

# SKIN to SKIN CONTACT (SSC) in The Operating Room for Cesarean Delivery



<http://birthwithoutfearblog.com/2012/11/28/powerful-labor-gentle-cesarean-breastfed-on-operating-table/>

By

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# Purpose:

**Examine current literature supporting outcomes of SSC starting in the OR.**



# Problem

**What is the supporting evidence that endorses SSC in the OR?**

**How can this information be used to increase breastfeeding rates?**



<http://www.dadsguidetotwins.com/overcoming-c-section-concerns-when-planning-natural-twin-delivery/>



<http://singlemomontherun.com/2012/05/05/skin-to-skin-contact-following-birth-fight-for-it/>

# **WHAT ARE THE ISSUES/CONCERNS?**

- **HYPOTHERMIA-LOWER BODY TEMP**
- **HYPOGLYCEMIA-LOW BLOOD SUGAR**
- **RESPIRATORY DIFFICULTY**
- **MAINTAINING STERILE FIELD**
- **MOTHER DOESN'T FEEL WELL ENOUGH**
- **HOSPITAL TOO SMALL/TOO LARGE**
- **POPULATION POOR, UNEDUCATED**
- **PERFORMING NEWBORN ASSESSMENT**

# PICOT

**POPULATION**-Mothers who delivered by Cesarean and their babies who experienced SSC in the OR

**INTERVENTION STUDIED**- Outcomes experienced with SSC in the OR.

**COMPARISON**-Mothers & babies who didn't have SSC in the OR with a Cesarean delivery

**OUTCOME**-Demonstrate to physicians, staff, administration & patients the benefits of early SSC in the OR and feasibility.

**TIMEFRAME**-Studies done within the last 5 years and one baseline done in 1992.

# BACKGROUND

Benefits of early skin to skin contact (SSC) has been shown in vaginal deliveries (Hilan, 1992).



<http://www.magnoliapregnancy.com/the-importance-of-skin-to-skin-contact/>

Cesarean Deliveries **TRADITIONALLY** involved separation of Mother-baby from up to 2-6 hours.

- Some infants although not ill, went to the NICU for routine care as a matter of policy
- Even waiting for the mom to come out of the OR still significantly delayed the “Golden Hour.”



<http://www.jrn.com/fox47news/news/health/129456768.html>

# METHODOLOGY

- **Systematic review of Randomized Controlled Studies**
- **Studies selected had large enough groups to be statistically significant.**
- **Search was done on studies available through CINHAL**
- **Primary Studies gathered information through**
  - **data collection**
  - **Interview questionnaire**
- **Anova & t-tests, Mann-Whitney U tests, & Chi-square tests were used to analyze behaviors studied/data collected as appropriate.**



# Why Skin to Skin?

- \* **Baseline study (Hilan, 1992) between 50 low risk deliveries showed several benefits in Vaginal delivery SSC group, vs. Traditional Care for Cesarean deliveries:**



<http://helid.digicollection.org/fr/d/Js8230e/1.3.2.html>

- \* **Mothers reported a closer attachment to their baby sooner.**
- \* **Breastfed sooner.**
- \* **Mothers who had emergency c-sections took significantly longer to feel closer to their infants which persisted for several months AFTERWARDS.**



# Hypothermia-Not a problem!



<http://breastfeedingstl.blogspot.com/2013/05/skin-to-skin-breastfeeding.html>

**34 sets of cesarean mothers and their newborns were randomized in 2 different groups-**

- **One that received routine post cesarean care**
- **One that received SSC**
- **No hypothermia was observed in the SSC group**
  - **Decrease in crying**
  - ***Higher rate of breastfeeding at discharge & 3 mo.***
  - **Increased maternal satisfaction**

**(Gauchon, Gregori, Picoto, Patrucco, Nangeroni, & Guilo, 2010)**

# Randomized study between the Mother & Father receiving SSC after cesarean

- 37 infant parent pairs were recorded with audio & video
- Randomization
  - Parents given envelope assigning which parent received SSC
  - Other Parent assigned the control group not receiving SSC
  - Parents were assigned in consecutive order as they arrived
  - Randomly placed in groups.



(Velinda, Matthisen, Uvndas-Moberg, & Nissen, 2010)

# Cont'd



<http://inexplicableways.com/2013/08/17/another-family-centered-cesarean-birth/>

- **Inclusion requirements-**
- **Scheduled C-section**
- **Healthy, uncomplicated term pregnancy**
- **Partners agreed to participate**
  - **Informed of study day before scheduled elective C-section**
  - **Baby had to have Apgar score of 7 or higher at 1 minute**

(Velinda, Matthisen, Uvndas-Moberg, & Nissen, 2010)

# Cont'd

- **Time Frame- Over several years**
- **Data quantified by 2 or more individuals analyzing same data using Anova & Student t-tests.**

**In the SSC groups, there was earlier**

- **vocalization initiated by parent or infant sooner and longer**
- **Less crying and whining**
- **Faster shift to a relaxed state**

# Mom Not Available- No Problem

- 29 father-infant pairs of newborns born by cesarean delivery randomized

## COT group

- Fathers could interact with babies
- Babies had to remain in bassinet
- Fathers were not to pick up babies

## SSC group showed

- Less crying
- Became calmer sooner
- Reached a drowsy state sooner
- Prefeeding behaviors were facilitated

(Erlandsson, Dsilna, Fagerberg, Christensson, 2007)





<http://jacketmagazine.com/30/perloff-palm.html>

## **LARGE CALIFORNIA TEACHING HOSPITAL**

- **1,300 BIRTHS PER YEAR**
- **20% CESAREAN RATE**
- **DIVERSE CULTURAL POPULATION**
- **50% OF WOMEN ARE SINGLE MOTHERS**
- **88% LIVE AT OR BELOW POVERTY LEVEL**
- **BABY FRIENDLY ACCREDITATION**
- **90% OF INFANTS BORN VAGINALLY BREASTFED**
- **50% OF THOSE BORN BY C-SECTION BREASTFED**
- **APPROACHED INCREASING SSC IN C-SECTION DELIVERIES AS A QUALITY IMPROVEMENT PROJECT**

(HUNG & BERG, 2011)

# **RATE CHANGES OF SSC**

**\* BEFORE STUDY**

**\* 20% rate of SSC**

**\* 40% did not get SSC  
within 4 hours**

**\* AFTER IMPLEMENTATION OF  
OR SSC in the OR**

**\* 68% rate of SSC-70% rate of  
SSC within 90 minutes**

**\* 9 % did not get SSC within 4  
hours**

## **AFFECTS ON FORMULA USAGE**

**SSC IN THE OR MOTHERS USED LESS FORMULA SUPPLEMENTATION -33%**

**SSC WITHIN 90 MINUTES BUT NOT IN OR RATE OF FORMULA SUPPLEMENTATION-42%**

**NO SSC IN FIRST 90 MINUTES OF LIFE RATE OF SUPPLEMENTATION WITH FORMULA 74%**

**(HUNG & BERG, 2011)**



# HOW THEY AFFECTED CHANGE

## USED THE “PDSA-PLAN-DO-STUDY-ACT” MODEL

### PHASE I-PLANNING

1. FIRST SURVEYED NURSES FOR IDEAS & BARRIERS
2. IDENTIFIED NURSES WILLING TO FACILITATE CHANGE
3. VISITED OTHER BABY FRIENDLY HOSPITALS THAT PRACTICED OR SSC
4. REVIEWED LITERATURE & CONSULTED KEY HEALTHCARE TEAM MEMBERS

### PHASE II-DOING

1. DRAFTED FLOW CHART/OUTLINE “TEAM BASED INTERVENTION PROCESS”
2. ULTIMATE DECISION OF APPROPRIATENESS AT DISCRETION OF TEAM
3. DISPLAYED FLOWCHART IN OR
4. IF ALL OK, AFTER DELIVERY, DRAPE LOWERED TO BELOW MOTHER’S BREASTS
5. BABY PLACED TRANSVERSELY ACROSS MOTHER’S CHEST-BOTH COVERED WITH WARMED BLANKET & HAT ON BABY

(HUNG & BERG, 2011)



<http://www.theblaze.com/wp-content/uploads/2013/09/california-license-plate-620x315.jpeg>

# CALIFORNIA CHANGE CONT'D

## PHASE III-STUDYING PHASE

1. MODIFIED FLOW CHART ACCORDING TO NURSES INPUT
2. COLLECTED DATA TO MEASURE PROGRESS

## PHASE IV-ACTION PHASE

1. OFFERED IN-SERVICE EDUCATION TO NURSING STAFF & MEDICAL STAFF
2. POSTED BULLETIN BOARD PRESENTATION IN BIRTHING AREA & IN OR (VISIBLE TO STAFF & PATIENTS)
3. DISTRIBUTED FLOW CHART TO STAFF.
4. KEPT STAFF UP TO DATE BY POSTING RESULTS OF DATA & PATIENT FEEDBACK.

(HUNG & BERG, 2011)

# Taking it to the Limit Skin to Skin in the OR

**COULD SSC BEGIN IN THE OR WITH  
A NURSING INTERVENTION PROTOCOL?**



<http://bigtoephotos.blogspot.com/2010/10/she-s-here.html>

- Randomized control groups (coin flipping) determined SSC in the OR – or routine care.
- 50 mother baby dyads with 25 in each group
- Nurses received special training for NURSING INTERVENTION PROTOCOL DESIGNED TO MINIMIZE MATERNAL INFANT SEPARATION (NIMS)
- Maternal distance of not more than 8 feet from infant for SSC, complete spatial separation for routine group

(Nolan & Lawrence, 2009)

# Nolan & Lawrence 2009 cont'd

- **GOAL**
  - **En face presentation**
  - **Intraoperative cheek to cheek**
  - **Prolonged uninterrupted SSC (113 minutes average compared to 6 minutes for non SSC)**
- **Mother & infant transferred together**

# **ALL PARAMETERS SHOWED BETTER STATISTICS WHEN SSC OCCURRED IN THE OR**

- **LONGER BREASTFEEDING TIMES**
- **LESS CRYING**
- **DECREASED RESPIRATORY RATE**
- **HIGHER TEMPERATURE RATES FOR BABIES  
(statistically not significant)**
- **BETTER BONDING/SATISFACTION- "Beautiful,  
Wonderful, So much better than the time before,  
at Peace."**



<http://m.steamboattoday.com/news/2011/mar/28/monday-medical-hospital-promotes-mother-newborn-bo/>

**“I never realized how beautiful a feeling it was to snuggle with my newborn right after she was born. This special moment wasn’t an option with my other two children. I feel as though I have a deeper connection with her as a result.”**

(Nolan & Lawrence, 2009)

# Assisting the Mom to see baby



1. Lower the drape
2. Raise the head of the Mom SLIGHTLY
3. Consider using a clear drape.
4. Keep mom's hands free

<http://www.obgmanagement.com/home/article/mother-baby-and-family-centered-cesarean-delivery-it-is-possible/c7b9785850d30024ef49873129f4d8d8.html>

**Worthy goal: Keep baby in mom's line of sight at all times!**



# OBSTACLES for OR SSC

- \*NEED APPROPRIATE STAFFING-1 NURSE FOR MOM, 1 NURSE FOR BABY
- \*LACK OF SPACE TO ACCOMMODATE RECOVERY OF MOTHER & BABY IN SAME AREA
- \*LACK OF SPACE WITH APPROPRIATE RESCUSCITATION EQUIPMENT FOR BOTH MOTHER & BABY
- \*SUPPORT OF ANESTHESIOLOGISTS
- \*SUPPORT OF OBSTETRICIANS
- \*SUPPORT OF ADMINISTRATION
- \*SUPPORT OF STAFF
- \*FEAR OF THE UNKNOWN



# WHAT HAVE WE LEARNED?



<http://inexplicableways.com/tag/greenville-memorial-hospital/>

- IT CAN BE DONE
- TERM, STABLE BABIES FARED WELL
- BABIES DID NOT EXPERIENCE HYPOTHERMIA
- BABIES HAD BETTER
  - RESPIRATORY RATES
  - BREASTFED SOONER
  - BREASTFED LONGER
- IMMEDIATELY
  - HIGHER BREASTFEEDING RATES
  - 3 MONTHS LATER
- MOTHERS EXPRESSED HIGHER LEVELS OF SATISFACTION WITH OR SSC AND THEIR CESAREAN DELIVERY

# WHERE DO WE GO FROM HERE?

- **PAY ATTENTION TO PATIENT SATISFACTION**
- **FROM THE AWHONN 2013 CONVENTION, DEMPSEY (2013), WROTE:**
  - **THEIR FACILITY CREATED AN INTERDISCIPLINARY TEAM**
  - **THE TEAM LOOKED AT OPTIONS**
  - **CONSIDERED REALISTIC PLANS**
  - **REVIEWED CURRENT POLICY FOR CESAREAN PRACTICES**
  - **STARTED WITH A SMALL PILOT PROGRAM**

# OTHER HELPFUL HINTS

- **CONSIDER DELAYING BATH UNTIL FIRST SUCCESSFUL BREAST FEED**
  - **MAKE ACCOMODATIONS FOR DELAY OF BATH**
  - **SYSTEM TO DENOTE IF BABY HAS BEEN BATHED**
- **TEACH NURSES TO DO ASSESMENT ON MOM'S CHEST AND FIRST MEDS WITH VAG. DELIVERIES**
- **TRANSFER THIS KNOWLEDGE FOR CESAREAN DELIVERIES**
  - **ALLOWS FOR PEDS TO BE NOTIFIED OF DELIVERY IN TIMELY MANNER, BUT DOESN'T INTERRUPT SSC**

# CONCLUSION

- **AFTER CAREFUL REVIEW OF CURRENT LITERATURE, BABIES BENEFIT FROM SKIN TO SKIN IN THE OR IN THE TERM, UNCOMPLICATED CESAREAN DELIVERY**
- **INCREASED MATERNAL SATISFACTION WAS NOTED WITH BETTER BREASTFEEDING RATES**
- **WITH PROPER PLANNING, EDUCATION, & SUPPORT FROM HEALTHCARE PROVIDERS, SKIN TO SKIN IN THE OR CAN BECOME A STANDARD OF CARE AS EVIDENCE THUS FAR DEMONSTRATES POSITIVE OUTCOMES.**

# Skin to skin in the OR-One way or another?



<http://www.kangaroomothercare.com/justins-experience.aspx>

<http://twiniversity.com/2014/01/family-centered-c-sections/>

**Questions?**



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## IMAGES

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