

WIMBA®

Let's restore pets mobility together

Case Study:

WimbaScan case study

Sample:

17 dogs of different breeds took part in the tests, of which 3 border collies , one shiz tzu , one Bernese shepherd dog, two greyhounds, one labrador, one husky, one collie shepherd and the rest were mixed breeds of about 25kg.

Purpose:

The goal was to make a customized orthosis for the dog using our proprietary measurement methods and using 3D printing.

Methods:

We have obtained 3D models of animals' limbs. Have been using in-house software (3D acquisition based on photogrammetry) and a special patern applied to a material that adheres to the limb to compensate for the disruption of its dimensions caused by the hair. After recording a short video of the limb using WimbaScan, the video is send to our server, where is further analyzed and used to build a 3D model. User needs nothing more than an ordinary smartphone.

Additionally, we have used a traditional method to measure - BT tape measure (soft measuring tape) and measurement charts to best select the locations. The data were also entered into Wimba app.

Analysis:

The animals' limbs were recorded under the same environmental conditions to make the tests as reliable as possible. The measurements were collected with the same measuring tape by the same doctor. Then, after receiving the orthoses, they were placed on the animals by the person who measured the animals and they were recorded in slow motion to dynamically evaluate the performance of the orthoses.

What were the results:

For 82% of the subjects the orthoses fit without any problems, which indicates they got accurate measurements with our method.

18% of patients required re-measurement.

In the end, each patient received an orthosis that was individually fitted to them.

Comparison of methods:

	measurement variation (%)	measurement variation (mm)
WimbaScan	3	6
BT measure	4	8

Correct and negative attempts and how we dealt with errors:

The collected measurements for 14 out of 17 dogs came out correct. 2 of the 3 failed attempts had abnormalities in the scan due to poor light conditions in the room where the scans were taken. In one case, both video and measurements were of bad quality. After re-collecting the measurements from these three dogs and ensuring proper light conditions and applying more attention to taking measurements, 3D models were corrected and re-designed orthoses were printed that fit the animal.

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