

Changing Veterinary Medicine Through Digital Hearing Assessment and Species-specific Sound Therapy

Auditory health and sound environments are fundamental but underexplored factors in veterinary medicine. Dogs and cats experience rich soundscapes that profoundly influence their behaviour, stress physiology and quality of life. Yet, hearing loss often goes undetected until advanced stages and stress in veterinary and home settings remains a persistent welfare challenge.

The Pet Acoustics+ App introduces two innovations with transformative potential for veterinary practice: the world's first mobile, patent-pending hearing test for dogs and cats and subscription-based, scientifically validated species-specific music to reduce stress and improve outcomes. This article reviews the scientific foundations of auditory health in companion animals, it summarises biometric research on sound therapy published in the International Animal Health Journal and evaluates the implications of AI-driven mobile tools for diagnostics.

Veterinarians increasingly recognise that animal health extends beyond physical disease to include emotional and sensory well-being. Stress in clinical settings undermines diagnostic accuracy, impedes treatment and diminishes client satisfaction. Noise is one of the most significant stressors: barking, metallic clanging and unfamiliar voices can elevate cortisol, heart rate and behavioural distress in both dogs and cats.

Simultaneously, hearing health remains an overlooked domain in preventive care. Traditional auditory assessments are limited to basic in-clinic stimuli (clapping, whistles, toy squeaks), or advanced Brainstem Auditory Evoked Response (BAER) testing, available only in specialty centers. This leaves the majority of pets without early detection of hearing decline, particularly senior animals where sensory loss can exacerbate anxiety, disorientation and reduced quality of life.

The Pet Acoustics+ App was developed to close these gaps. By combining calibrated frequency-based hearing testing with species-specific sound therapy validated in peer-reviewed studies, the app provides veterinarians with scalable, evidence-based tools to advance both diagnostic accuracy and stress management.

MATERIALS AND METHODS

1. The Pet Hearing Test

- **Technology:** The hearing test delivers frequency-specific tones via smartphone or tablet speakers, calibrated to account for device variability.
- **Species-specific Ranges:**
 - Dogs: up to ~45 kHz
 - Cats: up to ~84 kHz
- **Testing Protocol:** The guided process plays frequencies across the auditory spectrum. Pet parents or veterinary staff observe behavioural indicators (ear orientation,

head tilt, startle reflex). Data is instantly displayed and can be exported into wellness records.

Clinical Advantages:

- Objective, repeatable and standardised.
- Accessible across general practice, not restricted to specialty referral centers.
- Allows monitoring of hearing decline longitudinally, particularly in aging pets.

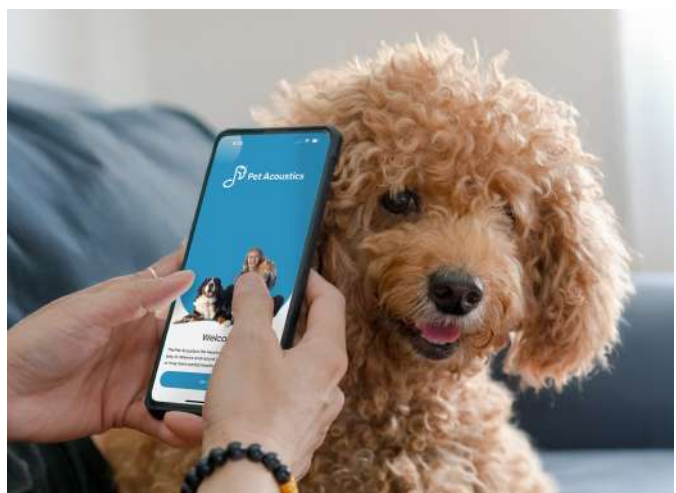
2. Calming Music Library

- **Composition Principles:** Species-specific music is composed using bioacoustic parameters tailored to auditory range, pitch sensitivity and heart rate entrainment of dogs and cats.
- **Biometric Validation:** In a study published in the International Animal Health Journal (Marlow, 2018), biometric monitoring demonstrated that exposure to Pet Acoustics music resulted in:
 - Reduced heart rate variability associated with stress.
 - Decreased restless pacing in kennel environments.
 - Improved sleep patterns during recovery.
- **Delivery:** Curated playlists are provided through subscription (Core and Premium tiers), with clinical applications for:
 - Waiting room stress management.
 - Recovery post-surgery.
 - Noise-phobia mitigation (fireworks, thunderstorms).
 - Grooming and transport.

RESULTS

Accessibility and Adoption Potential

- **Democratising Diagnostics:** The mobile hearing test allows veterinarians and clients to detect hearing decline without expensive referral equipment.



Try the Free Pet Hearing Test

Safely see how well your dog or cat can hear in minutes from the **Pet Acoustics+** app.



Available on



App Store



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Pet Acoustics



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- **Documentation:** Results can be integrated into electronic medical records, creating a new standard for sensory health tracking.
- **Clinical Use Case:** Senior wellness programs benefit from objective auditory data, guiding recommendations on environmental enrichment, training modifications and quality-of-life counseling.

Stress Mitigation Outcomes

- **Veterinary Clinics:** When played in waiting rooms or treatment areas, Pet Acoustics music reduced noise reactivity and facilitated smoother handling.
- **Shelters and Kennels:** Facilities using the music observed decreased barking intensity and shorter recovery times from agitation.

At Home: Pet parents reported reduced pacing, less destructive behaviour and greater relaxation during fireworks, thunderstorms and separation events.

Alignment with Fear Free™ Practice

The app complements veterinary wellness protocols by addressing one of the most under-recognised stressors in veterinary care: sound. By integrating scientifically validated music, clinics can reduce fear, anxiety and stress (FAS) scores, supporting both patient welfare and client loyalty. Pet Acoustics is part of the Preferred Product FearFree™ Program.

DISCUSSION

Auditory Health as Preventive Medicine

Auditory decline is not benign. Hearing loss in dogs and cats correlates with disorientation, heightened startle responses and secondary behavioural issues such as anxiety and

aggression. Detecting and documenting early-stage decline empowers veterinarians to counsel owners on adaptation strategies (e.g., hand signals, vibration training, environmental modification).

The Pet Acoustics+ App establishes the first practical framework for routine auditory screening in general practice, similar to how ophthalmic and dental assessments have become preventive standards.

Sound Therapy as a Non-Pharmaceutical Intervention

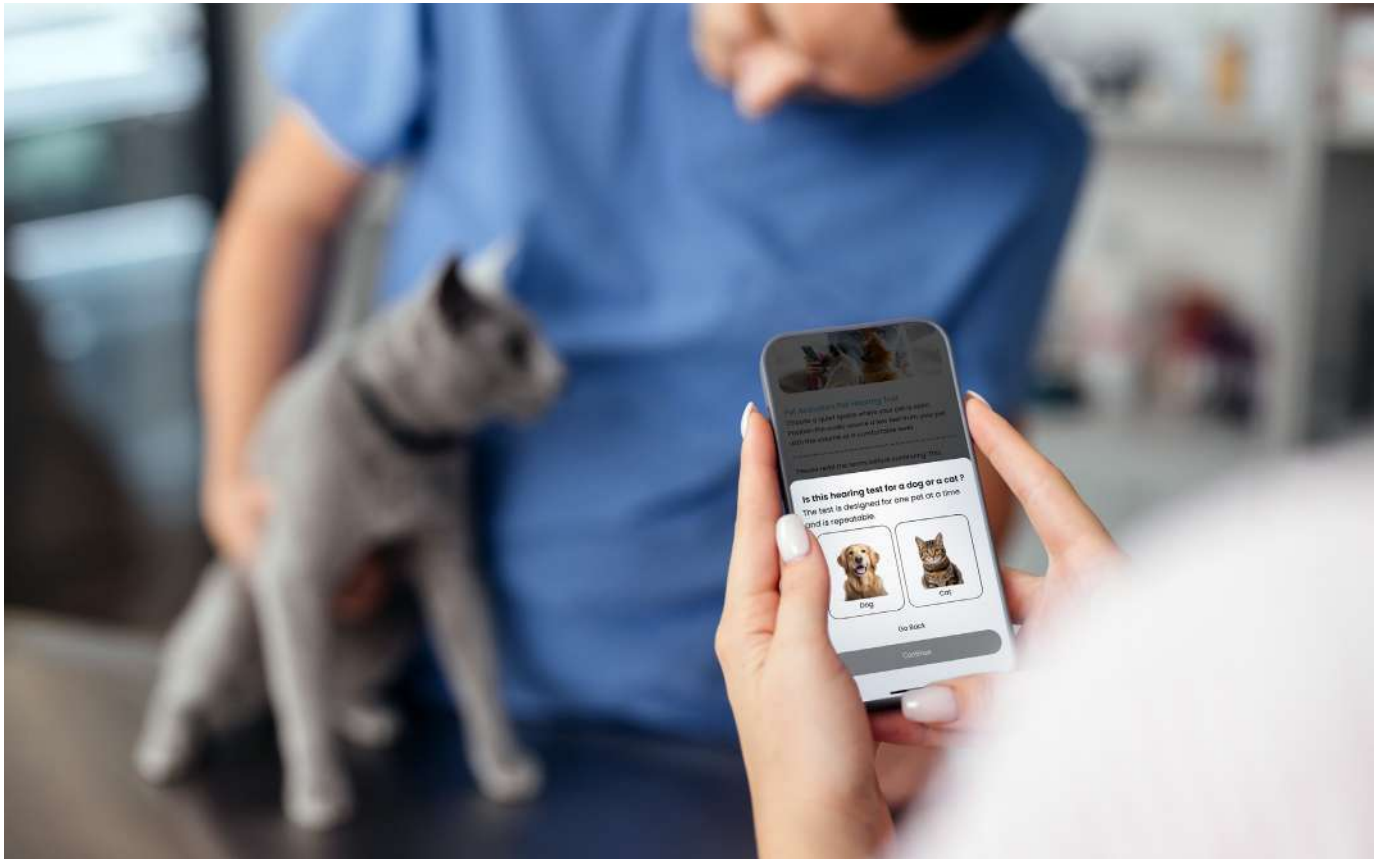
Pharmaceutical anxiolytics remain common in veterinary practice but can present compliance challenges and side effects. The Pet Acoustics+ App provides a drug-free, side-effect-free adjunct to anxiety management, with strong client acceptance. For veterinarians seeking multimodal care approaches, the combination of music therapy and behavioural counseling represents a powerful addition to their toolkit. Since 2009, Pet Acoustics music has helped over a million pets worldwide.

AI and Mobile Health Integration

The convergence of AI calibration, mobile delivery and sound science positions the app within the broader field of digital veterinary medicine. Just as wearable sensors and telehealth platforms are transforming monitoring, auditory tools are expanding diagnostic and therapeutic horizons. Importantly, the app creates scalable access – any clinic, anywhere in the world, can now participate in cutting-edge auditory care without costly equipment.

Impact on the Veterinary-Client Relationship

Offering an innovative, evidence-based tool enhances the value proposition of clinics. By integrating the hearing test and sound therapy into routine visits, veterinarians demonstrate leadership in adopting forward-thinking, holistic approaches. This strengthens trust, drives compliance and improves client retention.



Future Directions

- **Expanded Clinical Trials:** Ongoing biometric studies are evaluating cortisol, heart rate variability and behavioural scoring under veterinary conditions.
- **Integration with EMR Systems:** Linking hearing test data directly into veterinary practice management software.
- **Cross-Species Research:** Adaptations for equine and avian auditory ranges are in development.
- **Global Outreach:** Partnerships with shelters and welfare organisations to scale stress-reduction interventions worldwide.

Conclusion

The Pet Acoustics+ App represents a paradigm shift in veterinary medicine. By making auditory diagnostics accessible and pairing them with validated sound therapy, it establishes new standards for preventive care, wellness exam integration and client engagement. For veterinarians, the app is more than a digital accessory – it is a clinical tool that leverages AI, bioacoustics and mobile technology to transform how sensory health and stress management are delivered.

As the veterinary profession embraces digital health solutions, auditory care will no longer remain a blind spot. The Pet Acoustics+ App demonstrates that sound is not simply background – it is a therapeutic bridge to calmer, healthier lives for companion animals.

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Janet Marlow, M.A., Founder of Pet Acoustics Inc., is an internationally recognised sound behaviourist, composer and founder of Pet Acoustics Inc. For over two decades, she has pioneered species-specific music and sound therapy solutions for animals, with peer-reviewed studies published in leading veterinary journals. Her patented innovations, including the Pet Acoustics+ App, are used globally by pet parents, veterinarians, shelters, and service-dog organisations to support auditory wellness and reduce stress in animals. Marlow frequently lectures at veterinary conferences and is regarded as a leading authority on the science of sound and animal health.