

THESE DOGS MIGHT SAVE YOUR LIFE

Can sensitive canine noses detect cancer even before your doctor can? Researchers working with these four-legged lab partners think it's possible

BY JOHNNY DODD



"They all have different working styles," McCulloch says of his team (which includes Majestic, Freeman and Divine).

On the floor in Michael McCulloch's research lab is a row of five identical plastic specimen boxes: One contains a breath sample from a woman with ovarian cancer; four are controls from healthy women. Each box is weighted with concrete. Why the concrete? "Some of the dogs come bursting in and make a beeline for the cancer sample. They hit it and it goes spinning across the room," says McCulloch, 51. "The concrete keeps it in place."

For the past 10 years McCulloch—the director of research at San Anselmo, Calif.'s Pine Street Foundation, which studies integrative medicine—has been exploring whether dogs can reliably detect the disease. In 2003 "we trained dogs to smell lung cancer 99 percent of the time and breast cancer 88 percent of the time." Now partnered with the University of Maine, he and a new canine team—Freeman, Tessy, Majestic, Divine and Captain Jennings—are focused on ovarian cancer. This potential killer

has a high 5-year survival rate when detected and treated at a localized stage, but is not often diagnosed that early.

To make the team, each dog had to correctly identify a sample 30 consecutive times. Freeman, a 6-year-old black Lab, is the standout. "He takes his time, walking the entire line before he shows us where it is. He's very consistent." Tessy, 4, an exuberant yellow Lab who used to be a guide dog for the blind, "will come in and take a flying run at the sample."

Tessy analyzes breath samples in the lab.



“We’re starting to learn that your dog probably knows more about your health than you know about theirs” —MICHAEL McCULLOCH

But these aren’t wonder dogs bred to work in labs; they are family pets whose owners volunteer them one or two days a week. Anecdotally, it seems most dogs can sense illness, says retired Tallahassee police-dog trainer Duane Pickle. Anything that “smells different than the surrounding environment, a dog can be trained to find.”

McCulloch, who trained as an acu-

puncturist, first got the idea when he was studying Chinese medicine. “A text from the third century B.C. mentions how liver disease causes a change in body odor.” Then he saw a 1989 report in the medical journal *Lancet* that told of a young woman whose dog had been nipping and pawing at a mole on her leg. It turned out to be melanoma. McCulloch believed

he could re-create that phenomenon in a lab. To teach the Pine Street dogs their task, he initially combines the known cancer samples with dog food, while leaving healthy samples untouched. Once the dogs understood what they were looking for, they could pick out the cancer scent without a food hint.

So does cancer have a smell? What McCulloch thinks the dogs are detecting is metabolic waste “from the tumor cells, which is chemically different from normal cells. The waste travels through the bloodstream and is exhaled out through the lungs.”

Since news of his study broke, McCulloch has received dozens of letters from people who say their pets saved their lives by drawing attention to undiagnosed cancer (see box). Even mainstream medicine is taking note. “An enormous amount of research is being done to find those proteins present in small quantities in the bloodstream that may signal cancer,” says Dr. J. Leonard Lichtenfeld, the American Cancer Society’s deputy chief medical officer. “That a dog could smell these is definitely within the realm of possibility.”

The dogs’ part will end in December, and McCulloch’s data will begin to be analyzed. Eventually, it is possible dogs may be used to find cancer in its early stages. For now, McCulloch says his findings offer some insight into canine behavior: “When you see dogs on the street sniffing each other, they’re probably asking a simple question: ‘How’s your health today?’” ●



‘MY DOG FOUND MY CANCER’

- In 1999 Nancy Best’s yellow Lab, Mia, kept sniffing her right breast. When she touched the spot, she found it was sore. This led Best, 49, to get a mammogram. Doctors found a fast-spreading form of cancer and treated it successfully.
- After Jeff Groshong’s Pomeranian, Taz, licked repeatedly at his neck, Groshong, 50, saw the area was puffy. A biopsy revealed cancer in his

thyroid; it was removed last April.

- When Shiloh, a chow-shepherd mix, started sniffing owner Rhonda Valencia’s abdomen in 2004, she shooed him away. Her husband said, “You’ve been run-down for months and now Shiloh is paying weird attention to you.” Turned out she had stage 2 ovarian cancer. “It’s pretty simple,” says Valencia, now 56 (left, with the dog). “Shiloh saved my life.”

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