



WANT SMARTER, FASTER LEARNINGS?

Just add chew time: How post-training chewing boosts canine memory

Key message

Chewing for just 15 minutes after a training session can significantly improve memory consolidation in dogs, helping them learn faster and retain information better. A recent study by Moesta et al. (2025) showed that dogs given a long-lasting edible chew after training performed better and required fewer repetitions the following day compared to dogs that ate the same food quickly. This simple, low-effort addition could provide trainers and owners with a powerful tool to accelerate learning—without adding complexity to the training itself.

Highlights

- **Chewing boosts memory after training**
Dogs that chewed for around 15 minutes post-training remembered a task better and re-learned it faster than those who didn't chew for long.
- **Longer chewing = better learning**
The more time dogs spent chewing, the fewer sessions they needed to reach learning goals.
- **Chewing may reduce stress and promote relaxation**
Heart rate variability data suggests that chewing leads to a calmer nervous system state, possibly aiding memory consolidation.

- **A simple, effective training booster**
Unlike play or exercise, chewing requires no human involvement—making it a time-efficient, low-effort tool after training sessions.
- **Relevant for both dog professionals and owners**
From assistance dogs to family pets, adding a chew could enhance the impact of every training session.

Could chewing be the missing piece in your dog’s learning routine?

Imagine you’ve just wrapped up a focused training session. Your dog nailed a new cue or finally cracked that tricky scent task. What do you do next? Pack up? Go for a walk? Offer a cuddle?

What if the answer were simpler: just hand them a chew?

According to a fascinating new study by Moesta et al. (2025), allowing dogs to chew an edible, long-lasting treat after training meaningfully improves their memory—and speeds up future learning.

Especially for professionals working with time-sensitive training goals—like service dog programmes—or dedicated dog guardians striving to make progress at home, this kind of low-effort, high-impact insight can meaningfully change your approach.

What happens after training matters more than we thought

We already know that what happens during a training session is crucial—but increasingly, science shows that what happens afterward is equally important, particularly for long-term learning. This post-training window is when the brain solidifies new memories—a process called *memory consolidation*.

Previous studies have shown that activities like play and physical exercise immediately after learning can boost memory formation in dogs. The challenge? These activities require human involvement, energy, and time—not always practical. What if there were a low-effort, dog-driven alternative?

That’s where chewing comes in.

Chewing as a cognitive booster: What we already know

In humans and some animal species, chewing has been shown to be linked to attention, reduce stress, improve memory, and promote neuroplasticity—the brain’s ability to form and strengthen connections. Chewing has also been suggested to regulate emotional arousal, potentially helping animals remain calm under stress. But for dogs, scientific data has been limited so far.

One earlier observational study (Krichbaum et al. 2023) hinted at some benefits of chewing a chew toy on dogs’ cognition. But until the study by Moesta and

colleagues (2025), the effect of chewing on long-term learning and training outcomes in dogs remained untested—or at least unproven.

Could a simple post-training chew improve memory consolidation, save time, and enhance training success? Could it be a practical tool for trainers and owners alike?

Moesta and colleagues set out to explore this question: Could prolonged chewing immediately after a training session enhance memory consolidation in dogs, making them relearn tasks more efficiently the next day?

Chewing vs. chomping: How the study was run

In this carefully controlled experiment, 31 kennel-housed dogs were trained in a classic object-discrimination task, where dogs had to discriminate between two objects, only one of which contained a treat. After training on Day 1, the dogs were split into two groups:

- **Treatment group (16 individuals):** These dogs were given a long-lasting edible chew.
- **Control group (15 individuals):** These dogs were given the same chew but crushed into pieces and mixed with wet food so it could be eaten quickly.

The key variable differing between groups? Chewing time. Dogs in the treatment group chewed for an average of 15 minutes, while control dogs spent just under 2 minutes eating their food.

The next day, all dogs repeated the learning task. The researchers assessed how quickly they could relearn the task and tracked how many sessions each dog needed to meet learning criteria again.

The researchers also monitored activity levels, heart rate, and heart rate variability (HRV) to explore whether chewing altered arousal or stress—factors potentially influencing memory.

What they found: Longer chewing, faster learning

The findings were clear and exciting: Dogs that chewed longer after training learned faster the next day.

Dogs in the chewing group required significantly fewer sessions to reach the learning criterion on Day 2 compared to the control group. Importantly, the effect wasn't just about chew format—it was about chew duration. The more time dogs spent chewing (regardless of group), the faster they learned.

To put it plainly: chewing after training boosted memory consolidation—and did so without additional human intervention or training time.

Relaxed mind, better memory?

Why does chewing help memory? One possibility is that it calms the dog's nervous system, creating an optimal environment for memory consolidation.

To explore this, Moesta and colleagues also measured the dogs' heart rate variability—a proxy for stress levels and autonomic nervous system activity. While overall heart rate didn't differ significantly between groups, one intriguing observation emerged:

Dogs in the chewing group showed signs of lower sympathetic activity (associated with stress) about 90 minutes after chewing, compared to controls. Heart rate variability measures hinted that chewing might help dogs enter a calmer, more parasympathetically dominant state (the “rest and digest” mode). While physiological data was limited due to sample size, it aligns with the idea that relaxation supports memory formation.

Why chewing might help memory

How exactly could chewing improve memory consolidation? Here are some possibilities:

- **Reduced arousal and stress:** A relaxed post-training state could support brain processes involved in solidifying learning.
- **Minimised distractions:** Chewing might help dogs focus internally, limiting interference from new stimuli.
- **Enhanced neurophysiology:** As observed in rodents and humans, chewing might activate brain regions linked to memory, like the hippocampus.

Researchers also speculate chewing might improve sleep quality, known to aid memory in both dogs and people. However, sleep was not measured directly in this study.

Putting the science into practice

Let's translate these findings into real-world applications for trainers, behaviourists, and dog owners.

Whether you're a pet owner working on leash walking or a dog professional such as a detection dog handler refining alert behaviour, adding a post-session chew could help cement learning and reduce re-teaching time.

Key implementation takeaways:

- Offer your dog a long-lasting edible chew immediately after training—ideally promoting active chewing for 10–20 minutes.
- Choose size-appropriate chews your dog enjoys.

As recommended by the first author of this article, Dr. Alexandra Moesta:

“From a veterinary perspective, I (...) highlight texture, size, impact on stool quality, % of total caloric requirements

- *Texture: tough enough that it is long-lasting, but not too hard (some dogs cause their teeth to fracture, if they chomp down too hard, on a very hard chew).*
 - *Size: not too small, as this may increase the risk of choking, if the dog bites of a large piece instead of chewing off small pieces.*
 - *Digestible and not negatively impacting stool quality*
 - *Calories provided: most chews are not complete and balanced. Therefore, they should not make less than 10% of a dog’s calories.”*
- Allow your dog to settle in a calm, low-distraction environment while chewing.
 - Be consistent: add a chew after key sessions and observe the impact over time.

A note on chew safety and suitability

- Choose products suitable for your dog’s size, age, and chewing style.
- Monitor initial sessions for safe chewing habits.
- Consider your dog’s dietary restrictions and nutritional needs.

Final thoughts: Small change, big impact

This study provides valuable insights for dog lovers looking to enhance learning with minimal effort. Chewing is natural, rewarding and scientifically shown to improve canine memory. Whether you’re working with service dogs, sport dogs, or family companions, a 15-minute chew after training could make all the difference between repetition and retention.

As Moesta and colleagues (2025) conclude, “Provision of an edible chew item post-training could speed up learning and improve efficiency of dog training”.

So go ahead—let your dog chew it over.

Reviewed by Alexandra Moesta, Board-Certified Veterinary Behaviourist and Senior Scientist at Royal Canin R&D Center.

Source reference

Moesta, A., Dror, S., Sommese, A., Maros, K., Csizmadia, G., Pogány, Á., Laxalde, J., & Fugazza, C. (2025). Post-learning experience matters: Chewing after learning improves memory consolidation in dogs. *Applied Animal Behaviour Science*, 106617. <https://www.sciencedirect.com/science/article/pii/S0168159125001157>

Krichbaum, S., Ramey, C., Cox, E., & Lazarowski, L. (2023). No bones about it: The effect of chewing on cognition in dogs. *Applied Animal Behaviour Science*, 268, 106078.