**Table E36. Data abstraction of systematic reviews of heat-cold**

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| **Author, Year** | **Comparison** | **Data Sources** | **Number and Type of**  **Studies** | **Interventions and**  **Number of Patients** | **Methods for Rating Methodological Quality of Primary Studies** | **Methods for Synthesizing Results of Primary Studies** |
| French, 2006  updated in  French, 2011 | Heat vs. no heat  Cold vs. no cold  Heat vs. cold  Heat vs. other active treatments  Cold vs. other active treatments  Heat + another treatment vs. other treatment alone | MEDLINE,  EMBASE, CCCRCT through October 2005 | 9 studies: 5 RCTs, 1  CCT, 3 crossover studies  Acute pain (1 trial), mixed acute and subacute pain (4 trials), chronic pain (3 trials), mixed acute, subacute and chronic pain (1 trial)  Heat vs. placebo (4 trials), heat vs. cold (2 trials), heat vs.  other interventions (4 trials), cold vs. other interventions (1 trial) (some trials  evaluated multiple comparisons) | A. Heat (hot pack or  heated wrap; n=446)  B. Cold (cold pack or ice massage; n=94)  C. Other active interventions (NSAID, n=238; exercise, n=25; lumbar support, n=38; heat + other intervention, n=24)  D. No heat/cold (n=216) | Cochrane Back Group  criteria (2003) | Qualitative analysis  judging level of evidence (strong, moderate, limited conflicting or no evidence) due to limited poolable data |

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| **Author, Year** | **Results** | **Adverse Events** | **Quality** |
| French, 2006  updated in  French, 2011 | A vs. B  No qualitative analysis; evidence from one CCT and one crossover study (both low quality). The CCT found no difference between hot packs and ice massage in a mixed population (treatment duration and followup not reported) and the crossover study found ice massage superior to hot packs in a chronic pain population after 2 20-minute treatments with each.  A vs. C (specified below) Acute or subacute population  Pain, VAS mean difference day 1 or 2, heat vs. (1 trial each): acetaminophen 0.90 (95% CI 0.50 to 1.30); ibuprofen 0.65 (95% CI 0.25 to 1.05); exercise 0.40 (95%  CI -0.15 to 0.95) \*higher score favors heat  Pain, VAS mean difference day 4, heat vs. (1 trial each): acetaminophen 0.74 (95% CI 0.31 to 1.17); ibuprofen 1.05 (95% CI 0.62 to 1.48); exercise 0.30 (95% CI -0.41 to 1.01) \*higher score favors heat  Pain, VAS mean difference day 7, heat vs. (1 trial): exercise 0.30 (95% CI -0.68 to  1.28) \*higher score favors heat  Function, RDQ mean difference, day 4, heat vs. (1 trial each): acetaminophen  2.00 (95% CI 0.86 to 3.14); ibuprofen 2.20 (95% CI 1.11 to 3.29) \*higher score favors heat  Function, RDQ mean difference, day 2, heat vs. (1 trial): exercise -0.70 (95% CI  -2.09 to 0.69)\*lower score favors heat  Function, RDQ mean difference, day 4, heat vs. (1 trial): exercise -0.90 (95% CI  -2.84 to 1.04)\*lower score favors heat  Function, RDQ mean difference, day 7, heat vs. (1 trial): exercise -0.50 (95% CI  -2.72 to 1.72)\*lower score favors heat | None reported | Good |

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| **Author, Year** | **Comparison** | **Data Sources** | **Number and Type of Studies** | **Interventions and**  **Number of Patients** | **Methods for Rating Methodological Quality of Primary Studies** | **Methods for Synthesizing Results of Primary Studies** |
| French, 2006  updated in  French, 2011 |  |  |  |  |  |  |

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| **Author, Year** | **Results** | **Adverse Events** | **Quality** |
| French, 2006  updated in  French, 2011 | (A + C) vs. C alone  Acute or subacute population  Pain, VAS mean difference, heat + exercise vs. exercise, day 2 (1 trial): 0.50 (95% CI -0.21 to 1.21) \*higher score favors heat + exercise  Pain, VAS mean difference, heat + exercise vs. exercise, day 4 (1 trial): 0.80 (95% CI -0.03 to 1.63) \*higher score favors heat + exercise  Pain, VAS mean difference, heat + exercise vs. exercise, day 7 (1 trial): 1.40 (95% CI 0.69 to 2.11) \*higher score favors heat + exercise  Function, RDQ mean difference, heat + exercise vs. exercise, day 2 (1 trial):  0.60 (95% CI -0.79 to 1.99) \*lower score favors heat + exercise  Function, RDQ mean difference, heat + exercise vs. exercise, day 4 (1 trial): -  1.20 (95% CI -3.14 to 0.74) \*lower score favors heat + exercise  Function, RDQ mean difference, heat + exercise vs. exercise, day 7 (1 trial): -  3.20 (95% CI -5.42 to -0.98) \*lower score favors heat + exercise  (A + C) vs. A alone  Pain, VAS mean difference, heat + exercise vs. heat, day 2 (1 trial): 0.10 (95% CI -  0.61 to 0.81) \*higher score favors heat + exercise  Pain, VAS mean difference, heat + exercise vs. heat, day 4 (1 trial): 0.50 (95% CI -  0.21 to 1.21) \*higher score favors heat + exercise  Pain, VAS mean difference, heat + exercise vs. heat, day 7 (1 trial): 1.10 (95% CI  0.22 to 1.98) \*higher score favors heat + exercise  Function, RDQ mean difference, heat + exercise vs. heat, day 2 (1 trial): 1.30 (95% CI -0.07 to 2.67) \*lower score favors heat + exercise  Function, RDQ mean difference, heat + exercise vs. heat, day 4 (1 trial): -0.30 (95% CI -2.24 to 1.64) \*lower score favors heat + exercise  Function, RDQ mean difference, heat + exercise vs. heat,, day 7 (1 trial): -2.70 (95% CI -4.92 to -0.48) \*lower score favors heat + exercise |  |  |

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| **Author, Year** | **Comparison** | **Data Sources** | **Number and Type of Studies** | **Interventions and**  **Number of Patients** | **Methods for Rating Methodological Quality of Primary Studies** | **Methods for Synthesizing Results of Primary Studies** |
| French, 2006  updated in  French, 2011 |  |  |  |  |  |  |

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| **Author, Year** | **Results** | **Adverse Events** | **Quality** |
| French, 2006  updated in  French, 2011 | A vs. D  Acute or subacute population  Pain, VAS mean difference up to day 5 (2 trials): 1.06 (95% CI 0.68 to 1.45)  \*higher score favors heat  Function, RDQ mean difference day 4 (2 trials): -2.12 (95% CI -3.07 to -1.18)  \*lower score favors heat  B vs. C  One trial of ice massage vs. TENS; included in TENS section of the report (found no difference between ice massage and TENS)  B vs. D  No evidence | A vs. D  Skin flushing at application site (2 trials): 5% (6/128) vs. 0.8% (1/130); RR 6.09 (95% CI 0.74 to 50)  All other comparisons: not reported |  |

**Please see Appendix C. Included Studies for full study references.**