



Kangaroo Position as a New Place for Procedures in NICU

Carmen Pallás Alonso

Bogotá, 2018









When the beginning of life is not what was expected ...





Stimulus	In Utero	Skin-to-Skin with Mother	Incubator or Warmer
Sound	Primarily mother's voice and body sounds, transmitted through liquid and solid media.	Primarily mother's voice and body sounds, transmitted through air and solid media.	White noise and a cacophony of unfamiliar sounds, transmitted through an air medium.
Odor/taste	Mother's, transmitted through a liquid medium.	Mother's, transmitted primarily through an air Medium.	A multitude of unfamiliar smells and tastes, many of them Noxious.
Touch/kinesthetic	Mother's movement, with a liquid/muscular interface providing Containment.	Mother's movement, with a skin-to-skin interface providing containment.	Flat, nonhuman surface with no natural movement.
Circadian	Multiple biorhythms in mother and fetus— hormonal, activity, chemical, temperature, heart rate.	Multiple biorhythms— activity,temperature, and (via breast milk) chemical and Hormonal.	None.



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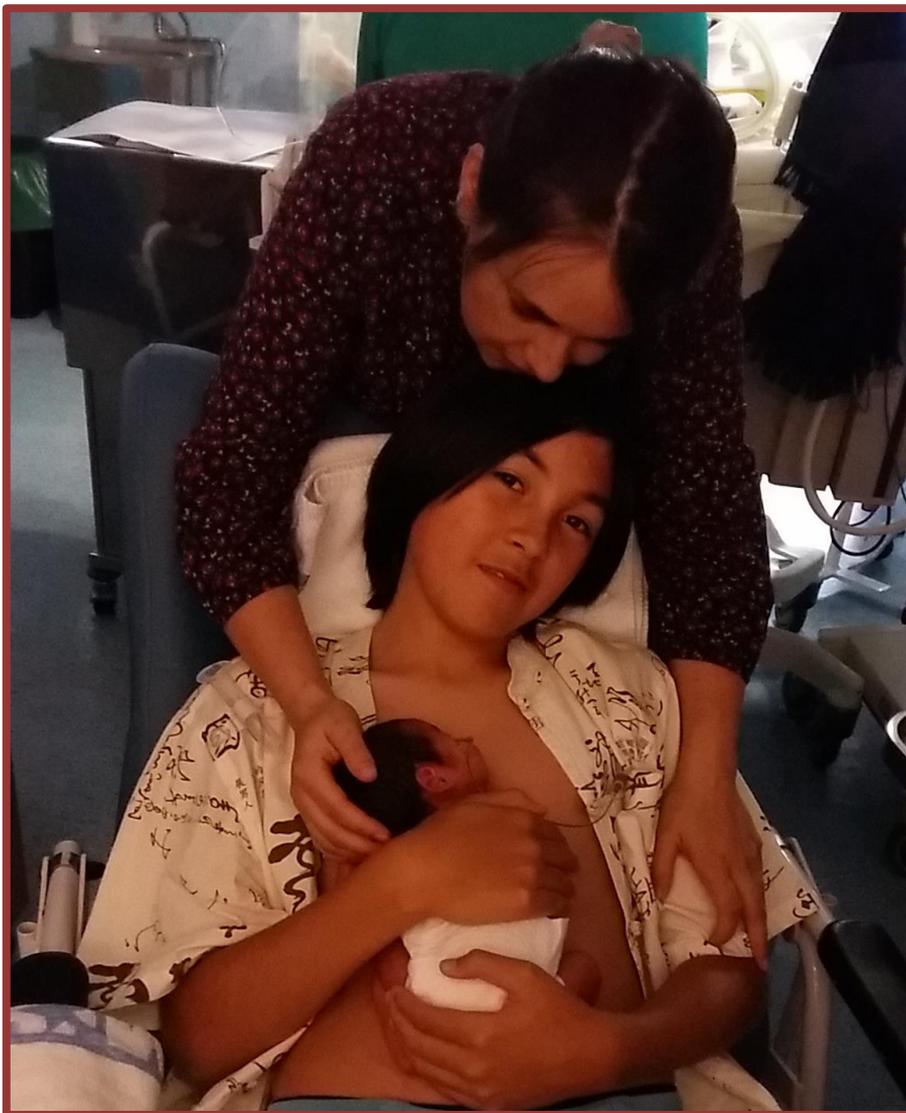


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“The new place of care for the premature infant is the chest of his/her parents”

Dr. Uwe Ewald

12th World Congress of Perinatal Medicine,
Madrid 2015.



- Kangaroo care time is increased
- The analgesic effect of kangaroo care is added
- Parental involvement is encouraged during procedures
- Interruptions of kangaroo care and transfers to the incubator are avoided.



Cochrane
Library

Cochrane Database of Systematic Reviews

Skin-to-skin care for procedural pain in neonates (Review)

Johnston C, Campbell-Yeo M, Disher T, Benoit B, Fernandes A, Streiner D, Inglis D, Zee R

Cochrane Database of Systematic Reviews 2017, Issue 2. Art. No.: CD008435.



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Authors' conclusions

SSC appears to be effective as measured by composite pain indicators with physiological and behavioural indicators and, independently, using heart rate and crying time; and safe for a single painful procedure.

- Heterogeneity in the studies
- Optimal duration of SSC?
- Groups of gestational age
- Dosis-response
- New studies about synergistic effects of SSC with other interventions



Neuroscience 342 (2017) 21–36

REVIEW

NEONATAL PAIN AND REDUCED MATERNAL CARE: EARLY-LIFE STRESSORS INTERACTING TO IMPACT BRAIN AND BEHAVIORAL DEVELOPMENT

SEAN M. MOONEY-LEBER AND SUSANNE BRUMMELTE *

Department of Psychology, Wayne State University, Detroit, MI, United States



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early-life adversity



Neonatal pain

Maternal care

Reduced maternal care

Reduced HPA axis response

Increased HPA axis response

Typical brain development

Typical HPA axis development

Impaired brain development

Impaired HPA axis development

Typical behavioral and cognitive development

Impaired behavioral and cognitive development



Neonatal pain

Maternal care

Reduced maternal care

Reduced HPA axis response

Increased HPA axis response

Typical brain development

Typical HPA axis development

Impaired brain development

Impaired HPA axis development

Typical behavioral and cognitive development

Impaired behavioral and cognitive development

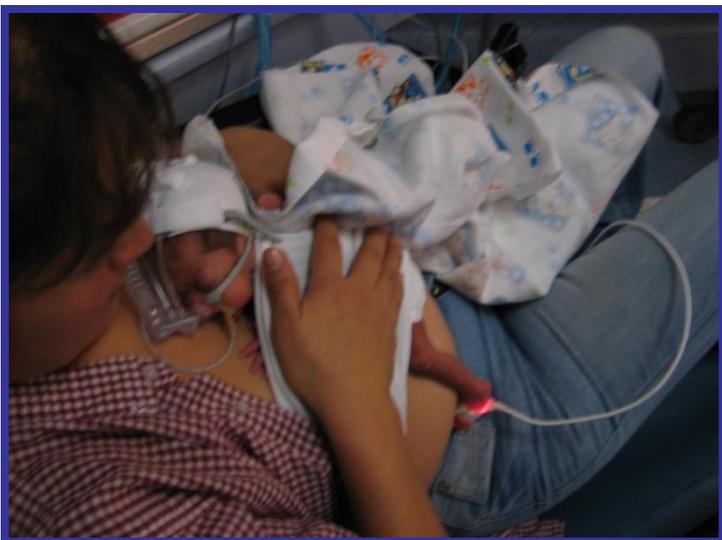








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Why not other procedures?

Extubación electiva durante el contacto piel con piel en el prematuro extremo



Elective extubation during skin-to-skin contact in the extremely premature newborn

F. Camba *, M.C. Céspedes, R. Jordán,
E. Gargallo y J. Perapoch

<http://dx.doi.org/10.1016/j.anpedi.2015.07.017>

Tabla 1 Características de los prematuros extubados en contacto piel con piel

Paciente	Edad gestacional	Peso al nacimiento (g)	Sexo	CRIB II	Intentos de extubación previos	Días de vida	Edad gestacional corregida	Peso (g) día de la extubación	Fracaso extubación
1	25 ^{2/7}	760	V	15	0	41	31 ^{1/7}	1.050	No
2	25 ^{6/7}	570	V	15	1	43	32	920	No
3	25 ^{3/7}	710	M	14	1	21	28 ^{3/7}	750	No
4	24 ^{2/7}	650	V	15	3	46	30 ^{6/7}	1.050	No
5	23 ^{6/7}	610	M	15	0	14	25 ^{6/7}	640	No
6	24 ^{3/7}	720	V	16	0	41	30 ^{2/7}	1.030	No
7	25 ^{1/7}	630	M	14	1	36	30 ^{2/7}	930	No
8	24	730	V	17	0	23	27 ^{2/7}	900	No
9	24 ^{6/7}	780	V	16	0	45	31 ^{2/7}	1.430	Sí (<i>croup</i>)
10	26 ^{5/7}	850	V	10	1	26	30 ^{3/7}	1.220	No
11	24 ^{5/7}	680	V	14	1	27	28 ^{4/7}	940	No
12	27	720	M	13	1	38	32 ^{3/7}	1.280	No
13	26	600	V	13	2	29	30 ^{1/7}	910	No
14	24 ^{6/7}	720	V	15	0	26	28 ^{4/7}	830	Sí (<i>hipoxia</i>)



Open Journal of Pediatrics & Neonatal Care

Review Article

Extubation in Kangaroo Mother Care. Clinical Trial -

Eva Fuentetaja-DeLaFlor^{1*}, Carmen Pena-Peloché², Juliana Acuna-Muga³, Beatriz Bellon-Vaquerizo⁴, Carmen Maíllo-Canadas⁵, María Lopez-Maestro⁶, Carmen R. Pallas-Alonso⁷

^{1,5}Neonatal nurse specializing in pediatrics with 10 years of experience in NICU care, with NIDCAP training.

²Neonatal nurse specializing in pediatrics with 15 years of experience in NICU care, responsible for teaching in the Neonatology Department. Participated in three neonatology research studies published internationally.

³Neonatal nurse specializing in pediatrics with 30 years of experience in NICU care, with NIDCAP and APiB training. Participated in other research studies published internationally.

⁴Neonatal nurse specializing in pediatrics with 15 years of experience in NICU care, with NIDCAP training.

⁶Doctor specializing in pediatrics, working as a neonatologist for 10 years, NIDCAP training. NIDCAP method trainer. Participated in other research studies and published nationally and internationally.

⁷Head of Neonatology Department, president of the INHAN. Internationally recognized expert in Developmental-Centered Care and breastfeeding research. Associated Professor in the Universidad Complutense.

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Heart rate and Oxygen saturation pre- and post-extubation in Kangaroo care and in the incubator.

	KME		IE		
HR prior	148	(± 12)	144	(± 12)	p=0.6
HR at 10 min.	143	(± 35)	153	(± 8)	p=0.6
HR at one hour	147	(± 38)	152	(± 13)	p=0.8
SatO2 prior	92%	(± 1%)	97%	(± 3%)	p=0.024
SatO2 at 10 min.	94%	(± 2%)	94%	(± 6%)	p=0.8
SatO2 at one hour	93%	(± 3%)	95%	(± 5%)	p=0.4



Learning From Experience: Improving Early Tracheal Extubation Success After Congenital Cardiac Surgery*

Peter D. Winch, MD, MBA¹; Anna M. Staudt, MD²; Roby Sebastian, MD¹; Marco Corridore, MD¹; Dmitry Tumin, PhD¹; Janet Simsic, MD³; Mark Galantowicz, MD⁴; Aymen Naguib, MD¹; Joseph D. Tobias, MD¹

Pediatric Critical Care Medicine

July 2016 • Volume 17 • Number 7



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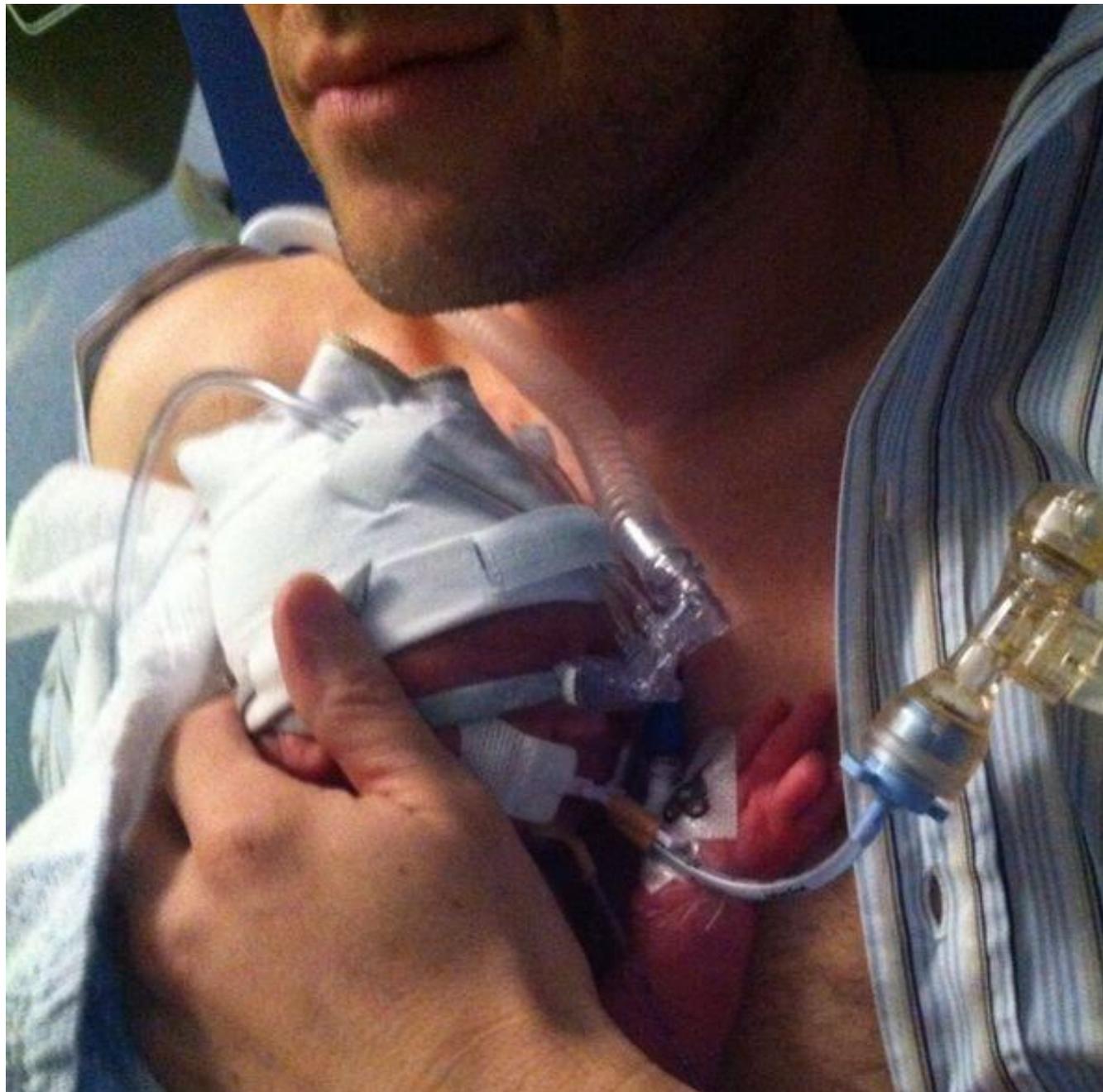
Learning From Experience: Improving Early Tracheal Extubation Success After Congenital Cardiac Surgery*

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Pediatric Critical Care Medicine

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The “Kangaroo Care” model has been embraced in the neonatal ICU setting as a benefit in the care of the smallest patients. Perhaps a similar benefit may be realized for the population of patients included in our study.





Journal of Human Lactation

<http://jhl.sagepub.com/>

Volume of Milk Obtained in Relation to Location and Circumstances of Expression in Mothers of Very Low Birth Weight Infants

Juliana Acuña-Muga, Noelia Ureta-Velasco, Javier de la Cruz-Bértolo, Rosa Ballesteros-López, Rocio Sánchez-Martínez, Eugenia Miranda-Casabona, Almudena Miguel-Trigoso, Lidia García-San José and Carmen Pallás-Alonso

J Hum Lact 2014 30: 41 originally published online 8 November 2013

DOI: 10.1177/0890334413509140

The online version of this article can be found at:

<http://jhl.sagepub.com/content/30/1/41>





And more?



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Another experience



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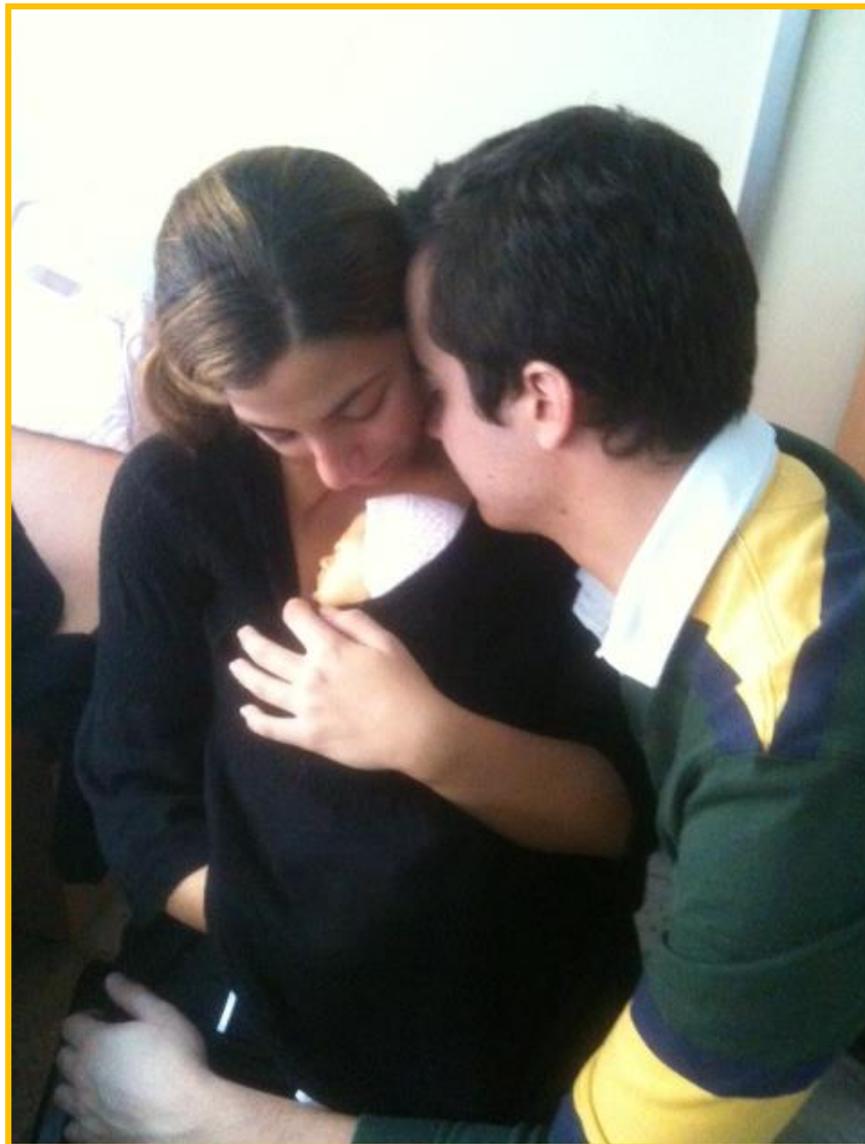


The best place



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Kristoffersen et al. *Trials* (2016) 17:593
DOI 10.1186/s13063-016-1730-5

Trials

STUDY PROTOCOL

Open Access



Early skin-to-skin contact or incubator for very preterm infants: study protocol for a randomized controlled trial

Laila Kristoffersen^{1,2*}, Ragnhild Støen^{1,2}, Hilde Rygh¹, Margunn Sognnaes³, Turid Follestad⁴, Hilde S. Mohn^{5,6}, Ingrid Nissen^{1,6} and Håkon Bergseng^{1,2}

Trial registration: ClinicalTrials, NCT02024854. Registered on 19 December 2013.



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Kangaroo Care

early-life adversity







Electronic supplementary material:

The online version of this article contains supplementary material.

journal of
global
health

Setting research priorities to improve global newborn health and prevent stillbirths by 2025

JUNE 2016 • VOL. 6 NO. 1 • 010508



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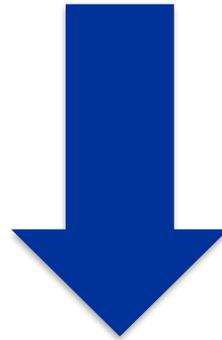
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Top ten research priorities

Top ten development research priorities

Research



Kangaroo Care as a new place of care

A bed close to
each incubator



