

# INTRAPARTUM OXYTOCIN ADMINISTRATION ON EARLY ATTACHMENT BEHAVIOUR OF THE NEWBORN



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# DEVELOPMENTAL CONSEQUENCES OF OXYTOCIN

- The use of OT has become so widespread that there is a tendency to assume that its effects are well known and benign, and increased use and even higher doses have been recommended in some cases in attempt to reduce the need for caesarian section. In spite of the widespread use of pitocin, there are very few studies of the role of OT in development.
- At the level of behavior the assumption that perinatal OT manipulations are without effect is largely untested although the small, but growing literature in animals suggests that this may be an invalid assumption

SUE CARTER, 2003.  
Physiology and behavior, 79 (2003) 383-397

Could oxytocin administration during labor contribute to autism and related behavioral disorders?--A look at the literature.

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Whal RU. Med Hypotheses.  
2004;63(3):456-60.

# Effects of Intrapartum Oxytocin Administration and Epidural Analgesia on the Concentration of Plasma Oxytocin and Prolactin, in Response to Suckling During the Second Day Postpartum

W. Jonas, L.M. Johansson, E. Nissen, M. Ejdebäck, A.B. Ransjö-Arvidson, K. Uvnäs-Moberg. *Breastfeeding Medicine*. June 2009, 4(2): 71-82. doi:10.1089/bfm.2008.0002

# Effects of Intrapartum Oxytocin Administration and Epidural...

- **Results:** All mothers showed a pulsatile oxytocin pattern during the first 10 minutes of breastfeeding. Women who had received epidural analgesia *with* oxytocin infusion had the lowest endogenous median oxytocin levels. The more oxytocin infusion the mothers had received during labor, the lower their endogenous oxytocin levels were during a breastfeeding during the second day postpartum. A significant rise of prolactin was observed after 20 minutes in all women, but after 10 minutes in mothers having received oxytocin infusion during labor. In all women, oxytocin variability and the rise of prolactin levels between 0 and 20 minutes correlated significantly with median oxytocin and prolactin levels.
- **Conclusion:** Oxytocin, released in a pulsatile way, and prolactin were released by breastfeeding during the second day postpartum. Oxytocin infusion decreased endogenous oxytocin levels dose-dependently. Furthermore, oxytocin infusion facilitated the release of prolactin. Epidural analgesia in combination with oxytocin infusion influenced endogenous oxytocin levels negatively.

# Maternal analgesia during labor disturbs newborn behavior: effects on breastfeeding, temperature, and crying

- **METHODS:** Video recordings were made of 28 newborns who had been dried and placed in skin-to-skin contact between their mother's breasts immediately after delivery. Group 1 mothers (n = 10) had received no analgesia during labor, group 2 mothers (n = 6) had received mepivacaine via pudendal block, and group 3 mothers (n = 12) had received pethidine or bupivacaine or more than one type of analgesia during labor.
- **RESULTS:** All infants made finger and hand movements, but the infant's massagelike hand movements were less frequent in infants whose mothers had received labor analgesia. A significantly lower proportion of group 3 infants made hand-to-mouth movements ( $p < 0.001$ ), and a significantly lower proportion of the infants in groups 2 and 3 touched the nipple with their hands before suckling ( $p < 0.01$ ), made licking movements ( $p < 0.01$ ), and sucked the breast ( $p < 0.01$ ). Nearly one-half of the infants, all in groups 2 or 3, did not breastfeed within the first 2.5 hour of life. The infants whose mothers had received analgesia during labor had higher temperatures ( $p = 0.03$ ) and they cried more ( $p = 0.05$ ) than infants whose mothers had not received any analgesia.
- **CONCLUSIONS:** The present data indicate that several types of analgesia given to the mother during labor may interfere with the newborn's spontaneous breast-seeking and breastfeeding behaviors and increase the newborn's temperature and crying.

# HYPOTHESIS

- INTRAPARTUM OXYTOCIN CAN AFFECT EARLY ATTACHMENT BEHAVIOUR AND BREASTFEEDING DURATION

## AIM

To evaluate the effect intrapartum OT has on primitive neonatal reflexes affecting breastfeeding

Evaluate the effect intrapartum OT has on:

1. Mother and newborn by measuring cortisol on umbilical cord
2. Time for the spontaneous first latch
3. Newborn 's Levels of bilirrubin
4. Breastfeeding duration



# Methods

- **Design**

Evaluation of newborn behaviour 24 hours after birth comparing three different situations from a neurobiological perspective:

- 1.-Physiological birth (no OT)
- 2.-Induced labour (with OT)
- 3.-Planned elective caesarean (without OT)

# INCLUSION CRITERIA

Newborns at term from:

- Planned elective caesarean
- Vaginal birth induced or augmented with OT
  - With epidural
  - Without epidural
- Physiological vaginal birth

Primipara. No high risk pregnancy

Spanish speaking

Apgar 5 min >9

Informed consent

# Exclusion criteria

- Mother or baby requiring hospitalization
- Prematures
- No immediate skin to skin contact after birth
- Mothers opting for artificial feeding
- Twins or more

# proceeding

- Video filming of newborn behaviour in BN position 15 min 24hr after birth
- Cortisol from umbilical cord (arterial and venous)
- Time for first latch on the breast
- Bilirubin transcutaneous
- Breastfeeding questionnaire at 3 and 6 months

# Optimal positions for the release of primitive neonatal reflexes stimulating breastfeeding

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**Suzanne D. Colson, Judith H. Meek, Jane M. Hawdon.  
Early Human Development (2008) 84, 441-449.**

# Primitive neonatal reflexes

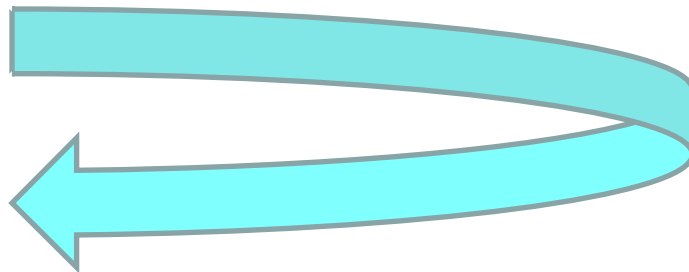
- A group of inborn unconditioned reflex responses, spontaneous behaviours and reactions to endogenous or environmental stimuli developing during foetal life and observed in all normal healthy term neonates at birth
- Biological nurturing (S. Colson)

# PRIMITIVE NEONATAL REFLEXES

- HAND TO MOUTH
- FINGER FLEX/EXTEND
- MOUTH GAPE
- TONGUE DART, LICK
- ARM CYCLE
- LEG CYCLE
- FOOT/HAND FLEX
- HEAD LIFT
- HEAD RIGHT
- HEAD BOB/NOD
- ROOT
- PLACING
- PALMAR GRASP
- PLANTAR GRASP
- BABINSKI TOE FAN
- STEP (WITHDRAWAL)
- CRAWL
- SUCK
- JAW JERK
- SWALLOW

# Estimulación o Inhibición: el doble rol de los RPN

Bebé en CB completa. Madre CB completa





# Some other questions

- Does intrapartum OT affect maternal behavior and if so in which way?
- Do different OT and neurobiological scenarios relate to different maternal psychopathology?
  - Planned elective caesarean/lack of endogenous OT( obsesive sympt?)
  - Induction (ptsd?)