

Skin-to-Skin

Key Messages for Service Providers

Skin-to-Skin gives a baby
the best start for life.



Region of Waterloo
PUBLIC HEALTH AND
EMERGENCY SERVICES

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Executive Summary

Background

Skin-to-Skin contact is the practice of placing a naked baby, or a baby wearing only a diaper, prone on the caregiver's bare chest. Research has demonstrated that skin-to-skin contact evokes neurobehaviours in the baby that help to meet and promote basic biological needs. For this reason, skin-to-skin contact is recommended for all families with babies.

Benefits

The benefits for infants include:

- Increased demonstration of biological behaviours for breastfeeding and self attachment to the breast
- Regulated temperature, blood glucose, respiratory rate and heart rate
- Decreased crying and stress symptoms
- Decreased pain when done during procedures
- Promotes colonization by mother's flora/ bacteria

The benefits for mother include:

- Decreased maternal anxiety
- Increased oxytocin improving milk let down
- Decreased delay in milk coming in post caesarean section
- Enhanced parenting behaviours
- Promotes longer duration of breastfeeding



Introduction

It has been common in Western culture to separate a mother and baby after birth for medical interventions. This practice goes against the history of evolution where close contact between mother and baby was necessary for infant survival. Neuroscientists have found placing a naked baby prone (on their stomach) on their caregiver's bare chest with a blanket over them, also known as skin-to-skin contact or "kangaroo care," evokes neurobehaviours that help to meet and promote basic biological needs. It is for this reason that skin-to-skin contact is recommended for all families with babies.

This document is intended to provide Region of Waterloo Public Health and Emergency Medical Services (ROWPH & EMS) service providers with

evidence-based key messages for families about skin-to-skin contact. A service provider is anyone employed by the Region of Waterloo Public Health and Emergency Medical Services (ROWPH & EMS) whose role is to educate and support families one-on-one or in a group setting.

This document includes key messages and evidence on why and when skin-to-skin contact should occur. The supporting evidence in this document is inter related and may speak to various key messages. **Appendix A** provides service providers with promotional posters on skin-to-skin contact. **Appendix B** is a handout about skin-to-skin contact that service providers can offer to families.





Skin-to-Skin Key Messages

1. Skin-to-skin contact should begin immediately following uncomplicated birth.¹
2. Skin-to-skin can be done regardless of birthing method (vaginal delivery or c-section).⁵
3. Preterm infants can benefit from skin-to-skin contact.¹
4. Skin-to-skin contact should continue uninterrupted for the first 1- 2 hours post birth OR until the completion of the first feeding OR as long as a mother wants.¹
5. Skin-to-skin can be done by partners or another support person.⁹
6. Skin-to-skin contact improves breastfeeding success.¹
7. Skin-to-skin contact is important for all families regardless of feeding method.²
8. Skin-to-skin contact should continue beyond the initial 48 hour postpartum period.⁶
9. Skin-to-skin is a method that can be used to calm a crying baby.¹
10. Skin to skin contact reduces medical procedural pain for the baby.¹³
11. Skin-to-skin contact is best done while awake following safe sleep practices.¹⁵

Skin-to-Skin Short Term and Long Term Benefits

	Benefits for Baby	Benefits for Mother
Short Term Benefits	<ul style="list-style-type: none"> • Increased demonstration of biological behaviours for breastfeeding and self attachment to the breast • Regulated temperature, respiratory rate and heart rate • Decreased crying and more calm • Decreased stress symptoms • Increased blood glucose • Release of digestive and metabolic hormones • Decreased pain during procedures • Increased alertness and responsiveness in premature infants • Decreased irritability and fussiness in premature infants • Decreased incidence of nosocomial infections in premature infants 	<ul style="list-style-type: none"> • Rapid delivery of placenta • Decreased risk of hemorrhage • Decreased maternal anxiety • Release of digestive and metabolic hormones • Increased oxytocin improving milk let down • Decreased engorgement on day three postpartum • Increased likelihood to breastfeed (also in baby) • Decreased delay in milk coming in post caesarean section • Alleviated perception of pain from surgery
Long Term Benefits	<ul style="list-style-type: none"> • Colonized by mothers flora/bacteria • Improved self regulation • Decreased stress hormones at one month of age • Longer duration of breastfeeding • Increased perceptual cognitive and motor development in premature babies • Increased psychomotor development in premature babies 	<ul style="list-style-type: none"> • Increased maternal calmness • Enhanced parenting behaviours • Decreased depression • Increased positive perception of parenting • Longer duration of breastfeeding • Increased volume of expressed breast milk • Increased exclusive breastfeeding rates

Skin-to-Skin Key Messages with Supporting Evidence

1

Skin-to-skin contact should begin immediately following an uncomplicated birth.¹

- Skin-to-skin assists to colonize a baby's body with their mother's body flora but only if she is the first person to hold her baby.²
- Skin-to-skin after birth facilitates infant self regulation and self attachment to the breast.³
- When studying infrared thermography of the whole baby's body during the first hour post birth, skin-to-skin contact is as effective as radiant warmers in preventing heat loss.⁴
- Mothers who practice skin-to-skin contact have more rapid delivery of their placenta with reduced risk of hemorrhage because baby's legs and feet help by pushing on her abdomen.¹
- Skin-to-skin has been shown to help the infant regulate his or her body temperature, breathing and heart rate faster than radiant warmers and incubators.²
- Oxytocin released from the pituitary gland during skin-to-skin contact reduces maternal anxiety by blocking the fight, flight effect while increasing calmness and social responsiveness.¹

2

Skin-to-skin can be done regardless of birthing method (vaginal delivery or caesarean section).⁵

- Emergency caesarean sections can result in delayed Lactogenesis II. Skin-to-skin contact following surgery may assist in overcoming this delay.²
- Skin-to-skin helps to release the hormone oxytocin which may help to alleviate pain from surgery and feelings of disappointment.²
- The benefits of skin-to-skin contact immediately or soon after a caesarean birth include physiologic stability and emotional well-being of mothers and newborns, increased parent and newborn communication and improved breastfeeding outcomes.⁵
- Skin-to-skin may decrease mother's perception of pain following a caesarean birth.⁵





3

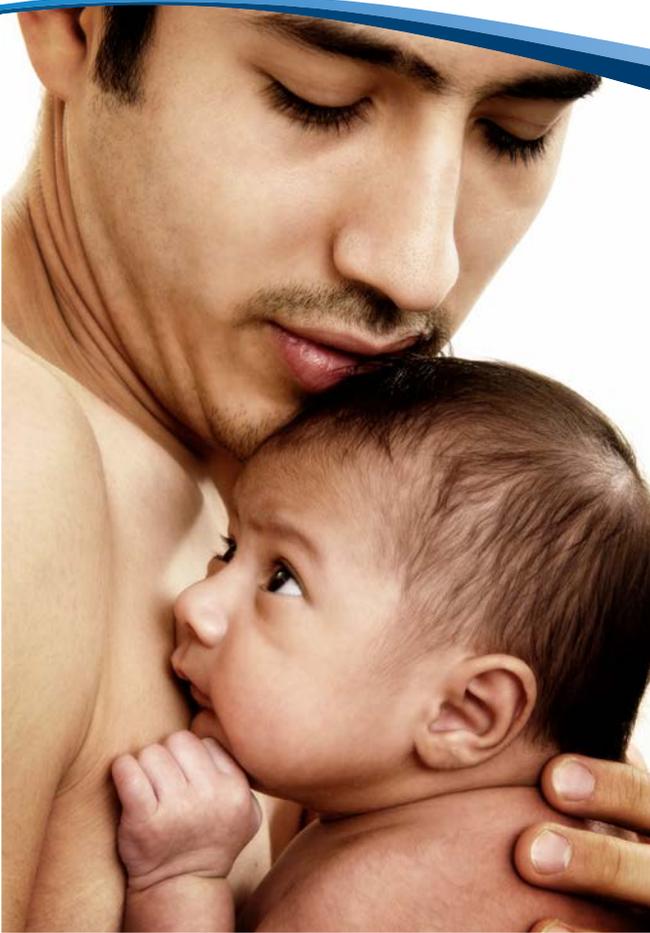
Preterm infants can benefit from skin-to-skin contact.¹

- Skin-to-skin contact is successful at increasing emotional investment in the parenting process for mothers of sick preterm infants.⁶
- Skin-to-skin contact improves neurodevelopmental outcomes for preterm babies and decreases the incidence of nosocomial infections.⁷
- Skin-to-skin is associated with longer duration of breastfeeding, higher volumes of expressed milk, higher exclusive breastfeeding rates and higher percentage of breastfeeding at the time of discharge with preterm infants.⁷
- Preterm infants held skin-to-skin have better scores using the SCRIP measurement (a combination rating of heart rate, respiratory status and arterial hemoglobin oxygen saturation) for cardio-respiratory stability during the first six hours after birth.¹
- Skin-to-skin contact has been shown to assist preterm infants with recovering from birth-related fatigue.²

4

Skin-to-skin contact should continue uninterrupted for the first 1- 2 hours post birth OR until the completion of the first feeding OR as long as a mother wants.¹

- Infants held skin-to-skin with their mothers have higher blood glucose levels 75-90 minutes after birth.¹
- Infants held skin-to-skin with their mothers have slightly higher temperatures on average compared to infants placed in a cot next to their mothers 90-120 minutes after birth.¹
- Maternal breast temperature between 30-120 minutes post birth may regulate infant temperatures more effectively and help prevent neonatal hypothermia.¹
- Oxytocin released by the pituitary gland during skin-to-skin contact may enhance parenting behaviours in the early postpartum period.¹
- Infants held skin-to-skin with their mothers have a dramatic decrease in heart rate variability during infant sleep when compared to maternal newborn separation, skin-to-skin may prevent the long-term harm of exaggerated automatic nervous system and disrupted quiet sleep on neurodevelopment.⁸



5 Skin-to-skin can be done by partners or another support person.⁹

- Newborns placed in skin-to-skin contact with their fathers cry less and reach a calm drowsy state more quickly than infants placed in standard cot care.⁹
- Being cared for on the father's chest can facilitate the development of pre-feeding behaviours.⁹
- Newborns cared for skin-to-skin by their fathers can achieve stable temperatures and blood glucose levels.^{10,11}

6 Skin-to-skin contact improves breastfeeding success.¹

- Skin-to-skin contact increases a mother's likelihood to breastfeed.¹
- More infants are exclusively breastfed between three and six months when cared for skin-to-skin.¹
- Breastfeeding duration increases by an average of 64 days when skin-to-skin is started less than 24 hours after birth.¹
- Newborns exhibit pre-programmed biological behaviour to approach the breast, lick and suck without help. The rooting reflex becomes more mature and distinct as they seek the breast. The baby massages the breast as he/she moves, shaping the areola and nipple for easy attachment as well as increasing the maternal oxytocin levels. Skin-to-skin supports and helps create this newborn behaviour.¹
- Most babies from unmedicated births will self-attach and suckle at the breast within the first 50 minutes after birth if placed skin-to-skin with their mother (medicated births include epidurals, spinals, intramuscular narcotics, and intravenous infusions).²
- Mothers practicing skin-to-skin contact report less perceived breast hardness/engorgement on day three postpartum.¹

For more information on the importance of breastfeeding see the Region of Waterloo Public Health Breastfeeding Key Messages internal document for Regulated Professional Staff (DOCS # 1438560) or the Breastfeeding Key Messages internal document for All Public Health Staff (DOCS # 1485348).



7

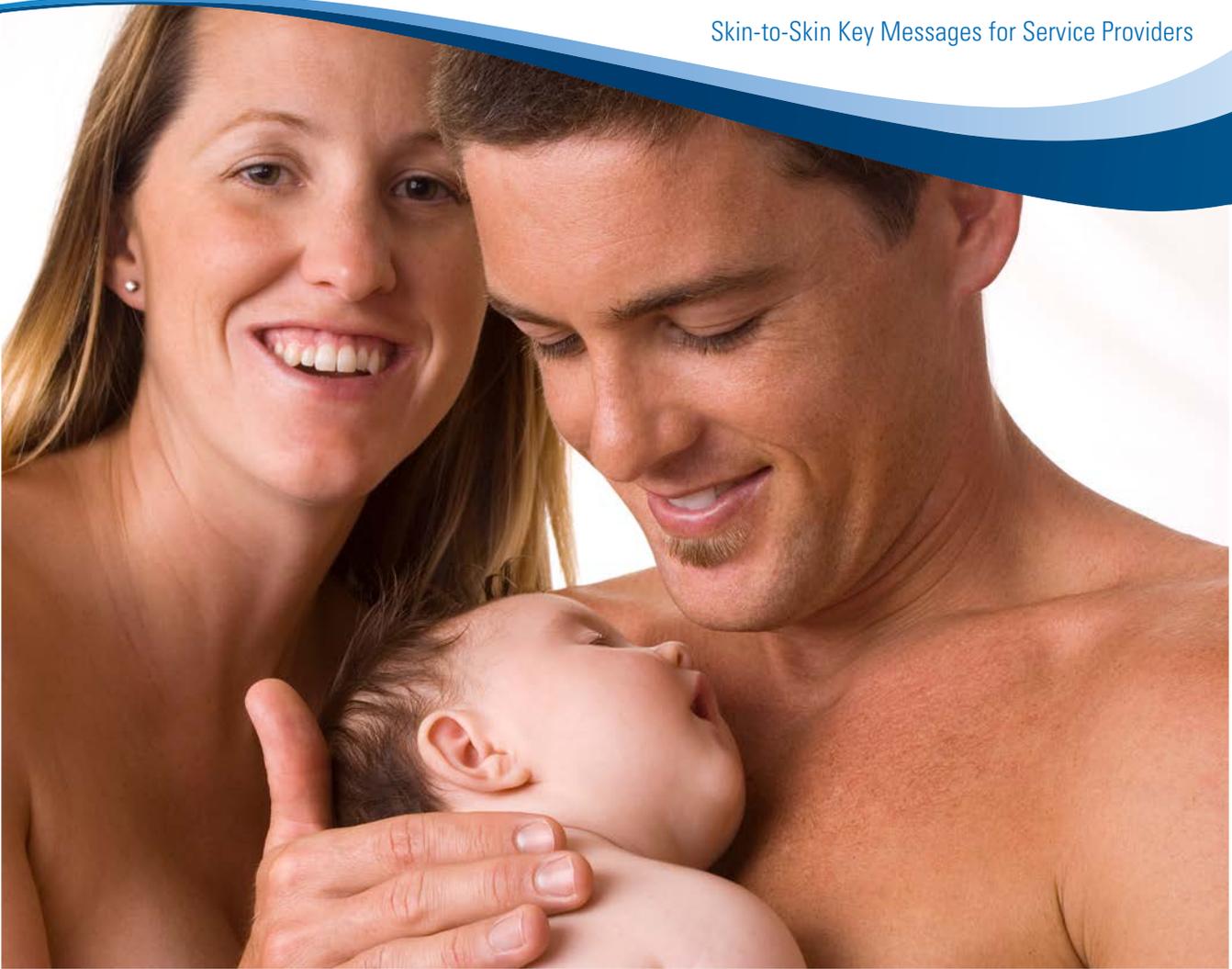
Skin-to-skin contact is important for all families, regardless of feeding method.²

- Mothers who provide skin-to-skin contact for their infants report more positive feelings towards their infants, more positive perceptions of their infants, less depression and more empowerment in their parenting.⁴
- Skin-to-skin contact stimulates the release of gastrointestinal hormones such as insulin, cholecystokinin, somatostatin and gastrin which aid in digestion and metabolism for both mother and baby.²
- Skin-to-skin facilitates infant adaptation to the new non-sterile environment. An infant's skin, respiratory tract and gastrointestinal tract are colonized with maternal body flora, which tend to be non-pathogenic microorganisms and immunological factors such as secretory immunoglobulin A (IgA).²
- Reduced abandonment, abuse, failure to thrive and neglect have been found in hospitals that initiated the "Baby-Friendly Initiative" which include initiatives such as; early skin-to-skin contact and continuous rooming-in with parents while in hospital.¹²

8

Skin-to-skin contact should continue beyond the initial 48 hour postpartum period.⁶

- Skin-to-skin has a positive effect on parenting. Mothers show more positive affect, touch and adaptation of preterm infant cues compared to traditional care.⁶
- Preterm infants held skin-to-skin have increased perceptual cognitive and motor development compared to traditional care.⁶
- At six months, preterm infants held skin-to-skin show a higher score on the Bayley Mental Development Index and the psychomotor development index compared to traditional care.⁶
- At one week and one month postpartum, mothers who have provided ongoing skin-to-skin care for their babies reported fewer depressive symptoms (on the Edinburgh scale).⁴
- Mothers who practice skin-to-skin with their babies demonstrate a reduction in salivary cortisol at one month postpartum compared to those who do not practice skin-to-skin contact.⁴



9

Skin-to-skin is a method to calm a crying baby.¹

- Infants placed in a cot cry ten times more and respond with immediate “protest, despair” behaviours.¹
- Preterm infants who receive skin-to-skin contact in the Neonatal Intensive Care Unit are more alert and responsive, and less irritable and fussy.⁷

10

Skin to skin contact reduces medical procedural pain for the baby.¹³

- Premature Infant Pain Profile (PIPP) score in the first 90 seconds following a painful procedure favoured skin-to-skin contact for infants.¹³
- A systematic review concluded that holding infants skin-to-skin during painful procedures is potentially beneficial and not harmful.¹³
- In a study of 30 healthy term newborn infants receiving a heel stick, crying was reduced by 82% and grimacing was reduced by 65% in infants who were held skin-to-skin.¹⁴



11 Skin-to-skin contact is best done while awake following safe sleep practices.¹⁵

- There is a potential risk to the infant if the caregiver falls asleep during skin-to-skin contact, including unintentional injuries such as airway compromise or falls.¹⁵
- The risk to the infant sleeping in a non-supine position is unclear and may pose a risk including sudden unexpected postnatal collapse (SUPC).¹⁵

For more information on safe sleep practices, refer to Health Canada or the Public Health Agency of Canada.

Summary Conclusion

In summary, skin-to-skin contact has been shown in many studies to benefit the parent-infant dyad, both physiologically and behaviorally and has been shown to improve breastfeeding success. The practice of skin-to-skin is important and should be recommended and encouraged by Health Care Providers for all families.

Appendix A Skin-to-Skin Poster

Internal access to document: DOCS #1851129

Hold me in my Birthday Suit

Skin-to-Skin gives your baby the best start for life.

Benefits for Baby

- Cries less and is calmer
- Stays warmer
- Stabilizes blood sugar, heart rate and breathing
- Protects your baby with your good bacteria
- Breastfeeds better

Benefits for Parents

- Reduces stress
- Increases bonding and attachment
- Helps parent know when baby is getting hungry
- Helps parents gain confidence in caring for their baby
- Helps mothers with breastfeeding
- Improves mother's milk supply



Region of Waterloo PUBLIC HEALTH

For more information, contact the Region of Waterloo Public Health at **519-575-4400** and ask to speak with a Public Health Nurse

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Appendix B Skin-to-Skin Fact Sheet

Internal access to document: DOCS #1802986

Skin-to-Skin



It's easy! Here's how:

Place your baby wearing only a diaper, with his/her tummy on your (or your partner's) bare chest. If you wish you can then place a light blanket over you and baby.



Benefits for Baby:

- Cries less and is calmer
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- Stabilizes blood sugar, heart rate and breathing
- Protects your baby with your good bacteria
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Benefits for Parents:

- Reduces stress
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Your bare chest is the best place for your baby to be. Healthy babies should be placed skin-to-skin as soon as possible after birth for at least an hour to help your baby adjust to the new environment.

When your baby is skin-to-skin, your baby can hear you, smell you and see you. Skin-to-skin can help you get to know each other. Premature babies and those delivered by C-section also benefit from skin-to-skin. As your baby grows continue to cuddle your baby skin-to-skin.

If you are feeling tired while holding your baby skin-to-skin, place your baby in a safe sleep environment.

Questions or concerns?

Talk to a Public Health Nurse at 519-575-4400.

Accessible formats of this document are available upon request.

Region of Waterloo Public Health
Healthy Living

www.regionofwaterloo.ca/ph ■ 519-575-4400 ■ TTY 519-575-4608 ■ Fax 519-883-2241

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