MUSIC TO SOOTHE THE CANINE MIND

Psychoacoustic music proves to calm dogs.

BY ROXANNE HAWN

We live in a noisy world. Something is always beeping or buzzing, clanking or crashing, humming or honking nearby. We tune out much of the noise pollution, or at least pretend to, but our dogs come along for the ride of life, too. And, all this commotion is taking a toll on their physical and behavioral health.

That's the premise of the new book *Through a Dog's Ear: How to Use Sound to Improve the Health and Behavior of Your Canine Companion* (Sounds True, March 2008, $18.95). In addition, the authors offer solutions through a series of music CDs, including *Music to Calm Your Canine Companion, Music for the Canine Household, Music for Driving with Your Dog* ($14.98 each at www.throughadogsear.com).

Joshua Leeds compares the danger of noise pollution for people and pets to the danger of second-hand cigarette smoke. He describes the risk of noise to dogs as "canines in the coal mine," which references the old technique of using canaries as indicators of noxious air in mine shafts. When the birds dropped dead, it was time to get out. Leeds sincerely hopes we'll heed our dogs' warnings sooner than that. He points to the great number of dogs with behavioral problems as an indicator of trouble brewing.

An expert in psychoacoustics, Leeds has spent 25 years studying the effect of music and sound on the human nervous system. He's on a mission, along with concert pianist and dog lover Lisa Spector, and veterinary neurologist Susan Wagner, DVM, MS, DACVIM, to raise awareness in dog homes and commercial dog care settings about the impact noise is having on dogs.

Wagner explains that noise creates stress for dogs. Their brains, and ours, instinctually process every sound heard. While it happens in mere seconds, the "orienting response" is when the brain processes a sound and determines what it is and what do to about it. Unfortunately, dogs often don't have a context for everything they hear, which means an overload of unresolved sound piles up, like when a computer freezes. All that sound constantly causes both brain and bodily reactions.

"Say you have animals trying to relax or be calm in a boarding kennel or a veterinary hospital, but cages are slamming. The intercom is going. A vacuum is going. People are talking loudly," she says. "That's constantly interrupting dogs' relaxed state because instinctively they have to pay attention to it."

Constant alertness from ongoing sound or intermittent loud sounds is like living in a fight-or-flight state all the time. "We're walking around with this incredible arousal of our autonomic nervous system, and that's got to manifest somehow—whether it's gastric reflux, a heart attack, in people," says Wagner. "So, I have to believe that it's doing something to our pets as well."

SOUND AS NUTRIENT

The hybrid field of psychoacoustics studies how sound affects the physiology of the body. Much of what's done today stems from the work of a French ear, nose and throat doctor named Alfred Tomatis, who spent 50 years looking at how sound altered the human nervous system. He found that some sounds excite the nervous system and some relax it. His conclusion, in short, is that sound is like a nutrient for the body—much like food.

Tomatis also described the first stage of hearing, "active listening," as when the brain assesses risk related to the sound as well as seeks a pattern, if the sound continues. Once a response to sound is chosen and the pattern is found, then the brain moves sound processing elsewhere into "passive hearing" mode. Passive hearing can ratchet the nervous system up or down depending on the sound's structure.

Leeds says there's too much noise in the world that takes a toll on human and canine nervous systems alike, and he firmly believes that this nervous system barrage affects immune system as well.

So, building upon Tomatis' work, Leeds moved out of producing music for entertainment into producing psychoacoustic music designed to nurture the body. People use his special recordings in clinics, spas and classrooms around the world.

"I have employed as many psychoacoustic principles as I can to create soundtracks that affect the primary pulse systems of the body—brainwaves, heart rate, and breathing," he says. That's done three ways:

- Resonance or tone (how high or low)
- Entrainment or rhythm (how fast or slow)
- Pattern identification (how easy or hard to find pattern)

Leeds explains that lower sounds tend to discharge the nervous system and help it release pent up energy or stress. A slower rhythm helps slow the body's pulse systems. And, pattern identification helps move the brain from active listening to passive hearing.

"What it really comes down to is intentionality," Leeds adds. "What's the best way to use this wonderful resource that starts out as sound waves and then can be sculpted into the most beautiful form—music."

NOT YOUR AVERAGE CLASSICAL MUSIC

Pianist Spector and Leeds sat down with her tremendous collection of classical music. She admits they didn't really know which composers or piece of music would work, but they picked enough music for four test CDs. Leeds made his psychoacoustic recommendations for the music's arrangement, and Spector began playing.

"We never changed the key the composer wrote in," Spector explains. "We never added notes to what the composer wrote. We took out notes sometimes. We'd simplify or slow things down, but we never added anything. We just lowered and slowed things down. We took out pattern, for example, by playing whole chords rather than broken ones."

Leeds and Spector turned the CDs over to Wagner for testing on 150 dogs. Here's what she found:

One of the four CDs stood out for its remarkable calming effect. This music featured solo piano simplified arrangements at 50-70 beats per minute. It tested far better than the other psychoacoustic music options as well as a selection of music from a classical radio station play list. Overall, the psychoacoustic music was 20-35 percent more effective at inducing canine relaxation than regular classical music.

In the kennel environment, a little more than 70 percent of dogs became calmer while listening to this music. In the home test environment, 85 percent of dogs became calm, and more than half fell asleep.

Since this one CD of music worked so well for dogs with average arousal issues, Wagner tested it on 10 dogs with specific anxiety issues. The tests show that 70 percent of anxiety behaviors were reduced with the psychoacoustic music.

Wagner says these changes in behavior come quickly. "When we did the study, I waited 30 minutes because I wasn't really sure what we were going to find," she explains. "The physiology says they should feel it in 20 minutes, so I gave them an extra 10 minutes. But, what we've seen is that it can happen in just a few minutes."

Even in Spector's home, where music is ever-present, her dog responds to the psychoacoustic music. "I can absolutely tell from his expression that he recognizes it," she says.

She's particularly pleased that the music tested well in shelters, too. "Boarding or daycare is different than a shelter since the dogs know they are going home at the end of the week or end of the day, but still, they are not in their everyday home environment," she says.

USE IN KENNEL OR DAYCARE SETTINGS

Many PCSA member facilities already pipe in music of one kind or another, but Wagner challenges the entire pet care industry to think about the music played. Rather than choose what the staff likes, why not play music that's proven to reduce stress in dogs?

"These dogs are going to be easier to handle, easier to walk and have less chance of disease outbreak," she says.

Here are some ideas on how to use this psychoacoustic music in your facility:

- Sell the music to clients so that they can play it at home when the dog is happy and relaxed to link the music firmly in the dog's mind as good, so that when he hears it somewhere else it helps even more.
- Play the music in boarding areas to help mask sounds of everyday kennel operations as well as to provide a relaxing undertone for dogs.
- Play the music at the beginning or end of the day to help dogs transition from home to kennel or daycare.
- Play the music when new dogs are introduced into play groups.
- Play the music when you need playgroup dogs to settle down.

Even if you think your facility is fairly quiet, do a sound inventory. Sit for 30 minutes and tune into every sound you hear—every phone ringing, every cage slamming, every intercom or walkie-talkie squawking, every dog barking. Watch the dogs in your care to see how they respond to each new noise or the constant hum of your HVAC system.

Spector, who has raised guide dog puppies and who also trains her own dog in agility, shared the music with her fellow dog lovers early on. Many of these people are avid dog owners who don't hesitate to get acupuncture, massage and other high-end care for their pets. Spector says that even they admitted to not realizing how the sound environment may be affecting their dogs' behavior and health.

"It's no longer enough to just think about the food we feed," Leeds implores. "It's not enough to only think about the temperature in the room. The sensorial environment must be taken into account."