

# BABIES

(An Incomplete Guide to Maximize Neural Growth in Infancy)

There are four essential areas of focus in the first three years of life crucial in maximizing brain growth...*Secure Attachment* = Love, nurturance, touching, holding and a feeling of belonging, security and safety...*Sleep* = As much as they want...*Nutrition* = Adequate nutrients and calories that are critical for a developing brain...*Positive Stimulation* = Play, positive experiences and no physical discipline...

*It doesn't matter if you read the Bible or the Qur'an or Dr. Seuss to a baby if it's done in an entertaining, intimate way...No human under age two is going to retain information in an structured and organized way but tell them everything...Sing, explain black holes, constellations, traffic patterns, how to make a pizza and how to plant a tree because every external input has an impact on a baby's developing brain...Memory centers are still growing and neural bridges are still forming and every sensory input is trying to be understood and categorized by the baby's developing brain to understand it's existence and it's relationship to the new external reality a baby experiences every conscious moment...What's important is nutrition, a safe, secure environment, a secure, loving attachment to another human being and positive, interactive stimulation that will promote brain growth and determine a level of conscious awareness and a natural, instinctive morality, empathy and intelligence when the baby grows into an adult...If neural growth and organizational structure is maximized during this time the adult human will understand reality as they mature no matter what teachings or propaganda they are exposed to as children...They will grow up to understand scientific inquiry and scientific proof and they will recognize existence, rejecting the myths, superstitions, ignorance and dogma which have influenced human activity for thousands of years...*

It takes dedication and every available adult during a baby's first three years of life to insure that a baby is safe, warm, nutritionally sound and positively stimulated and it's the responsibility of every human being at an age of understanding to interact with babies in positive, beneficial ways to stimulate brain growth and give infants a sense of security and love during this most critical phase of human development...The job of adult human caretakers is to show babies how to exist and thrive in a brand new world through kindness and repetition in all situational environments and this really does take multiple caretakers who understand the balance of sleep, stimulation and nurturance...Every adult who comes into contact with any small human in the first three years of life should respond and interact with the baby in a knowing, caring way to make it a positive growth experience no matter what the situation or the circumstance in our endless variety of real-life scenarios...

*Earth's IQ seeks a priority standard of care for all the children of Earth during the first three years of life so they are never hungry without someone to feed them, never lonely without someone to hold them, never hurt without someone to fix them and never awake without someone aware...Every child born on Earth...The first thousand days...*

Our vast transparent global civilization is a recent development on a planet that for thousands of years consisted of isolated groupings of humans in isolated environments on a very big world, the reason for many differing races, ethnicities and cultures...In very large cultures (Britain, Japan, Egypt, China, etc) and small isolated cultures a lack of knowledge, adherence to religion, ancient traditional practices, cultural norms, ignorance and unique tribal traditions have determined how babies were nurtured, loved, fed, educated and disciplined during the first years of life...Different cultures with very different beliefs...Only in the past 150 years has real progress been made in understanding the nuances and impact of this early stage of life with an increased focus on the needs of the child as opposed to the needs of the adults caring for the child...In cultures worldwide children were (and still are) viewed as mostly useless until they reach an age of understanding and mobility when they can help the family in some constructive way and many cultures believed children learned very little until school if they went to school at all while strict, inflexible religious practices maintained (and many still do) that corporal punishment was necessary to discipline the child, control behavior, earn respect and fear authority...

*There is no 'cookie-cutter' formula...It can be a million little things done in a million little ways as long as the baby has a sense of secure attachment and safety with abundant sleep and nutrition...*

In 20<sup>th</sup> century America psychologists and doctors suggested too much touching and comforting of a baby was not “ideal” and it was good to let babies cry themselves to sleep and be left alone in their own rooms from a very early age to foster independence and self-reliability...These suggestions might work for children above the age of three when these small humans know their boundaries, can easily communicate needs and fears and are aware of the expectations of human caretakers but leaving a infant alone and crying in a world they don't understand is cruel and restricts neuron growth and the development of organizational structure critical during the first 1,000 days of life...*Close continuous contact, a sense of safety and security, no physical discipline and a warm familiar human who always responds to a baby's cry to determine its needs is the formula to maximize early brain growth...*When a baby is engaged in an entertaining activity (no matter how simple and repetitive), when a baby is happy and laughing and when a baby is sleeping, these are all situational realities that enhance brain growth especially in the first and second year establishing a framework of communication and awareness within the brain that will influence behavior and intelligence for a lifetime...

*Many religions advocate physical discipline as a way of controlling behavior citing questionable religious text to support a primitive ignorance that's been harmful and detrimental to millions of humans over a thousand year history...It is possible to modify behavior through violence and fear and the number of societies and cultures who still use fear to “control” a small human who is naturally curious and inquisitive about everything in their environment is another clear indicator of the primitive nature of the human species... **Violence should never be used on children for any reason...**Teach them how to exist in human reality through repetition, diversion, patience, rewards and love...It's very challenging to interact with infants and children this way, especially in a consistent way over three years (and more) in the differing situational realities that represent human existence but it is the formula to maximize initial brain growth and develop a framework of empathy, morality, intelligence, trust and awareness...On a future Earth one day, all infants will have multiple caregivers if this species survives to understand this absolute necessity...*

*A study released in 2013 that examined more than 1,300 moms who breast fed their babies found the babies grew up to score higher on intelligence tests than a control group who were fed formula from bottles...The study found that each added month of breast-feeding indicated a 0.3-point increase in intelligence by age 3 and a 0.5-point increase by age 7...Researchers adjusted outside factors in the study that tend to lead to intelligence including parental income, employment, and education and concluded the benefit was greatest when babies were breast-fed “exclusively for the first six months.” The irony is this: The measured increase in intelligence had less to do with the quality of milk and much more to do with the interaction between the child and the mother in providing close continual contact and a feeling of secure attachment in the baby stimulating brain growth and creating dense neural bridges and organizational structure critical to the development of intelligence and awareness...*

### **Consistent Care for 1000 Days**

*Never let a infant cry itself to sleep...There are adults who believe if you let a baby cry itself to sleep it will teach the baby how to be tough, individual and help them survive the rigors of life...There is no evidence to support this...A baby should never be left to cry alone without interaction and comfort during the first 1,000 days of life...Crying is the primary way an infant communicates with their world, communication that requires a response by an adult caretaker...It's very different once the child is older than 3 and is beginning to understand the nuance of cause and effect, parental rules, guidelines and has communication skills to express emotion, curiosity and need...During the first one thousand days of existence crying babies should be held, rocked, fed, changed, whatever the communication demands and taken care of until their needs are met and they fall asleep...There is a balance here that is adjusted as the baby grows older...Most caregivers can tell when a baby is 'fussing' and 'vocalizing' as they fall asleep as opposed to a stressful cry that is recognizable and requires a response...*

*Limit the use of 'baby talk'...*Adults should talk to infants distinctively and in a normal way much of the time...Baby is trying to understand and acclimate to your language and your conversations with other children and adults so talk to them like they are tiny adults...It's amazing to watch these small humans pick up words and acquire language in the second year of life unable to enunciate clearly and understanding many more words than they can speak...Talk to them always while pointing out objects and situations...Again, there is a balance in this and it's not too hard to find...

*National Sleep Foundation = Newborns should sleep 12 to 18 hours out of every 24 hours...12 to 14 hours for toddlers age 1 to 3...11 to 13 hours for preschool age 3 to 5...*

*Allow a baby to sleep as much as they want...*Abundant sleep is essential in growing neurons in a developing brain and for very young babies this can be from 12 to 15 hours a day...Safe, warm, quiet sleep with an awareness of when they wake up (they will let you know in a familiar vocal way)...

*"Baby proof" the environment as much as possible to safeguard this exploratory, curious human from interacting with something they should not...*It's impossible to protect a baby from all situations so be vigilant when baby is awake and on the move but *never discipline a baby for exceeding boundaries or exploring anything within reach...*Babies can be taught avoidance behavior through the use of pain but these small humans do not understand the reasoning behind acts of violence on them, even if they change their behavior in response to it...Teach them limits by repetition or diversion, *never violence...*A simple word "no" (not shouted, but spoken in the same manner every time) while stopping the unwanted behavior is very effective over time if the adult is consistent and persistent in this form of behavior modification...It may take many repetitions to modify behavior this way but we are here to 'teach' babies the limits, boundaries and habits of human behavior, not to threaten or injure them...

*Even when they grow older and can understand the reasoning of punishment and boundaries, violence and pain are never an acceptable way to modify behavior...Time-outs are very effective on older children if they are done in a consistent and predictable way even if you have to sit with them during the punishment...And always explain to a child why this is happening...As they grow older explain to them the structure of human society (even if you have to do it many times) a paradigm that has grown and changed throughout history in multiple cultures...Explain to them that childhood is less than two decades and in most structured human civilizations the parents are required by consensus to shelter, feed, protect and teach the children in their charge until each child reaches an agreed upon age of independence when they are free to determine their own behavior within the stated laws of that civilization...But until that time the adults are required by the laws of the society to care for their children in all situations and most adults want their children to be interactive as they grow older with many decisions flowing both ways (this works well on teenagers as they realize they are close to freedom)...*

*There are many things a 3 or 4 year old will understand that babies do not...*Never sneak up behind a baby to startle this little human with a popped balloon or a loud noise...A four year old will laugh and understand this surprise that somehow makes the adults laugh but a baby will be frightened, alarmed and not understand...Babies don't understand if you push their face into a cake while you videotape and they don't understand if you force them to do anything that is frightening, strange or uncomfortable...*The first 1,000 days of a baby's life is all about security, trust and a predictability of human behavior* as the baby deals with unknown stimuli in a new, growing environment and interacts with the complexity of the human activity that swirls around them like a storm...Recognizable and predictable patterns of human activity in the continuous, complex interactions taking place every time the baby is awake creates a sense of security, anticipation, understanding and belonging that allows maximum neural growth in an environment of comfort and love...

Positive stimulation (anything that makes a baby smile and interact with humans) can be very simple and is almost always many times repetitive...Make things challenging and fun, never stressful and never forced, and you can return to activities over and over letting the baby explore the world with

interest and curiosity...Always talk to your baby when doing activities and tell them everything, even while knowing they can understand very little of what you say...A human voice trying to communicate in a normal way is an enormously positive stimulus for brain growth as the baby tries to assimilate and absorb everything in their environment...Stimulate with toys and games, videos and play, complex workstations and everyday activities that are all equally stimulating and fascinating to a baby...When you bake a cake, pull up the high chair and explain everything you do from measurements to mixing to tasting and cooking...Explain the stars, trees, cars, dirt, water, animals, airplanes, politics, anything and everything...Show them the moon and stars at night (from about 20 months on babies are fascinated with the night sky and we wonder what they must be thinking)...Make it fun, always fun, whatever it is you choose to do because every activity that is positive and makes an infant smile or respond positively is what's needed during this explosion of growth in the brain...Then let them sleep, one of the most important times for neural growth and development and when they awake, do it all over again...

*In the journal PloS One, researchers from the University of Rochester published a study of attention patterns in infants age 7 & 8 months and concluded that infants are much more actively engaged in seeking out information from their world than previously thought...Infants do not need fancy or expensive toys and devices to learn, just a positive stimulating environment of whatever is available for them to play with and explore...*

*I spent a month playing a game with a nine month old baby every time we were together that was simply me putting a cell phone like rubber device that was on a string into a holder attached to a play center he sat in the middle of and him pulling it out of the holder...Over and over again...But every time he flipped it out he looked not at the device but instead at me, with a smile on his face waiting for a human reaction which involved me putting it back in the holder and him flipping it out again...Over and over...This simple activity challenged his spatial coordination, muscle control, his communication skills with another human, his reaction, his concentration and his desire to interact, a simple positive play activity that enhanced and accelerated neuron growth that is continuing nonstop at this age...After a month he was focusing on other activities (walking) and the play center was gone...No activity is wasted, no matter how simplistic if it entertains and challenges a baby in a happy, fun way...*

### **The Realities of a Baby's World**

The interactions described above imply that an adult has no other responsibilities in life other than entertaining an infant and that is never the case...It's difficult to make a baby the focal point of your attention in all activities and especially if there are other children...This is why multiple adults and caregivers are essential in the first 1,000 days of human development...*In all cases the formula for intelligence is attachment, nutrition, security, positive stimulation and sleep...*In many developing countries just the work of daily survival demands constant vigilance and unending chores but if daily activities are a part of routine and repetition, farm-work, agriculture, textile, or simply gathering wood and water, a baby can adapt and thrive as long as they feel safe and secure in an environment that is recognizable and familiar...In many families the older children spend a great deal of time helping care for the baby and this can be excellent stimulation for a growing brain if the caretaker child understands the formula and engages the baby in a healthy, happy way...Even babies in very poor situations will do well just interacting with whatever is part of their environment if they receive nutrition, sleep and security...Unfortunately even this is impossible in many world situations and it will require the humans who can help, large religious organizations without conditions of belief and many non-governmental organizations with money and the resources of corporations and governments to provide for what the mother cannot...Perhaps the biggest influence on a baby's brain development and biological health is their environment and the ongoing conflicts and wars in many African nations and other parts of the world are very disruptive to developing brains who do not understand loud noises, fear and stress in adults and children, erratic feeding times, even no food at all and a continuous chaos that can retard the growth of the neural nets necessary for every human to understand the reality of their existence...

It's estimated that *every year* over 230 million children under age five do not reach a level of cognitive and social development needed to understand the complexities of life and the skills necessary to thrive and prosper in adulthood...Many of these babies suffer deficiencies in essential nutrients that are needed in growing brain structure and many babies are susceptible to disease, infection and injury in these forgotten corners of the world...Children suffer as resources are diverted to the military's of the world for fighting at the expense of food, shelter and health facilities that are desperately needed by the populations...In the poorest parts of the world one in five children don't survive until age 5, more than 12 million a year with malaria killing more than 1.5 million children every year...Against such odds it's difficult for a baby to even survive and with almost no chance of growing the neural nets to understand reality these babies will be the adults in this region of the world one day and will do the same thing the adults are doing in 2016, continuously driven by primitive human instincts of fear, survival and greed and trying to survive in a reality they cannot understand with access to almost no resources in a world where nearly four billion humans have access to just 1% of the planet's wealth...Changing this reality for forgotten, abused children and women worldwide will take hundreds of years and a focused effort by all humans on Earth who do understand a reality ignored by billions but there is no way to know in this century if a reorganization of Earth's resources and priorities will happen in time...

### **History of Childcare**

In Europe during the second millennium children were secondary, routinely abused, ignored and the death rate was unimaginable...Crawling was discouraged in some cultures because “man was made by God to walk on two legs” not to crawl like animals along the ground...Only in 1986 were canes and straps outlawed in British schools and it is still legal for British parents to beat their children “as much as necessary if they do not leave marks”...Mothers for most of Europe's history did not feel it necessary to hold or love their children believing babies were essentially useless until they reached an age where they could work and help with labor...A widespread ignorance of reality, cause, effect and consequence that is still prevalent throughout much of the world in the 21<sup>st</sup> century...

In many societies the importance of continuous positive interaction with babies in safe, secure, and playful ways is simply not known or practiced...Many humans raise their children the same way they were raised and many humans believe babies do not really begin brain growth until they reach school age and can learn from instructors...In ancient times, in the great Roman and Greek cultures, babies were routinely left to die of exposure or killed if the male head of household did not want the child...Surviving children were often nursed by a slave or wet nurse...An ancient Chinese text suggests “*as soon as a baby can recognize facial expressions and understand approval and disapproval, training should begin so that he will do what he is told to do and stop when so ordered...After a few years of this, punishment with the bamboo can be minimized as parental strictness and dignity mingled with parental love will lead the boys and girls to a feeling of respect and caution and give rise to filial piety*”... Dr Spock in his popular book *The Common Book of Baby and Child Care* actually had to tell parents that picking up a baby when they cry will not spoil them because in 1950's America the advice from 'experts' was to feed babies on a schedule and don't touch them too much (you cannot touch a baby too much) and in medieval times throughout European culture babies were frequently *swaddled*, wrapped in cloth with their arms and legs bound to their bodies to help them grow straight and often left in cradles (with ties) to be ignored until they grew older...Even in this century in America, a nation who believe they lead the world, parents do not hold their babies as much as other cultures and many babies are isolated and left to sleep alone in their own rooms in the mistaken belief that this will help them develop independence and an identity as individuals...

Although many cultures interact with their babies more often than Americans there is a global ignorance of how absolutely essential it is from birth to form a bonded relationship with an infant...The first year is more important than the second year and the second year is more important than the third year...After a thousand days these small humans understand some expectations (they are actually very

perceptive) understanding humor, nuance, even satire and irony and continue to expand their awareness in a variety of amazing ways but human babies are among the most helpless offspring of all mammals and require constant vigilance...Sweden was the first European country to outlaw corporal punishment (1979) with 31 nations having laws today...Corporal punishment is still legal in America...

*Maximizing initial brain growth takes no special actions or special activities...It simply takes love, attachment, nutrition, sleep and the absence of negative experiences...No violence, no abuse and a sense of safety...3 years...*

### **'Include' Your Baby...**

What babies and small humans want most of all is to be "included" to do the things that big humans do...When something is going on (big truck fixing a transformer at night with crane buckets, lights, someone coming over, you coming home) small humans are intensely curious about everything in their world so include them in everything possible...At night when I visit a three year old and have 'stuff' to do outside before going in to visit (unloading the car, recyclables, anything), the 1<sup>st</sup> thing I do is let him come outside with me to hang around while I do stuff...He's included, growing neurons and learning how to be a human in a world full of giants...It's important to small children to be included in the activities humans do every day no matter how routine and that's how they learn the world...It's always easier to leave children inside so they are not 'underfoot' while adults do the things that need to be done but include them whenever you can, challenging but essential to maximize neural growth in the early years of life...When children run around as we do stuff sometimes they can help and most times not but they're included, a part of the activities and it means everything to a developing brain...

*The learning objective with all small infants(0-3) is to recognize when they are reaching certain levels of skill and integration into the web of life where they will grow to adults...Clinton at age 2 yrs 10 months is understanding how to pedal a bike...How long would it take for him to know that skill if someone bound his ankles? (unthinkable) At age 3 he has wit, insight and nuance, understanding satire in simple ways and the many aspects of 'wordplay' and their relationship to the reality of the world that swirls around him...Geographical recognition of a 10 mile radius surrounding his existence where he could direct someone to his house, the center of his awareness...He knows Venus, Jupiter, the Moon, Mars, the Sun and that Earth is a planet where everyone lives...Recognizing and reinforcing these thousands of learning points in the first thousand days is crucial in the development of initial brain growth and it takes a village and multiple caretakers, everyone who engages with small humans to make it always positive...*

*OBEDIANCE IS NOT INTELLIGENCE...Children need freedom to inspect and explore their world and freedom to move in their space as children are meant to do and for their caretakers it takes patience, effort and intelligence to continually balance and adjust this equation...They do not walk in lockstep with the parent afraid of physical discipline and this will be a challenge to many parents...Intelligence is wit, guile, satire, irony, insight, discovery, curiosity and exploration...Continuous interaction with small humans is challenging but children raised with love, nurturance and patience trust their caretakers deeply and communicate with insight, learning through logic, patience, rewards and disappointment, bouncing off the barriers of their existence but exploring everything within those barriers...They go to the edge and that's how they learn and how they know their world...*

*The energy in a child is infectious and a normal part of development...Children cannot not move...*

*Spoil your baby (the first three years) with positive reactions to almost everything they do, say 'yes' a lot and redirect activity and complement them for being smart and aware of their world...And continue to explain the world to your baby...Slowly take a leaf apart explaining why it's green, how the sunlight makes it grow, where it attaches to the tree, explain a rock, why the Sun goes down over there and comes up over there, signs on the highway, trucks, cars, helicopters, jets, little planes, food, faucets, people, etc...Never demand that they understand what you tell them...Just talk to them and months or weeks later they will ask you something that makes you realize they've been thinking and assimilating what you explained to them weeks before...The most important thing is secure attachment and no negative experiences...Don't hit them, don't yell at them and don't scare them...*

The following suggestions from an internet site *WEB MD* are simple, positive, engaging ways to interact and communicate with a small growing human who is trying to assimilate everything in a complex existence that challenges a baby's brain to adapt and grow to understand it's reality...In the first thousand days it is much more about stimulation than assimilation although a great deal of information in the first years is retained and understood as memory centers grow and storage and retrieval areas are developed...Necessary adaptations in order to survive and thrive in this new environment called life...

### **A Growing Awareness**

*From the internet site Web MD*

*In a world that is finally starting to make a connection between babyhood and the rest of life, experts conclude that talking to your baby, playing with your baby, paying attention to what interests your baby and using those interests to foster curiosity lays down the wiring that ultimately stimulates your baby's brain to grow and develop...*

#### **Age: Birth to 4 months**

*Read; make silly faces; tickle the body; slowly move objects in front of your baby's eyes, like a brightly colored rattle; sing simple songs and nursery rhymes with repetitive phrases; narrate everything you and your baby will do, such as "We are going in the car now; we are putting you in the car seat; Mommy is getting into the car."*

#### **Age: 4 to 6 months**

*Help baby hug stuffed animals; stack things (like plastic blocks) and let your baby knock them down (babies love to knock things down); play music with different rhythms; show your baby books with brightly colored pictures; let your baby feel objects with different textures*

#### **Age: 6 to 18 months**

*Talk and interact face-to-face to increase connections between sounds and words; point to familiar people and objects and repeat names; sing songs with repetitive verses and hand motions; play hide and seek.*

#### **Age 18 to 24 months**

*Play simple recognition games like "spot the yellow car" or "the red flower," or put three objects in front of your child and say "Give me the ..."; **talk directly to your baby as much as possible**; introduce your child to writing tools such as crayons and paper; ask "where and what" when reading to your child; encourage some independent play with favorite toys.*

#### **Age: 24 to 36 months**

*Lavish your child with praise and encouragement as he or she perfects motor skills; bolster your child's imagination by encouraging new ways to use toys and help your child incorporate 'real life' activities into play...*

*Humans Caretakers need to use every skill they have to handle these small humans whose brains are going a hundred miles an hour because they're trying to learn everything and they don't know very much about anything...Bedtime, baths, everything is challenging, sometimes very challenging and it takes caretakers with intelligence and flexibility to get these little humans to sleep while building a very close relationship with the child...It's not easy, but it's essential...*

*A newborn baby can recognize their mothers face just a few hours after birth...*

*Babies have more brain cells at age 2 than at any other time in life...*

*There should be pre-school for every child in the world to engage in real-life situations and social interactions...*

*Finally, in study after study researchers have found an amazing curiosity and flexibility in babies just months old that develops more and more as they grow older...Many suggest challenging these developing brains by not showing them how everything is connected and works but rather introducing a behavior or item to the child showing your interest and curiosity and then letting them explore it on their own...These insightful, curious creatures are amazing when trying to understand their world and there is a balance of interaction that's adjusted as they grow...*