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Mother-Baby Dyad Care

IMPLEMENTATION TOOLKIT

Objective

This workshop will help you to:

Increase your knowledge, skill and confidence to assess and care for healthy newborns using evidence based practice.

Mother-Baby Dyad Care

PRE-TEST





Fact or Fiction?

1. Skin-to-skin care is the best way to support physiological transition of the healthy newborn.

TRUE

2. Skin-to-skin care should be done continuously during the first 2 hours of life.

TRUE



Fact or Fiction?

3. A newborn benefits from skin-to-skin contact with its mother only.

FALSE

4. A baby with nasal flaring and grunting should be assessed in a special care nursery setting.

FALSE



Fact or Fiction?

5. A newborn who is formula feeding doesn't need skin-to-skin care.

FALSE

6. Routine suctioning is important to clear secretions at birth.

FALSE



Fact or Fiction?

7. Delayed cord clamping causes anemia in the infant.

FALSE

8. Grunting usually resolves spontaneously within a few hours of birth.

TRUE



Fact or Fiction?

9. A healthy newborn at risk for hypoglycemia should go to the nursery for glucometer testing.

FALSE

10. Coarse, wet breath sounds are normal early in transition.

TRUE



Fact or Fiction?

11. Vitamin K and eye ointment should not be given during skin-to-skin care.

FALSE

12. Vitamin K should be given within 1 hour of birth.

FALSE

Mother-Baby Dyad Care RECOMMENDATIONS



The Mother-Baby Dyad Care Recommendations Support:

- ❖ National Guidelines for Family-Centred Maternity and Newborn Care
- ❖ World Health Organization (WHO) guidelines for Postpartum (PP) care of mother and newborn
- ❖ Excellent Care for All Act (Ontario 2010)
- ❖ Neonatal Resuscitation Program (NRP) guidelines
- ❖ Baby Friendly Hospital Initiative (BFI)
- ❖ Canadian Pediatric Society (CPS) guidelines
- ❖ Society of Obstetricians and Gynecologists of Canada (SOGC) guidelines

What has changed?

Historically, a newborn's survival was dependent upon close and continuous maternal contact.

Modern day hospital routines often disrupt the early maternal-infant relationship for the purpose of convenience and efficiency, and have never been validated.

Mother-baby dyad care

What does it mean?

Mother-baby dyad care is caring for the mother and baby together, including skin-to-skin contact of healthy infants and mothers, from birth and as much as possible in the early postpartum days.

Benefits of Mother-Baby Dyad Care

- ❖ utilize skin-to-skin care (ssc) to reduce heat loss and promote thermoregulation
- ❖ promote mother-infant attachment behaviours
- ❖ increase breastfeeding success
- ❖ decreased crying
- ❖ fewer expressions of pain during procedures such as heel prick blood sampling
- ❖ enhanced family-centered care
- ❖ increased patient satisfaction
- ❖ provision of evidence-based care
- ❖ improved utilization of resources



Image used with permission from UNICEF Maharashtra, Prashant Gangal, "Initiation of Breastfeeding by Breast Crawl", 1st edition, 2007.

Recommendation #1

Initiate continuous, uninterrupted skin-to-skin care (SSC) immediately post birth and continue for a minimum of 2 hours.

Encourage SSC throughout postpartum stay with mother or support person, while they are awake.

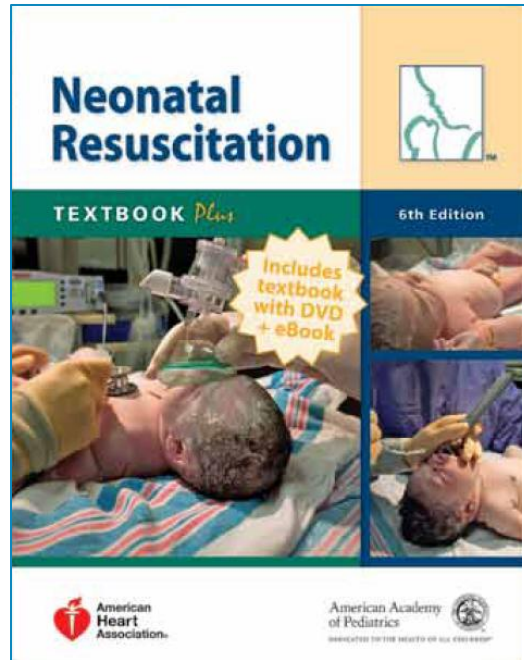
Recommendation #2

Maintain skin-to-skin contact while doing assessments and interventions.

Recommendation #3

Avoid unnecessary interventions, particularly those that may result in complications requiring transfer to the nursery i.e. routine suctioning.

Recommendation #4



Manage transition using
assessment skills
recommended in the
**Neonatal Resuscitation
Program (NRP) guidelines**

Recommendation #5

Bring the resources, expertise & equipment to the infant instead of the infant to the resources. Clinical therapies or treatments should be carried out at the bedside whenever possible.

Recommendation #6

Incorporate delayed cord clamping for a minimum of 2 minutes after birth into day-to-day practice.

Recommendation #7

Use of respite/observation nursery
(separate spaces in postpartum areas)
should be discouraged unless there are
maternal medical indications or for safety.

Recommendation #8

Create therapeutic environments that support mother-baby dyad care.

Term Newborn: TRANSITIONAL BEHAVIOUR

Newborn Transition

What does it mean?

The transitional period refers to the first six hours after birth when the newborn transitions from the intrauterine to the extrauterine environment.

Goals of Transition

To provide evidence-based care which supports optimum transition for newborns.

This includes:

- establishing effective respirations and circulation
- achieving thermoregulation
- early feeding
- keeping mom and baby together!

First Stage: 0 to 30 minutes

First Period of Reactivity

- ❖ alert, startles, tremors and crying
- ❖ grunting, flaring and retractions with periods of apnea < 10 seconds
- ❖ irregular respirations
- ❖ rate: 60 - 80 / min
- ❖ heart rate 160-180 bpm (10 -15min), ↓ to baseline of 100 - 120 bpm
- ❖ decreased body temperature
- ❖ increased tone and motor activity

Second Stage: 30 min to 2 hrs

Period of Decreased Reactivity

- ❖ sleepy, with decreased motor activity
- ❖ respirations fast, shallow, and synchronous
- ❖ rate: 60 breaths / min
- ❖ heart rate 100 -120 bpm
- ❖ temperature stabilizing
- ❖ normal tone with spontaneous jerks and twitches

Third Stage: 2 to 6 hours

Second Period of Reactivity

- ❖ becomes responsive to stimuli
- ❖ brief periods of rapid respirations
- ❖ tachycardia
- ❖ temperature stabilizing
- ❖ abrupt changes in tone and colour

CARDIORESPIRATORY TRANSITION

In the beginning...

Fetal Pulmonary Physiology

- ❖ at term, the fetal lung is filled with approximately 30 ml/kg of an ultra-filtrate of fetal serum fluid.
- ❖ during and after birth, this fluid must be removed and replaced with air.

Fetal-Pulmonary Physiology

Before Birth:

- ❖ fluid filled alveoli (not air)
- ❖ constricted blood vessels
- ❖ blood shunted through ductus arteriosus and away from the lungs

Fetal-Pulmonary Physiology

Immediately After Birth

- ❖ fluid in the alveoli is absorbed into lung tissue and replaced by air
- ❖ pulmonary blood vessels relax
- ❖ increased systemic BP
- ❖ decreased pulmonary resistance leading to increased pulmonary blood flow
- ❖ decreased blood flow through the ductus arteriosus

Fetal-Pulmonary Physiology

Immediately After Birth (continued)

- ❖ air initiates relaxation of pulmonary blood vessels
- ❖ ↑ oxygen in blood
- ❖ ductus arteriosus constricts
- ❖ blood flows through lungs, picking up oxygen



Clear mucous by wiping the baby's mouth and nose!

Indications for suctioning:

- ❖ obvious obstruction to spontaneous breathing
- ❖ infant requiring positive-pressure ventilation

If suctioning is indicated...

- ❖ gently suction nares to decrease risk of edema leading to respiratory distress
- ❖ mouth first, followed by nose

Consequences of Suctioning

Suctioning is unpleasant for the baby, it can cause a vagal response through stimulation of the larynx, resulting in an:

- ❖ increase in blood pressure
- ❖ decrease in heart rate
- ❖ vomiting and retching
- ❖ apnea

Hypoglycemia Screening

- ❖ perform glucometer testing at the mother's bedside without disrupting skin-to-skin care
- ❖ at-risk infants who are asymptomatic should have first glucose check at 2 hours of age

THERMO- REGULATION

Thermoregulation

Why are babies at risk for heat loss?

- ❖ larger surface air to body mass ratio
- ❖ thin permeable skin, especially prems
- ❖ small amount subcutaneous fat
- ❖ less brown fat stores
- ❖ inability to shiver

Cold Stress

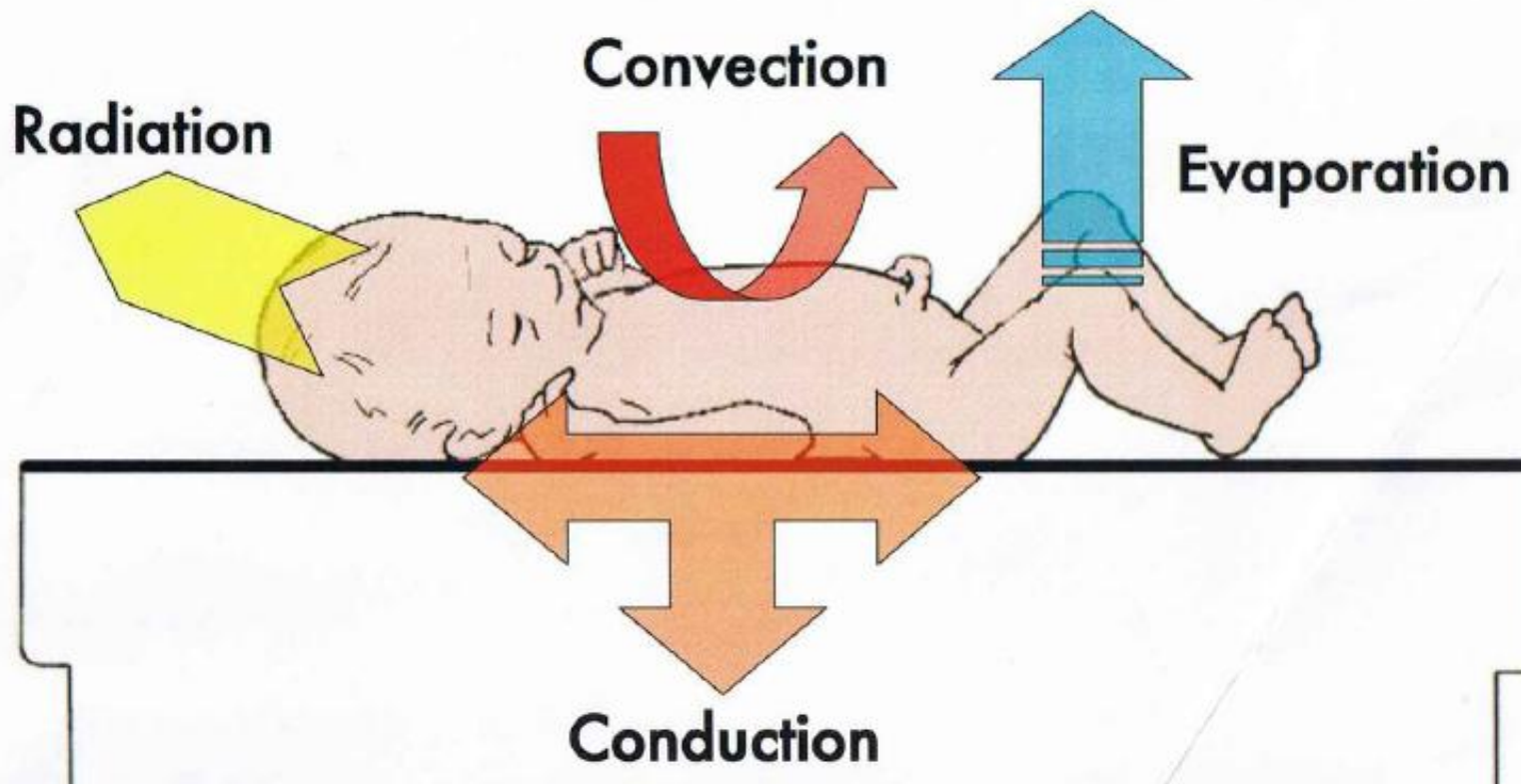
Cold stress is important to prevent. It leads to:

- ❖ Vasoconstriction
- ❖ Increased glucose utilization
- ❖ Increased metabolism of brown fat
- ❖ Increased oxygen consumption
- ❖ Increased metabolic rate



It is easier to prevent cold stress than to treat it.

Mechanisms of heat loss



Types of Heat Loss

Convection

Air currents increase heat loss created by movement of people, air conditioning or drafts from opening or closing doors.

Prevention:

- ❖ room temperature ~ 25° C
- ❖ keep doors closed
- ❖ cover baby with warmed blanket and hat
- ❖ skin-to-skin contact or kangaroo care
- ❖ position warmer away from doors and windows

Types of Heat Loss

Conduction

When the newborn comes into contact with an object cooler than them, i.e. cold scale, unheated warmer bed.

Prevention:

- ❖ skin-to-skin contact; cover baby with warm blanket & hat
- ❖ pre-warmed radiant warmer bed (in case skin-to-skin isn't possible)
- ❖ delay weight; use barrier between baby and scale

Types of Heat Loss

Radiation

Transfer of heat to cooler objects, not in direct contact with the infant, i.e. cold window

Prevention:

- ❖ skin-to-skin contact; cover baby with warm blanket & hat
- ❖ kangaroo care
- ❖ radiant heat source (in case skin-to-skin isn't possible)

Types of Heat Loss

Evaporation

When wet surfaces are exposed to air, cooling occurs as it dries, i.e. wet baby.

Prevention

- ❖ dry baby & remove wet linen
- ❖ skin-to-skin contact; cover baby with warm blanket & hat
- ❖ plastic wrap

Skin-to-Skin Care

Kangaroo Care (KC) Method

- ❖ created in 1978 by a Columbian pediatrician, Edgar Rey
- ❖ response to inadequate and limited incubators
- ❖ does not increase risk of mortality for premature infants
- ❖ KC allowed premature infants to thrive and survive in developing countries & is now used routinely in NICU settings around the world.

Influence of KC

3 Components of KC:

- ❖ skin-to-skin contact
- ❖ exclusive breastfeeding
- ❖ non-separation of mother and baby

Benefits:

- ❖ reduced mortality & morbidity
- ❖ reduced length of hospital stay
- ❖ improved breastfeeding outcomes

Prolonged skin-to-skin contact in the “kangaroo” position promotes bonding



Ruiz-Peláez J G
et al. BMJ
2004;329:1179-
1181

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BMJ

The World Health Organization (WHO),
Canadian Paediatric Society (CPS) and
American Academy of Pediatrics (AAP) say...



Healthy term infants should
be placed in skin-to-skin
contact with their mothers
immediately after birth.

VIDEO

Initiation of Breastfeeding through Breast Crawl



Available online at: <http://breastcrawl.org/>
Used with permission from UNICEF Maharashtra, Prashant Gangal,
“Initiation of Breastfeeding by Breast Crawl“, 1st edition, 2007.

Skin-to-Skin

Who can do it?



Skin-to-skin care can be done by the mother, father, partner, family or friend!

Skin-to-Skin

Where can it be done?

Skin-to-skin care can be done in any setting where it is safe to do so

- ❖ LDR/LDRP
- ❖ Birthing room
- ❖ Cesarean operating room
- ❖ Recovery room
- ❖ Postpartum room
- ❖ NICU

Skin-to-Skin Technique: Birthing Suite

1. Place infant chest down on mom's bare chest or abdomen as you dry and stimulate with the blanket
2. Remove the wet blanket and apply a new, warm, blanket to cover the baby
3. Apply dry cap on baby's head
4. Perform routine procedures: APGAR, ID bands
5. Delay interventions, such as Vitamin K & Erythromycin, until after the first feeding
6. Continue skin-to-skin uninterrupted for 2 hours

Skin-to-Skin Technique: **Postpartum** **Unit**

1. Easier if mom or partner is wearing a front opening garment, i.e. nursing top or hospital gown
2. Place the unclothed infant prone or lateral against chest
3. Cover with blankets
4. Maintain skin-to-skin contact as much as possible while the mother or partner is awake.

Benefits of Skin-to-Skin Care

- ❖ easier and faster physiological adaptation to extrauterine life
- ❖ regulates blood glucose levels
- ❖ decreased pain during invasive procedures
- ❖ reduces crying
- ❖ improves mother-baby interaction
- ❖ increases breastfeeding success



Skin-to-skin care does not increase nursing workload!

Skin-to-Skin

Physiological Benefits

Accelerate stabilization of:

- ❖ temperature
- ❖ blood glucose
- ❖ cardio-respiratory system
 - breathing becomes regular and less laboured
 - apnea is reduced
 - increased oxygen saturation
 - promotes drainage of secretions

Skin-to-Skin

Family Interaction & Bonding

- ❖ parents experience sense of awe as they observe the firsts...opening the eyes...first face baby sees
- ❖ mothers respond to feeding cues quickly, increasing confidence with baby
- ❖ decreased infant crying

Skin-to-Skin

Increased Feeding Success

- ❖ early feeding: within 30-60 minutes
- ❖ analgesic effect of breastfeeding
- ❖ increased breastfeeding success
 - baby more alert right after birth
 - massage like movement of hands and rooting motions
 - ↑ mouthing movements
 - ↑ milk production
 - ↑ likelihood of latching in early stages of breastfeeding
- ❖ feed formula fed babies 5-10 mL

VARIATIONS DURING TRANSITION

Variations in Transition

- ❖ knowledge of normal changes during transition allows for recognition of variations and early recognition of the compromised newborn.
- ❖ variations include:
 - grunting
 - peripheral cyanosis
 - transient dusky episodes during crying

Grunting

A normal part of transition...

- ❖ 17% of newborns demonstrate grunting at some point in their first 4 hours of life.
- ❖ 69% of infants stop grunting within 30 minutes
- ❖ 85 % stop within 1 hour
- ❖ 93 % stop within 2 hours.

Management of Grunting

- ❖ put baby skin-to-skin with mother
- ❖ carefully observe for evidence of other respiratory symptoms
- ❖ delay non-essential interventions for 1-2 hours to give grunting a chance to resolve.

If grunting persists...



What do
you do?

Can you monitor or give oxygen to a baby while skin-to-skin ?



Absolutely !

How do you do it?

- ❖ equipment
- ❖ knowledge & skill
- ❖ additional support

If you need help to assess baby, who do you call?

- ❖ other RNs
- ❖ RRT/SCN nurses
- ❖ physician: pediatrician, family doctor

Consultant role:

Bring expertise to the baby rather than separating baby from mom by a trip to the nursery.

Consultant Role

- ❖ dedicated to the baby if indicated
- ❖ nursery nurse: consultant role
- ❖ continuous observation for variations in transition until the baby's condition stabilizes or deteriorates, requiring transfer to the nursery
- ❖ nursery admission criteria

Red Flags!



Newborns who deteriorate over time instead of improve, may require increasing levels of support to maintain stability



Progressive worsening of symptoms raises a red flag with caregivers



Severity of symptoms will determine whether medical treatment is initiated sooner than later

The Compromised Newborn

Abnormal Transition:

- ❖ persistent central cyanosis with oxygen saturation $< 85\%$ in room air
- ❖ the need for supplemental oxygen after 2 hours of birth in order to sustain normal oxygen saturation.
- ❖ deterioration of baby's condition including: increased work of breathing, pallor, hypothermia, hyperthermia, hypoglycemia



Consider transfer to nursery or consult transport team

Questions to ask yourself when assessing a baby's respiratory status during transition:

- ① Is the baby skin-to-skin?
- ① Is the baby grunting for more than 1-2 hours ?
- ① Is the baby's breathing becoming more laboured?
- ① What is the baby's oxygen saturation ?
- ① Is the baby requiring oxygen?

Take home message



Practice changes that support keeping the mother and newborn together immediately after birth and during the postpartum period will have both short and long term benefits for the infant, the family and the system.