

## HIND LIMBS PRESSURE ANALYSIS IN CHRONIC OSTEO-ARTICULAR MODEL OF RABBITS

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### Abstract

Osteoarthritis (OA) is the most common joint disease. Animal models provide a clinically relevant way to study the efficacy and toxicity of potential treatments for OA. The aim of paper was to study the impact of some variables (housing conditions, treatments) on pressure exerted by the hind limbs of the rabbits as an indicators / control variables in chronic osteo-articular animal model (OA). A number of 38 (3-31/2 month old) rabbits in 4 groups (non-OA, OA-control, OA-treatment 1 and OA-treatment 2) where observed for 8 weeks period. Pressure and peak pressure were measured with MobileMat™ device. For both the left (FSX-L) and right hind limb (FSX-R), positively correlated ( $r=+0.693$  and a  $p =0.000$ ) the *Mann-Whitney Test* indicating a significant difference ( $p=0.028$  and  $p=0.023$ ) in the pressure exerted by those limbs depending on the post-operative or non-operative state of the rabbits. The peak pressure for the right hind limb (FSX-R), was significant ( $p=0.019$ ) in OA and non-OA comparison. Pressure exerted by this limb depending on the post-operative or non-operative state of the rabbits. The most relevant correlation is between peak pressure of left (FSX-L) and right (FSX-R) which are negative and significant ( $r=-0.425$  and a  $p =0.008$ ). In conclusion, the results of the study were not influenced by cage types and treatments but body mass and OA model are clearly associated with raw pressure and peak pressure on hind limbs.

**Key words:** osteo-articular rabbit model, pressure and peak pressure

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