

Table 21. Use of Plastic Cap Compared With No Cap for Newborn Infants Born at <34 Weeks' Gestation

Outcomes (importance)	Participants (studies), n	Certainty of evidence (GRADE)	RR (95% CI)	Anticipated absolute effect	
				Risk or mean with standard care	RD or MD with plastic cap
Survival (critical)	64 (1 RCT) ²⁴⁷	Moderate	0.97 (0.84–1.12)	938/1000	28 fewer infants survived per 1000 (150 fewer to 113 more infants)
Normothermia (important)	64 (1 RCT) ²⁴⁷	Moderate	6.00 (1.96–18.38)	94/1000	469 more normothermic infants per 1000 (90 more to 1629 more); NNTB, 2 infants
Mean body temperature–axillary (important)	64 (1 RCT) ²⁴⁷	Moderate	Not applicable	35.3°C	MD, 0.8°C higher (0.41°C higher to 1.19°C higher)
Hypothermia or cold stress (important)	64 (1 RCT) ²⁴⁷	Moderate	0.48 (0.32–0.73)	906/1000	471 fewer hypothermic or cold-stressed infants per 1000 (616 fewer to 245 fewer); NNTB, 2 infants

GRADE indicates Grading of Recommendations Assessment, Development, and Evaluation; MD, mean difference; NNTB, number needed to treat to benefit; RCT, randomized controlled trial; RD, risk difference; and RR, risk ratio.

In preterm infants (<34 weeks' gestation) immediately after birth, we recommend the use of a plastic bag or wrap to maintain normal temperature (strong recommendation, moderate-certainty evidence).

Temperature should be carefully monitored and managed to prevent hyperthermia (good practice statement).

In preterm infants (<34 weeks' gestation) immediately after birth, we suggest the use of a head covering to maintain normal temperature (strong recommendation, moderate-certainty evidence).

In preterm infants (<34 weeks' gestation) immediately after birth, we suggest that heated and humidified gases for respiratory support in the delivery room can be used when an audit shows that admission hypothermia is a problem and resources allow (conditional recommendation, very low-certainty evidence).

In preterm infants (<34 weeks' gestation) immediately after birth, there is insufficient published evidence to suggest for or against the use of a radiant warmer in servo-controlled mode compared with manual mode for maintaining normal temperature.

In preterm infants (<34 weeks' gestation), there is insufficient published evidence to suggest for or against the use of skin-to-skin care immediately after birth. Skin-to-skin care may be helpful for maintaining normal temperature when few other effective measures are available (good practice statement).

Justification and Evidence-to-Decision Framework Highlights

The complete evidence-to-decision framework can be found on the ILCOR website, and the evidence-to-decision table is provided in Appendix A.²²⁵ Key discussion points included the following:

- For ambient temperature, some of the evidence was indirect from a study that included late preterm and term infants.²⁵⁰ The safe upper limit of room temperature was not identified, and it may also be affected by ambient humidity.
- For plastic bags or wraps, which have been recommended by ILCOR since 2010,²⁶³ the evidence of benefit for survival is now of high certainty, and their

Table 22. Heating and Humidification of Gases for Resuscitation Compared With No Heating and Humidification of Gases for Newborn Infants Born at <34 Weeks' Gestation

Outcomes (importance)	Participants (studies), n	Certainty of evidence (GRADE)	RR (95% CI)	Anticipated absolute effect	
				Risk or mean with standard care	RD or MD with heated and humidified gases
Survival (critical)	476 (2 RCTs) ^{238,239}	Very low	1.00 (0.94–1.05)	918/1000	0 fewer/more infants survived per 1000 (55 fewer to 56 more)
Normothermia on admission (important)	476 (2 RCTs) ^{238,239}	Very low	1.23 (0.93–1.62)	471/1000	108 more infants were normothermic per 1000 (33 fewer to 292 more)
Mean axillary body temperature (important)	476 (2 RCTs) ^{238,239}	Moderate	Not applicable	36.6°C	MD 0.15°C higher (0.03°C higher to 0.26°C higher)
Moderate hypothermia	476 (2 RCTs) ^{238,239}	Low	0.58 (0.36–0.94)	172/1000	72 fewer hypothermic infants per 1000 (68 fewer to 7 fewer); NNTB, 14 infants
IVH above grade 2	476 (2 RCTs) ^{238,239}	Moderate	0.39 (0.17–0.91)	82/1000	50 fewer infants had IVH per 1000 (68 fewer to 7 fewer); NNTB, 42 infants

GRADE indicates Grading of Recommendations Assessment, Development, and Evaluation; IVH, intraventricular hemorrhage; MD, mean difference; NNTB, number needed to treat to benefit; RCT, randomized controlled trial; RD, risk difference; and RR, risk ratio.

Note: Gases refers to air and oxygen (reticulated or from cylinders).