Step 4

Help mothers initiate breastfeeding within an hour of birth. Place babies in skin-to-skin contact with their mothers immediately following birth for at least an hour. Encourage mothers to recognize when their babies are ready to breastfeed and offer help if needed.
Objectives

1. **Ensure that babies are in skin-to-skin contact with their mothers for at least one hour immediately following birth.**

2. **Help mothers to recognize when their babies are ready to breastfeed and offer help if needed.**
Goal: To assure that mothers and babies experience the benefits of early and continuous skin-to-skin contact and infant-led initiation of breastfeeding.

Background

In nature, every mammal begins life in close physical contact with its mother and capably and competently finds its way to her breast for its first oral nutrition. This close contact allows the infant to be colonized with healthy maternal flora and provides warmth, comfort, safety and protection, nourishment, physiologic homeostasis and immunity. In most species, mammals separated from their mothers will cry in distress and, if the cry is not responded to, will become lethargic, hypothermic and hypoglycemic. Most who fail to safely make this journey from the internal (in utero) to external (skin-to-skin) maternal environment will not survive.

If allowed, the human infant will also capably and competently find its way to extrauterine nutrition, protection and warmth. Infants are in a heightened state of alertness in the first hour after birth. When a healthy, unmedicated, dried, naked newborn is placed in skin-to-skin contact (prone on the mother’s bare chest) at birth or soon afterwards, it uses its senses, especially olfaction, to set a course and, through a series of intentional movements, will find and attach to the breast. A surge of oxytocin and other hormones then release in the mother and baby. Oxytocin causes the mother’s uterus to contract, slowing bleeding. Oxytocin also causes the mother’s colostrum to flow easily, reduces maternal and infant pain and cortisol levels and creates feelings of love and attachment.

While in skin-to-skin contact, the infant’s heart rate, breathing, temperature and blood glucose stabilize. Early and extended maternal-infant contact helps colonize the baby’s skin with the mother’s native flora (mostly non-pathogenic bacteria for which the infant has inborn immunologic protection). This ensures protection against pathogens in the environment. This self-led journey also ensures that infants receive the mother’s colostrum at the earliest moment of feeding receptiveness. The infant’s gut is then coated with immune-rich colostrum, allowing the meconium plug to move through the digestive system. Together, this series of actions that occurs while the neonate is in its natural extra-uterine environment—skin-to-skin with its mother—assures that maternal-infant physiologic stability, hormonal balance, competence, attachment, local immune protection and feeding are all off to a good start.

Early suckling at the breast begins with early and frequent maternal and infant contact. All healthy, full-term babies should be dried and placed unwrapped on the mother’s chest for skin-to-skin contact immediately after birth, or as soon as possible in the first few minutes after birth, and held there in an unhurried environment for at least an hour. If the baby has not suckled by one hour after birth, a longer period of skin-to-skin contact is recommended.

In the event of Cesarean birth, babies should be placed skin-to-skin with the mother as soon as she is able to respond to her baby, or within half an hour.
Should skin-to-skin contact be interrupted for any reason (e.g., clinical indication or maternal choice), it should be resumed as soon as feasible. Further, skin-to-skin contact should be encouraged throughout the hospital stay and post-discharge.

**Why Step 4?**

It is currently common practice for healthy newborn humans to be separated from their mothers soon or immediately after delivery. Many are not held to the breast for hours or longer. These practices interrupt physiologic processes that support maternal and infant stability and breastfeeding. Research shows that this interruption has long-lasting effects on maternal-infant attachment or “bonding.”

**Carrying out Step 4 benefits your facility by enhancing:**

1. **Safety:** Skin-to-skin contact promotes physiologic stability, protects the infant against infection, reduces risk of hypothermia and hypoglycemia, and promotes optimal breastfeeding initiation. An unhurried environment and unlimited skin-to-skin contact facilitate feeding effectiveness and allow an infant access to colostrum at the earliest opportunity. Colostrum is recognized by the American Academy of Pediatrics as the infant’s first immunization. In addition, the mother and infant can be observed and monitored effectively while in contact with each other.

2. **Effectiveness:** Skin-to-skin contact is the appropriate level of technology for most newborn infants. When dried, placed skin-to-skin against the mother in a sufficiently warmed room and covered with a warmed blanket, the infant’s temperature is regulated at least as effectively as when under a radiant warmer. Infants who are denied skin-to-skin contact without medical indication are unnecessarily restricted from access to the physiologic protections of the maternal environment.

3. **Patient-centeredness:** Skin-to-skin contact is the physiologic norm for human mothers and infants. Maternal and infant health, wellness and attachment should be facilitated through skin-to-skin contact unless there is a medical indication for which the risks of immediate skin-to-skin care are determined to outweigh the benefits, or unless the mother explicitly requests to avoid or interrupt skin-to-skin contact. If the mother is unavailable, efforts should be made to place the infant in skin-to-skin contact with the father or other caretaker.

4. **Timeliness:** Early and continuous skin-to-skin contact allows the mother immediate and unlimited access to her newborn infant, and the baby gains access to the protections offered by the maternal environment. Need for clinical intervention is reduced when these conditions are promoted and preserved.

5. **Efficiency:** A single nurse can provide maternal and infant recovery care by monitoring the infant and the mother in the first hour(s) after birth. Routine care can be performed with the infant in skin-to-skin contact or at the bedside after the first breastfeeding. Patient education can occur at the time this care is delivered. Time, space and technologies (e.g. warmers, probes, etc.) are saved when transportation to and from a level-one nursery is eliminated.
6. **Equity**: When early and continuous skin-to-skin contact is provided to all mothers and infants, each is provided with the equal opportunity for establishing strong foundations for attachment, feeding and healthy outcomes.

**Evidence for Efficacy**

Benefits of skin-to-skin contact and early breastfeeding initiation include:

- Early establishment of effective breastfeeding.
- Longer duration of breastfeeding.
- Increased exclusive breastfeeding.
- Increased interaction and bonding between mother and infant.
- Infant physiologic regulation (state organization, cardio-respiratory functioning, temperature, blood glucose, etc.).
- Improved infant health outcomes.

**Breastfeeding Establishment, Effectiveness and Outcomes**

A Cochrane review of eight studies on early skin-to-skin contact—placing the naked baby prone on the mother’s bare chest immediately or as soon as possible after birth and covering both with a blanket—found that mothers practicing skin-to-skin contact were twice as likely to still be breastfeeding at one to three months than those who did not practice skin-to-skin contact. The review also found that the infants of mothers practicing skin-to-skin contact breastfed an average of 42 days longer than those who were separated from their mothers after birth.¹

A study assessing the long-term effects of skin-to-skin contact between mother and baby in the first hour postpartum concluded that the amount of infant-mother contact in the first hour of life could influence the duration of breastfeeding. Among other findings in the study, 58 percent of the participants in the extra-contact study were breastfeeding their babies at three months postpartum, as compared to 26 percent in the control group.²

Newborns are routinely alert and are capable of latching to the mother’s nipple without assistance within the first hour following birth.³, ⁴ Righard and Alade observed that infants who were allowed early contact with their mothers made crawling movements towards the breast about 20 minutes after birth, and most were suckling at the breast at 50 minutes after birth. At two hours after delivery, 24 of 38 infants in the contact group were suckling correctly at the breast, versus 7 of 34 infants in the separation group.⁵ Other studies demonstrate that the timing of the first suckling, the duration of breastfeeding and onset of milk production are all related, with early initiation resulting in increased duration of breastfeeding⁶, ⁷–⁹ and reduced risk for delayed onset of milk production.⁵ As a result, it is recommended that the infant’s efforts to take the breast actively be encouraged. Infants should be left naked and undisturbed in skin-to-skin contact on the mother’s abdomen at least until the first breastfeeding is accomplished.³

Immediate skin-to-skin contact and early initiation of breastfeeding:

- Takes advantage of a sensitive period in which infants have a heightened suckling reflex.⁵, ¹¹
- Significantly improves an infant’s ability to establish breastfeeding in the early postpartum period.¹²–¹⁴
- Facilitates infant self-attachment and effective first feeding.³, ¹⁵–¹⁷ An effective first feeding is associated with increased effectiveness of subsequent feedings.³
- Should be maintained, including during routine newborn procedures and assessments. This is safe for mother and infant, increases infant stability¹⁸–²¹ and improves breastfeeding outcomes by reducing unnecessary maternal-infant separation.⁴
Early skin-to-skin contact lasting 20 minutes or longer significantly increases the duration of exclusive breastfeeding.\textsuperscript{23} Duration of skin-to-skin contact increases exclusivity of breastfeeding in a dose-response relationship.\textsuperscript{24}

In addition, initiating breastfeeding within one hour of birth increases the likelihood that mothers will achieve their own breastfeeding goals.\textsuperscript{25}

**Perinatal Care Factors Impacting Early Breastfeeding Initiation**

- One study found that preterm birth, Cesarean section, management of maternal anemia and prenatal care were each associated with early initiation of breastfeeding.\textsuperscript{26}

- In order to avoid unnecessary interruption of maternal-infant interaction and the initiation of breastfeeding, non-time-sensitive routine procedures (e.g., administration of vitamin K, erythromycin, etc.) should be delayed.\textsuperscript{3, 16, 27, 28}

- The amniotic fluid on the infant’s skin and hands has the same scent as the mother’s breast. The infant uses olfaction to find the breast, so washing the breast or infant’s hands prior to the first feeding could interfere with breastfeeding initiation and spontaneous attachment.\textsuperscript{17, 29–31}

- Early skin-to-skin contact increases plasma oxytocin levels, aiding in the expulsion of the placenta, reducing bleeding and enhancing maternal-infant bonding. In addition, oxytocin levels increase in a dose-response fashion with each subsequent breastfeeding after the first one or two.\textsuperscript{32}

- A recent experimental study found that Cesarean-delivered newborns who received skin-to-skin contact for two hours after the mother’s return to the postpartum room (the mean time of skin-to-skin initiation was 51 minutes) were not at increased risk for hypothermia, were attached to the breast earlier and were more likely to be breastfeeding at discharge and three months later than infants who received traditional routine care. In addition, mothers in the skin-to-skin group expressed higher levels of satisfaction.\textsuperscript{33}

**Attachment and Bonding**

Skin-to-skin contact promotes enhanced maternal–infant interaction\textsuperscript{7, 22} and bonding.\textsuperscript{34}

One study conducted in a hospital in which rooming-in was not routinely implemented found that mothers whose infants suckled in the first hour after birth kept their infants with them for an average of a hundred minutes longer each day than did mothers of babies who didn’t suckle in the first hour. In addition, these mothers were observed to talk more to their infants.\textsuperscript{29} This early contact may be associated with the reduced incidence of child abuse, abandonment and failure to thrive.\textsuperscript{35–39}

Care provided in the early postpartum period may have significant, long-lasting effects on mother-infant interaction. In one study of the long-term effects of early and sustained suckling and skin-to-skin contact, mothers who adopted these practices spent more time kissing and looking into the faces of their infants, and their infants smiled more and cried less frequently at three months postpartum than infants who had been separated from their mothers soon after birth.\textsuperscript{2} Another study found the positive effects of early skin-to-skin contact on mother-infant interaction—including maternal sensitivity, infant’s self-regulation, and dyadic mutuality and reciprocity—could be observed one year after birth.\textsuperscript{40}
**Physiologic Protection**

Skin-to-skin contact, the normal mammalian postnatal condition, has been found to improve infant state organization, thermal regulation, respiration and oxygen saturation; reduce apnea and bradycardia; increase improves milk production; accelerate weight gain and quicken hospital discharge.⁴⁰–⁴⁸

**Improves State Organization**

- Infants observed during one hour of skin-to-skin contact were found to have greater state organization, experience better sleep and have better motor system modulation.⁴¹
- Early skin-to-skin contact alleviates the “stress of being born” by decreasing the infant's sympathetic tone through the mother’s touch, body warmth and scent. The scent of the mother’s breast helps guide the infant toward her nipple.⁴⁹
- During all observation periods occurring in the first 90 minutes after birth, infants kept in a bassinet cried for a significantly longer time than infants kept in skin-to-skin contact.⁵⁰
- Infants not in skin-to-skin contact after birth have a distinct cry similar to the “distress call” that other mammalian infants exhibit when separated from their mothers. This crying stops upon reunion.⁵¹
- Infants in skin-to-skin contact have lower levels of cortisol and other stress hormones as well as increased tolerance to pain.⁵²–⁵⁴

**Helps Baby to Regulate Temperature**

- Infants maintain temperature more effectively during skin-to-skin contact.⁵⁵
- Skin-to-skin contact has been demonstrated to be at least as effective as incubators for re-warming hypothermic newborns.⁵⁵
- Temperature regulation improves in the first two days of life for newborns who are in close physical contact with their mothers, when compared to clothed and covered infants kept in a bassinet.⁵⁶
- While in skin-to-skin contact, infants are able to regulate their temperatures within a narrow range by gaining or losing heat to their mothers as needed to avoid hypo- or hyperthermia.¹, ⁵⁵, ⁵⁷
- Twins can be simultaneously held in skin-to-skin contact without temperate or physiologic compromise. Right and left breast temperature differ to accommodate each infant.⁵⁸

**Helps Baby to Regulate Heart Rate and Breathing**

- A Cochrane review concluded that skin-to-skin contact increases cardio-respiratory stability.¹

**Increases Metabolic Adaptation and Stabilizes Blood Glucose**

- Babies in skin-to-skin contact with the mother have increased blood glucose stability and metabolic adaption.¹, ⁵⁰, ⁵⁹

**Establishes Healthy Gut Flora**

- Maternal-infant skin-to-skin contact allows the mother's normal flora to colonize the baby's gut, protecting the infant from pathogens.⁶⁰, ⁶¹

**Protects against Morbidity and Mortality**

- The timing of the first feeding has important immunologic implications for the newborn infant. Initiation of breastfeeding soon after birth provides the infant with timely and maximal access to immune-rich colostrum. Colostrum is higher in immunologic components and proteins in the first hours after birth than at any other time,⁶², ⁶³ and early, frequent breastfeeding provides the infant with a host of immune protections that protect against environmental pathogens.⁶⁴–⁶⁵ The amount of colostrum intake is related to the infant’s blood levels of immunoglobins.⁷⁰ Timing of the first feeding is also correlated to the timing of gut maturation and closure, an important immunologic defense.⁷¹, ⁷²
• Evidence suggests a strong association between early breastfeeding and infant health outcomes. For example, a recent large-scale study in a sub-Saharan African region (rural Ghana) found that neonatal mortality increased in a dose-response fashion with an increased delay in the initiation of breastfeeding from one hour to seven days. The authors concluded that 16 percent of neonatal deaths could have been avoided if all infants were breastfed from day one, and 22 percent could have been avoided if breastfeeding had been initiated within the first hour after birth.73

**Implementation Strategy**

**Preparation: Getting Ready for Skin-to-Skin Contact**

Action steps for implementing Step 4 include:

• Training staff on principles and techniques for skin-to-skin contact.
• Facilitating continuous mother-infant contact after delivery.
• Educating all pregnant women about the benefits of skin-to-skin contact.
• Including information such as pamphlets, videos and posters in staff and parent-education programs.
• Working with staff to redesign infant perinatal routines to allow time for immediate mother-infant contact. This process should include staff interviews and brainstorming sessions.
• In the delivery room, considering the mother’s need for privacy and a calm environment and paying special attention to lighting, how many people are in the room and whether all machines in the room are necessary.
• Ensuring that all labor, delivery and recovery areas have adequate climate control.
• For mothers who choose to breastfeed, ensuring that early initiation occurs by assigning responsibility to and equipping staff with the necessary skills for assisting.
• Auditing, sharing results, revising the action plan and repeating audits.

**Implementation: Best Practices for Success**

**Key Principles of Step 4**

• Keep mother and baby together and maintain closeness throughout the postpartum stay.
• Place naked, dried baby prone on mother’s bare chest in skin-to-skin contact immediately after birth.
• Allow baby to start suckling when ready.
• Do not hurry or interrupt this process.
• Delay non-urgent clinical routines for at least one hour.
• If mother and baby are separated, restore and maintain the mother-baby connection at the earliest possible time.

Healthy, full-term babies instinctively find the breast and self-attach. This instinct is strongest in the first hour or two after birth. Common breastfeeding difficulties can be avoided by ensuring an unhurried initiation of skin-to-skin contact. This can translate into improved patient satisfaction and more efficient use of staff time.

Education of staff and pregnant women is crucial for this Step. Review and ensure that all policies—such as those requiring bathing within the first hour after birth—be amended to support skin-to-skin care.
Skin-to-Skin Contact

A mother and her baby should be placed in skin-to-skin contact as soon as possible after birth (within a few minutes, before the delivery of the placenta) and be allowed to remain in a quiet, unhurried environment until they are both ready to breastfeed. The naked baby should be dried during the transfer directly to the mother’s chest, between her bare breasts, immediately after birth. Both mother and baby can be covered with a warmed blanket. Regardless of feeding intentions, early close contact gives mothers and babies the best possible start to their relationship. Separation interrupts and negatively impacts the natural bonding process. High-risk families (e.g., teen mothers with poor support) may especially benefit from skin-to-skin contact.

Skin-to-skin contact promotes safety, stability and well-being and has long-lasting implications for the mother-baby pair. It facilitates physical and hormonal changes in both mother and baby that prepare them for breastfeeding and for the beginning of their relationship together. Unless a mother chooses to forgo breastfeeding, it is important to provide her with the opportunity to begin. It is best practice for staff to protect and support the closeness between her and her newborn. Mothers may have to be discouraged from passing the baby to the father or from seeing visitors until after the baby’s first feeding.

Rarely will a mother object to holding her newborn close after delivery. Skin-to-skin contact should be the default method of post-delivery care for all mothers and babies. Avoid asking whether or not she wants skin-to-skin contact. This question, and related body language, can suggest that it is not the normal care given to newborns. Mothers who don’t want skin-to-skin contact or to breastfeed typically inform staff of their wishes.

Skin-to-skin contact should continue for as long as the mother wishes but be maintained at a minimum until the first breastfeeding. The maternal environment provides the healthy newborn with all the warmth, protection and nutrition needed.

Nursing Care of the Mother-Baby Pair

Normal vigilance in observing the newborn’s temperature, breathing, color and tone should continue throughout the period of skin-to-skin contact in order to assess for smooth transition and adaption to extrauterine life. Mothers should also be observed, with prompt removal of the newborn if either she or her baby’s condition deteriorates. Observe the environment and arrange for safety to ensure that the newborn cannot fall or become entrapped and that its airway remains clear.

Mothers who require suturing should receive adequate pain control so that they can continue to safely hold their newborns during this procedure. If the mother has an altered state of consciousness (e.g., is drowsy from analgesia), it is not safe for her to hold her baby unassisted. However, without any effort on the mother’s part, an attentive caregiver can help the baby have its first breastfeeding when he or she shows readiness.

This first period of contact should never be interrupted for the convenience of the staff. Procedures such as vitamin K or erythromycin administration and weighing can be delayed until after the first feeding. There is no indication for bathing or other non-clinical infant-care routines to occur at a given time. Bathing the infant or removing the vernix should be postponed. The scent of the amniotic fluid on the baby’s skin helps the baby to find its way to the mother’s breast, which has the same scent. In addition, bathing unnecessarily exposes the baby to heat loss. An infant’s ability to regulate temperature is undeveloped in the first 24 to 48 hours after birth.

Skin-to-skin contact should last at least until the mother wishes to end it or the first breastfeed is over. Staff should not pressure a mother to end skin-to-skin contact. Even questions such as “Are you ready for visitors?” can suggest it is time to do something else.

The use of a wheelchair or gurney during transfer to the postpartum unit can enable skin-to-skin contact to continue. If separation is necessary or requested, it should be resumed immediately when the two get to the ward, especially if the first feed has yet to occur.
After this initial period of connectedness, skin-to-skin contact can be used at any stage to comfort mother and infant and increase feeding readiness. This should be encouraged during the first few days. Likewise, if initial skin-to-skin contact is not possible or doesn’t last for at least an hour because of interruption, mothers and infants will benefit from initiating a long period of continuous skin-to-skin contact at the earliest possible opportunity, even if this occurs weeks after birth.

**Help with Breastfeeding Initiation**

Problems with attachment during breastfeeding are less likely to occur if the baby’s instinct to locate and suckle the breast is encouraged during the first hour(s) after birth. Staff should avoid interfering with this process.

The first breastfeed should be allowed to happen in its own time. It is not necessary to hurry or force babies to the breast. The first time of suckling at the breast is as much or more about the mother “taking in” her infant and the infant learning about the breast and its new environment than it is about “feeding.” There is no need during this feeding to provide instruction about positioning, attachment, feeding signs or other skills the mother will need. This is a time for her to build confidence in her ability to provide for her baby and to help her gain trust in the baby’s competency to seek and secure the warmth and connection it needs for survival.

Babies are born well-nourished from the placental environment. The concern for Step 4 is to provide conditions that facilitate stability, bonding, breastfeeding and recovery from birth. Some babies, especially those affected by medications given to the mother during labor, may not be ready to feed for two or more hours after birth, and some may not be ready to feed until they awaken from their first sleep. Hurrying them is counter-productive and may negatively impact attachment at later feedings. An extended, uninterrupted period of skin-to-skin contact should be facilitated to provide these infants with all the benefits of the maternal environment while they recover from the effects of medications or a difficult birth. If there are clinical considerations requiring that the baby be fed before he or she shows signs of readiness to latch, encourage the mother to express a few milliliters of colostrum.

Staff should be present after the birth in case the mother has questions or issues with optimally positioning the baby for locating the breast. Once again, this process should not be rushed, and staff should not expect to handle the baby unless invited to do so. When the baby becomes alert, starts moving, makes suckling movements and reaches for the breast, staff should explain what is happening and guide the mother to position herself comfortably if necessary.

When a newborn starts to seek the breast, it can usually locate it on his or her own, but the mother may need to move the baby closer to the areola and nipple to start suckling. Unnecessary washing of the breast or of the baby’s hands may impede the newborn infant from using its sense of smell to locate the breast. \(^{17, 29, 30, 32}\)

If a baby has not started to breastfeed in the delivery room, be sure that the mother-baby staff is aware of this and allows skin-to-skin contact to continue until the first feeding occurs. Staff should watch for signs of feeding readiness and offer support and encouragement for the first feeding.

**Birthing Practices**

To better put this Step into action, encourage practices that make the mother feel in control and competent in caring for her baby. A family-centered approach to care that includes involvement of family members can facilitate this.

**Medication**

Medication given to the mother or infant may affect the baby’s early response to breastfeeding. This should be discussed with the mother both before and during labor.
Cesarean Section

Skin-to-skin contact is possible and common after a Cesarean section and should be encouraged in the operating room after birth if the mother’s and baby’s health allow. The operating room, however, may not be the best or most appropriate place for contact or breastfeeding, depending on how long the surgery has taken. In this instance, mother and baby can be transported together to the recovery room or the postnatal unit might be a more appropriate environment for unhurried contact and feeding.

Minimize separation of mother and baby following a Cesarean section. It is common for fathers to accompany the baby to the postnatal unit after Cesarean section; however, this increases the time of mother-infant separation. Due to the importance of this optimal window for attachment, policy should discourage separation at this time.

Skin-to-skin contact can often begin soon after Cesarean birth. Should a procedure such as resuscitation cause a period of separation, skin-to-skin contact should begin as soon as the baby is stable.

Delayed Contact

If skin-to-skin contact must be delayed or interrupted for clinical indication, it should be started or resumed as soon as possible. If the baby requires neonatal intensive care, accommodations for the mother to hold the infant and provide kangaroo care should be facilitated as soon as the mother and baby are stable enough to be together.

If the mother is unable to hold her newborn but the baby is healthy and stable, it should be placed in skin-to-skin contact with the father or another close family member. However, the mother should always be first choice for skin-to-skin contact if she is able because of the physical, hormonal and emotional consequences for both mother and baby and because the baby is only able to receive colostrum from the mother.

Breastfeeding can still be successfully established even if separation occurs before the first feed, but extra support may be needed. Frequent and uninterrupted skin-to-skin contact can help.

Impact of Step 4 on Other Steps

The implementation of the other steps and best practices for breastfeeding are facilitated by early skin-to-skin contact. Confidence derived from successful early feeding can make other feedings easier (Step 5). A well-nourished baby can help a mother feel less anxious about its well-being and will avoid unnecessary tests and artificial feedings (Step 6). The calming effect of skin contact with babies can facilitate rooming-in by teaching mothers one effective way to settle her baby (Step 7). Skin-to-skin contact can be used to awaken a drowsy baby for demand-feeding and calm an upset baby before initiating feeding (Step 8). Finally, skin-to-skin contact can eliminate the need for pacifiers and artificial nipples (Step 9).
The most common concerns related to implementing Step 4 are detailed below, along with strategies for overcoming them (adapted, in part, from the documents listed as General References after the Notes section at the end of this Step).

1. **Perception that units are too busy to accommodate immediate and continuous skin-to-skin contact.**
   While implementing policies of skin-to-skin contact does require significant change and restructuring of care, it requires very little effort by healthcare professionals once implemented. Continuous observation of the infant and mother are not required.

2. **Perception that there is not sufficient space to accommodate unhurried contact in the labor and delivery rooms.** Mother and baby can easily and safely be transferred from the labor and delivery suite to the postpartum unit, either in a bed or wheelchair, while maintaining skin-to-skin contact. This saves staff time because there is no need to transport the infant to and from the newborn nursery. Patient satisfaction improves when there is no separation of mother and baby. And most important, infant thermoregulation and stability are maintained.

3. **Perception that routine care should be prioritized over skin-to-skin contact.** If a nurse needs to close out her charting before skin-to-skin contact is initiated, weighing and measuring the baby can be done quickly at the bedside as soon as the baby is dried and before the baby is put in skin-to-skin contact. All other care routines can be adjusted so that they are delayed until after the first feeding, and even then, mother-baby contact can be maintained.

4. **Perception that a mother who gives birth at a given facility will not want this type of care.** Staff may believe that mothers are indifferent to instruction on skin-to-skin contact. However, efforts to inform mothers of the importance of skin-to-skin contact should be made regardless of perceived interest.

5. **Staff concerns about offending mothers who choose to not breastfeed.** Staff may be concerned that breastfeeding could occur spontaneously during skin-to-skin contact with mothers who have chosen not to breastfeed. Experience in Baby-Friendly hospitals has demonstrated, however, that few mothers object to an offer of help when their infants show readiness or object if their infants initiate this first feeding, even if they go on to formula-feed thereafter. If a woman explicitly asks that her baby not latch at the breast, skin-to-skin contact can still be maintained until the infant is ready for its first feeding.

6. **Concerns related to cultural traditions.** Prelacteal feeds, or the offering of fluids prior to the first breastfeeding, are traditional in some cultures. However, even a few spoonfuls of these non-colostral feeds can increase the risk of infection and allergy to the infant. If your area includes cultures in which prelacteal feeds are used, prenatal education about the importance of exclusive breastfeeding and the benefits of colostrum are important. Discussing cultural expectations may help find solutions that fulfill tradition and also protect the infant from prelacteal feeds. For example, sometimes expressing and discarding the first several drops of colostrum is all that is needed to satisfy cultural norms related to a baby’s not receiving colostrum during its first feeding.

“The process of childbirth is not finished until the baby has safely transferred from placental to mammary nutrition.”

World Health Organization
• **Concerns about the mother who does not want to hold her newborn.** Not wanting to hold a newborn may be a sign of depression and that the baby is at an increased risk for abuse, neglect or abandonment. Contact with the baby might significantly reduce these risks and should be encouraged. Adding a section to the mother’s birth chart for documenting the start time and duration of skin-to-skin contact will help underline the importance of skin-to-skin contact at the care facility.

Twins present a unique situation. Skin-to-skin contact can be given to the first infant until the second labor begins. This time interval will vary with each birth. After the second birth, the mother can hold both infants.

**Paradigm Shift**

The challenge underlying all of the stated concerns is that skin-to-skin contact and early breastfeeding represent a paradigm shift. It is a complete change from the way care has been routinely delivered in hospital settings in recent years, and it is a new way of doing business for most healthcare staff, perhaps even more so for the more experienced staff. Sensitive and abundant education may be required for convincing staff of the benefits of this type of care. Parents should also be educated prenatally so they are prepared to expect close and extended contact with their babies.

As with any of the Ten Steps, awareness of the benefits of skin-to-skin care may cause staff discomfort if it is difficult to reconcile the new care routine with the previous care-delivery mode. Actively involve staff in identifying barriers and designing and measuring change. Celebrate progress.

**Strategies include:**

- Completing a literature review of outcomes related to skin-to-skin contact and early breastfeeding as well as policy statements of the AAP and ACOG.

- Using rapid-cycle quality-improvement strategies to study and observe the impact of early and continuous skin-to-skin contact on infant health outcomes, including hypothermia and breastfeeding rates.

- Examining current policies and procedures to see whether they are inconsistent with this type of care.

- Monitoring progress and regularly auditing. Keeping track of when skin-to-skin contact begins and its duration, along with interviewing mothers, can provide helpful data for tracking progress. The results of these audits should be shared with staff as an indicator of what remains to be done and what progress has been made.

Once skin-to-skin contact is implemented, the benefits such as infant stability, improved breastfeeding effectiveness and increased maternal confidence will begin to become apparent.
Use the information in this section and the Additional Resource Documents section at the back of this toolkit as checkpoints to verify that you are successfully implementing Step 4. Assign one or two staff members who have the best perspective on day-to-day operations to complete these checkpoints.

- **Process changes.** When evaluating your facility’s success in implementing Step 4, consider the following:
  - Average time to first initiate skin-to-skin contact.
  - Average time in skin-to-skin contact after delivery.
  - Average time until first breastfeeding.
  Facility management should use the included Step 4 Action Plan to assess progress on this Step.

- **Impact on patient experience.** Your facility should track data related to skin-to-skin contact and early breastfeeding. Data to track include:
  - Incidence of hypothermia.
  - Incidence of hypoglycemia.
  - Maternal request for nursery care.
  - Lactation acuity at second feeding.
  - Prelacteal feed rate.
  - Supplementation rate.

- **Assessing value to the facility.** Use Step 4 Facility Impact included in the Resources section to assess how the recommended measures have affected your facility and to assess cost savings that may be attributed to the changes made.

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**Resources**

- DSHS Publications, available for order from the WIC Catalog: [http://www.dshs.state.tx.us/wichd/WICCatalog/contents.shtm](http://www.dshs.state.tx.us/wichd/WICCatalog/contents.shtm)
  - Colostrum Flier: Defines differences between colostrum and “mature milk.” It explains the importance of colostrum and manual expression in the first few days after birth
  - The Hospital Experience: What to Expect and How to Make it Memorable brochure: For use prenatally, provides anticipatory guidance to pregnant moms about what to expect in the hospital, including the importance of Step 4.

• Sample policies, patient information, chart review tool, references and other resources to support skin-to-skin contact. California Department of Public Health Model Hospital Policy Recommendations On-Line ToolKit. Policy #5: http://www.cdph.ca.gov/HealthInfo/healthyliving/childfamily/Pages/BFP-MdlHospToolkitPolicy5.aspx

• Information about Loma Linda University Medical Center’s SOFT Initiative to encourage support of early bonding and attachment: lomalindahealth.org/medical-center/our-services/perinatal-services-network/for-health-professionals/about-us/media-guide.page?

• The warm chain (Video) evidence-based WHO recommendations for preventing neonatal hypothermia after birth, including skin-to-skin contact and keeping baby on mother. This video was created by Ukrainian Maternal & Infant Health Project/JSI: http://youtu.be/hP5XMBppokU


• The Mother and Child Health and Education Trust. breastcrawl.org/ website detailing initiation of breastfeeding by “breast crawl.” Includes video of a newborn finding its way to the breast unassisted after placement in skin-to-skin contact immediately after birth.

• Delivery Self-Attachment video. Two brief videos, both produced in underdeveloped countries, depicting a newborn’s ability to crawl up to the breast and attach unassisted.
  - Initiation of Breastfeeding by Breast Crawl. UNICEF Maharashtra (India) http://www.youtube.com/watch?v=b3oPb4WdyceE
  - The Breast Crawl, (Phillipines): http://www.youtube.com/watch?v=e9WtH4dq-cw


Book

Skin-to-Skin Contact for the Preterm Infant

Kangaroo Mother Care DVDs/Videos [Manufacturer’s descriptions]
Kangaroo Mother Care—Restoring the Original Paradigm for Infant Care and Breastfeeding
This video provides the latest research and evidence to prove that the newborn thrives best in its original ‘rightful place’—on its mother’s chest. Kangaroo mother care has some vital components: the video provides full details on why kangaroo mother care works and why it is so important for all newborn babies. It is intended for healthcare workers dealing with healthy and ‘at-risk’ mothers-to-be as well as for prospective mothers
and fathers. The application of kangaroo mother care must be carried out under supervision of a healthcare professional and is not described in the video. (Running time: 51 minutes)

Kangaroo Mother Care—Rediscover the Natural Way to Care for Your Newborn Baby
Kangaroo mother care is for all newborn babies, especially premature ones. This video summarizes research and evidence to prove that the newborn thrives best in its original rightful place—on its mother’s chest. A practical method of doing kangaroo mother care is described. (Running time: 26 minutes)

• www.skin.kangaroomothercare.com
• www.geddesproduction.com/kangaroo-mothercare.php

Notes

26. Örün E, Yalçın SS, Madendag Y, et al. Factors associated...


**General References**

Step 4 Implementation Owner: ____________________________________________________________

Start date: _________ Target completion date: ____________

Primary Goals of Step 4:

☐ Ensure that babies are in early and continuous skin-to-skin contact with their mothers immediately following birth for at least an hour.

☐ Help mothers to recognize when their babies are ready to breastfeed and offer help if needed.
**Budget/Resources for implementation:**

<table>
<thead>
<tr>
<th>Resource area and description</th>
<th>Planned actions</th>
<th>Budgeted amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training:</strong> Train staff on the benefits of skin-to-skin contact and early contact between mother and baby. Teach staff to facilitate continuous mother-infant contact after delivery. Set aside time for discussing information gathered by literature review committee.</td>
<td></td>
<td>$</td>
</tr>
<tr>
<td><strong>Materials development:</strong> Distribute information such as pamphlets, videos and posters to be included in staff and parent education programs.</td>
<td></td>
<td>$</td>
</tr>
<tr>
<td><strong>Equipment:</strong> Ensure that all labor, delivery and recovery areas have adequate climate control.</td>
<td></td>
<td>$</td>
</tr>
<tr>
<td><strong>Other costs related to implementation of Step 4.</strong></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td><strong>Total expected costs</strong></td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>
Implementation

Do facility policies:

☐ Promote skin-to-skin contact immediately—or as soon as clinically feasible—after birth?

☐ Initiate early contact and skin-to-skin as a rule, unless the mother has requested otherwise?

☐ Allow time for immediate mother-baby contact?

☐ Promote a quiet, calm, unhurried environment in the delivery room?

☐ Help to keep mother and baby close throughout their postpartum stay—from delivery to discharge?

☐ Delay non-critical procedures—administration of vitamin K, weighing, etc.—in the first hours after birth?

Do staff trainings and competencies support:

☐ Promotion of skin-to-skin and early contact?

☐ Understanding of the benefits—physically, hormonally and emotionally—of skin-to-skin and early contact?

☐ Labor, delivery and postpartum practices that promote mother-baby contact?

☐ Methods to help with breastfeeding initiation, including providing a calm, unhurried environment and helping the mother to recognize her infant’s innate capabilities? Staff should support maternal confidence and maternal-infant bonding during this feeding. Therefore, it is not necessary to emphasize or provide instruction on breastfeeding technique or effectiveness of attachment at this time.

☐ Establishing or re-establishing skin-to-skin contact after any initial delays?

Notes

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__________________________________________________________________________
**Step 4 Implementation Tracking**

Use the table below as a checkpoint for your unit and facility planning and for assessing your progress on Step 4. Set unit goals in terms of the month at which you plan to achieve each goal below, and assign each goal to be monitored a specific person on staff.

Each goal below should be documented and archived so that your facility can verify progress and assess future goals.

<table>
<thead>
<tr>
<th>At month</th>
<th>Person Responsible</th>
<th>Initials</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All facility staff are trained to facilitate continuous mother-infant contact after delivery, whenever feasible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data are being collected and assessed for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Incidence of hypothermia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Incidence of hypoglycemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Maternal request for nursery care</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lactation acuity at second feeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prelacteal feed rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Supplementation rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Literature has been distributed to prenatal providers to help educate pregnant women on the benefits of early and regular skin-to-skin contact, particularly immediately after delivery. Materials include information about the expected effects of various medications on the newborn's ability to be alert and suckle early on.</td>
<td></td>
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<tr>
<td></td>
<td>A literature review committee has been established.</td>
<td></td>
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<tr>
<td></td>
<td>Relevant literature is being reviewed and shared with staff (and patients) appropriately.</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Policies regarding skin-to-skin and early contact have been reviewed and revised as necessary.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilities have been assessed and/or updated to ensure that privacy and low lighting are available and that all rooms have climate controls.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Step 4
**Facility Impact**

<table>
<thead>
<tr>
<th>Balancing Measures</th>
<th>Details</th>
<th>Person Responsible</th>
<th>Initials</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff time spent with breastfeeding after delivery.</td>
<td>Has the paradigm shift to earlier contact reduced staff time addressing breastfeeding issues in the postpartum unit? What quantifiable changes have been observed with regard to staff time?</td>
<td></td>
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</tr>
<tr>
<td>Patient satisfaction scores.</td>
<td>Track and analyze patient satisfaction quarterly. Determine a plan for assessing patient satisfaction. Has patient satisfaction improved since implementing Step 4?</td>
<td></td>
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</tr>
<tr>
<td>Equipment, time and technology savings.</td>
<td>Since implementation of Step 4, you should see a decrease in the amount of equipment, time and technology spent in L&amp;D and postpartum (e.g., warmers, probes, additional staff to care for infants, etc.) What effects have been noted at the facility?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What can be improved upon next year?</td>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>