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Your Veterinarian May Be Using AI to Treat Your Pet. Is That OK?

Artificial intelligence can make difficult diagnoses quickly, but there are downsides. Here's what to know

By Matt Alderton, AARP
Published June 26, 2024

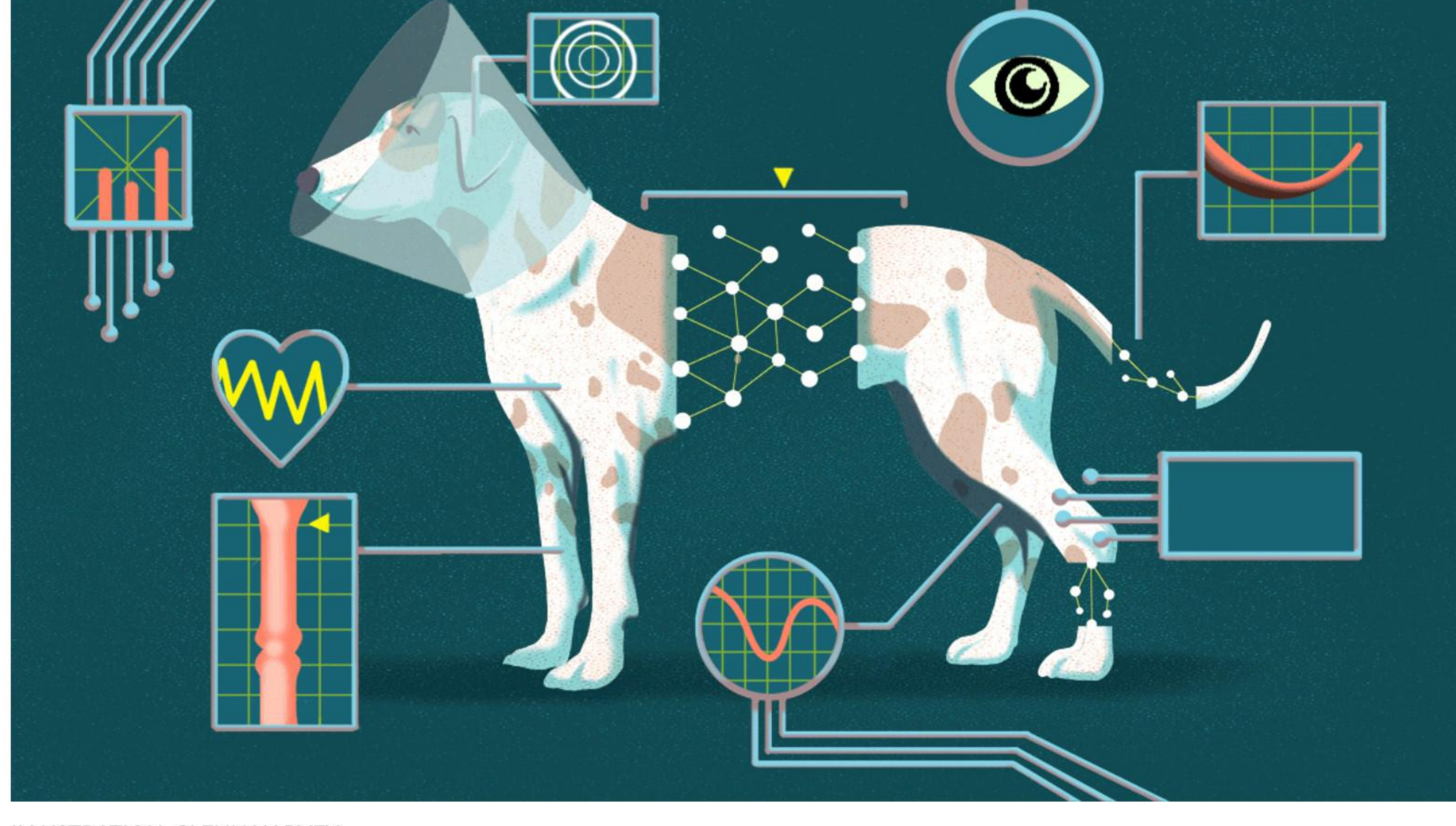


ILLUSTRATION: GLENN HARVEY



Veterinarian William Tancredi set up shop in his hometown of Chadds Ford, Pennsylvania — inside a former hobby shop where he used to spend his allowance on Matchbox cars and toy trains. Chadds Ford is a long way from technology-rich Silicon Valley, but when OpenAI unveiled its world-changing artificial intelligence (AI) platform [ChatGPT](#) in November 2022, Tancredi took notice.

"I found myself reading a bunch of books about it and learning as much as I could," he says. "There are definitely some applications in veterinary medicine."



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The opportunities for using AI in veterinary care are numerous and diverse, says veterinarian Krystle Reagan, assistant professor at the University of California, Davis, but AI also has potential problems.

Here's what [pet parents](#) need to know about using AI as part of treatment.

AI can assist with difficult diagnoses

Some diagnoses, such as Addison's, don't jump out, Reagan says. The disease is often called "the great pretender," she says, because its vague and fleeting symptoms often mimic those of many other conditions.

Reagan was part of a research project studying whether AI could help veterinarians diagnose Addison's disease. The team trained an AI model to recognize certain blood work patterns that dogs have with Addison's, then classify or predict if a dog had the disease.

It worked.

The machine learning model made an accurate Addison's disease diagnosis about 99 percent of the time, whereas veterinarians and veterinary students made an accurate diagnosis 75 percent of the time.

Reagan notes that most veterinarians can't deal with datasets like these on the fly, as AI does.

"As veterinarians, we're ... very good at problem-solving. But when datasets get too large, our brains have some limitations," she says. "We cannot crunch all those numbers at the same time. Computers can."

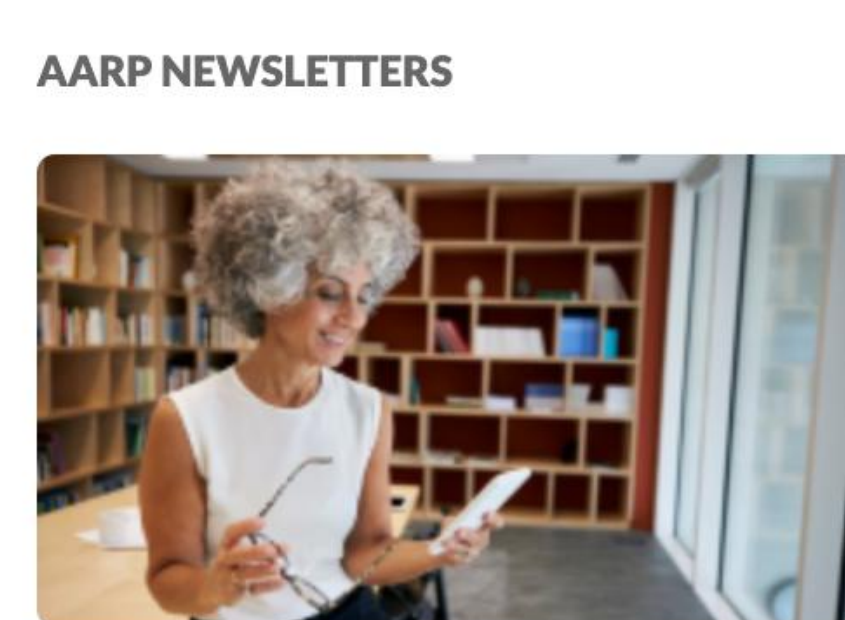
AI has helped veterinarians identify many other hard-to-diagnose diseases in pets. In 2020, animal health company Zoetis launched a cloud-based AI platform called Vetscan Imagyst, which uses image recognition technology and AI to remotely analyze blood, skin, urine, feces and more to help veterinarians spot anomalies that could signal anything from intestinal parasites to cancer. Other platforms use similar technology to analyze X-rays and ultrasounds for signs of respiratory infections, heart disease and more, Reagan says.

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AI enables faster treatment

Tasks that can take a lab hours or even days can often be done immediately by AI.

The traditional method to deal with a complicated urinary case is to send a sample to a lab, which usually takes two or three days, says Richard Goldstein, chief medical officer of global diagnostics at Zoetis. For AI on Vetscan Imagyst, he says, it takes 10 minutes. With a faster diagnosis comes faster treatment. "When a pet is sick ... if you don't make a correct diagnosis and get them treated, we risk losing that animal. So time really matters," Reagan explains. She says AI can be especially helpful in rural areas where there may be fewer veterinarians, labs and specialists.



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Translating medical jargon and understanding diagnoses

For Tancredi, one of the most exciting applications for AI is also one of the simplest: client communication.

"It's stressful when your pet's sick, so sometimes people aren't always able to listen closely," he says. "AI can help communicate occasionally complex medical jargon in a way that's more accessible to my client."

He says he can ask AI to use analogies or metaphors that might be more accessible to someone who is a firefighter or a lawyer instead of someone with a background in science.

"I can even ask it to change languages and help with some of my clients who don't speak English," he adds.

Pet parents can use AI to get more details when making a decision about their pet's care — especially when expense is an issue.

Aimee Wells' 7-year-old German shepherd was suffering from gastric bloat — a dangerous condition, the vets said, that needed to be treated immediately. The cost was significant, and she and her husband, Nate Wells, wanted a second opinion — which they didn't have time to get.

"We found ourselves at the emergency vet hospital listening to them explain we needed emergency surgery for \$8,500 up front or she would die," says Wells, 56. They did some quick research online. Wells' husband turned to ChatGPT while she went to JustAnswer, an app that allows paid subscribers to ask advice from verified experts on various subjects. The couple compared their results and made a decision. "It was invaluable to get a deeper explanation of the condition and the why behind why she needed this expensive surgery. We agreed," Aimee says. JustAnswer has since launched its own AI-focused service, called Pearl AI Pet Answer Review, which allows people to ask AI a pet-related question, then have an actual veterinarian review the response for accuracy.

Though their dog didn't make it after the surgery, Wells and her husband felt like they made the best decision they could under the circumstances, with AI's help.

How many vets use AI, and what's the cost?

There is limited research on how many veterinarians use AI as part of their daily practice. The American Animal Hospital Association in conjunction with Digital, an AI service provider for vets, conducted a survey released this year that says 39 percent of veterinarians have used AI tools in their practice — most often for imaging and radiology tasks, voice-to-text transcription and diagnosis and disease detection.

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Goldstein says AI may mean a cheaper vet bill in some instances (he gives the example of AI instead of a human reviewing a urinalysis), but prices vary vet to vet, and each situation is different, so it's not fair to say to your vet, "It's AI, so it should be cheaper."

"The cost compared to having a human expert review, for instance, the urine will be much less with AI. ... I think you could say it's not more expensive or it could be less expensive, but every veterinarian prices things differently," he says.

Is there a downside?

AI's biggest risk is low quality, Reagan and Goldstein agree. If you teach a human worker to do their job using false or incomplete information, they're going to do their job poorly. The same is true with computer algorithms. "You really have to understand what data was used to train [AI products]. Because if the data is messy or mislabeled or has bias in it, then it's going to be very difficult to trust the output," says Reagan, who recalls an AI tool that purported to be able to diagnose skin cancer. It was trained using pictures of skin tumors taken by dermatologists, who typically measure malignant tumors with a ruler.

"Because dermatologists are highly skilled, they can differentiate malignant tumors really well. So if they thought the tumor was benign, they didn't bother with the ruler. When they took this dataset and used it to train an AI model, the AI model worked just as well as dermatologists. But what the AI model was picking up on was the ruler — 'ruler' equals 'malignant.' So if you're at home and you download this app and take a picture of your skin tumor, it's going to default to benign."

Therein lies the rub: AI is really good at recognizing patterns — as long as humans teach it the right patterns.

For that reason, veterinarians considering AI-based solutions should ask vendors for information about how their algorithms were trained, as well as independent research or peer-reviewed studies. "You need to be comfortable with the quality of the algorithms, the way the algorithms were trained and how the algorithms were validated," Goldstein says.

Veterinarians should look for evidence that AI tools were created through a collaboration of computer scientists with veterinarians, Reagan says — otherwise, developers are just guessing and could miss important nuances apparent only to veterinary experts.

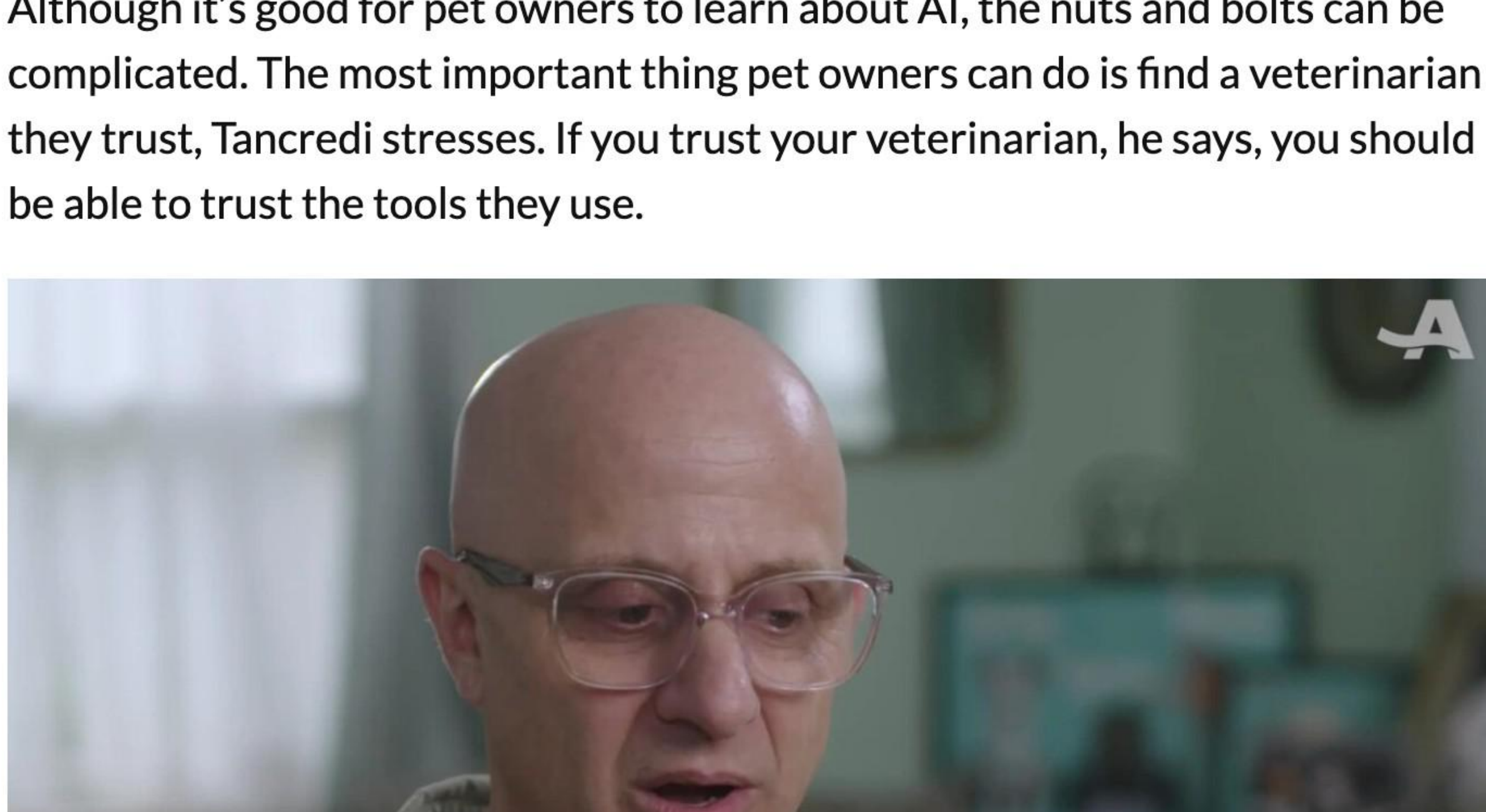
Pet parents should ask questions

Pet owners should ask whether and how their vet uses AI. If AI is used, they should ask their vet the same questions their vet should ask AI vendors.

"If a veterinarian uses AI to perform a diagnostic test, a pet owner should be able to ask, 'How do I know the result is good?' And the veterinarian should be able to answer that question," Goldstein says.

If your veterinarian uses AI for clinical purposes, your pet's medical records should say so, and your vet should make that information available to you, Reagan says.

Although it's good for pet owners to learn about AI, the nuts and bolts can be complicated. The most important thing pet owners can do is find a veterinarian they trust, Tancredi stresses. If you trust your veterinarian, he says, you should be able to trust the tools they use.

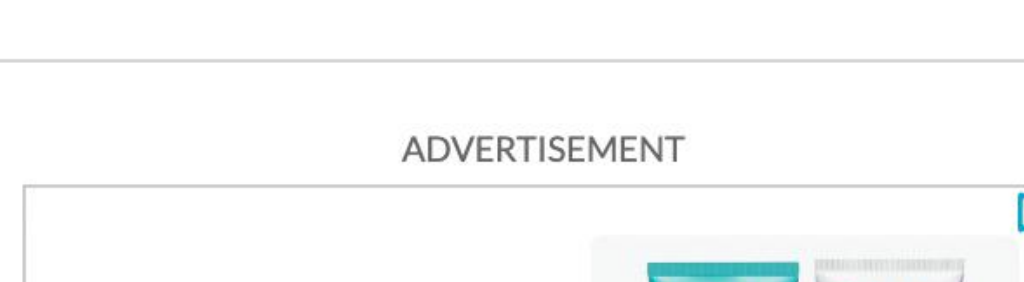


Video: These Two-Legged Dogs Comfort Hospital Patients

Matt Alderton is a contributing writer who specializes in health and wellness, travel and technology. His work has also appeared in USA Today, Forbes and The Washington Post.

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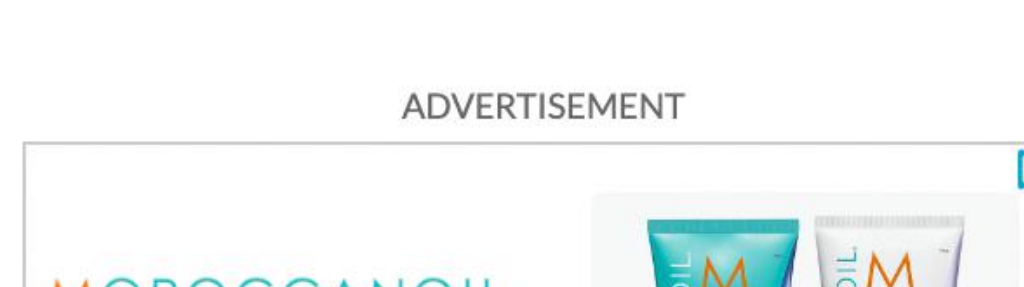
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