

7. Early Skin-to-Skin Contact Between Mothers and Newborns

A new report, *Hormonal Physiology of Childbearing: Evidence and Implications for Women, Babies, and Maternity Care* (2015), synthesizes an extensive literature about hormonally-driven processes of parturition and the early postpartum period.

The following information is drawn from this report.

Separation of mothers and babies after birth is common practice in many facilities,¹ particularly in relation to cesarean, episiotomy or laceration repair, or newborn examination and routine care. This fact sheet summarizes the beneficial hormone actions of mother-newborn skin-to-skin contact (SSC), the benefits of SSC through the lens of hormonal physiology, and practices that support beneficial hormonal physiology when separation of mother and infant is necessary.

Hormonal action just after birth

In the minutes to hours after labor and birth that started and progressed physiologically, through healthy biologic processes and without effects of medications, procedures, and/or mother-baby separation:

- ▶ Early maternal oxytocin peaks in relation to maternal-infant SSC and interactions² may help prevent postpartum hemorrhage and promote biologic bonding and maternal adaptations.³ The first hour may be a period of exceptional sensitivity for mother and baby.
- ▶ Maternal prolactin peaks in the first hour after birth⁴ may facilitate breastfeeding.
- ▶ Fetal oxytocin elevations with SSC in the first hours after birth² may promote a calm and alert state that facilitates breastfeeding initiation.^{3,5}

Benefits of skin-to-skin contact through the lens of hormonal physiology:

- ▶ Uninterrupted SSC and breastfeeding initiation may promote further rises in maternal oxytocin² and prolactin systems, promoting breastfeeding and bonding, and possibly preventing postpartum hemorrhage.
- ▶ SSC promotes maternal vasodilation,⁶ warming the infant and preventing hypothermia.
- ▶ SSC reduces newborn stress and stress hormones, optimizing newborn transitional physiology, including energy consumption, glucose levels, respiration, crying and breastfeeding behaviors.
- ▶ SSC promotes breastfeeding through early lactation hormone action, increasing the chances of exclusive and longer-term breastfeeding.⁷
- ▶ Following epidural anesthesia or cesarean birth—which may adversely impact the physiologic peaks of oxytocin,⁸ beta-endorphins⁹ and/or prolactin¹⁰ of mother and newborn—SSC may compensate to some extent, with possible benefits to breastfeeding,¹¹ bonding, hemorrhage risk, and/or newborn transition.
- ▶ Ongoing skin-to-skin contact during the early days and weeks may have benefits to maternal mental health,¹² likely via peaks of oxytocin and prolactin, both stress reducing.

Access *Hormonal Physiology of Childbearing: Evidence and Implications for Women, Babies, and Maternity Care* (2015) by Dr. Sarah J. Buckley and related material, including individual fact sheets and the full set, at ChildbirthConnection.org/HormonalPhysiology.

Practices that support beneficial hormone action when separation is necessary

When separation of mother and baby is medically necessary, childbearing women and newborns can benefit from support of physiologic processes as far as safely possible. Ways to foster these processes include:

- ▶ Skin-to-skin contact may be beneficial for mother and baby even after the sensitive hour or so after birth, including for breastfeeding initiation.
- ▶ Breastfeeding, like SSC, releases oxytocin, prolactin and beta-endorphins, all soothing and rewarding hormones for mother and baby. Breastfeeding can optimize hormonal physiology and/or reduce stress for mother and baby at any time.

Precautionary Point: Animal studies show long-term disruptions to hormonal systems and functioning following brief daily maternal-newborn separation, which is used as an animal model for depression¹³ and addiction.¹⁴ Human studies also suggest significant stress for separated newborns.¹⁵

Selected references – see report for additional documentation:

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