

Bonds of Biology



petlandia

BY MARY MANDEVILLE, DC

As I coasted into the parking lot at sunrise, a black SUV sat unmoving, its engine humming. The door opened and four canine feet hit the asphalt. In an instant, the door of the SUV slammed shut again and the vehicle sped away. A small reddish-brown dog left on the tarmac raced after the departing car, then stopped and stood, gazing into the distance where the vehicle disappeared.

I hopped out of my car and knelt on the ground to summon the little dog to me. "Hey, hey, hey, hey," I called, my voice high and cheerful. The pup turned and darted my way. She bounded across the vacant parking area, slowing as she neared me. She lowered her head, tentatively wagged her tail then lifted her gaze to my face. Her wide brown eyes drew me into their open depths, melting me, and I felt a surge of protectiveness. "I gotcha, baby," I crooned.

Science tells me the rush of nurturing emotion I felt at that moment was chemically mediated, a natural drug-induced state. Known as the "love hormone," oxytocin is a neuropeptide released by our brains when we gaze at the face of a baby, a trusted lover ... or into the eyes of a recently abandoned puppy. Oxytocin spurs mothers to recognize their infants and care for them. It's involved in romantic interactions and may play a part in orgasms. But oxytocin is not just a female hormone, nor just a human one. All kinds of mammals, male and female, produce it and need lots of it. It's connected to

our feelings of love, trust, nurturing and emotional bonding. Increased levels of this hormone have been shown to decrease anxiety and increase feelings of calmness, contentment, security, even generosity. When oxytocin is present, social connection and bonding are enhanced. Oxytocin mediates the hypothalamic-pituitary-adrenal axis, a fancy way of saying it decreases the fight-or-flight response, thus lowering the stress we feel.

Those of us who live with dogs, cats, rabbits, horses—and even rodents—often wax poetic, or just downright sentimental, about the unconditional love we experience with our pets. Science would tell us this love is not so much unconditional as biochemical. When the pup in the parking lot gazed at my face, a chemical reaction took place. Oxytocin spiked in her canine brain as a survival mechanism, stimulating her continued contact with an unknown but unthreatening human. Returning her gaze, I was flooded with a dose of the bonding hormone that catalyzed an impulse to scoop her into my arms and take care of her (which, of course, is exactly what I did). A few researchers theorize this mechanism repeated over and over again

was responsible for the domestication of wolves some tens of thousands of years ago.

A recent study showed that after half an hour of playing with a dog and as little as two minutes of gazing at the dog's face, oxytocin levels had increased in the humans by 20 percent. Other studies indicate that pet owners tend to have double the levels of oxytocin and serotonin (another neuropeptide associated with feelings of well-being) as non-pet owners.

Life is a recipe for fight-or-flight lately, what with threats of radiation exposure, an economy hijacked by the wealthy few and traumatic weather events fueled by climate change—to mention just a few of the top stressors. Understanding the biochemical reactions involved in enjoying my canine companions adds to my cache of reasons (some might say excuses) to coddle and snuggle these mammalian friends. It lends insight into why a furry one-pound squirrel might come seeking my company and why I didn't ship her off to live on her own in the woods. Imprinted on a human face and voice and acclimated to a nice spurt of oxytocin from the interaction, even a rodent sought the calm, balanced state she as-

sociated to interacting socially with a person. Her adorable gaze blasted me with charitable instincts to protect and nurture.

There is speculation some people may produce more oxytocin than others and/or have extra receptors for the hormone. When these folks see stray dogs, abused children or abandoned squirrels, they experience an over-the-top rush of mushy relationship-oriented sentiment. Stray dogs find loving homes, neglected children get a leg up and squirrels are less likely to become fodder for predators.

And the human benefits?

Preliminary research in autism is promising. Pharmaceutically applied oxytocin appears to reduce repetitive behaviors and increase understanding and tolerance of emotional communication in autistic individuals. A nasal spray of nature's love drug may also increase the sociability of persons with attachment disorders.

Frequent floods of oxytocin have been shown to reduce blood pressure, cholesterol and triglycerides, decrease anxiety, improve sleep, increase longevity and enhance well-being. I think more is probably better, and suggest everyone get a pet. But don't trust my opinion.

I'm an addict. ☺

MARY MANDEVILLE is addicted to rushes of oxytocin. Luckily, she's an animal chiropractor and gets frequent fixes from her clients as well as her two dogs.



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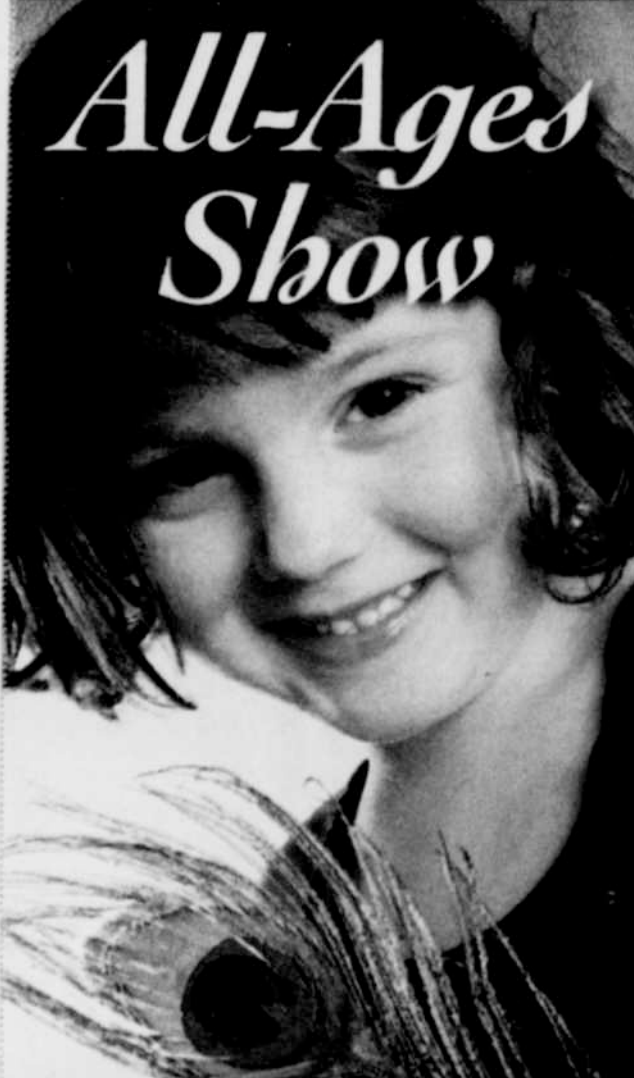
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