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# Skin-to-skin Care Related to Thermoregulation

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# Skin-to-skin Care Related to Thermoregulation

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## PATIENT CARE ISSUE

### Background & Significance

Skin-to-skin contact can reduce neonatal mortality or morbidity by 18-42% (UNICEF 2007)

After birth temperature regulation is essential in newborn babies. Skin-to-skin benefits include (UNICEF 2007):

- Regulating heart rate, temperature, and respirations
- Greater weight gain

Skin-to-skin is holding the baby naked in a prone position against the mother's (or father's) skin between the breasts (UNICEF 2007).

Why are radiant warmers still used on health full-term infants if skin-to-skin has more benefits?

## EVIDENCE-BASED PRACTICE QUESTION

**Question:** Is skin-to-skin care more efficient in stabilizing the temperature of a full-term infant, than using a radiant warmer

**P:** New mothers and full-term infants

**I:** Skin-to-skin, or Kangaroo Care

**C:** Using skin-to-skin care compared to the current practice of using a radiant warmer immediately after birth

**O:** The effect of skin-to-skin care on full-term infants to stabilize temperature more efficiently than an incubator

## REGISTERED NURSE INTERVIEW

T. Morrison, RN, NICU at Miami Valley Hospital

- Skin-to-skin stabilizes temperature and blood pressure
- Decreases apnea and bradycardia
- EMS implements skin-to-skin when transporting an infant that is doing poorly
- Works for premies
- Moms regulate heat more consistently than the Dad
- "It WORKS!"

## METHODS

Systematic Search

### Databases:

- Medline
- Pubmed
- CINHAL

### Word Search

- Skin-to-skin
- Kangaroo care
- Skin temperature
- Thermoregulation
- Newborn
- Postpartum

CINAHL:	Last 5 years	Medline:	Last 5 years	Pubmed:	Last 5 years
"Skin to skin" - 280	140	"Skin to skin" -501	240	"Skin to skin" - 520	228
"Kangaroo care" -528 (236)		"Kangaroo care" -176	59	"Kangaroo care" 181	60
"Kangaroo care/temperature / postpartum" -11		"Kangaroo care/temperature" -11		"Skin to skin/temp Erature /postpartum" -17,	
				"Kangaroo care/temperature" - 12	

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## RESULTS

Skin-to-skin care:

- Focused on breastfeeding
- Encouraged the growth and development of premature infants (Mori, R)
- Effect on full-term infants not widely studied
- Increased temperature and stabilized quicker than incubator care (Ahmed, S)

Focus of paper was to investigate the existing studies that show the physiological effect that skin-to-skin care, in comparison to incubator care, has related to the topic of infants' thermoregulation.

## SYNTHESIS OF EVIDENCE

RCT in Ethiopia, Indonesia, and Mexico recording episodes of hypothermia (Cattaneo, A)

- Skin-to-skin group-10.8%
- Incubator group- 14.6%

Meta-synthesis study done in a poverty stricken area comparing temperature between kangaroo care and incubator care (Ahmed, S)

- Babies reached normal body temperature faster than incubator warmed babies

RCT of skin-to-skin care compared to incubator care on full-term, low-risk infants (Fardig, J.)

- Temperature stabilized quicker than other groups
- Temperature was a degree higher than other groups

Skin-to-skin care

- Temperature raised 0.3 degrees Celsius and retained better (Fohe, K)

Meta-analysis done in Japan with preterm babies had skin-to-skin care (Mori, R)

- Better mental development
- Elevates and maintains temperature

## EVIDENCE-BASED PRACTICE RECOMMENDATIONS

After doing the research, we recommend implementing skin-to-skin care for full-term infants for thermoregulation, decreasing bradycardia and apnea. The benefits are much higher for skin-to-skin care than for the current standard of care which is incubators and lamps. The use of skin-to-skin care is also very beneficial for LBW and premature infants.

## LIMITATIONS

There are several studies done on kangaroo care; however, few have sufficient research on temperature. Many studies on kangaroo care have been done to study breastfeeding, but not necessarily temperature regulation of the infant.

## REFERENCES

1. UNICEF. Progress for children: a world fit for children statistical review. (2007) New York, NY: United Nations Children's Fund
2. Anderson, G. Current knowledge about skin-to-skin (kangaroo) care for preterm infants. Journal of Perinatology (1991). Journal of Perinatology, 11(3), 216-226.
3. Cattaneo A, Davanzo R, Worku B, Surjono A, Echeverria M, Bedri A, Haksari E, Osorno L, Gudetta B, Setyowireni D, Quintero S, Tamburlini G. Kangaroo mother care for low birthweight infants: a randomized controlled trial in different settings. Acta Paediatrica, 87(9), 976-985 (1998)
4. Ahmed S, Mitra SN, Chowdhury AM, Camacho LL, Winikoff B, Sloan NL. Community Kangaroo Mother Care: implementation and potential for neonatal survival and health in very low-income settings. MCIP: Maternal and Child Health Integrated Program. (2012)
5. Fardig, J. A comparison of skin-to-skin contact and radiant heaters in promoting neonatal thermoregulation. (1980) Journal of Nurse-Midwifery, 25(1), 19-27.
6. Fohe, K., Kropf, S., Avenarius, S. Skin-to-skin contact improves gas exchange in premature infants. (2000) Journal of Perinatology, 20(5),311-315.
7. Mori, R., Khanna, R., Pledge, D., & Nakayama, T. Meta-analysis of physiological effects of skin-to-skin contact for newborns and mothers. (2010) Pediatrics International, 52(2).