

# **Canine flexion test: feasibility and reliability study on healthy and lame dogs**

Diane Grosjean (DVM, ECVSMR Resident small animal track)

Supervisor: Dr. Yves Samoy (DVM, PhD, Dipl. ECVSMR)  
Gent University – Department of medical imaging and small animal orthopaedics  
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## **ABSTRACT**

### **Background:**

The flexion test is a clinical tool commonly used to assess lameness in horses. A similar tool was developed in human medicine to assess elbow pain. This test is defined by its duration and the force applied to the joint. It is an easy exam to perform by a clinician in the field. This technique is a manual examination, and therefore doesn't require any specific equipment.

Previous research in horses' orthopaedics agrees on this tool sensitivity to assess pain in a joint area, but not on its specificity to assess a joint pathology. Indeed, soft tissue and other structures lying around the joint are also involved in this test.

Nowadays, this technique is used in routine for pre-purchase examination in horses, which attest to its recognition and legal value.

### **Aims of the study:**

The aim of this study is to define the criteria to apply this test on dogs. This tool is meant to be easy to use, cheap, consistent, and accessible to every clinician working with dogs in the field. Duration and force applied should be defined on a specific joint for dogs. Sensitivity and specificity should be examined to compare its value to previous research in horses.

The hypothesis is to demonstrate that the flexion test performed on dogs is a reliable tool to assess pain in a joint area. We think this tool could be a new standard in orthopaedic examination being accessible to every clinician in the field.

### **Materials and methods:**

In this study, every joint of 8 healthy dogs will be evaluated by a flexion test. In this group, the shoulders, elbows, carpi, tarsi, knees, and hips will be flexed by an experienced veterinarian for 3 minutes. This will function as a control group.

Consecutively, suspicious joints of 39 clinically lame dogs of random breed and age will be scored. These joints will be flexed for one minute on the healthy side, and then being compared to the lame side.

All dogs should walk a distance of 15 meters on a non-slippery floor back and forth, the first steps are taken into account. Every dog will be filmed before and after the test to compare their gait. The data collected for the lame dogs group will be compared to the clinical diagnosis based on orthopaedic examination and medical imaging results.