



HEAD START BODY START
NATIONAL CENTER FOR PHYSICAL DEVELOPMENT AND OUTDOOR PLAY (HSBS)



Brain Development: Play is the Way!
Presented by Deborah McNelis, MS



Meet the Speaker




- Educator
- Author
- Speaker
- Parent
- Play Advocate

Creator and owner of braininsights®

Deborah McNelis, MS

Head Start Body Start

“ I am just a newborn, what is all this talk about my brain development? Can't it wait until I go to school?”



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“Oh really...? Much of my brain development happens before I start school ?”

- 90% of the brain develops in the pre-school years.
- 100 billion brain cells at birth



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“It sounds complicated!”

- Physical needs
- Loving interaction and play!



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“Everyone should know about how my brain develops!”



“...early childhood experiences exert a dramatic and precise impact, physically determining how the intricate neural circuits of the brain are wired.”

Newsweek, Feb. 19, 1996



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Regardless of the general environment, all children need stimulation and nurturance for healthy development.

If these are lacking or if a child's caretakers are indifferent or hostile, the child's brain development may be impaired....



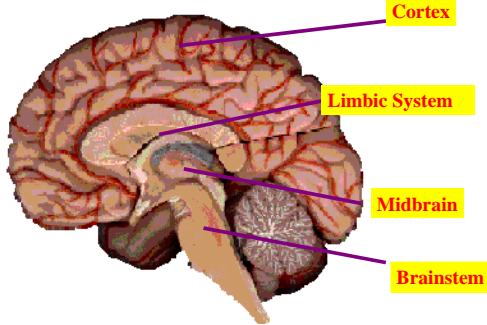
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...because the brain adapts to its environment, it will **adapt to a negative environment** just as readily as it will adapt to a positive environment.

- US DHHS, Administration for Children & Families, Children's Bureau 2001

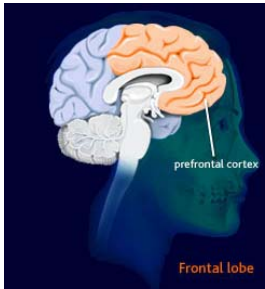


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- Prioritize thoughts
- Ability to imagine
- Think in the abstract
- Anticipate consequences
- Plan
- Control impulses

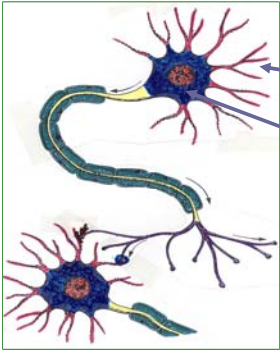


The Prefrontal Cortex

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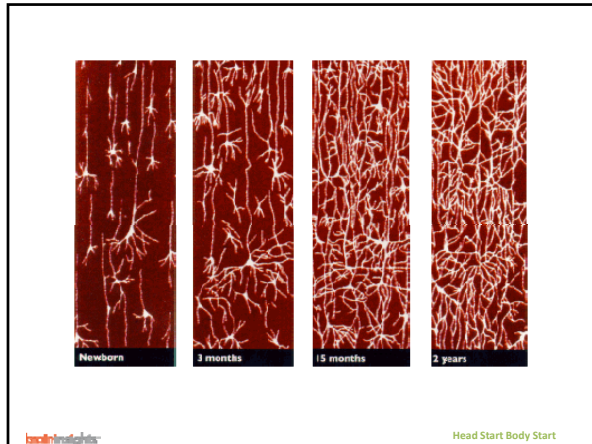


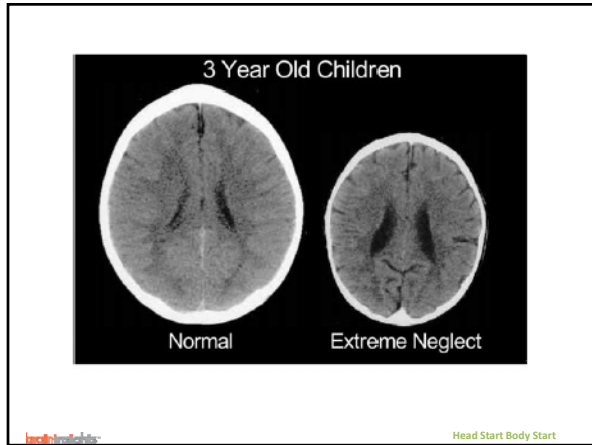
Neurons

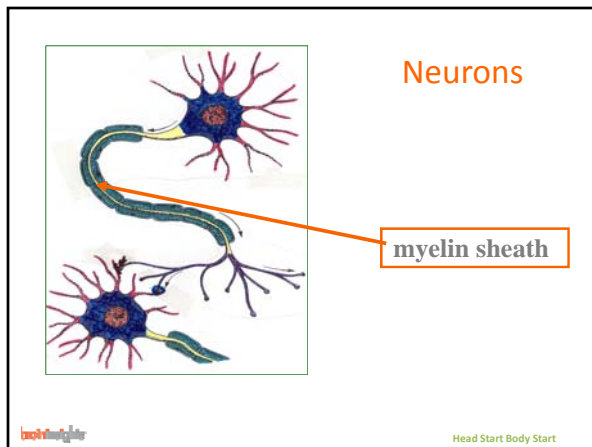
dendrites

cell body

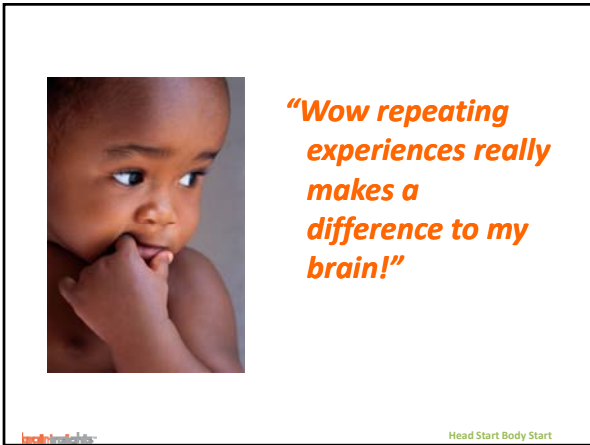
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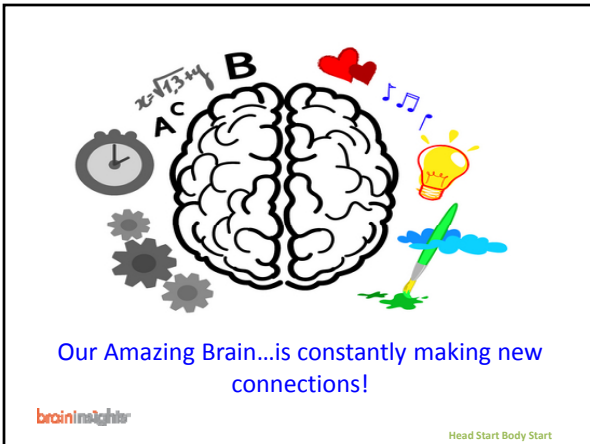















What is it that babies and children want to do most?



They want to play!

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- **Babies are born ready to learn!**
- **Children want to explore, touch taste, smell, poke, pound, and throw everything they can get their hands on**



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Activating the Higher Brain Areas



The way of relating to a child may be activating the wrong part of the brain.

For example, endless commands – "Do this...Don't do that" – could be activating the primitive RAGE and FEAR systems.

In contrast, lots of play, laughter, and cuddles activate the brains' social emotional and thinking areas.

brain insights

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When a child explores... and directs attention onto something... brain cells are being changed and the child is learning.



brain insights

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What We Can Do!

Provide what a child needs!




brain insights

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REAL objects for REAL learning

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When watching TV's, DVD's,
or using flash cards this is a
missed opportunity for
making strong brain
connections



Real learning

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The [National Scientific Council on the Developing Child](#) reports:

“Although a varied array of experiences clearly stimulates learning in the preschool years, promotional statements about the superior brain building impacts of expensive “educational” toys and videos for infants and toddlers have no scientific support.”



Learning Materials



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Learning about the world



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Exploration and Trial and Error




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Consider the wiring taking place in these brains.....

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.....Compared to these brains

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What do you know about this?


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Children need “hands on” learning and physical activity opportunities at school


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Numerous studies show that providing physical activity during the school day is correlated with improved academic performance



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- When a child is using several senses, exploring, paying attention, and is trying things out in different ways, brain cells are changing and a the child is learning
- The child needs to participate... *not watch*



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- Play provides the opportunity to learn to get along with other people
- When children play with parents/caregivers or other children a lot is learned about how relationships work



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Imaginative Play

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Unstructured Play

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- **Laughter is wonderful for the brain. Play and laughter activates the care and thinking areas of the brain**
- **Laughing lightens our mood through reducing the level of stress hormones affecting our brains**
- **It provides a physical and emotional release**



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- **Safe rough and tumble play has been shown to advance the connections in the thinking areas of the brain**
- **Physical activity creates more blood flow and oxygen to the brain**
- **Children need opportunities for lots of physical play... especially outdoors!**



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- **Nature relieves stress**
- **Both children and adults feel better after spending time in nature**
- **Nature provides opportunities for learning a lot about the world**



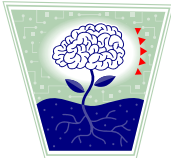
The Brain Needs Nature

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The Brain Needs

- > Nurturing and stimulating environment
- > Repetition of positive experiences
- > Nutrition, sleep, nature, and physical activity
- > Fun and caring interactive experiences
- > Routines and consistency
- > Positive/consistent relationships

..... **Adults that understand development**



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“Yeah! Now you know what my brain needs most!”



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“ We ALL benefit from ALL children with well developed brains! ”



Tell **EVERYONE** you know!

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