

Doggy diagnosis can sniff out seizures: study

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Dogs can use their remarkable sense of smell to recognise the specific scent of seizures, researchers said Thursday, raising hope that canine carers could one day protect sufferers before a fit takes hold.

Previous tests have shown dogs are able to detect the odours of certain diseases, including some cancers, diabetes and malaria.

There is also anecdotal evidence they can sense that their owner may be about to have a [seizure](#), though this was poorly understood until now.

Researchers in France used five dogs—Casey, Dodger, Lana, Zoey and Roo—in a study to sniff out a [scent](#) specifically linked to a human seizure.

They presented the dogs with a variety of smells taken from epileptic patients, including body odours emitted during calm activity, while exercising, and during an attack.

Casey, Dodger and Zoey all identified the seizure scent 100 percent of the time, while Lana and Roo sniffed out the right sample two goes out of three.

"The results went beyond our expectations by showing that there is indeed a general [odour](#) of an epileptic seizure," Amelie Catala, a researcher at the University of Rennes and lead study author, told AFP.

"We hope it will open new lines of research that could help anticipate seizures and thus get patients to seek security."

Dogs' noses have evolved to be highly sensitive, and can detect specific organic compounds at a concentration of less than 0.001 part per billion.

The most sophisticated current "electronic noses", meant to pick up potentially harmful odours that humans can't smell, have a detection threshold of around 300 parts per billion.

Catala said that while dogs had been shown previously to be able to sniff

out [chronic diseases](#), this experiment showed they could potentially diagnose acute health episodes that last just a few minutes.

"The study of odours by the use of [dogs](#) constitutes a fast, [low-cost](#), non-invasive, and effective screening method of diseases that can be difficult to identify normally," she said.

The paper was published in the journal *Nature Scientific Reports*.

More information: Dogs demonstrate the existence of an epileptic seizure odour in humans, *Scientific Reports* (2019). [DOI: 10.1038/s41598-019-40721-4](#) , www.nature.com/articles/s41598-019-40721-4

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