Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)

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Transfer of preterm infants from incubator to open cot at lower versus higher body weight

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ABSTRACT

Background
A key criterion for discharging preterm infants home from nurseries is their ability to maintain temperature once transferred from incubators to open cots. The timing of transfer is important given the preterm infant's immature thermoregulatory mechanisms.

Objectives
To determine the effects of body weight in transferring preterm infants from incubators to unheated open cots.

Search methods
Electronic databases, the Cochrane Central Register of Controlled Trials, clinical trials registers and the abstracts of the Society for Pediatric Research were searched.

Selection criteria
Randomised and quasi-randomised controlled trials comparing transfer of preterm infants from incubators to unheated open cots at lower and higher body weights.

Data collection and analysis
Data collection and analysis was performed in accordance with the methods of the Cochrane Neonatal Review Group.

Main results
Four eligible studies were identified. Two of the identified trials were assessed as having good methodological quality. Two studies reported daily weight gain (calculated as growth velocity); the lower body weight group had a significantly greater daily weight gain [pooled mean difference (MD) 2.66 (95% confidence interval (CI)1.37 to 3.95). One study reported a larger proportion of infants transferred at the higher body weight had an episode of low temperature in the first 72 hours; while no difference between the two groups was found in the proportion of infants experiencing cold stress post-transfer to discharge. Two studies report no difference between the two groups in requiring an overhead heater for temperature maintenance [pooled RR 1.43 (95% CI 0.35 to 1.18). No
statistically significant difference was shown for proportion of infants returning to an incubator [three studies (N = 336) [pooled RR 1.78 (95% CI 0.77 to 4.08)].

Two studies report there was no statistically significant difference in time spent in an open cot post transfer to discharge; while one study found infants transferred at lower weights had a significantly reduced length of stay [MD -9.00 (95% CI -13.29 to -4.71), a second study found no differences between the two groups [MD 0.30 (95% CI -5.11 to 5.71)]. In these two studies not breastfeeding at discharge was not significantly different between the lower and higher body weight groups [pooled RR 1.02 (95% CI 0.69 to 1.51).

Authors’ conclusions

Medically stable preterm infants can be transferred to unheated open cots at a lower body weight of 1600 grams without adverse effects on temperature stability or weight gain. Earlier transfer does not necessarily result in earlier discharge.

PLAIN LANGUAGE SUMMARY

Transfer of preterm infants from incubator to open cot at lower versus higher body weight

For preterm infants to be discharged home from nurseries, they must be able to maintain their temperature in an unheated open cot. The timing of the transfer from the incubator is important because, if an infant is not able to maintain his/her temperature and is cold, then this could affect weight gain and delay the infant’s discharge from hospital. A review of the trials found that preterm infants can be transferred to unheated open cots at a lower body weight of 1600 grams without adverse effects on temperature stability or weight gain.
### Transfer from incubator to cot at lower versus higher body weight for preterm infants

**Patient or population:** patients with preterm infants  
**Settings:** Neonatal nurseries in hospitals  
**Intervention:** Transfer from incubator to cot at lower versus higher body weight

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<th>Relative effect (95% CI)</th>
<th>No of Participants (studies)</th>
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<td><strong>Daily weight gain (g/kg/day)</strong></td>
<td>The mean Daily weight gain (g/kg/day) in the intervention groups was 2.66 higher (1.37 to 3.95 higher)</td>
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<td>276 (2 studies)</td>
<td>⊕⊕⊕⊕ high</td>
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<td><strong>Proportion of infants having at least one episode of low temperature requiring overhead heater use</strong></td>
<td><strong>Study population</strong></td>
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<td>108 per 1000 (84 to 283)</td>
<td>RR 1.43 (0.78 to 2.62)</td>
<td>276 (2 studies)</td>
<td>⊕⊕⊕⊕ high</td>
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<td>87 per 1000 (68 to 228)</td>
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<td><strong>Proportion of infants having at least one episode of returning to incubator</strong></td>
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<td>RR 1.78 (0.77 to 4.08)</td>
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<td>Outcome</td>
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<td>Duration from transfer to cot to discharge home (days)</td>
<td>Medium risk population</td>
<td>0.61 higher (0.37 lower to 1.59 higher)</td>
<td>276 (2 studies)</td>
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<td>276 (2 studies)</td>
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<td>Proportion of infants exclusive breastfeeding at discharge</td>
<td>Medium risk population</td>
<td>0.81 to 1.24</td>
<td>276 (2 studies)</td>
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The basis for the **assumed risk** (e.g., the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

**CI:** Confidence interval; **RR:** Risk ratio;

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**GRADE Working Group grades of evidence**

- **High quality:** Further research is very unlikely to change our confidence in the estimate of effect.
- **Moderate quality:** Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
- **Low quality:** Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
- **Very low quality:** We are very uncertain about the estimate.

1 one of the included studies had a high risk of bias
BACKGROUND

Description of the condition

Preterm infants are cared for in a neutral thermal environment to prevent thermal cold stress so that minimal energy is expended, thereby minimising oxygen and energy consumption. Since improved survival of small infants cared for in warmer environments was demonstrated over 40 years ago (Silverman 1957; Silverman 1958; Silverman 1963), maintaining a thermoneutral environment for preterm infants with the use of incubator care has become routine practice in neonatal nurseries. However, at some point during hospitalisation, the infant will need to make the transition from incubator to open cot. One of the key criteria for discharging preterm infants from nurseries is their ability to maintain temperature once transferred to an open cot. The timing of this transition is important because when an infant is challenged by cold, the infant attempts to increase its heat production to maintain body temperature. Vasoconstriction occurs as the infant attempts to conserve body heat and brown adipose tissue is metabolised. The increase in energy expenditure may affect weight gain. Exposure of growing preterm infants to a subthermoneutral environmental temperature in the late neonatal period results in a slowing of growth through an increase in energy expenditure (Glass 1969).

Description of the intervention

The practice of transferring infants from incubators to open cots varies widely among neonatal units, with no clear indication as to when or how this transition should take place (New 2010). The usual practice is to transfer infants to open cots once a weight of around 1700 to 1800 grams has been reached (New 2010). This target weight appears to be largely based on tradition or the personal experience of clinicians with little consideration of the infant’s weight or gestational age at birth. The main factors determining the preterm infant’s postnatal thermal stability are: (i) degree of prematurity - the more immature the infant, the thinner the skin, the less subcutaneous fat and the greater the surface area/weight ratio; (ii) birth weight - small for gestational age or lower birth weight also results in less subcutaneous fat for insulation and thermogenesis and the greater the surface area/weight ratio; (iii) postnatal age - thermostability increases with postnatal age (McManus Kuller 1998).

How the intervention might work

A number of measures have been suggested to assist in the maintenance of body temperature when transferring infants from incubators to open cots. These measures have included a gradual weaning process in which infants are dressed in clothing and the incubator air temperature is reduced, thus thermally challenging the infant prior to transfer to an open cot (Wilson 1998), the use of heated water-filled mattresses and heated nurseries (Gray 2003; Gray 2004; Berger 2007; Weintraub 2007).

Open cots are relatively inexpensive compared to the cost of air-heated incubators. If it could be demonstrated that transfer of an infant to an unheated open cot at a lower body weight could be achieved without adverse outcome, considerable economic benefit could result in both developing and developed countries.

Why it is important to do this review

Delaying transition to an open cot on the basis of not reaching a certain arbitrary weight criterion may result in longer hospitalisation than necessary, thus increasing the cost of care provided (Wilson 1998). Maternal perceptions of their infants may influence infant development (Watt 1989). Maternal perceptions may be more positive when infants are cared for in an open cot due to ease of access promoting autonomy for parents and improving parent-infant attachment, which may improve breast feeding rates. Nursing staff may perceive that caring for infants in open cots reduces workload and that better care may be provided due to increased accessibility.

While there may be benefits of earlier transfer to an open cot, there may be potential risks. Transferring infants from an incubator to an open cot before an infant is ready may result in the infant’s inability to maintain temperature, leading to weight loss, resulting in extended hospitalisation and adding to the cost of care (Wilson 1998). The need for an infant to return to an incubator after making the transition to an open cot may also result in increased stress and anxiety to the parents and family.

OBJECTIVES

To determine the effects of transferring preterm infants at a lower body weight (less than 1700 grams) compared to at a higher body weight (greater than 1700 grams), on weight gain and temperature control.

Further subgroup analysis was planned to determine if transferring preterm infants from incubators to open cots at lower versus higher body weight differ according to:

- birthweight: born less than 1000 grams versus 1000 grams and above;
- gestational age: born at less than 34 weeks gestation versus 34 weeks gestational and above.

METHODS
Criteria for considering studies for this review

Types of studies
Randomised controlled trials and some types of non-randomised controlled trials (e.g., quasi-randomised trials) in which infants were allocated to transfer from incubators to unheated open cots at a lower body weight versus at a higher body weight.

Types of participants
Preterm infants nursed in incubators.

Types of interventions
Transferring of preterm infants from an incubator to an unheated open cot at a lower body weight compared with higher body weight. “Lower” is defined as transfer before reaching 1700 grams, and “higher” is defined as transfer after reaching 1700 grams or more.

Types of outcome measures

Primary outcomes
- Weight gain (g/kg/day).
- Episodes of low temperature (e.g. temperature < ~36.5 °C) or requiring assistance with heating (e.g. overhead heater).
- Requiring to be returned to incubator.

Secondary outcomes
- Duration from transfer to cot to discharge home (days).
- Duration from randomisation to discharge home (days).
- Postmenstrual age at discharge (days).
- Length of hospital stay (days).
- Cost.
- Not breast feeding at hospital discharge.
- Exclusive breast feeding at hospital discharge.
- Parental satisfaction.
- Parental anxiety.
- Death (by 28 days or prior to hospital discharge and also by 12 months if reported).

Search methods for identification of studies
We used the standard methods of the Cochrane Neonatal Review Group guidelines.

Electronic searches
We searched the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library, Issue 2, 2011), CINAHL (January 1982 to March 2011), EMBASE (March 1980 to March 2011) and MEDLINE/PubMed (January 2007 to March 2011) using the search terms Infant, Incubator, Cot, Crib, Weaning. All languages were included. Full search strategies are detailed in Appendix 1; Appendix 2; Appendix 3.

Searching other resources
Published abstracts: The abstracts of the Society for Pediatric Research from 2000 to 2009 were searched electronically through the PAS web-site (abstract archive). Clinical trials registries were also searched for ongoing or recently completed trials (clinical-trials.gov; controlled-trials.com; and who.int/ictrp/en). The results of the search of trials registries are detailed in Appendix 4, Appendix 5, Appendix 6.

Data collection and analysis
We used the standard methods of The Cochrane Neonatal Review Group guidelines.

Selection of studies
Two of the three reviewers independently assessed for inclusion all the potential studies identified as a result of the search strategy. The title and abstract of each retrieved study were examined. If there was uncertainty, the full paper was examined. Disagreements were resolved by discussion.

Data extraction and management
Two of the three reviewers independently extracted data. Differences were resolved by discussion and consensus of the reviewers. Using an agreed form we designed to extract data, study quality was assessed using the following key criteria: blinding of allocation, blinding of intervention, completeness of follow up and blinding of outcome measurement, assigning a rating of 'Yes', 'No' or 'Can't tell' for each.

Assessment of risk of bias in included studies
Two of the three reviewers independently assessed risk of bias for each study using the criteria outlined in the Cochrane Handbook for Systematic Reviews of interventions (Higgins 2009). Disagreements were resolved by discussion. We completed the Risk of Bias table addressing the following methodological issues:
1. Sequence generation: Was the allocation sequence adequately generated? For each included study we described the method used to generate the allocation sequence.
We assessed the methods as:

- low risk (any truly random process, e.g. random number table; computer random number generator);
- high risk (any non-random process, e.g. odd or even date of birth; hospital or clinic record number);
- unclear risk.

2. Allocation concealment: Was allocation adequately concealed?
For each included study, we described the method used to conceal the allocation sequence and determined whether intervention allocation could have been foreseen in advance of, or during recruitment, of changed after assignment.
We assessed the methods as:

- low risk (e.g. telephone or central randomisation; consecutively numbered sealed opaque envelopes);
- high risk (open random allocation; unsealed or non-opaque envelopes, alternation; date of birth);
- unclear risk.

3. Blinding of participants, personnel and outcome assessors: Was knowledge of the allocated intervention adequately prevented during the study?
Of the four included studies, blinding of the intervention was not possible for participants or personnel. However, blinded assessment of some outcome measures were possible.

4. Incomplete outcome data: Were incomplete outcome data adequately addressed? For each included study and for each outcome, we described the completeness of data including attrition and exclusions from the analysis. We stated whether attrition or exclusion where reported, the numbers included in the analysis at each stage (compared with the total randomised participants), reasons for attrition or exclusion where reported, and whether missing data were balanced across groups or were related to outcomes.
We assessed the methods as:

- low risk;
- high risk;
- unclear risk.

5. Selective outcome reporting: Are reports of the study free of suggestion of selective outcome reporting? For each included study we described how we examined the possibility of selective outcome reporting bias and what we found.
We assessed the methods as:

- low risk (where it is clear that all of the study’s pre-specified outcomes and all expected outcomes of interest to the review have been reported);
- high risk (where not all the study’s pre-specified outcomes have been reported; one or more reported primary outcomes were not pre-specified; outcomes of interest are reported incompletely and so cannot be used; study fails to include results of a key outcome that would have been expected to have been reported);
- unclear risk.

6. Other sources of bias: Was the study apparently free of other problems that could put it at a high risk of bias? For each included study, we described any important concerns regarding other possible sources of bias.
We assessed whether each study was free of other problems that could put it at risk of bias:

- low risk;
- high risk;
- unclear risk.

Measures of treatment effect
For dichotomous data, we presented results as summary risk ratio with 95% confidence intervals.
For continuous data, we used the mean difference with 95% confidence intervals if outcomes are measured in the same way between trials.

Unit of analysis issues
Average daily weight gain, transformed into growth velocity using the formula as described by Patel 2005. This exponential model corrects for the lower weight at randomisation and allows a better assessment of whether there was a decrease in growth velocity due to increased energy loss after early transition from the incubator.

Dealing with missing data
For included studies, we noted levels of attrition.

Assessment of heterogeneity
We assessed statistical heterogeneity in each meta-analysis using the I² and Chi² statistics. We regarded heterogeneity to be substantial if either I² was greater than 50% or there was a low P-value (less than 0.10) in the Chi² test for heterogeneity.

Assessment of reporting biases
As there were fewer than ten studies included in analyses we were unable to investigate reporting biases (such as publication bias) using funnel plots.

Data synthesis
We carried out statistical analyses using Review Manager 5 (RevMan) software.
We used fixed-effect meta-analysis where it was reasonable to assume that studies are estimating the same underlying treatment effect: i.e. where studies are examining the same intervention, and the trials’ populations and methods are judged to be sufficiently similar.
Subgroup analysis and investigation of heterogeneity

Subgroup analyses were planned a priori on the following subgroup analyses (for primary outcomes and length of stay only):

- Birthweight: born less than 1000 grams versus 1000 grams and above.
- Gestational age: born less than 34 weeks gestation versus 34 weeks gestation and above.

Sensitivity analysis

We planned to carry out sensitivity analyses to explore the effects of adequacy of allocation concealment (including quasi-randomisation) and other risk of bias components, but there were insufficient data to do this.

RESULTS

Description of studies

See: Characteristics of included studies; Characteristics of excluded studies.

See: Characteristics of included studies; Characteristics of excluded studies.

Results of the search

We included four studies and excluded ten studies.

Included studies

Four studies were included in this review, Heimler 1981; Sutter 1988; New 2011; Zecca 2010. Clinical details concerning the participants, interventions and outcomes are given in the table, Characteristics of included studies.

Two studies (Heimler 1981; Sutter 1988) were conducted in the US, one (New 2011) in Australia and the fourth (Zecca 2010) in Italy.

Heimler 1981 randomised preterm infants to one of two study groups: Group A was transferred to an open cot at a weight of between 1600 grams and 1700 grams and Group B at a weight of between 1800 grams and 1900 grams. The same conditions existed for both groups. Infants were dressed in a single shirt, diaper, cap and booties throughout the study. Incubator air temperatures were kept between 30 and 32 degrees Celsius and room temperature between 25 and 27 degrees Celsius. Once all infants reached a weight of 1500 grams they were fed outside the incubator. Once transferred to a crib, the infant was covered with four blankets. Infants were fed as clinically indicated. A total of 20 infants were enrolled, however data on only 14 infants was reported (six in group A and 8 in group B).

The main outcome measures assessed in the Heimler 1981 study were body temperature (axillary, rectal and anterior abdominal skin); gross energy intake; weight gain; head growth; length growth and skinfold thickness. Only one outcome measure, weight gain (g/kg/day) was included in this review.

Sutter 1988 study included preterm infants, born less than 1500 grams, cared for in a single-walled incubator, who were divided into four strata based on birthweight (Stratum I. Birthweight 1251 to 1500 grams; Stratum II. Birthweight 1001 to 1250 grams; Stratum III. Birthweight 751 to 1000 grams; Stratum IV. Birthweight less than 751 grams) and then randomised to one of two study groups: Group 1 was transferred to an open cot at a weight of 1700 g and Group 2 at a weight of 1800 grams. Prior to transfer of all infants, the incubator temperature was weaned gradually by decreasing the incubator temperature by 1°C each hour until the incubator temperature reached 28°C. Infants were clothed in a cotton shirt, with one or two blankets when moved into an open cot. If the infant’s temperature dropped to less than 36°C at any time during the weaning process or any time after, the infant was returned to an incubator and weaning could recommence 48 hours later. Nursery temperature was maintained at 22°C. Other nursery routines were not changed. A total of 60 infants were enrolled (30 in each group; consisting of 15 in stratum I; nine in stratum II; five in stratum III and one in stratum IV).

The primary outcome measures assessed in the Sutter 1988 study were hypothermia requiring the infant to be returned to the incubator, weight gain (mean 24 hour weight gain) and length of hospitalisation (duration (days) from entry into the study at 1500 grams to discharge). However day of discharge was defined to be 24 hours after successful weaning from incubator to open cot, due to delayed discharge of some infants for social reasons. Only one outcome measure, returned to incubator was included in this review.

New 2011 randomised preterm infants, born less then 1600 grams, into one of two groups: intervention group (transfer to an open cot at 1600 grams); or control group (transfer to an open cot at 1800 grams). Nursery temperatures were maintained at 24 to 26 °C with the relative humidity at 55%. On transfer, infants were dressed in a singlet, a cotton full-length jumpsuit and a woollen hat; wrapped in a flannelette sheet and a cotton blanket. A quilt was placed over the infant’s bedclothes. Post-transfer axillary temperatures were measured at one hour, three hours, then every three hours until 72 hours, and thereafter a minimum of three times a day until discharge. Temperature stability was defined as the axillary temperature range of 4 °C within three hours of being under an open cot. If the infant’s temperature fell below 36 °C a predetermined sequence to assist in temperature maintenance post-transfer was instituted; additional clothing, additional bedding, an overhead radiant heater, and finally return to an incubator. Failure of transfer was defined as return to an incubator for inability to maintain an axillary temperature above 36-4 °C within three hours of being under an over-
head heater or if an overhead heater was required on more than two occasions, for periods of greater than three hours each time, in a 24 hour period. Each infant was weighed naked every second day, prior to a feed, using electronic scales. Other nursery routines were not changed and other clinical management decisions were left to the clinical care team responsible for the infants. A total of 182 infants were enrolled (90 in 1600 gram group and 92 in 1800 gram group).

The primary outcomes assessed in the New 2011 study (post-transfer) were temperature stability over 72 hours and discharge; and average daily weight gain post-transfer over two weeks. Secondary outcomes were the proportion of infants requiring an overhead heater; the proportion of infants returned to an incubator; length of hospital stay (from time of randomisation to discharge); postmenstrual age (PMA) and weight at discharge.

Zecca 2010 randomised preterm infants, born less than 1600 grams, into one of two groups: early transition groups (transferred at 1600 grams) and standard transition group (transferred at 1800 grams). All infants enrolled in the study were nursed in incubators (servo-control temperature) and 40% relative humidity. Nurse temperature was maintained at 24 ºC and 40% relative humidity. On transfer, infants were dressed in a woollen hat, booties, two vests and a cotton wrap. Axillary temperatures were measured hourly until the recording of 2 consecutive readings of ≥ 36.5°C and then every three hours at feeding time, up to 72 hours after transfer. If temperature fell below 36.5°C, then an additional wrap was added to the infant. If the temperature remained below 36.5°C, then the infant was placed under a radiant warmer and if the temperature failed to rise above 36.5°C after three hours, the infant was transferred back to an incubator. Infants were weighed daily, naked, before the 9:00 AM feeding. A total of 94 infants were enrolled (47 in each group).

The primary outcome assessed in the Zecca 2010 study was length of stay. Secondary outcomes were the number of infants returned to an incubator, the growth velocity from transfer to an open crib to discharge and during the first week at home, the mean individual amount of breast milk at discharge and during the first week at home, and the hospital readmission rate.

**Excluded studies**

Ten studies were excluded; of these six studies (Roncoli 1992; Medoff-Cooper 1994; Dollberg 2004; Gwiazdowski 2005; West 2005; Schneiderman 2009) as neither random nor quasi-random allocation to the exposure was employed, two studies (Berger 2007; Weintraub 2007) as the intervention involved warming bassinets, one study (Graham 2003) as the outcome measures compared infants in the incubator with those in open cots and one study (Patton 2008) as the intervention involved conservative or aggressive weaning of incubator temperature.

**Risk of bias in included studies**

Two studies had a high risk of bias and two studies had a low risk of bias (Figure 1; Figure 2).
**Figure 2. Risk of bias summary: review authors’ judgements about each risk of bias item for each included study.**

<table>
<thead>
<tr>
<th>Study</th>
<th>Random sequence generation (selection bias)</th>
<th>Allocation concealment (selection bias)</th>
<th>Blinding (performance bias and detection bias)</th>
<th>Incomplete outcome data</th>
<th>Selective reporting (reporting bias)</th>
<th>Other bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heimler 1981</td>
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<td>Sutter 1988</td>
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<td>Zecca 2010</td>
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**Allocation**

Two of the four studies (New 2011; Zecca 2010) described their method of allocation concealment in detail and specified an adequate method of sequence generation.

**Blinding**

The intervention of transferring the infant to an open cot at a lower weight than a higher weight was not feasible to blind; and although assessment of some outcomes could have been blinded, only Zecca 2010 reported doing so.

**Incomplete outcome data**

Two studies (New 2011; Zecca 2010) had complete outcome data. Heimler 1981 enrolled 20 infants but excluded 30% of infants from the analysis. Two infants were eliminated due to apnoea and feeding problems; one infant withdrawn from the study by the parents; and three infants due to being small for gestational age (<10 centile) although this was not an exclusion criteria for enrolment into the study. It is not known whether these infants were excluded pre or post randomisation, nor the groups to which they had been assigned. Sutter 1988 enrolled 62 infants but completeness of follow up did not occur as two infants were not included.
in the analysis as they did not have matching pairs.

**Selective reporting**

One study Sutter 1988 was at high risk of selective reporting. Sutter 1988 defined day of discharge to be 24 hours after successful weaning due to delayed discharge of some infants for social reasons and length of hospitalisation was calculated for this time period.

**Other potential sources of bias**

We assessed three studies (Heimler 1981; Sutter 1988; Zecca 2010) as having other possible sources of bias. Heimler 1981 related to study design; Sutter 1988 related to recruitment as only informed consent gained for those infants assigned to the intervention group; and Zecca 2010 related to inconsistency in reporting of the secondary outcome of breastfeeding.

**Effects of interventions**

See: Summary of findings for the main comparison Transfer from incubator to cot at lower versus higher body weight for preterm infants

TRANSFER FROM INCUBATOR TO OPEN COT AT LOWER VERSUS HIGHER BODY WEIGHT (Comparison 1):

**Primary Outcomes**

Daily weight gain (g/kg/day) (Outcome 1.1): In two studies of 276 preterm infants (New 2011; Zecca 2010), there was a statistically significant daily weight gain between the lower and higher body weight groups [pooled mean difference (MD) 2.66 (95% confidence interval (CI) 1.37 to 3.95); Analysis 1.1]. Whilst Heimler 1981 reported daily weight gain as g/kg/day it was not included in the meta-analysis as growth was not calculated using the exponential model.

However, there was substantial heterogeneity among these two studies. Given that there are few studies, then the explanations for this heterogeneity needs to be viewed with caution. Whilst both studies investigated preterm infants born less than 1600 grams, the populations differed in mean birthweight and gestational age. In addition differences in breastfeeding at discharge were seen. These factors could account for differences in daily weight gain between the populations.

Episodes of low temperatures (e.g. temperature < -36.5 °C) or requiring assistance with heating (i.e. overhead heater) (Outcome 1.2 to 1.5):

Proportion of infants having at least one episode of low temperature during the first 72 hours post-transfer (Outcome 1.2) Two studies of 276 infants (New 2011; Zecca 2010), reported episodes of low temperatures over the first 72 hours post-transfer to an open cot; there was a trend towards significance with a greater proportion of infants having an episode of low temperature in the higher body weight group [pooled risk ratio (RR) 0.60 (95% CI 0.36 to 1.01); Analysis 1.2].

Proportion of infants having at least one episode of low temperature from post-transfer to discharge (Outcome 1.3) There was no statistically significant difference in the number of episodes of low temperatures between the lower and higher weight groups [pooled RR 1.10 (95% CI 0.90 to 1.35); Analysis 1.3].

Proportion of infants having at least one episode of low temperature requiring overhead heater use (Outcome 1.4) There was no statistically significant difference in overhead heater use required to maintain infants temperature post transfer to discharge [pooled RR 1.43 (95% CI 0.78 to 2.62); New 2011; Zecca 2010] - Analysis 1.4.

Proportion of infants having at least one episode of returning to incubator (Outcome 1.5) In three studies of 336 infants (New 2011; Sutter 1988; Zecca 2010), no significant difference in infants requiring to be returned to an incubator for failure to maintain their temperature was seen between the lower and higher weight groups [pooled RR 1.78 (95% CI 0.77 to 4.08); Analysis 1.5].

Secondary Outcomes (Outcomes 1.6 to 1.11):

Duration from transfer to cot to discharge home (days) (Outcome 1.6) There was no statistically significant difference in time spent in an open cot post transfer to discharge [pooled MD 0.61 (95% CI 0.37 to 1.59); New 2011; Zecca 2010] - Analysis 1.6.

There was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the populations differed in mean birthweight and gestational age. In addition differences in breastfeeding at discharge were seen. These factors could account for differences in discharge practices between the populations.

Duration from randomisation to discharge home (days) (Outcome 1.7) Two studies of 276 infants (New 2011; Zecca 2010) assessed duration from randomisation to discharge home and found statistically significant difference in the number of days stay between those infants transferred to an open cot at a lower weight than those transferred at a higher weight [pooled MD -5.83 (95% CI -7.63 to -4.03); Analysis 1.7]. While Sutter 1988 reported this outcome, due to day of discharge measured as 24 hours post successful weaning, meta analysis could not be performed.

There was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the populations differed in mean birthweight and gestational age. In addition differences in breastfeeding at discharge were seen. These factors could account for differences in discharge practices between the populations.

Postmenstrual age at discharge (days) (Outcome 1.8) Two studies assessed postmenstrual age at discharge (New 2011; Zecca 2010). Zecca 2010 found infants transferred at a lower weight were discharged significantly younger compared with those
transferred at a higher weight [MD -1.40 (95% CI -1.93 to -0.87), while no differences between groups were seen for New 2011 [MD -0.10 (95% CI -.77 to 0.57); Analysis 1.8].

There was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the differences between mean gestational age of the two populations may account for longer length of stay for the New 2011 and thus postmenstrual age at discharge of these infants would be greater.

Length of hospital stay (days) (Outcome 1.9)
Given the lower weight infants in the Zecca 2010 study were younger gestationally and in postnatal days of age at discharge, then a significantly reduced length of stay was seen for those infants transferred at the lower weight [MD -9.00 (95% CI -13.29 to -4.71), while no differences between groups were seen for New 2011 [MD 0.30 (95% CI -5.11 to 5.71); Analysis 1.9].

There was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the differences between mean gestational age of the two populations may account for longer length of stay for the New 2011 study. In addition a higher number of infants were discharged exclusive breastfeeding in the New 2011, thus the establishment of full breastfeeding may impact on length of stay.

Not breastfeeding and exclusive breastfeeding at hospital discharge (Outcome 1.10 and 1.11)
The two studies of New 2011 and Zecca 2010 assessed these outcomes finding no significant differences between the two groups for not breast feeding at discharge [pooled RR 1.02 (95% CI 0.69 to 1.51); Analysis 1.10] or exclusively breastfeeding at discharge [pooled RR 1.00 (95% CI 0.81 to 1.24); Analysis 1.11].

Subgroup analysis undertaken according to birthweight and gestational age must be viewed with caution as neither of the two included studies were powered for these subgroups. Further more the Zecca 2010 study had no infants born less than 1000 grams randomised to the higher body weight group and therefore the data of the New 2011 is the only included data in this subgroup. Primary outcomes and length of stay are presented in these subgroup analyses.

TRANSFER FROM INCUBATOR TO OPEN COT: BIRTH WEIGHT LESS THAN 1000 GRAMS (Comparison 2):

Primary Outcomes

Daily weight gain (g/kg/day) (Outcome 2.1): A subgroup of 32 preterm infants, born less than 1000 grams, in the New 2011 study, showed infants transferred at lower body weight had greater daily weight gains, but this was not statistically significant [mean difference 3.10 (95% CI -0.26 to 6.46); Analysis 2.1].

Episodes of low temperatures (e.g. temperature < -36.5 °C) or requiring assistance with heating (i.e. overhead heater) (Outcome 2.2)
Proportion of infants having at least one episode of low temperature during the first 72 hours post-transfer

There was a greater proportion of infants in the higher body weight group who had at least one episode of low temperature over the first 72 hours post-transfer, however this was not statistically significant [risk ratio (RR) 0.16 (95% CI 0.02 to 1.17); New 2011 - Analysis 2.2].

Proportion of infants having at least one episode of low temperature from post-transfer to discharge (Outcome 2.3)
In the subgroup of 32 infants born less than 1000 grams (New 2011), no significant difference was seen in the number of episodes of low temperatures between the lower and higher weight groups [RR 0.76 (95% CI 0.51 to 1.12); Analysis 2.3].

Proportion of infants having at least one episode of low temperature requiring overhead heater use (Outcome 2.4)
There was no statistically significant difference in the proportion of infants requiring an overhead heater to maintain temperature post transfer to discharge [RR 0.91 (95% CI 0.30 to 2.77); New 2011 - Analysis 2.4].

Proportion of infants having at least one episode of returning to incubator (Outcome 2.5)
The New 2011 study showed no significant difference in infants born less than 1000 grams requiring to be returned to an incubator for failure to maintain their temperature between the lower and higher weight groups [RR 2.27 (95% CI 0.48 to 10.67); Analysis 2.5].

Secondary Outcomes

Length of hospital stay (days) (Outcome 2.9):
There was no statistically significant difference in the length of stay between the groups of infants born less than 1000 grams in the New 2011 study [MD 3.00 (95% CI -8.27 to 14.27); Analysis 2.9].

TRANSFER FROM INCUBATOR TO OPEN COT: BIRTH WEIGHT EQUAL TO OR GREATER THAN 1000 GRAMS (Comparison 3):

Primary Outcomes

Daily weight gain (g/kg/day) (Outcome 3.1):
In two studies of 241 preterm infants (New 2011; Zecca 2010), there was a statistically significant daily weight gain between the lower and higher body weight groups [pooled MD 2.61 (95% CI 1.24 to 3.97); Analysis 3.1].

However, there was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the populations differed in mean birthweight and gestational age. In addition differences in breastfeeding at discharge were seen. These factors could account for differences in daily weight gain between the populations.

Episodes of low temperatures (e.g. temperature < -36.5 °C) or requiring assistance with heating (i.e. overhead heater) (Outcome 3.2 to 3.5):

Proportion of infants having at least one episode of low temperature during the first 72 hours post-transfer (Outcome 3.2)
A subgroup of 241 infants showed no significant difference be-
between the groups of infants in having a least one episode of low temperature over the first 72 hours post-transfer [pooled risk ratio (RR) 0.69 (95% CI 0.40 to 1.19); New 2011; Zecca 2010]; Analysis 3.2.

Proportion of infants having at least one episode of low temperature from post-transfer to discharge (Outcome 3.3)
In two studies of 241 preterm infants born ≥ 1000 grams (New 2011; Zecca 2010), no significant difference was seen in the number of episodes of low temperature between the lower and higher weight groups [pooled RR 1.19 (95% CI 0.94 to 1.50); Analysis 3.3].

Proportion of infants having at least one episode of low temperature requiring overhead heater use (Outcome 3.4)
There was a statistically significant difference in the proportion of infants requiring an overhead heater to maintain temperature post transfer to discharge [pooled RR 0.45 (95% CI 0.21 to 0.97); New 2011] - Analysis 3.4.

Proportion of infants having at least one episode of returning to incubator (Outcome 3.5)
There was no significant difference in infants requiring to be returned to an incubator for failure to maintain their temperature between the lower and higher weight groups [pooled RR 1.50 (95% CI 0.44 to 5.10); Analysis 3.5].

Secondary Outcomes
Length of hospital stay (days) (Outcome 3.9):
Those infants born ≥ 1000 grams transferred to open cots at lower body weight in the Zecca 2010 study had statistically significant shorter length of stay [MD -11.00 (95% CI -15.01 to -6.99), while no differences between groups were seen for New 2011 [MD 0.55 (95% CI -4.15 to 5.25); Analysis 3.9].

There was considerable heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the differences between mean gestational age of the two populations may account for longer length of stay for the New 2011 study. In addition a higher number of infants were discharged exclusive breastfeeding in the New 2011, thus the establishment of full breastfeeding may impact on length of stay.

TRANSFER FROM INCUBATOR TO OPEN COT: GESTATIONAL AGE LESS THAN 34 WEEKS (Comparison 4):
Primary Outcomes
Daily weight gain (g/kg/day) (Outcome 4.1):
In two studies of 248 preterm infants born less than 34 weeks (New 2011; Zecca 2010), there was a statistically significant daily weight gain between the lower and higher body weight groups [pooled MD 2.96 (95% CI 1.62 to 4.30); Analysis 4.1]. However, there was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the populations differed in mean birthweight and gestational age. In addition differences in breastfeeding at discharge were seen. These factors could account for differences in daily weight gain between the populations.

Episodes of low temperatures (e.g. temperature < -36.5 °C) or requiring assistance with heating (i.e. overhead heater) (Outcomes 4.2 to 4.5):
Proportion of infants having at least one episode of low temperature during the first 72 hours post-transfer (Outcome 4.2)
Whilst the Zecca 2010 study showed no difference between groups, the New 2011 study showed a statistically significant difference in the proportion of infants transferred at higher body weight in having a least one episode of low temperature over the first 72 hours post-transfer [risk ratio (RR) 0.53 (95% CI 0.30 to 0.94); Analysis 4.2].

Proportion of infants having at least one episode of low temperature from post-transfer to discharge (Outcome 4.3)
No significant difference was seen in the number of episodes of low temperatures between the lower and higher weight groups in two studies of 248 infants (New 2011; Zecca 2010). [pooled RR 1.07 (95% CI 0.88 to 1.31); Analysis 4.3].

Proportion of infants having at least one episode of low temperature requiring overhead heater use (Outcome 4.4)
There was no statistically significant difference in the proportion of infants requiring an overhead heater to maintain temperature post transfer to discharge [pooled RR 0.92 (95% CI 0.51 to 1.66); New 2011; Zecca 2010] - Analysis 4.4.

Proportion of infants having at least one episode of returning to incubator (Outcome 4.5)
The New 2011 study of a subgroup of 170 infants showed no significant difference in infants requiring to be returned to an incubator for failure to maintain their temperature between the lower and higher weight groups [RR 1.71 (95% CI 0.65 to 4.49); Analysis 4.5]. No infants in the Zecca 2010 study required to be returned to an incubator.

Secondary Outcomes
Length of hospital stay (days) (Outcome 4.9):
Those infants born < 34 weeks gestation transferred to open cots at lower body weight in the Zecca 2010 study had statistically significant shorter length of stay [MD -9.00 (95% CI -13.69 to -4.31), while no differences between groups were seen for New 2011 [MD 0.10 (95% CI -5.45 to 5.65); Analysis 4.9].

There was substantial heterogeneity among these two studies. Whilst both studies investigated preterm infants born less than 1600 grams, the differences between mean gestational age of the two populations may account for longer length of stay for the New 2011 study. In addition a higher number of infants were discharged exclusive breastfeeding in the New 2011, thus the establishment of full breastfeeding may impact on length of stay.
weight [pooled mean difference -1.38 (95% CI -5.60 to 2.85); Analysis 5.1].

Episodes of low temperatures (e.g. temperature < -36.5 °C) or requiring assistance with heating (i.e. overhead heater) (Outcomes 5.3 to 5.5):

Proportion of infants having at least one episode of low temperature during the first 72 hours post-transfer (Outcome 5.2)

There was no statistically significant difference in the proportion of infants transferred at higher body weight in having a least one episode of low temperature over the first 72 hours post-transfer [pooled risk ratio (RR) 0.88 (95% CI 0.14 to 5.37); New 2011; Zecca 2010] -Analysis 5.2.

Proportion of infants having at least one episode of low temperature post-transfer to discharge (Outcome 5.3)

No significant difference was seen in the number of episodes of low temperatures between the lower and higher weight groups [pooled RR 1.82 (95% CI 0.41 to 8.04); New 2011; Zecca 2010] - Analysis 5.3.

Proportion of infants having at least one episode of low temperature requiring overhead heater use (Outcome 5.4)

None of the preterm infants born ≥34 weeks gestation required an overhead heater to maintain temperature post transfer to discharge; New 2011; Zecca 2010.

Proportion of infants having at least one episode of returning to incubator (Outcome 5.5)

None of the preterm infants born ≥34 weeks gestation required to be returned to an incubator; New 2011; Zecca 2010.

Secondary Outcomes

Length of hospital stay (days) (Outcome 5.9):

There was no statistically significant difference in the length of stay between the groups of infants born ≥34 weeks gestation [pooled MD -5.12 (95% CI -10.58 to 0.34); Analysis 5.9]. There was substantial heterogeneity among these two studies, however given the small number of infants included in this subgroup, it is difficult to investigate or hypothesis on possible causes.

**DISCUSSION**

**Summary of main results**

This review sought to determine the effect of transferring preterm infants from incubators to open cots at a lower body weight. We identified four studies that compared preterm infants transferred to open cots at a lower body weight versus higher body weight. Combined results of two studies showed that preterm infants transferred at lower weights had statistically greater daily weight gains (g/kg/day). Few differences were seen in episodes of low temperature between the lower body weight and higher body weight infants. A single study comparing proportion of infants having at least one episode of low temperature showed infants transferred at lower body weights had less episodes within the first 72 hours, but no significant differences were seen between the two groups from post-transfer to discharge. Similarly two studies showed no significant difference between the two groups in those requiring an overhead heater for temperature maintenance; whilst the results of three studies showed no significant difference in the proportion of infants requiring to be returned to an incubator.

In New 2011 infants transferred to an open cot at lower body weights did not have shorter length of stay (LOS) in hospital. However, Zecca 2010 reports a significantly shorter LOS for infants transferred at lower body weights. Whilst the meta-analysis of length of stay showed a shorter LOS for babies transferred at <1600 grams there was substantial heterogeneity and this result should be treated with caution. There were large differences in the number of infants exclusive breastfeeding at discharge between the two studies with considerably fewer infants exclusive breastfeeding in the study that showed a shorter LOS for infants transferred at <1600 grams (Zecca 2010). It would appear that babies who transferred to an open cot earlier, who also are bottle fed, are discharged earlier. Therefore, the advantage of a shorter LOS may only be conferred on those babies who are not discharged exclusive breastfeeding.

**Overall completeness and applicability of evidence**

These data are relevant to current practice since the two largest trials (New 2011; Zecca 2010), in which 276 extremely and moderately preterm infants participated, were conducted during the past six years. More evidence was provided on the effect on weight gain, episodes of cold stress and length of hospital stay for preterm infants transferred at lower body weights. Whilst evidence was provided that infants born less than 1000 grams can be transferred to unheated open cots at 1600 grams without adverse effects, this evidence should be viewed with caution as the studies were not powered for subgroup analysis.

All of the included trials have been undertaken in neonatal care centres in high-income countries. Given the recommendation that nursery environment temperatures should be maintained between 22 to 26 ºC (Lemons 2007), achieved by heating or air conditioning systems, these results may be applicable in middle to high income countries. It is unclear how applicable this evidence is to neonatal care practices in low-income countries in settings with less technologically-developed healthcare provision. As kangaroo mother care has been shown to decrease risk of mortality and infection/sepsis and also some increase in measures of growth, breastfeeding and infant-maternal attachment (Conde-Agudelo 2011) this practice may still be the practice of choice.
Quality of the evidence

The methodological quality of two of four included studies was good suggesting that data were valid. But it was not possible to mask caregivers to the nature of the intervention, although blinding of some outcome assessments could have been possible. Although the lack of blinding may have resulted in surveillance and ascertainment biases, resulting in the lower body weight infants being wrapped more judiciously and thus being kept warmer, however only within the first 72 hours post-transfer. This effect has not been seen from post-transfer to discharge.

Implications for practice

The available data from randomised controlled trials provides evidence that well, medically stable preterm infants can be transferred from incubators to open cots at lower weights of 1600 grams without adverse effects on temperature stability or weight gain. Whilst the results of subgroup analysis according to birthweight and gestational age show that infants born less than 1000 grams or less than 34 weeks gestation are not more likely to have weight loss and temperature instability, these results should be viewed with caution as the subgroup analyses were not powered for in the study design.

References to studies included in this review

Heimler 1981 \{published data only\}

New 2011 \{published and unpublished data\}

Sutter 1988 \{published data only\}

Zecca 2010 \{published and unpublished data\}

Implications for research

Although we have demonstrated that babies can be successfully transferred at 1600 grams it may well be that they can be transferred at lower weights. There may also be better criteria for deciding when to transfer infants to an open cot other than weight.

It is difficult to design a pragmatic trial that will ensure that caregivers, parents and investigators are unaware of the allocated intervention of incubator or open cot care. This lack of blinding may cause surveillance and ascertainment biases that result in the lower body weight infants being wrapped and monitored more judiciously and thus kept warmer.

References to studies excluded from this review

Berger 2007 \{published data only\}

Dollberg 2004 \{published data only\}

Graham 2003 \{published data only\}

Acknowledgements

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Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)

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Gwiazdowski 2005 [published data only]

Medoff-Cooper 1994 [published data only]

Patton 2008 [published data only]

Roncoli 1992 [published data only]

Schneiderman 2009 [published data only]

Weintraub 2007 [published data only]

West 2005 [published data only]

Additional references

Conde-Agudelo 2011

Glass 1969

Gray 2003

Gray 2004

Higgins 2009

Lemons 2007

McManus Pallker 1998

New 2010

Patel 2005

Silverman 1957

Silverman 1958

Silverman 1963

Watt 1989
Wilson 1998
Wilson SK. Incubator to open crib: a three phase process.

References to other published versions of this review

New 2004

New 2008

* Indicates the major publication for the study
## Characteristics of included studies  [ordered by study ID]

### Heimler 1981

| Methods | RCT: matched-pairs design  
Duration of the study: until hospital discharge |
|---------|------------------------------------------------------------------|
| Participants | 14 preterm infants  
Mean gestational age 30.0 weeks and 31.5 weeks  
Mean birthweight 1268 grams and 1414 grams  
Recruited: not reported  
Setting: The medical college of Wisconsin and Milwaukee county medical complex, USA  
Inclusion criteria: growing premature infants; had reached a weight of 1400 g; oral intake of at least 100kcal/kg/day; free of cardiopulmonary or infectious disease  
Exclusion criteria: none reported |
| Interventions | Group A (intervention): infant weaned to an open crib between 1600 - 1700 grams  
Group B (control): infant weaned to open crib between 1800-1900 grams  
Infants nursed in single walled incubators. Incubator air temperature kept between 30 and 32°C and room temperature between 25 and 27°C. Once infants reached a weight of 1500 grams, all were fed outside the incubator. Each infant was dressed in a single shirt, diaper, cap and booties throughout the study.  
All other aspects of care managed in the same way for all infants.  
Following transfer at either 1600-1700 g or 1800-1900 g, infants were covered with 4 blankets |
| Outcomes | Temperature: measured every six hours  
Gross energy intake: taken from nursing records, recorded as kilocalories per kilogram per day and averaged for the five to seven days between body measurements  
Weight gain (grams/kg/day): measured daily by the nursing staff and recorded to the nearest 10 grams.  
Head growth: measured weekly  
Length growth: measured weekly  
Skinfold thickness: measured weekly |

### Notes

**Risk of bias**

<table>
<thead>
<tr>
<th>Bias</th>
<th>Authors’ judgement</th>
<th>Support for judgement</th>
</tr>
</thead>
</table>
| Random sequence generation (selection bias) | High risk  
Quote: "subjects were allocated to two study groups by a random matched pairs design such that the first eligible subject was allocated randomly by card envelope the next eligible subject matching in gestation at birth was allocated to the opposite group" |
### Heimler 1981  *(Continued)*

<table>
<thead>
<tr>
<th>Bias Type</th>
<th>Risk Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation concealment (selection bias)</td>
<td>High risk</td>
<td>&quot;the next eligible subject matching in gestation at birth was allocated to the opposite study group&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Comment: Clinical staff knew treatment assignment of the second pair member prior to recruitment</td>
</tr>
<tr>
<td>Blinding (performance bias and detection bias)</td>
<td>High risk</td>
<td>Not feasible to blind the intervention although blinding assessment of outcomes would have been possible</td>
</tr>
<tr>
<td>Incomplete outcome data (attrition bias)</td>
<td>High risk</td>
<td>20 Subjects were enrolled into the study; data for 70% analysed. 6 infants were excluded; 2 infants eliminated due to apnoea and feeding problems; 1 infant withdrawn from the study by the parents; and 3 infants due to being small for gestational age (&lt;10 centile) although not an exclusion criteria for enrolment into the study. It is not known whether these infants were excluded pre or post randomisation or the groups to which they had been assigned.</td>
</tr>
<tr>
<td>Selective reporting (reporting bias)</td>
<td>Unclear risk</td>
<td>The protocol of the trial is not available. The trial was not registered on a trials register.</td>
</tr>
<tr>
<td>Other bias</td>
<td>High risk</td>
<td>Potential source of bias related to study design.</td>
</tr>
</tbody>
</table>

### New 2011

**Methods**

A multicentre, prospective, randomised, controlled trial  
Duration of the study: until hospital discharge

**Participants**

182 medically stable preterm infants born less than 1600 grams  
Mean gestational age 30.6 weeks and 30.5 weeks  
Mean birthweight 1263 grams and 1271 grams  
Sex (male) 43% and 37%  
Small for gestational age 20% and 13%  
Recruited: 30 June 2003 and 13 February 2009  
Setting: Queensland, Australia, in one tertiary and two regional neonatal units in public hospitals  
Inclusion criteria: infants who were at least 48 hours old; had not required ventilation or continuous positive airways pressure (CPAP) within the last 48 hours; were medically stable with no oxygen requirement, or significant apnoea or bradycardia; did not require
New 2011  *(Continued)*

- **Interventions**
  - On first weight equal to or greater than 1600g, randomised to:
    - **Intervention (1600 g) group**: transferred to open cot at \( \geq 1600 \) g;
    - **Control (1800 g) group**: transferred to open cot at \( \geq 1800 \) g.
  - Infants nursed in double walled incubators, in neonatal units with central temperature control systems to maintain unit temperatures at 24 and 26 °C with the relative humidity \( \leq 55\% \). On transfer, infants were dressed in a singlet, a cotton full-length jumpsuit and a woollen hat; wrapped in a flannelette sheet and a cotton blanket. A quilt was placed over the infant’s bedclothes. Feeding of up to 180 mL/kg/day.

- **Outcomes**
  - Weight gain (grams/kg/day): weighed naked every second day, prior to a feed, using electronic scales, until discharge.
  - Temperature stability: Post-transfer axillary temperatures were measured at one hour, three hours, then every three hours until 72 hours, and thereafter a minimum of three times a day until discharge.
  - Proportion of infants requiring overhead heater for temperature maintenance
  - Proportion of infants returned to an incubator
  - Time to discharge from randomisation (days)
  - Time to discharge from transfer to open cot (days)
  - Length of hospital stay (days)
  - Postnatal age at discharge home (days)
  - Postmenstrual age at discharge home (weeks and days)
  - Weight at discharge home (grams)

- **Notes**
  - ACTRN012606000518561

**Risk of bias**

<table>
<thead>
<tr>
<th>Bias</th>
<th>Authors’ judgement</th>
<th>Support for judgement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random sequence generation (selection bias)</td>
<td>Low risk</td>
<td>Quote: “An independent researcher managed computer generated randomisation (GraphPad StatMate software)”. “Infants were stratified by birthweight (&lt; or ( \geq 1000 ) grams), gestational age at birth (&lt; or ( \geq 34 ) weeks) and hospital, with random block sizes of 6,8,10 or 12”</td>
</tr>
<tr>
<td>Allocation concealment (selection bias)</td>
<td>Low risk</td>
<td>Quote: “An independent researcher managed masking with group allocation cards sealed in opaque envelopes”. “Once the infant weighed ( \geq 1600 ) grams the nurse caring for the infant selected the next envelope in sequence to reveal the infant’s group allocation”</td>
</tr>
</tbody>
</table>
**Blinding (performance bias and detection bias)**

| All outcomes | High risk | Comment: Not feasible to blind the intervention although blinded assessment of outcomes would have been possible |

**Incomplete outcome data (attrition bias)**

| All outcomes | Low risk | Comment: Complete data for all infants |

**Selective reporting (reporting bias)**

| Low risk |

**Other bias**

| Low risk |

### Sutter 1988

**Methods**

- RCT: matched-pairs design
- Duration of the study: until hospital discharge

**Participants**

- 60 preterm infants born less than 1500 grams
- Mean gestational age 30.1 weeks and 28.6 weeks
- Mean birthweight 1207 grams and 1215 grams
- Sex (male) 53% and 67%
- Recruited: not specified
- Setting: Texas, USA
- Inclusion criteria: healthy, growing preterm infants
- Exclusion criteria: not reported

**Interventions**

- Group 1 (intervention): infant weaned to an open cot at 1700 grams
- Group 2 (control): infant weaned to an open cot at 1800 grams

Each infant weaned by decreasing incubator temperature by 1°C each hour until 28°C reached. Infant then moved into an open cot. If infant’s temperature dropped to less than 36°C, weaning stopped and recommenced 48 hours later. Nursery temperature maintained at 22°C. Infants clothed in a cotton shirt, with one or two blankets. Feedings of at least 120 kcal/kg/day but not exceeding 150 kcal/kg/day

**Outcomes**

- Weight gain
- Return to incubator
- Length of hospitalisation (days of entry to discharge)

**Notes**

- When reporting their results 90% confidence intervals were used

### Risk of bias

<table>
<thead>
<tr>
<th>Bias</th>
<th>Authors’ judgement</th>
<th>Support for judgement</th>
</tr>
</thead>
</table>
| Random sequence generation (selection bias) | High risk | Quote: "Babies were divided into four strata based on birthweight. "Within a stratum, sequential pairs of babies were
used as the basic unit for the randomisation plan (and the analysis). The first baby in each pair was assigned at random to one treatment, and the other baby in the pair was assigned to the other treatment when entered into the study”. In practice, a randomisation list allowing for up to 30 babies (15 pairs) was prepared for each stratum by the statistician”.

Comment: The first infant of a matched pair was randomised, using a randomisation list; however, the clinical staff accessed the randomisation list and knew treatment assignment of the next eligible infant prior to recruitment. The second member of the pair was assigned the opposite treatment.

| Allocation concealment (selection bias) | High risk | Quote: “these [sic the allocation lists] were given to the clinical staff to be followed in making treatment assignment as follows. The baby’s name was to be entered into the next available line on the list for the appropriate stratum. Next to the space for the baby’s name was the treatment assignment.” Comment: There was no blinding of allocation for either the first or second pair member |
| Blinding (performance bias and detection bias) | High risk | Not feasible to blind the intervention although blinded assessment of outcomes would have been possible |
| Incomplete outcome data (attrition bias) | High risk | Quote: “Two additional babies lacked their matched pair, so they were not included in the analysis” |
| Selective reporting (reporting bias) | High risk | Day of discharge defined in the study to be 24 hours after successful weaning due to delayed discharge of some infants for social reasons |
| Other bias | High risk | Informed consent was obtained for those infants assigned to the intervention group (group 1). Consent not gained for those assigned to control group (group 2) |
Zecca 2010

| Methods | A single centre, prospective, randomised, controlled trial  
Duration of the study: until 7 days post discharge from hospital |
|---------|---------------------------------------------------------------|
| Participants | 94 preterm infants born less than 1600 grams  
Mean gestational age 32.2 weeks and 32.0 weeks  
Mean birthweight 1378g and 1360g  
Sex (male) 36% and 47%  
Small for gestational age 32% and 28%  
Recruited: January 2008 to June 2009  
Setting: Neonatal sub-intensive ward, University Hospital, Rome, Italy  
Inclusion criteria: weight of ≥1600g at enrolment, medically stable, no phototherapy requirement and stable or increasing weight at >48 hours  
Exclusion criteria: major congenital abnormalities at birth, infants requiring respiratory support (continuous positive airway pressure or oxygen therapy) |
| Interventions | At their first weight of greater than or equal to 1600g randomised to:  
Early transition (ET) group - infant transferred to open cot at ≥1600g  
Standard transition (ST) group - infant transferred to open cot at ≥1800g  
Nursery temperature maintained at 24°C and 40% relative humidity. At transition, Infants in both groups were dressed in a woollen hat, booties, 2 vests and a cotton wrap. Feeding of up to 150 mL/kg/day  
Axillary temperature measured hourly until 2 consecutive readings of ≥36.5°C; then every 3 hours up to 72 hours post-transfer. Weighed naked daily before 9 am feed |
| Outcomes | Length of stay (days)  
Number of infants returned to an incubator  
Growth velocity from transfer to an open crib to discharge; and during the first 7 days at home  
Mean individual amount of breast milk divided by the total amount (breast milk plus formula) at discharge and during the first 7 days at home  
Hospital readmission rate up to 7 days post discharge |
| Notes | University Hospital Medical Information Network Centre (identifier UMIN000002912) |

Risk of bias

<table>
<thead>
<tr>
<th>Bias</th>
<th>Authors’ judgement</th>
<th>Support for judgement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random sequence generation (selection bias)</td>
<td>Low risk</td>
<td>Quote: “Dr Corsello generated the allocation sequence by using Stata 10 (Stata, College Station, TX). No refinements of randomisation were used”</td>
</tr>
<tr>
<td>Allocation concealment (selection bias)</td>
<td>Low risk</td>
<td>Quote: “Drs Zecca and Tiberi enrolled participants and assigned them to study groups by opening sealed, numbered envelopes”</td>
</tr>
</tbody>
</table>
Blinding (performance bias and detection bias)  All outcomes  High risk  Quote: “A single investigator (Dr Tiberi) recorded the daily weight and breastfeeding amount for each patient in a specific database, from transition to discharge”  Comment: Not feasible to blind the intervention. It is unclear who recorded all the outcomes and if they were blinded

Incomplete outcome data (attrition bias)  All outcomes  Low risk

Selective reporting (reporting bias)  Low risk

Other bias  Unclear risk  There is inconsistency in the description of the amount of breast feeding. Authors reported a secondary outcome as “the proportions of breastfeeding at discharge and during the first week at home”; whilst elsewhere in the paper reported as “the mean individual amount of breast milk divided by the total amount (breast milk plus formula) receiving at discharge and during the first week at home”

Characteristics of excluded studies  [ordered by study ID]

<table>
<thead>
<tr>
<th>Study</th>
<th>Reason for exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berger 2007</td>
<td>Infants were randomised to be transferred from an incubator to a warming bassinet at 1500 g versus 1600 g. The warming bassinet with a set mattress temperature of 37°C was gradually decreased to room temperature</td>
</tr>
<tr>
<td>Dollberg 2004</td>
<td>Not a randomised (or quasi-randomised) controlled trial. Observational study measuring an infant’s resting energy expenditure pre and post weaning from an incubator</td>
</tr>
<tr>
<td>Graham 2003</td>
<td>Infants were randomised to transfer from incubator to open cot at 1600 grams or 1800 grams. However outcome measures compared rate of growth differences between infants that were transferred to an open cot at 1600 grams and infants who remained in the incubator until 1800 grams. The primary end point of growth was calculated from a linear regression of all weights obtained between 1600 grams and 1800 grams</td>
</tr>
<tr>
<td>Gwiazdowski 2005</td>
<td>Not a randomised (or quasi-randomised) controlled trial. A retrospective observational study in which the clinical trajectories of two populations of premature infants weaned at different times from incubators to open cribs were compared. The median weight at transfer to open crib was determined. Those infants weaned below the median weight were labelled “early” and those above the median labelled “late”. The two groups were then compared</td>
</tr>
<tr>
<td>Study</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Medoff-Cooper 1994</td>
<td>Not a randomised (or quasi-randomised) controlled trial. A project that tested a research-based protocol to wean very low birth weight infants to an open crib</td>
</tr>
<tr>
<td>Patton 2008</td>
<td>Infants were not randomised to transfer from incubators to open cots at a lower or higher weight. Preterm infants were randomised to aggressive weaning of incubator temperature or conservative weaning of incubator temperature</td>
</tr>
<tr>
<td>Roncoli 1992</td>
<td>Not a randomised (or quasi-randomised) controlled trial. An overview of thermoregulation and principles related to weaning an infant to an open crib</td>
</tr>
<tr>
<td>Schneiderman 2009</td>
<td>Not a randomised (or quasi-randomised) controlled trial. A retrospective observational study of 2908 infants from 2003-2006 reviewing weight gain from open crib to discharge, length of stay and days to full oral feeding</td>
</tr>
<tr>
<td>Weintraub 2007</td>
<td>Infants were not randomised to transfer from incubators to open cots at a lower or higher weight. Preterm infants were randomised to be weaned to a turned off incubator with opened portholes or a commercial warming bassinet. Resting energy expenditure (REE) was measured pre and post intervention. After 23 hours infants in both groups were placed in a regular bassinet at room temperature and further REE measurements were undertaken</td>
</tr>
<tr>
<td>West 2005</td>
<td>Not a randomised (or quasi-randomised) controlled trial. An observational study of four cohorts of 15 infants (each cohort) who were sequentially removed from incubator to open cot on reaching a weight of 1800g (1st cohort); 1700g (2nd cohort); 1600g (third cohort) and 1500g (4th cohort)</td>
</tr>
</tbody>
</table>
## DATA AND ANALYSES

### Comparison 1. Transfer from incubator to cot at lower versus higher body weight

<table>
<thead>
<tr>
<th>Outcome or subgroup title</th>
<th>No. of studies</th>
<th>No. of participants</th>
<th>Statistical method</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Daily weight gain (g/kg/day)</td>
<td>2</td>
<td>276</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>2.66 [1.37, 3.95]</td>
</tr>
<tr>
<td>2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer</td>
<td>2</td>
<td>276</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.60 [0.36, 1.01]</td>
</tr>
<tr>
<td>3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge</td>
<td>2</td>
<td>276</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.10 [0.90, 1.35]</td>
</tr>
<tr>
<td>4 Proportion of infants having at least one episode of low temperature requiring overhead heater use</td>
<td>2</td>
<td>276</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.43 [0.78, 2.62]</td>
</tr>
<tr>
<td>5 Proportion of infants having at least one episode of returning to incubator</td>
<td>3</td>
<td>336</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.78 [0.77, 4.08]</td>
</tr>
<tr>
<td>6 Duration from transfer to cot to discharge home (days)</td>
<td>2</td>
<td>276</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>0.61 [-0.37, 1.59]</td>
</tr>
<tr>
<td>7 Duration from randomisation to discharge home (days)</td>
<td>2</td>
<td>276</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-5.83 [-7.63, -4.03]</td>
</tr>
<tr>
<td>8 Postmenstrual age at discharge</td>
<td>2</td>
<td>276</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-0.90 [-1.32, -0.48]</td>
</tr>
<tr>
<td>9 Length of hospital stay (days)</td>
<td>2</td>
<td>276</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-5.41 [-8.77, -2.05]</td>
</tr>
<tr>
<td>10 Proportion of infants not breastfeeding at discharge</td>
<td>2</td>
<td>276</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.02 [0.69, 1.51]</td>
</tr>
<tr>
<td>11 Proportion of infants exclusive breastfeeding at discharge</td>
<td>2</td>
<td>276</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.00 [0.81, 1.24]</td>
</tr>
</tbody>
</table>

### Comparison 2. Transfer from incubator to cot: birthweight less than 1000 grams

<table>
<thead>
<tr>
<th>Outcome or subgroup title</th>
<th>No. of studies</th>
<th>No. of participants</th>
<th>Statistical method</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Daily weight gain (g/kg/day)</td>
<td>1</td>
<td></td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>Subtotals only</td>
</tr>
<tr>
<td>2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer</td>
<td>1</td>
<td></td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>Subtotals only</td>
</tr>
<tr>
<td>Outcome or subgroup title</td>
<td>No. of studies</td>
<td>No. of participants</td>
<td>Statistical method</td>
<td>Effect size</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>---------------------</td>
<td>-----------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>1 Daily weight gain (g/kg/day)</td>
<td>2</td>
<td>241</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>2.61 [1.24, 3.97]</td>
</tr>
<tr>
<td>2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer</td>
<td>2</td>
<td>241</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.69 [0.40, 1.19]</td>
</tr>
<tr>
<td>3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge</td>
<td>2</td>
<td>241</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.19 [0.94, 1.50]</td>
</tr>
<tr>
<td>4 Proportion of infants having at least one episode of low temperature requiring overhead heater use</td>
<td>2</td>
<td>241</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.45 [0.21, 0.97]</td>
</tr>
<tr>
<td>5 Proportion of infants having at least one episode of returning to incubator</td>
<td>2</td>
<td>241</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.5 [0.44, 5.10]</td>
</tr>
<tr>
<td>6 Duration from transfer to cot to discharge home (days)</td>
<td>2</td>
<td>241</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>0.53 [-0.48, 1.54]</td>
</tr>
<tr>
<td>7 Duration from randomisation to discharge home (days)</td>
<td>2</td>
<td>241</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-6.39 [-8.27, -4.52]</td>
</tr>
<tr>
<td>8 Postmenstrual age at discharge</td>
<td>2</td>
<td>241</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-0.54 [-0.94, -0.15]</td>
</tr>
<tr>
<td>9 Length of hospital stay (days)</td>
<td>2</td>
<td>241</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-6.15 [-9.20, -3.10]</td>
</tr>
<tr>
<td>Outcome or subgroup title</td>
<td>No. of studies</td>
<td>No. of participants</td>
<td>Statistical method</td>
<td>Effect size</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>---------------------</td>
<td>------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Proportion of infants not breastfeeding at discharge</td>
<td>2</td>
<td>241</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.01 [0.67, 1.54]</td>
</tr>
<tr>
<td>Proportion of infants exclusive breastfeeding at discharge</td>
<td>2</td>
<td>241</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.04 [0.82, 1.32]</td>
</tr>
</tbody>
</table>

Comparison 4. Transfer from incubator to cot: born less than 34 weeks gestational age

<table>
<thead>
<tr>
<th>Outcome or subgroup title</th>
<th>No. of studies</th>
<th>No. of participants</th>
<th>Statistical method</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily weight gain (g/kg/day)</td>
<td>2</td>
<td>248</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>2.96 [1.62, 4.30]</td>
</tr>
<tr>
<td>Proportion of infants having at least one episode of low temperature during 72 hours post-transfer</td>
<td>2</td>
<td>248</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.58 [0.34, 0.99]</td>
</tr>
<tr>
<td>Proportion of infants having at least one episode of low temperature from post-transfer to discharge</td>
<td>2</td>
<td>248</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.07 [0.88, 1.31]</td>
</tr>
<tr>
<td>Proportion of infants having at least one episode of low temperature requiring overhead heater use</td>
<td>2</td>
<td>248</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.92 [0.51, 1.66]</td>
</tr>
<tr>
<td>Proportion of infants having at least one episode of returning to incubator</td>
<td>2</td>
<td>248</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.71 [0.65, 4.49]</td>
</tr>
<tr>
<td>Duration from transfer to cot to discharge home (days)</td>
<td>2</td>
<td>248</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>1.72 [0.49, 2.96]</td>
</tr>
<tr>
<td>Duration from randomisation to discharge home (days)</td>
<td>2</td>
<td>248</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-5.32 [-7.26, -3.38]</td>
</tr>
<tr>
<td>Postmenstrual age at discharge</td>
<td>2</td>
<td>248</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-0.70 [-1.12, -0.29]</td>
</tr>
<tr>
<td>Length of hospital stay (days)</td>
<td>2</td>
<td>248</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-5.21 [-8.79, -1.62]</td>
</tr>
<tr>
<td>Proportion of infants not breastfeeding at discharge</td>
<td>2</td>
<td>248</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>1.03 [0.68, 1.56]</td>
</tr>
<tr>
<td>Proportion of infants exclusive breastfeeding at discharge</td>
<td>2</td>
<td>248</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.98 [0.79, 1.21]</td>
</tr>
</tbody>
</table>

Comparison 5. Transfer from incubator to cot: born ≥34 weeks gestational age

<table>
<thead>
<tr>
<th>Outcome or subgroup title</th>
<th>No. of studies</th>
<th>No. of participants</th>
<th>Statistical method</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily weight gain (g/kg/day)</td>
<td>2</td>
<td>28</td>
<td>Mean Difference (IV, Fixed, 95% CI)</td>
<td>-1.38 [-5.60, 2.85]</td>
</tr>
<tr>
<td>Proportion of infants having at least one episode of low temperature during 72 hours post-transfer</td>
<td>2</td>
<td>28</td>
<td>Risk Ratio (M-H, Fixed, 95% CI)</td>
<td>0.88 [0.14, 5.37]</td>
</tr>
</tbody>
</table>
3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge

Proportion: 2 (28)
Risk Ratio (M-H, Fixed, 95% CI): 1.82 [0.41, 8.04]

4 Proportion of infants having at least one episode of low temperature requiring overhead heater use

Proportion: 2 (28)
Risk Ratio (M-H, Fixed, 95% CI): 0.0 [0.0, 0.0]

5 Proportion of infants having at least one episode of returning to incubator

Proportion: 2 (28)
Risk Ratio (M-H, Fixed, 95% CI): 0.0 [0.0, 0.0]

6 Duration from transfer to cot to discharge home (days)

Mean Difference (IV, Fixed, 95% CI): 0.73 [-1.10, 2.55]

7 Duration from randomisation to discharge home (days)

Mean Difference (IV, Fixed, 95% CI): -3.60 [-6.67, -0.52]

8 Postmenstrual age at discharge

Mean Difference (IV, Fixed, 95% CI): -0.47 [-1.33, 0.39]

9 Length of hospital stay (days)

Mean Difference (IV, Fixed, 95% CI): -5.12 [-10.58, 0.34]

10 Proportion of infants not breastfeeding at discharge

Risk Ratio (M-H, Fixed, 95% CI): 1.0 [0.32, 3.10]

11 Proportion of infants exclusive breastfeeding at discharge

Risk Ratio (M-H, Fixed, 95% CI): 1.72 [0.59, 5.05]

---

**Analysis 1.1. Comparison 1** Transfer from incubator to cot at lower versus higher body weight, Outcome 1 Daily weight gain (g/kg/day).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 1 Transfer from incubator to cot at lower versus higher body weight

**Outcome:** 1 Daily weight gain (g/kg/day)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>90</td>
<td>17.1 (4.5)</td>
<td>92</td>
<td>14 (4.7)</td>
<td>-3.10 [ 1.76, 4.44 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>47</td>
<td>19 (5)</td>
<td>47</td>
<td>22 (16)</td>
<td>-7.2 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td>137</td>
<td>139</td>
<td>100.0 %</td>
<td>2.66 [ 1.37, 3.95 ]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 5.77, df = 1 (P = 0.02); I² = 83%
Test for overall effect: Z = 4.05 (P = 0.000051)
Test for subgroup differences: Not applicable

---

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)  
Copyright © 2012 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
Analysis 1.2. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer.

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight n/N 1</th>
<th>Higher body weight n/N 2</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
<th>Weight</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>15/90</td>
<td>28/92</td>
<td></td>
<td>87.4 %</td>
<td>0.55 [ 0.31, 0.95 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>4/47</td>
<td>4/47</td>
<td></td>
<td>12.6 %</td>
<td>1.00 [ 0.27, 3.76 ]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>139</strong></td>
<td></td>
<td><strong>100.0 %</strong></td>
<td>0.60 [ 0.36, 1.01 ]</td>
</tr>
</tbody>
</table>

Total events: 19 (lower body weight), 32 (higher body weight)
Heterogeneity: Chi² = 0.68, df = 1 (P = 0.41); I² = 0.0%
Test for overall effect: Z = 1.93 (P = 0.053)
Test for subgroup differences: Not applicable

Analysis 1.3. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge.

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight n/N 1</th>
<th>Higher body weight n/N 2</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
<th>Weight</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>65/90</td>
<td>60/92</td>
<td></td>
<td>93.7 %</td>
<td>1.11 [ 0.91, 1.35 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>4/47</td>
<td>4/47</td>
<td></td>
<td>6.3 %</td>
<td>1.00 [ 0.27, 3.76 ]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>139</strong></td>
<td></td>
<td><strong>100.0 %</strong></td>
<td>1.10 [ 0.90, 1.35 ]</td>
</tr>
</tbody>
</table>

Total events: 69 (lower body weight), 64 (higher body weight)
Heterogeneity: Chi² = 0.02, df = 1 (P = 0.88); I² = 0.0%
Test for overall effect: Z = 0.93 (P = 0.35)
Test for subgroup differences: Not applicable
### Analysis 1.4. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use.

#### Review
Transfer of preterm infants from incubator to open cot at lower versus higher body weight

#### Comparison
1. Transfer from incubator to cot at lower versus higher body weight

#### Outcome
4. Proportion of infants having at least one episode of low temperature requiring overhead heater use

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>19/90</td>
<td>14/92</td>
<td>93.3 %</td>
<td>1.39 [ 0.74, 2.59 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>2/47</td>
<td>1/47</td>
<td>6.7 %</td>
<td>2.00 [ 0.19, 21.31 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>139</strong></td>
<td>100.0 %</td>
<td>1.43 [ 0.78, 2.62 ]</td>
<td></td>
</tr>
</tbody>
</table>

Total events: 21 (Lower body weight), 15 (Higher body weight)

Heterogeneity: Chi² = 0.09, df = 1 (P = 0.77); I² =0.0%

Test for overall effect: Z = 1.15 (P = 0.25)

Test for subgroup differences: Not applicable

---

**Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)**

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### Analysis 1.5. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 5 Proportion of infants having at least one episode of returning to incubator.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 1 Transfer from incubator to cot at lower versus higher body weight

**Outcome:** 5 Proportion of infants having at least one episode of returning to incubator

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
<th>Weight</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>10/90</td>
<td>6/92</td>
<td>74.8 % 1.70 [ 0.65, 4.49 ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sutter 1988</td>
<td>4/30</td>
<td>2/30</td>
<td>25.2 % 2.00 [ 0.40, 10.11 ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>0/47</td>
<td>0/47</td>
<td>Not estimable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>167</strong></td>
<td><strong>169</strong></td>
<td><strong>100.0 % 1.78 [ 0.77, 4.08 ]</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total events: 14 (Lower body weight), 8 (Higher body weight)

Heterogeneity: Chi² = 0.03, df = 1 (P = 0.87); I² =0.0%

Test for overall effect: Z = 1.36 (P = 0.17)

Test for subgroup differences: Not applicable
### Analysis 1.6. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 6 Duration from transfer to cot to discharge home (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 1 Transfer from incubator to cot at lower versus higher body weight

**Outcome:** 6 Duration from transfer to cot to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed</td>
</tr>
<tr>
<td>New 2011</td>
<td>90</td>
<td>25.3 (11)</td>
<td>92</td>
<td>18.6 (11.4)</td>
<td>9.1 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>47</td>
<td>6 (3)</td>
<td>47</td>
<td>6 (2)</td>
<td>90.9 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td>137</td>
<td>139</td>
<td>100.0 %</td>
<td>0.61 [-0.37, 1.59 ]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 14.80, df = 1 (P = 0.00012); I² =93%

Test for overall effect: Z = 1.22 (P = 0.22)

Test for subgroup differences: Not applicable

### Analysis 1.7. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 7 Duration from randomisation to discharge home (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 1 Transfer from incubator to cot at lower versus higher body weight

**Outcome:** 7 Duration from randomisation to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed</td>
</tr>
<tr>
<td>New 2011</td>
<td>90</td>
<td>26 (11)</td>
<td>92</td>
<td>25 (11)</td>
<td>31.7 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>47</td>
<td>6 (3)</td>
<td>47</td>
<td>15 (7)</td>
<td>68.3 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td>137</td>
<td>139</td>
<td>100.0 %</td>
<td>-5.83 [-7.63, -4.03 ]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 25.68, df = 1 (P<0.00001); I² =96%

Test for overall effect: Z = 6.35 (P < 0.00001)

Test for subgroup differences: Not applicable
### Analysis 1.8. Comparison I Transfer from incubator to cot at lower versus higher body weight, Outcome 8 Postmenstrual age at discharge.

#### Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

#### Comparison: 1 Transfer from incubator to cot at lower versus higher body weight

#### Outcome: 8 Postmenstrual age at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>90</td>
<td>37.8 (2)</td>
<td>92</td>
<td>37.9 (2.6)</td>
<td>38.4 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>47</td>
<td>35.6 (1.5)</td>
<td>47</td>
<td>37 (1.1)</td>
<td>61.6 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>38.8 (1.5)</strong></td>
<td><strong>139</strong></td>
<td><strong>37.4 (1.4)</strong></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 8.82$, df = 1 ($P = 0.003$); $I^2 = 89\%$

Test for overall effect: $Z = 4.23$ ($P = 0.000023$)

Test for subgroup differences: Not applicable
### Analysis 1.9. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 9 Length of hospital stay (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight  
**Comparison:** 1 Transfer from incubator to cot at lower versus higher body weight  
**Outcome:** 9 Length of hospital stay (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference Weight</th>
<th>Mean Difference CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (Mean(SD))</td>
<td>N (Mean(SD))</td>
<td>IV,Fixed,95% CI</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>90 (50.5 (18.9))</td>
<td>92 (50.2 (18.3))</td>
<td>38.6 % 0.30 [ -5.11, 5.71 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>47 (26 (9))</td>
<td>47 (35 (12))</td>
<td>61.4 % -9.00 [ -13.29, -4.71 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>139</strong></td>
<td><strong>100.0 % -5.41 [ -8.77, -2.05 ]</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Heterogeneity:** Chi² = 6.98, df = 1 (P = 0.01); I² =86%  
**Test for overall effect:** Z = 3.16 (P = 0.0016)  
**Test for subgroup differences:** Not applicable

---

### Analysis 1.10. Comparison 1 Transfer from incubator to cot at lower versus higher body weight, Outcome 10 Proportion of infants not breastfeeding at discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight  
**Comparison:** 1 Transfer from incubator to cot at lower versus higher body weight  
**Outcome:** 10 Proportion of infants not breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio Weight</th>
<th>Risk Ratio CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>28/90</td>
<td>30/92</td>
<td>85.6 % 0.95 [ 0.62, 1.46 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>7/47</td>
<td>5/47</td>
<td>14.4 % 1.40 [ 0.48, 4.10 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>139</strong></td>
<td><strong>100.0 % 1.02 [ 0.69, 1.51 ]</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total events:** 35 (Lower body weight), 35 (Higher body weight)  
**Heterogeneity:** Chi² = 0.43, df = 1 (P = 0.51); I² =0.0%  
**Test for overall effect:** Z = 0.09 (P = 0.93)  
**Test for subgroup differences:** Not applicable
### Analysis 1.11. Comparison: Transfer from incubator to cot at lower versus higher body weight, Outcome 11 Proportion of infants exclusive breastfeeding at discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** Transfer from incubator to cot at lower versus higher body weight

**Outcome:** Proportion of infants exclusive breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio M-H,Fixed 95% CI</th>
<th>Weight</th>
<th>Risk Ratio M-H,Fixed 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>60/90</td>
<td>61/92</td>
<td>1.01 [ 0.82, 1.24 ]</td>
<td>91.0%</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>6/47</td>
<td>6/47</td>
<td>1.00 [ 0.35, 2.88 ]</td>
<td>9.0%</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>137</strong></td>
<td><strong>139</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>1.00 [ 0.81, 1.24 ]</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total events: 66 (Lower body weight), 67 (Higher body weight)

Heterogeneity: Chi² = 0.00, df = 1 (P = 0.99), I² = 0.0%

Test for overall effect: Z = 0.05 (P = 0.96)

Test for subgroup differences: Not applicable
Analysis 2.1. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 1 Daily weight gain (g/kg/day).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 1 Daily weight gain (g/kg/day)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>15</td>
<td>15.1 (4.6)</td>
<td>17</td>
<td>12 (5.1)</td>
<td>3.10 [-0.26, 6.46]</td>
</tr>
</tbody>
</table>

Subtotal (95% CI) 0 0 0.0 [ 0.0, 0.0 ]

Heterogeneity: not applicable
Test for overall effect: Z = 0.0 (P < 0.00001)
Test for subgroup differences: Not applicable

Analysis 2.2. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New 2011</td>
<td>1/15</td>
<td>7/17</td>
<td>0.16 [ 0.02, 1.17]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal (95% CI) 0 0 0.0 [ 0.0, 0.0 ]

Total events: 1 (Lower body weight), 7 (Higher body weight)

Heterogeneity: not applicable
Test for overall effect: Z = 0.0 (P < 0.00001)
Test for subgroup differences: Not applicable
### Analysis 2.3. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 3
Proportion of infants having at least one episode of low temperature from post-transfer to discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
</tr>
<tr>
<td>New 2011</td>
<td>10/15</td>
<td>15/17</td>
<td>0.76 [ 0.51, 1.12 ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal (95% CI) 0 0 0.0 [ 0.0, 0.0 ]

Total events: 10 (Lower body weight), 15 (Higher body weight)

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P < 0.00001)

Test for subgroup differences: Not applicable

---

### Analysis 2.4. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 4
Proportion of infants having at least one episode of low temperature requiring overhead heater use.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
</tr>
<tr>
<td>New 2011</td>
<td>4/15</td>
<td>5/17</td>
<td>0.91 [ 0.30, 2.77 ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal (95% CI) 0 0 0.0 [ 0.0, 0.0 ]

Total events: 4 (Lower body weight), 5 (Higher body weight)

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P < 0.00001)

Test for subgroup differences: Not applicable
### Analysis 2.5. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 5
Proportion of infants having at least one episode of returning to incubator.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 2 Transfer from incubator to cot: birthweight less than 1000 grams

**Outcome:** 5 Proportion of infants having at least one episode of returning to incubator

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>4/15</td>
<td>2/17</td>
<td>2.27 [0.48, 10.67]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>0</td>
<td>0</td>
<td><strong>0.0 [0.0, 0.0]</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total events: 4 (Lower body weight), 2 (Higher body weight)

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P < 0.00001)

Test for subgroup differences: Not applicable

### Analysis 2.6. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 6
Duration from transfer to cot to discharge home (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 2 Transfer from incubator to cot: birthweight less than 1000 grams

**Outcome:** 6 Duration from transfer to cot to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>15</td>
<td>27.8 (11.6)</td>
<td>17</td>
<td>21.8 (8.6)</td>
<td>6.00 [-1.15, 13.15]</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>0</td>
<td>0</td>
<td><strong>0.0 [0.0, 0.0]</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P < 0.00001)

Test for subgroup differences: Not applicable
### Analysis 2.7. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 7 Duration from randomisation to discharge home (days).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 7 Duration from randomisation to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference Weight</th>
<th>Weight</th>
<th>Mean Difference Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>15</td>
<td>28.3 (11.8)</td>
<td>17</td>
<td>29.3 (7.6)</td>
<td>-1.00 [-7.98, 5.98]</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>0</td>
<td>0</td>
<td></td>
<td>0.0 [ 0.0, 0.0]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P < 0.00001)

Test for subgroup differences: Not applicable

### Analysis 2.8. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 8 Postmenstrual age at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 8 Postmenstrual age at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference Weight</th>
<th>Weight</th>
<th>Mean Difference Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>15</td>
<td>39.2 (3)</td>
<td>17</td>
<td>38.7 (1.03)</td>
<td>0.50 [-1.10, 2.10]</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>0</td>
<td>0</td>
<td></td>
<td>0.0 [ 0.0, 0.0]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P < 0.00001)

Test for subgroup differences: Not applicable
Analysis 2.9. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 9
Length of hospital stay (days).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight
Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams
Outcome: 9 Length of hospital stay (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>15</td>
<td>75.9 (17.1)</td>
<td>17</td>
<td>72.9 (15.2)</td>
<td>3.00 [ -8.27, 14.27 ]</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0 [ 0.0, 0.0 ]</td>
</tr>
</tbody>
</table>

Heterogeneity: not applicable
Test for overall effect: Z = 0.0 (P < 0.00001)
Test for subgroup differences: Not applicable

Analysis 2.10. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 10
Proportion of infants not breastfeeding at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight
Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams
Outcome: 10 Proportion of infants not breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
</tr>
<tr>
<td>New 2011</td>
<td>4/15</td>
<td>4/17</td>
<td>1.13 [ 0.34, 3.76 ]</td>
<td>0.0 [ 0.0, 0.0 ]</td>
<td></td>
</tr>
</tbody>
</table>

Subtotal (95% CI)
Total events: 4 (Lower body weight), 4 (Higher body weight)
Heterogeneity: not applicable
Test for overall effect: Z = 0.0 (P < 0.00001)
Test for subgroup differences: Not applicable

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)
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Analysis 2.1. Comparison 2 Transfer from incubator to cot: birthweight less than 1000 grams, Outcome 11 Proportion of infants exclusive breastfeeding at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 2 Transfer from incubator to cot: birthweight less than 1000 grams

Outcome: 11 Proportion of infants exclusive breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>10/15</td>
<td>13/17</td>
<td>0.87 [ 0.56, 1.36 ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal (95% CI) 0 0.0 [ 0.0, 0.0 ]

Total events: 10 (Lower body weight), 13 (Higher body weight)
Heterogeneity: not applicable
Test for overall effect: Z = 0.0 (P < 0.00001)
Test for subgroup differences: Not applicable

Analysis 3.1. Comparison 3 Transfer from incubator to cot: birthweight ≥1000 grams, Outcome 1 Daily weight gain (g/kg/day).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 3 Transfer from incubator to cot: birthweight ≥1000 grams

Outcome: 1 Daily weight gain (g/kg/day)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N Mean(SD)</td>
<td>N Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
<td></td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>75 17.5 (4.4)</td>
<td>75 14.4 (4.5)</td>
<td>91.9% 3.10 [ 1.68, 4.52 ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>44 19 (5)</td>
<td>47 22 (16)</td>
<td>8.1% -3.00 [ -7.81, 1.81 ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total (95% CI) 119 122 100.0% 2.61 [ 1.24, 3.97 ]

Heterogeneity: Chi$^2$ = 5.69, df = 1 (P = 0.02); I$^2$ = 82%
Test for overall effect: Z = 3.74 (P = 0.00018)
Test for subgroup differences: Not applicable
### Analysis 3.2. Comparison 3 Transfer from incubator to cot: birthweight $\geq$ 1000 grams, Outcome 2
Proportion of infants having at least one episode of low temperature during 72 hours post-transfer.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 3 Transfer from incubator to cot: birthweight $\geq$ 1000 grams

**Outcome:** 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td></td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>14/75</td>
<td>21/75</td>
<td></td>
<td>84.4%</td>
<td>0.67 [0.37, 1.21]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>3/44</td>
<td>4/47</td>
<td></td>
<td>15.6%</td>
<td>0.80 [0.19, 3.38]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td></td>
<td><strong>100.0%</strong></td>
<td><strong>0.69 [0.40, 1.19]</strong></td>
</tr>
</tbody>
</table>

Total events: 17 (Lower body weight), 25 (Higher body weight)

Heterogeneity: Chi$^2 = 0.05, df = 1$ ($P = 0.82$); I$^2 = 0.0$

Test for overall effect: Z = 1.33 ($P = 0.18$)

Test for subgroup differences: Not applicable

---

### Analysis 3.3. Comparison 3 Transfer from incubator to cot: birthweight $\geq$ 1000 grams, Outcome 3
Proportion of infants having at least one episode of low temperature from post-transfer to discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 3 Transfer from incubator to cot: birthweight $\geq$ 1000 grams

**Outcome:** 3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td></td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>55/75</td>
<td>45/75</td>
<td></td>
<td>92.1%</td>
<td>1.22 [0.97, 1.54]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>3/44</td>
<td>4/47</td>
<td></td>
<td>7.9%</td>
<td>0.80 [0.19, 3.38]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td></td>
<td><strong>100.0%</strong></td>
<td><strong>1.19 [0.94, 1.50]</strong></td>
</tr>
</tbody>
</table>

Total events: 58 (Lower body weight), 49 (Higher body weight)

Heterogeneity: Chi$^2 = 0.34, df = 1$ ($P = 0.56$); I$^2 = 0.0$

Test for overall effect: Z = 1.45 ($P = 0.15$)

Test for subgroup differences: Not applicable

---

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)

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### Analysis 3.4. Comparison 3 Transfer from incubator to cot: birthweight ≥ 1000 grams, Outcome 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** Transfer from incubator to cot: birthweight ≥ 1000 grams

**Outcome:** Proportion of infants having at least one episode of low temperature requiring overhead heater use

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>7/75</td>
<td>17/75</td>
<td>94.6 %</td>
<td>0.41 [ 0.18, 0.93 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>1/44</td>
<td>1/47</td>
<td>5.4 %</td>
<td>1.07 [ 0.07, 16.56 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>0.45 [ 0.21, 0.97 ]</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total events: 8 (Lower body weight), 18 (Higher body weight)
Heterogeneity: $\chi^2 = 0.43$, df = 1 ($P = 0.51$); $I^2 = 0.0$
Test for overall effect: $Z = 2.03$ ($P = 0.043$)
Test for subgroup differences: Not applicable
Analysis 3.5. Comparison 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams, Outcome 5 Proportion of infants having at least one episode of returning to incubator.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams

Outcome: 5 Proportion of infants having at least one episode of returning to incubator

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>6/75</td>
<td>4/75</td>
<td>100.0 % 1.50</td>
<td>[0.44, 5.10]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>0/44</td>
<td>0/47</td>
<td>Not estimable</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td><strong>100.0 % 1.50</strong></td>
<td>[0.44, 5.10]</td>
</tr>
</tbody>
</table>

Total events: 6 (Lower body weight), 4 (Higher body weight)
Heterogeneity: not applicable
Test for overall effect: Z = 0.65 (P = 0.52)
Test for subgroup differences: Not applicable

Analysis 3.6. Comparison 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams, Outcome 6 Duration from transfer to cot to discharge home (days).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams

Outcome: 6 Duration from transfer to cot to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N Mean(SD)</td>
<td>N Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>75 24.8 (10.9)</td>
<td>75 17.9 (1.9)</td>
<td>7.7 % 6.90</td>
<td>[3.25, 10.55]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>44 6 (3)</td>
<td>47 6 (2)</td>
<td>92.3 % 0.0</td>
<td>[ -1.05, 1.05]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td><strong>100.0 % 0.53</strong></td>
<td>[-0.48, 1.54]</td>
</tr>
</tbody>
</table>

Heterogeneity: Chi$^2 = 12.66, df = 1$ (P = 0.00037); I$^2 = 92$
Test for overall effect: Z = 1.03 (P = 0.30)
Test for subgroup differences: Not applicable
## Analysis 3.7. Comparison 3 Transfer from incubator to cot: birthweight ≥ 1000 grams, Outcome 7 Duration from randomisation to discharge home (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 3 Transfer from incubator to cot: birthweight ≥ 1000 grams

**Outcome:** 7 Duration from randomisation to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV</td>
</tr>
<tr>
<td>New 2011</td>
<td>75</td>
<td>25 (10.9)</td>
<td>75</td>
<td>24.2 (11.8)</td>
<td>26.6 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>44</td>
<td>6 (3)</td>
<td>47</td>
<td>15 (7)</td>
<td>73.4 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td>119</td>
<td>122</td>
<td>100.0 %</td>
<td>-6.39 [ -8.27, -4.52 ]</td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 20.49, df = 1 (P<0.00001)$; $I^2 = 95$

Test for overall effect: $Z = 6.68 (P < 0.00001)$

Test for subgroup differences: Not applicable
### Analysis 3.8. Comparison 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams, Outcome 8 Postmenstrual age at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams

Outcome: 8 Postmenstrual age at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>(IV, Fixed) 95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>75</td>
<td>37.6 (1.7)</td>
<td>75</td>
<td>37.5 (1.9)</td>
<td>46.3 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>44</td>
<td>35.9 (1.5)</td>
<td>47</td>
<td>37 (1.1)</td>
<td>53.7 %</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>119</td>
<td>37.9 (1.5)</td>
<td>122</td>
<td>37 (1.1)</td>
<td>100.0 %</td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 8.67$, df = 1 ($P = 0.003$); $I^2 = 88$

Test for overall effect: $Z = 2.68$ ($P = 0.0074$)

Test for subgroup differences: Not applicable

-2 -1 0 1 2
Favours higher weight  Favours lower weight

---

### Analysis 3.9. Comparison 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams, Outcome 9 Length of hospital stay (days).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 3 Transfer from incubator to cot: birthweight $\geq 1000$ grams

Outcome: 9 Length of hospital stay (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>(IV, Fixed) 95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>75</td>
<td>45.5 (14.7)</td>
<td>75</td>
<td>44.9 (14.7)</td>
<td>42.0 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>44</td>
<td>24 (7)</td>
<td>47</td>
<td>35 (12)</td>
<td>58.0 %</td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>119</td>
<td>37 (12)</td>
<td>122</td>
<td>35 (12)</td>
<td>100.0 %</td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 13.42$, df = 1 ($P = 0.00025$); $I^2 = 93$

Test for overall effect: $Z = 3.95$ ($P = 0.000078$)

Test for subgroup differences: Not applicable

-10 -5 0 5 10
Favours lower weight  Favours higher weight
## Analysis 3.10. Comparison 3 Transfer from incubator to cot: birthweight ≥ 1000 grams, Outcome 10 Proportion of infants not breastfeeding at discharge.

### Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

### Comparison: 3 Transfer from incubator to cot: birthweight ≥ 1000 grams

### Outcome: 10 Proportion of infants not breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
</tr>
<tr>
<td>New 2011</td>
<td>24/75</td>
<td>26/75</td>
<td>84.3 %</td>
<td>0.92 [ 0.59, 1.45 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>7/44</td>
<td>5/47</td>
<td>15.7 %</td>
<td>1.50 [ 0.51, 4.37 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>1.01 [ 0.67, 1.54 ]</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total events: 31 (Lower body weight), 31 (Higher body weight)

Heterogeneity: Chi² = 0.67, df = 1 (P = 0.41); I² = 0.0%

Test for overall effect: Z = 0.06 (P = 0.95)

Test for subgroup differences: Not applicable
### Analysis 3.11. Comparison 3 Transfer from incubator to cot: birthweight ≥1000 grams, Outcome 11 Proportion of infants exclusive breastfeeding at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 3 Transfer from incubator to cot: birthweight ≥1000 grams

Outcome: 11 Proportion of infants exclusive breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight n/N</th>
<th>Higher body weight n/N</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
<th>Weight</th>
<th>Risk Ratio M-H,Fixed,95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>50/75</td>
<td>48/75</td>
<td></td>
<td>89.2%</td>
<td>1.04 [0.82, 1.32]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>6/44</td>
<td>6/47</td>
<td></td>
<td>10.8%</td>
<td>1.07 [0.37, 3.07]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>119</strong></td>
<td><strong>122</strong></td>
<td></td>
<td><strong>100.0%</strong></td>
<td><strong>1.04 [0.82, 1.32]</strong></td>
</tr>
</tbody>
</table>

Total events: 56 (lower body weight), 54 (higher body weight)
Heterogeneity: $\chi^2 = 0.00$, df = 1 ($P = 0.96$); $I^2 = 0.0$
Test for overall effect: $Z = 0.36$ ($P = 0.72$)
Test for subgroup differences: Not applicable

---

### Analysis 4.1. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 1 Daily weight gain (g/kg/day).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 4 Transfer from incubator to cot: born less than 34 weeks gestational age

Outcome: 1 Daily weight gain (g/kg/day)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight N</th>
<th>Mean(SD)</th>
<th>Higher body weight N</th>
<th>Mean(SD)</th>
<th>Mean Difference IV,Fixed,95% CI</th>
<th>Weight</th>
<th>Mean Difference IV,Fixed,95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>84</td>
<td>17.2 (4.6)</td>
<td>86</td>
<td>13.8 (4.6)</td>
<td>-3.40 [2.02, 4.78]</td>
<td>94.1%</td>
<td>3.40 [2.02, 4.78]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>38</td>
<td>21 (5)</td>
<td>40</td>
<td>25 (17)</td>
<td>-4.00 [-9.50, 1.50]</td>
<td>5.9%</td>
<td>-4.00 [-9.50, 1.50]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>212</strong></td>
<td><strong>126</strong></td>
<td><strong>254</strong></td>
<td><strong>-2.96 [1.62, 4.30]</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>2.96 [1.62, 4.30]</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 6.53$, df = 1 ($P = 0.01$); $I^2 = 85$
Test for overall effect: $Z = 4.33$ ($P = 0.000015$)
Test for subgroup differences: Not applicable
### Analysis 4.2. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer.

**Review**: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison**: 4 Transfer from incubator to cot: born less than 34 weeks gestational age

**Outcome**: 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H Fixed 95% CI</td>
<td>M-H Fixed 95% CI</td>
<td></td>
</tr>
<tr>
<td>New 2011</td>
<td>14/84</td>
<td>27/86</td>
<td>90.1 %</td>
<td>0.53 [ 0.30, 0.94 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>3/38</td>
<td>3/40</td>
<td>9.9 %</td>
<td>1.05 [ 0.23, 4.90 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>126</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>0.58 [ 0.34, 0.99 ]</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total events: 17 (Lower body weight), 30 (Higher body weight)

Heterogeneity: Chi² = 0.67, df = 1 (P = 0.41); I² = 0.0%

Test for overall effect: Z = 1.99 (P = 0.046)

Test for subgroup differences: Not applicable
**Analysis 4.3. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge.**

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 4 Transfer from incubator to cot: born less than 34 weeks gestational age

Outcome: 3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H Fixed 95% CI</td>
<td></td>
<td>M-H Fixed 95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>62/84</td>
<td>59/86</td>
<td>95.2 %</td>
<td>1.08</td>
<td>[ 0.89, 1.30 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>3/38</td>
<td>3/40</td>
<td>4.8 %</td>
<td>1.05</td>
<td>[ 0.23, 4.90 ]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>126</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>1.07</strong></td>
<td><strong>[ 0.88, 1.31 ]</strong></td>
</tr>
</tbody>
</table>

Total events: 65 (Lower body weight), 62 (Higher body weight)

Heterogeneity: $\chi^2 = 0.00$, df = 1 ($P = 0.98$); $I^2 = 0.0$

Test for overall effect: $Z = 0.72$ ($P = 0.47$)

Test for subgroup differences: Not applicable

---

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)

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### Analysis 4.4. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 4 Transfer from incubator to cot: born less than 34 weeks gestational age

Outcome: 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>15/84</td>
<td>18/86</td>
<td>94.8 %</td>
<td>0.85</td>
<td>[ 0.46, 1.58 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>2/38</td>
<td>1/40</td>
<td>5.2 %</td>
<td>2.11</td>
<td>[ 0.20, 22.28 ]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>126</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>0.92</strong></td>
<td><strong>[ 0.51, 1.66 ]</strong></td>
</tr>
</tbody>
</table>

Total events: 17 (Lower body weight), 19 (Higher body weight)
Heterogeneity: $\chi^2 = 0.53$, df = 1 (P = 0.47); $I^2 = 0.0$
Test for overall effect: $Z = 0.28$ (P = 0.78)
Test for subgroup differences: Not applicable

### Analysis 4.5. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 5 Proportion of infants having at least one episode of returning to incubator.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 4 Transfer from incubator to cot: born less than 34 weeks gestational age

Outcome: 5 Proportion of infants having at least one episode of returning to incubator

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>10/84</td>
<td>6/86</td>
<td>100.0 %</td>
<td>1.71</td>
<td>[ 0.65, 4.49 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>0/38</td>
<td>0/40</td>
<td>Not estimable</td>
<td>Not estimable</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>126</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>1.71</strong></td>
<td><strong>[ 0.65, 4.49 ]</strong></td>
</tr>
</tbody>
</table>

Total events: 10 (Lower body weight), 6 (Higher body weight)
Heterogeneity: not applicable
Test for overall effect: $Z = 1.08$ (P = 0.28)
Test for subgroup differences: Not applicable
**Analysis 4.6.**  **Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age,**

**Outcome 6 Duration from transfer to cot to discharge home (days).**

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 4 Transfer from incubator to cot: born less than 34 weeks gestational age

Outcome: 6 Duration from transfer to cot to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>84</td>
<td>25.8 (11.2)</td>
<td>86</td>
<td>19.4 (11.3)</td>
<td>13.4 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>38</td>
<td>7 (3)</td>
<td>40</td>
<td>6 (3)</td>
<td>86.6 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>7 (3)</strong></td>
<td><strong>126</strong></td>
<td><strong>6 (3)</strong></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 8.48, \text{df} = 1 (P = 0.004); I^2 = 88\%$

Test for overall effect: $Z = 2.73 (P = 0.0064)$

Test for subgroup differences: Not applicable
### Analysis 4.7. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 7 Duration from randomisation to discharge home (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 4 Transfer from incubator to cot: born less than 34 weeks gestational age

**Outcome:** 7 Duration from randomisation to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>84</td>
<td>26.1 (11.2)</td>
<td>86</td>
<td>26.1 (11.2)</td>
<td>0.10 [-3.27, 3.47]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>38</td>
<td>7 (3)</td>
<td>40</td>
<td>15 (7)</td>
<td>-8.00 [-10.37, -5.63]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>33.1 %</strong></td>
<td><strong>126</strong></td>
<td><strong>66.9 %</strong></td>
<td><strong>-5.32 [-7.26, -3.38]</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 14.86, df = 1 (P = 0.00012); I² = 93%
Test for overall effect: Z = 5.38 (P < 0.00001)
Test for subgroup differences: Not applicable

---

### Analysis 4.8. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 8 Postmenstrual age at discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 4 Transfer from incubator to cot: born less than 34 weeks gestational age

**Outcome:** 8 Postmenstrual age at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>84</td>
<td>37.8 (2)</td>
<td>86</td>
<td>37.6 (1.9)</td>
<td>0.20 [-0.39, 0.79]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>38</td>
<td>35.3 (1.5)</td>
<td>40</td>
<td>36.9 (1.1)</td>
<td>-1.60 [-2.19, -1.01]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>50.0 %</strong></td>
<td><strong>126</strong></td>
<td><strong>50.0 %</strong></td>
<td><strong>-0.70 [-1.12, -0.29]</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 18.09, df = 1 (P = 0.00002); I² = 94%
Test for overall effect: Z = 3.31 (P = 0.00093)
Test for subgroup differences: Not applicable
### Analysis 4.9. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 9 Length of hospital stay (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 4 Transfer from incubator to cot: born less than 34 weeks gestational age

**Outcome:** 9 Length of hospital stay (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>84</td>
<td>51.6 (18.8)</td>
<td>86</td>
<td>51.5 (18.1)</td>
<td>41.7%</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>38</td>
<td>28 (9)</td>
<td>40</td>
<td>37 (12)</td>
<td>58.3%</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td>122</td>
<td></td>
<td>126</td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Heterogeneity: Chi$^2$ = 6.02, df = 1 (P = 0.01); I$^2$ = 83%

Test for overall effect: Z = 2.85 (P = 0.0044)

Test for subgroup differences: Not applicable

-10 -5 0 5 10
Favours lower weight Favours higher weight
### Analysis 4.10. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 10 Proportion of infants not breastfeeding at discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 4 Transfer from incubator to cot: born less than 34 weeks gestational age

**Outcome:** 10 Proportion of infants not breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>25/84</td>
<td>27/86</td>
<td>84.6 %</td>
<td>0.95</td>
<td>[0.60, 1.49]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>7/38</td>
<td>5/40</td>
<td>15.4 %</td>
<td>1.47</td>
<td>[0.51, 4.25]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>126</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>1.03</strong></td>
<td><strong>[0.68, 1.56]</strong></td>
</tr>
</tbody>
</table>

Total events: 32 (Lower body weight), 32 (Higher body weight)

Heterogeneity: \( \chi^2 = 0.57, \text{df} = 1 (P = 0.45); I^2 = 0.0\% \)

Test for overall effect: \( Z = 0.14 \) (\( P = 0.89 \))

Test for subgroup differences: Not applicable

---

### Analysis 4.11. Comparison 4 Transfer from incubator to cot: born less than 34 weeks gestational age, Outcome 11 Proportion of infants exclusive breastfeeding at discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 4 Transfer from incubator to cot: born less than 34 weeks gestational age

**Outcome:** 11 Proportion of infants exclusive breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>57/84</td>
<td>58/86</td>
<td>92.2 %</td>
<td>1.01</td>
<td>[0.82, 1.24]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>3/38</td>
<td>5/40</td>
<td>7.8 %</td>
<td>0.63</td>
<td>[0.16, 2.46]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>122</strong></td>
<td><strong>126</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>0.98</strong></td>
<td><strong>[0.79, 1.21]</strong></td>
</tr>
</tbody>
</table>

Total events: 60 (Lower body weight), 63 (Higher body weight)

Heterogeneity: \( \chi^2 = 0.47, \text{df} = 1 (P = 0.49); I^2 = 0.0\% \)

Test for overall effect: \( Z = 0.22 \) (\( P = 0.83 \))

Test for subgroup differences: Not applicable
**Analysis 5.1. Comparison 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age, Outcome 1 Daily weight gain (g/kg/day).**

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: Transfer from incubator to cot: born ≥ 34 weeks gestational age

Outcome: 1 Daily weight gain (g/kg/day)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV/Fixed</td>
</tr>
<tr>
<td>New 2011</td>
<td>6</td>
<td>15.4 (2.9)</td>
<td>6</td>
<td>17 (4.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>86.0 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>9</td>
<td>17 (3)</td>
<td>7</td>
<td>17 (15)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.0 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td></td>
<td></td>
<td>100.0 %</td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 0.07, df = 1 (P = 0.80); I² =0.0%

Test for overall effect: Z = 0.64 (P = 0.52)

Test for subgroup differences: Not applicable
**Analysis 5.2. Comparison 5 Transfer from incubator to cot: born ≥34 weeks gestational age, Outcome 2**

Proportion of infants having at least one episode of low temperature during 72 hours post-transfer.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 5 Transfer from incubator to cot: born ≥34 weeks gestational age

Outcome: 2 Proportion of infants having at least one episode of low temperature during 72 hours post-transfer

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio Weight</th>
<th>Risk Ratio Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>1/6</td>
<td>1/6</td>
<td>47.1 % 1.00 [ 0.08, 12.56 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>1/9</td>
<td>1/7</td>
<td>52.9 % 0.78 [ 0.06, 10.37 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td>100.0 % 0.88 [ 0.14, 5.37 ]</td>
<td></td>
</tr>
</tbody>
</table>

Total events: 2 (Lower body weight), 2 (Higher body weight)

Heterogeneity: Chi$^2$ = 0.02, df = 1 (P = 0.89); I$^2$ =0.0%

Test for overall effect: Z = 0.14 (P = 0.89)

Test for subgroup differences: Not applicable

---

**Analysis 5.3. Comparison 5 Transfer from incubator to cot: born ≥34 weeks gestational age, Outcome 3**

Proportion of infants having at least one episode of low temperature from post-transfer to discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 5 Transfer from incubator to cot: born ≥34 weeks gestational age

Outcome: 3 Proportion of infants having at least one episode of low temperature from post-transfer to discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio Weight</th>
<th>Risk Ratio Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>3/6</td>
<td>1/6</td>
<td>47.1 % 3.00 [ 0.42, 21.30 ]</td>
<td></td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>1/9</td>
<td>1/7</td>
<td>52.9 % 0.78 [ 0.06, 10.37 ]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td>100.0 % 1.82 [ 0.41, 8.04 ]</td>
<td></td>
</tr>
</tbody>
</table>

Total events: 4 (Lower body weight), 2 (Higher body weight)

Heterogeneity: Chi$^2$ = 0.66, df = 1 (P = 0.42); I$^2$ =0.0%

Test for overall effect: Z = 0.79 (P = 0.43)

Test for subgroup differences: Not applicable

---

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)
### Analysis 5.4. Comparison 5 Transfer from incubator to cot: born $\geq$ 34 weeks gestational age, Outcome 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 5 Transfer from incubator to cot: born $\geq$ 34 weeks gestational age

**Outcome:** 4 Proportion of infants having at least one episode of low temperature requiring overhead heater use

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio M-H,Fixed 95% CI</th>
<th>Weight Risk Ratio M-H,Fixed 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 2011</td>
<td>0/6</td>
<td>0/6</td>
<td></td>
<td>Not estimable</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>0/9</td>
<td>0/7</td>
<td></td>
<td>Not estimable</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td></td>
<td>Not estimable</td>
</tr>
</tbody>
</table>

Total events: 0 (Lower body weight), 0 (Higher body weight)
Heterogeneity: not applicable
Test for overall effect: not applicable
Test for subgroup differences: Not applicable

0.05 0.2 1 5 20
Favours higher weight Favours lower weight
**Analysis 5.5. Comparison 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age, Outcome 5**

Proportion of infants having at least one episode of returning to incubator.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age

**Outcome:** 5 Proportion of infants having at least one episode of returning to incubator

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>0/6</td>
<td>0/6</td>
<td>Not estimable</td>
<td></td>
<td>Not estimable</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>0/9</td>
<td>0/7</td>
<td>Not estimable</td>
<td></td>
<td>Not estimable</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td><strong>Not estimable</strong></td>
<td></td>
<td><strong>Not estimable</strong></td>
</tr>
</tbody>
</table>

Total events: 0 (Lower body weight), 0 (Higher body weight)

Heterogeneity: not applicable

Test for overall effect: not applicable

Test for subgroup differences: Not applicable

---

**Analysis 5.6. Comparison 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age, Outcome 6**

Duration from transfer to cot to discharge home (days).

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age

**Outcome:** 6 Duration from transfer to cot to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>6</td>
<td>18.1 (5.3)</td>
<td>6</td>
<td>7.2 (2.8)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>9</td>
<td>5 (2)</td>
<td>7</td>
<td>6 (2)</td>
<td>85.5 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td></td>
<td></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi^2 = 20.22, df = 1 (P<0.00001); I^2 = 95%

Test for overall effect: Z = 0.78 (P = 0.44)

Test for subgroup differences: Not applicable
**Analysis 5.7. Comparison 5 Transfer from incubator to cot: born ≥34 weeks gestational age, Outcome 7 Duration from randomisation to discharge home (days).**

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: Transfer from incubator to cot: born ≥34 weeks gestational age

Outcome: Duration from randomisation to discharge home (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV/Fixed, 95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>6</td>
<td>18.2 (3.3)</td>
<td>6</td>
<td>13.2 (3.2)</td>
<td>38.6 % 5.00 [ 0.05, 9.95 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>9</td>
<td>5 (2)</td>
<td>7</td>
<td>14 (5)</td>
<td>61.4 % -9.00 [ -12.93, -5.07 ]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td></td>
<td><strong>13</strong></td>
<td></td>
<td><strong>100.0 % -3.60 [ -6.67, -0.52 ]</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 18.84, df = 1 (P = 0.00001); I² = 95%

Test for overall effect: Z = 2.29 (P = 0.022)

Test for subgroup differences: Not applicable

---

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review)  
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Analysis 5.8. Comparison 5 Transfer from incubator to cot: born ≥34 weeks gestational age, Outcome 8 Postmenstrual age at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 5 Transfer from incubator to cot: born ≥34 weeks gestational age

Outcome: 8 Postmenstrual age at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed</td>
</tr>
<tr>
<td>New 2011</td>
<td>6</td>
<td>39.7 (1.5)</td>
<td>6</td>
<td>39.4 (1)</td>
<td>35.9 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>9</td>
<td>36.8 (1.2)</td>
<td>7</td>
<td>37.7 (1)</td>
<td>64.1 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td></td>
<td></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 1.71, df = 1 (P = 0.19); I² =41%
Test for overall effect: Z = 1.07 (P = 0.29)
Test for subgroup differences: Not applicable

Analysis 5.9. Comparison 5 Transfer from incubator to cot: born ≥34 weeks gestational age, Outcome 9 Length of hospital stay (days).

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 5 Transfer from incubator to cot: born ≥34 weeks gestational age

Outcome: 9 Length of hospital stay (days)

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Mean Difference</th>
<th>Weight</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean(SD)</td>
<td>N</td>
<td>Mean(SD)</td>
<td>IV,Fixed</td>
</tr>
<tr>
<td>New 2011</td>
<td>6</td>
<td>36.2 (13.3)</td>
<td>6</td>
<td>30.3 (6.9)</td>
<td>20.7 %</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>9</td>
<td>18 (5)</td>
<td>7</td>
<td>26 (7)</td>
<td>79.3 %</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td></td>
<td></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

Heterogeneity: Chi² = 4.09, df = 1 (P = 0.04); I² =76%
Test for overall effect: Z = 1.84 (P = 0.066)
Test for subgroup differences: Not applicable

Transfer of preterm infants from incubator to open cot at lower versus higher body weight (Review) 63
Copyright © 2012 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
Analysis 5.10. Comparison 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age, Outcome 10 Proportion of infants not breastfeeding at discharge.

Review: Transfer of preterm infants from incubator to open cot at lower versus higher body weight

Comparison: 5 Transfer from incubator to cot: born ≥ 34 weeks gestational age

Outcome: 10 Proportion of infants not breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>3/6</td>
<td>3/6</td>
<td>1.00 [ 0.32, 3.10 ]</td>
<td>100.0 %</td>
<td>1.00 [ 0.32, 3.10 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>0/9</td>
<td>0/7</td>
<td>Not estimable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>15</td>
<td>13</td>
<td>100.0 %</td>
<td>1.00 [ 0.32, 3.10 ]</td>
<td></td>
</tr>
</tbody>
</table>

Total events: 3 (Lower body weight), 3 (Higher body weight)

Heterogeneity: not applicable

Test for overall effect: Z = 0.0 (P = 1.0)

Test for subgroup differences: Not applicable
### Analysis 5.11. Comparison 5 Transfer from incubator to cot: born ≥34 weeks gestational age, Outcome 11 Proportion of infants exclusive breastfeeding at discharge.

**Review:** Transfer of preterm infants from incubator to open cot at lower versus higher body weight

**Comparison:** 5 Transfer from incubator to cot: born ≥34 weeks gestational age

**Outcome:** 11 Proportion of infants exclusive breastfeeding at discharge

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Lower body weight</th>
<th>Higher body weight</th>
<th>Risk Ratio</th>
<th>Weight</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>M-H,Fixed,95% CI</td>
<td></td>
<td>M-H,Fixed,95% CI</td>
</tr>
<tr>
<td>New 2011</td>
<td>3/6</td>
<td>3/6</td>
<td>84.4 %</td>
<td>1.00</td>
<td>[ 0.32, 3.10 ]</td>
</tr>
<tr>
<td>Zecca 2010</td>
<td>3/9</td>
<td>0/7</td>
<td>15.6 %</td>
<td>5.60</td>
<td>[ 0.34, 93.35 ]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>15</strong></td>
<td><strong>13</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>1.72</strong></td>
<td><strong>[ 0.59, 5.05 ]</strong></td>
</tr>
</tbody>
</table>

Total events: 6 (Lower body weight), 3 (Higher body weight)

Heterogeneity: Chi² = 1.56, df = 1 (P = 0.21); I² = 36%

Test for overall effect: Z = 0.99 (P = 0.32)

Test for subgroup differences: Not applicable

---

### APPENDICES

**Appendix 1. Search strategy for CINAHL**

1. Intensive Care Units, Neonatal.mp. or newborn intensive care/ (1685)
2. Cot.mp. (289)
3. Crib.mp. (13)
4. Isolette.mp. (10)
5. Incubator.mp. or incubator/ (195)
6. cot-nursing.mp. (1)
7. 2 or 3 or 4 or 5 or 6 (1)
8. 1 and 7 (59)
Appendix 2. Search strategy for EMBASE

Limits activated
#1  Intensive Care Units, Neonatal.mp. or newborn intensive care/ (8464)
2  Cot.mp. (980)
3  Crib.mp. (411)
4  Isolette.mp. (34)
5  Incubator.mp. or incubator/ (1883)
6  cot-nursing.mp. (2)
7  2 or 3 or 4 or 5 or 6 (3274)
8  1 and 7 (174)
9  limit 8 to (human and yr="2007 -Current" and infant <to one year>) (5)
10  from 9 keep 1-5 (5)

Appendix 3. Search strategy for MEDLINE/PubMed

1  Infant, newborn (455244)
2  Intensive Care Units, Neonatal (9520)
3  1 and 2 (8553)
4  Cot or crib or Isolette or incubator (13932)
5  3 and 4 (605)
6  temperature or body temperature or skin temperature (511800)
7  5 and 6 (195)
8  4 and weaning (6)

Appendix 4. search strategy for http://clinicaltrials.gov/

#1  Infant AND Incubator AND weaning - result 4
#2  Infant AND Open Crib AND weaning - result 1
#3  Infant AND Open Cot AND weaning - result 0

Appendix 5. search strategy for http://controlled-trials.com

#1  Infant AND Incubator AND weaning - result 1
#2  Infant AND Open Crib AND weaning - result 1
#3  Infant AND Open Cot AND weaning - result 0

Appendix 6. search strategy for International Clinical Trial Registry Platform
(http://who.int/ictrp/en)

#1  Infant AND Incubator AND weaning - result 0
#2  Infant AND Open Crib AND weaning - result 0
#3  Infant AND Open Cot AND weaning - result 0
### WHAT'S NEW

Last assessed as up-to-date: 3 March 2011.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 December 2011</td>
<td>Amended</td>
<td>Minor amendment to formatting of Outcome headings in text 'Effects of interventions'</td>
</tr>
</tbody>
</table>

### HISTORY


Review first published: Issue 2, 2004

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 March 2011</td>
<td>New citation required and conclusions have changed</td>
<td>Conclusions changed.</td>
</tr>
<tr>
<td>25 March 2011</td>
<td>New search has been performed</td>
<td>This updates the review “Transfer of preterm infants from incubator to open cot at lower versus higher body weight” published in The Cochrane Database of Systematic Reviews (New 2008). Search updated in March 2011. Two additional trials added.</td>
</tr>
<tr>
<td>1 September 2010</td>
<td>New search has been performed</td>
<td>Converted to new review format.</td>
</tr>
<tr>
<td>31 August 2007</td>
<td>New search has been performed</td>
<td>This updates the review “Transfer of preterm infants from incubator to open cot at lower versus higher body weight”, published in The Cochrane Database of Systematic Reviews Issue 2, 2004 (New 2004). Updated search conducted 12/4/2007. Included new reference Gray 2004. One additional study found West 2005 - excluded as not an RCT. Moved pending study Heimler 1981 to included. Re-contacted the author of this study - no response to date. Sutter was unable to provide any additional requested information. Removed Analysis 01.02: Sutter 1988 daily weight gain as authors reported weight gain as (g/day); included data for weight gain from Heimler 1981 as reported in g/kg/day. Results remain unchanged.</td>
</tr>
</tbody>
</table>
Continued

31 August 2007  New citation required but conclusions have not changed  Substantive amendment

**CONTRIBUTIONS OF AUTHORS**

Conceiving the review - KN, MWD  
Data collection for the review - KN, MWD  
Designing search strategies - KN, MWD  
Undertaking searches - KN, MWD  
Screening search results - KN, MWD  
Organising retrieval of papers - KN  
Screening retrieved papers against inclusion criteria - KN, MWD  
Appraising quality of papers - KN, MWD  
Extracting data from papers - KN, MWD  
Writing to authors of papers for additional information - KN  
Entering data into RevMan - KN, MWD  
Analysis of data - KN, MWD  
Interpretation of data - KN, MWD  
Writing the update of the review - KN  
Revising review - VF, MWD  
Providing general advice on the review - VF, MWD

**DECLARATIONS OF INTEREST**

Two of the review authors (Karen New and Mark Davies) are co-investigators of a randomised controlled trial included in this review.

**SOURCES OF SUPPORT**
Internal sources

- Grantley Stable Neonatal Unit, Royal Brisbane & Women's Hospital, Brisbane, Australia.
- Centre for Clinical Studies, Mater Mothers' Hospital, South Brisbane, Australia.
- Dept of Paediatrics and Child Health, University of Queensland, Brisbane, Australia.

External sources

- Commonwealth Department of Health and Ageing, Canberra, Australian Capital Territory, Australia.

DIFFERENCES BETWEEN PROTOCOL AND REVIEW

The methods have been updated to reflect the latest Cochrane Handbook for Systematic Reviews of Interventions (Higgins 2009) and the Cochrane Neonatal Group's methodological guidelines.

1. Added the word 'unheated' to open cots i.e. infants transferred from incubators to unheated open cots to add clarity to the intervention.

2. Objectives: subgroup analysis according to postnatal age and co-interventions have been removed from this 2011 update as they are no longer considered to be clinically relevant to this question.

3. Types of outcome measure - secondary outcome measures redefined, removed or added.
   a. The words cold stress changed to low temperature and the example of temperature considered to be low has been changed from less then 36.3 °C to 36.5 °C due to current recommendations of normal temperature range for preterm infants. The recommended temperature range has changed since the inception of the protocol.
   b. Added duration from randomisation to cot to discharge home (days) as this is clinically meaningful to the outcome of the question in this review.
   c. Postnatal age at discharge (days) removed as this data was the same as length of stay. Added Postmenstrual age at discharge (days) as this is clinically more meaningful.
   c. Added exclusive breastfeeding at hospital discharge as this is clinically meaningful and adds to this review.

INDEX TERMS

Medical Subject Headings (MeSH)

*Body Weight; *Incubators, Infant; *Infant Equipment; *Transportation of Patients; Body Temperature Regulation [physiology]; Infant, Newborn; Infant, Premature [*physiology]; Weight Gain

MeSH check words

Humans