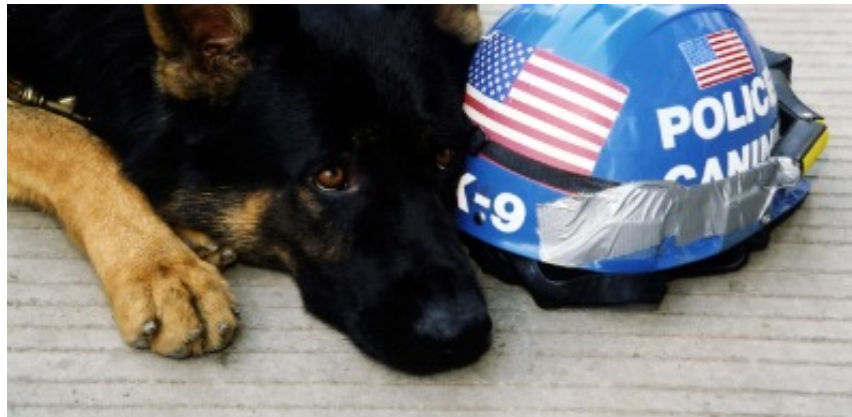


# Monitoring the Health of Canine Heroes

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When the first plane struck the World Trade Center on September 11, 2001, Tony and Annette Zintsmaster of Indianapolis braced themselves for the call. By the next day they were stepping through the ash in lower Manhattan along with their FEMA-certified search-and-rescue dogs, Kaiser and Max. As always, the eager German shepherds were ready to help.

In response to the terrorist attacks of September 11, some 300 search-and-rescue dogs were deployed to the World Trade Center and the Pentagon. Along with their human handlers, the fearless canines helped scour the rubble looking for victims of the tragedy. And, just like their human handlers, the dogs were exposed to a cloud of ash, asbestos, toxins, and fine particles.

Since October 2001, Cynthia Otto, an associate professor of critical care at the University of Pennsylvania School of Veterinary medicine, has been tracking the health of those dogs. With funding from the AKC Canine Health Foundation, Otto and her colleagues have followed 95 dogs that worked at the World Trade Center and at the Pentagon, and compared their health to 55 search-and-rescue dogs that did not participate in the 9/11 response. Each year, veterinarians take blood samples and chest X-rays and collect information about the dogs' health and behavior. Whenever dogs enrolled in the study pass away, researchers perform a full autopsy.

This month, the scientists published their preliminary findings in the *Journal of Environmental Health*. Overall, the results were positive. Dogs that responded to the 9/11 disaster were no more likely to be diagnosed with cancer or respiratory problems than search-and-rescue dogs that weren't involved.

Many human responders who assisted at the World Trade Center have suffered from respiratory problems in the years since the attacks. But the dogs didn't seem to have developed any lung problems, according to Otto. "I was definitely surprised," she says. "I was expecting all sorts of pulmonary problems."

Otto says there are several possible explanations. Unlike humans, dogs almost never develop lung problems such as asthma. "Their lungs are just a little different than human lungs," she says. They may have some kind of natural protection from pulmonary problems. Also important, she says, is that search-and-rescue dogs work with their noses. Instead of breathing through their mouths, they're generally sniffing with their snouts. And their noses are much better than human noses are at filtering out fine particles that might be harmful. "They have really nice long noses so as they're sniffing they're going to be filtering out a lot of those things," she says.

Yet the study did raise at least one red flag, Otto says. Dogs that worked at the World Trade Center and the Pentagon were significantly more likely to be diagnosed with heart abnormalities than dogs that weren't deployed. That, too, came as a surprise, Otto says. She cautions that the numbers of affected dogs were low, and the finding could turn out to be a fluke.

Still, she says, it's cause for some concern – not only for dogs, but also for the human emergency workers who were exposed to the toxic dust. "It made us scratch our heads and ask the question: Could there actually be some effects on the heart when everyone's focusing on the lungs?" she says. The finding could help identify new risk factors for heart problems in humans. "Dogs share our environment. They share a lot of our health risks," Otto adds.

For search-and-rescue dog handlers, though, helping the dogs was reason enough to join the 9/11 canine health study. Handler Diane Whetsel of New Mexico credits the study with saving her border collie's life. Sage's first official search-and-rescue job was to help find victims at the Pentagon. Then just two years old, she located the bodies of the terrorists who had piloted the plane – a critical piece of the forensic investigation.

Sage and Whetsel have participated in the health study ever since. Last year, during the routine chest X-ray, Sage's veterinarian detected a tumor on the dog's lung. During a follow-up examination, vets located a second tumor. Ultimately, Sage was diagnosed with both cancer of the thymus and a rare form of lung cancer. The tumors were successfully removed with surgery, and Sage has fully recovered. At 11, she's back to work doing search and rescue.

"She's doing great," Whetsel says. "I can't thank this health study enough."

Since her first job at the Pentagon, Sage has searched for flood victims after Hurricanes Katrina and Rita and traveled to Iraq to help hunt for missing soldiers. The work isn't glamorous, Whetsel says, "but to the people involved – if you can bring closure to the family – it's very important."

For Whetsel and the other dog owners who participated in the 9/11 study, helping researchers learn more about the risks that the dogs face was an amazing opportunity. "We developed this partnership with them and we ask them to do things in extremely stressful situations. That trust they have in us is pretty phenomenal," says Tony Zintsmaster. "We are responsible for them, and we feel that responsibility."

Search-and-rescue dogs are heroes, Otto says, and we owe it to them to understand what risks they face in the line of duty – and to do whatever we can to prevent them from getting sick. "These are incredible dogs. They've done amazing things," she says. Most of their handlers, she adds, are volunteers who train their dogs and care for them without any outside support. "They're just incredibly committed. We need to support them in that regard."

The current research isn't the only way Otto and her colleagues are working to support search-and-rescue animals. Otto is helping to organize a tenth-anniversary tribute event that will be held in New York next September. In addition to educational and arts events, the tribute will recognize and honor individual dogs and their handlers. Otto is also organizing an international working-dog conference that will take place next September in conjunction with the tribute. The conference will bring together scientists with the people who train and handle working dogs. "We're trying to integrate the science and the practical side to improve the health and wellbeing of the dogs," she says.

Meanwhile, with support from groups like the AKC Canine Health Foundation, Otto and her colleagues will continue to track the health of the dogs that answered the call of duty on 9/11.

Nearly a decade has passed since that tragic day. Now more than ever, Whetsel says, our hero dogs deserve to be recognized and remembered. "These dogs walk in harm's way everyday, and they need to be cared for," she says. "They're still here, still waiting for the call, and they're going to be there when the call comes in."