SUPC: Sudden Unexpected Postnatal Collapse

When "Normal Transition" Fails

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- **Disclosure Statement**
  - I am an employee of Prolacta Bioscience
    - Director of Education and Professional Development
  - I currently present/receive financial reimbursement
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  - I will make no recommendation for any off-label use of any drug, nutritional, or medical device

SUPC:
Clinical Exemplar

- **SUPC: Clinical Exemplar**

A 39 weeks' gestation girl is born to a 31-year-old gravida 2, para 2 woman via spontaneous vaginal delivery. Prenatal labs reveal mom's blood type as A positive and her serologies are unremarkable. Rupture of membranes occurs at 7 hours and her amniotic fluid is clear. The infant's APGAR scores are 9 at 1 and 5 minutes and her initial exam is normal.

She is placed skin to skin with her mother. She is then breast fed and falls asleep in her mother's arms. Within 2 hours, nursing staff notices the infant to be limp and cyanotic.

Matthew Pellerite, Bridget Wild, Nancy Rodriguez, Patrick Hughes, Monica Joseph-Griffin, Joseph R. Hageman
Pediatrics May 2018, 142 (1 Meeting Abstract) 171; DOI: 10.1542/peds.142.1_MeetingAbstract.171

SUPC:
Clinical Exemplar

- **SUPC: Clinical Exemplar**

A full resuscitation is initiated with chest compressions and the infant is intubated. Her arterial blood gas shows a pH of 7.17, partial pressure of carbon dioxide of 19 mm Hg, partial pressure of oxygen of 142 mm Hg, and a base deficit of 20. She is placed on mechanical ventilation. On physical exam, her birthweight is 3 kilograms (30th percentile). She has some agonal respirations and clear breath sounds.

Her cardiac exam is normal with a split S2 and no murmurs. Her abdomen is non-distended with no abnormal masses. She is hypotonic with minimal response to stimuli and her pupils are 4mm bilaterally with sluggish response to light.

Matthew Pellerite, Bridget Wild, Nancy Rodriguez, Patrick Hughes, Monica Joseph-Griffin, Joseph R. Hageman Pediatrics May 2018, 142 (1 Meeting Abstract) 171; DOI: 10.1542/peds.142.1_MeetingAbstract.171

SUPC:
A Case Study

- **SUPC: Clinical Exemplar**

She is admitted to the neonatal intensive care unit and started on a 72 hour cooling protocol. Multiple fluid boluses are given for metabolic acidosis and an insulin drip is initiated for her hyperglycemia. A blood culture is drawn and she is placed on empiric antibiotics. She is started on low dose dopamine. An echocardiogram is unremarkable.

Her EEG results suggest severe, diffuse cerebral dysfunction. Upon re-warming, the infant has shallow respiratory efforts with no gag reflex and no response to movement. Her repeat EEG results are unchanged and brain MRI is performed and is suggestive of acute ischemia or infarction

Her family decides to withdraw support.

Matthew Pellerite, Bridget Wild, Nancy Rodriguez, Patrick Hughes, Monica Joseph-Griffin, Joseph R. Hageman Pediatrics May 2018, 142 (1 Meeting Abstract) 171; DOI: 10.1542/peds.142.1_MeetingAbstract.171

SUPC

- **SUPC…*And So It Began***
  - Prospective, epidemiologic study Germany 2009
    - Defined as
      - "An acute state of cyanosis or pallor"
      - "Unconsciousness"
      - "Requiring bagging, intubation, and/or cardiac compressions"
    - Determined
      - Unexpected sudden infant death (SID)
      - Severe apparent life-threatening events (S-ALTE)
      - Occurred within 24 hours of birth in term infants (≥ 37 weeks
      - With 10 minute APGAR score ≥ 8

Poets A, Steinfeldt R, & Poets CF *Pediatr* 2011;127(4):e869-e873 ; DOI: 10.1542/peds.2010-2189

SUPC: Definitions

- **Years of Inconsistent/Ambiguity in Definition**
- **SUPC** Sudden Unexpected Postnatal Collapse
- **eSIDS** Early Sudden Infant Death Syndrome
- **ALTE** Apparent Life Threatening Event
- **SUDI** Sudden Unexpected Death in Infancy
- **SUEND** Sudden Unexpected Neonatal Death
- **ENSUND** Early Neonatal Sudden Unexpected Death
- **ESUDI** Early Sudden Unexpected Death in Infancy

Herlenius, E., & Kuhn, P. (2013). Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Translational stroke research*, *4*(2), 236-47.

SUPC: Definitions

- **SUPC**
  - The lack of consistency in the definition of SUPC makes determining its incidence challenging. Difference in inclusion criteria, with some excluding newborns in which an underlying reason can be identified and others including those newborns wide range of occurrence rates exists, from ***as few as 2.6 per 100,000 to as many as 133per 100,000 newborns.***
  - At a rate of SUPC of 2.6 to 133 per 100,000 newborns, we estimate that ***between 91 and 4,634 apparently healthy newborns could be afflicted by this condition each year in the United States.***

SUPC: Description

- **Sudden Unexpected Postnatal Collapse**

"A rare but devastating neonatal event involving a well-appearing , full-term newborn."

Ferrarello, Debi et al. Sudden Unexpected Postnatal Collapse of the Newborn Nursing for Women's Health , Volume 20 , Issue 3 , 268 – 275
DOI: https://doi.org/10.1016/j.nwh.2016.03.005

SUPC

SUPC: Description

- **Sudden Unexpected Postnatal Collapse**
  - APGAR scores of eight or more
  - Suddenly collapse/crashes
  - Often with full respiratory/cardiac arrest
  - Greatest risk during first 2 hours of life
  - Coincides with the time frame when nurses encourage breastfeeding and uninterrupted skin-to-skin contact (SSC)
  - 50% of newborns with SUPC die
  - Survivors may suffer neurological damage

Ferrarello, Debi et al. Sudden Unexpected Postnatal Collapse of the Newborn Nursing for Women's Health , Volume 20 , Issue 3 , 268 – 275
DOI: https://doi.org/10.1016/j.nwh.2016.03.005

SUPC: Described

- ***"The time frame during which the event must occur to be characterized as SUPC has not been standardized".***
- 1/3 during the first 2 hours of life
- 1/3 between 2 to 24 hours of life
- 1/3 between 1 and 7 days of life
- ***"However, there is agreement that the period of greatest risk is the first 2 hours after birth."***
- ***What Else is Happening During this Time?***

Herlenius, E., & Kuhn, P. (2013). Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Translational stroke research*, *4*(2), 236-47.
Becher et al., 2012

SUPC: Transitional Physiology

"It may look like I'm doing nothing but on a cellular level I am really quite busy."

SUPC: Description

- **First 2 Hours of Life are of Greatest Risk**
  - Role of dynamic, rapid, transitional physiologic changes in both mother and infant
  - Coincides with the time frame when nurses encourage breastfeeding and uninterrupted skin-to-skin contact
  - Period of potentially increased distraction for everyone involved

Ferrarello, Debi et al. Sudden Unexpected Postnatal Collapse of the Newborn Nursing for Women's Health , Volume 20 , Issue 3 , 268 – 275
DOI: https://doi.org/10.1016/j.nwh.2016.03.005

SUPC: Risk Factors

- **Neonatal Risk Factors**
  - Infant required PPV
  - Low APGAR scores
  - Late preterm and Early Term (37-39 weeks GA)
  - History of difficult delivery
  - Mother receiving medications (pain, general anesthesia, MgSo4 that may affect infant
  - Excessive sleepy mother and/or infant

Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME
Pediatrics Sep 2016, 138 (3) e20161889; DOI: 10.1542/peds.2016-1889

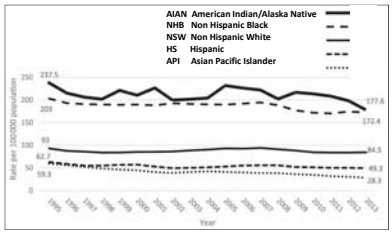
SUPC:
Risk Factors

- **Maternal Risk Factors**
  - Primiparous mothers
  - Prone infant positioning
  - Unsupervised breastfeeding
  - Low ambient temperature; low lighting
  - No support person – parents alone with baby
  - Distraction – cell phones, social media, visitors
  - ? Others

Lori Feldman-Winter, Jay P. Goldsmith, COMMITTEE ON FETUS AND NEWBORN, TASK FORCE ON SUDDEN INFANT DEATH SYNDROME
Pediatrics Sep 2016, 138 (3) e20161889; DOI: 10.1542/peds.2016-1889

SUPC:
Risk Factors

Racial and Ethnic Trends in Sudden Unexpected Infant Deaths: United States



Parks, S. E., Erck Lambert, A. B., & Shapiro-Mendoza, C. K. (2017). Racial and Ethnic Trends in Sudden Unexpected Infant Deaths: United States, 1995-2013. *Pediatrics, 139*(6), e20163844.

SUPC:
"Triple Risk Hypothesis"

- **"Triple Risk Hypothesis" of SUPC**
  - Borrowed from the current concept of SIDS
  - Presence of an underlying genetic or developmental predisposition
  - Combined with an external ***"trigger"***
  - Event occurs synergistically
  - During a vulnerable period of development

Mitchell EA. SIDS: past, present and future. Acta Paediatr. 2009;98:1712–9.
doi: 10.1111/j.1651-2227.2009.01503.x

SUPC

- **AAP Committee on Fetus and Newborn**

"As hospitals are making progress towards providing skin-to-skin care and rooming-in, which facilitate breastfeeding initiation, it is important that infants are adequately supervised to ensure safety, prevent falls, and ***prevent sudden unexpected postnatal collapse.****"*

Feldman-Winter L, Goldsmith JP. Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. Committee on Fetus and Newborn, Task Force on Sudden Infant Death Syndrome. Pediatrics 2016;138:e20161889

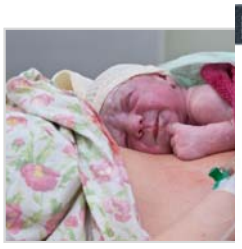
SUPC: Definitions

- **Published Reported Cases of SUPC Vary…**
  - Criteria
  - Definitions
  - Inclusion criteria
  - Exclusion criteria
  - Sweden, France, England, Germany, Austria, Italy, and the US
- **However…** ***"SUPC is associated with prone positioning, skin-to-skin care, co-bedding in 74% of reported cases."***

Herlenius, E., & Kuhn, P. (2013). Sudden unexpected postnatal collapse of newborn infants: a review of cases, definitions, risks, and preventive measures. *Translational stroke research*, *4*(2), 236-47.

SUPC

- **SUPC…*And So It Began***



PARTING THOUGHTS

The Breast Can Be Lethal

Verklan MT Perinat Neonatal Nurs. 2014 Jul-Sep;28(3):243-4. doi: 10.1097/JPN.0000000000000053

SUPC: Benefits of Skin-to-Skin Care (SSC)

- **Benefits of Skin-to – Skin Care**
  - Optimal regulation of the newborn's respiratory, temperature, and glucose status
  - Promotes a calm, supportive transitional environment
  - Separation may adversely affect mothering behaviors
  - Improvement in initiation, duration, and exclusivity of breastfeeding and enhanced milk production
  - Improves potential for breastfeeding success
  - Facilitates the establishment of infant's microbiome
- ***American Academy of Pediatrics (AAP) considers skin-to-skin positioning as the safest place for healthy newborns***

Morgan K The RAPP Assessment. The 16th Annual National Intensive/Kangaroo Care Certification learner's Manual. Cleveland, OH. US Institute for Kangaroo Care, 2012.p.289-304. Susan M. Ludington-Hoe, PhD, RN, CNM, CKC, FAAN; Kathy Morgan, BSN, RN, CKC, NNP-BC NAINR. 2014;14(1):28-33.

SUPC: Dissonance

https://sciencebasedmedicine.org/kangaroo-mother-care-skin-to-skin-contact-and-the-risk-of-sudden-unexpected-postnatal-collapse/

SUPC: Dissonance

https://sciencebasedmedicine.org/kangaroo-mother-care-skin-to-skin-contact-and-the-risk-of-sudden-unexpected-postnatal-collapse/

SUPC

- **ACOG Paper**
  - Optimizing Support for Breastfeeding as Part of Obstetric Practice

https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Optimizing-Support-for-Breastfeeding-as-Part-of-Obstetric-Practice?IsMobileSet=false

SUPC

- **AAP Committee on Fetus and Newborn**

*"Practicing a standardized approach to infant monitoring, which includes optimal infant positioning and observation, **is vitally important in order to avoid adverse events".***

Feldman-Winter L, Goldsmith JP. Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. Committee on Fetus and Newborn, Task Force on Sudden Infant Death Syndrome. Pediatrics 2016;138:e20161889

SUPC: Surveillance Protocol

- **Nursing Surveillance**
  - ***"Nursing surveillance is likely the most significant way to reduce the risk of SUPC."***
  - In 77%of incidences studied:
    - The mother or both parents were alone with the newborn at the time of the episode
    - When alone with their newborns, mothers recognized signs of trouble only 1/3 of the time
    - When both parents were present, recognition rose
- Surprisingly, only 12.5% of health care workers recognized signs of distress in their own newborns

Pejovic, N.J. and Herlenius, E. Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. Acta Paediatr. 2013; 102: 680–688 Becheret al., 2012).

SUPC:
RAPP Score

- **RAPP Score**
- **(Respiratory, Activity, Perfusion, and Position Tool)**
  - A simplified and rapid newborn assessment tool that incorporates safe position requirements
  - Monitoring of the infant's head, neck, nose, and mouth is critical for prevention of SUPC
  - Should continue after resuscitation completed

Morgan K The RAPP Assessment. The 16th Annual National Intensive/Kangaroo Care Certification learner's Manual. Cleveland, OH. US Institute for Kangaroo Care, 2012.p.289-304.
Susan M. Ludington-Hoe, PhD, RN, CNM, CKC, FAAN; Kathy Morgan, BSN, RN, CKC, NNP-BC NAINR. 2014;14(1):28-33.

SUPC:
Rapp Score

- **RAPP Score: RESPIRATORY EFFORT**
  - ***Is the infant breathing easily?***
  - Normal respiration (40–60 breaths per minute)
    - Not irregular, no apnea, and no ↑ WOB
    - No grunting, nasal flaring, nor retractions
  - If the answer to the question posed above is **"Yes"** the infant is breathing easily
    - Continue to the next assessment parameter
  - If answer is **"No"** infant is not breathing easily
    - Proceed with current NRP procedures

Morgan K The RAPP Assessment. The 16th Annual National Intensive/Kangaroo Care Certification learner's Manual. Cleveland, OH. US Institute for Kangaroo Care, 2012.p.289-304.
Susan M. Ludington-Hoe, PhD, RN, CNM, CKC, FAAN; Kathy Morgan, BSN, RN, CKC, NNP-BC NAINR. 2014;14(1):28-33.

SUPC:
RAPP Score

- **RAPP Score: ACTIVITY**
  - Refers to what the infant is doing and in which state (asleep, quiet alert, active, crying)
    - Healthy infants generally move about
      - Alternating movements with rest periods
      - Movements cease for up to ten minutes
    - ***BFing is an infant behavior in an awake state***
      - If a 'quiet' infant does not respond to tactile stimulation the infant is ***"non-responsive"***
      - Ominous sign
      - If unresponsive initiate resuscitation measures

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Susan M. Ludington-Hoe, PhD, RN, CNM, CKC, FAAN; Kathy Morgan, BSN, RN, CKC, NNP-BC NAINR. 2014;14(1):28-33.

SUPC:
RAPP Score

- **RAPP Score: PERFUSION**
  - Perfusion represents oxygenation which can be described using the ***color of the skin***
    - Ideal color is pink (mottled, spotty pink, pale)
      - May be cold - peripheral vasoconstriction
      - Delayed transition or underlying illness
    - If infant's skin pale, gray, dusky, or blue cyanotic
      - Suggests impaired circulation or perfusion
      - Infant should be removed from SSC
      - Placed in a radiant warmer
      - Comprehensive evaluation.

Morgan K The RAPP Assessment. The 16th Annual National Intensive/Kangaroo Care Certification learner's Manual. Cleveland, OH. US Institute for Kangaroo Care, 2012.p.289-304.
Susan M. Ludington-Hoe, PhD, RN, CNM, CKC, FAAN; Kathy Morgan, BSN, RN, CKC, NNP-BC NAINR. 2014;14(1):28-33.

SUPC:
RAPP Score

- **RAPP Score: POSITION**
  - Position of the head (should be upright and turned to one side), neck (should be erect in midline, not bent), nares and mouth (both should be uncovered and visible) and extremities (extremities should be well flexed when infant is lying prone on his/her abdomen).
  - Flaccidity of a limb or whole body is an ominous sign suggesting poor oxygenation of the brain.[
  - Position also refers to the mother's position as she holds her infant to her breast or in SSC. The mother should be semi-upright and supported by three to four pillows. The upright position provides gravitational assistance for infant respirations

Morgan K The RAPP Assessment. The 16th Annual National Intensive/Kangaroo Care Certification learner's Manual. Cleveland, OH. US Institute for Kangaroo Care, 2012.p.289-304.
Susan M. Ludington-Hoe, PhD, RN, CNM, CKC, FAAN; Kathy Morgan, BSN, RN, CKC, NNP-BC NAINR. 2014;14(1):28-33.

SUPC

AAP Committee on Fetus and Newborn

Luddington-Hoe, SM & Morgan K. Infant assessment and reduction of sudden unexpected postnatal Collapse risk during skin-to-skin contact. *Newborn Infant Nurs Rev* 2014;14:28-33.

Components of Safe Positioning for the Newborn While Skin-to-Skin

1. Infant's face can be seen
2. Infant's head is in "sniffing" position
3. Infant's nose and mouth are not covered
4. Infant's head is turned to one side
5. Infant's neck is straight, not bent
6. Infant's shoulders and chest face mother
7. Infant's legs are flexed
8. Infant's back is covered with blankets
9. Mother-infant dyad is monitored continuously by staff in the delivery environment and on the postpartum unit
10. When mother wants to sleep, infant is placed in bassinet or with another support person who is awake and alert

Feldman-Winter L, Goldsmith JP. Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. Committee on Fetus and Newborn, Task Force on Sudden Infant Death Syndrome. Pediatrics 2016;138:e20161889

SUPC: Surveillance Protocol

- **Nursing Instruction and Education**
  - One study found that providing information to parents did not reduce the incidence of SUPC;
  - However, the cases were less severe, suggesting that having informed parents leads to earlier recognition and intervention

"No substitute exists for nursing surveillance."

Davanzo, R., et al. (2015). Making the First Days of Life Safer: Preventing Sudden Unexpected Postnatal Collapse while Promoting Breastfeeding. *Journal of Human Lactation*, *31*(1), 47–52. https://doi.org/10.1177/0890334414554927

SUPC

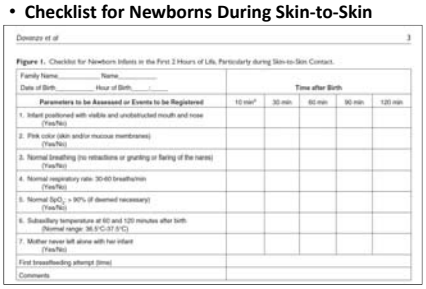
- **AAP Committee on Fetus and Newborn**

"Particular attention is required for breastfeeding dyads when the woman is ***using opioid analgesia".***

Feldman-Winter L, Goldsmith JP. Safe sleep and skin-to-skin care in the neonatal period for healthy term newborns. Committee on Fetus and Newborn, Task Force on Sudden Infant Death Syndrome. Pediatrics 2016;138:e20161889

SUPC: Surveillance Protocol

- **Checklist for Newborns During Skin-to-Skin**



Davanzo et al 3

Figure 1. Checklist for Newborn Infants in the First 2 Hours of Life, Particularly during Skin-to-Skin Contact.

Family Name_____ Name_____ Date of Birth_____ Hour of Birth____:____	Time after Birth				
Parameters to be Assessed or Events to be Registered	10 min*	30 min	60 min	90 min	120 min
1. Infant positioned with visible and unobstructed mouth and nose (Yes/No)					
2. Pink color (skin and/or mucous membranes) (Yes/No)					
3. Normal breathing (no retractions or grunting or flaring of the nares) (Yes/No)					
4. Normal respiratory rate: 30-60 breaths/min (Yes/No)					
5. Normal SpO_2 > 90% (if deemed necessary) (Yes/No)					
6. Subaxillary temperature at 60 and 120 minutes after birth (Normal range: 36.5°C-37.5°C)					
7. Mother never left alone with her infant (Yes/No)					
First breastfeeding attempt (time)					
Comments					

Davanzo, R., et al. (2015). Making the First Days of Life Safer: Preventing Sudden Unexpected Postnatal Collapse while Promoting Breastfeeding. *Journal of Human Lactation*, *31*(1), 47–52. https://doi.org/10.1177/0890334414554927

SUPC: Nursing Intervention

- **Quality Bundle to Prevent SUPC (Single Center)**
  - Pre-/post-intervention model Infants born between January 2014-2017
  - Routine skin-to-skin care (Baby-Friendly Requirements)
  - SUPC defined as
    - Infants ≥ 36 weeks GA
    - APGAR score > 7 at 10 minutes
    - Considered "healthy"
    - Collapsed during skin-to-skin care or breastfeeding
    - The infant had to receive resuscitation (PPV)
  - Do not leave mother's unattended, especially if primigravida

Paul DA et al., *Journal of Perinatology* **volume 39**, pages1008–1013 (2019)

SUPC: Nursing Intervention

- **Quality Bundle: Description of SUPC Cases**
  - Intervention developed by multi-disciplinary team
  - Systematic review of the literature
  - **Two main interventions added**
    - Monitoring oxygen saturation by POX from10 min/age
    - Limits set as <90%
    - RAPP assessment tool initiated
    - Continued for duration of skin-to-skin
    - Recorded q 15 min first hour then q 30 min)
  - **Theory behind the interventions**
    - Provide L & D staff with a visual and auditory alarm
    - RAPP mitigated risks of "under-monitoring" by standardizing the timing and components of the assessment

Pre-/post-intervention model

Paul DA et al., *Journal of Perinatology* **volume 39**, pages1008–1013 (2019)

SUPC: Nursing Intervention

- **Quality Bundle: Description of SUPC Cases**
  - **n = 23, 107 live births**
    - Pre-intervention 9,143 and Post-Intervention13,964

Table 1 Description of the SUPC cases in the pre-intervention period

Case	Birthweight(g)	Gestational age (weeks)	Sex	Mode of delivery	Age at event	Circumstances/interventions
1	3030	38	Female	Vaginal	<1 h	Skin-to-skin/positive pressure ventilation
2	2670	37	Female	Cesarean	2.5 h	Breastfeeding/therapeutic hypothermia
3	3460	38	Male	Vaginal	< 1 h	Skin-to-skin/positive pressure ventilation
4	2850	38	Male	Vaginal	< 1 h	Skin-to-skin/positive pressure ventilation
5	2770	36	Male	Vaginal	1 h	Skin-to-skin/positive pressure ventilation + therapeutic hypothermia

Rate of SUPC

Pre-intervention 0.54/1000 live births

Post-intervention 0/1000 live births

Paul DA et al., *Journal of Perinatology* **volume 39**, pages1008–1013 (2019)

SUPC

- Parental (n=85) and DR Nursing (n=48) Survey Responses

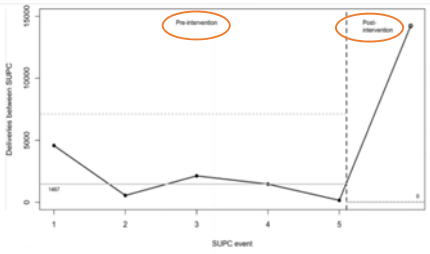
	Agree or strongly agree	Disagree or strongly disagree
A. Parents response		
Purpose of monitoring the baby during skin-to-skin care was explained to me. (respondents, n = 84)	70 (83%)	11 (13%)
Using the oxygen monitor during skin-to-skin care did not interfere with my ability to bond with or feed my baby. (respondents, n = 81)	70 (86%)	3 (4%)
I felt a sense of safety when the oxygen monitor was used on my baby during skin-to-skin care after delivery. (respondents, n = 81)	67 (83%)	2 (2%)
B. Nursing response		
Using pulse oximetry during skin-to-skin care after delivery is an important safety intervention.	28 (58%)	8 (17%)
Using pulse oximetry during skin-to-skin care does not interfere with maternal-child contact or breastfeeding.	24 (50%)	16 (33%)
Monitoring during skin-to-skin care does not take away from my other patient-care responsibilities.	13 (27%)	28 (58%)

Responses that are neutral (neither agree nor disagree) are not presented

Paul DA et al., *Journal of Perinatology* **volume 39**, pages1008–1013 (2019)

SUPC

- Quality Bundle to Prevent SUPC



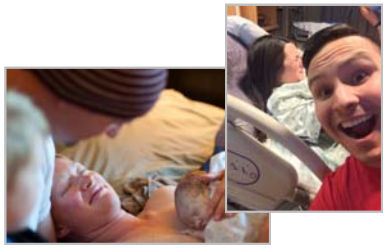
Paul DA et al., *Journal of Perinatology* **volume 39**, pages1008–1013 (2019)

SUPC: Device and Distraction

- Distractions

SUPC:
Device and
Distraction

- Distractions



SUPC:
Device and
Distraction

- Distractions

SUPC:
Device and
Distraction

- Distractions

SUPC: Device and Distraction

- **Distractions**

SUPC: Nursing Intervention

- **Advice to Mothers**
  - Avoid distraction, particularly the use of electronic devices such as smart phones, during SSC and breastfeeding

Davanzo, R., et al. (2015). Making the First Days of Life Safer: Preventing Sudden Unexpected Postnatal Collapse while Promoting Breastfeeding. *Journal of Human Lactation, 31*(1), 47–52. https://doi.org/10.1177/0890334414554927

SUPC: Device and Distraction

- **Maternal distraction from smartphone use: a potential risk factor for sudden unexpected postnatal collapse of the newborn**
  - In a summarization of risk factors for SUPC, based on international literature, maternal distraction from smart phones was identified

Rodriguez, N.R., Pellerite, M., Hughes, P., Wild, B., Joseph, M., and Hageman, J. Video corner: an acute event in a newborn. Neoreviews. 2017; 18: e717–e720 Rodriguez, Nancy A. Hageman, Joseph R. Pellerite, Matthew et al. Maternal distraction from smartphone use: a potential risk factor for sudden unexpected postnatal collapse of the newborn. The Journal of

SUPC: Device and Distraction

- In 1 report of 26 cases of SUPC in healthy newborn infants, 3 cases occurred during smartphone use by the mother.


Pejovic, N.J. and Herlenius, E. Unexpected collapse of healthy newborn infants: risk factors, supervision and hypothermia treatment. *Acta Paediatr*. 2013; 102: 680–688
Rodriguez, N.R., Pellerite, M., Hughes, P., Wild, B., Joseph, M., and Hageman, J. Video corner: an acute event in a newborn. *Neoreviews*. 2017; 18: e717–

SUPC: Device and Distraction

- Similar to the detrimental effects of texting while driving, which led to a ***23-fold increase in the risk*** for traffic accidents and ***is comparable with having a blood alcohol level of 1.5 mg/mL***


Olson, R.L., Hanowski, R.J., Hickman, J.S., and Bocanegra, J. in: US Department of Transportation (Ed.) Driver distraction in commercial vehicle operations. US Department of Transportation, Federal Motor Carrier Safety Administration, Washington (DC); 2009: 1–285

SUPC: Device and Distraction

- ***"Some of the potential risk factors for SUPC are modifiable, and others are not."***
- Nurses can impress upon parents the need for vigilance during the vulnerable newborn period immediately afterbirth and encourage them to wait until later to share their good news with the world of social media.


Olson, R.L., Hanowski, R.J., Hickman, J.S., and Bocanegra, J. in: US Department of Transportation (Ed.) Driver distraction in commercial vehicle operations. US Department of Transportation, Federal Motor Carrier Safety Administration, Washington (DC); 2009: 1–285

SUPC

"No substitute exists for nursing surveillance."

Davanzo, R., et al. (2015). Making the First Days of Life Safer: Preventing Sudden Unexpected Postnatal Collapse while Promoting Breastfeeding. *Journal of Human Lactation, 31*(1), 47–52. https://doi.org/10.1177/0890334414554927

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