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Rhythms of Containment: Suffering Babies and Preventing Obstacles in Psychic Development

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Today I shall speak *in identification with a Premature Infant who can only non-verbally tell you what he/she needs*. Intermittently, I shall also speak as the Premature Baby's Advocate trying to support you in taking very seriously the HUGE IMPACT those early days, weeks and months have on the premature infant's capacity to stay alive. I believe research definitely suggests that the premature infant's beginning life in NICU **Tells the Tale of the Child's Later Life!** Now I begin interlacing the PREMATURE INFANT'S nonverbal communication which I have put into words and my own comments as THE ADVOCATE. The term *clinician* refers to all members of the NICU Team.

Speaking in Identification with the Premature Infant
As an infant I am born to be loved and to be loving. The problem occurs now because I have been born prematurely. Do you know that of the premature infants living in a NICU 20% of them experience autistic features and other psychopathologies later in life? Why is this?

How can you create a ***Community of Concern*** between the NICU team and parents to help me avoid developing psychopathological defences that will impede my capacity for intimate loving relationships with family and friends throughout my life? How can you help me to avoid using defences which hinder my capacity to bear the frustrations of learning? If I was born for love, to love and be loved, then it is necessary to transform the NICU to make my experience more explicitly an experience which promotes love, a trustworthy secure attachment to my parents and a sense of safety. My sense of safety will be greater if throughout my stay you can do everything possible to assist my parents to stay with me and understand me. Also it will feel much safer if, while I am in the hospital, I have just a few key nurses who intimately get know how I am with my parents and how they are with me.

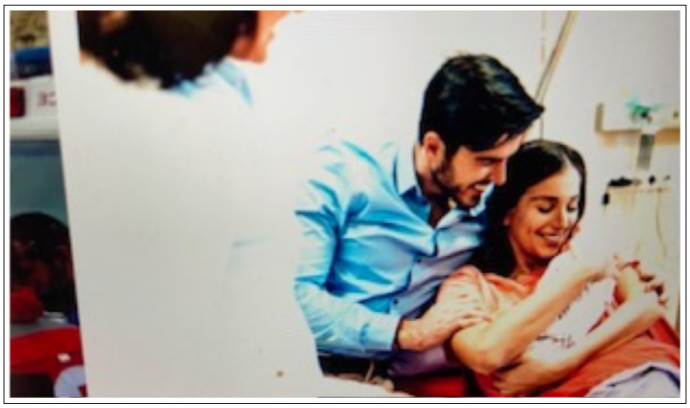
Speaking as the Premature Infant's Advocate
A severely premature infant requires that the parents be present and as responsive as possible to what their baby needs. It is helpful to encourage and teach parents to be involved physically in as many procedures that you can safely teach them. This includes feeding, changing, monitoring the baby, massaging the baby and doing whatever they feel willing and able to do. The more the parents feel part of the NICU team touching, feeding, massaging, observing and understanding their baby, and speaking and singing to their baby, as well as assisting their baby to live, the more intimately connected to their baby they will be! Feeling emotionally attached to the parents strengthens the baby's will to live and their fight to stay alive!! I know this to be a fact from my own personal experience. From the beginning of the premature infant's birth, the parents benefit by being able to observe their infant's unique particular strengths as well as their infant's difficulties.

The Professionals' Roles
One of the best paediatric services I know is in the Italian Hospital in Buenos Aires where child psychoanalyst, Dr. Monica Cardenal, helps all the paediatric team study the Bick Method of Infant Observation (Berta and Torchia: 1998). The paediatric team members all learn to observe minute details of reciprocal parent-infant-clinician interaction in order to assess what is promoting the infant's development and what aspects of parent-infant-clinician interaction need to be modified to provide good containment of participants' feelings. Only through learning to observe the essential minute aspects of clinician-parent-infant reciprocal interactions can the clinician foster the parent's capacity to attune to a less responsive, less healthy, less physically integrated infant. The pre-term infant easily overreacts to environment inputs, is more easily stressed and overstimulated and requires more finely attuned structuring and techniques. Parents also need to discover a way of interacting with an easily disorganised infant. Beatrice Beebe (2014), and Dohherty and Beebe (2016) in Beebe's *YouTube* videos and books, enable the clinician to help the parents to attentively observe their reciprocal relationships with their baby. A clinician's therapeutic intervention such as *talking directly to the baby in motherese* about the baby's experience and also *talking to the parent in identification with the baby* about what is observed

and what one is doing with the baby and what one is about to do can facilitate the most beneficial intimate trustworthy relationship between the infant-the parents and the clinician (Salomonsson: 2014). For example, the observing adult, in identification with the baby can say, 'Oh, Mummy, how nice, you looked at me and talked to me. See I like that!' Or, 'Oh, Mummy, I can't take any more milk now!, I am too tired!'

One problem is that a parent can become hyperactive when the infant averts his gaze. Also the premature infant sleeps a lot and a parent can become intrusive when she/he does not receive adequate messages and feedback from the infant. For this reason the mother and father need help observing the interaction with the baby, identifying with the baby's experience and trying to make sense of the baby's behaviour. Speaking to the baby about the baby's experience helps the parents to slow down and *follow the baby* rather than intrude upon the baby. Then the infant is more able to maintain eye contact with the mother or father rather than beginning to avoid eye contact.

Also, It is important to involve **both the father and the mother** in creating a *couple's cradle for their inner child* encouraging them both to deeply listen to how the other feels. Focussing on helping the mother and father bear each other's emotions will assist them in being empathic and deeply responsive to their newly born infant's experience of being unwell in hospital.



One of the parents or relatives need to stay present for the premature baby as much as humanly possible. This means assisting the parents to create a ***community of concern*** around them to enable them to facilitate consistent, responsive, attuned care for their infant. Also the parents need a lot of support to watch for and note progress in their baby and help each other bear their disappointment when they do not see it. Neuropsychiatrist and psychotherapist Romana Negri (1994) in *The Newborn Baby in the Intensive Care Unit* describes the usefulness of the clinician regularly meeting with the parents beside their premature baby in the incubator from the first day onwards and she advocates continuing to observe their baby with them regularly each week Prof. Negri's task is to promote the parents' deep identification with their baby. Also she tries to be emotionally receptive to all that the parents feel about their infant's experience. Trained in Bick observation methods with Martha Harris (1986) Prof. Negri sensitively supports the parents to observe their baby, talk to their baby and express to her and each other their feelings of love, guilt, fear of loving their baby because of anxiety regarding baby dying, grief about not having their idealised baby who existed in the womb, anger when things don't feel they are going right and joy when child is showing signs of interest in them and being able to engage in breast feeding. The clinician's emotional receptivity to the parents' feelings is so very crucial! Only deep receptivity to the parents' emotions allows *acceptance rather than obliteration* of the tragic aspects of both the parents' and the prematurely born infant's experience. If the clinician provides ***flat containment*** it will block the parents' work of grieving the fact that their premature baby is not in their arms and at home, but residing in the incubator [1].

Three methods of clinician's responding to the parent's feelings can be labelled as flat containment, convex containment and concave containment:

Flat containment:

- Simply offering reassurance suggesting that everything will be okay and suggesting that the parents shouldn't be so worried.
- Being rather intellectual in describing the infant's condition rather than empathic to the parent's feelings as they hear the medical information and learn how to participate in their baby's care.
- Ignoring what a parent intuitively feel their baby is communicating.

Convex containment

- Giving a sense that the mother was being too tearful, too anxious and criticising her for only seeing the negative aspects of baby's development.
- **Convex containment** could also include the clinician conveying a sense of being 'too rushed', 'too reassuring' , too preacher-like or too controlling rather than observing and understanding the baby in *collaboration with* the parents.

Convex containment can involve conveying catastrophic possibilities pressurising the parents to have too many worries about what might go wrong for the baby.

Concave containment

Sensitively observing the reciprocal interaction between the parents and their premature baby

- and discussing with them what they see as signs of hopeful engagement between infant and themselves
- and bearing parents' feelings about being with a baby being unwell, undeveloped, unable to breast feed initially.

In particular, the NICU clinician needs to be emotionally receptive and accepting of

- parents' intense fear of attachment because the baby might die
- parent's covert dislike of baby for the baby is 'not normal' and
- parent's extreme disappointment and grief because the baby is not able to be held
- and fed normally but is instead living in the NICU
- parents' sense of being overwhelmed and even traumatised by the birth of a premature baby or premature twin siblings.

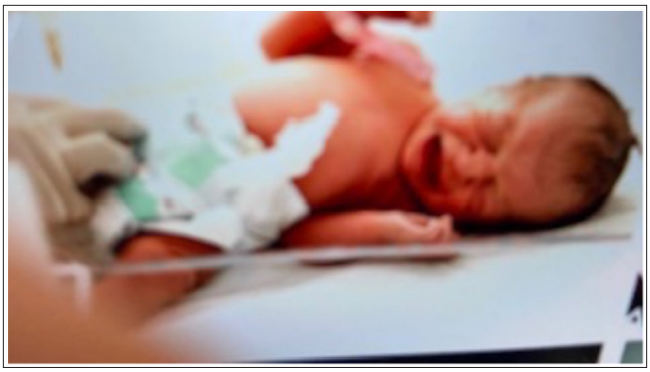
Parental feedback: The Value of Regular Observation/ Discussion with Clinician

Parents have indicated that they felt 'extremely grateful for the support at this very vulnerable time and found it 'so very helpful ' to observe the baby with the doctor and to be able to share both their and the empathic doctor's observations of their baby. One parent said, "In particular, encouraging me to touch my baby is still one of the most supporting factors and metaphors for me. When my son has seemed 'lost' I still feel and felt there were and are 'holes' through which I can reach him [2].

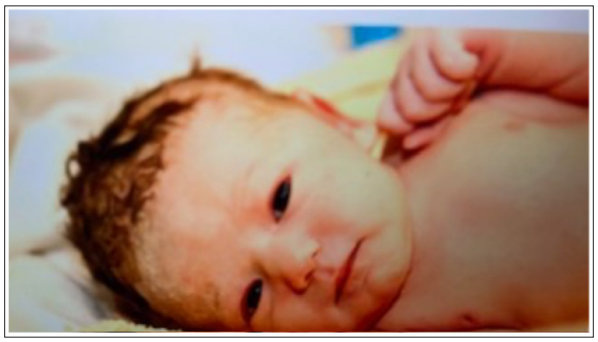
Another parent mentioned: 'Having someone to help me to create a space for my son, to think about him, to phantasize about our relationship was so very helpful. Kangaroo care has many long term physiological, cognitive and emotional benefits and I feel so privileged to be able to bond so much more quickly through holding my baby skin-to-skin.'

Enlisting the parents' capacity and willingness to greet their infant with the responsive helpful '*rhythms of reciprocity*' promotes the infant's best long-term emotional, physical, cognitive development. This support is extremely important for first-time parents needing encouragement and time to discover and develop their internal maternity and paternity. When shocked by a sudden painful emergency premature birth it can be hard for the mother to feel and also to share loving, attuned responsiveness to her premature baby , but it is this which keeps the baby alive!!!!

The Premature Infant Speaking about Crying



The medical equipment can tell you about my heart rhythm and breathing as well as all my vital signs, BUT I can't speak, so I have to tell you how I am feeling through my changing bodily movements, my hands and facial gestures and my different cries. Of course, sometimes I have so many tubes in me that I cannot cry, so please learn to look at my facial expressions of comfort and discomfort and observe my different hand and finger movements and my legs and toes showing relaxation or discomfort. Try to understand what my gestures, movements and cries are signifying for me in particular. I am a unique baby, like no other baby, and I need you to understand how my feelings, *my distinct personality*, is reflected in my non-verbal signals in my face and my body. Respond to them as best you can! A mother talks to her baby in in high-pitched, melodic *prosody/motherese* and recognises her baby has a mind. Please mummy, daddy and nurses, speak to me in whatever state I exist. It will help me fight to stay alive! Here are some of my signals telling you how I feel:



My Hands

Even if I am not crying I may be deeply distressed and not use my hands at all. When I start fighting to live I clench my fingers tightly as I try to 'hold myself together' both emotionally and physically. I do this when I am frightened and I don't feel I can trust my essential mother/caregiver to protect me and help me feel safe and secure. My hands are so important to me as potent self-protective ways of taking care of myself. I have used them in the womb to hold onto the umbilical cord, to the placenta and to my mouth. Now, outside the womb I use them to hold onto things too. I use them to put my thumb in my mouth or reach for you to be with me! Please do not ever cover up my hands!! I use them as potent ways to comfort my frightened self and signal to others to help me to survive!!!!

When my fingers are firmly extended, I am panicked and/or in pain. I need rescuing

through your talking to me and soothing me with your hands touching me through the incubator.

If my arm is hard, unbent in the air, again I am panicked and/or in pain. . Please remember the frequent presence of a hard, unbent arm in the air also suggests that I am psychologically at risk. I am so very relieved if you talk to me and soothe me physically [4].

Waving my arms and kicking my legs are also ways I try to evacuate or 'hold myself together' emotionally and physically to survive unpleasant emotional or painful physical sensations. Remember I used to swim around in my mummy's womb when I felt uncomfortable. I also am waving as a way of signalling for someone to help me with my distress of being alone with whatever I am feeling. I need your loving voice, your holding and understanding to comfort me when I am startled about all that is going on around and within me.

My Cry

Sometimes, I am not yet psychologically born, so I am more prone to sleep when discomforted as though I am still in the womb. Gradually when I am able to cry it is my most potent method of saying to you, 'I need you now!!!' I have come into the world as an almost helpless infant with a basic pre-conception that there would always be with me a caregiver, a good parent to love, nurture, protect and understand my emotional and physical needs. Early in my life as an infant, if I am not too sedated, if I don't have too many tubes in my throat and I am well enough to cry, please worry if I don't cry!

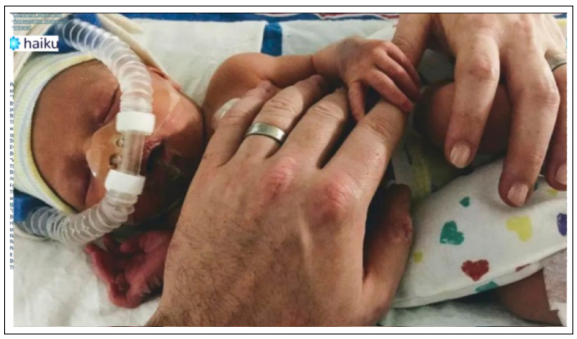
Eyes Wide Open Showing Panic or Wonder about what in the World is Happening

When I have too many tubes in me to cry , look at my eyes and limbs, try to empathically feel what I am feeling and speak to me when you look at me. When I am listless, please still soothingly talk to me or quietely sing to me. Also, when I can cry, if you frequently ignore my cries and do not come to me when I cry, I lose basic trust in a 'good mother', 'a good caregiver'. This is dangerous for my emotional and physical well-being! If my cries become unbearable to me, I become very anxious, so anxious that I stop crying [5].

I dissociate and go to sleep. At times sleeping can be simply a defence against the distressing anxiety of being alone. Sometimes, if am feeling abandoned, neglected and/or too disturbed by all the intrusions and excess stimuli, then I turn away from my mother, father and everyone! I turn away from the world as though it isn't a good place for me to be! This need to avoid everyone out of anxiety can continue later in my life. You need to notice and sensitively respond to my non-verbal signals and hold and talk to me to prevent this from happening. Autistic features occur through my being deprived of the parental responsiveness which I need to stay connected emotionally to people. I need you to understand what I am communicating to you. Do not ignore my feelings! Love me, hold me, touch me, let us get to know one another so we can love each other more! I am born to have loving, responsive and protective parents who understand my non-verbal communication of how I feel to them! You need to notice if I am turned away from you and get specialist help to intervene and help me stay emotionally connected to you!

The Advocate Speaking about Crying

When the premature infant has developed basic trust and a secure attachment with the parents, then the infant can accept some discomforts, hunger and physical pain. The need for emotional comfort can be bearable for a few minutes of crying, but NOT UNTIL basic trust to a 'good parent' is established internally. When there is basic trust the baby's crying has a particular characteristic which suggests that the baby is crying with some memory that caregivers come when he is crying. Then the baby's cry is a beckoning cry. Knowing there is someone who will come makes baby feel the difficult moment isn't quite so frightening!



Try to disentangle the different kinds of cry and what the baby is trying to communicate. This means that sometimes the parent has to work out what it is that the infant needs and wants, for the infant may not be sure what is the matter. The cry of a trusting infant often sounds more like a beckoning and later a protest towards someone who is not rescuing him. This is different from a completely panicked high-pitched crying which often involves having a reddened face and rapidly flailing arms and kicking legs. Crying is the baby's vital signal that helps regulate the caregiver-infant interaction which promotes the infant's *physical and emotional* survival. Each specific type of baby's crying requires a differentiated, attuned caregiver's response for the infant to avoid feeling despair!. Notice when the baby is no longer signalling for help. This is a sign of real danger both psychologically and physically [6].

Being in the NICU is a critical period in which the premature infant is creating an internal representation, a memory of what the caregiving world is like. Regular failures to respond in an attuned way to a premature baby's cries which convey different meanings can lead throughout life *to insecure attachments, avoidant attachments* and dysregulated attachments characterised by anxiety. Stephen Porges' Polyvagal Theory (2017) states that ignoring a premature baby's cries can lead to a harmful impact on the development of as yet not fully developed neural connections that comprise the vagus nerve. When disrupted by the cries the vagus nerve leads to dysregulation of the parasympathetic nervous system. This system is responsible for regulating various involuntary bodily functions including heart rate, digestion, respiratory rate and the immune response for infection. Repeated lack of responsiveness to the baby's cry thus causes stress and anxiety. If the baby's anxiety is not transformed through therapeutic interventions, a caregiver's regular non-responsiveness involving leaving the infant to cry, has a deleterious effect on the physical, emotional and cognitive well-being during time in the NICU and FOR LIFE. This is a researched medical fact!

As I have mentioned, the family and clinician's non-responsiveness to a premature infant's cries can lead to significant ruptures both in relationships and development. Non-responsiveness or unattuned to the different meaning of baby's cries also causes delays in language development, motor skills and cognitive functioning. Peter Fonagy et. al (2002) also suggest that lack of responsiveness to the infant's crying can also impair the child's mentalising, which involves the capacity to hold one's feelings and think about them and understand others' mental states. Ruth Feldman in her wonderful Mind in Mind interview on YOUTUBE suggests that synchrony between parents and infants is essential for the development of the right temporal cortex, the core of the social brain. The first nine months are critical for the production of oxytocin in the right temporal cortex. It is this synchrony which facilitates the baby's capacity to socialise with others throughout life. Lack of responsiveness to the baby's feelings and needs

means that the child will be inadequate in engaging socially and emotionally with others and leads some babies to develop autistic features [7].

The High-Piercing Cry and The Parent's and Clinician's Reciprocal Interactions with the Baby

It is important to remember that we are looking *at reciprocal relations* between the premature infant and significant others. This high-piercing cry which is unusually intense, prolonged and difficult to be mitigated by parental comfort can sometimes be a sign of neurological damage. Also, if the premature infant cannot be easily comforted, the parents' distress can bombard the infant in a form of **convex containment**. Such parents require the clinician's supportive presence to assist them to understand what the matter can be. Also medical assessments are necessary. In addition, high-pitched crying can lead to increased caregiver attention and intervention or conversely to caregiver stress and potential neglect if the crying is perceived as excessively irritating or overwhelming to the parents'/caregivers' personality.

Caregivers' hostile feelings can defensively arise when they feel impotent to soothe the infant's urgent, distressing high-pitched cries. Both parental and caregivers' hostility and indifference to the infant's cries may inadvertently contribute to the child's later pathological psychological issues. This is one of the reasons a NICU team support group for staff and parental support is essential. Parents state that parent groups are very helpful if emotionally well-contained by experienced clinicians. A good parent group enables the parents to build a supportive community of friendship which can last for years!. Also, as they support each other, parents in some London hospitals have established a milk bank and respond to other parents' baby's cry when the parents aren't available.

Babies demonstrate over 37 types of crying, each telling the parents and clinicians about the baby's emotional/physical beckonings. It is essential for clinicians to help parents to observe the sequence of reciprocal interactions their baby has with them. It is necessary for both the clinicians and the parents to learn more about what each particular baby is wanting to communicate through the different cries and nonverbal expressions. This is an essential part of intimately knowing that unique premature infant and each one of the twin babies needs to be known as distinct, separate individuals. Observing the baby with the parents regularly and talking about when the baby is feeling comfortable, what soothes the baby, what disturbs the baby, what the baby is signalling through his particular cry is an important part of work with **both parents, not just the mother!**

Approximately 40-50 % of very preterm children born before 32 weeks show signs of neurodevelopmental disorders including cognitive impairments, motor dysfunction and language delays (Johnson: 2015). Now we understand that part of the problem for premature infant is that we have neglected to obtain sufficient financial support, as well as educational and emotional support, for staff groups and parents to **provide the best possible conditions** for the development of the premature infant's basic trust and sense of security during all the painful and startling medical interventions and absences of responsive caregivers. I cannot stress enough how lack of continuous healthy responsive reciprocal relationships between baby and the parents and auxiliary caregivers has a long-lasting impact on the infant.

And very importantly, In adult life this particular infant, if neglected in NICU, will have difficulty providing attuned caregiving to her own baby who will often awaken her previously uncontained early infantile anxieties. Also, if a parent was a neglected premature infant , the parent may try to repair their own ruptured bonds felt in infancy through needing to be loved too much by their infant. This can occur in a manner which promotes their baby's psychopathology. Thus the neglected premature infant's emotional regulation strategies, if not adequately deeply modified internally, can be transmitted to the next generations of babies!

The Premature Infant Speaking About the Fear of Dying

You know it is just normal and necessary for a mother/father to love me and be with me all the time in the earliest months of my life. First I was in my mother's womb, but then I was born to expect the perpetual responsiveness of a caregiver! When I am in that glass box, the incubator which imprisons me, I can become very deprived of what I need to feel safe, particularly if my heart is not beating properly, or my breathing isn't good, or something is painful in my body. Then I fear I am dying and my cries emanate fear that I don't know what is happening .

If I can't cry, and just my body is showing physical stress, it is horrible for it is difficult for people to understand the meaning of my gestures and be aware they need to rescue me!! It is terrifying!!! Terror damages my bodily functions, so please look at how I feel, even if I can't cry. Don't just wait for the buzzers to signal for you! Please stay with me! Doctors and nurses, please don't just respond to me physically!!!!!!!! When the alarm buzzer rings, please think more specifically about what I am feeling emotionally and talk to me in a soothing way as well as attending to my physical needs!

The Advocate: The Fear Of Dying

Psychoanalyst Rene Spitz (1945 and 1952) talked about how critical it is to be responsive to the baby's distress, not just what he shows through crying. In addition, Spitz said that infants who lack emotional responsiveness, despite having their physical needs met, can suffer from anaclitic depression, severe emotional and developmental consequences, emotional withdrawal and even increased mortality rates! Infants require not just physical care but also a caregiver's emotional responsiveness in order for them to have **the will to** fight to live! The parental task with any infant is

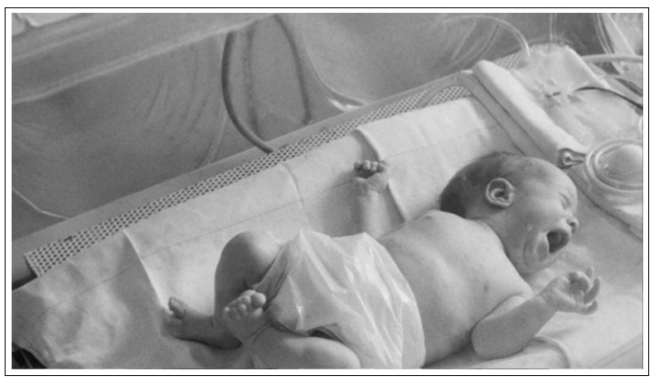
to bear the infant's terror of dying. By receiving the infant's terror into their heart and giving it meaning and talking in a comforting way, the parents can ameliorate the baby's intense fears. Of course, if possible, holding the baby is also very helpful in mitigating distress in the baby's body and mind. This is Wilfred Bion's (1952) concept of *containment* which Beatrice Beebe describes as a healthy parent-*infant reciprocal reciprocity*.

However, Margaret Cohen in *Sent Before Their Time* (2003) describes how an ill premature baby's risk of dying can prompt the parents to be very distressed and persecuted by the baby's state. Feeling fear of the unberable pain of losing the baby, they can withdraw emotionally and physically. They may actually make themselves unavailable to the baby and cease regularly visiting their premature baby. For this reason, it is essential to have a regular presence of a psychotherapist who is able to engage in *Active Listening* to compassionately comprehend what the parents are feeling. The social worker or psychotherapist needs to find ways of transforming the anxieties which disrupt parental functions of being present as loving, nurturing and protecting parents to their baby. This is crucial for the baby to develop a secure attachment to the parents. This *secure attachment* is essential for a good life.

In fact the baby's attachment patterns at 4-12 months set in place life long patterns of interaction with others!!!!!!!! In the light of this important research if it is impossible for parents and relatives to be present for the NICU infant, some hospitals arrange for a named volunteer to be specifically assigned to be with the neglected NICU baby daily to promote the baby's healthy emotional development. Psychology, medical, nursing and social work students can also be involved as part of their supervised infant observation study programmes.

Of course, some infants die and this requires the Head of the NICU to provide time and space for psychological support for a mourning process to be experienced both in the parents and the NICU clinicians. This promotes their emotional and physical health and helps both parents and staff to avoid their being handicapped by burnout, guilt and depression.

Premature Infant Speaking
My Mummy, My Daddy where are they?



I am born to be loved. Where are my mummy and daddy? Why can't at least one of them be with me? Why am I all alone in this glass box with all these intrusions into my body and noises hurting my ears, and bright lights starling me at times? Where are they?

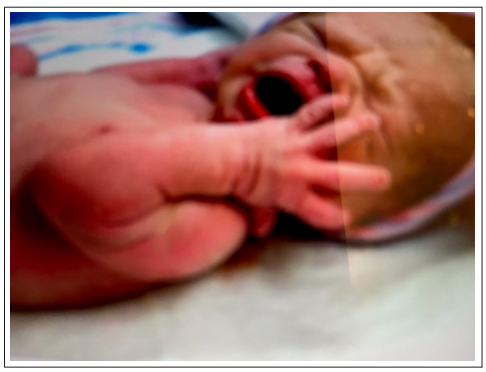
Premature Infant Speaking about Ruptured Attachments
When you look at me, please think of me in the context of my having parents and family who normally should be nurturing, protecting and being emotionally present for me. Please notice how our *reciprocal relationship* may be promoting my emotional growth . When my parents are absent please leave a recording of each of them talking to me or singing to me. My parent's vocal recordings help me avoid disconnect internally from them when I become distressed about our separation. Separation from my parents or pathological reciprocal interaction with my parents may prompt me to turn away from 'the world'. I withdraw from 'the world' if parents/caregivers have not been present enough, responsive enough, emotionally containing enough of my distress. Also PLEASE look at how I profoundly affect my parents who may in turn unhelpfully project their despair, detached feelings, feelings of dislike or share compassionately attuned, hopeful interactions in their reciprocal relationship with me!

Advocate Speaking: Noticing and Repairing Ruptures in Bonding and Reciprocal Relationships Between Parents and Their Infant
We need to remember that a newborn infant perceives the world consciously and the reacts similarly to the way an adult conscious brain reacts.

Here are some of the risky pathological reciprocal relationships between the parents and their infant which require early intervention:

Avoidant Eye Contact
If the infant isn't engaging in a mutual gaze and making eye contact with the mother or vice-versa, the mother is avoiding the infant who hasn't opened up to her or who is avoiding her gaze. A baby persistently avoiding looking at parents' faces is a troubled baby. A baby avoids the eyes of a depressed mother.

Lack of pleasure



If the parents can not share their pleasure of being with their precious baby through smiling and talking to their infant and/or if the infant is unable to respond through stopping crying, relaxation of body, and later smiling in response to parental smiling there may be a worrying lack of mutual engagement between parent-child. Parents' experiencing extreme anxiety about the baby's illness, fear of the baby dying or having an unworked through grieving process may rupture their attachment bond. If they have found their maternal and paternal selves they are able to comprehend their baby, talk to their baby and share smiling exchanges with their baby. Later when their baby is stronger they can engage in gentle play following and amplifying their baby's responses in play with an object [8].

Infant's overuse and/or unusualness of bodily gestures in lieu of a secure attachment to parents
There are many detailed observations of an infant's use of their hands with the parents suggesting a possibility of pathological interaction describes how the infant uses his hands as the method

of protecting the psyche from fears personal disintegration or psychological/physical pain. That is why it is so important to leave the hands uncovered if at all feasible. If there is a persistent difficulty in parental responsiveness and/or persistent difficulty for genetic reasons or too much cortisol in the womb, the infant's hands become more absorbing to the infant than the caregivers. In turn the parents can feel rejected, despairing and depressed because they cannot have an intimate relationship with their baby and the downward cycle into pathology increases. NICU clinicians definitely need to be competent in assessing and to becoming involved in ***early intervention*** with parents/infant interactions as Houzel (1999) has suggested. Here are some signs that the premature infant is becoming pathologically attached to hand/arm gestures as the main source of psychological safety:

• The infant is persistently flapping the hands, twisting the wrists, holding the arm upwards in an unusually stiff fashion, persistently and repetitiously holding the fingers tightly clenched or in a rigid position. In these ways the premature infant is in a precarious mental state, having ruptured links with parents and further rupturing links with parents who feel rejected by their premature infant.

• The premature infant gives up hope and the hands and arms are persistently floppy and lifeless with no grabbing of parents' finger, no waving the hands and arms signalling come and help me and there is a cessation of crying. It feels like the infant is hibernating back in the womb and has retreated into what Meltzer (1992) describes as 'the claustrum'. There is a state of lack of hope, of despair that a loving connection is not available. This indication of psychotic anxieties means that clinicians should make every possible attempt to develop good secure bonds between infant and caregivers. This means **the most important and essential task** is to find ways of enabling the infant to have the continual presence of supportive, vitalising, attuned, responsive parent/caregivers. This involves creating a *community of concern* to be ever present for the infant. In India other mothers often step in to help the baby when the mother is physically unwell.

• Premature babies left to cry for extended periods can retreat into the '*claustrum*' , stop waving arms, stop crying and underneath be in extreme terror (Magagna:2012). We should worry if in early infancy the premature baby who has cried avoids crying at times when in pain or frightened or simply needing a responsive caregiver!!

Under-Reactivity or over Reactivity to Sounds, Lights, Sensory Stimulation

A huge problem for the premature infant is that the NICU has sounds and lights and medical interventions which, although designed to protect the infant's life, are disturbing and extremely stressful for both the infant and their caregivers. Premature infants can show elevated heart rates, disrupted sleep patterns, increased oxygen consumption and most importantly, hearing loss and developmental delays if they are not soothed and protected by caregivers from too much adverse stimulation. It is important that the hospital invests in mitigating noise in NICU. Liu from Northwester Illinois University has developed Neoasis Active Noise Control which involves wave-cancelling technology to significantly lower harmful noises within incubators while still allowing essential sounds like parental voices to reach the infants (American Academy of Audiology: 2023

Kuhn et al (2018) have researched how reducing noise levels in NICU leads to enhanced neonatal well-being. Despite noise reduction, the absence of perpetual presence of parental caregiving during their infant's life in the incubator as well as infant's neurological deficits may result in difficult- to- soothe infant who experiences painful over-sensitivity to noise, sound, sensory stimulation [9].

Pathological Parental Reciprocal Responses to Premature Infants Impeding Rather than Promoting Infant's Psychological Development

Unfortunately, however stable the parents' internal psychic structure was prior to their premature baby residing in a NICU their emotional stability is put under severe stress when their infant is separated from them and placed in an incubator. They need '**a community** of concern' consisting of family, friends, clinicians to assist them in this anxiety-provoking journey with their infant. The parents' own previously internalised infantile traumas of separation and loss can be reawakened by the premature birth, baby's life-death anxieties, twins and medical complications . As a result *the parent-infant reciprocal interactions* can adversely affect both the infant and their parents. We need to closely observe interaction regularly and as soon as we notice the difficulties we need to therapeutically intervene to transform these *pathological parent-infant reciprocal interactions* outlined by Lyons-Ruth et al: 1999):

• The experience of childbirth can be so painful, causing stitches or a painful aftermath of a caesarean birth that mothers can feel traumatised. One mother said, "I feel like I have been in a car-accident.' After a traumatically born premature infant another mother said to her husband after a very painful premature delivery with stiches involved, "I don't like her! Do you?'. Later baby's feeding and sleep difficulties as well as temper tantrums emerged because mother and father weren't given early support to bond with their son.

• The parents see their premature infant's condition and become so frightened and confused that they mainly withdraw from being with their infant or respond in a mechanical, emotionally unresponsive way to their infant. This is *flat containment suggesting that the parents* require therapeutic *support*.

• Experiencing their infant so avoidant the parents become negatively intrusive, such as holding or touching the infant in a harsh way or becoming mocking, teasing , loud or inappropriately stimulating the infant with objects to vitalise their avoidant infant. This is ***convex containment*** described by Gianna Williams in her paper 'The Omega Function' (1997)

• Becoming so emotionally disturbed by their premature infant's unresponsiveness, physical fragility or medical complications that the parents show a mechanical, emotionally distanced, depressed or hostile approach to their avoidant infant. Thus the parents project disturbance into their frail premature infant. These last two examples of *convex containment* also require clinicians' therapeutic interventions to prevent infant's long-term psychopathology.

It is hard for parents traumatised by the premature infant's presence in the incubator to keep their inner stability. Manic defences against distress, anger, sadness can easily occur so that. rather than sensitively attune to their premature infant, the parents defensively smile when the infant is distressed or fail to respond to moments when their infant is beckoning them or greeting them in a manner suggesting a longing to be intimate with them.

Helping parents with these *disturbed reciprocal interactions with their premature infant* are more fully described in Beebe's book *The Origins of Attachment* and Salomonsson's *Psychoanalytic Therapy with Infants and Parents*. I would also like to refer you to the the very helpful NICU therapeutic interventions of our young Italian child psychotherapists, Scabia, Dioli, Testa and Colleti, writing 'Getting in touch: Helping parents and newborn babies to connect in the NICU' in the *International Journal of Infant Observation*.

Example Mother-Baby Reciprocal Reciprocity

The clinician can promote much more interest in the parents and staff, if one can observe parent infant communication. For example one can look at many different aspects of non-verbal behaviour such as shifts in the way the eyes gaze, slight changes and facial expressions or head orientations or eyebrows raising. These are probably rapid entered personal processing activities which originated in the service of survival. There is a by directional mutual influence between mother and infant and most important to recognise is that the not fully developed responsiveness of the 'not yet fully born premature infant' may discourage the mother and father's natural responsiveness. It is for this reason that attention must be given to evidence of minutes signs of inter-relatedness between infant and parents. Clinicians describing and encouraging parental observations of what is occurring will foster a much greater appreciation of the relatedness that does exist between the premature infant and the parents.

Advocate Speaking: Secure Attachments Need Parental Presence

So many medical and mental health expenses for children and adults' difficulties through life could be lessened if only we could gather more financial support and consideration of the vital importance of **the first months of premature baby's life**!! Is it that parents and staff are too distressed and overwhelmed to make the case for better provisions in the NICU? Or is it that when parents can finally leave the NICU they are so relieved to be away from the hospital that they don't give feedback to promote clinicians to work towards having optimal conditions to foster the VERY BEST reciprocal relationships between NICU clinicians-parents-baby and THE VERY BEST NICU physical conditions and staffing levels? Somehow the hospitalised three year old child with whom adults can speak and play is much better at engaging hospital administraters, clinicians and parents *in striving harder* for the very best emotional and physical conditions for premature babies to survive.

The premature infant has asked: 'Where are my parents?' As hospital staff we can ask, 'How can we best support parents, extended family, clinicians, volunteers, to be empathically and consistently present for the premature baby? Golisano Children's Hospital in Rochester, New York have followed best practice for premature infant and ill babies in intensive care. They have one-to one nursing care for the baby. They also provide a lot of emotional support for the parents to support their intense anxieties, to get to know their baby's medical condition, to understand their unique baby, to care for their baby, to hold their baby and to talk tenderly and sing to their baby about what the baby is experiencing or will experience. Moreover, Golisano Hospital provides a place for the parents to reside next to the baby. There is also hospital accommodation so parents can take turns sleeping and always be near their baby during this life-risking period of their infant's life. One mother said, 'Golsano's wrap around care was overwhelming. The hospital was like a fluid being constantly responding to our needs without us having to ask. Lactation consultants came unbidden…doctors always included us in the ward rounds, speaking with us, discussing the imaging, explaining exactly what was happening. They never brushed off our many questions!' There are other hospitals similar to the Golsano Hospital [10].

Beneficial Effects of Kangaroo Care

One obvious excellent NICU provision is *kangaroo care* for a parent or relative to hold the baby after the baby is well enough and weighs 1000 grams. Columbian child psychotherapist, Hilda Botero, pioneered and described the kangaroo pouch care in *Nace un Bebe* (2023). Current research suggests that parents/relatives, caregivers, but particularly the parents, using *the kangaroo pouch* for the premature baby has led to these long term effects which are significantly better than keeping a baby alone in the NICU incubator:

From Botero's *Nace un Bebe* (2023)

Kangaroo care benefits

Placing the baby on the parent's bare chest promotes physical closeness and warmth. Beatrice Beebe (2020) leading infant researcher has suggested that using ***concave containment*** to emotionally support parents as they engage in skin-to-skin care not only promotes physical intimacy but also enhances the parent's ability to receive the infant's feelings and respond appropriately to the premature infant's cues [11].

This strengthens the *secure attachment* crucial for the infant's emotional and social development FOR LIFE!!! Remember patterns of responding to the world are quite firmly embedded in the infant's personality during the infants first days, months and first year of life!!!

Kangaroo Care according to Porges' Polyvagal Theory (2011) activates the parasympathetic nervous system which promotes a state of calm and social engagement. This biological response can help both the parent and baby feel more connected and secure.

Father's bond with infant is also extremely important for healthy emotional, cognitive, social development throughout adult life.

Attuned talking to the baby, touching and holding the baby physically and with ***concave emotional containment*** actually helps infant regulate heart rate, breathing, temperature and reduces premature infant's pain. Also the infant's crying for various reasons is lessoned. Kangeroo care also significantly reduces the premature infant's pain [12].

Kangaroo physical care and emotional reciprocity: Alongside kangaroo care, there needs to be a creation of a internal space within the mother and father's mind to develop loving intimacy with their baby and identify with and understand what their baby is experiencing both physically and emotionally. Arieta Slade (2005), important infant-parent therapist, names this *parental reflective functioning* which needs to be supported so that parents *can interpret and respond to their premature baby's cues of distress requiring comfort*. This is what developing their maternal capacities and paternal capacities involves. When these capacities evolve, the parents will be accompanying physical *kangaroo care* with gentle touch, vocal talking and imitating the baby in identification with the baby's sounds, gazing into the baby's face, quietly singing to the baby The development of maternity and paternity involves feeling able to basically fall in love with their baby and behave lovingly towards their baby. Researched is the fact that lovingly singing to the premature infant can help regulate the physiological states of medically fragile infants, enhance parent-infant bonding, reduce maternal anxiety, and promote baby's emotional bond to the mother as well as promoting the baby's emotional, linguistic and cognitive development. This loving connection with the parents, accompanied by parental reflective functioning, is a very important means of helping the baby struggle to stay alive!!!

Long-Term Developmental Benefits of more Parental Involvement

Infants who experienced higher levels of parental involvement during NICU stays showed improved cognitive and emotional development at the age two compared to those who had less parental involvement in their care (Pediatrics).

Emotional Holding of Parents and Staff

However, we cannot simply think that physical holding is a sufficient answer for the baby's physical and mental health! One mother said, 'Initially the kangaroo pouch didn't work at all for me. I was struggling, firstly, to feel emotionally linked to my baby. I felt so upset by his medical complications, his prematurity, that I needed to do a lot of emotional work to create a secure and hospitable place in my heart for him. I tried holding him mechanically. Mechanical was my gaze and my words, until if was able to talk to a therapist who could help me look at my feelings and create a maternal space inside me.' (Fedunina: 2024) This mother emphasizes how crucial it is to have a full time psychotherapeutic presence available to provide emotional support to the parents and the NICU staff [13].

Rotas Designed as Defences

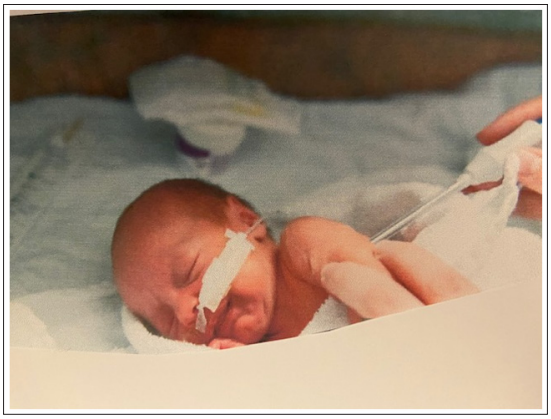
The rota for two to three daytime nurses can be designed to provide a containing space for the parents/baby, but as Isabel Menzies (1960) has suggested in '*Social Systems as a Defence against Anxiety*', without sufficient emotional support the medical team hesitates to provide key daytime nurses to be present regularly for each baby/family. Instead there are rotas designed unconsciously or unconsciously as defences against dependent, trustworthy relationships and defences against staff having to bear parents' and/or their own sadness, anger, suffering, fear and/or guilt regarding whether or not the infant will live or die.

Also, the staff's depersonalisation that comes with these defensive systems reduces empathy with individual parents and infant and also leads to diminished job satisfaction.

Interestingly, the *Journal of Pediatric Nursing* (2018) provides research suggesting that using a *primary nursing model* ,involving a very few consistent nursing caregivers, fosters infant's greater sense of security, lower levels of stress and better developmental outcomes than that experienced by infants cared for under a traditional rotating model avoiding close attachments between nurses and the infant.

Premature Infant: How Can you Protect me from Intrusive Stimuli?

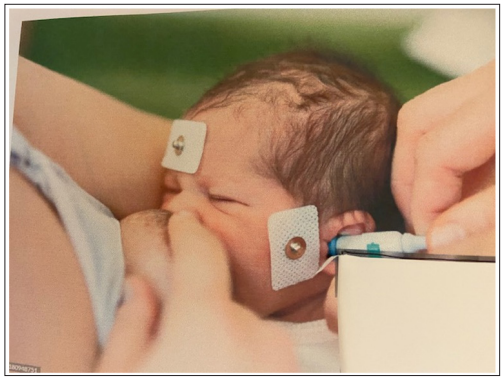
Why can't you do something about those bright lights, sudden loud bleeps and noises which sometimes hurt my eyes and/or ears or startle me? Do you know that this high level of sensory overload leads me to shut down certain sensory responses to focus on basic survival? Why am I all alone and not comforted when I am poked with needles and hurtfully penetrated when medical devices as they are initially inserted into my body?

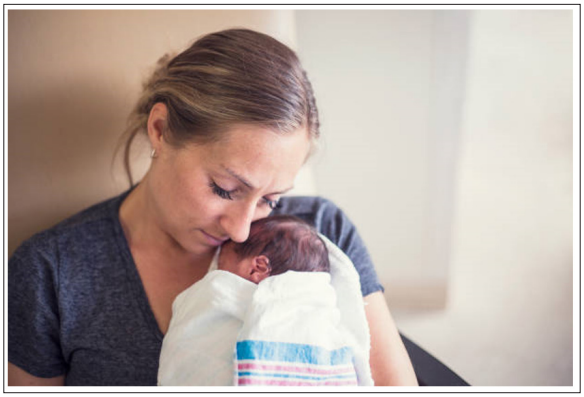


When I am in pain I need you to calmly talk to me and to hold me! I know I can't speak, but I can think! I have a mind and think and feel how you are feeling towards me! I am not just a physical baby!!! I know when I feel loved and someone is thinking about exactly how I feel!!! Also, I need one of my parents to be with me when I am stressfully moving my legs and arms, grimacing or crying at the time what the clinicians are doing hurts me. Otherwise I am so very terrified, feeling I am unprotected by someone who loves me and has a duty to care for and protect me!! **I am not just a physical baby** who needs physical interventions to save my life! Do you understand that I have emotional needs to be loved and love as well?

Advocate: Lessoning Harm from Intrusions in to Baby's Body and Psyche

Yes, the premature infant is absolutely right to be feeling this way! Discarded permanently is 1960's doctors' belief that the baby was not neurologically developed sufficiently to feel pain! As a result of this believe they performed surgical interventions, heel pricks, inserting of feeding tubes without little physical holding and emotional compassion. Now paediatricians know babies do *feel terrified and in pain* when any intrusion is made into their embodied self! Making the baby feel hurt without being held by a trusted parent attacks the infant's developing *secure attachment* to the parents who have been assigned to protect their vulnerable infant. Research suggests that whenever possible, when a baby is being hurt by a medical intervention, a parent should be holding their baby, receiving their baby's distress, talking to their baby about what will happen and is happening and how it will end.





Breastfeeding During Procedures

• Breastfeeding during procedures like heel pricks can significantly reduce pain scores in an infant. The combination of the mother's presence, the act of sucking, and the taste of breast milk provides a multifaceted analgesic effect. It is not simply physical holding or breast feeding though which relieves the baby of pain: although a baby doesn't understand language, as parents and clinicians look at the baby, think with the baby and talk to the baby, an infant does know and feel the parents' and clinicians' caring or uncaring states of mind, qualities in tone of voice, caring or uncaring touching of the body, and the baby feels pleasure of *motherese/prosody* used when talking to them, showing caring facial expressions, providing tender bodily holding, and understanding what they feel. Motherese involves slow higher than normal pitch, a sing-song voice and can be used by both clinicians and parents.

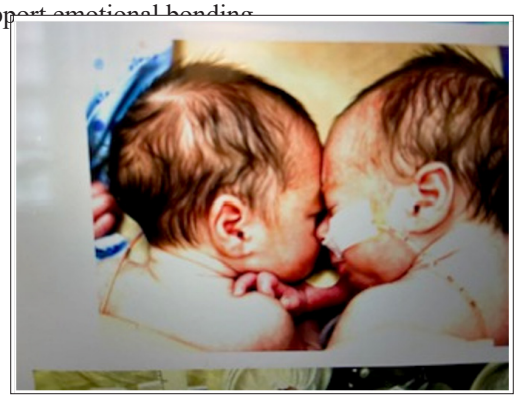
Of course, Cohen suggests that the parents may need therapeutic assistance to transform some of their emotional responses to their premature baby's condition. Some parents may defend themselves from pain and anxiety by turning away from the baby. They may feel so persecuted by the baby's poor condition, that they say defend themselves in such a way that they are unable to respond to the nuanced overtures of their baby. That is why Arieta Slade et al. (2019) suggests good interventions in her *Mind the Baby Programme* which are very useful *for* NICU clinicians to implement. Like Beebe, Slade suggest that the *reciprocal relationship* between parent and baby requires frequent and clinician's detailed observation and emotional support to help parents respond in a physically and emotionally containing way to their infant's distress. It is not simply education, but rather clinician's regular close observation of parent-child interactions which will enable the parents to see their infant's growing attachment to them and, with the help of clinicians, find nuanced bond-enhancing ways of responding emotionally and physically to their unique and precious baby. Of course, Botero (2023) suggests that it is essential to provide all the NICU team with core studies in observing infants. If this is impossible, essential reading in understanding infants is Negri's book *The Story of Infant Development* (Ref??) is useful. Also I recommend video infant observation of first year of baby's life as an essential training for all clinicians prior to qualification [14].

Benefits of Holding in Relation to Neurobiological Pathways

The parent or clinician holding the infant has specific benefits to the baby during painful procedures. Tactile stimulation during holding activates specific neural pathways that promote the release of oxytocin, a hormone associated with pain reduction and social bonding. This hormonal response helps mitigate the adverse effects of pain and fosters a sense of well-being.

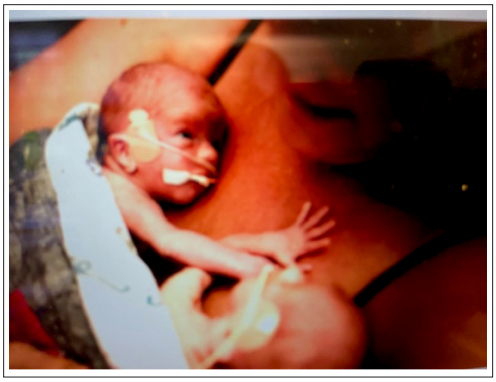
Long Term Effects of Parental Physical and Emotional Holding of the Infant

Early life experiences, including parental holding during pain, can have epigenetic effects that influence long-term health outcomes. Infants who experienced frequent loving parental holding showed positive changes in gene expression related to stress response and immune function. These epigenetic modifications can provide resilience against future stressors and enhance overall health. Porges' research highlights the importance of interventions that enhance the autonomic regulation of premature infants. For instance, the Family Nurture Intervention (FNI) in the NICU has been shown to improve autonomic regulation and promote better outcomes for both infants and their mothers. These interventions help stabilize the infant's heart rate and breathing, reduce stress, and support emotional bonding.



Premature Baby Speaking about being a Twin

I have a twin sibling with whom I shared almost seven months in my mother's womb. My twin sibling provided company for me and I am attached to him, we touch each other, greet each other. Why do I have to be separated and put in a different incubator from my sibling? Please observe me by being with me alone as a unique individual and differentiate how I look and behave and my personality as distinctly different from my twin sibling.



Also observe us being together and please give us each an opportunity to be skin to skin in kangaroo care style either together or separately with you.

Gloria Dominguez and I wrote about observing Siamese twins at Great Ormond Street Hospital who were successfully separated with one twin dying at age five. We describe how the observer, with a parent, observed each twin for ½ hour with one twin, the more active, crying for help, Peter, and then ½ hour with the other twin, Tom, the more passive, dependent on the other twin. In this way the participant observer enabled each parent to develop their parental roles care specifically for each infant. On each occasion, with the parent she observed and shared comments on Tom and Peter's activities and relationships, noting the unique strengths and feelings of each particular twin. The participant observer also observed Tom and Peter together on other occasions. We also describe a special therapeutic experience over time for the twin sibling, Peter, who experienced intense guilt when he lost his brother, Tom, who died at the age five.

Advocate : Twin Siblings Separate or Co-Bedding in NICU?
It is so important to treat each sibling in a twinship in an individuated way. Also each infant can have differing medical needs and conditions; However, advancements in sensors and monitoring systems have occurred which make appropriate medical interventions possible in co-bedding incubators.

The research on co-bedding has shown better oxygen saturation levels, fewer episodes of apnea; more stable heart rates; lower levels of cortisol stress hormone: Milet higher weight gain trajectories; attainment of developmental milestones earlier due to continuous physical and emotional interaction; as well as better social and emotional outcomes with fewer behavioral problems later on.

Of course, there are situations where co-bedding maybe contraindicated but, in general, many medical researchers have stated that it is important NICU paediatricians to make co-bedding available for twin siblings.

Therapeutic Participant Observations
I can imagine most of you will feel that the task to provide optimal conditions for establishing a secure bond between an incubated premature baby and the parents is too vast and impossible for your NICU team. But here is one possible way forward:

Prof. Didier Houzel (1999), a psychoanalyst in a French University, has made a very cost--effective therapeutic intervention programme for babies at risk of autism and other pathologies. He has taught psychology students how to observe interactions between babies and their parents using some of the theory described in Negri and Harris's beautiful book, *The Story of Infant Development* (1986) and Daniel Stern's book, *The Interpersonal World of the Infant* (1985). Subsequently, Houzel's psychology students observe infant-parent reciprocal relationships, write detailed observational report and learn in Houzel's university seminars how to sophisticate their detailed observations and therapeutically intervene with the parents by highlighting the signs of *reciprocal engagement* that promote the infant's secure attachment to the parents. Psychotherapists trained in the Bick-Beebe methods of infant observation could be leading such seminars in university to help nurses, paediatricians, psychology students notice babies at risk of autism . Subsequently, the seminar leader enables the students to get involved in therapeutic participant observation with parents and their baby. The psychotherapeutic interventions have been researched by Houzel as preventing or at least ameliorating life-long psychological and cognitive complications. I have also been teaching video-linked infant observation studies to 40 participants weekly each year with a hope that a wider *community of comprehension* of the baby-parent interactions will promote healthier reciprocal relationships and encourage clinicians to notice and intervene very early in infancy when there are pathological parent-infant reciprocal relationships.

Conclusion
Over 15 million babies are born prematurely and over 1 million premature babies die. Some deaths can be prevented if we honour

the premature infant's fundamental right and a basic need to have primary caregivers who are always lovingly responsive to their premature infant's distress and thus encourage the infant's secure attachment to the parents. This basic foundation of trust and physical and emotional security provides the long-term benefits which I have described. A course in the Bick baby observation method is extremely important for NICU clinicians This will enable clinicians to gain a more sophisticated and enlightened approach to observing healthy and unhelpful *reciprocal reciprocity* existing between the baby-the parents-and the NICU team. Ultimately standing by the parents, being able to give voice to what has or is happening, acknowledging and containing the intense feelings, helps to create a psychic space in the mind, in which the baby and parents can develop their relationship. You will note that I have included the importance of the father throughout, while simultaneously wanting you to be aware that the term 'the parents' could refer to a same sex couple. The word 'clinician' refers to all NICU team members.

In essence, the hospital's task is to create better physical conditions for parents to bond with their premature baby as well as a more effective *Community of Concern* for the long-term psychological and physical well-being of the premature baby. Regular follow up appointments are needed for assessment and to assist the anxious parents in their transition to home care. Their baby is well enough to go home, but needs intense care to recover from the life-threatening experiences and medical intrustions in the NICU.

The baby is born to be always loved, protected from unnecessary distress, and nurtured in order to create a loving bond with others. It is so very important to acknowledge that those beginning weeks of the baby's life '**tell the tale**' of the premature baby's future life as a child and potential parent!!

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