EXPLORING THE SCIENCE OF THE SENSESTM
IN HEALTHY BABY DEVELOPMENT

A strong body of foundational and emerging research suggests that multisensory stimulation—or the concurrent stimulation of tactile, olfactory, auditory, and/or visual stimuli—benefits the social, emotional, cognitive, and physical development of babies.

A baby’s brain creates up to 1.8 million new synaptic connections per second, and a baby’s experiences will determine which synapses will be preserved.1 Multisensory stimulation—what a baby feels, smells, hears, and sees—helps promote the long-term survival of synaptic connections.1 Stimulation is essential early in development; within the first 3 years of life, there is rapid development of most of the brain’s neural pathways supporting communication, understanding, social development, and emotional well-being.2

Multisensorial stimulation—what a baby feels, smells, hears, and sees at every moment—helps promote the long-term survival of synaptic connections during brain development.1

Everyday experiences in a baby’s life can develop and stimulate his or her senses and provide parents an opportunity to nurture their baby’s ability to learn, think, love, and grow. A simple ritual of bath time and massage is an ideal opportunity to create a multisensory experience. Bath time provides an opportunity for increased skin-to-skin contact (touch stimulation)7 and direct eye contact,9 as well as the introduction of new textures, sights, sounds, and smells that can stimulate a baby’s tactile, visual, olfactory, and auditory senses. The sense of smell, in particular, is directly linked to emotional memory10; a mother’s scent can help soothe a crying baby,10 while a pleasant scent during bath time is shown to promote relaxation in both baby and parent.7

Multisensorial Enrichment Increases Alertness in Preterm Infants6

Stimulating multiple senses sends signals to the brain that strengthen the neural processes for learning. Through consistent multisensory experiences, research shows that babies gain healthy developmental benefits, such as reduced stress (cortisol) in healthy and preterm infants3,4 and better quality and quantity of sleep in healthy babies,5 as well as improved weight gain which led to earlier hospital discharge in preterm infants.5

Multisensorial stimulation—or the concurrent stimulation of tactile, olfactory, auditory, and/or visual stimuli—benefits the social, emotional, cognitive, and physical development of babies. A ritual that includes a warm bath followed by massage with a gentle skin moisturizer and quiet activities is a scientifically supported and simple behavioral intervention for improved quality and quantity of sleep in babies.5

Making Bath Time Part of a Ritual Improves Sleep5

Adapted from White-Traut, et al 2002

Week 1
Week 2
Week 3

0%
3%
6.2%

0%
-2%
-1%

Baseline
Week 2
Week 3

Control Group
Product based 3-step, before-bed routine

% Change vs Baseline

When bath time is part of an everyday ritual, the benefits have been shown to help generate a predictable and less stressful environment for the baby and parents.5

Although science has made advances in understanding the long-term benefits of multisensory stimulation, there is more to be done to translate this research into everyday practice. By encouraging parents to view everyday rituals, such as bath time and massage, as opportunities for multisensory stimulation, experiences can be created that can contribute to a lifetime of healthy development.

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References: