

A Hidden Shift That Comes with Every Dog's Birthday

As your dog ages, this specific aspect of their health changes. While the shift may not be immediately noticeable, certain symptoms may arise. Here's how to help them cope.

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STORY AT-A-GLANCE

- Your dog's nose is packed with up to 300 million scent receptors — far more than humans — making smell their most relied-upon sense for navigating and understanding the world
- With every birthday, olfactory abilities shift, as brain connectivity in scent-processing regions weakens, reducing how efficiently older dogs interpret the smells they encounter daily
- Breed and head shape play a significant role, with long-snouted dogs like Bloodhounds retaining stronger scent-processing abilities compared to flatter-faced breeds like Pugs and Bulldogs
- Signs of smell decline are subtle, including reduced interest in food, confusion in familiar places, shorter sniff sessions on walks, and signs of anxiety or disorientation in senior dogs
- You can support their sense of smell through scent-based games, aromatic meals, natural scent markers, a stable routine, and regular veterinary care to promote healthy aging and quality of life

Dogs are renowned for their extraordinary sense of smell, a vital factor that allows them to interact with the world. Whether they are locating a favorite toy, identifying a family member by scent, or investigating the trail left by another animal, their noses are constantly at work. Their impressive sense of smell is a cornerstone of canine behavior and well-being.

But as your dog ages, this incredible ability can begin to falter. Much like human senses, various factors can affect your dog's sense of smell, which is why you need to understand these changes to support your aging pet through the transitions that come with time.

The Science Behind a Dog's Sense of Smell

Dogs possess up to 300 million scent receptors in their noses, compared to roughly 5 to 6 million in humans.¹ These receptors are located in the olfactory epithelium, a special tissue lining the nasal cavity.²

Their unique nasal structure is why dogs have a sophisticated sense of smell. They can simultaneously distinguish between thousands of different odors and even identify scent layers within a single smell. Think of it this way — when you smell chicken stew on the stove, a dog detects each particular ingredient, including carrots, meat, herbs, and more. As noted by an article in Honest Paws:

"The difference between a dog's nose and a human nose lies in the olfactory system's complexity and efficiency. Dogs possess more olfactory receptors and a larger olfactory epithelium surface area than humans.

Dogs' enhanced anatomical features allow them to detect scents at low concentrations undetectable to humans. The intricate structure of a dog's nose includes specialized cells and neurons that analyze a wide range of smells."

Their fantastic sense of smell is the reason dogs excel in scent-related roles, such as search and rescue, narcotics detection, and tracking. It is also why they explore their world through sniffing, using their noses as their primary tool for investigation and communication.

How Does Aging Affect Your Dog's Nose?

Recent studies, including research conducted by the ELTE NAP Canine Brain Research Group, have revealed that a dog's age significantly impacts the strength of olfactory brain networks.^{3,4}

Scientists map brain connectivity in awake dogs using a specialized technique known as resting-state functional MRI (fMRI). Their findings demonstrated that older dogs show weaker functional connectivity in the regions of the brain responsible for processing smell.

This reduced connectivity means that the "signal" from the nose to the brain becomes less effective over time. In other words, even if the nose detects a scent, the brain may not interpret it as clearly or quickly as it once did.

"Olfactory functional connectivity strength exhibited negative correlations with both age and brain shape: older dogs and those with rounder-shaped brains demonstrated lower functional connectivity, respectively, but no effect of sex was found," the study authors said.

Breed and Head Shape Also Matter

The study noted that a dog's head shape is another key factor in olfactory performance. Dogs with long, narrow snouts (dolichocephalic breeds) tend to have more developed olfactory structures. Breeds such as Bloodhounds, German Shepherds, and Setters fall into this category and typically excel in scent detection tasks.

In contrast, brachycephalic breeds like Pugs, Bulldogs, and Shih Tzus, which have shorter, flatter faces, generally have less space for olfactory tissues and reduced ability to process smells. Research has shown that dogs with elongated heads demonstrate stronger olfactory brain connections than those with rounder skulls, regardless of age.

Understanding your dog's breed-specific characteristics can help you anticipate how their sense of smell might change. For example, an aging Bloodhound may retain more of their olfactory ability longer than a senior Pug due to anatomical differences.

Observable Effects of Olfactory Decline

You may notice subtle changes in your dog's behavior as their sense of smell fades. These changes can affect various aspects of their daily life, including:

- **Reduced interest in food** — Since smell is closely tied to taste, a diminished sense of smell may cause your dog to become less enthusiastic about mealtimes.
- **Becoming confused in familiar settings** — Even common areas may seem foreign when their sense of smell wanes. Dogs often rely on scent to recognize people, places, and objects.
- **Loss of enthusiasm during walks** — If your dog seems less engaged or spends less time sniffing, it may indicate their sense of smell changes.
- **Anxiety or disorientation** — The inability to smell familiar cues can lead to increased anxiety or nervousness, especially in senior dogs.

These behavioral shifts usually occur gradually, so they are not always easy to detect. Monitor your dog regularly, especially if they're already in their senior years. Routine vet consultations will ensure your pet's needs are being met.

5 Strategies to Support Olfactory Health

Fortunately, there are several effective ways to support and even enhance your dog's sense of smell as they age. These strategies not only preserve sensory function but also enrich your pet's overall quality of life.⁵

1. **Offer scent-based enrichment activities** — Stimulating your dog's nose through play is one of the best ways to maintain their sense of smell. Try incorporating activities like sniff mats, nose work games, or scent-based puzzle toys into their routine. You can also play hide and seek or prepare a treasure hunt for your pet.
2. **Make their meals smell better** — If your dog's appetite decreases, consider enhancing the aroma of their food by warming it up, adding some bone broth, or mixing in aromatic ingredients. These simple adjustments can make meals more appealing while allowing your dog to receive proper nutrition.
3. **Use scent markers to help them navigate** — Apply small amounts of consistent, natural scents, such as a dog-safe essential oil, to key locations in your home, such as their bedding, doorways, and food stations. Senior dogs can benefit from this; it will help them stay oriented, especially if their other senses, like vision or hearing, are declining.
4. **Maintain a consistent and familiar daily routine** — Stability is essential for aging dogs. Keep a consistent daily schedule and minimize changes in your home to reduce their confusion and anxiety. Avoid rearranging furniture or introducing strong new odors from cleaning products or air fresheners that might disorient your pet.
5. **Focus on their overall health** — The health of your dog's nose is tied to their general well-being. Make sure your pet gets regular vet checkups and dental care. Keep their nose clean at all times. Go on daily walks to provide mental stimulation and support your dog's physical and sensory health.

Help Your Dog Age with Grace and Dignity

Aging is a natural process, and changes to your dog's sense of smell are part of that journey. While you cannot prevent these changes entirely, you can play a vital role in supporting your dog through them.

By understanding how olfactory decline occurs, recognizing the signs, and taking thoughtful steps to maintain your dog’s sensory engagement, you can make their senior years tolerable and joyful.

Sources and References

¹ [Animals \(Basel\). 2022 Feb 19;12\(4\):517](#)
² [Honest Paws, Dog Nose Anatomy: Definition, Parts, and Functions](#)
³ [Scientific Reports, Volume 15, Article number: 11438 \(2025\)](#)
^{4,5} [Animal Wellness Magazine, April 24, 2025](#)
