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Hi-tech dog collars help vets monitor health improvements

Painkillers can help dogs with osteoarthritis to run about nearly in the same way as healthy dogs, a study of their movements has shown.

Vets used GPS technology attached to collars to track dogs with osteoarthritis and see how they responded to treatment.

The collars monitor the dogs' every movement when outside and can give vets vital information about their physical performance.

Vets can see how fast the dogs are moving, how quickly they speed up and slow down, and how far the animals travel during outdoor activities.

The collars give a very accurate overview of the dogs' activity during their normal exercise regime.

The team at the University of Edinburgh's Royal (Dick) School of Veterinary Studies used the collars to monitor healthy dogs and dogs with arthritis while they were on walks. The data collected from the collars could differentiate between different activities, such as on-lead walking, off-lead activity and play.

They found that dogs with osteoarthritis could run as fast as healthy dogs but their acceleration and deceleration was significantly affected by their condition.

When the animals were treated with an anti-inflammatory painkiller (Carprofen), their performance was restored to a level comparable with healthy dogs for most of the measures taken.

The study also showed that, on average, healthy dogs ran faster, and accelerated and decelerated harder when they were encouraged through play than they did when left to their own devices off the lead. This shows that the intervention of owners during exercise can directly affect dogs' performance.

The research is published today in the journal PLOS ONE and was funded by the PetPlan Charitable Trust.

The lead researcher of the project, Dr Dylan Clements, said: "GPS collars have given us an insight into the levels of physical performance dog exhibit during their normal daily activities, and show us how much we can alter a dog's performance by keeping them on or off a lead, or playing with them."

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“We found that they were a sensitive way for us to measure how well dogs recover from a disease that affects activity, such as osteoarthritis. We hope to be able to use the collars to understand more about how activity might contribute or help prevent diseases in the future”
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Link to journal article: <http://dx.plos.org/10.1371/journal.pone.0117094>