

The Bionic Dog

Technological advances let veterinarians rebuild dogs from the paws up.

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Maxwell, a mild-mannered Golden Retriever, couldn't jump. In fact, he could barely stand up. His owners, Natalie and Randy Seftas of Shady Side, Maryland, had never expected him to be a world champion Frisbee disc catcher but they also didn't expect to watch their fun-loving canine become partially disabled, either. "Max would bring his front legs up, sit for awhile, then finally get himself the rest of the way off the ground," Natalie Seftas said. An X-ray taken by their veterinarian, Grant Nisson, DVM, at his practice, Muddy Creek Animal Hospital in West River, Maryland, showed the cause of Maxwell's stiffness. He had two severely dysplastic hips that were ravaged by arthritis.

Many think a diagnosis of hip dysplasia - a degenerative joint condition found most often in larger fast-growing breeds - means their dog is condemned to a life of pain. "That's just not true anymore," said John Dyce, an assistant professor of small animal orthopedics at Ohio State University College of Veterinary Medicine. "Three-quarters of all dogs diagnosed with moderate to severe hip dysplasia at 6 months will become functionally normal if they don't get fat; take proper, limited exercise; and use drugs judiciously," he said. The remaining one-fourth of dysplastic dogs, like Maxwell, get stiff and sore. For them, total hip replacement can mean freedom from pain as well as regaining the ability to run, walk and jump.

Replacing a dog's natural bone with a joint made of cobalt chrome and polyethylene may sound like science fiction, but it's very much mainstream medicine. "We've been doing this a long time, and it's a proven treatment for hips that hurt," said Marvin Olmstead, DVM, professor of small-animal orthopedics at Ohio State. "The procedure gives to the dog what Mother Nature intended all dogs to have - a biomechanically sound ball-and-socket joint."

In fact, the combination of modern veterinary thinking and modern materials makes it possible to replace many canine body parts, from tattooing pigment on a dog's faded nose to implanting titanium-alloy bone in its leg. The hip is the only commonly replaced joint; veterinarians still consider elbow replacement to be experimental.

The imitation hip lets more than 95 percent of dogs return to normal or nearly normal function within a few months of surgery. Although most dogs undergoing the procedure are dysplastic, those whose hips were destroyed by severe fractures or permanent dislocation also can be helped.