

54-PM-F11 SENSORY CONTROL OF PARAVERTEBRAL MUSCLE DIFFERENTIATION IN YOUNG AND ADULT DOGS.  
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Five right posterior spinal roots (thoracic 5 to 10) were transected in the epidural space between the spinal ganglion and the medulla in 6 months old Beagle dogs (n = 4), taking great care not to damage the anterior roots. No paralysis was observed. A scoliosis consolidated in about 1 month, its curve being convex to the operated side (35° to 50', Cobb's Method). Samples of five muscles were taken on each side at the apex of the scoliotic curve. Right ilio-costalis and intertransversalis had 1.5 to twice more AMPdeaminase, CPK, PFK, aldolase, pyruvate kinase, LDH and MDH (NAD), and 1/3 less ICDH (NAD-y) than controls (sham operated, n = 4), left muscles being similar to controls. Right trapezius and latissimus dorsi muscles were less modified, having 5 to 20 % more glycolytic enzymes, CPK and AMP deaminase, and 10 to 15 % less ICDH than the controls; the left muscles were similar to the controls. Right and left intercostalis had the same enzyme contents than the control. In adult dogs (n = 4) section of five posterior spinal roots produced a very slight scoliosis : the enzymic content of deep ilio-costal and superficial ilio-costal muscles remained the same than those found in sham operated adult dogs (n = 4).

Thus sensory informations modulate the enzymic differentiation of the homolateral homometameric muscles in growing dogs, but not in adult dogs. The strength of this influence is maximal for deep paravertebral muscles, is less for superficial dorsal muscles and is not observable for parietal muscles.