

Kangaroo Mother Care:

Our Species' Best Medicine for Parenting a Baby Following a Cesarean

“Cesareans are good for many reasons,” says Nils Bergman, a South African physician and inter-national promoter of Kangaroo Mother Care (KMC). “Yes, if medically indicated, cesarean is good. But the separation of a mother and her baby following a cesarean, now that is something altogether different.”
[ii]



Years ago in Zimbabwe, Dr. Nils Bergman introduced a protocol to keep low-weight preterm infants on their mothers, skin to skin, while every other aspect of care remained the same. He found that survival rates for these babies surged from 10 to 50 percent. Dr. Bergman later conducted a randomized controlled trial and found that preterm newborns in skin on skin contact with their mothers for the first six hours after birth were 100 percent stabilized. For babies in incubators, less than 50 percent had stabilized within six hours.[iii]

Dr. Bergman became convinced that on-going skin to skin contact is what our species expects at birth, reflecting millions of years of evolution, and yielding significant physical and emotional health benefits for newborns and their parents. His findings have launched an international mother-baby skin to skin revolution. Dr. Bergman now lectures throughout the world about the neuroscience behind Kangaroo Mother Care. He is challenging health care providers and parents to comprehend what is normal for nature – and for our natures — regardless of what is normal for our Western culture.

For babies born by cesarean, Dr. Bergman considers skin to skin contact essential. He explains that infants born by cesarean do not experience the same post-birth spikes of important hormones such as norepinephrine that wakes the baby's brain and activates pumping actions that clear the lungs of fluid. Additionally, mothers who birth by cesarean and babies born by cesarean experience lower levels of oxytocin than when babies are born vaginally.[iv] But the real and largely avoidable problem, as Dr. Bergman describes it, is that after a cesarean a mother and baby are more likely to be separated from each other for long or short periods, further disorganizing the natural hormones of birth.

Separation is Stressful!

Dr. Bergman and his colleagues conducted a study to understand the effect of even short-term separation of a newborn from his mother. They measured deep sleep and heart rate variability (as an indicator of central anxious autonomic arousal) in two-day-old newborns as they slept skin-to-skin with their mothers and when they slept alone in a nearby crib. During the time the babies were separated from their mothers, the babies' autonomic arousal averaged 176 percent higher and quiet sleep 86 percent lower than when they slept skin to skin with their mothers.[v]

“We made a startling discovery,” Dr. Bergman says. “When babies sleep separate from their mothers, heart rate variability triples, deep sleep is significantly reduced, and there is no sleep cycling.” Furthermore, he says, “The absence of the mother, even for a short period, doubles cortisol for full term infants. In preterm NICU babies, cortisol is ten times higher for babies in incubators than for babies skin on skin.” Dr. John Krystal, Chairman of the Department of Psychiatry at Yale, commented on the study’s findings: “This study highlights the profound impact of maternal separation on the infant. Dr. Krystal summarized, “We knew that this was stressful, but the current study suggests that this is a major physiologic stressor for the infant.”[vi]

Keep Your Baby Close

With Kangaroo Mother Care, or continuous skin to skin contact between a mother and newborn, stress is reduced and oxytocin levels soar. Oxytocin’s benefits are many. Babies stabilize faster. They cry less. Breastfeeding is likely to go better.[vii] High oxytocin levels are good for mothers too. Human and animal studies tell us that oxytocin activates positive changes in mothers’ brains to reduce stress, promote healthy social connections, prime reward centers to imprint pleasure with caring for her newborn and, my own favorite, increase “ferocity in defense of young.”[viii] In her important report, “The Hormonal Physiology of Childbearing,” Dr. Sarah Buckley puts it this way: “Oxytocin enhances hormonally-driven mother-baby bonding.”[ix]

Of course, sometimes there are unavoidable separations or stressful procedures a baby must endure. Dr. Bergman’s wife, doula and author Jill Bergman, says, “When separations occur, the question is how quickly can we restore the baby to what she anticipated with oxytocin-enhancing skin-to-skin and breastfeeding.” [x]

Kangaroo Mother Care is one of the ways nature ensures that a mother and child get off to a healthy, bonded start. When a baby is born by cesarean, Kangaroo Mother Care may be one of families’ most effective tools to compensate for the lower hormone levels associated with a cesarean. Following a cesarean, Dr. Nils Bergman considers continuous skin to skin and hourly breastfeeding a necessity.

Kangaroo Mother Care just celebrated a major victory: six major international health associations endorsed the universal use of KMC for preterm and low birthweight infants.[xi] Increasingly, we can expect KMC to become the standard of care for these vulnerable newborns. But Kangaroo Mother Care is not yet a standard of post-cesarean care. To prioritize skin to skin contact in the sensitive hours, days and weeks following a cesarean, families may have to ask nurses and doctors to do things differently to assist with on-going skin to skin contact. Extra help may be needed from family, friends, a doula or a KangaroulaSM.

For more about Kangaroula Care and how to make skin to skin happen after a cesarean, see my interview with Jill Bergman at www.themindfulcesarean.com/skin-to-skin

For more on the neuroscience of skin to skin, see my article, “Kangarology: The First 1000 Minutes,” at www.thebirthpause.com.

Additional information about the important work of Nils and Jill Bergman can be found at ninobirth.org

"I watched, and after a few minutes, I could tell that the pediatrician was done with his procedures, so I asked if they could place my baby on me for skin to skin. Although the pediatrician had been prepped that this was the plan, he looked dumbfounded and said, 'I've never done skin on skin in the operating room.' My doctor stated confidently, 'That's what we're doing!' The nurse piped in, 'I have!' and whisked my son from the doctor and placed him on my chest." Athena

References

[i] Dr. Nils Bergman lecture at New York University, New York, February 2016. For more from this lecture visit my blog thebirthpause.com "Kangarooology: The First 1000 Minutes."

[ii] N Bergman, A Jurisoo, "The 'kangaroo-method' for treating low birth weight babies in a developing country," *Tropical Doctor* 24, (April 1994): 57-60.

[iii] [James E. Swain](#), [Esra Tasgin](#), [Linda C. Mayes](#), [Ruth Feldman](#), [R. Todd Constable](#), and [James F. Leckman](#): "Maternal brain response to own baby-cry is affected by cesarean section delivery," *J Child Psychol Psychiatry* 49, no.10 (2008 Oct):1042-52

[iv] Jill Bergman lecture at Birth Day Presence, New York, New York, October 2016

[v] www.healthynewbornnetwork.org/resouce/kmcjointstatement

[vi] Ann Bigelow, Michelle Power, Janis MacLellan-Peters, Marion Alex and Claudette McDonald, "Effect of mother/infant skin-to-skin contact on postpartum Depressive symptoms and maternal physiological stress," *Journal of Obstetric, Gynecologic, & Neonatal Nursing* [41_Issue 3](#) (May/June 2012): 369-382.

CH Kinsley, KG Lambert, "Reproduction-induced neuroplasticity: natural behavioural and neuronal alternations associated with the production and care of offspring," *J Neuroendocrinol* 20 no. 4 (April 2008): 515-25. 2008

GI Leng, SL Meddle, AJ Douglas, "Oxytocin and the maternal brain," *Curr Opin Pharmacol* 8 no.6 (Dec 2008):731-4.

AF Bell, EN Erickson, CS Carter, "Beyond labor: the role of natural and synthetic oxytocin in the transition to motherhood," *Journal of Midwifery & Women's Health* 59, no.1, (2014): 35-42.

[vii] Kinsley and Lambert, p. 517.

[viii] BE Morgan, AR Horn, NJ Bergman, "Should neonates sleep alone?" *Biol Psychiatry* 70, no.9 (2011):817-25.

[ix] "Maternal separation stresses the baby," *Research and journals: Elsevier* (2011).

[x] Mary Esther Malloy, "New science new practices: slowing down at birth for vulnerable newborns," *Journal of Prenatal and Perinatal Psychology and Health* 30, no.2 (Winter 2015):122-135.



"Finally, our son was born; big, lusty, beautiful. He laid across my chest with wide open eyes and a grave silent stare for the next hour while they did the repair. Once in the recovery suite he nursed easily, hungrily and continues to this day. I'm grateful that our surgeon was fully onboard for our wishes to let our placenta pulse, immediate chest-to-chest contact, hours of delay for newborn exams, a vaginal swab and total immersion for three days in a private suite." - Mae