Pain. 1986 Jun;25(3):313-23.

Pressure-pain threshold in human temporal region. Evaluation of a new pressure algometer.

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A hand-held pressure algometer with a pressure sensitive strain gauge at the tip was used to measure the pressure-pain threshold (PPT) in the temporal region of healthy volunteers. Various sizes of circular tips and various application rates were tested before selecting an area of 0.5 cm2 and a constant application rate of 0.68 N X sec-1 for future use. A highly significant correlation was found between PPT values obtained from the two sides (of the head) (P less than 0.001) and between PPT values obtained with a 3-week interval (P less than 0.001). In a series of 50 immediate consecutive measurements in the same individual, the mean PPT was 171 kPa (N = 6, 2 S.D. 24%). The mean relative change in PPT after a 3-week interval was 0 +/- 51% (N = 11, 2 S.D.). In the course of 5 repeated determinations at weekly intervals there was a significant increase in PPT (ANOVA, P less than 0.05). Subcutaneous lignocaine significantly elevated PPT compared to placebo. Due to the high inter-individual variation, determinations of PPT for group comparisons should include rather large population samples, whereas in paired studies, the intra-individual variation allows the investigation of much smaller groups (10-20 subjects). It is our experience that the pressure algometer is easy to operate in the hands of a skilled laboratory assistant.