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## Superficial heat or cold for low back pain

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**BACKGROUND:** Heat and cold are commonly utilised in the treatment of low-back pain by both health care professionals and people with low-back pain.

**OBJECTIVES:** To assess the effects of superficial heat and cold therapy for low-back pain in adults.

**SEARCH STRATEGY:** We searched the Cochrane Back Review Group Specialised register, the Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 3, 2005), MEDLINE (1966 to October 2005), EMBASE (1980 to October 2005) and other relevant databases.

**SELECTION CRITERIA:** We included randomised controlled trials and non-randomised controlled trials that examined superficial heat or cold therapies in people with low-back pain.

**DATA COLLECTION AND ANALYSIS:** Two authors independently assessed methodological quality and extracted data, using the criteria recommended by the Cochrane Back Review Group.

**MAIN RESULTS:** Nine trials involving 1117 participants were included. In two trials of 258 participants with a mix of acute and sub-acute low-back pain, heat wrap therapy significantly reduced pain after five days (weighted mean difference (WMD) 1.06, 95% confidence interval (CI) 0.68 to 1.45, scale range 0 to 5) compared to oral placebo. One trial of 90 participants with acute low-back pain found that a heated blanket significantly decreased acute low-back pain immediately after application (WMD -32.20, 95%CI -38.69 to -25.71, scale range 0 to 100). One trial of 100 participants with a mix of acute and sub-acute low-back pain examined the additional effects of adding exercise to heat wrap, and found that it reduced pain after seven days. There is insufficient evidence to evaluate the effects of cold for low-back pain, and conflicting evidence for any differences between heat and cold for low-back pain.

**AUTHORS' CONCLUSIONS:** The evidence base to support the common practice of superficial heat and cold for low back pain is limited and there is a need for future higher-quality randomised controlled trials. There is moderate evidence in a small number of trials that heat wrap therapy provides a small short-term reduction in pain and disability in a population with a mix of acute and sub-acute low-back pain, and that the addition of exercise further reduces pain and improves function. The evidence for the application of cold treatment to low-back pain is even more limited, with only three poor quality studies located. No conclusions can be drawn about the use of cold for low-back pain. There is conflicting evidence to determine the differences between heat and cold for low-back pain.