
**Abstract**

Shackling of commercial poultry involves the insertion of each leg into parallel metal slots and holding the bird inverted for a period of time before stunning and slaughter. Nociceptors signalling noxious stimulation of the skin have been identified in the beak and feathered skin but not in the scaly skin of the leg. The physiological properties of the C-fibre mechanothermal (CMT) nociceptors in the skin over the tarsometatarsus in the lower leg were studied in response to quantitative mechanical stimulation. The electrical activity was recorded from single C-fibres dissected from the parafibular nerve in anaesthetized animals. The receptive fields of these receptors were small and spot-like, measuring in the region of 1-3 mm in diameter. The threshold to mechanical stimuli ranged from 0.8-15 g using von Frey filaments, and from 3-33 g using a 0.5mm probe mounted on a feedback-controlled stimulator. Stimulus response curves using a ramp-and-hold stimulus were recorded for a number of fibres. After comparing these threshold measurements and the stimulus response data with previous measurements of the force applied to the legs during shackling, it was concluded that shackling is likely to be a very painful procedure.

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