

Soins de développement en Unité de Soins Intensifs en Néonatalogie : modification des pratiques éclairées par l'EBM

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Nantes

Cokillaje 1^{er} octobre 2016

les soins de développement

- stratégies environnementales
- stratégies comportementales
- les parents: co-régulateurs naturels

améliorer le développement
physiologique
neurologique
comportemental
relationnel

-  stimulations inutiles
- soutien de l'autorégulation
-  stimulations adaptées
- restauration du lien parents-enfant

observation de l'enfant



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la théorie synactive du développement

- modèle de développement
- degré de différenciation et de modulation
- 5 sous-systèmes
- Intégrés, interactifs, en interaction avec l'environnement

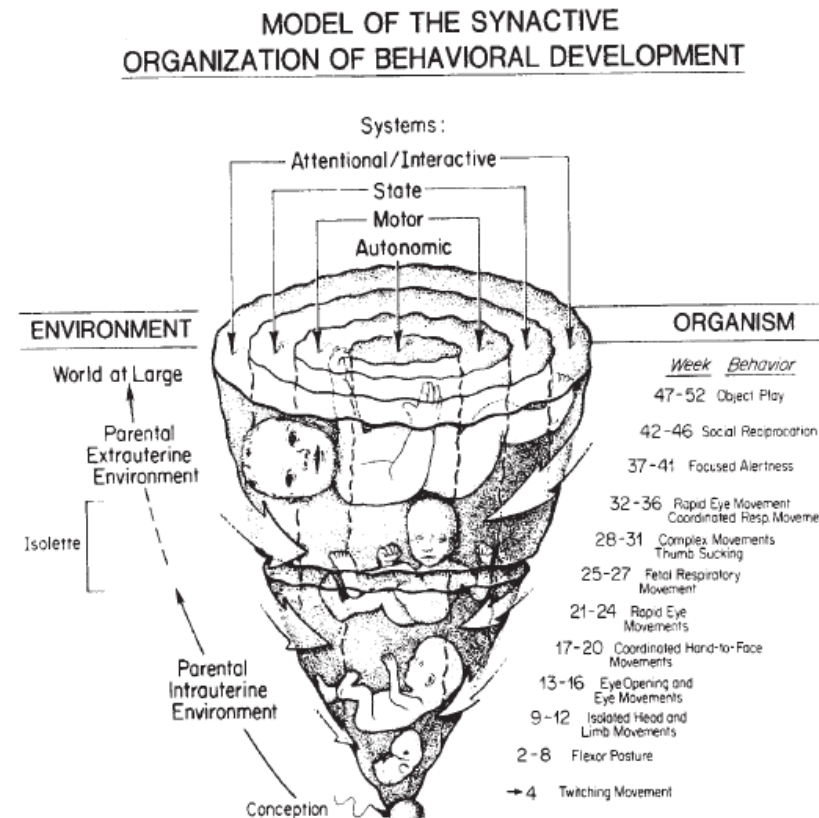
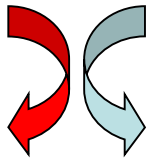


Fig. 1. Model of synaptic organization of behavioral development. In Als. H (1982). Toward a synactive theory of development: Promise for the assessment of infant individuality. *Infant Mental Health J* 3(4), 229-243.

la théorie synactive du développement

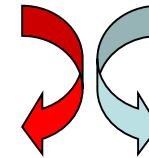
système végétatif

couleur
Tp
respiration
digestion



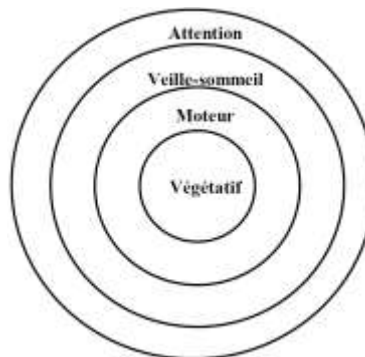
système attention

regard
mimique



système moteur

tonus
Posture
mvmts



système autorégulation

système veille-sommeil

organisation des stades
individualisation
transition



la place des parents



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Parents, siblings and grandparents in the Neonatal Intensive Care Unit

A survey of policies in eight European countries

Gorm Greisen (greisen@rh.dk)¹, Nadia Mirante², Dominique Haumont³, Veronique Pierrat⁴, Carmen R. Pallás-Alonso⁵, Inga Warren⁶, Bert J. Smit⁷, Björn Westrup⁸, Jacques Sizun⁹, Alice Maraschini², Marina Cuttini², for the ESF Network

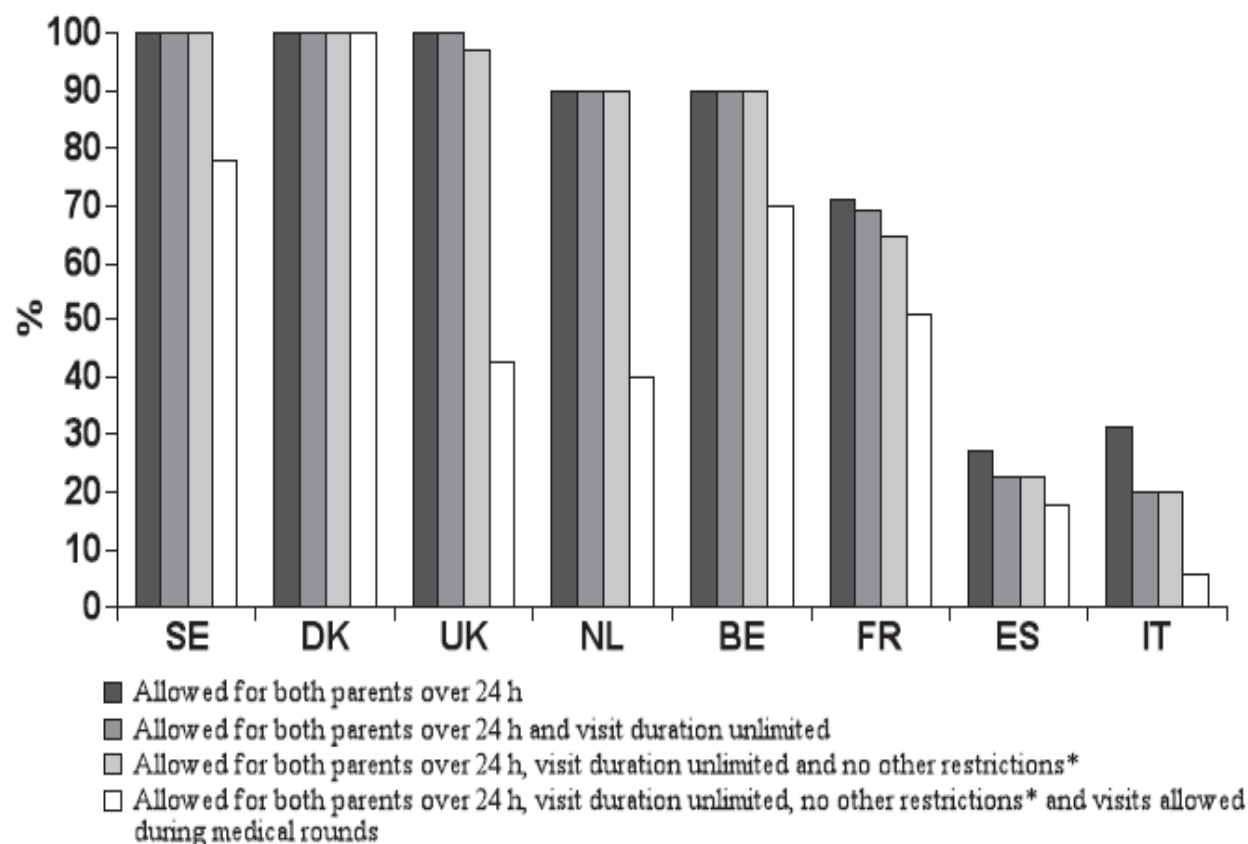


Figure 1 Proportions of units allowing parental visiting at any time over the 24 h.



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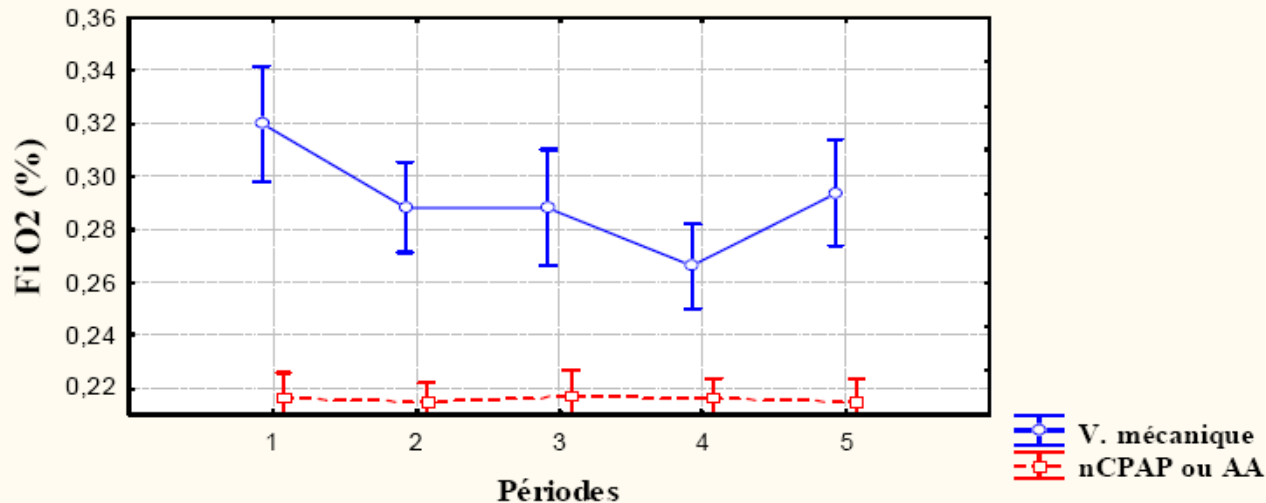
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Le travail sur la place des parents: le peau à peau

Variations de la FiO2 pendant le PAP

Current effect: $F(4, 552)=13,263$, $p=,00001$

96 nouveau-nés
141 épisodes de PAP



Kuhn NIDCAP Meeting 2010

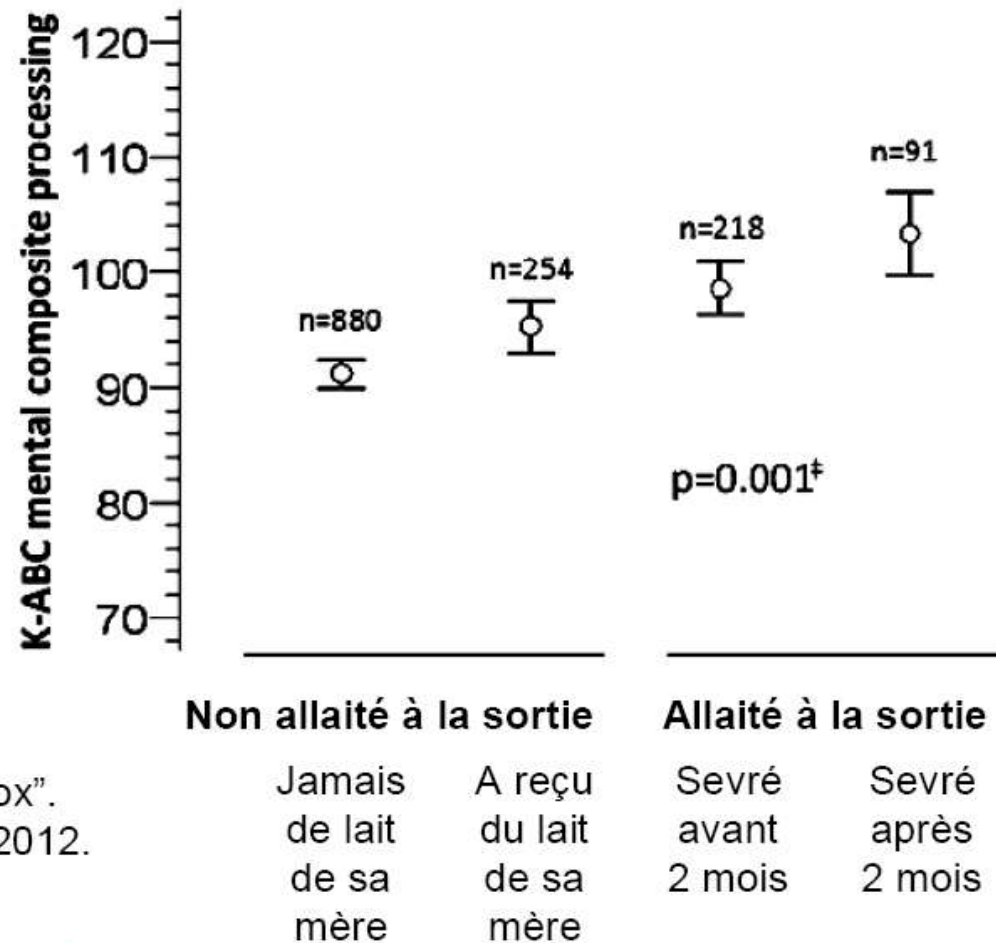
Parental Psychological Well-Being and Behavioral Outcome of Very Low Birth Weight Infants at 3 Years

Mira Huhtala, Riikka Korja, Liisa Lehtonen, Leena Haataja, Helena Lapinleimu, Päivi Rautava and on behalf of the PIPARI Study Group

Pediatrics 2012;129:e937; originally published online March 12, 2012;

« ...Le pronostic comportemental à 3 ans est lié directement à l'état psychologique des parents (dépression, stress parental)... »

Le soutien à l'allaitement



The "Milk Paradox".
Rozé et al *BMJ* 2012.

participation des parents à l'alimentation



la place des parents

- Recommended Standards for Newborn ICU Design: 7ème conférence de consensus US

www.nd.edu/~nicudes/



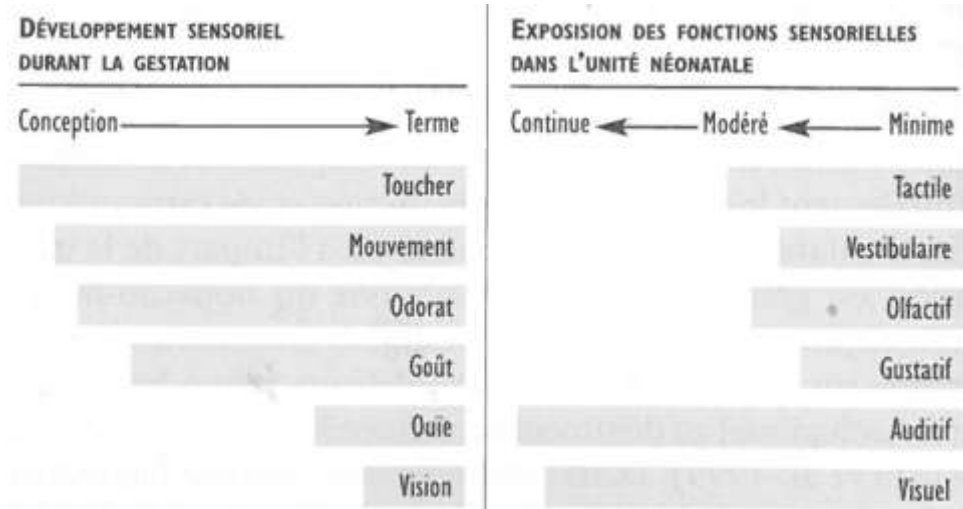
- Surface : au moins 11 m² par enfant
- Pièce de repos pour les parents
- Toilettes
- Pièce spécifique pour tirer le lait
- Bibliothèque pour les parents (Internet, matériel éducatif).

stratégies environnementales



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L'environnement de réanimation néonatale

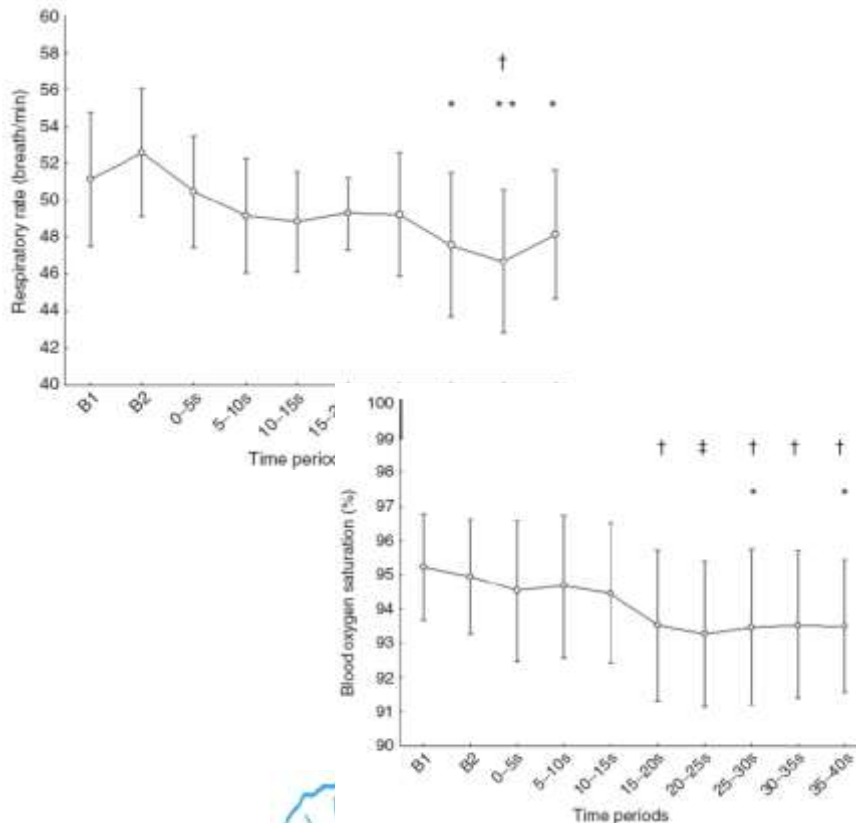


L'environnement de réanimation néonatale

- surstimulation auditive

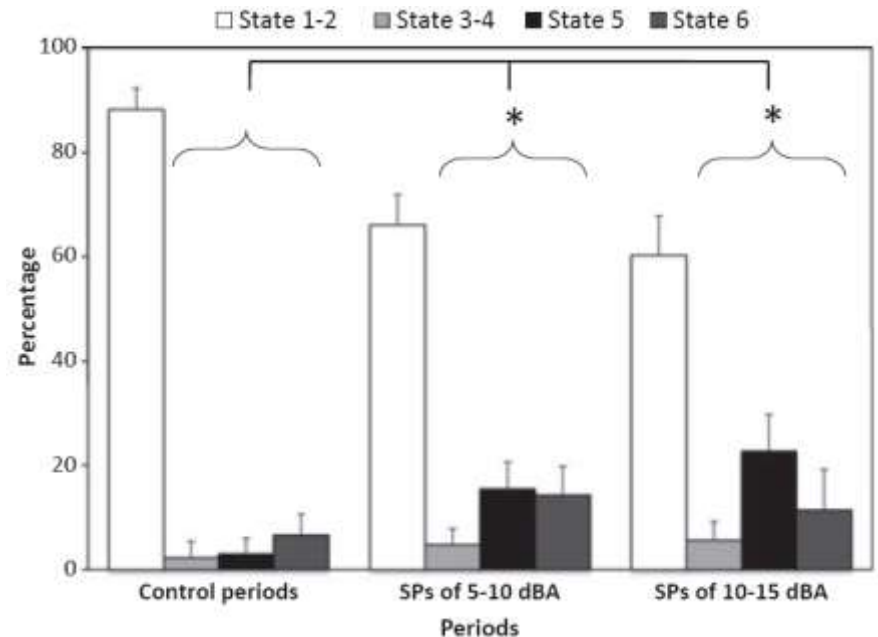
Infants born very preterm react to variations of the acoustic environment in their incubator from a minimum signal-to-noise ratio threshold of 5 to 10 dBA

Pierre Kuhn^{1,2}, Claire Zores^{1,2}, Thierry Pebayle¹, Alain Hoeft¹, Claire Langlet², Benoît Escande², Dominique Astruc² and André Dufour¹



Moderate acoustic changes can disrupt the sleep of very preterm infants in their incubators

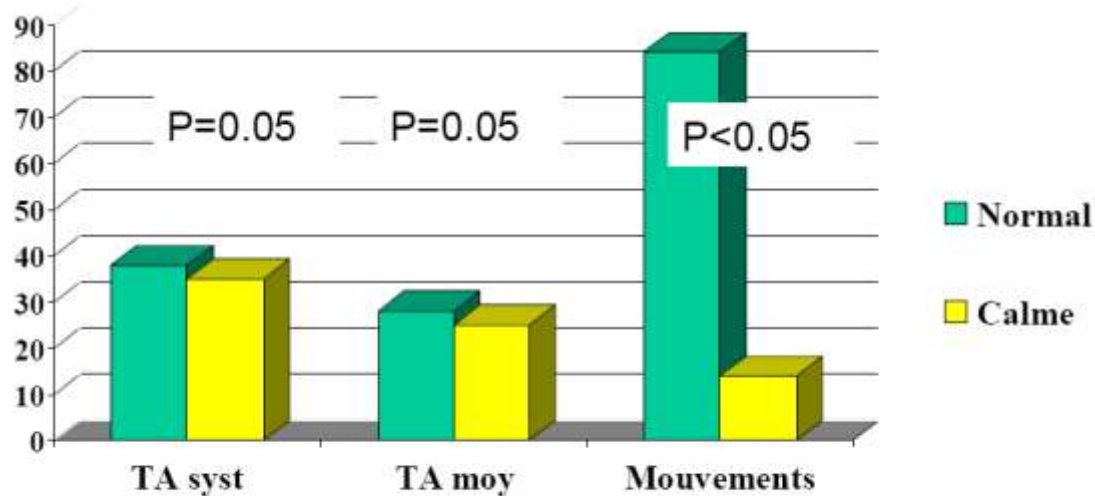
Pierre Kuhn (pierre.kuhn@chru-strasbourg.fr and p.kuhn@unistra.fr)^{1,2}, Claire Zores^{1,2}, Claire Langlet², Benoît Escande², Dominique Astruc², André Dufour¹



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stratégies environnementales



M. Slevin et al. *Acta Paediatr.* 2000

stratégies environnementales

- recommended Standards for Newborn ICU Design:

7^{ème} conférence de consensus US 2012

- niveau moyen sonore < 45 dB, transitoire < 65 dB
 - lumière:
 - ambiante modulable 10 - 600 lux autour de l'enfant
 - de travail < 2000 lux (jour 1080/2000 lux)
 - au moins une source de lumière naturelle
 - surface 11 m² / enfant
 - pièce pour tirer le lait
 - pièce de repos pour les parents
- www.nd.edu/~nicudes/



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stratégies comportementales



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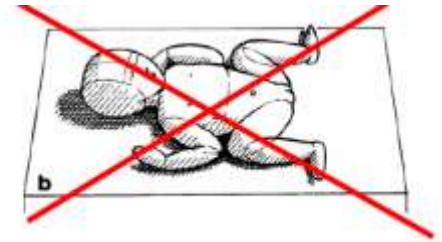
L'environnement de réanimation néonatale

- surstimulation (dys-stimulation) motrice



stratégies comportementales: posture en flexion

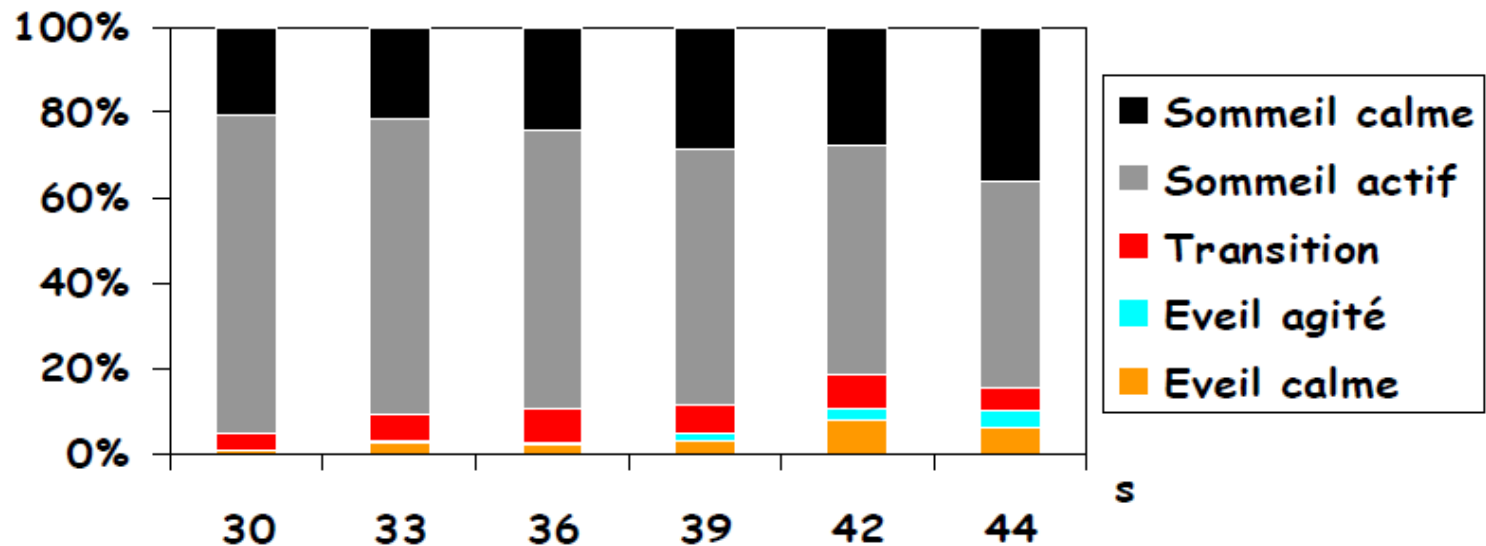
- diminue les réactions de stress
- favorise l'auto-régulation et la stabilité physiologique
- favorise l'exploration sensorielle
- évite les déformations squelettiques



A. Grenier
in C. Amiel-Tison Ed
One Brain for life
Editions Inserm

Waitzman et al. Newborn and inf Nurs. 2007

stratégies comportementales: s'adapter à l'état de veille de l'enfant



134 NN AG = 28.8s; PN: 1218g dans 3 hôpitaux différents

Diagnostic par observation comportementale et non par polygraphie

D. Holitch-Davis *Early Human Dev* 2004

stratégies comportementales: enveloppement

TABLE 1 Characteristics of Cochrane RCTs

	Gerard et al ²⁰ (2002)	Short ²⁵ (1998)	Neu and Browne ²² (1997)	Short et al ²¹ (1996)	Campos ²⁴ (1989)	Ohgi et al ²³ (2004)	Huang et al ²⁶ (2004)	Tsogt et al ²⁷ (2006)	
Interventions	Swaddled vs unwaddled	Swaddled vs unwaddled	Swaddled vs unwaddled	Swaddling vs unwaddling	Swaddling vs unwaddling	Swaddling vs unwaddling	Swaddling vs containment	Swaddling vs infant sleeping bag	
No. of infants	26 (16 female, 10 male)	80 (40 swaddled, 40 in infant sleeping bag)	80 (40 swaddled, 40 in infant sleeping bag)	80 (40 swaddled, 40 in infant sleeping bag)	80 (40 swaddled, 40 in infant sleeping bag)	80 (40 swaddled, 40 in infant sleeping bag)	80 (40 swaddled, 40 in infant sleeping bag)	80 (40 swaddled, 40 in infant sleeping bag)	
Study duration	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	107 ± 7 min, single event during day nap	
Mean age	80 ± 7 d	80 ± 7 d	80 ± 7 d	80 ± 7 d	80 ± 7 d	80 ± 7 d	80 ± 7 d	80 ± 7 d	
Effect size	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)	No change in sighs or REM sleep; less startles during QS (0.2) and REM sleep (< .005); decrease behavioral arousal during QS (P < .005); decrease of progressing sighs startles in QS and sleep (P < .003 and 0.0004); decrease progression startles full arousal in QS (0.06); increase in brief arousals during REM sleep (P < .05); increase in duration in REM sleep (P < .0005)
Level of evidence*	2b	2b	2b	2b	2b	2b	2b	2b	

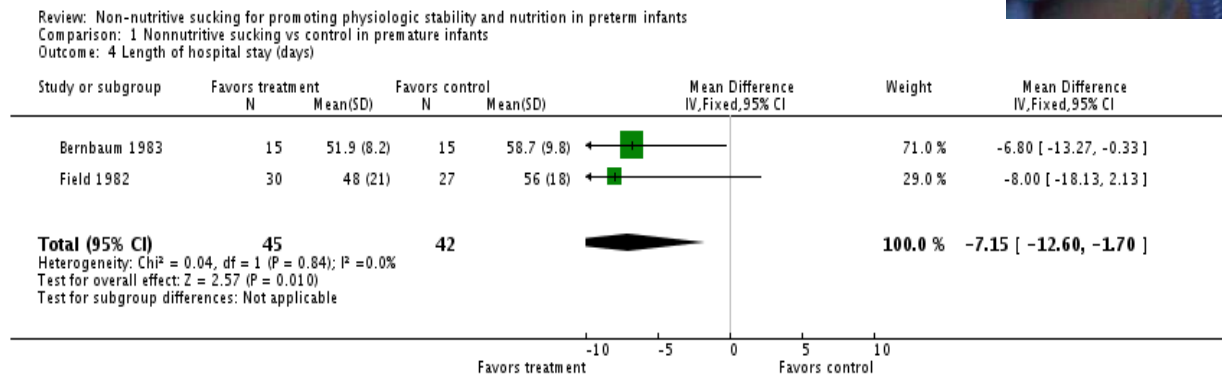
* Level of evidence is as defined by the Oxford Centre for Evidence-Based Medicine Levels of Evidence, 2001. Available at: www.cebm.net/levels_of_evidence.asp.



Swaddling: a systematic review. Pediatrics 2007

stratégies comportementales: succion non-nutritive

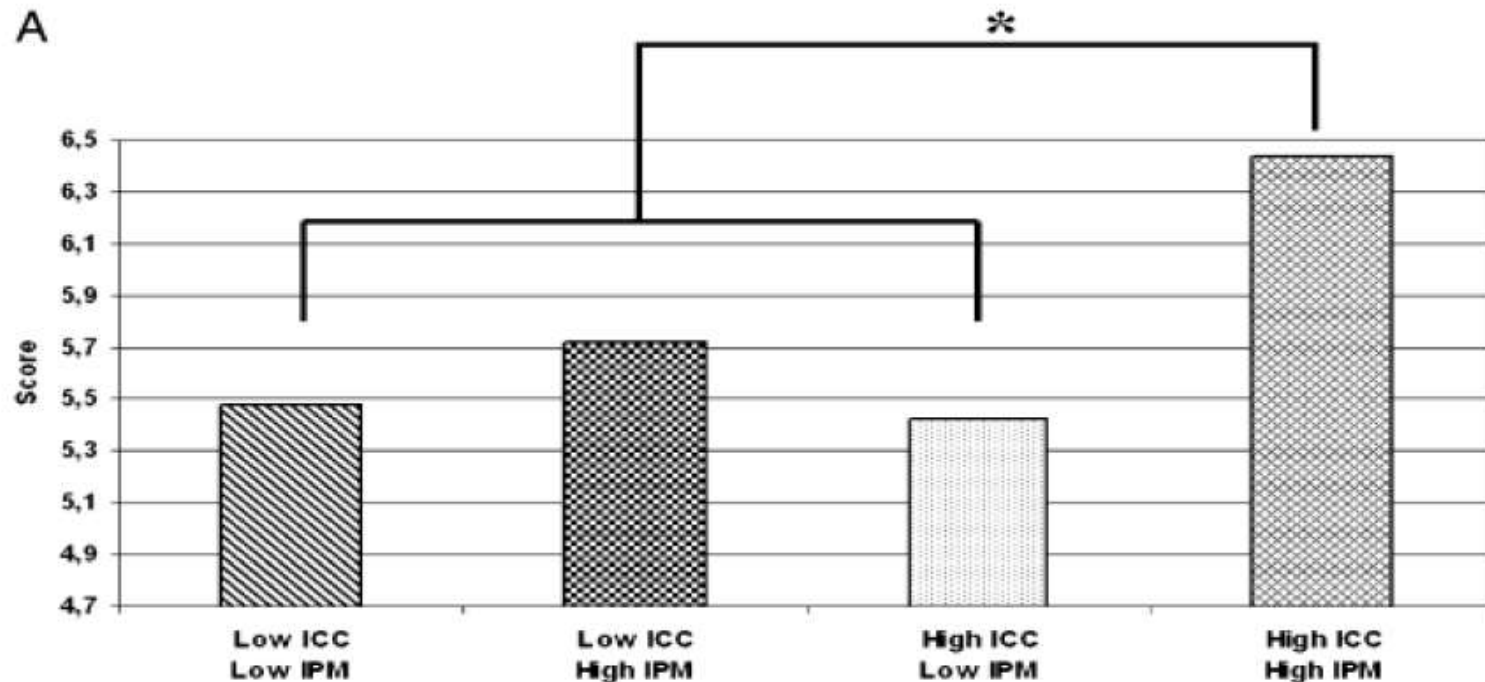
- moins d'agitation pendant l'alimentation
- endormissement plus facile après alimentation
- sortie plus précoce



Pinelli et al. Cochrane Rev. 2005

Level of NICU Quality of Developmental Care and Neurobehavioral Performance in Very Preterm Infants

Rosario Montirosso, Alberto Del Prete, Roberto Bellù, Ed Tronick, Renato Borgatti and the Neonatal Adequate Care for Quality of Life (NEO-ACQUA) Study Group
Pediatrics; originally published online April 9, 2012;



128 nnés AG < 29s

25 centres

Evaluation par NNNS à 35-43s

ICC: index de
soins centrés
sur enfant

IPM: index de
qualité de
traitement douleur



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programmes de soins intégrant les soins de développement



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Le programme NIDCAP (Newborn individualized Development Care and Assessment Program)



- fondement:
la théorie synactive du développement
- outil:
l'observation comportementale
- méthode:
les soins de développement
- évaluation:
impact sur le pronostic



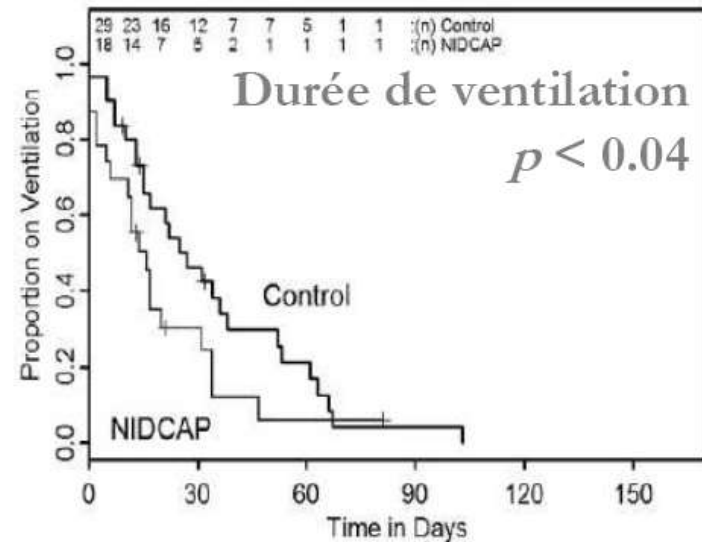
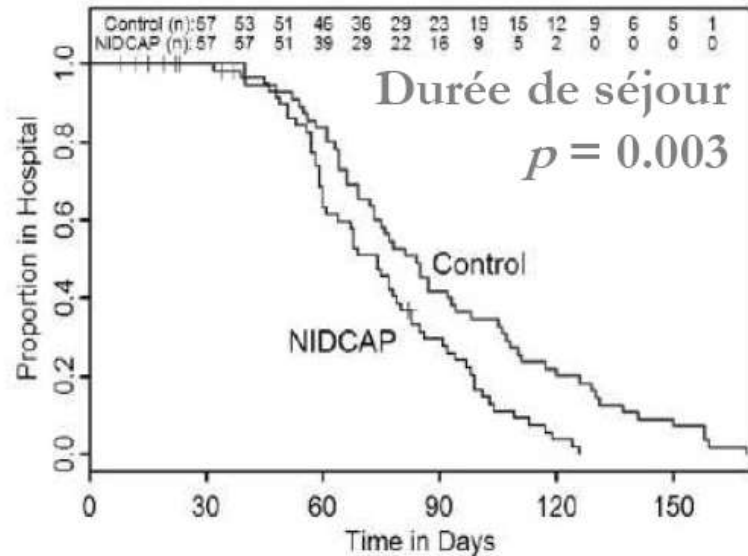
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observation

- réalisée dès les premiers jours de vie et au cours de l'hospitalisation
- analyse
 - comportements de retrait
 - les stratégies d'autorégulation
 - les objectifs apparents
- synthèse



NIDCAP: Impact néonatal



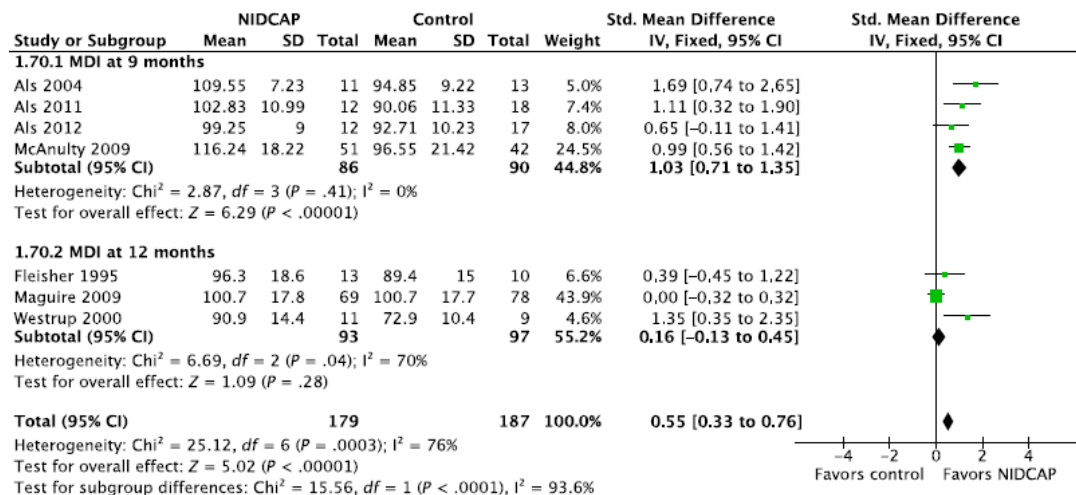
- $n = 120$; PN < 1 500g
- AG moyen = 27.7w; PN moyen: 1005g
- Groupe expérimental: soins basés sur observations NIDCAP

Edmonton NIDCAP Trial, Peters et al. Pediatrics 2009

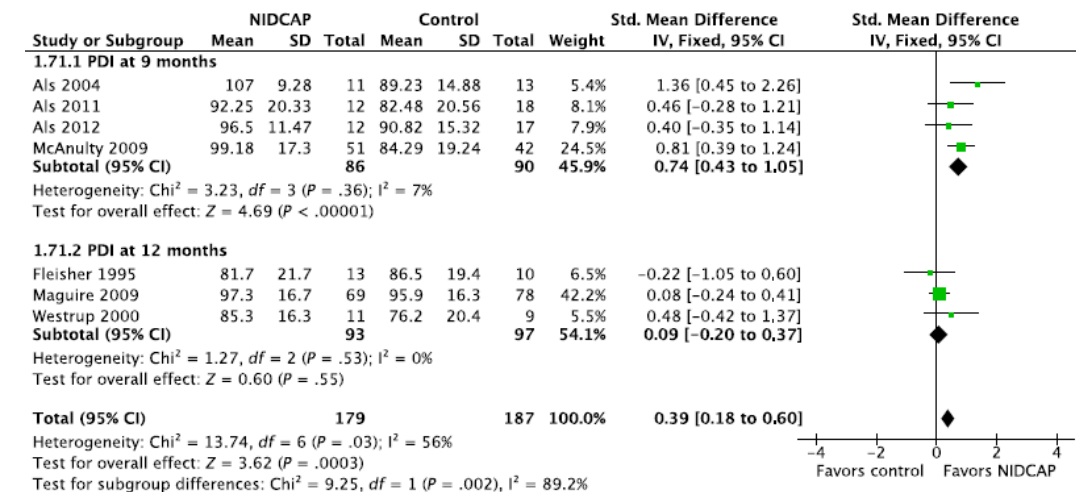
NIDCAP:

Impact sur le développement

- Bayley MDI 9-12 mois



- Bayley PDI 9-12 mois



Olhsson et al. Pediatrics 2013



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conclusion

Soins « Classiques »

Soins de développement

- | | | |
|---------------------------------------|---|-----------------------------------|
| • centrés sur le soignant | ➡ | centrés sur le patient |
| • centrés sur la tâche à accomplir | ➡ | centrés sur la relation |
| • basés sur un protocole | ➡ | individualisés |
| • basés sur un règlement de problèmes | ➡ | dans un objectif de développement |