

## 6. Physiologic Birth versus Cesarean Section

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.

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One in three babies is born by cesarean birth in the United States today.<sup>1</sup> The following information summarizes the beneficial hormone actions of childbearing that is physiologic (conforming to healthy biologic processes), the likely clinical benefits of physiologic birth through the lens of hormonal physiology, and practices that may safely benefit hormonal physiology when a cesarean is necessary.

### Hormonal actions of physiologic birth:

- ▶ Central oxytocin elevations in labor<sup>2</sup> counteract stress and pain<sup>3</sup> and promote maternal adaptations and attachment.<sup>4</sup> Postpartum oxytocin peaks<sup>5</sup> may reduce hemorrhage risk.
- ▶ The fetal catecholamine surge of late labor prepares for newborn respiratory transition, thermoregulation, and glucose regulation.<sup>6</sup>
- ▶ Maternal and fetal “eustress” of labor promotes alertness, bonding, and breastfeeding initiation after birth.<sup>6,7</sup>
- ▶ Uninterrupted skin-to-skin contact promotes further activation of maternal and newborn oxytocin systems, enhancing breastfeeding and bonding.<sup>7</sup>
- ▶ Prolactin hormonal activation following physiologic birth supports breastfeeding and attachment physiology.<sup>8</sup>

### Benefits of physiologic versus cesarean birth through the lens of hormonal physiology:

- ▶ lower rates of newborn respiratory stress and intensive care admissions<sup>9</sup>
- ▶ higher rates of breastfeeding<sup>10</sup>
- ▶ maternal brain adaptations that promote responsiveness to infants<sup>11</sup>
- ▶ less separation of mother and baby,<sup>12</sup> contributing to breastfeeding and biologic bonding

### Practices that support beneficial hormonal action when cesarean is necessary

When cesarean birth and other interventions are medically necessary, childbearing women and newborns can benefit from support of physiologic processes as far as safely possible. Ways to foster these processes include:

- ▶ Schedule cesarean as close as safely possible to the onset of physiologic labor to benefit maternal and fetal readiness.
  - ▶ Post-cesarean, support early and uninterrupted skin-to-skin mother-baby contact, ideally beginning as soon as possible in the operating or recovery room. In the absence of complications, mother and baby should be together within an hour of birth.<sup>13</sup> Early contact may elevate maternal and newborn oxytocin levels,<sup>5</sup> reducing stress, and possibly decreasing hemorrhage risks.
  - ▶ Early breastfeeding initiation also promotes release of oxytocin and prolactin, promoting successful breastfeeding over the longer term<sup>14</sup>
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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](http://ChildbirthConnection.org/HormonalPhysiology).

**Precautionary Point:** Accumulating evidence shows negative impacts in cesarean-born offspring, including short-term respiratory morbidities and longer-term immune and metabolic dysfunctions,<sup>15</sup> Lack of the physiologic trajectories of vaginal birth has been implicated.<sup>15</sup>

### Selected references – see report for additional documentation:

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**Disclaimer:** The information in this document is not intended as a substitute for the professional guidance of qualified maternity care providers.

