



The Sacred Hour

**Uninterrupted
Skin-to-Skin Contact
Immediately after Birth**



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*I have nothing to disclose
and no financial conflicts of interest*



Acknowledgement

Nils Bergman, MD, PhD



Global Advocate

Single-mindedly raising awareness of the critical importance of keeping babies together with their mothers in skin-to-skin contact after birth

www.kangaroomothercare.com





Objectives



- Know 5 benefits of early postpartum skin-to-skin contact:
 - 1) Improves physiologic stability for mother and baby
 - 2) Increases maternal attachment behaviors
 - 3) Protects baby from negative effects of separation
 - 4) Supports optimal infant brain development
 - 5) Increases breastfeeding rates and duration
- Know 9 instinctive stages of newborn behavior when skin to skin with mother that lead to breastfeeding :
 - 1) birth cry, 2) relaxation, 3) awakening, 4) activity,
 - 5) resting, 6) crawling, 7) familiarization, 8) suckling, 9) sleep

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- Know 4 practical ways to change the culture of early skin-to-skin contact to increase breastfeeding rates:
 - 1) Educate staff
 - 2) Change protocols
 - 3) Engage mothers, partners, and families
 - 4) Benchmark success


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Natural Habitat for the Fetus

- The **womb** is the natural habitat for all **unborn** mammals - where **development begins**
- The **uterus, placenta, and umbilical cord** provide
 - Warmth
 - Protection
 - Nutrition
 - Oxygenation



Natural Habitat for Newborns

- The **mother's body** is the natural habitat for all **newborn** mammals - where **development continues**
- The **mother's chest and mother's milk** provide
 - Warmth
 - Protection
 - Nutrition
 - Support for optimal oxygenation
 - Much, much more....



Natural Habitat for All Newborns



Natural Habitat for All Newborns



Natural Habitat for Newborns



Skin-to-Skin Contact with Mother Provides Physiologic Stability

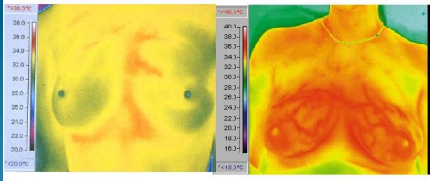
- Stabilizes **respiration** and **oxygenation**
- Maintains **glucose** levels (reduces hypoglycemia)
- Maintains **temperature** (reduces hypothermia)
- Stabilizes **blood pressure**
- Reduces **stress hormones**
- Reduces **crying**
- Increases early **breastfeeding** initiation

Martinez, *NeoReviews*, 2007; Moore, *Cochrane Database*, 2007

Temperature Stability

Thermal Images

Non-lactating Breasts **Lactating Breasts**



Prof Peter Hartmann, UWA

Thermal Synchrony

- Temperature of **mother's chest** will
 - **Increase** by **2 degrees** Celsius if baby is too cool
 - **Decrease** by **1 degree** Celsius if baby is too hot



Individualized Thermal Synchrony

Each breast independently regulates baby's temperature




Dads Can Give Skin-to-Skin Care

- **Babies** delivered by **cesarean section**
- Placed in a cot or skin to skin with father
- If **skin to skin** with **father**
 - Increased **temperature**
 - Increased **glucose** level
 - Decreased **crying**



Christenson, *Acta Paediatr*, 1996

Even Future Dad's Can Help



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Attachment Hormones

- Attachment is **biologically primed**
- **Biochemical activators** in our brain's reward circuitry
 - **Trigger maternal caregiving**
 - **Increased by skin-to-skin contact**
 - Endogenous opioid peptides
 - Estrogen and progesterone
 - Prolactin
 - Vasopressin
 - Dopamine
 - Oxytocin



Oxytocin – The Love Hormone

- Contracts **uterus** (decreases postpartum hemorrhage)
- Releases **colostrum/milk** (letdown reflex)
- Increases
 - **Caregiving behaviors**
 - **Bonding**
 - **Relaxation** (reduces stress)
 - **Facial recognition**
 - **Attraction**
 - **Monogamy** (in rats)

Liquid Trust



oxytocinnasalsprays.com



“The only **Oxytocin Spray** in the world designed to increase **confidence, trust** and **attraction**”


Attachment and Bonding

- **Multiple studies** - mid-1970s through the early 1980s
 - Examined the effects of **early postpartum skin to skin**
- **Standard practice:**
 - Mothers briefly viewed newborns at birth
 - Babies taken to nursery while mother recovered
 - Brought to mothers every 4 hours for feedings

Attachment and Bonding

- Study interventions:
 - **Skin-to-skin contact after birth** for brief periods
 - Ranging from **15-60 minutes**



DeChateau P, Wiberg B. Long-term effect on mother-infant behavior of extra contact during the first hour postpartum. Acta Paediatrica, 1977; 66:145-151.


Attachment and Bonding

- Results lasted well beyond the neonatal period
 - At 3 months - more time **kissing & looking at baby's face**
 - At 1 year - more **holding, touching, positive speaking**
 - More **follow-up appointments**
 - Increased **breastfeeding duration**



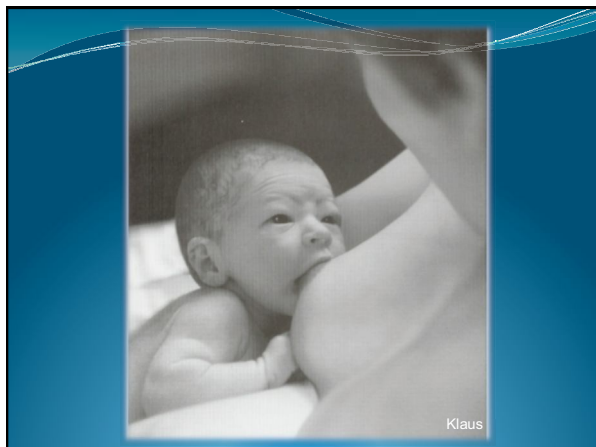
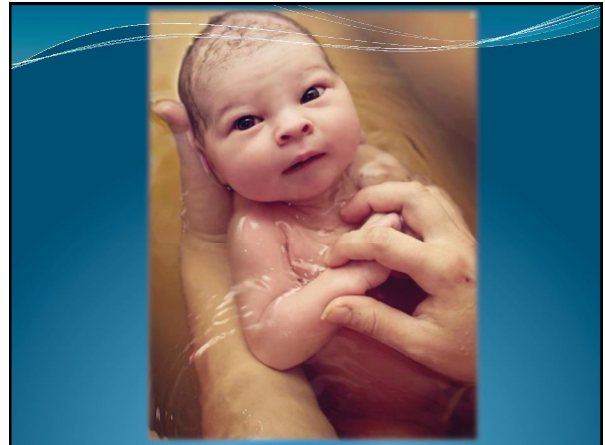
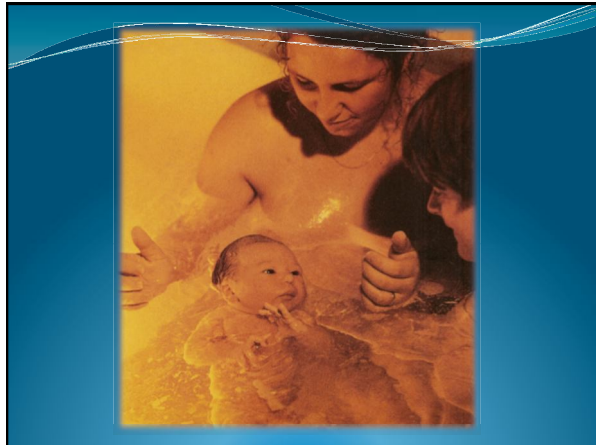
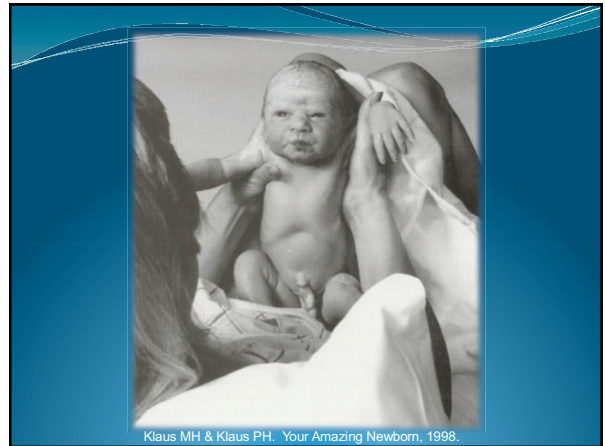


Widström AM, Wahlberg V, Mathiesen AS. Short-term effects of skin-to-skin contact and touch of the nipple on maternal behaviour. Early Human Development, 1990; 21(3):153-63.




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Mother-Baby Dyad a Single Psychobiological Organism



Klaus

Mother-Baby Separation

- Mother and offspring live in a **biological state** that has **much in common with addiction**.
- **When they are parted** the **infant** does not just miss its mother.
- It **experiences a physical and psychological withdrawal** from a host of her sensory stimuli...not unlike the plight of a heroin addict who goes "**cold turkey**."

Gallagher, *Motherless Child*, 1992

From the baby's perspective

Separation is Life threatening


Baby's Response to Separation

- **Protest** - *universal infant response to separation*
 - Being in the wrong place
 - Outside the newborn's natural habitat
- Loud **cries** and intense **activity**
 - Purpose: attract mother's attention
 - Instinctive need to be rescued



Baby's Response to Separation

- **Protest** - frantic crying
 - Impairs **lung functioning**
 - Increases **intra-cranial pressure**
 - Jeopardizes the closure of the **foramen ovale**
 - Initiates a cascade of **stress reactions**
- Christensson K, Cabrera T, Christensson E et al. Separation distress call in the human neonate in the absence of maternal body contact. *Acta Paediatrica*, 1995; 84: 468-473.



Skin-to-Skin Care vs. Separation

	STS babies	Cot babies
Number of cries	4	41
Seconds cried	70	2839



Christensson, *Acta Paediatrica*, 1992

Despair Response to Separation

- **Despair** - *universal response to prolonged separation*
 - Baby gives up - **cries eventually stop**
 - Intense **movement ceases** - infant becomes still
 - Instinctive adaptation to avoid attracting attention
- **All systems slow down** for prolonged survival
 - Temperature drops (**hypothermia**)
 - Heart rate decreases (**bradycardia**)
 - Metabolism slows (**hypoglycemia**)

Protest-Despair Responses

Protest is **NOT** harmful to the developing brain unless it is prolonged and repetitive

“Despair” **does** harm!



N Bergman

The welfare of non-human primates used in research

Report of the Scientific Committee on Animal Health and Animal Welfare

Adopted on 17 December 2002

I. MANDATE

The EU Commission has asked the Scientific Committee on Animal Health and Animal Welfare to prepare a report on the welfare of non-human primates used for experiments.

The Scientific Committee, taking into account the most recent scientific information should propose how the welfare of these animals can be improved, and identify the most important issues within the EU.

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Non-human primates separated from mothers

Protest-despair response leads to **dysregulation**

9.4.1. *Separation of infants*

The impact of separation from the mother is quite profound in the infant primate and is well-documented in infant macaques. They typically display a biphasic response characterised by an initial stage (“protest”) of hyperactivity associated with distress vocalisations, followed by a depressive stage (“despair”) featured by social withdrawal, a decrease in play, and the development of a typical slouched posture (Mineka and Suomi, 1978; Capitanio, 1986). This is accompanied by physiological disturbances in the regulation of heart rate, body temperature, sleep patterns, cortisol secretion and the immune system (Laudenslager *et al.*,

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Recommendation for research primates:

No separation from mothers for 6 -18 months
Otherwise primates become unfit for research

According to the guidelines of the IPS (1993 a,b), young individuals should not be separated from their mothers at an early age (i.e. less than 6 months). They should remain in contact for one year to 18 months in monkeys like macaques, baboons and capuchins. The guidelines of the Primate Vaccine Evaluation Network also state that infants should not be weaned before 6 months and recommend separation at 12 months old (Poole and Thomas, 1995).


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Separation of Piglets & Mothers


- Intervention - Days 3 to 11
 - Piglets **separated** from mother for only **2 hours** then returned to mother each day
- Outcome measures - Days 12 and 56
 - Weight
 - Behavior
 - Immune parameter
 - Hormonal parameters
 - Brain parameters



Kanitz, Brain, Behavior, & Immunity, 2004




- Results
 - Decreased:
 - **Weight** gain
 - **Immune** function
 - Increased:
 - **CRH** in hypothalamus
 - **ACTH, cortisol** levels
 - **Glucocorticoid** receptors
 - **Interleukin** in limbic area



Kanitz, Brain, Behavior, & Immunity, 2004

Separation of Rodents & Mothers

- Intervention - Days 8 to 10
 - Separated from mother for **10 minutes twice daily** then returned to mother.
- Results: Changes in brain function
 - Altered aminergic function in hippocampus and amygdala
 - Modulated by hearing mother's voice



Separation-Induced Receptor Changes in the Hippocampus and Amygdala of *Octodon degus*: Influence of Maternal Vocalizations *The Journal of Neuroscience*, June 15, 2005 • 25(12):5329–5336
 Zisbrevia I, J Neuroscience, 2003

Mare-Foal Attachment

- Horses as a model of maternal-infant attachment
- Single offspring
- Early preferential bonding/attachment behaviors
- Faster development
 - Easier to study long-term effects
 - Birth to adolescence in 12 months

"Neonatal handling affects durable bonding and social development" Henry, S, PLoS One, 2009.

Mare-Foal Attachment

- Control animals
 - Left undisturbed with mother after birth until first suckling





Mare-Foal Attachment

- Experimental animals
 - Handled by human in mother's presence for 1 hour before being allowed to suckle



Immediate Results

- Struggled at first (protest)
 - Trembled, increased respirations
 - Then became motionless (freeze)
 - With high tone (despair)
- After release
 - Delayed first standing and first suckling
 - Inappropriate suckling patterns
 - Chewed on teet
 - Made sucking motions in air or towards handler



Intermediate Results

- All foals kept with their mother in same pasture
- Experimental foals showed signs of insecure attachment
 - Stayed closer to their mothers
 - Played less with their peers
 - Less likely to be explore novel objects
 - More aggressive towards their peers



Long-term Results

- All foals weaned at 7 months (temporary separation)
- Experimental foals
 - Less adaptable to change
 - Longer duration of stress vocalizations (4 vs. 2 days)
- All foals separated from mothers permanently at 1 year
- Experimental foals
 - Kept more distant from peers
 - Showed more aggressive behavior toward peers



Animal and Human Studies

- “It is a **serious mistake** to **assume** that the **principles** derived from careful animal studies **do not apply to human infants**.”

The **risk** of suppression or **disruption** of needed **neural processes** ... is very **significant** and potentially lasts a life time.”

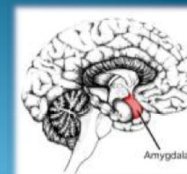
Graven, *Clinics in Perinatology*, 2004

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Newborn Brain Development

- **Skin-to-skin contact** sends nerve impulses to the brain that support optimal brain development
 - Activates the amygdala via the prefrontal-orbital pathway
- Amygdala - Limbic System
 - Emotional learning
 - Memory modulation
 - Activation of sympathetic nervous system



Schore, *Infant Mental Health Journal*, 2001

Touch and Brain Development

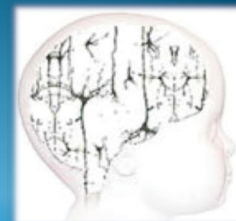
- Areas of the **amygdala**... are in a **critical period** of maturation... in the **first two months** after birth
- In early postnatal life, maintenance of critical levels of **tactile input**... is **important** for **normal brain maturation**.



Schore, *Infant Mental Health Journal*, 2001

Attachment and Regulation


- **Attachment relationships** are formative because they **facilitate** development of the newborn brain's **self-regulatory mechanism**.



Fonagy & Target, 2002; Ovt-scharoff, *Neuroscience*, 2001; Schore, 2001

Mother is Baby's Regulator

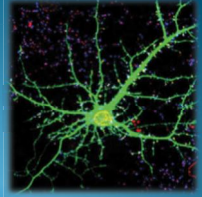
- "The **dyadic interaction** between the **newborn** and the **mother** constantly controls and **modulates** the newborn's exposure to environmental **stimuli** and thereby serves as a **regulator** of the developing individual's **internal homeostasis**."



Ovt-scharoff, *Neuroscience*, 2001

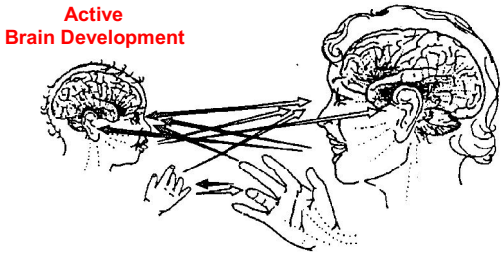
Attachment and Regulation

- The **regulatory function** of the **newborn-mother interaction** is an **essential** promoter of
 - **Synaptic connections**
 - **Functional brain circuits**
- **May be the mechanism** by which infants learn self-regulation



Ovt-scharoff, *Neuroscience*, 2001

Active Brain Development



Face to face
Eye to eye
Voice to ear
Hand to hand

Active Brain Development

Skin to Skin and Self-Regulation



- Infants who spend **1-2 hours skin to skin** after birth
 - **More positive mother-infant interaction** 1 year later
 - **Better self-regulation** 1 year later.

Bystrava K, Ivanova V, Edhborg M, Mathiesen AS, Flansjo-Arvidson AB, Mukhamedrahimov R, Uvnas-Moberg K, Widstrom AM. Early contact versus separation: effects on mother-infant interaction one year later. *Birth* 2009 Jun;36(2):97-109.

Widstrom AM, Lijs G, Aattomas-Michaliss P, Dahlst A, Lintula M, Nilsson E. Newborn behavior to locate the breast when skin-to-skin: a possible method for instilling early self-regulation. *Acta Paediatr Scand* 2011; 100:79-85.



- **Infant carrying and direct body contact** **Essential** for an infant's development. Bowlby





Bonding Shapes Culture

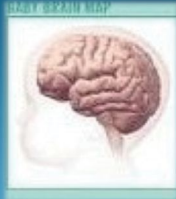
- In 49 primitive cultures
 - **Carrying** of babies during **first year**
 - Predicted **peaceful cultures**
- In 26 primitive cultures
 - **Breastfeeding** babies **> 2.5 years**
 - Predicted **low or absent suicide**
- Sensitive period for brain development
 - **Pleasurable touch and movement**
 - **Protective** against depression and violence

Prescott, 1975

Attachment and Brain Structure

- “Early interpersonal events positively and negative impact the **structural organization** of the brain.”
- “The brain is designed to be **sculpted** into its final **configuration** by the effects of **early experiences**.”
- These experiences are **embedded** in the **attachment relationship**.”



Schore, *Infant Mental Health Journal*, 2001

Attachment as Brain Organizer

“If the **attachment relationship** is indeed a **major organizer** of brain development ...

... then the **determinants** of attachment relationships are important **far beyond** the provision of a fundamental **sense of safety or security**.”

Fonagy, *Attachment and Human Development*, 2005



The Bottom Line




Whatever supports mother-infant *attachment*, supports infant *brain development*.

Skin-to-Skin Contact
Supports Attachment -> Brain Development

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Breastfeeding Behaviors

- All mammals have a **set sequence of behaviors** at birth - all with a single purpose - to **BREASTFEED!**



All Babies are Born to Breastfeed







Place Determines Behavior

- In all mammals...the **newborn** is **responsible for initiating breastfeeding**...not the mother!
- Being warm, fed and protected are intricately and inseparably linked to being in the **right place**.

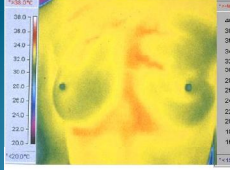


Alberts, *Acta Paediatrica* 1994 Klaus

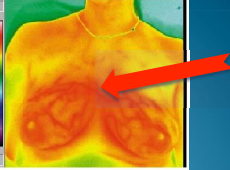
The “Right Place” is Here

Thermal Images

Non-lactating Breasts




Lactating Breasts



Images courtesy of Prof Peter Hartmann, UWA

Newborn Breastfeeding

- “When skin to skin, the newborn displays an impressive and purposeful motor activity which, **without maternal assistance**, brings the baby to the nipple.”

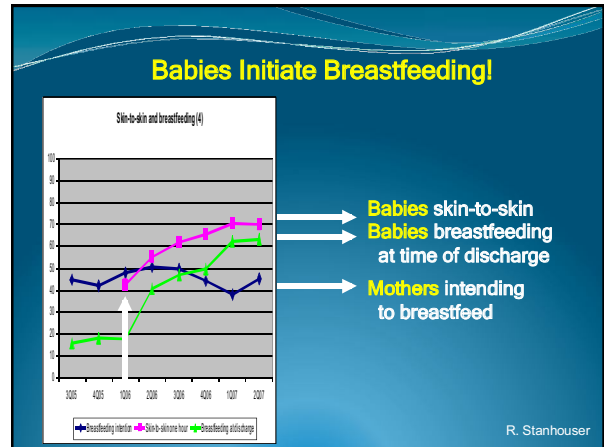


Alberts, 1994



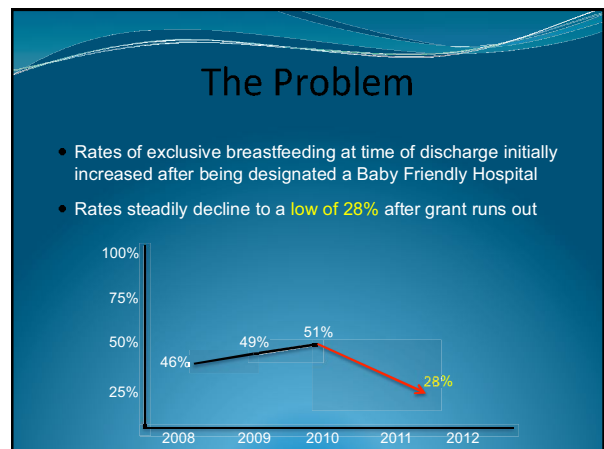


All newborn mammals know how to breastfeed!



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Joint Commission Perinatal Care Core Performance Measures

- PC1 Elective Delivery before 39 Weeks Gestation
- PC2 Cesarean Delivery
- PC3 Antenatal Steroids
- PC4 Health-care Associated Blood Stream Infection in Newborns
- **PC5 Exclusive Breast Milk Feeding**

Baby Friendly Hospital Initiative

- **The Ten Steps to Successful Breastfeeding**
 - 1 – Have a written breastfeeding policy....
 - 2 – Train all health care staff in skills necessary....
 - 3 – Inform all pregnant women about benefits...of breastfeeding...
 - **4 – Help mothers initiate breastfeeding within one hour of birth**
 - 5 – Show mothers how to breastfeed...
 - 6 – Give newborn infants no food or drink other than breastmilk, unless...
 - 7 – Practice “rooming in”...24 hours a day
 - 8 – Encourage breastfeeding on demand
 - 9 – Give no pacifiers or artificial nipples to breastfeeding infants
 - 10 – Foster the establishment of breastfeeding support groups...

Baby Friendly Hospital

- Term babies are **usually** placed **skin to skin** with mother **sometime** during the **first hour** after birth
- However **most babies** were left there **only a brief time**



Skin-to-skin contact was **often interrupted** before the first breastfeeding




Changing The Practice Of Skin-to-skin Contact In The First Hour After Birth To Increase Breastfeeding Rates

A Quality Improvement Project

Loma Linda University Medical Center
Loma Linda, CA, USA

Action Plan

- Objective
 - To determine if increasing the rates of **uninterrupted** skin-to-skin contact during the first hour after birth would be **correlated** with an increase in **exclusive breastfeeding** rates at time of discharge
- Target population
 - **Stable term** babies
 - **Stable** mothers



Klaus

Modification of Protocols Vaginal Deliveries

- Newborn placed **skin to skin** on mother's chest **immediately after birth**
 - No routine bulb suctioning
- **All cares and assessments done on mother's chest**
 - Dried, covered with warmed blanket
 - Apgar scores
 - Respirations, vital signs, pain level, cord stump q 1 h x 4 h
 - Color, skin temperature, work of breathing at 30 min, then q 1 h with vital signs

Modification of Protocols Vaginal Deliveries

- **Routine cares delayed** until **after first breastfeeding**
 - Weight, measurements, foot/hand prints
 - Vitamin K injection
 - Erythromycin ophthalmic ointment
 - Bath



Safety First

- Baby's and mother's stability are the first concerns
- Skin to skin does NOT preclude safety
- Everyone has "Veto Power"
 - Anyone who has a concern can interrupt skin to skin to evaluate and establish stability or safety
 - OB, L & D RN, NICU Team, RT
- We do NOT do skin to skin at all costs

Creation of New Protocol Cesarean Deliveries

- Newborn placed on table covered with sterile blanket
 - No routine bulb suctioning
- **If vigorous and crying**, infant dried, diapered, and **placed on mother's chest** in transverse position
 - Covered with warmed blanket
 - **Apgars** and assessments **done on mother's chest**
- Baby monitored by designated nurse

Creation of New Protocol Cesarean Deliveries

- After 15 minutes a designated OB nurse assumes monitoring (if available)
- If no OB nurse is available, baby is taken to Nursery
 - Dad invited to go with baby and do skin-to-skin holding
- If baby is still in OR when surgery is complete
 - Baby's legs slowly transitioned to midline position to facilitate transfer to the gurney
- **Baby never loses skin-to-skin contact with mother**

Creation of New Protocol Cesarean Deliveries

- In recovery room, **baby and mother monitored together**
 - Respirations, vital signs, pain level, cord stump q 1 h x 4 h
 - Color, skin temperature, work of breathing at 30 min, then q 1 h with vital signs
- **Routine cares delayed** until **after first breastfeeding**
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 - OB, Anesthesiology, OB or NICU RN
- We do NOT do skin to skin at all costs

Why Skin-to-Skin?



- Babies are warmer after birth
- Babies are much calmer and cry less
- Babies breathe easier and have more normal heart rates
- Mothers have higher levels of relaxation hormones
- Mothers and babies get to know each other sooner
- Babies can latch onto the breast all by themselves
- Mothers and babies are more successful with breastfeeding and breastfeed longer

 LOMA LINDA UNIVERSITY
CHILDREN'S HOSPITAL

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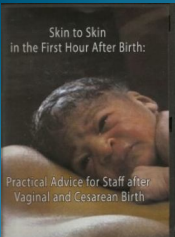


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Education of Staff


**“Skin to Skin in the First Hour After Birth:
Practical Advice for Staff
After Vaginal and Cesarean Birth”**



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Education of Staff

- Skills-Competencies Fair - Nurses
 - DVD - "Skin to Skin in the First Hour after Birth: Practical Advice for Staff after Vaginal and Cesarean Birth"
 - Handout - "Nine Instinctive Stages of Newborn Behaviors"
- Grand Rounds - Physicians
- Group In-services
- Individual Teaching



Education of Staff

- **Nine Instinctive Stages**
 - "When a baby is in skin-to-skin contact after birth there are **nine observable newborn stages**, happening in a **specific order**, that are innate and **instinctive** for the baby.
 - Within each of these stages, there are a variety of actions the baby may demonstrate."

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Based on the research of Widström, et al.


Nine Instinctive Stages

1. Birth Cry
2. Relaxation
3. Awakening
4. Activity
5. Resting
6. Crawling
7. Familiarization
8. Suckling
9. Sleeping



Implementation of New Practices Engaging Parents

- DVD - "**The Magical Hour**"
 - Prenatal birthing and breastfeeding classes
 - Triage (Cesarean) or early inductions (vaginal)
 - DVD at mother's bedside
 - Available in English, Spanish, Russian
- Handout - "**9 Instinctive Stages**"
 - Especially for dads/partners
 - Triage (Cesarean) and early labor (vaginal)
 - Available in English and Spanish



The First Hour After Birth: A Baby's 9 Instinctive Stages

The first hour after birth is a developmental period that for a baby and also an excellent time to document and keep some photos and videotape of a baby in full skin-to-skin contact. This time is also a great time to teach parents and staff about the newborn's behavior. This time is also a great time to teach parents and staff about the newborn's behavior. This time is also a great time to teach parents and staff about the newborn's behavior.

Stage 1: The Birth Cry
The first cry is the newborn's first cry. This distinctive cry occurs immediately after birth as the baby's lungs expand.

Stage 2: Relaxation
The newborn is in the relaxation stage. During this relaxation stage, the newborn is usually in a curled position with the head on its chest. The stage usually begins when the first cry has stopped but lasts for about 10 to 15 minutes. The newborn is usually relaxed and may be asleep.

Stage 3: Awakening
The third stage is the awakening stage. During this stage the newborn usually opens its eyes and looks around. The newborn is usually awake and looking around. The newborn is usually awake and looking around. The newborn is usually awake and looking around.

Stage 4: Activity
The fourth stage is the activity stage. During this stage, the newborn begins to make random movements and kicking movements as the stage usually begins when the first cry has stopped but lasts for about 10 to 15 minutes. The newborn is usually active and may be awake.

Stage 5: Resting
The fifth stage is the resting stage. During this stage, the newborn usually rests its head on its chest. The newborn is usually resting and may be asleep.

Stage 6: Crawling
The sixth stage is the crawling stage. During this stage, the newborn usually begins to crawl. The newborn is usually crawling and may be awake.

Stage 7: Familiarization
The seventh stage is the familiarization stage. During this stage, the newborn usually looks around. The newborn is usually familiarizing itself with its surroundings and may be awake.

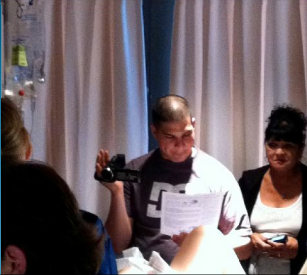
Stage 8: Suckling
The eighth stage is the suckling stage. During this stage, the newborn usually begins to suckle. The newborn is usually suckling and may be awake.

Stage 9: Sleeping
The ninth stage is the sleeping stage. During this stage, the newborn usually falls asleep. The newborn is usually sleeping and may be asleep.

Dad is prepared! Video camera and handout in hand



“What stage is baby in now?”



Stage 1: The Birth Cry



Stage 2: Relaxation



Twin B 2: Relaxation **Twin A** 2: Relaxation

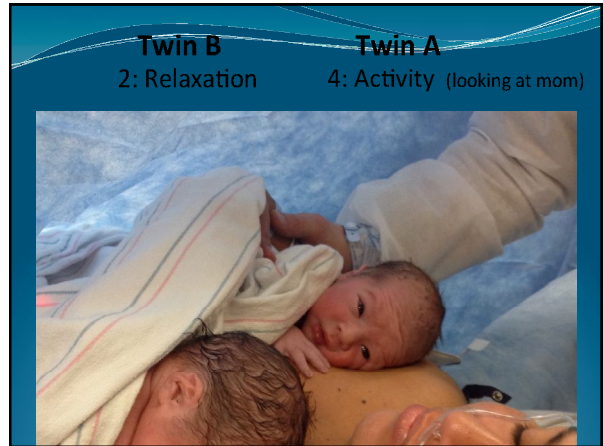


Twin B 2: Relaxation **Twin A** 3: Awakening



Twin B 2: Relaxation **Twin A** 3: Awakening





Stage 6: Crawling



Stage 7: Familiarization



Stage 7: Familiarization



Stage 8: Suckling



A Perfect First Latch



...and brother is not far behind



Both boys breastfeeding...



...in the first hour after birth



Stage 9: Sleeping



A Family is Born



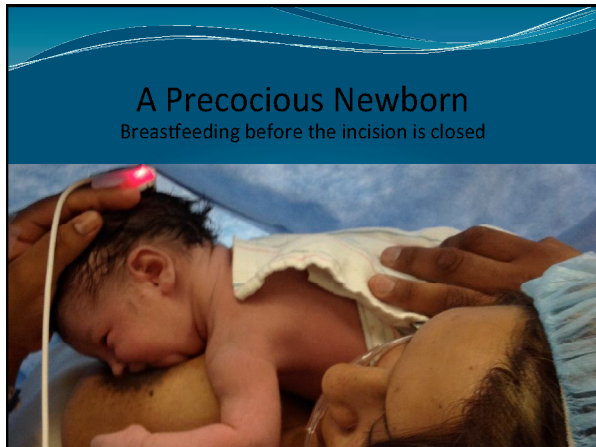
Mom is Totally Focused on Her Baby



Observations of Anesthesiologist

- **Mother's vital signs are more stable**
 - Temperature
 - Blood pressure
 - Oxygen saturations
- **Mother requires less medication**
 - Focused on baby – not surgery
 - Decreased pain and anxiety

"Thank you for bringing the baby to mother so soon after birth. It makes my job so much easier." Anesthesiologist



“The Sacred Hour”

- Every culture has ceremonies for special moments in life that are considered **sacred times**.
 - Weddings, baptisms, Bar Mitzvahs, funerals
- No one would interrupt a wedding ceremony for routine business.
- This Sacred Hour must be **honored** and **protected**.

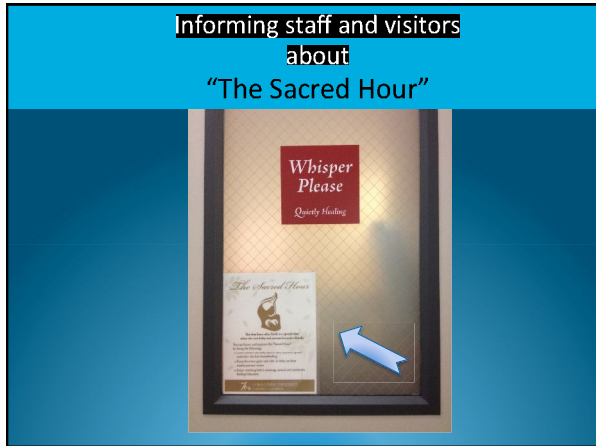
The Sacred Hour

The first hour after birth is a special time when the new baby and parents become a family.

You can honor and support this “Sacred Hour” by doing the following:

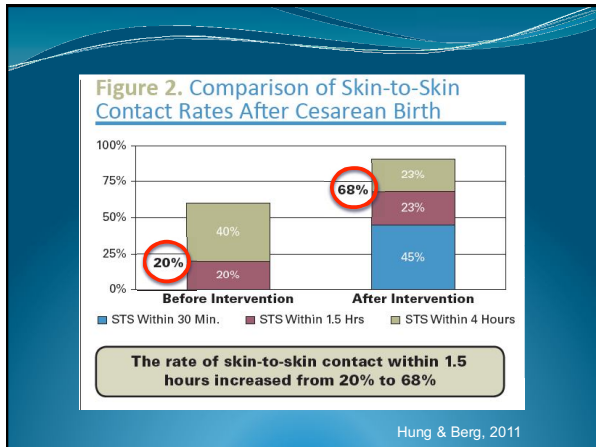
- Leave mother and baby skin to skin (uninterrupted) until after the first breastfeeding
- Keep the room quiet and calm so baby can hear mostly parents’ voices
- Enjoy watching baby’s amazing, natural and instinctive feeding behaviors.

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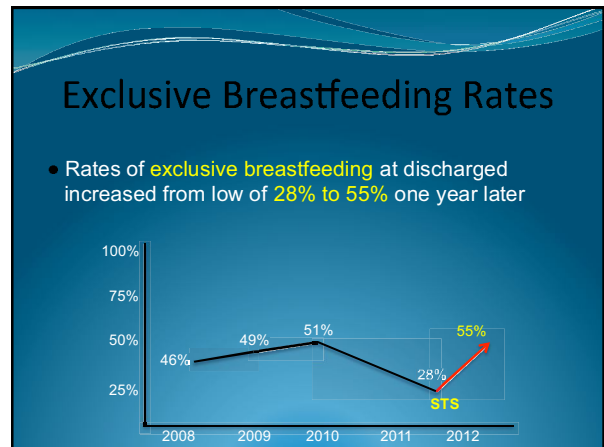
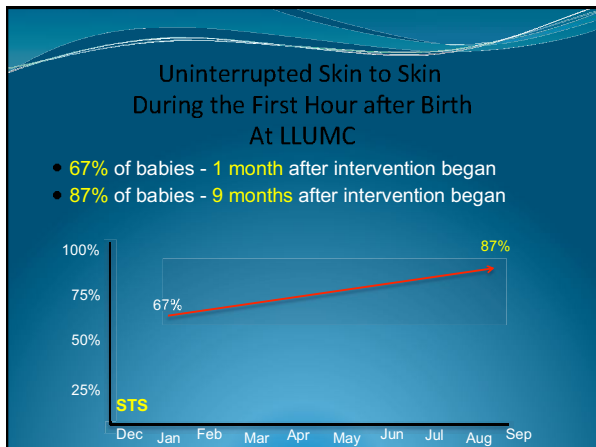
Benchmark Success

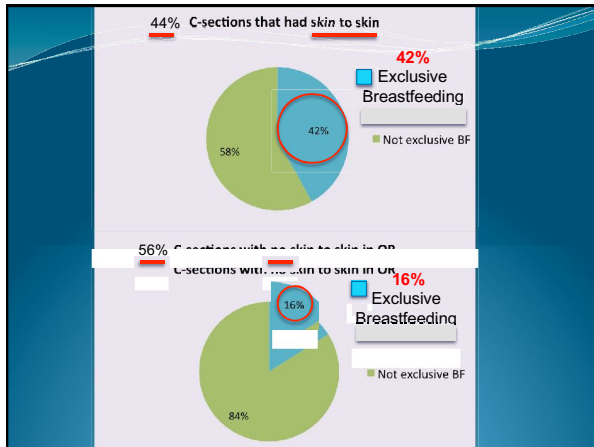
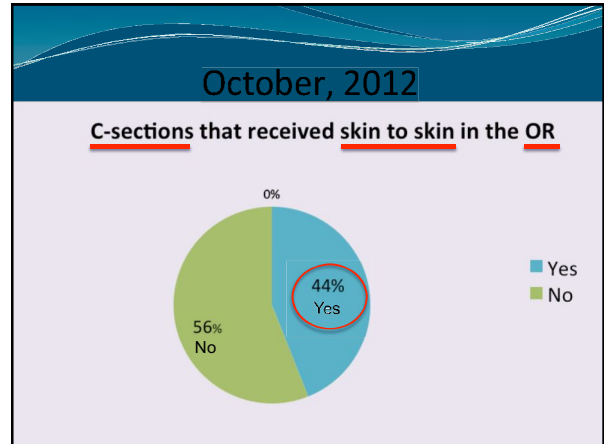
- **San Francisco General Hospital**
 - Intervention to provide STS in OR for 15 minutes
 - Hung K, Berg O. **Skin-to-skin after cesarean to improve breastfeeding rates**, *MCN Am J Matern Child Nurs*, 2011; Sep-Oct; 36(5):318-24.
- In first 9 months of intervention
 - Increased **STS in OR to 60%**
 - Increased **STS in first 90 minutes to 70%**
 - Decreased rate of infants who **did not get STS within 4 hours** of birth from 40% to **9%**



Breastfeeding Outcomes

- **Supplementation rates**
 - 33% - STS in the OR
 - 42% - STS within 90 min but not in OR
 - 74% - No STS within 90 min
- **Exclusive breastmilk feeding rates**
 - 67% - STS in the OR
 - 58% - STS within 90 min but not in OR
 - 26% - No STS within 90 min





LLUCH - Murrieta

- All babies - vaginal and cesarean births
 - Uninterrupted skin to skin with mother
 - First two hours after birth

• **82%** exclusive breastmilk feeding at time of discharge

Uninterrupted Skin to Skin after Birth Supports Exclusive Breastfeeding

Organizations that Endorse Skin to Skin Contact Immediately after Birth

- World Health Organization (WHO)
- The American Academy of Pediatrics (AAP)
- Academy of Breastfeeding Medicine (ABM)
- American Heart Association (AHA)
- Neonatal Resuscitation Program (NRP)

WHO Recommendation

- “Given the importance of thermoregulation, **skin to skin contact should be promoted** and ‘kangaroo care’ **encouraged** in the first 24 hours after birth.”

Newborn Care Interventions - Birth and Postnatal. Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health. World Health Organization

AAP Recommendations on Breastfeeding for Healthy Term Infants: #3

- “Healthy infants should be placed **and remain** in direct **skin-to-skin contact** with their mothers **immediately after delivery** until the first feeding is accomplished.”

AAP Policy Statement. Breastfeeding and the Use of Human Milk, 2005

Academy of Breastfeeding Medicine

- “The healthy newborn can be given directly to the mother for **skin-to-skin contact until the first feeding is accomplished**. The infant may be dried and assigned Apgar scores and the initial physical assessment performed as the infant is with the mother. Such contact provides the infant optimal physiologic stability, warmth, and opportunities for the first feeding. **Delaying** procedures such as **weighing, measuring** and administering **vitamin K** and **eye prophylaxis** (up to an hour) enhances early parent-infant interaction.”

Academy of Breastfeeding Medicine Protocols, Protocol #5, Revision 2008

American Heart Association

“For **all normal newborns**, **skin-to-skin care** can be used to provide routine resuscitation”

2006 Neonatal Resuscitation Program, 5th Edition

Neonatal Resuscitation Program

2011 Changes

- The **vigorous meconium-stained newborn** need not receive initial steps at the radiant warmer, but **may receive routine care** (with appropriate monitoring) **with the mother**.
- **Routine care** of newborn staying with mother:
 - Warm (**skin-to-skin contact is recommended**)
- **Suctioning following birth** (including bulb suctioning with a bulb syringe) **should be reserved for babies who have obvious obstruction** to spontaneous breathing or who require positive pressure ventilation.

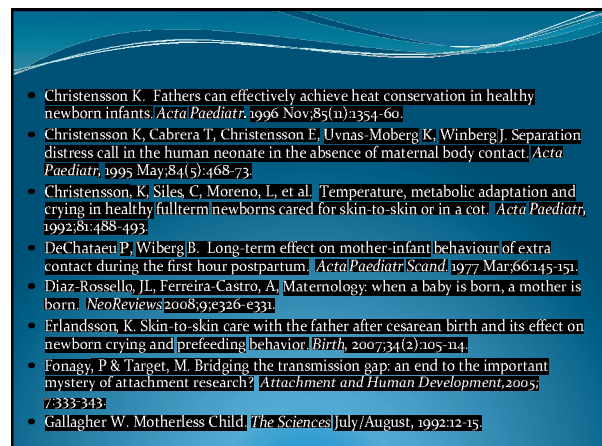
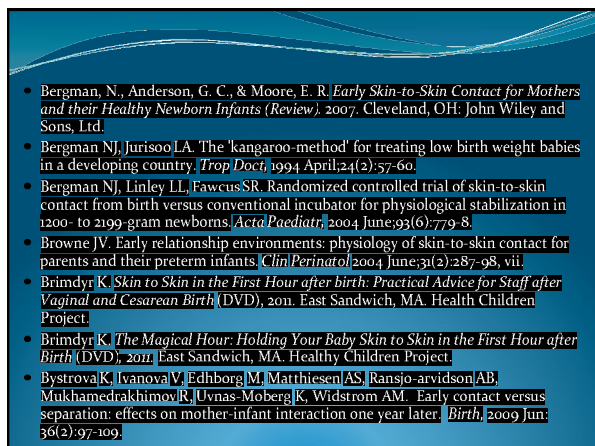
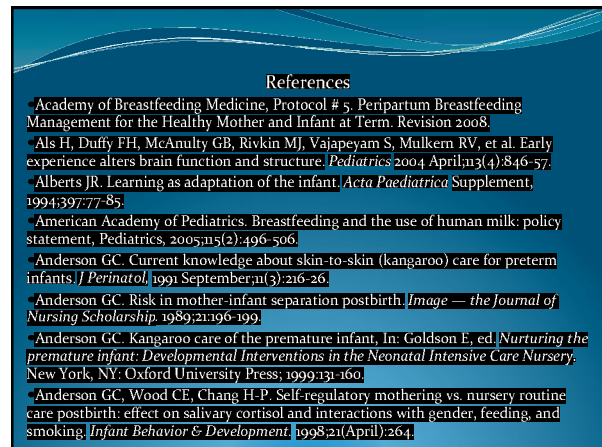
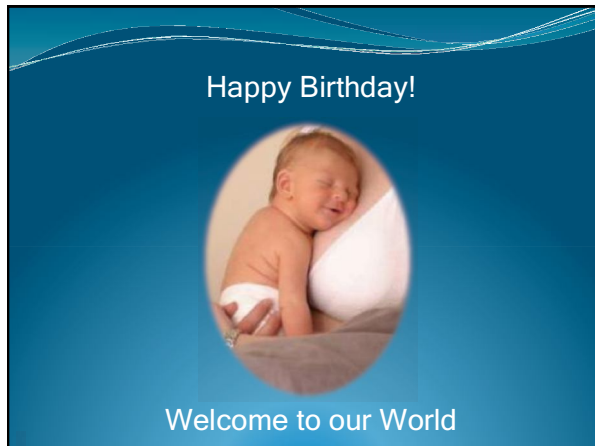


Uninterrupted Skin-to-Skin Contact in the First Hour after Birth

(for the stable baby and mother)



- Is endorsed by multiple organizations responsible for the care and wellbeing of infants
- Is **safer** for both **baby and mother**
- Has multiple **short- and long-term beneficial effects**
 - Physiologic stability
 - Psycho-emotional wellbeing
 - Structural and functional brain development



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