

## **Fathers' cortisol and testosterone in the days around infants' births predict later paternal involvement.**

[Kuo PX<sup>1</sup>](#), [Braungart-Rieker JM<sup>2</sup>](#), [Burke Lefever JE<sup>3</sup>](#), [Sarma MS<sup>4</sup>](#), [O'Neill M<sup>5</sup>](#), [Gettler LT<sup>6</sup>](#).

### **Abstract**

Human paternal behavior is multidimensional, and extant research has yet to delineate how hormone patterns may be related to different dimensions of fathering. Further, although studies vary in their measurement of hormones (i.e., basal or reactivity), it remains unclear whether basal and/or reactivity measures are predictive of different aspects of men's parenting. We examined whether men's testosterone and cortisol predicted fathers' involvement in childcare and play with infants and whether fathers' testosterone and cortisol changed during fathers' first interaction with their newborn. Participants were 298 fathers whose partners gave birth in a UNICEF-designated "baby-friendly" hospital, which encourages fathers to hold their newborns 1 h after birth, after mothers engage in skin-to-skin holding. Salivary testosterone and cortisol were measured before and after fathers' first holding of their newborns. Basal and short-term changes in cortisol and testosterone were analyzed. Fathers were contacted 2-4 months following discharge to complete questionnaires about childcare involvement. Fathers' cortisol decreased during the time they held their newborns on the birthing unit. Fathers' basal testosterone in the immediate postnatal period predicted their greater involvement in childcare. Both basal and reactivity cortisol predicted fathers' greater involvement in childcare and play. Results suggest that reduced basal testosterone is linked with enhanced paternal indirect and direct parenting effort months later, and that higher basal cortisol and increases in cortisol in response to newborn interaction are predictive of greater paternal involvement in childcare and play, also months later. Findings are discussed in the context of predominating theoretical models on parental neuroendocrinology.

### **KEYWORDS:**

*Endocrine reactivity; Fatherhood; Hormones; Newborns; Paternal care; Psychobiology*