the vehicle. Behavioral observations were performed based on video recordings during transport and during resting periods (reported elsewhere).

Clinical, hematological, and saliva results showed a marked increase (85-95 % of animals affected) in dehydration and gastro-intestinal imbalances upon the prolonged periods of feed and withdrawal during transport. Although heifers were supplied with ad libitum access to feed and water during the resting periods, heifers were not able to fully recuperate their clinical and physiological levels. Heifers exhibiting signs of visceral pain increased from 20 % to 30 % as transport progressed. Effects were still observed three days after the last transport. Temperatures ranged from 5-24.6 degrees Celsius during transports.

Hence, restricted access to feed and water proved to be the most prominent welfare challenge during long-distance transport in this experimental study.

Ante mortem welfare and the pathophysiology of slaughter and stunning of equids

Dr Kate Fletcher[1], Dr Georgina Limon[2], Dr Andrew Grist[3], Dr Barbara Padalino[4], Dr Troy Gibson[1]
[1] Royal Veterinary College, [2] Pirbright Institute, [3] University of Bristol, [4] University of Bologna

An estimated 7.5 million equids are slaughtered annually worldwide for human consumption; however limited information exists on factors influencing their welfare. This project investigated equid welfare both ante-mortem and at slaughter.

A systematic review identified prominent research gaps, including: (a) pre-slaughter handling; (b) factors affecting penetrative captive bolt gun (PCB) stunning; and (c) donkey slaughter in low to middle income countries. Circumstances affecting pre-slaughter welfare for horses in the United Kingdom (n=256) were assessed through level of force used, slips/falls, and agonistic behaviour. Stress was mitigated by the presence of conspecifics, particularly for unhandled animals.
Welfare at slaughter was examined for horses slaughtered by PCB in Italy (n=62) and Mexico (n=100). In Italy, inade-quate flooring and forceful handling were associated with horses slipping ante-mortem ($P = 0.014$ and $P = 0.04$ re-spectively). Damage to the thalamus and brainstem, assessed through gross brain pathology, was crucial to achieving irrecoverable unconsciousness, assessed through behavioural/brainstem reflexes, at both locations. In Ghana, 134 donkeys were assessed. Those dispatched with blunt force trauma were five times more likely to be in-effectively concussed and took significantly longer to lose consciousness with a wooden pole, compared to a metal hammer ($P < 0.001$). Donkeys slaughtered without stunning took a mean time of 96.5 s (SD 4.3, range 26–164 s) to lose consciousness.

This is the first body of work exploring equid welfare at slaughter in multiple countries and contexts. In conclusion, stunning effectiveness can be improved through reducing ante-mortem stress and targeting the thalamus and brain-stem.

An observational study of rump pusher use in a UK cattle abattoir

Dr Ellie Wigham[1], Ms Megan French[1]
[1] University of Glasgow

In cattle abattoirs the entrance to the stun box can be associated with increased likelihood of baulking, and therefore the increased use of coercion. Attempting to improve cattle movement, some UK abattoirs have introduced mechanical Rump Pushers (RP) prior to the entrance of the stun box. While it is reported anecdotally that RPs reduce use of coercion, including electric goads, there is currently no published data or literature on how RPs are used in commercial cattle slaughter operations.

This observational study at a UK abattoir, which has a RP installed, assessed the level of coercion required to enter the RP, use of the RP, cattle behaviour inside the RP and carcass bruising. The RP was used on 267 of the 815 cattle observed (32.8%) and was more likely to be used on dairy cattle and those which received a higher coercion score when entering the RP. When entering the RP, 57.4% required no or very gentle coercion. The electric goad was used on 4 animals (0.49%). The incidence of slipping (1.8%) and vocalisation (1.6%) inside the rump pusher was low and not directly associated with RP use. However, 66.5% of cattle forcefully contacted the RP entrance gate (gate slam) and time spent in the RP box positively predicted the number of gate slams (IRR = 1.016, $p < 0.001$). The use of the RP was not significantly associated with carcass bruising.

These results are encouraging and the use of mechanical automation within cattle slaughter facilities warrants further investigation.

Taboo subjects and moral blind spots in companion animal ethics

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Why are some common practices with companion animals generally accepted without ethical scrutiny, while others are intensely examined? Like many other subjects, companion animal ethics are constrained by ethical blind spots. In this field, those blind spots reflect the complexity and paradoxes in human/non-human animal relationships.

This presentation intends to begin a peer dialogue into why some practices are largely unquestioned and whether the reason is because those questions veer into taboo subjects. Human psychology tells us that ethical blind spots and taboo subjects can be useful self-protective tools and provide social control, but they can also obscure important truths and lead to unintentionally unethical behaviour.

This session will be structured as a generative discussion to start understanding what ethical blind spots exist and where they come from by asking three questions: 1. What are the roots of norms and cultural contexts surrounding the reproductive control of pets? 2. What is behind the demand for purpose- bred/purebred animals as pets? And how does this conflict with cultural value placed on rescue? 3. How did we decide that harms inflicted on animals as a result of common training practices and in the delivery of veterinary care are less important than our intentions in those practices? These are broad and open-ended questions, but they are ones that most animal professionals have opinions and values regarding. Approaching them without judgment and a “beginner’s mind” might illuminate cross cultural differences and unexpected links to taboos.

Dimensions of dual loyalty in animal experimentation: a qualitative study with Swiss researchers

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Background and objectives: The principles of 3R (Replacement, Reduction, Refinement) serve as a cornerstone for the current debates on the use of animals in research, aiming to minimise harms while advancing scientific discovery. In the EU and Switzerland, researchers are legally bound to comply with these principles and to include them into their research practice. Although numerous guidelines on the practical implementation of the 3Rs in research exist, only few studies explore how researchers perceive these principles in relation to their research.

Data and methods: We conducted 35 semi-structured interviews with Swiss researchers (16 doing animal experimentation and 19 researching on 3R methods or non-animal methods) and analysed them using reflexive thematic analysis.

Results: One key preliminary result is that researchers face unique challenges in implementing the 3Rs due to their dual loyalty – to both the pursuit of sound scientific knowledge and ethical research practices. Based on our results, this dual loyalty took on four dimensions: (1) ethico-epistemic conflicts in limiting animal use versus making scientific progress; (2) emotional conflicts between considering or not the interests of animals; (3) systemic conflicts in being more or less conservative to remain competitive; (4) societal conflicts in being more or less transparent with the public.

Conclusion: Our findings will contribute to a deeper understanding of the ethical and practical difficulties in the implementation of the 3Rs by researchers, offering new perspectives for policymakers, funding bodies, and research institutions to support scientific innovation while meeting high research ethics standards.

PLENARY 3

DAY 2
09:15

Auditorium

A Look Inside the Lives of Cats: The science behind cat-human and cat-cat interactions

Kristyn Vitale
Unity Environmental University

Despite their reputation for being socially aloof, domestic cats lead rich and varied social lives with both humans and other cats. This talk will focus on the science behind cat-cat and cat-human interactions to gain insight into the social world of cats.

The talk will begin with an overview of the domestic cat's social system and the factors that influence cat social living and intraspecific interactions. The social behavior of free-roaming cats will be discussed to highlight the domestic cat's flexible nature as a social generalist. Next, the science of cat-human interactions will be explored through an investigation of scientific research in this field. This review will discuss the importance of lifetime experiences in shaping cat behavior toward humans and explore existing literature on cats' abilities to respond to human behavior, such as their capacity to recognize words, moods, emotions, and gestures.

The literature review will also focus on the role of human presence in cat welfare and explore studies on cat sociability toward humans, cat preference for human social attention, and cat-human attachment bonds. Formation of attachment bonds to humans may be a modification of the natural offspring-parent bond seen between kittens and their mothers. Therefore, similarities and differences between intra and interspecific interactions will also be considered, with a focus on the function of attachment bonds.

The talk will end with a reflection of how to apply this information to promote the welfare of cats and encourage healthy relationships between cats and humans.

Low-Stress Cat Handling Techniques for Veterinary Professionals: Case Series

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Stress-related challenges during veterinary visits are well-documented in feline patients. These challenges stem not only from the disruption of cats' normal routines but also from difficulties during handling, exposure to unfamiliar stimuli and people, and the added strain of underlying illness. Stress and anxiety experienced in these situations can alter physiological parameters, affect blood test results, increase susceptibility to infectious diseases, and compromise a thorough physical examination and hospitalization outcomes. Conversely, low-stress handling techniques may help counteract these effects, improving the experience for the cat, its caregiver, and veterinary professionals. Ensuring an environment that considers stress and addresses the emotional well-being of cats can enhance overall health outcomes. Moreover, lower stress levels, as perceived by caregivers, may improve compliance and create a more positive clinical environment.
In recent years, research on feline low-stress handling techniques has led to the development of international guidelines, designed to enhance patient welfare and clinical outcomes.

This case series explores the application of these techniques in a tertiary care veterinary hospital across different clinical scenarios. The findings provide veterinary professionals with practical strategies to reduce feline stress, enhance patient cooperation, and improve clinical outcomes, ultimately fostering a more positive veterinary experience, with beneficial long-term effects.

Interpretation of Cats' Emotions by Animal Health Professionals and Cat Caregivers

Dr Joana Pereira[1], Joana Giesta[2], Prof Yasemin Salgirli Demirbas[3,4], Goncalo Da Graca Pereira[1]
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Limited research on the interpretation of cat emotions suggests that protective emotions are more difficult for humans to identify, posing a risk to positive human-cat interaction and cat well-being. This study aimed to investigate the ability of animal health professionals and cat caregivers to interpret cat emotions from images.

An online survey with 31 questions was developed using Google Forms. The survey included 5 questions specifically for cat caregivers, 19 questions with images for emotion identification, and 6 demographic questions. The questionnaire was available between April 1 and May 31, 2023. After applying exclusion criteria to the 990 responses received, 883 valid surveys were included in the final analysis.

When detecting cat emotions, respondents achieved the highest accuracy for play (97.1%) and the lowest for frustration (35.6%). Respondents who have lived with cats for over five years were significantly more successful at distinguishing cat emotions ($p < 0.05$). Females performed better than males in recognizing pain from images (Image 13, $p = 0.013$; Image 16, $p = 0.022$). Interestingly, in one image, cat caregivers demonstrated greater accuracy in recognizing frustration compared to veterinary professionals, except for those who lived with cats ($p=0.018$).

This study demonstrated the difficulty in recognizing cat emotions, particularly protective emotional states such as pain and frustration. Cat care and experience were further identified as essential elements for accurately identifying these emotional responses.

Suckling behaviors in cats: normal or repetitive? A study of environment and development conditions

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Introduction. In case of welfare impairment, repetitive behaviours can arise, such as self-induced alopecia in cats. We aimed at characterizing suckling behaviours (and whether they are repetitive) in weaned cats and exploring their associations with developmental conditions and environmental factors.

Methodology. We studied cats' suckling behaviours through a questionnaire distributed via social media. We explored the characteristics of the cats, their developmental and living conditions, and the characteristics of suckling behaviours when present.

Results. We gathered 1 165 responses. 26% of cats exhibited suckling behaviours, either occasionally or frequently. 93% of them suckled objects (tissues) and/or their owner, 7% suckled themselves. Early weaning was associated with the persistence of suckling in adulthood (median weaning age of four weeks vs. eight weeks, p<0.0001, Mann-Whitney test). The percentage of cats on restricted feeding regimen was higher in "suckling" cats (7.6% vs. 4.0%, ChiSquare, p=0.014). "Suckling" cats were displaying less other repetitive behaviours (e.g pacing, ChiSquare, p=0.013). Most cats suckled when calm, and in the evening. 9% of cats displayed suckling more than three times per day. Comparing cats with frequent (> 3/day) or occasional (≤1-2/day) suckling behaviours, weaning age was not different (p>0.05, Mann-Whitney test), and repetitive behaviours were significantly more frequent for "non-suckling" cats (ChiSquare, p=0.004).

Conclusion. This study is a first step investigating cats' suckling behaviours, and we suggest that this could be a juvenile behaviour for some cats, while other cats could express a repetitive behaviour, associated with poor welfare. Further studies are needed to explore this frequent behaviour.

Ethogram of domestic cat (Felis silvestris catus) intraspecific social behaviour in multicat households

Morgane J.R. Van Belle[1], Dr. Noema Gajdoš Kmecová[2], Prof. Dr. Christel P.H. Moons[1], Prof. Dr. Frank A.M. Tuyttens[1,3], Prof. em. Tiny C.B.M. De Keuster[1], Prof. Dr. Daniel S. Mills[4]
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Inter-feline social tension has a potentially far-reaching welfare impact, for both cats and caregivers, but research into social behaviour in multicat households is very limited. Scientifically valid ethograms are an essential prerequisite for high quality research. Therefore, we aimed to develop an ethogram of the intraspecific social behaviour of adult cats in multicat households.

The development process included (a) selection of behavioural elements relevant for the study of feline social behaviour in multicat households and assessment of consensus across experts (face and content validity), and (b) testing intra- and inter-observer reliability when the ethogram was used for video-based behavioural coding. This process resulted in an ethogram consisting of four behavioural groupings, twenty-three behaviours, and three modifier groups which collectively provide descriptions of feline behaviour during face-to-face interactions.

Results of the item-based reliability analysis between two observers were above the 0.8 acceptance threshold for Krippendorff's alpha. The validation procedure resulted in an illustrated ethogram with supporting video footage, useful for studies on sociality in companion cats, but potentially also for monitoring of social tension in multicat households in (veterinary) behavioural practice.

Risk Factors Related to Behavioral Problems in Ferrets: Preliminary Results

Ángela González Martínez[1], Yanire Arroyo Portugal[2], Óscar Beceiro Hermida[3], María Jesús Sainz Oses[2]
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The popularity of ferrets has increased in recent years, making it one of the most common companion animals today. The main objective of this study is to identify possible risk factors that may be involved in the development of behavioural problems in ferrets.

A questionnaire was developed focusing on the welfare and behavioural problems of pet ferrets in Spain and shared using social media. The data obtained were coded in SPSS syntax. The Mann-Whitney U test and Kruskal-Wallis test were used to find significant differences among the groups studied in terms of sex, reproductive status, age at acquisition, perianal gland removal, and whether the ferret went on walks with their guardians.

Responses were collected for 293 ferrets. Males were found to be more playful (p=0.016), more likely to show urine licking (p=0.01), and urine marking behaviours (p=0.005) compared to females.

Intact ferrets showed more aggression toward family members (p=0.03), strangers (p=0.03), coprophagy (p=0.002), repetitive behaviours (p=0.017), and were more active (p=0.003). Ferrets acquired before 2 months of age were more likely to exhibit repetitive behaviours (p=0.012). Ferrets that went on walks were less aggressive toward unfamiliar ferrets (p=0.037), more excitable (p=0.016), and had higher attachment scores (p<0.001).

This is the first study to explore the risk factors related to the development of behavioural problems in ferrets. Male and intact ferrets show more behaviour problems. Early adoption in ferrets (before 2 months of age) appears to predispose ferrets to repetitive behaviours, a pattern also observed in other species.

A qualitative study of Spanish Greyhounds' abuse

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[1] Vetagro Sup Veterinary Campus

The issue of Spanish Greyhounds' abuse has reached international visibility and around a hundred European associations are now involved, providing financial support or help for adoption. Although these associations promote a lot of data, very little is supported by scientific studies.

Therefore, the authors decided to investigate into the international context of the problem through a qualitative study. Twenty Spanish, French, English and Italian associations were contacted, as well as two Spanish public institutions. Nine semi-open confidential interviews were carried out and verbatim transcribed. Thematic analysis was then conducted.

The results showed a dense Spanish and international network of nonprofit organisations dedicated to this issue. However, discourse varied greatly between respondents, leading to doubts about reported facts and figures. Sanitary, financial and ethical problems came to light. The issue also seemed to receive excessive media coverage. Important disparities among the steps taken by Spanish Autonomous Communities for canine protection were observed, linked to the Spanish political system and local traditions.

In conclusion, Galgo and Podenco dogs' abuse is an extensive problem which involves many stakeholders and different domains, such as veterinary medicine, law, politics and culture. Further studies will be necessary in order to provide reliable data, making it possible to obtain a coherent and complete understanding of the issue.

Increased mean platelet volume in horses displaying behavioural problems

Mr Tomás Casqueiro[1], Dr José Prazeres[1], Dr Gesiane Ribeiro[1,2], Dr Ricardo Agricula[1,3], Dr João Borges[1,4], Ms Inês Rolo[1], Mr Filipe R. Ramos[5,6], Dr Tiago Mendonça[1,2]
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The physiology of behavioural problems in horses is still scarcely known. The increase in mean platelet volume (MPV) associated with symptoms of depression and anxiety has been described in human medicine. This study aimed to investigate MPV and its relationship with behavioural problems in horses.

A total of 32 horses were included and divided in groups as follows: control (12); stereotypies (5); orthopaedics (3); reactivity while getting ready to ride (5); and reactivity while ridden (3). Whole blood was collected from the jugular vein and refrigerated until further analysis. The sample was analysed by IDEXX® ProCyte Dx equipment. Results were compared with the Kruskal-Wallis test and pairwise comparisons.

MPV differed between groups ($p<0.05$). Significant differences were observed between the control group (8.2±0.54 fL) and the following groups: stereotypies (9±0.44 fL, $p<0.05$); reactivity while getting ready to ride (9.4±0.69 fL, $p<0.01$); and reactivity while ridden (9.5±0.83 fL, $p<0.05$). A trend was observed between the control group and the orthopaedics groups (9.2±1.05 fL, $p=0.06$).

MPV was higher in the studied groups when compared to the control group. Thus, MPV, as in human medicine, might be an interesting indicator for the study of behavioural problems in horses. Further studies are needed to allow a full understanding of the clinical relevance of this indicator.

Detection of maladaptive pain in dogs referred for behavioural complaints: challenges and opportunities

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Background and Objectives: Diagnosing maladaptive pain in dogs with behavioural complaints is challenging, as clinical signs are often non-specific and may be absent during examination. This paper supports veterinary teams in distinguishing behavioural changes that stem from a behavioural disorder, maladaptive pain, or both. Maladaptive pain reflects dysfunctional mechanisms, lacks protective function, becomes chronic, and affects multiple physiological, emotional, and social domains.

Data and Methods: The medical records of ten client-owned dogs referred to the authors' behavioural practice were retrospectively reviewed to identify challenges in recognizing maladaptive pain and to highlight diagnostic tools. A Toolbox approach was used for assessment, integrating caregiver questionnaires, medical history, home video analysis, clinical observation, and a timeline. Behavioural signs were categorized as green (adaptive) or red (maladaptive) flags to facilitate differential diagnosis and guide treatment decisions.

Results: All dogs (n=10) were diagnosed with altered socioemotional functioning. In 7/10 cases, the Toolbox approach indicated maladaptive pain, confirmed by medical imaging in 3/7 cases. Multimodal treatment led to recovery in 6/7 dogs. In 3/10 dogs with behavioural histories, an acute worsening of signs suggested maladaptive pain, confirmed by imaging in all cases. Treatment led to partial recovery in 2/3 dogs, while one was euthanized due to neoplasia. Diagnostic challenges fell into three categories: bias in observation, clinical examination, and interpretation of behavioural signs.

Conclusions: A multi-angle approach integrating caregiver-reported information, home videos, and a timeline improves the detection of maladaptive pain in dogs presenting with behavioural complaints and addresses biases in behavioural observation, examination, and interpretation

Spiro ergo sum: the gut-lung axis and the impact in veterinary clinical ethology

Dr Manuel Mengoli
Néthos

The gut-lung axis is a bidirectional communication network linking intestinal microbiota, respiratory health, and neuroimmune function. While extensively studied in human medicine, its implications for behavioural medicine in dogs and cats remain underestimated. Dysbiosis in the gut can influence respiratory immunity and emotional regulation via microbial metabolites (e.g., SCFAs), vagal pathways, and systemic cytokine signalling. In small animals, chronic bronchial diseases such as canine chronic bronchitis or feline asthma are frequently comorbid with stress-related behaviours, including heightened reactivity, fear responses, compulsive grooming, and irritability. Respiratory inflammation may disrupt gut integrity and contribute to a feedback loop of behavioural and somatic dysregulation.

This abstract explores the clinical ethological relevance of the gut-lung axis in small animals, emphasizing the need to integrate behavioural therapy, microbiota-targeted strategies, and respiratory support. In Traditional Chinese Medicine, the Metal movement governs the Lung (Zang) and the Large Intestine (Fu), reflecting an intrinsic functional connection between respiration, elimination, and emotional regulation.

This ancient paradigm finds modern resonance in the gut-lung-brain axis, where disruptions in pulmonary or intestinal health often manifest as stress-related behaviours such as emotional unbalance, compulsive grooming, and chronic anxiety, hyper-responsiveness in small animals. An integrative therapeutic approach—combining behavioural medicine, microbiota support, and respiratory care—is proposed and the potential of beta-blockers, psychobiotics and anti-inflammatory nutraceuticals as adjunctive therapies is discussed.

Dissociative syndrome in a mixed-breed dog: differential diagnosis and therapeutic management

Dr. Sylvia Masson
No Ledge Research, Clinique Vétérinaire De La Tivollière

Dissociative syndrome is a rare psychiatric condition in veterinary medicine resembling schizophrenia symptoms in humans. This case report details the clinical journey of Mila, a 6-year-old mixed-breed dog, presenting with recurrent, severe self-directed aggression and dissociative behaviours occurring without external triggers. Initial differential diagnosis included compulsive disorders, epilepsy, and pain, but Mila showed no improvement with NSAIDs, phenobarbital, or potassium bromide. MRI ruled out structural brain abnormalities, and key clinical signs, such as maximal pupil dilation, unresponsiveness to external stimuli, and aggressive responses to her limbs, supported a diagnosis of dissociative syndrome.

Moreover, the results obtained with the therapeutic intervention combining fluoxetine (4 mg/kg SID) and aripiprazole (1 mg/kg BID) resulted in a dramatic reduction in the frequency and severity of episodes, with no reported side effects. Within two weeks, dissociative behaviours were significantly reduced, and after six months, episodes were brief and easily interrupted. This case represents the first documented use of aripiprazole in a canine patient with dissociative syndrome, highlighting its potential role in veterinary psychiatry. The structured diagnostic process underscores the necessity of ruling out medical causes before considering psychiatric diagnoses.

This case provides a framework for diagnosing and managing dissociative syndromes in veterinary practice and emphasizes the value of therapeutic trials in complex behavioural presentations. Further research is warranted to explore the broader applicability of atypical antipsychotics in treating severe psychiatric disorders in dogs.

Vegan versus meat-based dog food: health outcomes in 2,536 dogs

Prof. Andrew Knight
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Background: Vegan dog food remains controversial for health and welfare. This study compared health outcomes in a very large sample of dogs fed vegan or meat-based diets.

Methods: 2,536 surveyed dog guardians provided data and opinions about dogs fed conventional meat (1,370 = 54%), raw meat (830 = 33%) or vegan (336 = 13%) diets for at least one year. General illness indicators studied were (7): increased veterinary visits, medication use, progression onto medical diets, reported veterinary assessment of illness, reported veterinary assessment and guardian opinion of increased illness severity, and number of health disorders per unwell dog. The prevalence of the 22 most common specific health disorders was also determined. Regression analyses controlled for differences in age, sex, neutering status, breed size and unusually high exercise levels.

Results: Within each dietary group, dogs with health disorders comprised: conventional meat – 49%, raw meat – 43% and vegan – 36%. Dogs fed vegan diets usually had substantial and statistically significant decreases in risks of these seven general illness indicators, ranging from 14.4% - 51.3% compared to dogs fed conventional meat-based diets. Probabilities of suffering from one of the 22 most common health disorders were highest in dogs fed conventional meat for 11 disorders, raw meat for eight disorders, and vegan diets for three disorders. For six disorders, vegan diets were associated with statistically significant risk reductions of 50%–61% compared to dogs fed conventional meat.

Conclusions: Vegan dog food was consistently associated with better overall health indicators and specific illness reductions.

Use of psychometric scales beyond borders: PANAS and DIAS

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Interpreting canine behaviour is a complex task. Various methods have been described in the literature, including experimental behavioural tests, questionnaires, and psychometric scales. Among these, reliable and validated psychometric tools are particularly valuable for measuring behavioural traits. Generally, these scales are validated only within the language and population for which they were originally developed. Instead of merely translating and applying them to a different language and population, a rigorous cross-cultural adaptation and validation process is recommended to ensure that the scale maintains its validity in the new context. The Positive and Negative Activation Scale (PANAS) and Dog Impulsivity Assessment Scale (DIAS) are widely applied in various contexts and serve as important tools for behavioural assessment.

To validate the French versions, an expert committee refined the pre-final scales after translation, synthesis, and back-translation. These scales were then tested on a small sample of French dog owners (N = 10) for clarity. A finalised online survey was distributed nationwide, yielding 108 responses. A comprehensive statistical analysis was then conducted to assess the validity and reliability of the adapted French PANAS and DIAS. This analysis involved data cleaning, descriptive statistics, and identifying highly skewed responses. Confirmatory factor analysis evaluated the scales' structure, followed by reliability testing using Cronbach's alpha.

The French versions of these scales were found to be effective in evaluating impulsivity and positive-negative activation in dogs, although slight differences were detected compared to the original English version of these scales.

Puppy (3-7-month-old) cognitive tests as predictors of everyday behaviour in adulthood

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Previous research suggests that cognitive traits, such as inhibitory control and social cognition, can be associated with how dogs perform in their various roles in human society. Puppy cognitive tests can have predictive value for the suitability of individuals for working roles, but no research exists on whether such tests could also be predictive of behavioural traits important for pet dogs.

Our aim was to explore whether cognitive traits of puppies could help to predict everyday behavioural traits of the same individuals in adulthood (N = 227). Owners of dogs which had taken part in the test battery as puppies (3–7 months old) filled in two validated questionnaires (Canine Behavioural Assessment and Research Questionnaire and Dog Impulsivity Assessment Scale) on their dogs' everyday behaviour when they were adults (1–8 years old).

We used linear mixed models and found that puppies' understanding of human referential gestures was predictive of adult trainability ($p=0.003$), and that lower inhibitory control in the Cylinder Test predicted impulsivity ($p=0.03$) and energy levels ($p=0.03$) in adulthood. In addition, puppies which spent more time in human-directed behaviour during the Unsolvable Task were more likely to be fearful of strangers in adulthood ($p=0.02$).

Our results suggest that cognitive tests may have potential as valuable tools for predicting traits which are important for dogs' various roles in society. This could enable owners to understand their dogs' underlying traits better from an early age, and to utilize preventative training and management practices tailored to the individual dog.

Evolution of the e-collar use in dog training: - A comparative study in Europe

Olga Gutierrez
No Ledge Formation

The use of electronic collars (e-collars) in dog training is controversial in Europe, due to animal welfare concerns and inconsistent legislation. Legal frameworks vary across countries and within them, as illustrated by France, Belgium, and Spain. In 2018, Masson et al. reported a 26.4% prevalence of e-collar use in France. This study aimed to assess the current prevalence in France and compare it with Belgium and Spain, where national and regional legal measures differ.

An online survey using the original questionnaire was conducted in late 2024, with added questions on awareness of current legislation. 1,072 valid responses were collected (France: 602; Belgium: 290; Spain: 180). Comparisons used z-tests and chi-square tests.

The prevalence of e-collar use was 14.8% in France, 6.2% in Belgium, and 7.8% in Spain. The decrease in France since 2014 was statistically significant ($z = 5.59$; $p < 0.00001$). Differences between countries were significant ($\chi^2 = 17.04$; $p = 0.0002$), with France showing higher use than Belgium ($p = 0.00011$) and Spain ($p = 0.0073$). No significant difference was found between Belgium and Spain ($p = 0.51$).

While France's national ban has not passed the Senate, the proposed law was adopted by the National Assembly in January 2023. Spain enacted a national ban in September 2023, and Belgium implemented progressive regional restrictions since 2022. These differences suggest that legislation may influence owner practices and indicate need for EU-wide guidelines based on animal welfare principles.

Effect of different approaches to providing partial outdoor access on the welfare of dairy cows

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Despite welfare benefits of providing outdoor space, this practice can be difficult for farm to accomplish due to limited space and challenges for access to milking systems.

To determine the effects of different approaches to partial outdoor access that could address these challenges, we evaluated three treatments (imposed for 6 h daily in a replicated 3 × 3 Latin Square with three-week periods): partial outdoor access to pasture 1) with forage for grazing (pasture), 2) without grazeable forage (paddock) and supplemental feed, or 3) indoors. Nordic Red cows (n = 27) from the University of Helsinki's Viikki farm were enrolled.

DMI from feed bins was greater on pasture (18.4 ± 0.4) than paddock (14.4 ± 0.4; P<0.01). Pasture cows reduced their latency to access feed indoors, relative to paddock cows (14 ± 5 min until first meal vs 82 ± 5; P<0.01) Milk yield was higher in paddock than pasture (32.6 ± 0.7 vs 30.9 ± 0.7; P=0.009).

Cows returning from the outdoors demonstrated reduced latency to access AMS (pasture; 121± 12 min or paddock; 101 ± 12 min vs control; 235 min ± 12; P<0.01). No changes in locomotion or injuries were evident (P>0.05).

Providing outdoor space with TMR improved welfare by providing engagement in natural behaviors (those associated with natural environments) and promoting biological function (milk yield). These results suggest combining supplemental TMR with outdoor access can benefit lactating cows while, potentially, be easier to implement on farms due to reduced spatial requirements. However, grazing remains important.

Dairy cattle health and welfare in cow-calf contact systems on commercial farms in North Americ

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Despite growing debate over early calf separation, research on cow health and production in commercial cow-calf contact systems remains limited.

This observational study examined health outcomes for dairy cattle on 10 U.S. and 2 Canadian farms using dam-calf contact as the primary rearing method. Farms were visited three times in 2024 to capture seasonal variation (Spring, Summer, Autumn). A total of 387 dam-calf pairs were assessed (mean ± SD: 32 ± 23 pairs per farm) and were 40 ± 42 days in milk (DIM) or days old (range: 1-306 days). Calves were assessed for clinical signs of respiratory disease (cough, nasal/eye discharge, ear drop) and cows were assessed for body condition score (BCS). Milk samples were also collected from cows nursing their calves at ≤ 30 DIM (n=287) to estimate non-esterified fatty acid (NEFA), β-hydroxybutyrate (BHB), and somatic cell count (SCC). Descriptive statistics were performed (mean ± SD).

Respiratory disease requiring monitoring or treatment affected 4% of calves. No cows were emaciated (BCS < 2) and 5% were over-conditioned (BCS ≥ 4). Milk concentration of SCC was above the threshold used to classify the presence of mastitis for 32% of cows (>200,000 cells/mL), NEFA indicative of negative energy balance (>0.6 mEq/L) was present in 15% of the cows (0.4 ± 0.2 mEq/L), and no cows had BHB above the cut-point indicative of subclinical ketosis (>1.2 mmol/L; 0.10 ± 0.08 mmol/L).

Although most health indicators were at expected levels, further investigation on intramammary health and energy balance is needed for cows.

ANIMALAW: examining veterinary evidence in legal cases of animal welfare offences in animal transport

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Larger and more specialized farms, and fewer and more specialized slaughterhouses, means that animals are transported longer and more often than decades ago. In the EU, protection of farm animal welfare during transport is regulated by joint as well as national legislation.

The role played by law and its institutions in the protection of animal welfare has received limited scientific attention. In Denmark, the Danish Veterinary Health Council (VHC) has a pivotal role informing criminal justice authorities on the severity of legal animal welfare offence cases, a practice that has been unchanged for almost 100 years, and never subjected to scientific evaluation.

In this project, the plan is to assess the role of the VHC in the criminal justice system. The aim is to analyze how practices regarding legal offences in animal transport reflect contemporary veterinary knowledge.

We will analyze recent legal cases of animal welfare offences in transport in terms of knowledge about veterinary pathology and about affective states such as pain and discomfort to explore links and possible inconsistencies.

ANIMALAW: Ethical Perspectives in Danish Animal Welfare Legislation

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Globally, animal welfare legislation is evolving in response to growing societal and ethical concerns, often voiced in public debates and supported by rigorous scientific knowledge production. A recent change in Danish animal welfare legislation, recognizing animals as sentient beings, similarly suggest a shifting legal landscape that mirrors a societal demand for a more animal-centric approach to law making.

This paper investigates how different underlying ethical positions are reflected in recent developments. It presents results from a thematic analysis of legislative amendments, parliamentary debates, and stakeholder consultations, including public hearing statements, where statements and the use of certain words and phrases are linked to ethical positions. By tracing these developments, we aim to shed light on the evolving legal landscape in Denmark.

The paper is part of a broader interdisciplinary research project integrating legal, veterinary, and anthropological perspectives to investigate how knowledge about animal welfare during transport is produced, interpreted, and applied within the legal system. The project aims at highlighting the role of scientific expertise and societal values in shaping legal interpretations.

Preliminary findings indicate that while Danish animal welfare legislation has traditionally been grounded in an animal welfarism framework with elements of utilitarianism, recent legal amendments and policy discussions suggest a gradual shift toward a more basic rights-based perspective. While stakeholder positions reflect a diversity of ethical viewpoints, scientific expertise continues to still play a key role in shaping legal arguments. Comparative insights from Finland and Germany provide additional context for understanding Denmark's trajectory.

Erroneous citations of the Universal Declaration of Animal Rights: a failure of the peer-review process

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The Universal Declaration of Animal Rights (UDAR), although never formally recognized by international bodies such as the United Nations, has gained increasing visibility in scientific literature, veterinary practice, and legal frameworks—often through inaccurate citations. This study integrates findings from two complementary investigations: a systematic review of global scientific citations and an analysis of Portuguese legal documents.

We performed a scoping review of scientific literature searching for "Universal Declaration of Animal Rights" in three databases: Scopus, Web of Science, and Google Scholar (without time limits). Nearly half of the 305 analysed publications misattributed legal significance or international endorsement to the UDAR, frequently misrepresenting its authorship and legal standing. Our analysis of the Portuguese official legal gazette (Diário da República) found mentions of the UDAR in 36 legal documents, with inaccurate citations in 91% of the municipal ordinances (21/23)—often attributing it with universal endorsement or legally binding value. These errors are particularly concerning in the context of veterinary ethics, research and law, where misleading citations may inadvertently shape policy recommendations and influence professional practice.

This combined documental analysis underscores the broader implications of normative misrepresentation: while the increasing citation of the UDAR reflects evolving societal attitudes toward animal rights and welfare, its misuse risks undermining scientific rigor and creating misconceptions in policymaking and veterinary consulting. We advocate heightened scholarly diligence, clearer ethical guidelines, and more rigorous peer review processes to prevent the propagation of these errors—particularly in contexts where veterinarians serve as key advisors to policymakers and regulators.

Neutralisation techniques used by defendants charged with animal welfare offences in Finland

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Animal welfare offences encompass a heterogeneous range of crimes, including violence and various forms of negligence toward animals' needs. However, there is limited understanding of the offenders' rationalisations concerning their criminal behaviour against animals, despite this information being essential for enhancing the prevention of these crimes.

Our data comprised 1,443 judgements in animal welfare offences in Finland between January 2011 and May 2021. We categorised the rationalisations used by defendants and identified differences between offender profiles according to the offence type.

Nearly all defendants responded to the charges. Overall, defendants appealed most often to their challenging circumstances, e.g. lack of resources. Defendants charged with offences against production animals offered more explanations than the other defendants and often denied their responsibility for the animals, or having caused them any harm, and appealed to financial problems, weather conditions, and having too many animals. Moreover, they frequently challenged the norms, appealing in particular to the immorality of the authorities, who were mostly official veterinarians. Defendants charged with animal hoarding offences rationalised their actions similarly to animal farmers, whereas those charged with violent crimes against animals more often cited provocative or otherwise problematic behaviour of the animal victim.

Our results support the observation that farmers may perceive official animal welfare supervision negatively. Violent animal welfare crimes and animal hoarding stand out as distinctive types of crime at the level of rationalisations. The differences between offence types and offenders' underlying motivations should be considered when developing animal welfare control, agricultural support systems, and crime prevention.

Revising the Portuguese Veterinary Code of Conduct: Lessons Learned and Implications for Regulatory Reform

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The Portuguese Veterinary Order (Ordem dos Médicos Veterinários, OMV) serves as the regulatory authority for the veterinary profession in Portugal. To practice, veterinarians must register with the OMV, adhere to its statutes (Law n.77/2023), and abide by the Code of Professional Conduct (Código Deontológico, CD-OMV).

In 2021 the CD-OMV was reviewed to accommodate changes in professional values and societal attitudes toward animal welfare (Law n.730/2021). The process began with a systematic review of disciplinary complaints spanning 2012–2015, identifying recurring ethical challenges and key areas requiring improved guidance. A subsequent three-round Policy Delphi study with 41 veterinarians (representing the veterinary profession in Portugal) critically explored these key challenges, including advertising, telemedicine, fitness for transport, and euthanasia. A draft document was developed and submitted for open consultation with the members of the OMV. This collaborative drafting process allowed the integration of different perspectives into a consolidated, fit-for-purpose, version of the CD-OMV.

Several key lessons were learned from this revision process: the need to regularly reassess professional standards, the value of stakeholder engagement in identifying outdated norms and challenging the status quo, and the importance of transparent, evidence-based approaches to regulatory development. Four years after its enactment, it is time to take stock.

This presentation critically reassesses the review process that led to the development of the CD-OMV, refining our approach for future revisions and providing a model that can benefit other jurisdictions.

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On-Farm Welfare of Slaughtered bulls

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Welfare of 54 062 slaughtered bulls from 846 farms was studied using welfare evaluations done in annual veterinary visits, animal register and slaughter data. We used Test Theory approach, widely used in human quality of life assessments and general structural equation models to study various welfare dimensions and associations between them.

We built a theoretical model to describe how various dimensions of on-farm welfare were expected to be related. A set of indicators of different welfare dimensions was included in the model, including possible co-founding factors, like farm type and breed class. Models were run using generalized structural models in Stata 16.0 intercooled software.

Seven different welfare related latent variables (LV) were found. They were named based on the included indicators: 1) disease prevention, 2) housing, 3) nutrition, 4) health, 5) welfare risk, 6) behavior, and 7) meat production ability. LV7 was explained by all other LV, LV6 by all other except LV7 and LV5 by farm size, LV1, LV2 and LV4. Associations between variables were in line with the theoretical model.

Consistency, content and structural validity of evaluated veterinary visits can be estimated to be tolerable, although preliminary models need to be modified due to varying distribution of LV and it was not possible to detect a single latent variable covering all aspects of welfare. The chosen methodology proved the validity of NASEVA scorings as a welfare measure. It builds also a good platform for more detailed animal behavior based additional on-farm welfare measures to be tested.

Animal welfare assessment in dairy herds: measurements for suckling calves

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Reliable and cost-effective on-farm animal welfare assessment is crucial for communicating animal welfare throughout the food supply chain and for enhancing the welfare of the animals used in the food system. Currently a comprehensive animal welfare assessment protocols for suckling calves and youngstock in dairy production systems are lacking.

Here we present the development work of welfare measurements (n=37) for suckling calves as part of the complete assessment protocol of dairy herds. A preliminary set of measurements for the protocol was compiled from the existing literature based on the opinion of an expert group comprising animal welfare scientists and veterinarians. Animal-based measurements were emphasized, but resource- and management-based measurements were included when a reliable and cost-effective animal-based measurement was not available, or a direct association between resource-based indicator and animal welfare is evident. Firstly, this preliminary set of measurements was tested on 5 farms and further elaborated according to the feasibility. Secondly, inter-observer reliability of the animal-based measurements was tested by six assessors (five different pairs, 2–3 farms/pair) on 13 farms in total. Thirdly, sample size for each animal-based measurement was optimized based on the prevalence, relevance and reliability of the welfare indicator. Finally, the protocol was tested in total on 12 farms with varying herd sizes. The current version of the protocol comprises 14 animal-, nine resource- and 17 management-based measurements for suckling calves that are either assessed on-farm (n=18), with a questionnaire to a farmer (n=14) or acquired from available databases (n=8).

The use of non-steroidal anti-inflammatory agents on Finnish calf rearing farms

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The objectives of this observational retrospective cross-sectional study were to describe the use of non-steroidal anti-inflammatory agents (NSAIDs) and the factors affecting it for calves on Finnish calf rearing farms. Also, the connections between NSAID medication and average daily gain (ADG) and the need for re-medication were studied.

Medication information for 28 053 calves transported to the 87 calf-rearing farms in 2016 was collected. Descriptive statistics were computed, and statistical modelling was done using logistic and linear random effects models.

Overall, 17 194 calves (61%) were medicated at least once. Most often, calves were medicated with antibiotics (AB)+NSAID, followed by only AB or NSAID. Bovine respiratory disease (BRD), a condition that is known to be a cause of pain and decreased welfare, was the most common indication, with over 85% of all medications given for BRD. Out of medicated calves, 67% received NSAID (with or without AB) at the first medication and 58% required re-medication. Calves medicated with NSAID only needed further medication (with any medication) most often, followed by calves medicated with AB+NSAID or AB only. However, calves medicated with AB+NSAID were re-medicated with AB+NSAID more frequently than calves medicated with only NSAID or AB. The ADG compared to non-medicated calves was -37.8, -24.3, and -19.8 for NSAID, AB+NSAID, and AB-medicated calves, respectively. Lower age at arrival and being raised on a specialised calf rearing farm increased the odds of being medicated.

The observed differences might be affected by disease severity, diagnosis challenges, and adverse effects of NSAIDs.

Animal caretaker perceptions and experiences of the use of local anaesthesia in piglet castration

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Male piglets are routinely castrated to prevent boar taint in pork, causing severe pain that can be alleviated with local anaesthesia. In Finland, local anaesthesia in piglet castration will become mandatory in 2027, administered only by trained individuals. The state supports this transition through animal welfare payments. This study investigates producers' and farm workers' perceptions of castration pain, pain alleviation, and the effects of local anaesthesia on piglet welfare, as well as their experiences with its practical use.

Semi-structured interviews with 10-13 Finnish farmers and piggery workers will be conducted from January to May 2025. Interviewees include farmers who have implemented local anaesthesia and those who have completed castration training with at least two months of experience using local anaesthesia. Additionally, farm-level observations of piglet castration and medication will be carried out on five farms, complemented by a short survey of trained farmers and workers.

Preliminary findings from eight interviews indicate that animal caretakers generally find local anaesthesia effective in reducing castration pain. However, its disadvantages include increased handling and restraining of piglets, and a significant increase in workload. The required speed of work influenced piglet handling and observation methods at farms.

In conclusion, introducing local anaesthesia necessitated reorganizing the castration practice. Piglets were typically subject to several procedures at the time of castration, and local anaesthesia increased the number of procedures. Although local anaesthesia was perceived as generally effective in reducing pain, possible cumulative stress and minimization of handling stress require additional attention. Further interviews will refine these conclusions.

Practices to administer local anesthesia before piglet castration at Finnish pig farms

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In Finland, the voluntary use of local anesthesia before surgical castration of male piglets under seven days of age started in 2024 and will become mandatory in 2027. While successful local anesthesia (LA) mitigates pain during castration, additional piglet handling and restraint are needed. Moreover, LA injections are painful for piglets and laborious and time-consuming for caregivers. In addition, a recommended ten-minute interval between LA administration and castration, ensuring optimal analgesia with procaine-adrenaline (as its effect starts slowly and lasts approximately 30 minutes), poses logistical challenges.

We investigated farm owners' and employees' strategies for implementing LA before piglet castration. We observed handling, medication, and castration, as well as piglets' reactions to these procedures and the effectiveness of LA during routine castration days.

Preliminary findings from 3/5 farm visits (28 observed litters) revealed significant variation in piglet handling techniques. The range was from lifting piglets carefully while supporting them under the belly and considering their behavioral reactions during restraint to lifting piglets from their rear legs and handling them hastily. Moreover, ensuring consistent recommended waiting time between LA administration and castration appeared challenging. The mean waiting times (range) across farms were 13 (8-16), 19 (8-23), and 23 (10-36) minutes, with two farms not reaching the ten-minute recommendation on average. Moreover, one of the farms failed to keep piglets warm during the waiting period.

In conclusion, introducing local anesthesia for piglet castration presents notable challenges, especially regarding animal handling and correct procedural timing, both essential to effective pain management and animal welfare.

Keel bone damage in laying hens; Comparisons of longitudinal radiographic measures versus post-mortem measures

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Keel bone damage, including deviations and fractures, is common in both white and brown laying hens, regardless of housing system. Previous studies proposed radiography as a tool for assessing keel bone condition, though radiographs only show 2 out of 3 dimensions of the dissected keel bones. Our study aimed to explore the association between radiographic optical density (keel and tibiotarsal bone) and geometry (keel bone) with keel bone pathology, and to examine the link between pelvic dimensions and keel damage.

Two hundred hens at a commercial farm were radiographed at 16, 29, 42, 55, and 68 weeks, then culled at 74 weeks at the end of the production cycle. Post-mortem examinations included pelvic dimension analysis, radiography of the whole body and bones, keel bone dissection, and scoring. Radiographs were used to estimate bone optical density and keel bone geometry. A reproducible on-farm radiography method was developed, including live bird restraint, positioning, and post-imaging measurements.

Longitudinal measurements of keel geometry and optical density showed associations with keel damage. The geometry ratio of keel length to mid-depth at weeks 42, 55, and 68 was linked to larger deviations at 74 weeks. Higher tibiotarsal optical density at week 55 was associated with fewer keel bone deviations and fractures at 74 weeks. Larger pelvic cavity dimensions correlated with higher body weight and increased keel bone damage.

These findings support the use of on-farm radiography to supply knowledge about phenotypes for genetic selection by the breeding companies targeting improved keel bone health in laying hens.

Efficacy of differential negative reinforcement of an incompatible behaviour to reduce avoidance behaviours in horses

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Avoidance behaviours in horses during routine handling procedures, present significant safety risks to both horses and their handlers. Traditional methods to mitigate these behaviours typically involve non-associative learning, like habituation, or classical conditioning approaches such as counterconditioning. However, these methods may not always be effective due to the operant nature of avoidance behaviours, which follow a negative reinforcement sequence.

This study investigates the efficacy of Differential Negative Reinforcement of an Incompatible behaviour (DNRI) in reducing avoidance behaviours in horses. Horses (n=29) exhibiting reactivity to intramuscular injection at the neck (n=20) or fly spray (n=9) underwent one DNRI training sequence designed to reinforce an incompatible behaviour, specifically standing still, while extinguishing the avoidance behaviour, over a maximum period of 10 minutes. Avoidance behaviour frequencies were compared across four equal quarters of the DNRI session to test the effectiveness of the approach.

A reduction ($p<0.0001$) in avoidance behaviours was observed and all horses successfully learned the standstill behaviour and allowed the handler to perform the task without restraint. There was no difference in rate of reduction of avoidance behaviours between stimulus types (injection or fly spray; $p=0.704$). Time to extinction of avoidance behaviours was faster for the fly spray group (38.11±3.62 sec) than the injection group (82.94±7.33 sec; $p=0.0003$). In conclusion, unwanted avoidance behaviours in horses can be successfully eliminated using DNRI. This method holds promise for broader applications in various equine husbandry and training practices involving aversive stimuli, thereby enhancing the welfare and safety of both horses and handlers.

Evaluating clinical behavioural tools for equine pain assessment: a systematic review

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Recognising pain in equine patients is crucial for welfare, yet validated clinical assessment tools appear underutilised in veterinary practice. This review aimed to identify behavioural pain scales suitable for veterinary use and appraise their quality, reliability and feasibility in clinical settings.

Following PRISMA 2020 guidelines, PubMed, Scopus, and Web of Science were searched using terms related to pain assessment (e.g., "pain scoring system," "pain scale," "facial expression," "pain behaviour") combined with species-specific keywords (e.g., "horse," "equine"). Studies evaluating equine pain using behavioural assessment were included. Studies on non-pain behaviours, computational methods, or specific subgroups (e.g., foals, ridden horses) were excluded. Quality and risk of bias were assessed using adapted ARRIVE and OHAT guidelines.

Of 819 identified records, 16 met inclusion criteria. Ten distinct behavioural pain scales were evaluated, showing moderate-to-strong reliability and good construct validity for acute pain, although none demonstrated universal applicability. Feasibility varied; some tools required considerable training and time. Detection of chronic or low-grade pain remained challenging, highlighting the absence of a gold standard for equine pain assessment.

Behavioural scales are valuable, but sensitivity to subtle or prolonged pain remains limited. A trade-off exists between comprehensiveness and practicality, necessitating context-specific tool selection. Structured assessments offer critical insights into equine pain states; further refinements are needed to improve applicability across diverse clinical contexts. Standardised validation protocols, observer training, multi-centre trials, and integration of automated methods may facilitate utility and adoption. Addressing these gaps could support timely, accurate pain detection in busy practice settings, ultimately improving equine welfare outcomes.

Innate or learned? How early social environment shapes horses' understanding of humans

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Horses, as highly social animals bred for cooperation with humans, make an interesting model for studying human-directed socio-cognition. Horses are known to follow human gaze and understand human facial expressions, and use both information to guide their own behaviour, but whether horses can do this innately, is still unknown.

To answer this, we tested 48 young (1-3 yo) horses on their ability to follow human gaze. Half were socialized with extensive training, while the others had limited experience with human handling. All horses underwent five different video recorded test conditions, where the horse was led in front of a wall while an experimenter standing next to it established eye contact, gazed at an object behind it, and made an emotional facial expression. In the control condition the human looked behind the horse. The horse's gaze direction, propensity to look behind the wall, and emotional state indicators were recorded. Emotional state indicators were reduced to four behavioural components using PCA, then all of the data was analysed using glm in R.

Horses predictably followed the human gaze direction ($p=0{,}0009$) and horses were more alert in the fear condition ($p=0{,}0297$). The early social environment ($p=0{,}4151$) or the reactions to the facial expressions ($p=0{,}4618$) did not have a statistically significant effect to gaze-following. Attentiveness significantly correlated with gaze-following ($p<14e\text{-}13$) and frustration ($p<1{,}38e\text{-}05$).

This suggests gaze-following and reading human facial expressions do not require intense socialization. As gaze-following is mostly predicted by the horse's attentiveness, it probably connects to horse motivation, mood, and personality.

Can transcranial Direct Current Stimulation improve attention in working dogs? A pilot investigation.

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Transcranial direct current stimulation (tDCS) is a non-invasive neuromodulation technique that delivers a weak electrical current to a targeted brain region via scalp electrodes, modulating neuronal excitability. In humans, tDCS has been studied for its potential to improve symptoms in conditions such as depression, anxiety, and ADHD, and has shown promising effects on attention and inhibitory control in both clinical and healthy populations. Despite neurobiological similarities between humans and dogs, the use of tDCS in dogs remains unexplored, presenting an opportunity to investigate its cognitive effects.

This pilot study aims to evaluate a protocol testing the effect of tDCS on inhibitory control and attention in working dogs. A randomized cross-over design will be used, with each dog undergoing testing twice – once after tDCS treatment and once after a sham-treatment, with a five-day interval between sessions. Stimulation will be delivered at 2mA for 20 minutes targeting the left frontal cortex, using established neuronavigation landmarks. Among the cognitive tests that will be evaluated are the A-not-B test, the cylinder test, and an adapted sustained attention test. Testing is scheduled for fall 2025.

The goal of this study is to establish a replicable protocol for future research on the effects of tDCS on sustained attention, cognitive flexibility, and inhibitory control. While the current focus is on healthy working dogs, the broader aim is to explore whether enhanced cognitive control could improve learning processes. This may promote more effective training and could present future applications in behavioural cases, ultimately improving their welfare.

Noise Sensitivity in Dogs: a Case Report on Alternative Therapeutic Approaches

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A 6-year-old female Canary Island Podenco exhibited signs of noise sensitivity, potentially triggered by acute exposure to the sound of an electric insect killer in May 2024. When the device was active, producing sudden bursts of sound, the dog bolted, trembled, stood rigidly, and salivated. After this incident, the dog began displaying heightened sensitivity to loud, sharp noises, including thunderstorms, strong winds, and fireworks.

Observed signs included tremors, tachypnea, sialorrhea, pacing, and disruptive behaviour. Under the prescription of a veterinary behaviorist, three interventions were implemented: a noise-reducing ear protector, an anxiety pressure vest (ThunderShirt®), and a designated safe haven. The interventions employed a two-week progressive learning protocol, facilitating the incremental adaptation to noise-reducing ear protectors and pressure vest. Given the subject's prior experience with diverse wearable items, the acclimation period was comparatively abbreviated. Visible results in alleviating the signs of noise sensitivity were observed over nine months (May 2024 – February 2025).

This case report presents an alternative therapeutic approach for noise sensitivity, introducing a noise-reducing ear protector, combined with the calming effects of an anxiety pressure vest and the benefits of a safe haven, strategically placed to minimize noise exposure, consistently associated with pleasant experiences, and the caregiver's reassurance.

Comparing the Analysis of a Veterinary Behaviorist and an AI-Generated Plan for a Border Collie

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Tierarztpraxis für Verhaltensmedizin Dr. Fritsche

AI is increasingly used across various fields, and its potential to assist veterinary behaviorists is worth exploring. This case study examines how AI can support the creation of a personalized training plan for a dog, enhancing decision-making, identifying underlying factors, and supporting recovery.

The process began with a behaviorist assessing the dog and creating a training plan. Simultaneously, AI, particularly Claude.ai, analyzed the dog's environmental factors and activity levels to identify optimal rest and activity combinations. In the second phase, lab reports and the dog's symptom summary were uploaded to AI for additional analysis, alongside the behaviorist's review.

AI provided valuable insights, including suggestions for recovery activities and dietary changes. While the behaviorist focused on behavioral aspects and activity levels, the AI also emphasized dietary factors to support recovery. Despite some differences in recommendations, both AI and the behaviorist aligned on behavioral management and activity scheduling.

This case demonstrates AI's potential in enhancing personalized treatment plans for animals. AI helps analyze clinical data quickly and provides evidence-based suggestions for activities, rest, and diet, reducing the time needed to develop comprehensive plans. While AI is a powerful tool for decision-making, professional oversight remains crucial for safe and effective treatment. Further research is necessary to refine AI's role in veterinary care and maximize its potential in personalized animal treatments.

Use of fluoxetine for behavioral problems in dogs: a retrospective study of 173 cases

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Behavioral disorders in companion animals significantly impact both the animals and their families. In some cases, psychotropic medication is needed. Among these, fluoxetine, a selective serotonin reuptake inhibitor, is one of the most commonly prescribed drugs, particularly for separation anxiety and other behavioral disorders. This retrospective study aims to assess the overall effectiveness of fluoxetine treatment, as well as its outcomes in specific behavioral diagnoses.

287 diagnostics from 173 clincal cases of behavioral problems were analyzed. Behavioral issues were categorized as follows: interspecific social (32%), intraspecific social (30%), noise-related (16.5%), separation-related (19.5%), and compulsive disorders (2%). Treatment protocols included fluoxetine alone 48% (1 mg/kg/24h) or in combination with anxiolytics 52% (alprazolam, clorazepate, gabapentin) and/or serotonergic agents (mirtazapine, trazodone). Outcomes were classified as satisfactory (complete or sufficient improvement) or unsatisfactory (partial or no improvement). Cases lacking clear follow-up or receiving fluoxetine for less than three weeks were excluded.

Overall, 53.3% of cases showed satisfactory improvement, with outcomes remaining consistent across behavioral categories. However, separation-related issues had a slightly higher success rate (64.2%), though statistical significance was not reached (X2 p=0.09). Monotherapy yielded better results (63.5% satisfactory) compared to combination therapy (43.5%), likely due to the greater severity of cases requiring multiple medications. These results are similar to previous study with fluoxetine and comparable to other with mirtazapine.

Although this study includes a large sample size, its retrospective nature limits the ability to draw definitive conclusions. The therapeutic effect of fluoxetine cannot be isolated from concurrent environmental and behavioral interventions.

Current and Emerging Biomarkers of Cognitive Dysfunction in Aging Dogs: A Systematic Review

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Background: Canine cognitive deficiency syndrome (CDS) is a progressive neurodegenerative condition in aging dogs, characterised by cognitive and behavioral decline. While biomarkers are routinely used to evaluate cognitive impairment in human medicine, their application in veterinary neurology remains underexplored.

Objectives: To systematically review and summarise current evidence on biomarkers of CDS, with a focus on cerebrospinal fluid (CSF), blood, neuroimaging, and post-mortem findings, and their correlation with clinical severity.

Methods: A systematic literature search was conducted in Scopus and PubMed using predefined search terms related to CDS and biomarkers. Of 337 articles initially identified, 38 met inclusion criteria, including 9 reviews, 15 clinical studies, and 14 pathological studies. Selection followed PRISMA guidelines.

Results: Biomarkers were evaluated across CSF, blood, neuroimaging, and pathology. Beta-amyloid (A□) concentration and plaque formation were assessed in 17 studies. Tau protein was examined in 8 articles, while neurofilament light chain (NfL) was investigated in 5 studies. MRI findings were reported in 7 studies, focusing on interthalamic adhesion thinning and cortical atrophy. PET imaging using 18F-flutemetamol was covered in one article. Six studies explored pathological changes such as glial activation, neuronal loss, and synaptic dysfunction.

Conclusions: NfL emerges as the most promising biomarker for staging CDS, consistently correlating with cognitive decline. A□ and tau require further standardisation due to variable findings. Imaging techniques, although valuable, lack disease specificity. A multi-modal approach that integrates fluid biomarkers with neuroimaging may enhance precision. Continued research is essential to validate these biomarkers and support their use in clinical practice.

Effects of gabapentin on the treatment of behavioral disorders in dogs: a retrospective evaluation

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Gabapentin is a fast-acting oral medication commonly prescribed to treat behavioral disorders in dogs, though there is little published data regarding therapeutic and adverse effects at doses above 30 mg/kg.

This retrospective study surveyed 50 owners whose dogs were prescribed gabapentin at a veterinary behavior-focused practice in attempt to characterize both the desired and unwanted owner-reported effects, particularly at doses above 30 mg/kg.

The dosages that owners trialed varied drastically, ranging from 3.0-64.5 mg/kg, with the majority of owners trialing more than one dose. Most owners (72%) reported that gabapentin was "moderately" or "very" effective at improving their dog's behavior, though the majority of owners (70%) also reported at least one side effect. Sedation was the most common side effect and was more likely to be seen at doses higher than 30 mg/kg. Other than sedation, side effects varied drastically between patients and specific dose ranges (mg/kg) did not correlate with any other reports of side effects nor effectiveness. Dogs with a diagnosis of conflict-related aggression were significantly more likely to have owners report that gabapentin was effective at improving behavior compared to dogs with other behavioral diagnoses ($p = 0.04$), while dogs diagnosed with aggression secondary to arousal were significantly less likely to have owners report that gabapentin was effective ($p = 0.01$).

Overall, gabapentin was generally well-tolerated and perceived to be effective. The vast dose range and variation in side effects seen suggest using a trial-and-error approach to using gabapentin to treat behavioral disorders in dogs.

Enhancing owner understanding and treatment outcomes using advanced imaging in canine behavioural and neurological disorders

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Caring for a dog with long-term behavioural disorders can be emotionally and financially challenging, often leading to frustration, guilt, and reduced adherence to treatment plans. Owner understanding is a key factor in treatment success—particularly when behavioural issues stem from underlying neurological conditions.

This case series describes two dogs—a 5-year-old French Bulldog diagnosed with porencephaly, and a 2-year-old Pomeranian with Chiari-like malformation and syringomyelia—both presented primarily for behavioural concerns including aggression, compulsivity, and hyper-reactivity. These cases proved difficult to treat with environmental management, behavioural modification, and psychopharmaceuticals alone. Advanced imaging techniques, including Magnetic Resonance Imaging (MRI) and Computed Tomography (CT), enabled definitive diagnoses that redirected therapeutic approaches and clarified prognostic expectations.

Following diagnosis, owners reported increased understanding of their dogs' behaviours and expressed relief at receiving a clear medical explanation. This clarity helped reduce the emotional burden of uncertainty and improved adherence to treatment recommendations. The cases illustrate how medical insight into behavioural symptoms can reduce caregiver burden—the psychosocial, emotional, physical, and financial strain of managing a pet with chronic behavioural issues—and foster a more constructive, empathetic owner-pet relationship.

This case series underscores the importance of a multidisciplinary approach that integrates medical, behavioural, and environmental perspectives in clinical decision-making. Sustainable treatment success in complex behavioural cases depends not only on the diagnostic power of advanced imaging, but also on transparent communication and the active involvement of owners throughout the management process.

Preliminary Evaluation of the Canine Behavioral Assessment and Research Questionnaire (C-BARQ) in Türkiye

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The Canine Behavioral Assessment and Research Questionnaire (C-BARQ) is a unique instrument for evaluating dog behavior, and its utility has been verified across numerous countries. This study aimed to translate and adapt the English version of the C-BARQ into Turkish and to evaluate its initial results in Türkiye.

An exploratory factor analysis was performed on data collected using the Turkish translation of the C-BARQ, completed by the owners of 524 dogs attending veterinary clinics. The resulting questionnaire yielded 11 factors, comprising 45 items, that accounted for 69.5% of the total variance, with Cronbach's alpha values ranging from 0.609 to 0.938, indicating excellent to acceptable consistency.

In the Turkish version of the C-BARQ, only three items did not load onto their expected factor. The extracted factors were similar to the original version, although some alterations were observed.

Specifically, "Stranger-directed aggression," "Dog-directed fear," "Owner-directed aggression," "Dog rivalry," "Nonsocial fear," "Separation-related problems," "Attachment," "Attention-seeking," "Chasing," "Elimination problems," and "Energy" were the factors identified in the Turkish C-BARQ.

In conclusion, this modified Turkish version of the C-BARQ may represent a reliable tool for evaluating the behavior of dogs in Türkiye, which is especially important for addressing behavioral problems in owned dogs before they escalate to abandonment or euthanasia. By proactively managing these issues, the pressure on municipal kennels can be reduced, and canine welfare may significantly improve.

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Evaluating dopaminergic and serotonergic alterations following noninvasive neuromodulation in healthy and anxious dogs

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Non-invasive brain stimulation (NIBS), particularly repetitive Transcranial Magnetic Stimulation (rTMS), has shown promise in human and veterinary medicine. While previous studies have demonstrated brain changes and behavioral improvements in healthy and patient dogs, the effects of rTMS on neurotransmitter levels remain underexplored. This study investigated the impact of accelerated high-frequency rTMS on cerebrospinal fluid (CSF) metabolites, focusing on dopaminergic (DOPAC, HVA) and serotonergic (5-HIAA) markers in healthy and anxious dogs.

All procedures were approved by the institutional ethics committee and designed to minimize stress and ensure animal welfare. The study included 79 dogs, consisting of 59 healthy controls and 20 patient dogs diagnosed with an anxiety-related disorder.

Using generalized linear mixed-effects models, results revealed a significant group effect (p's < 0.05), with patient dogs consistently showing lower baseline levels of all three metabolites (DOPAC, HVA, and 5-HIAA) compared to healthy control dogs, underscoring a neurobiological basis for anxiety-related disorders in dogs. Furthermore, rTMS primarily influenced CSF metabolites after just one day of active stimulation, compared to sham or four days of stimulation (p's < 0.05).

This suggests that a shorter duration may have a more immediate impact, with prolonged treatment possibly leading to homeostatic adjustments in the brain. These results show that rTMS affects neurotransmitter pathways in a time-dependent manner and highlight the importance of baseline neurochemical differences when interpreting treatment outcomes. Although preliminary, this study provides valuable insights into the neurobiology of anxiety in dogs and highlights the potential of rTMS as a treatment approach in veterinary behavioral medicine.

An interdisciplinary approach to treatment of bucking in a Connemara pony gelding

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The authors present a case study demonstrating the importance of an interdisciplinary approach to treating problematic behaviours. A 12-year-old, Connemara, gelding, was initially presented to the University of Edinburgh's Equine Pain and Behaviour Clinic (EPBC) due to reluctance to go forwards, bucking under saddle, and hypersensitivity to perceived threats (i.e. increased "spookiness").

On the yard, initial evaluation at rest found no evidence of emotional pathology. Furthermore, his history indicated the problematic behaviours were context-specific to being ridden. Dynamic gait evaluation revealed a bilateral hindlimb lameness and stiffness through the patient's back. It was also noted that the patient was severely obese. Therefore, an interdisciplinary approach was required to treat the patient's problematic behaviour and he was referred into the hospital.

The orthopaedic department diagnosed bilateral osteoarthritis of the tarsometatarsal joints which, due to obesity-associated laminitis risk, were treated by intraarticular polyacrylomide hydrogel. The Internal Medicine department revealed normal endocrine physiology and a weight loss plan was prescribed as an essential part of the patient's physical, and hence behavioural, rehabilitation. The EPBC then played an important role in supporting the owner during the patient's ongoing rehabilitation. This included adjusting management to promote weight loss whilst still meeting the patient's ethological needs and prescribing a behavioural modification programme to combat cognitive issues, particularly focusing on the patient's response to the rider's aids.

Supporting the owner was essential in achieving a positive outcome for this patient, demonstrating the importance of Human Behaviour Change science, and an interdisciplinary approach, when managing equine behaviour cases.

Factors affecting sleep disturbances in horses – results from a Nordic questionnaire

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Although several management or animal-based factors may contribute to an increased risk of sleep disturbances in horses, very little is known about them. The study aimed to investigate factors related to rest and sleep behaviour of stabled horses and perceived by Nordic horse owners/caretakers, and their association with suspected sleep disturbances (SSD).

A forty-question international survey included horse owners/caretakers with horses over four years old kept in the same individual stalls for at least the last three previous months. A multivariate binary logistic regression was used to generate models of the factors associated with the SSD and their possible causes and consequences for the horses.

Overall, 5.0% of respondents (88/1749) suspected that their horse had sleep disturbances. The horse-specific factors associated with SSD ($p<0.001$) were (adjusted OR; 95% CL) age (1.12; 1.07 to 1.16), withers height (1.05; 1.03 to 1.08), current illness/injury (3.14; 1.92 to 5.15), if the horse was not seen laying down (27.82; 8.72 to 88.75), nightly injuries (9.16; 3.36 to 25.00), loss of balance/unexpected fall (40.30; 16.77 to 96.87), daytime drowsiness (3.85; 1.68 to 8.82), and difficulties lying down/getting up (16.33; 6.02 to 44.30). The environment-specific factors associated with SSD were hard and dry (3.50; 1.56 to 7.84) and hard and wet (8.63; 2.41 to 30.94) lying surface. ($p=0.002$ and $p<0.001$ respectively)

Our findings highlight the importance of monitoring both horse-specific and environmental factors to effectively manage and prevent sleep disturbances in horses, although self-selection enrolment of study participants may limit the generalisability of the findings.

Evaluation of the Welfare of Urban Carriage Horses in Malta: a holistic approach

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Urban carriage horses have been an integral part of different countries' cultural heritage for centuries. However, there is a limitation of evidence-based legislation related to the welfare of urban carriage horses on a global level. This study assessed the welfare of urban carriage horses in Malta to develop guidelines and policy recommendations.

A newly designed protocol incorporated animal and owner-level welfare indicators, based on the four principles of animal welfare, the AWIN protocol, literature review, and expert input. A total of 60 horses from 43 stables were evaluated through direct observations and owner interviews covering feeding, health management, housing, and human-animal interactions. Partial Indices (PI) were calculated for both owners and horses, with horse welfare weighted at 80% and owner-level factors at 20%. Principal Aggregate Indices (PAI) classified stables into four welfare categories: Excellent, Satisfactory, Unsatisfactory, and Unacceptable, further refined using a Traffic Light System.

The assessment revealed high overall welfare standards, with 66% of owners rated "Excellent" and 34% "Satisfactory." No cases fell into the lower classifications. Health scores were the highest, averaging 97.29, indicating strong veterinary care and health and welfare issues prevention. Behavioral scores were generally high, though some horses required further attention. However, feeding was identified as the primary area for improvement, suggesting potential issues in feed distribution during the day. The mean Total Welfare Index (TWI) of 86.41 confirms good overall conditions for the horses.

The study highlights the need for targeted interventions, including feeding practices, policy development and welfare guidelines to ensure continuous improvement.

Does Fear-Free® certification impact on physiology and behaviour of horses undergoing clinical examination?

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Veterinary procedures elicit anxiety, fear, and stress in horses, exposing staff to safety issues. Recently, Fear Free® certification has been proposed to reduce horse stress during clinical procedures, thus improving the ease and safety of their execution.

This study aimed to examine the impact on physiology and behaviour of horses during clinical exams conducted by veterinary students before and after obtaining Fear-Free® certification.

Eleven healthy horses (mean age 14+/-6 years; 4 mares, 6 geldings, 1 stallion) were recruited on a voluntary basis. Every subject was clinically examined twice in three months apart by four vet students (4th and 5th year). At the end of each clinical examination, a saliva sample was collected. The first clinical exam (PRE) was carried out before the students undergo Fear-Free® course, while the second (POST) was performed after their certification. All the examinations were video recorded, horse behaviour (%time horse was relaxed, tense, aggressive) was evaluated by a trained observer unaware of the purpose of the study. ELISA kit was used to measure cortisol levels in saliva samples. Non-parametric test was used to identify potential differences in physiological and behavioural responses PRE and POST.

During clinical examination horses were relaxed for most of the time, no differences (Chi-square,$P>0.05$) were found between PRE and POST, with 89.2% and 83.3% respectively. A significant reduction in cortisol levels was observed in the POST (0.60+/-0.04 ng/mL) compared to the PRE (0.96+/-0.08 ng/mL) (Wilcoxon,$P=0.016$).

The results highlight that Fear-Free® certification could reduce the stress of horses during clinical examination.

From Gut to Mind: Could Giardia Influence Canine Behavior?

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Giardia duodenalis is a common gastrointestinal parasite in Dutch dogs, especially those under six months old. Infections can cause giardiasis, with symptoms ranging from mild abdominal discomfort to severe diarrhea, steatorrhea, and malaise, though many cases remain subclinical.

At the Animal Behavioural Clinic of Utrecht University, 21.8% of behavioral patients had a history of giardiasis. Early-life stress and illness are well-known risk factors for later behavioral problems. Additionally, Giardia infections have been shown to disrupt the gut microbiota, including increases in Clostridium and Lactobacillus and decreases in Bacteroides. Such dysbiosis may affect the Gut Microbiome–Brain Axis.

We present two cases of dogs with early-life giardiasis who subsequently developed severe behavioral issues, including separation anxiety, fear, hyperactivity, and aggression. Both dogs experienced suboptimal early-life conditions, such as inadequate maternal care and poor socialization, known to increase stress sensitivity. They also suffered from chronic or recurrent giardiasis and were diagnosed or suspected of food allergies.

Although causal relationships remain difficult due to interwoven multiple co-morbidities and environmental factors, the combination of early infection, microbiome alterations, and early life conditions These cases emphasize the importance of considering gastrointestinal health and microbiome status alongside behavioral assessment in dogs, particularly those from high-risk early environments, to improve welfare through early detection and integrated treatment.

Adjunctive pipamperone in dogs with pathological compulsive states unresponsive to fluoxetine: a retrospective case series

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Background: pathological compulsive states in dogs are characterized by an inability to interrupt ongoing behavioral sequences. These states are observed across multiple behavioral disorders, including canine attention deficit hyperactivity disorder (ADHD) and addictions. Fluoxetine, a selective serotonin reuptake inhibitor (SSRI), is commonly used, but monotherapy may provide insufficient control in some cases.

Objective: this retrospective case series evaluates the clinical effects of adjunctive pipamperone, a dopaminergic antagonist with secondary serotonergic properties, in dogs with compulsive states unresponsive to fluoxetine alone.

Case Selection: medical records were reviewed to identify dogs diagnosed with pathological compulsive states that responded insufficiently to fluoxetine (3–4 mg/kg SID). Seven dogs of different breeds and ages met the inclusion criteria: persistent compulsive behaviors despite fluoxetine treatment, with an owner satisfaction score below 4/10 and behavioral instability preventing behavioral therapy initiation.

Intervention: pipamperone (Dipipéron®) was introduced as an adjunct treatment (8-12mg/m2 BID). Clinical notes and follow-up consultations were reviewed to assess changes in compulsive behavior frequency and intensity, as well as the dogs' ability to engage in behavioral therapy. Owner-reported outcomes were also examined.

Outcomes: all seven dogs showed clinical improvement following pipamperone introduction. Most exhibited reduced compulsive episodes, decreased reactivity, and increased tolerance to environmental and social stimuli. Owners reported a mean improvement of >7/10 in satisfaction. No adverse effects were noted.

Conclusion: in dogs with pathological compulsive states unresponsive to SSRI monotherapy, pipamperone may provide a valuable adjunctive treatment. These findings support further investigation into dopaminergic modulation in canine compulsive behaviors.

Evaluation of Neuropeptide S and Brain-Derived Neurotrophic-Factor of potential biomarkers in dogs with state anxiety

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Anxiety-related problems negatively affect both canine well-being and caregivers' quality of life. Biomarkers such as Neuropeptide S (NPS) and Brain-Derived Neurotrophic Factor (BDNF) have been suggested to play a role in the biological basis of these problems, although their exact significance remains unclear. This study aimed to evaluate the potential of NPS and BDNF as biomarkers for anxiety-related problems in dogs.

Forty dogs were divided into two groups—"anxious" (N=20, 12 females, mean age: 4.00) and "non-anxious" (N=20, 12 females, mean age: 4.55)—based on behavioural assessments. Dogs in the anxious group exhibited state anxiety, defined as situational and context-specific emotional responses. Indicators included caregiver-reported noise reactivity and separation-related issues, as well as observed behaviours such as avoidance, appeasement, and inhibition in unfamiliar settings.

Non-fasting blood samples were collected via cephalic venipuncture following the behavioural assessments, without a standardized sampling time. Serum NPS and BDNF concentrations were measured using commercial ELISA kits and compared between groups using the Mann-Whitney U test ($p<0.05$). No significant differences were found in serum NPS ($P=0.482$) or BDNF ($P=0.441$) levels between the groups.

In light of the lack of significant changes in potential biomarkers such as BDNF, which is also considered one of the potential targets of specific antidepressant treatments, pharmacological interventions like long-term antidepressant treatment should be carefully considered in managing canine anxiety-related problems, unless the condition significantly impacts the dog's quality of life. The findings may help guide veterinarians in diagnosing and managing canine anxiety-related problems more effectively.

POSTER
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AGORA

Teaser
Day 1 – 12:15
Small
Festive Hall

Body condition score, interleukin-1β, and interleukin-10 predict cognitive changes in senior cats

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This study investigates the relationship between organic changes in senior cats, including low-grade chronic inflammation, and their cognition and behavior.

Data were collected from 97 cats and their caregivers: IL1β and IL10, Body Condition Score (BCS), ALT, ASP, ALP, Neutrophils, Lymphocytes, WBC, Albumin, Globulin, BUN, Creatinine, responses to a behavior questionnaire (Feline Behavior Assessment and Research Questionnaire - FeBARQ) and a cognition questionnaire (Feline Cognitive Dysfunction Syndrome Questionnaire - FCDSQ). Statistical analysis was conducted using a three-step generalized mixed model analysis to assess the association between fixed effect and confounders ($P < 0.05$).

The FCDSQ revealed that Sleep-Wake Cycle, Anxiety, Interactions, and Activity were significantly correlated with specific blood markers, cytokines, and BCS. Disturbances in the Sleep-Wake Cycle were directly associated with increased BCS, Globulin, ALT, ALP, Creatinine, WBC, and IL-1β, while Neutrophils and Albumin were inversely associated. Anxiety behaviors were positively associated with higher BCS, Creatinine, and IL-10, while IL-1β was inversely associated. BCS was a predictor of increased social interactions. Activity levels were positively associated with IL-10. Interestingly, BCS was directly associated with three of the four independent variables. A one-unit rise in BCS resulted in 36% higher likelihood ($P = 0.001$) of an increase in the frequency of Sleep-Wake Cycle (disturbances), 35% higher likelihood ($P = 0.001$) in Anxiety, and in a 21% higher likelihood ($P = 0.003$) of an increased frequency of (social) Interactions.

Increased body weight and changes in the inflammatory response predict cognitive changes in senior cats and should be monitored during health checks.

Preoperative Meloxicam vs. Butorphanol for Post-Ovariohysterectomy Pain in Cats: A Preliminary Comparison

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Ovariohysterectomy (OHE) is a commonly performed surgical procedure in feline medicine, essential for reproductive control and overall health. However, insufficient postoperative pain management may result in decreased appetite, reduced mobility, delayed wound healing, and behavioral changes. Preemptive analgesia is therefore essential to improve recovery and welfare.

This study compares the analgesic efficacy of preoperative meloxicam (a non-steroidal anti-inflammatory drug) and butorphanol (an opioid) in cats undergoing elective OHE. A total of 42 animals are planned to be enrolled, based on a power analysis using G*Power 3.1.9.7 (α = 0.05, power = 0.80). To date, data from 18 cats have been analyzed.

Patients were randomly allocated into two groups. Postoperative pain was assessed using the Feline Grimace Scale (FGS) and the Feline Glasgow Composite Measure Pain Scale (CMPS-Feline). Normality was assessed using the Shapiro-Wilk test, and homogeneity of variances via Levene's test. Welch's t-test was applied for FGS comparisons due to variance inequality (p = 0.011), revealing no significant difference between groups (p = 0.955). For CMPS-Feline scores, an independent sample t-test showed a statistically significant difference favoring butorphanol over meloxicam (t(18) = -4.85, p = 0.0001).

These preliminary findings suggest that while both drugs offer analgesic benefit, butorphanol may provide superior postoperative pain control. Full data from the ongoing study will allow a more robust interpretation of these effects.

An integrative medicine approach in a cat with feline hyperesthesia syndrome: A Case Report

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A 5-years-old, neutered female domestic short-hair cat was evaluated for self-traumatic episodes towards its own tail, accompanied by vocalization and agitation. Several episodes occurred throughout the day, resulting in serious injuries to the tail. Symptoms were present for about 7 months. The episodes were unpredictable and without a trigger. Cauda equina neuritis was diagnosed and different treatments (fluoxetine, barbituric, gabapentin, antimicrobics, and anti-inflammatory agents) were prescribed with no conclusive results. Dermatological disorders were excluded. Blood analysis was unremarkable.

A diagnosis of feline hyperesthesia syndrome (FHS) was made on the basis of behavioural signs displayed: excessive and unusual vocalisations, running, tail chasing; tail biting. At the moment of the behavioural consultation, fluoxetine and phenobarbital were the current medications. During phenobarbital and fluoxetine weaning, low-dose treatment was prescribed as a complementary and supportive therapy, before starting clomipramine administration. Beta-endorphin and Arnica compositum were used for the neuropathic pain and inflammation. Arnica reduces inflammation, modulating and normalizing the action of pro-inflammatory cytokines (downregulation). Beta-endorphin activates self-regulating mechanisms for pain relief. Valerian and Ignatia were used for anxiety and agitation; specifically, Ignatia reliefs stress-related symptoms (agitation, insomnia, nervous tension). A tailored behavioural and environmental enrichment program was co-administered.

After an initial re-exacerbation of symptoms, the episodes gradually decreased until almost complete remission. After one year of integrated and interdisciplinary therapy, the owners reported two episodes.

Due to the absence of standardized therapy and a single aetiology, FSH treatment is complex and challenging. The current case proposed a possible integrated approach to treat this syndrome.

Multimodal Management of Inappropriate Urination and Spraying in Cats with Suspected Musculoskeletal Pain

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Inappropriate urination and spraying in cats have a wide range of multifactorial causes, with growing evidence implicating pain as a key factor. This case series examines five feline patients referred for urinary behavioural concerns to the Langford Vets and North Toronto Behaviour clinics, where musculoskeletal pain was subsequently identified as a key component.

Some cases had a pre-existing musculoskeletal diagnosis, such as joint dysplasias, but were referred for support after limited response to analgesia trials, despite the referring veterinarian's belief that the behaviour was unrelated to pain. Others had no prior suspicion of musculoskeletal pain but subsequently exhibited gait abnormalities suggestive of physical discomfort. Comprehensive assessment including evaluation for causal pain alongside behavioural history was critical in guiding treatment. Further referrals and investigations including pain clinics, orthopaedics, radiography plus analgesia and trials of psychopharmacological agents were often required.

All cases showed varying degrees of improvement with a multimodal approach integrating pain management, behavioural modification, psychopharmacology, and environmental optimisation. While behavioural interventions are essential in managing feline urinary behaviours, their efficacy may be limited if underlying pain remains unaddressed. Despite veterinary referral, musculoskeletal discomfort is frequently overlooked in feline behavioural presentations, underscoring the need for early recognition to facilitate timely intervention and effective treatment strategies.

These cases highlight the importance of a multidisciplinary approach to behavioural urinary presentations, particularly when pain is suspected. Urine marking can reflect significant emotional distress, reinforcing the necessity of a multifaceted approach to optimise physical and emotional well-being to achieve significant improvement in these cases.

Association of Agonistic Behavior with Urinary Tract Disorders in Cats: 150 Case Studies

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The aim of this study was to investigate whether there is an association between urinary tract disorders (UTD) in cats and agonistic behavior towards humans and other cats.

For this purpose, 150 cases with complaints of agonistic behavior towards humans and other cats living in the same household who presented to the clinic between March 2022-2025 were examined.

Urinary tract infection, cystitis and crystalluria were detected in 130 cats (86.7%) with agonistic behavior. Agonistic behavior towards humans was observed in 61 cats with UTD and towards other cats in 69 cats. In 10 cats, this behavior was observed against both humans and cats. The number of cats living in the same household ranged from 2 to 6. Of the 69 cats with UTD who showed agonistic behavior towards other cats, 32 were between 1-3 years old and 37 were male. Approximately half (32/61) of the cats with UTD and agonistic behavior towards cats were between 1-3 years old, with similar proportions of females (31/61) and males (30/61). No UTD was found in 10 cats with agonistic behavior towards humans and 20 cats with agonistic behavior towards cats. All patients were offered treatment and informed about environmental management (five pillars).

In conclusion, our findings suggest a strong association between agonistic behavior and UTD in cats. Given the high prevalence of UTD in cats displaying agonistic behavior, particularly in young adults, veterinary professionals should consider screening for UTD in cats presenting with such behavioral issues.

Welfare concerns in show cats: a pilot study

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Cat exhibitions are events where breeders showcase their animals, network, and assess breeding outcomes. However, conditions during the show (e.g., placing in exhibition pens, noise, handling by strangers, presence of other cats, and disrupted care routines) may be stressful for cats.

This pilot study explored the hypothesis that the welfare of cats at shows may temporarily deteriorate. Stress responses of 140 cats were assessed using the Cat-Stress-Score (CSS) tool. Seventy cats were assessed in their exhibition pens, and 70 during the judging process. Additionally, in 14 randomly selected cats, temperature changes at the inner corner of the cats' eyes were monitored using infrared thermography. The Mann-Whitney test was used to analyze CSS scores, and the one-sample t-test was applied to compare eye temperature.

The average CSS score for all 140 cats was 3, indicating moderate stress, with signs such as alertness, crouched posture, and dilated pupils. Cats assessed during judging exhibited significantly higher stress ($p<0.01$) compared to those in pens. Most cats displayed tense (38.6%) or anxious (35.7%) behaviour during judging. No cats were fully relaxed (CSS score 1), nor in extreme stress (scores 6 or 7). Age, gender, and breed did not significantly affect stress scores. A significant increase ($p<0.05$) in body temperature (mean 37.95°C) at the inner corner of the eye was found compared to healthy cats' reference values.

These findings suggest the welfare of show cats may be at risk, warranting further investigation into contributing factors.

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From Timid to Tame: Foster home caring practices for found cats

Ms Ruusu Syväniemi[1], Dr Laura Hänninen[1], prof Anna Valros[1]
[1] Faculty of veterinary medicine, University of Helsinki

Scientific studies on the care of found cats in foster homes are limited. We distributed an online survey to foster homes and related NGOs to collect data on foster home care practices, resources, and cat characteristics.

We received 240 responses, with 230 from foster caregivers. Among them, 85.4% had no formal animal-related training, and 12.1% had less than one year of experience, 54.6% had 1–5 years, and 33.3% had over five years. Participants had cared for a median (interquartile range) of 53 (99) cats, with 57.0% (31) from cat colonies. The mean ± SE age of the last cat in care was 39.8 ± 2.8 months, with an average foster duration of 5.9 ± 0.5 months. Cats' timidness on arrival and at rehoming were rated using a four-point scale (very/fairly timid to fairly/very brave) and later scored as increased timidness/no change/reduced timidness. At arrival 33.3% were very timid, decreasing to 2.9% at rehoming. Factors associated with reduced timidness were analyzed using Chi^2 -tests.

Practices linked to reduced timidness included reinforcing cat-human contact through quiet presence in the same room ($p = 0.002$), offering treats ($p = 0.01$), and engaging in play ($p = 0.05$). Additionally, prior caregiver experience with timid cats ($p = 0.02$) and occasional experience of use for veterinarian-prescribed behavioural medications for timid cats ($p = 0.02$) were also linked to reduced timidness.

We concluded that foster homes' experience of cat timidness and targeted interactions with the cats were associated with a reduction in cat timidness.

Integrating behavioral health into veterinary care: a national survey in Belgian companion animals

Sofie Salden[1,2], Morgane Van Belle[3], Gaëlla van Walraven[1], Prof. Dr. Christel Moons[3], Prof. Dr. Jimmy Saunders[1], Prof. Dr. Anouck Haverbeke[1]

[1] Department of Morphology, Imaging, Orthopedics, Rehabilitation, and Nutrition, Faculty of Veterinary Medicine, Ghent University, [2] Ghent Experimental Psychiatry (GHEP) lab, Department of Head and Skin, Faculty of Medicine and Health Sciences, Ghent University, [3] Ethology and Animal Welfare Research Group, Department of Veterinary and Biosciences, Faculty of Veterinary Medicine, Ghent University

Health has been defined as a state of physical, mental, and social well-being, highlighting that the behavioral health of companion animals should be considered in veterinary practice. Behavioral issues in pets can impact both their welfare and that of their caregivers, creating a psychosocial burden as caregivers manage the challenges of caring for an animal with compromised health.

A national survey examined the prevalence of physical and behavioral issues in dogs and cats in Belgian households, with a focus on their effect on caregiver welfare.

A total of 2769 responses were analyzed (976 dog caregivers; 1793 cat caregivers). Health problems were reported in 41% of dog and 32% of cat households. Physical issues were more common than behavioral ones: 29% vs. 19% in dogs (7% combination), and 24% vs. 14% in cats (6% combination). Despite lower rates than in international studies, the caregiver burden was substantial. Caregivers of affected pets, especially behavioral health problems, reported significantly higher perceived care efforts. Moreover, the survey revealed that caregivers frequently sought advice from their veterinary general practitioner, underscoring the need for an integrated approach to veterinary care and emphasizing that veterinarians should be knowledgeable in animal behavior. Ghent University's Clinical Behavioural Team and Ethology and Animal Welfare Research Group developed a position statement outlining key points for giving behavioral advice in veterinary general practice.

Ultimately, we argue that interdisciplinary collaboration, caregiver education, and a strong understanding of animals' ethological needs are essential to improve the welfare of both animals and their caregivers.

Genetic Vasectomy: An ethical approach to refinement and reduction in mouse cryobiology and behavioral research

Sara Fuochi[1], Camilla Aniballi[2], Jorum Kirundi[2], Christine Göpfert[3], Hewapathirana Hewapathiranage Dhanushka Sayani[3], Pietro Asproni[1], Sebastien Choteau[1], Alessandro Cozzi[1], Patrick Pageat[1], Aline Baur[4], Sunwoo Chun[4], Michael Bernstein[4], Pawel Pelczar[4], Alessandra Bergadano[4]
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In 2010, Haueter S. and colleagues introduced a transgenic (TG) mouse line featuring dominant male sterility due to overexpression of a Prm1-EGFP fusion protein, later refined with the addition of mCherry and Agouti phenotypic marker transgenes. Although this line has been available for several years, its use has remained limited to assisted reproduction applications.

This presentation will focus on the collaborative effort between the Universities of Basel and Bern, and IRSEA to demonstrate how the evolution and use of this TG line—still officially unpublished—can significantly improve animal welfare by enhancing a more ethical approach to mouse models in cryobiology and behavioural research.

This TG strain offers a non-invasive alternative to surgical vasectomy that preserves natural mating behaviour of males, essential for mock-mating and embryo transfer, and potentially useful for behavioural studies where intact hormonal paradigms are critical. It also helps eliminate unwanted litters, supporting the principle of reduction in animal use. The visible phenotypic markers simplify the identification of sterile males without the distress of tissue sampling for genotyping, reducing handling and overall improving animal welfare. Data will also be presented on the potential suitability of these males for behavioral studies, including analysis of vomeronasal organ (VNO) structure and of major urinary proteins (MUPs).

Finally, the presentation will frame this TG strain in the context of the working document on genetically altered animals, released in 2021 by National Competent Authorities for the implementation of Directive EU/63/2010, highlighting the absence of any harmful phenotypes, emphasizing highest ethical standards.

Meta-Analysis of Thermal Stress Assessment in Poultry Using Infrared Thermography

Dr. Elein Hernandez[1], Dr. Roberto Hernandez[1], Dr. Francisco Ernesto Martinez[2], Dr. Daniel Alonso Dominguez[3], Dr. Maria Elena Trujillo[3], Dr Víctor Manuel Díaz[1], Dr. Ezequiel Sánchez[3], Dr. Elizabeth Posadas[3], Dr Itzayana Mejia[1]
[1] Universidad Nacional del Estado de México, [2] Universidad Autónoma del Estado de México, [3] Daniel Alonso

Thermal stress is a health and welfare concern in the poultry industry. Poultry have specific thermoregulation strategies for heat stress (i.e., vasodilatation) or cold stress (i.e., vasoconstriction). Infrared thermal (IRT) analysis is a non-invasive temperature assessment technology with significant benefits compared to conventional temperature measurements, which are invasive and time-consuming. However, a wide range of IRT methodologies and equipment are used for temperature assessment in poultry.

The aim of this study was to perform a systematic review and meta-analysis of IRT applications in poultry undergoing thermal stress. The bibliographic search yielded 17 records for qualitative synthesis and 10 for quantitative analysis.

The results showed IRT is more commonly studied during heat stress than cold stress, and more research is being conducted on laying hens than other poultry species. Also, four body areas (parts of the head, body, face, and leg) were identified as common areas of interest for body surface temperature measurement. There is a clear thermoregulation response to thermal stress in poultry, with marked differences between featherless and feather-covered areas.

IRT in poultry undergoing thermal stress has a good diagnostic value and represents an important welfare assessment tool for future research, particularly when combined with other welfare assessment methods.

POSTER
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AGORA

Teaser
Day 1 – 17:00
Small
Festive Hall

How to fight biting dogs? Identifying common factors of dog aggression in Lombardy (Italy)

Dr Alice Garegnani[1], Dr Sara Boero[1], Prof Simona Cannas[1], Prof Clara Palestrini[1]
[1] Department of Veterinary Medicine and Animal Science, University of Milan

Canine aggression represents a concern for public health and animal welfare. This study aims to identify common factors in dog biting incidents involving other dogs and humans.

A descriptive analysis was conducted on 462 dog dangerousness assessment forms, compiled by official veterinarians in Lombardy after reports of bite episodes: 188 involving dogs and 274 involving humans.

In intraspecific aggression, 33.5% of biting dogs were molossoids and bull-type terriers (MBTT), and 21.8% had no predominant breed. In interspecific aggression, 17.2% were MBTT, and 26.6% had no predominant breed. In both types of aggression, other breed categories (shepherds, terriers, MBTT crosses, other breeds) were less represented. According to our data the biter is mainly an unneutered male (53.2% in intraspecific and 73.4% in interspecific aggression), aged between 1 to 10 years (92.6% in intraspecific and 83.6% in interspecific aggression) and medium-weight (10–30 kg). Laceration bites predominated in intraspecific aggression (37.4%), while puncture wound bites were most frequent in bites to humans (35.3%), with a prevailing recovery time of 5–20 days (63.1% in dogs, 57% in humans). Single bites occurred in 61.2% of intraspecific and 77.7% of interspecific cases. Human adults (69,6%) were the most frequent target that were mainly bitten in the limbs (72.9%). A history of prior bites was noted in 25% of dogs (intraspecific) and 32.9% (interspecific). Most attacks, both intraspecific (71.6%) and interspecific (44.1%), occurred in public areas. During veterinary evaluation, 19.1% of dogs (intraspecific) and 24.8% (interspecific) displayed avoidance behaviour.

These findings may aid future prevention strategies.

Coat Color Matters: Behavioral Variations in the Australian Shepherd

Dr. Ms Valentina Gazzano[1], Sofia Maria Alessi[1], Chiara Santoni[2], Dr. Stefano Cavallo[1], Dr. Phd Luigi Sacchettino[3], Prof. Francesco Napolitano[3], Prof. Angelo Gazzano[1]
[1] Department of Veterinary Sciences, University of Pisa, [2] Centro Cinofilo 4 zampe & Co,
[3] Department of Veterinary Medicine and Animal Production, University of Naples Federico II

Dog coat color is influenced by genes like MC1R, which regulate eumelanin and pheomelanin production but also affect behavior. Prior studies suggested links between coat color and behavior, with some breeds showing increased aggression or fearfulness based on coat color. This study examined the associations between coat color and behavior in Australian Shepherds with using an online survey based on a modified C-BARQ questionnaire.

Responses from owners of 276 dogs (males 48.5%; average age: 4.82 ± 3.26 years) identified the most common coat colors as blue merle (35.05%), black (30.62%), red merle (17.34%), and red (16.97%).

One-way ANOVA and Tukey's test showed that blue merle dogs displayed higher aggression than red dogs when approached by unfamiliar children ($p = 0.0388$), and higher fear than red dogs ($p = 0.007$) during veterinary visits. They also howled more during separation than black ($p = 0.033$) and red dogs ($p = 0.0263$), followed their owners more frequently in domestic environment ($p = 0.007$) than black dogs, and showed greater retrieving behavior than black dogs ($p = 0.0396$). In contrast, red merle dogs exhibited more fear and anxiety in unfamiliar situations compared to blue merle ($p = 0.0422$) and red dogs ($p = 0.0016$) and during veterinary visits than red dogs (0.0011). They also experienced more anxiety in windy conditions ($p = 0.0043$) than red dogs and excessive salivation during separation compared to black dogs ($p = 0.0105$).

In conclusion, these results suggest a potential link between coat color and behavior in Australian Shepherds.

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AGORA

Teaser
Day 1 – 17:00
Small
Festive Hall

Investigating dog welfare in different Animal-Assisted Intervention (AAI) settings

Phd Student Giulia Russo[1], PhD Carmen Borrelli[1], Barbara Bellettini[2], Prof. Francesco P. Di Iacovo[1], Prof. Roberta Moruzzo[1], Dr Leonardo Catena[1], Prof. Chiara Mariti[1]
[1] Department of Veterinary Sciences, University of Pisa, [2] DoReMiao Association

This study aimed to evaluate the impact of Animal Assisted Interventions (AAI) on dogs in various settings.

Two experienced dog-handler dyads, comprising two women and two female dogs (a 7-year-old Border Collie and a 4-year-old mixed-breed) participated in 45-minute AAI sessions in elderly homes, prisons, and disability centres (30-20-12 visits respectively). Dogs' welfare was evaluated at start, halfway, and end of the projects through behavioural (e.g. occurrence of shaking, yawning, barking during sessions) and physiological parameters (before and after the session, T0 and T1), the latter including blood pressure, heart rate, respiration rate, rectal temperature, and salivary cortisol. Salivary samples were collected from dogs and handlers.Differences in delta cortisol and delta physiological parameters across settings (ANOVA), and possible relationship between delta cortisol in dog and handler (Pearson's correlation) were assessed ($p<0.05$).

All cortisol values decreased at T1 compared to T0 and, in one dog, the decrease was more pronounced in elderly homes than in prison ($p=0.03$), supported by a lower display of stress signs (21±3 versus 33±9, respectively). Clinical parameters were all within the physiological range. No association between dog and handler cortisol was found.

The reduction of cortisol, especially in the longest project, and the low occurrence of stress signs suggest that these AAIs did not compromise dogs' welfare; and that elderly homes might have a minimal impact on dogs. As arousal can have both a positive and negative valence, a reliable evaluation of dog state of welfare needs a multiparametric approach, possibly integrated by experts' overall evaluation.

The growth of the Dog Friendly Clinic scheme and why it matters

Dr Rachel Malkani[1], Tamsin Durston[1], Dr Kate Main[1], Christopher Laurence[1], Carl Gorman[1], Dr Rachel Casey[1]
[1] Dog Friendly Clinic

Fear and anxiety are major welfare concerns for dogs during veterinary consultations and hospitalisation, and these are often normalised rather than actively mitigated or prevented. Dogs are often restrained forcefully, experience negative emotional states, and show avoidance and confrontational behaviours.

Dog Friendly Clinic (DFC) is a UK-based membership scheme by the British Veterinary Behaviour Association and Dogs Trust. Its primary aim is for veterinary care to be the most comfortable experience possible for all. One key benefit to the scheme is that members gain access dog behavioural educational materials and guidance on environmental modelling and handling techniques designed to reduce distress in dogs. The application of human behavioural science underpins the scheme, identifying educational interventions as the most effective approach to achieving DFC's objectives.

From July 2022 to December 2024, when individual veterinary professionals could apply for assessment, members have grown from 0 to 124 and the average monthly growth rate is four members (13.6%). From November 2022, the scheme began welcoming clinic applicants, and membership has grown to 166 clinics in December 2024, which is an average of six clinics each month (15.2%).

There are multiple benefits to joining the scheme, including protection of animal welfare and enhancing staff safety and wellbeing. Impact will be measured through use of pre- and post-intervention surveys exploring relevant behaviour change. Additional appraisal measures may include pre- and post-intervention analysis of clinical accident records and evaluation of dog welfare using validated welfare assessment tools.

Validation of localised thermal differences using a force plate – a case study

Francesca Guagliumi[1], Professor Daniel S. Mills[1]
[1] Animal Behaviour Clinic, University of Lincoln

There is increasing interest in the use of infrared thermography (IRT) for the assessment of potential discomfort in dogs. However, it is important that such observations are subject to validation procedures.

This presentation uses case studies from an ongoing study examining the convergent validity between thermal imagery of local muscle groups with force plate analysis; for example, a 6-year-old male entire Cocker Spaniel referred for aggressive behaviour towards family members.

Physical examination could not be safely performed due to the dog's aversion to handling and wearing a muzzle. Subjective gait analysis indicated a stiff pelvic limb gait, and objective gait analysis with a pressure walkway system (Strideway, Tekscan) revealed partial off-loading of both pelvic limbs. Thermal imaging (T420bx, Flir) showed a 2°C temperature difference between the left and right stifle and biceps femoris area. A multimodal analgesia trial was initiated, alongside behaviour modification, including muzzle training to facilitate further investigation into the suspected discomfort.

The lessons from this and other cases in relation to the potential value of infrared thermography as a diagnostic aid for discomfort in dogs with behavioural problems is discussed.

CANCELLED

VetAI: Artificial Intelligence methods unveil novel insights from animal omic studies

Dr Martyna Woszczyło[1], Dr Agata Kokocińska-Alexandre[2], Mgr Sonia Müller[1], Prof Michał Dzięcioł[2], Dr Marcin Skwark[1,3]
[1] Vetai.bio, [2] Wrocław University of Life Sciences, Department of Reproduction and Clinic of Farm Animals, [3] InstaDeep Ltd.

Animal wellbeing and health status are driven by an intricate interplay of complex biological systems. Recent developments in AI permit the identification of complex, multimodal structure in biological data with previously unattainable accuracy. This is due to advances in machine learning architectures—especially deep neural networks—and transfer learning leveraging large, pretrained biological models.

In our recent work, we have shown that leveraging such an approach can accurately pinpoint relevant observations, be it in terms of evolution of antimicrobial resistance or inferring oestrus state from canine urine samples. The latter study identified several proteins—including beta-lactoglobulin-1 and -2, Clusterin, LEAP2, and Proenkephalin—whose presence or abundance is specific to estrus-phase urine, implicating them as candidate mediators of semiochemical communication. Importantly, this research enabled hypothesis generation from first principles without expert bias. We present a novel, data-driven framework for investigating biological samples, ideally suited to the sparse and noisy data regime typical of animal studies.

In proteomic analyses of urine and saliva, we uncovered promising mechanistic determinants of canine semiochemical signaling. These include both pheromone carriers (lipocalins) and signaling-responsive proteins, several of which are known to be involved in reproduction or immune defense. Statistical methods (such as PCA) and hierarchical clustering demonstrated statistically significant separation ($p < 0.01$, FDR-adjusted) of estrus and anestrus samples, underscoring the robustness of the findings.

We observe that the most informative signals lie not in individual biomarker levels, but in their interplay and coordinated dynamics—observable only through global modeling approaches, rather than traditional univariate methods.

Factors influencing human recognition of emotional valence and arousal in zoo animals

PhD Researcher Laura Hiisivuori[1], PhD Helena Telkänranta[1], Title of Docent Emma Vitikainen[1], Title of Docent Sonja Koski[1]
[1] University of Helsinki

Cross-species recognition of emotions is crucial for animal welfare; however, the factors influencing this ability remain poorly understood. This study examines the impact of empathy towards animals (AES), social dominance orientation (SDO), and speciesism (SPEC) on humans' ability to recognise emotional valence and arousal in non-human species, Barbary macaques, Siberian tigers, and Markhors.

Visitors at Helsinki Zoo in Finland assessed the emotional states of the animals through short video clips that lacked contextual information. Participants also completed questionnaires that captured demographic information, as well as measures of AES, SDO, and SPEC. A total of 447 visitors in 2021 and 669 visitors in 2022 provided 5,307 ratings across five video clips per species, which were compared to expert assessments to evaluate recognition accuracy.

Results indicated that participants recognised emotional arousal more accurately than valence across species, with the emotions of macaques being identified more accurately than those of tigers. Notably, empathy towards animals did not enhance the accuracy of emotional assessments, suggesting that while empathy may exist, it does not contribute to a deeper cognitive understanding of animal emotions, particularly for unfamiliar species. This study was likely the first to investigate the effects of SDO and SPEC on the recognition of animal emotions. However, neither demonstrated significant effects on recognition abilities.

These findings highlight the complexities involved in recognising emotions in non-human species and underscore the need for enhanced education about animal emotions. Enhancing the recognition of animal emotions is vital for advancing animal welfare practices and fostering responsible human-animal interactions.

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AGORA

Teaser
Day 1 – 17:00
Small
Festive Hall

Comparison between continuous and instantaneous sampling methods in brown bears (Ursus arctos): a pilot study

DVM, MSc Elena Stagni[1], **DVM, MSc Irene Redtenbacher**[1], Barbara Contiero[2], Dr., DiplAWSEL Marlene Katharina Kirchner[3], DVM, DiplAWSEL Sabine Hartmann[4], Prof., DiplAWSEL Marta Brscic[2]
[1] Wild Animal Department, FOUR PAWS International, [2] Department of Animal Medicine Production and Health (MAPS), University of Padova, [3] Farm Animal & Nutrition Department, FOUR PAWS International,
[4] Science Unit, FOUR PAWS International

Behavioural monitoring programs are crucial to improve animal welfare in facilities caring for wild animals. Observations are often performed by caretakers during daily routines, making feasibility essential and usually preferring instantaneous sampling.

This study aims to preliminarily investigate the accuracy of instantaneous sampling compared to the more complete but time-consuming continuous in behavioural observations of brown bears (Ursus arctos).

Observations were conducted by a single observer on 63 five-minute videos of one brown bear, recorded over three consecutive days in October (2017, 2018, 2019), April and August (2018, 2019) in BEAR SANCTUARY MÜRITZ, Germany. The videos were randomly selected within three timeframes (08:00-12:00; 12:00-15:00; 15:00-18:00) and data were collected using continuous and instantaneous sampling methods, with scan interval lengths (SIL) of 15, 30, 60, 90 and 120 seconds. Spearman rank correlations were calculated between the percentage of total time (continuous) and the percentage of scans (for all SIL) of each behaviour.

Scores ranged from 0.82 to1 between continuous and all SIL for Resting, Stereotypies, Self-directed and Bathing, and at least the two shorter SIL (15s, 30s) for Locomotion, Eating, Other and Out-of-Sight. Additionally, 30s-instantaneous was feasible for the caretakers, and it was compared with continuous using Wilcoxon pairwise test, showing no significant difference (p-value >0.05), except for Resting (p-value 0.04). The significance seems caused by a minimal variation on otherwise very similar data.

In conclusion, the 30s instantaneous sampling method was found accurate and the data suggest using this SIL for regular behavioural observations in FOUR PAWS brown bears sanctuaries.

Assessment of emotional changes and pain in horses using infrared thermal measurement of the eye

Phd Océane Liehrmann[1], MSc Veera Riihonen[1], Prof. Virpi Lummaa[1], PhD Léa Lansade[2]
[1] University of Turku, [2] INRAE PCR Nouzilly

Recent interest in farm animal cognition highlights the need to better understand their affective state. While welfare research often focuses on stress, positive emotions and pain assessment remain underexplored. Traditional physiological measurements can by very invasive. Contactless infrared thermal imaging (IRI) offers a non-invasive alternative as emotional stimuli can cause temperature variation in facial regions. In fur-covered animals, the medial canthus (MC) (hairless inner eye corner) serves as a reliable temperature indicator.
This study measures MC temperature variations in horses during emotional and painful experiences.

1st experiment: 26 Welsh-pony mares were exposed to stimuli of different valence and intensity: 1) a fearful stimulus: plastic bag shaken (negative arousal), 2) grooming (positive calming), and 3) food anticipation (positive arousal). Heart rate and MC temperature were continuously monitored. 2nd experiment assessed MC temperature as a pain indicator. During routine transrectal echography, 33 Welsh-pony mares were recorded for MC temperature variations alongside heart rate and facial expressions. Facial muscle contractions are linked to pain, this study examines whether increased MC temperature is associated with facial expression of pain.

Behavioral data, facial expression, heart rate variation and MC temperature data will be statistically assessed for correlations (GLMER). By addressing gaps in welfare assessment, this study evaluates IRT as a tool for monitoring emotions and pain in horses. If validated, IRT use could improve veterinary diagnostics and provide an objective welfare assessment method.

This poster presents the methodology of this study (methods published in open access) as the results have not been analyzed yet.

Blood Collection in Panthera Felids: Anatomical Aspects and Medical Training

Doctor Kenza Sayah[1], Professor Céline Robert[1,3], Professor **Caroline Gilbert**[1,2]
[1] Ecole Nationale Vétérinaire d'Alfort,
[2] Laboratoire MECADEV, UMR 7179, CNRS/MNHN, 3GABI UMR 1313, INRAE, Université Paris-Saclay

Introduction. The conservation of large felines of the Panthera genus, threatened in their natural habitats, partly relies on ex-situ captive programs. In that context, rigorous health monitoring and blood sampling are essential to ensure captive felids' well-being. However, traditional restraint methods present ethical and practical challenges, along with significant risks to animal welfare and personnel safety.

Methodology & Results. This study explores innovative, less invasive approaches to improve blood collection procedures in captive felines, thanks to felids' tail anatomy description.
In order for a vet to be efficient in blood sampling, anatomy of the veinous system has to be described. We hence conducted a detailed study of the angiological features of the tail in lion (Panthera leo), tiger (Panthera tigris), and snow leopard (Panthera uncia), with the aim of identifying an optimal blood sampling site that is both safe and practical (all tails were collected after the natural death of the animals). Anatomical and imaging results revealed significant similarities in the vascular structure of the tail across these three species.
We also explored the importance of medical training, based on operant conditioning, to reduce stress and enhance animal welfare. We here propose a training protocol on a lion in Zoo de la Flèche, which was successful.

Conclusion. This research highlights the importance of innovations in veterinary medicine to ensure the health and well-being of captive felines, while contributing to ex-situ conservation efforts.

“Possessive aggression” and pain, is this a resource-maximisation strategy?

Dr Beverley Wilson[1], Professor Daniel Mills[1]
[1] Animal Behaviour Cognition & Welfare Group, University of Lincoln

There is increasing awareness of the role of discomfort in cases involving problematic behaviour. In some cases pain may contribute or exacerbate problem behaviour, but in others it may be the primary cause. In the latter case complete or near-complete failure of treatment might occur until pain is addressed. We present 2 cases, both involving severe aggression over items where significant progress was not achieved until discomfort was adequately managed and speculate as to the biological basis for a causal relationship.

a) 1 year 7-month-old, female entire, cocker spaniel with a one-year history of taking and defending items. A rational behaviour modification plan had been implemented prior to referral and general progress was seen in other behaviours of concern but not for the aggressive behaviours around items.

b) 11-month-old, male entire, Sprocker with a six-month history of aggressive behaviours around items. Very limited progress was achieved until discomfort was managed. Relapses were observed when the dog was uncomfortable (such as withdrawal of analgesics).

These cases highlight the observation that resource guarding/defence may be directly caused by discomfort. This is an adaptive strategy that could have evolved from the benefits of maximising the assimilation of resources to aid recovery and protecting against the reduced potential to acquire resources when fitness is compromised by pain. It is therefore particularly important for clinicians to consider pain/discomfort as a primary medical differential for cases of protective aggression, even if signs are subtle or covert. The management of these cases, including discomfort, will be detailed.

Preparing the family dog for a new baby- Can we do better?

Ashleigh Hargreaves[1], **Jacqui Ley**[1]
[1] Melbourne Veterinary Specialist Centre

A 7-year-old, female spayed, mixed-breed dog presented for vocalisation and highly aroused behaviour post the arrival of a new baby to a previously childless home. The dog had a history of generalised anxiety disorder, noise sensitivity and stranger-directed fear aggression. She had previously responded positively to treatment with Venlafaxine ER 75mg daily and was described as relaxed in the home environment prior to the arrival of the baby.

The clients had brought home baby blankets from the hospital for the dog to smell prior to the baby's arrival. The owners felt this had sensitised the dog to the presence of the baby and contributed to her highly aroused behaviour after the baby was brought home. Despite trialling several situational medications to assist the family in the short-term, the most significant factor to improve the dog's behaviour appeared to be time.

This case highlights the lack of peer-reviewed and evidence-based literature on neurotypical dog behaviour when a baby arrives home, and limitations in recommendations commonly provided to help families prepare to introduce a new baby into a dog's home (Bergman & Gaskins 2008) for owners whose pets have mental health disorders. Some widely recommended practices may be detrimental.

Recommendations to families based on the individual temperament of the dog (Levine 2023) and advice on how to focus on assessing a dog's emotional responses (Mills 2025) during the preparation and arrival of a baby may be of value, as well as setting realistic expectations (Kogan et al. 2024) may be more helpful.

Targeted lipidomics showed altered serum phosphatidylcholine levels in fearful dogs

Dr Luigi Sacchettino [1], dr Michele Costanzo [2,3], dr Sabrina Bianco [2,3], dr Iolanda Veneruso [2,3], dr Valeria D'Argenio [3,4], dr Viviana Orsola Giuliano [1], dr Valentina Gazzano [5], dr Asahi Ogi [6], dr Francesco Napolitano [1,3], dr Danila d'Angelo [1]
[1] Department Of Veterinary Medicine And Animal Production, University Of Naples Federico II, [2] Department of Molecular Medicine and Medical Biotechnology, University of Naples Federico II, [3] CEINGE-Biotecnologie Avanzate Franco Salvatore, [4] Department of Human Sciences and Quality of Life Promotion, San Raffaele Open University, [5] Department of Veterinary Sciences, University of Pisa, [6] Department of Clinical Sciences and Translational Medicine, University of Rome Tor vergata

Fearfulness accounts for most mood-related disorders affecting family dogs, who generally experience several behavioral traits, including trembling, hiding, flinching at noises, panting or ears held back. Intense and persistent exposition to threatening situations might escalate to phobia, which easily makes patients more prone to inter- and intra-specific aggression. Factors like pain, adverse environment, poor nutrition, as well as medical condition may contribute to the onset and severity of fear, although molecular pathways underlying such a dysfunctional emotional status are not yet fully understood. Among them, growing evidence highlighted the importance of lipid dynamic in mood-related disorders, both in humans and animals. Accordingly, lipids are regarded as main components of the brain structure and facilitate a wide range of neuronal activities, ranging from energy-storing enzyme cofactors, emulsifying agents, vitamins, hormones, intercellular messengers and structural components of cell membranes.

In the present work, we investigated the serum lipidome profiles of fearful family dogs using a targeted lipidomic approach.

Out of 26 differentially abundant lipids, we identified 17 phosphatidylcholine species increased in the diseased group compared to healthy subjects. Of these, 13 were statistically validated and included in a combination of lipids operating as disease biomarkers.

Collectively, our data pave the way for a deeper characterization of the impact of lipid dysregulation upon mood-related dysfunctions in dogs, and for identifying diagnostic biomarkers in the veterinary practice to cope with behavioral disorder.

Puppies, microbiome and behaviour: a scoping review

DVM, MSc Alessandra Laureano[1], DVM, dipl ECAWBM, PhD Chiara Mariti[2], DVM, PhD Federica Pirrone[3], DMV, PhD Veronica Marchetti[2], DVM, dipl ECAWBM Ludovica Pierantoni[4]
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Growing evidence links intestinal microbiota to psychological and emotional wellbeing, emphasizing the bidirectional communication between the gut microbiota and central nervous system, which affects both neurology and behaviour.

This scoping review examines links between faecal microbiota and behaviour in puppies, focusing on microbiota development, welfare implications, and early separation effects.
A literature search was conducted in March 2025, with Google scholar, PubMed, PMC and ScienceDirect, using the keywords: “puppy” OR “puppies” AND “microbiome” OR “microbiota”; “puppy” OR “puppies” AND “early” AND “separation” AND “mother” OR litter” AND “behaviour” AND “microbiota” or “microbiome”; “dog” OR “dogs” OR "canine” AND “microbiome” OR “microbiota” AND “behaviour”.

Thirty-two articles were found: 16 addressed factors influencing microbiota composition and its development in puppies; 2 examined the link between early separation and behavioural issues; and 14 explored microbiota-behaviour-cognition associations in adult dogs.
This review found that studies examining the correlation between faecal microbiome and behaviour, especially in puppies, are limited and largely focus on microbiota composition and its temporal changes in relation to maternal microbiota and diet during pregnancy, whelping type and neonatal feeding, vaginal microbiota, supplements, medications, and environment. Some studies report associations between microbiota composition and behavioural disorders (aggression, fearful/phobic behaviours) in adult dogs.

Understanding of gut microbiota development in puppies remains limited, as its composition is influenced by multiple factors. The potential impact of early separation, known to induce stress with long-term behavioural consequences, on faecal microbiota and behaviour in dogs needs further investigation.

The effects of trazodone as an anxiolytic for hospitalized cats: a pilot study

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Hospitalized cats are frequently exposed to unfamiliar and potentially stress-inducing stimuli, which can negatively impact their well-being and clinical recovery. Furthermore, distress increases sympathetic nervous system activation, leading to tachycardia, elevated cortisol levels, and behavioural changes that may hinder treatment outcomes. Therefore, pharmacological interventions, such as trazodone, have been suggested as potential anxiolytic agents to mitigate stress in hospitalized cats.

This prospective study evaluated effectiveness of a single 50 mg oral dose of trazodone in reducing stress in eight hospitalized cats. Stress levels were assessed using the validated Cat-Stress-Score before drug administration (T0, baseline) and at hourly intervals for 4h post-administration (T60, T120, T180, T240). Respiratory rates were also recorded. Data were analysed using a generalized linear model, accounting for variables such as time, sex, and dose, with multiple comparisons adjusted using the Tukey-Kramer method.

Trazodone administration resulted in a statistically significant progressive decrease in mean stress scores ($P < 0.05$) from baseline (T0) to subsequent time intervals, with the most notable reduction occurring at 180 minutes post-administration. No adverse effects were noted, suggesting that trazodone may be a safe pharmacological option for stress management in hospitalized cats.

This study suggests that trazodone may be an effective option for reducing stress in hospitalized cats. Further research with larger sample sizes and controlled clinical trials, and the creation of a control placebo group, or the use of an anxiolytic molecule with a known effect is warranted to confirm its efficacy and optimal dosing strategies for feline stress management.

The Americas' cage-free egg transition: egg-citing news for 2025

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In 2023, global egg production estimates increased by 40% compared to 2010, reaching a total of 97 million tons. Asia has been the leading egg producer for several decades; however, egg production in the Americas is also continuously increasing, accounting for 20% of the global output. However, there is also an increasing concern about animal welfare conditions for laying hens, which has led to the 2025 deadline for many corporate cage-free commitments in the US and proposed federal policies in Mexico and Colombia. The aim is to highlight and provide up-to-date information on policy changes and production practices in laying hen production systems across the Americas. This is relevant because the US is the second-largest egg producer, closely followed by Mexico, which ranks fourth. The US, Mexico, Colombia, Argentina, and Chile are among the global top ten egg producers and consumers.

In January 2025, eleven states in the US will implement cage-free policies. Meanwhile, Mexico is expected to pass its first animal welfare legislation and guidelines for cage-free egg production, and Colombia will continue to enforce its mandatory federal animal welfare training and regulations.

A full transition to cage-free systems in each country has yet to be determined, as most egg production in Mexico (99%), Colombia (~88%), and the US and Canada (~60%) is currently in conventional cages. Nonetheless, these policies have faced recent challenges, such as avian influenza and rising egg prices, which have led lawmakers to delay standards.

Does housing condition impact on lying behaviour of horses? A pilot study applying triaxial accelerometers

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In mammals, sleep is fundamental for physiological and cognitive functions. To avoid sleep deprivation, horses need to lie down daily for an adequate amount of time. Triaxial accelerometers have been proven to be reliable devices for continuously, non-invasively and accurately monitoring of horses' behaviour. This pilot study aimed to monitor lying behaviour over a few days in horses kept in different housing conditions.

Twenty-eight healthy adult horses (19 mares, 8 geldings and 1 stallion, 17.08±6.82 years old) were continuously monitored for a five-day period. They were stabled in three housing conditions: single boxes (N=9), paddock (N=10) and single boxes with small paddock (N=9). The MSR145 accelerometer was applied to the metacarpal bone of the left front leg. Nonparametric test was conducted to evaluate the impact of housing conditions on lying behaviour (i.e., daily duration and frequency of bouts).

In different housing conditions, mean (+/-SE) daily lying duration: single box 28+/-5.57min, box with paddock 22+/-3.89min, and for paddock 11+/-2.49min. There was a significant difference among the three housing conditions (Kruskall-Wallis,P=0.035), with horses kept in paddock lying significantly less than horses in single box (Pairwise comparisons,P=0.016) and box with paddock (Pairwise comparisons,P=0.045). No significant differences were found for frequency of lying bouts (single box: 3±0.8; box with paddock 2±0.4; paddock 2±0.3).

The results, although the sample size was limited, confirm that housing condition can affect duration of lying behaviour.

Effect of night duration on milk yield and feed intake in dairy cows

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The light environment is a fundamental part of animals' experience of their immediate surroundings, and it is well established that lactating cows benefit from 16 hours of daylight and 8 hours of night. However, farmers milking three times a day might not be able to keep a 16/8 light regime.

Therefore, we examined the effects of a shorter night on milk yield and feed intake (silage) in Norwegian red cows (parity 2.1±1.31 [range 0-7]) housed indoor in a free-stall barn with automatic milking with the day hours/night hours distribution of 24/0 (n=44; DIM 141±69), 21/3 (n=44; DIM 175±75) and 18/6 (n=46; DIM 153±73), each for 3 weeks. Cows were fed ad libitum with a mix of third-cut silage, maize, straw, protein concentrate, minerals, and sea salt, from individual feed bins (BioControl CFRI). The stocking density was 0.88 cows per cubicle. Free stalls were covered with mattresses and sawdust and cleaned several times daily.

Preliminary results from a mixed model with treatment, parity, and DIM as fixed factors and cow as a random factor showed no effect of the number of night hours on milk yield (P=0.98), but feed intake was reduced in the 18/6 treatment compared to both other treatments (P<0.001).

Further investigations will include more detailed analyses of 24-hour activity and lying behavior, as well as hormonal profiles, to assess whether there is a shift in resource use or endocrine expression dependent on the light regime, which could have long-term effects on the health and welfare of the cows.

Application of rapid microbial detection for hygiene monitoring in pig farrowing units

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Maintaining high hygiene standards in farrowing units is essential to support piglet welfare and reduce pathogen pressure. Practical, rapid, and reliable methods are needed for on-farm environmental hygiene monitoring. This study aimed to evaluate the use of the MicroSnap system for rapid microbial detection in two welfare-relevant areas: the piglet heated mat and the corridor.

Field monitoring was conducted on a conventional pig farm following animal removal and during sanitation procedures. The MicroSnap system, used with the EnSure luminometer (Hygiena LLC, USA), was employed to assess total microbial count (TMC), Enterobacteriaceae (EB), coliform bacteria (CB), and Escherichia coli (EC). Measured values in relative light units were converted to colony-forming units and compared to traditional plate culture methods. To assess associations, Spearman's rank correlation coefficient (r_s) was used.

Statistically significant correlations ($p<0.05$) were confirmed between MicroSnap-TMC and TMC on blood agar (36°C), with strong correlation in the corridor ($r_s=0.769$) and moderate on the piglet mat ($r_s=0.619$). A high correlation ($p<0.05$) was observed on plate count agar at 22 °C in the corridor ($r_s = 0.711$), and a moderate one on the piglet mat ($r_s=0.547$). EB, CB, and EC values from MicroSnap strongly correlated with selective agar results in the corridor ($r_s=0.746–0.884$; $p<0.01$), and significantly on the piglet mat for EB ($r_s=0.843$) and CB ($r_s=0.698$; $p<0.01$).

MicroSnap offers a practical, on-farm tool for identifying microbial risks in areas critical to piglet welfare. While not a replacement for traditional methods, it enables faster response and supports routine hygiene verification in animal welfare monitoring.

Behavioural response of guide dogs under training to a mildly stressful situation: a preliminary study

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Guide dogs undergo a family-based pre-training phase from 3 to 12-14 months of age before returning to training centres for a 6-months specialized education. This study aimed to evaluate their human-directed behaviour and adaptability in response to a mildly stressful scenario in the training centre.

Twelve under-training guide dogs (6 intact females, 1 spayed female, and 5 neutered males) aged between 15 and 19 months were evaluated through the classic unsolvable task paradigm, which consists of five solvable trials followed by one impossible trial. The dogs entered the training center at different times but were tested simultaneously in a single session. Dogs' behaviours were recorded and analysed using BORIS software, and descriptive and statistical analyses were performed using SPSS.

The impossible trial results showed that dogs spent 45.65±17.24 seconds sniffing, 30.51±25.67 seconds wagging their tails, 29.02±26.42 seconds moving the apparatus, and 3.60±8.78 seconds lying down. Additionally, they interacted with the apparatus using their paws for 46.20±18.51 seconds, looked at the experimenter for 2.40±3.38 seconds, and bit/licked the apparatus for 35.17±22.84 seconds. Notably, females wagged their tails significantly more than males (40.93±28.23 seconds versus 15.94±12.65 seconds, $P \leq 0.05$) and showed a tendency to pant and gaze at the experimenter more frequently. Dogs in the training centre for over two months exhibited a higher tendency to gaze at the handler and interact with the apparatus through licking/biting.

These findings provide initial insights into guide dogs' responses to training environments in order to enhance their well-being and adaptability during training.

Molossoid and bull-type dogs in northern Italy: a preliminary analysis from Lombardy shelters

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As reported in the literature, molossoid and bull-type dogs are overrepresented in shelters and tend to stay longer than other breeds.

This study explores their prevalence and adoption challenges in Lombardy shelters. A descriptive survey was conducted in 24 shelters from June 2024 to March 2025.

The proportion of molossoid and bull-type dogs ranged from 9.7% to 52.7%, with an average of 22.8%. Among them, 16.8% were Amstaffs, 33.9% Pit Bulls, and 30.2% mixed molossoids. Most were male (66.1%), with 41.3% intact and 24.8% neutered. Females accounted for 33.9%, with 13.6% intact and 20.3% spayed. The majority were aged 3–7 years (38.6%), followed by over 7 years (34.2%), 1–3 years (22.8%), and under one year (4.5%).
As for origin, 46.5% were strays, 40.1% owner-surrendered, 12.9% seized, and 0.5% born in shelter. According to shelter records, 70.3% displayed no aggression towards humans, while only 45.8% showed no aggression towards other dogs. Regarding adoption history, 90.6% had never been adopted, 8.4% had been adopted once, and only 1% had been adopted twice since entering the shelter. Legal restrictions were absent in 95.3% of cases; 3.7% were restricted for aggression towards people, and 1% for aggression towards other dogs.

This study highlights the high presence of molossoid and bull-type dogs in Lombardy shelters, especially intact males, and their adoption difficulties. Further research will assess their national prevalence.

End-of-life emergency situations in pigs: laws, regulations, and lived experiences in the EU

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Intensification of animal production, cross-border export/trade and climate change increase the risk of emergency situations, such as overturned transport vehicles, barn fires, or natural disasters. During such events, at least animals need to be handled to safety, at worst a quick decision regarding killing must be made, which requires them being accurately assessed for unconsciousness and death.

We previously conducted a scoping review on this topic. Results highlighted significant gaps in literature which prevent the development of evidence-based recommendations for best practice in these emergency scenarios. While pig welfare is evidently compromised in emergency situations, human welfare is also at risk. Some studies in our scoping review reported a mental and physical cost to all parties involved (e.g., producers, first responders, veterinarians). This was also mentioned by interviewees in our qualitative inquiry focusing on Danish cases.

Here we present our proposed research which will aim to give an overview of current protocols used in large pig producing countries in the EU, whether from a legal or regulatory framework. Secondly, we will conduct interviews with different actors previously involved in emergency situations and invite them to reflect on their experience with the application of the protocol.

Knowledge gained with this research could provide valuable insights for the refinement of current protocols that would minimize harm to both animal and human welfare.

Impact of noise during the Fallas festival in Valencia on domestic rabbits: a pilot study

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Background and objetives: Fallas festival (Valencia) lasts for three weeks and is dominated by successive noisy events such as firecrackers and fireworks at very different and almost always unpredictable times. The are effects on the well-being of dogs, but no data exists for rabbits.The aim of the study was to evaluate the impact of the Fallas on the rabbits' QoL, as well as to evaluate the intervention used if QoL declined.

Methods: We used an ad hoc questionnaire asking about the rabbit's habitat, habitual behaviour, social relationships, health problems and an assessment of QoL. Carers were asked to give one response for the Fallas period and another for the rest of the year. Descriptive statistics was used.

Results: 42 rabbits were evaluated and a decrease in quality of life was detected in 21 (50%) of them. All of them were contacted to offer supportive treatment consisting of environmental management and pharmacological treatment with gabapentin 25 mg/kg/12hs. Eight patients were finally treated, and it was observed that 75% improve the fear reactions and recover faster after firework events. Side effects were observed on one patient consistent on mild ataxia first day treatment.

Conclusions: Although the rabbits do not go outside, they seem to be affected by noise in a similar way to that observed in dogs. This was an observational report on a small sample, and that while initial results are promising, further controlled evaluation is warranted before generalizing gabapentin's use in rabbits for this indication.

Effectiveness of sertraline and trazodone in treating compulsive behavior in a pug: case report

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Compulsive behaviours are a behavioural problem affecting humans and non-human animals, leading to a marked decline in welfare. In companion animals, these behaviors can manifest as self-mutilation, stereotypies, or hallucinatory actions. In human psychiatry, the treatment of obsessive-compulsive disorder often involves the use of selective serotonin reuptake inhibitors (SSRIs), such as sertraline and escitalopram, with established efficacy. Notably, some authors advocate for sertraline or fluvoxamine as first-line psychopharmacological treatments. Sertraline appears to be a safe alternative, presenting fewer side effects than fluoxetine and clomipramine, and there are few data on the use of trazodone in compulsive behaviour.

A 3-year-old intact male pug presented with severe ejaculative mounting behaviour directed toward mostly known people, accompanied by dyspnea and cyanosis, had entered the urgencies of Bom Jesus Veterinary Hospital twice, where respiratory distress was addressed and treated, and it was referred to behavioural medicine. It was diagnosed with generalized anxiety and compulsive disorder, and besides behavioural modification (desensitisation and counterconditioning techniques with positive reinforcement) and environment management, a combination of sertraline and trazodone was implemented. The compulsive behaviour ceased 48-72 hours after the institution of the treatment, without showing sedation or reduced exploratory or social behaviour. He maintains an absence of compulsive behaviour until nowadays, with reduced anxiety-related behaviour presented and remarkable welfare improvement.

This case seems to show that the combination of sertraline and trazodone may be an effective pharmacological approach to compulsive disorders, but further studies are necessary to demonstrate their effectiveness in the treatment of compulsive-related behaviour problems.

Happy and angry human images differentially affect dogs' postural stability

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Visual stimuli are known to elicit biomechanical balance responses, thereby influencing postural stability. These responses offer valuable insights into the relationship between visual perception and physical balance. This is the first study to examine the effect of human images on postural stability in dogs during static stance.

Seventeen healthy pet dogs were evaluated standing on a pressure plate under 3 conditions: viewing happy human images, angry human images, and no image. Five conventional Center of Pressure (COP) parameters were analyzed; mediolateral displacement, craniocaudal displacement, support surface, average speed (AS) and statokinesiogram length. Although no significant differences in balance were found across the 3 conditions overall, a cluster analysis of relative COP changes (ΔCOP_%, increase/decrease relative to the no-image condition) revealed 2 distinct reaction patterns within both image conditions (ANOVA, all ΔCOP_% parameters, $p < 0.05$, except AS within happy condition).

For happy images, 35% of dogs exhibited increases across all ΔCOP_% parameters, while 65% showed decreases. Angry images led to increases across all ΔCOP_% parameters in 47% of dogs, while 53% showed decreases. No significant differences in all ΔCOP_% parameters were found between both Clusters 1 (increase in all ΔCOP values) and between both Clusters 2 (decrease in all ΔCOP values).

These findings suggest that arousal rather than the emotional valence triggered by human images, affected canine balance. Both emotions (happy, angry) resulted in increases in all ΔCOP_% parameters, interpreted as a destabilizing effect on balance, and decreases in ΔCOP_% parameters, interpreted as stabilizing effect on balance.

Pet chelonian ownership in Portugal and Italy: a comparative utilitarian harm-benefit analysis

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The increasing fascination with exotic pets has contributed to the rising trend of reptile ownership across Europe.

This study presents a comparative harm-benefit analysis of chelonian ownership in Italy and Portugal. An online survey was carried out among the two populations of chelonian pet-owners.

In Italy (n=91), pet chelonians were predominantly native Testudo hermanni (85.7%) housed in outdoor or mixed environments (96.1%). In contrast, in Portugal (n=144), ownership included 22 different species, primarily aquatic freshwater turtles (67.4%), most of which were kept indoors (67.4%). Fewer Italian owners viewed their chelonian as family members (44.3%) compared to Portuguese owners (61.9%), suggesting a weaker human-animal bond. However, a utilitarian harm-benefit analysis indicates that Italian ownership practices are more closely aligned with the species' physiological and behavioral needs, potentially supporting better welfare. In Portugal, the harms identified were mostly related to the inability to meet chelonians' needs and the introduction of invasive species. The only benefit identified was the owner's emotional fulfillment. In Italy, the main benefits identified included consistent access to natural sunlight, natural vegetation, and a temperate environment that mirrors the species' ecological niche. Harms included predation risk, illegal sourcing, and a potentially less rewarding bond for owners.

The contrast between the two countries illustrates how owners' species choice and husbandry context impact the welfare of pet reptiles and highlights a need to align pet ownership practices with the ecological and biological needs of the animals.

When utilitarian ethics falls short: alternative approaches to ethical challenges in the shelter sector

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The social license of animal shelters is based on a perception that animals contained within are better off than those who would otherwise stray, be kept in unsuitable homes and/or exposed to cruelty.

However, in shelters, animals may be exposed to stressors including overcrowding, as well as infectious disease. Increased length of stay in shelter environments is associated with decreased adoptability and development of behaviour problems such as stereotypies. An unintended consequence of shelter admission is that animals may be worse off in a shelter environment. Those who surrender animals to shelters through circumstances beyond their control may also experience moral distress.

Despite a growing "no kill" movement, many shelter animals are killed or euthanased, creating a 'solution' to overcrowding which depends on the killing of animals that do not fit the model of the ideal adoptable shelter animal. This has been likened to an industrial process (the 'shelter industry'), and has been linked to moral distress among shelter staff.

We argue that the utilitarian approach to shelter management, while historically accepted, is no longer aligned with social expectations. Through exploring key ethical challenges in shelters through lenses of both principlism and David Fraser's "practical ethic" for animals, we argue that the focus of animal sheltering must change from confining animals to protect them from the outside world to a more diverse array of activities, including 'shelter at home' and different forms of animal fostering.