Baby Sense

By

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The arrival of a new born baby is a wonderful event. “Parent’s are overwhelmed with their baby and how small and fragile is this new life rapped in blankets and cuddled up against mother. The first few months of parenting is fun, but it is also work, as parents set about establishing good sleeping patterns, feeding routines and enhancing their child’s development.’

As baby grows, parents naturally become concerned for their baby to be the smartest, happiest well adjusted baby that they can be. In the first instance, and as a basis to all other development, it is important to give the child stimulation to develop their sensory systems. Sensory perception and sensory integration is not only important for learning but essential for the baby’s adjustment and comfort. Even when a baby is quite young, sensory perception of the world around them helps your baby be happily awake, learn from his world and go to sleep easily and peacefully. The child has come from a very comfortable, calm controlled sensory environment of the womb to the external world of sensory stimulus. Parents have to help their baby make sense of this new sensory rich environment.

For us to grow, we take information in through our senses to the brain, which is made up of millions of nerves and the continuous flow of nervous energy. The brain has 5 times more sensory nerves receiving and processing information than motor nerves for movement, which indicates the importance of the sensory system to our mental and physical well-being. Sensory ‘input’ is what goes into the brain the ‘output’ is the response (moving, reading, talking). An adult brain can control what sensory information we take in and what we filter out: Filtering out is a subconscious process called habituation. However, a baby’s immature nervous system is unable to filter out or habituate incoming sensory stimulus and, therefore, as a parent, you have to act as your baby’s filters and be able to control the amount and type of sensory stimulation baby is being exposed to, and, to prevent sensory overload.

A calm and happy baby is important for your child’s emotional development and for learning. Today, emotional intelligence is being understood as important as academic intelligence. The calm and alert state is the optimum state for learning and positive early sensory experiences are related to emotional stability.

To set some groundwork for the discussion to come, Our 5 traditional senses (touch, taste, sight, hearing and smell) give baby information about the external world and we have 3 sensory systems which give us information about ourselves. The first is the movement sense (vestibular sense) Body position (proprioceptive sense) and introception from our internal organs for hunger, digestion, temperature and elimination.

From the womb to the world

Understanding the calm sensory environment of the womb can help you as a parent to develop strategies for a smooth transition to the outside world. The sensory environment

of the womb is very comforting and calming. Touch is the first sense to develop, the temperature is perfect and deep pressure touch is provided by the elastic uterus. It is like having an all day massage. Hearing is muted in the womb as the sound moves through water therefore baby receives it at a lower frequency. The vestibular system begins to function at 5 months and along with hearing and touch are well developed sensory systems at birth. The baby is rocked gently around when mum is moving around which puts baby to sleep and when mum stops to rest baby wakes!

Babies are protected from harsh light from their eyelids and Mum's muscles as the womb is often quite dark. Vision is a sense which is not well developed at birth. Babies absorb sensory information in the outside world indiscriminately. Parents therefore have to regulate the baby's sensory world to help baby be calm, alert and enhance development.

Using the Senses for Calming

In the adult everyday world we use caffeine as a stimulant and others such as alcohol or a warm cup of milk to calm us down. We use massages for calming but some events such as a busy shopping mall and loud music are alerting and can be over stimulating. Adults can make the decision to leave the mall or turn the music down, a baby is at the mercy of the parent understanding their needs. Understanding how to use our senses for calming is important to recreate the calm environment of the womb to prevent an irritable, crying baby and enhance your baby's development.

Touch

This is one of the most well developed senses at birth. Baby can feel Mum's calming touch when he is cuddled. Studies have shown that extra skin to skin contact after birth can increase weight gain and enhance motor movements earlier. Touch stimulates neuromuscular development, nerve cell insulation, movement coordination, perception and digestion. It will influence our ability to ride a bike and read when we are older. We only move if we can feel. Most of us have had an anesthesia from the dentist and until it wears off we are unable to get our mouth to do what we want it too! Emotional development is also closely related to our sense of touch. Baby's development depends on your assistance to help him with regulation through touch until he can do it for himself. It is important to stroke your baby from head to toe and from the center to outer extremities. Make sure it is firm but gentle as light touch is irritating. Soft clothing, finger sucking and smooth food textures are a calming influence through the skin. Scratchy blankets or clothing, lumpy food and tickling are alerting and for a baby can sometimes be distressing.

Hearing

The sounds a baby hears at birth are very different to sounds heard in the womb. A babies hearing is well developed at birth and he can hear you whispering at 35 decibels. Normal speech is around 65 decibels. Babies respond well to soft sounds and there is no need to talk loudly to them. Shouting and loud high pitched sounds are unnecessary and will startle and irritate a baby. Quiet rhythmical, soft sounds are calming for a baby. A baby can hear from 24 weeks in the womb and can listen to mother,s voice before he is born.

Movement and Gravity

Baby can be stimulated by moving him in space. There are two types of movement linear and rotatory. Linear is in a rocking chair for example, slow gentle rocking is calming whereas rotatory movement is alerting. Rotary is turning very gently in a circle. Babies feel weightless in the womb and after delivery and the effects of gravity they feel 50 times heavier. It then takes baby approximately one year to master the ability to walk against gravity. Crawling is an essential motor skill which can influence reading and writing when the child is in primary school.

Smell and Taste

Our sense of smell is important for our ability to taste. Babies like sweet tastes which is why breast milk is sweet. Babies smell is very sensitive at birth and they know the smell of their mother's milk. The sweet taste influences babies alertness and encourages them to bring their hands to their mouth which is an excellent self calming strategy. Some smells can be calming whereas other smells can be over stimulating. 'Mother's smell on a piece of clothing, if Mum has to leave baby for any length of time, can be calming.' Strong pungent smells like perfume, tobacco, detergents are alerting for a baby but can also be irritating as a baby is unable to move away from them. Lavender, chamomile, baby and mother smells are calming.

Baby's Awake States

A baby passes through many states of wakefulness in the course of a day. The obvious two states are **sleep** and **awake**. However between these obvious states there are other identifiable states. There are two states of **sleep, light and deep**. Light when he has rapid eye movement and deep when he is sound and sleeps through external noise. Just before

or after sleep a baby is in a **drowsy** state. His eyelids are heavy and he has a glazed look. When baby wakes up further he is in the **'calm alert'** state the optimal state for learning and one which may only start as 15 mins per 3 hours a day and increase as he gets older with good sensory calming strategies. This is baby at his happiest interacting with the world. If baby gets too much stimulation he becomes '**active alert'.** This is when baby starts to move and kick and not be focused and is in danger of continuing into sensory overload and eventually start crying. If Mum, however, is able to provide calming input when baby starts to fuss she can maintain the calm alert state for longer and prevent crying. It is important for Mum to develop awareness of her baby's ability to cope with sensory stimulus. Each baby is an individual and some may become quickly and easily over stimulated whilst others may have a higher threshold and can tolerate a lot more sensory stimulus before reaching sensory overload.

Sensory Environment

As we have been discussing how sensory input influences your baby□s levels of calmness it therefore makes sense to consider the nursery environment. The nursery can decorated and prepared to create the ideal calm environment and positively affect baby□s emotional and physical development.

A light with a dimmer is ideal for night feeds to prevent the use of bright lights. Muted colours in the room for the first 6 months until baby can cope with bright colours is beneficial. Curtains with block □out lining to reduce sunlight particularly during daytime and in this sunny climate. Don□t put toys in the cot as it is not a play area it should be a calm sleeping area. Make visual stimulus available when bay is calm and alert in the baby bath for example. Soft calming music such as heartbeats, Mozart or baroque are all calming music to help baby sleep. Soft bed linen and a swaddling blanket to wrap them up in to a tight hug as they were in the womb. This also prevents the startle reflex from waking him up when arms and legs shoot out. Drops of lavender oil on the bedlinen or a burner in the room provides a calming smell. A rocking chair is a good investment as it can be used for calming before sleeping. Be careful that baby□s clothing does not have irritating textures and the clothes don□t smell of detergent.

Understanding Baby's Signals

A baby's senses all work together to form a picture of what is happening around him. Sensory integration is the term used to describe this critical function that creates that complete picture. In adults sensory integration occurs automatically and subconsciously. Babies have not yet developed this ability to manage sensory information and sensory overload can lead to a fussy irritable baby. What signs can a parent look for as warning signals to intercede and help to reduce sensory stimulus. When a baby is smiling and

cooing and is relaxed he is in calm alert state and is enjoying the social interaction. The warning signals for sensory overload are hands on his face, finger sucking, bracing his legs against the crib or Mum or the foetal position, squirming and finger splaying are some of the possible signals. Fingers in the mouth is baby trying to self calm. At this point the needs to be removed from the stimulus and helped to calm or sleep otherwise he will start crying. Take time to read and interpret your baby's signals.

Sensory overload can lead to colic. Colic is common at the end of the day as baby may have been able to cope with bubbles in his stomach earlier in the day but when he is tired and fussing colic just pushes him over the edge.

Regulatory disorders

Some baby's have what is known as a regulatory disorder. They have difficulty regulating their moods and behaviours. They are fussy babies and are difficult to calm. They may cry for more than 3 hours a day more than three days a week for more than three months. It is beyond the three months colic stage and by six months they are still fussy and have eating and sleeping difficulties. These babies can be particularly sensitive. Premature babies tend to be more sensitive than full term babies. Sensitive babies have a heightened awareness of sound and vision and are irritated by touch and movement. If there is no medical explanation it may be that they have a sensory or regulatory difficulty. Read the following checklist and if there are reasonable indicators contact an Occupational therapist who specializes in sensory integration disorders or speak to your paediatrician.

Criteria for identifying babies with regulatory disorders and difficulties in processing sensory input:

Your baby may respond with crying, withdrawal, or other negative behaviours when involved with everyday sensory input from touch, movement, sight and hearing.

Touch

- ☐ Resists cuddling or being swaddled
- ☐ Distressed at having hair and face washed
- ☐ Distressed by having clothes changed or may prefer no clothes or lots
- ☐ Distressed when strapped in the car
- ☐ Avoids touching textures or getting hands messy

Movement

- ☐ Distressed when swung in the air or involved with rough housing
- ☐ Doesn't crawl before walking
- ☐ Dislikes being in certain positions (on his tummy or his back)

Sight

- ☐ Gets distressed in busy noisy places
- ☐ Sensitive to bright lights
- ☐ Avoids eye contact

Hearing

- ☐ Is distressed by loud noises (eg. aeroplanes , balloons bursting)
- ☐ No babbling or vocalizing

Sleep Disturbances

- ☐ Difficulty going to sleep (more than 30 mins)
- ☐ Wakes more than 2x in the night

Feeding Difficulties

- ☐ Is fussy about food textures
- ☐ Regurgitates or spits out food
- ☐ Change from breast to teat is difficult

- Irregular feeding routine

Distressed with changes in Routine

- Baby becomes disorganized if any change to regular daily routine

Emotional instability

- Baby is fussy and irritable for no apparent reason
- Doesn't initiate interaction (over 9 months)

Difficulty self calming

- Doesn't bring hands to mouth
- Music and soft voices don't calm him

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