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Abstract

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Effects of early intensive postoperative physiotherapy on limb function after tibial plateau leveling osteotomy in dogs with deficiency of the cranial cruciate ligament

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Dr. McGowan.

**Objective**—To determine effects of early intensive postoperative physiotherapy on limb function in dogs after tibial plateau leveling osteotomy (TPLO) for deficiency of the cranial **cruciate** ligament (CCL).

**Animals**—8 adult dogs with CCL deficiency.

**Procedure**—After TPLO, dogs underwent a physiotherapy program 3 times/wk (physiotherapy group; n = 4) or a walking program (home-exercise group; 4). All dogs were evaluated before surgery, 1 and 10 days after surgery, and 3 and 6 weeks after surgery. Thigh circumference (TC), stifle joint flexion and extension range of motion (ROM), lameness, and weight-bearing scores were recorded.

**Results**—Before surgery, CCL-deficient limbs had significantly reduced TC and reduced flexion and extension ROMs, compared with values for the contralateral control limb. Six weeks after TPLO, the physiotherapy group had significantly larger TC than the home-exercise group, with the difference no longer evident between the affected and nonaffected limbs. Extension and flexion ROMs were significantly greater in the physiotherapy group, compared with values for the home-exercise group, 3 and 6 weeks after surgery. Six weeks after surgery, the difference in flexion and extension ROMs was no longer evident between the affected and nonaffected limbs in the physiotherapy group. Both groups had improvements for lameness and weight-bearing scores over time, but no difference was found between the 2 groups.

**Conclusions and Clinical Relevance**—After TPLO in CCL-deficient dogs, early physiotherapy intervention should be considered as part of the postoperative management to prevent muscle atrophy, build muscle mass and strength, and increase stifle joint flexion and extension ROMs.

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