

# Slowly conducting afferents activated by innocuous low temperature in human skin

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1. Microneurography was used to search for primary afferents responsive to innocuous low temperature in human nerves supplying the hairy skin of the hand or foot. Eighteen units were identified as cold-specific units: they displayed a steady-state discharge at skin temperatures in the range 28-30°C, they were sensitive to small changes in temperature, and they responded vigorously when a cool metal probe touched their receptive fields (RFs). They were insensitive to mechanical stimuli and sympathetic activation. Their RFs comprised one, or at most two, spots less than 5 mm in diameter. 2. Nine units were characterised in detail by a series of 10s cooling and warming pulses from a holding temperature of 35°C. The threshold temperature for activation by cooling was  $29.4 \pm 2.0^\circ\text{C}$  (mean  $\pm$  S.D.). Adaptation of the responses to supra-threshold cooling pulses was partial: mean peak and plateau firing rates were maximal on steps to 15°C (35.9 and 19.9 impulses s<sup>-1</sup>, respectively). Three of these u