

NEW TUMMY
TIME CLASSES
FOR BABIES:
2 TO 12 MOS

(2016)



WHY ADD NEW BABY CLASSES?

- **BRAIN DEVELOPMENT: First year**
is *the* most important year
- **If you work with kids, this is the best opportunity to have positive long lasting affects on kids.**



BABIES/FAMILIES BENEFIT PLUS YOUR GYM

- **FOR BABIES:** Develops movement & muscle tone which ties directly into **brain development & organization**
- **FOR GYMS: Tummy Time** gives you a head start by getting new parents involved in your gym & it **broadens your reach within your community**

GREATER NEED TODAY THAN EVER BEFORE



Most parents work outside of home

Fewer homes have grandparents living with them

Busier and more stressful lifestyles than generations ago

TUMMY TIME FILLS NEW NEED IN SOCIETY

- 'Back to Sleep' (sleeping only on back) has reduced SIDS (50%)
- **Also led to ↓ time spent on tummies**
= less time to develop muscles
- **More time in hard plastic carriers**
= less sensory input



- Families today also face new challenges due to **MORE TECHNOLOGY** – work happens faster now, mostly more **WORK** with higher stress, but not more leisure or family time...
- **TODAY**, studies show children have increased '**sensory**' issues, increased **behavioral** issues, shorter **attention spans**, and increases in **ADHD**

➤ **WHY???**

WE ARE LIVING IN A NEW AGE

Less time for family; less time for self; less time for our children

More time at work; more time stressed; more time frustrated! **YIKES!!**



GYMS HAVE A **GOLDEN OPPORTUNITY** TO HELP FAMILIES WHILE ALSO HELPING THEIR BUSINESS

- **Activities: companionship & info for new parents**
- **Activities that promote healthy brain development for children**



- **“Tummy time** is important in many ways...organizing a baby’s nervous system and develops the muscles in baby’s neck, shoulders, arms, and trunk. These muscles play a critical role in the foundational motor skills of rolling over, pulling up, and sitting up.“

Dr. Anne Zachry, ‘Retro Baby’

- * **Motor skills are connected to later academic learning & success**



HOW DOES YOUR GYM BECOME THE 'GO TO PLACE' FOR CHILD DEVELOPMENT?

- ❖ **Educate your staff** on brain development and how it relates to movement; learn what babies need; USAG
- ❖ **Find a local OT/PT** that specializes in infants for guidance, if possible



BASIC BACKGROUND ON BRAIN DEVELOPMENT

HUMAN BRAIN is unique – opposite
of what you would expect – **NOT AS
CONNECTED** as other species

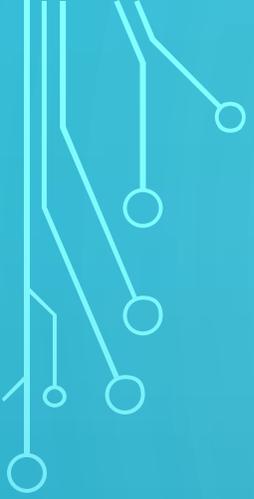
AT BIRTH: only survival mechanisms
connected; higher brain functions
are **NOT CONNECTED!!**



HUMAN'S RELY ON **EXPERIENCE** TO CONNECT OUR HIGHER BRAIN FUNCTIONS

- Newborn mammals: able to stand and walk within minutes/hours of birth
- Some animals have **60-90% of adult** brain weight at birth
- Humans: only **25-30%** of adult brain weight at birth – **more immature brain**





‘EXPERIENCES BUILD BRAIN ARCHITECTURE’
CENTER ON THE DEVELOPING CHILD, HARVARD
UNIVERSITY

“Genes provide the basic blueprint, but experiences shape the process that determines whether a child’s brain will provide a strong or weak foundation for all future learning, behavior, and health.” (see [youtube.com](https://www.youtube.com); **Center on the Developing Child**)



BRAIN IS MIXTURE OF 'HARDWARE' AND 'SOFTWARE' (GYMS WORK ON SOFTWARE)

- **Hardware** (DNA): lays down basic functions to sustain life
Software = **trillions of connections** built during the **first year of life**; determined by the **stimulation babies receive in first years** (**what they are exposed to**)
- **Early experiences actually help 'shape' our brain**

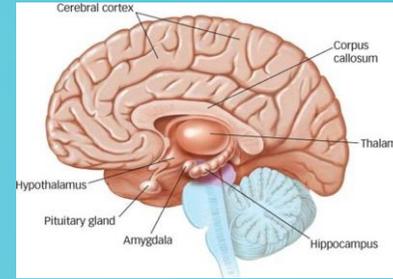
LACK OF WIRING MEANS WE MUST HAVE **'EXPERIENCES'** TO DRIVE CONNECTIONS



Immature brain – born earlier than other animals due to larger brain when compared to our body size

Many pediatricians: call first 3 months **'4th trimester'** because human brain is so immature and requires so much support.

SOME BRAIN FACTS



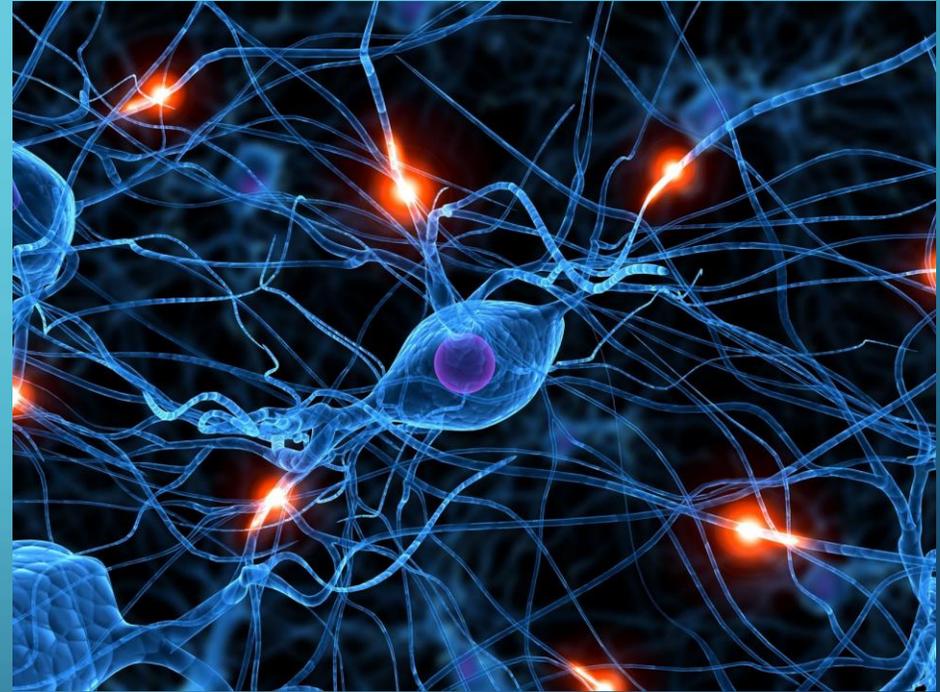
- During the FIRST MONTH, newborns will increase brain **connections by 20-fold** = this is due to EXPERIENCE, DOING! If our body did the same thing, it would weigh 170 lbs at one year of age. Brain is unique compared to organs
- **Our brain literally 'grows' itself by forming connections** = dependent on **what we experience and are exposed to**

- **50% of Brain Dev.** occurs by 6 months
- **70% of Brain Dev.** occurs by one year
- Takes ~ **5 years** for humans to reach **90% adult brain wt.** which many animals are born with

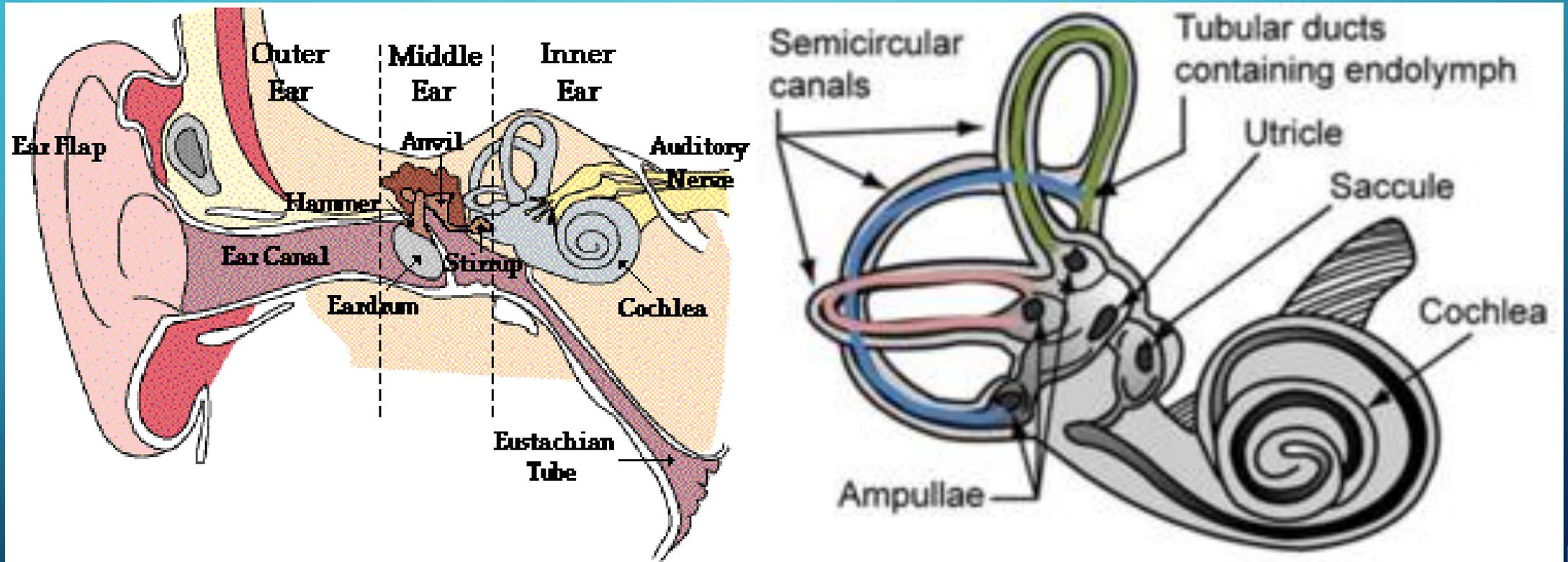


HOW DOES THE BRAIN CONNECT ITSELF?

- **Sensory input:** seeing, hearing, touch, balance, proprioception
- **Interact with Vestibular system:**
hub for sensory input; sends info to brain stem and cerebellum



**VESTIBULAR SYSTEM: FOUNDATION FOR MUSCLE TONE,
BALANCE AND BILATERAL COORDINATION = IT IS A UNIFYING
SYSTEM IN OUR BRAIN**



BORN WITH PRIMITIVE REFLEXES (STEREOTYPICAL MOVEMENTS; AUTOMATIC RESPONSES)

- **Primitive reflexes** are present at birth, guide developing brain but gradually disappear (inhibited) as the higher brain is connected
- **Postural reflexes** replace primitive reflexes in normal development through adequate stimulation
- **Postural reflexes coordinate our balance systems and remain active for life**

HIGHER BRAIN CONNECTS VIA REPEATED SENSORY/MOTOR EXPERIENCES

- **Vestibular** connects sensory input to areas of the brain
- **TUMMY TIME** is a **multi-sensory experience**: touch, sounds, vision, balance, & muscle tone which stimulate muscle development and movement
- **These early experiences lay down the organization which the brain will follow for future learning and academics – builds brain architecture!**

TUMMY TIME ENCOURAGES MOVEMENT!

- **2 to 6 Months: Primitive Reflexes** may still be active (for instance, head movement is tied to automatic arm and leg movements until the reflex matures and is released by the maturing higher brain)
- **Movement & TT** helps to integrate Primitive Reflexes which impacts later academic success

- Our first language is **MOVEMENT** = mediated through **SENSORY input, organized and orchestrated** through **VESTIBULAR SYSTEM & CEREBELLUM** which relay info to cortical areas of brain (higher brain)
- **Primitive Reflexes** are stimulated by sensory input; **automatic, stereotypical movements** present from birth to 6 months = Tummy Time is important here!
- **Inhibited** by developing brain as connections are made to the cortex which takes over and paves way for **conscious, voluntary movement.**

WE MUST 'EXPERIENCE' THE WORLD TO LEARN BEYOND SURVIVAL (OUR LOWER BRAIN)



Experience = sensory information which guides the connections in our brains.

Tummy Time is a multi-sensory delight which stimulates the brain.

TUMMY TIME PROGRAM - IDEAS TO START YOUR PROGRAM WITH

- Educate your parents: studies show **expectations** of mothers were found to **affect outcomes for baby**; once moms knew babies were able to learn more, they responded more & babies did more
- **MOVEMENT** is the foundation of our early learning and brain development = TT is ALL about movement!

TWO WORDS TO GUIDE OUR INTERACTION WITH BABIES: PRECIOUS AND CHERISH

- Most important thing to foster later success in children is loving, secure environment
- Have only a few caregivers
- Omit TVs & screens until child is 2 years old



CLASS NEEDS TO BE FUN & RELAXED

- 1) BEGIN with children's Music and Social Time
- 2) Want moms to relax and begin to form relationships with each other and teacher



NEW BABY CLASSES: START AT 2 OR 3 MONTHS OF AGE; 30 MINUTE CLASSES

- Suggest classes be FREE to remove any barrier → bring in **NEW parents** to your gym and help those that might not be able to afford your services but need help in becoming good parents
- Suggest **back to back classes (not an isolated class) – new moms often late so they'll come and stay for next**

NEUROSCIENCE SAYS:

- The foundations for a bright, happy baby or toddler are **Attention, Bonding and Communication** – TT class!
 - **Attention**: Face to Face interactions with their special people (NOT TV or SCREEN TIME) = RESPONSIVE
 - **Bonding**: Depends on **security**; massage & touch
 - **Communication**: Face to Face interactions with the special people; singing; rhyming; dancing; LANGUAGE!

BASICS FOR TUMMY TIME

- **CIRCLE TIME** FOR GATHERING: BABIES ON BACKS
- **STRETCHES AND STRENGTH**
- **ROLLOVER TO TUMMIES**
- **TOYS AND PLAYFUL ACTIVITIES** ON TUMMIES
- **MOVE AROUND ROOM** – VARIETY OF ACTIVITIES
- **CLOSE** AT CIRCLE FOLLOWED BY BUBBLES

PARENT INFO TO SHARE

- **Sleep and Nap time should ALWAYS BE ON THE BACK**
- **Tummy Time: PARENTS ALWAYS PRESENT**, baby rested, happy
- AAP says start with 3 to 5 minutes per session with total of 45-60 minutes per day
- Visit [Pathways.org](https://www.pathways.org) for videos of 5 Essential Moves for TT
- Want to have TT every day – teach parents for at home

SET-UP FOR OUR ROOM



Room or space
dedicated to kids
5 years and
under

We add a clean, soft blanket over our floor which is washed after each class along with all the toys

Parents wash hands before and after class; no outdoor shoes



CIRCLE TIME – REMIND PARENTS THAT ‘GENTLE’ & ‘SLOW’ ARE THE KEY WORDS

- **Free flowing Circle Time** so late moms will be comfortable coming in late when necessary
- **Start with babies on the floor on backs** – more comfortable for them if they start on their backs
- **Demonstrate gentle stretching** of legs and arms

BABY STRETCH: DEMONSTRATE WITH DOLL



While on back, move rattle from head slowly toward baby's feet: baby should follow rattle and move head downward as he follows the toy to eventually tuck his chin – good stretch for **neck and jaw muscles**

BABY STRETCH: GENTLY

- **Legs:** while on back, gently move legs and hips up and down
- **Arms:** gently move **arms up & down;** together, apart; alternate up/down; **cross midlines**
- **Brain relies on repetition and slow movements**



BABY STRETCH (ON BACK)

- 3 - 4 months: should reach for toys when on their backs
- Look for **symmetrical use** of arms and legs
- Palmar reflex should be inhibited: **voluntary grasps**
- Rock sideways: gently rock from side to side (not more than 45°); baby should move head to correct



BABY MUSCLE TONE: NECK & BACK STRENGTH

- To develop **neck strength** and **head control**: while on back, gently **pull baby up** with arms while supporting head if needed. Should be no head lag, but watch for it and **stop** if it occurs



BODY AWARENESS

- With baby on their back, grab each leg and guide them through **walking and bicycling movements**
- Switch to arms and guide them through **clapping movements**
- Play '**gotcha**' and name body part that you gently 'get'
- Play '**peekaboo**' by sitting in front of baby while on their back and cover your face with your hands

PEEKABOO – THE MANY BENEFITS OF THIS SIMPLE GAME

- Play time with mom or dad = **attachment & bonding**
 - Sign of healthy **social and emotional development**
- Helps '**thinking**' as baby learns what comes next
- Develops **language skills**: baby wants you to repeat
- Develops **motor skills**: excited and reaches out to mom

ON BACK STRETCHES; TUMMY ACTIVITIES; MOVE RATTLES TO LEFT / RIGHT / UP / DOWN



Works on eye tracking, head control, balance, crossing midlines, neck muscles



EXERCISES FOR 2 – 6 MONTHS

- **Exercises to improve Head Control & Focus:** Play **Patty-cake** with baby on their back; or if older, have baby sit on your tummy while you hold their hands – **move baby's hands with yours to the with song**
- **Exercises for Feet:** point and flex feet to stimulate reflexes. Pressure on the heels cause extension of the toes; pressure on the sole causes flexion of the toes
- **Foot reflexes are important for later walking**

EXERCISES FOR HIPS AND LIMBS: ON BACKS

- Try **raising your infant's bottom** so he can touch a **dangling balloon** with his legs. They will learn to do this themselves.
- 3 months: loosely tie wide, satin ribbon on baby's right foot and tie other end to mobile with bell = 5" to learn to ring typically – adult supervision always!

BABY MASSAGE (RETRO BABY, DR. ZACHRY)

- Massage research has shown baby massage **calms babies, improves sleep and reduces stress**
- Massage typically can begin at **2 to 3 weeks** of age
- Room: dim lights, warm temperatures; baby in diaper only
- Rub hands together to warm hands
- Use **gently circular strokes** starting at forehead and slowly move down body. Avoid tickling. Turn onto tummy and continue massage: visit **YouTube.com** for demos

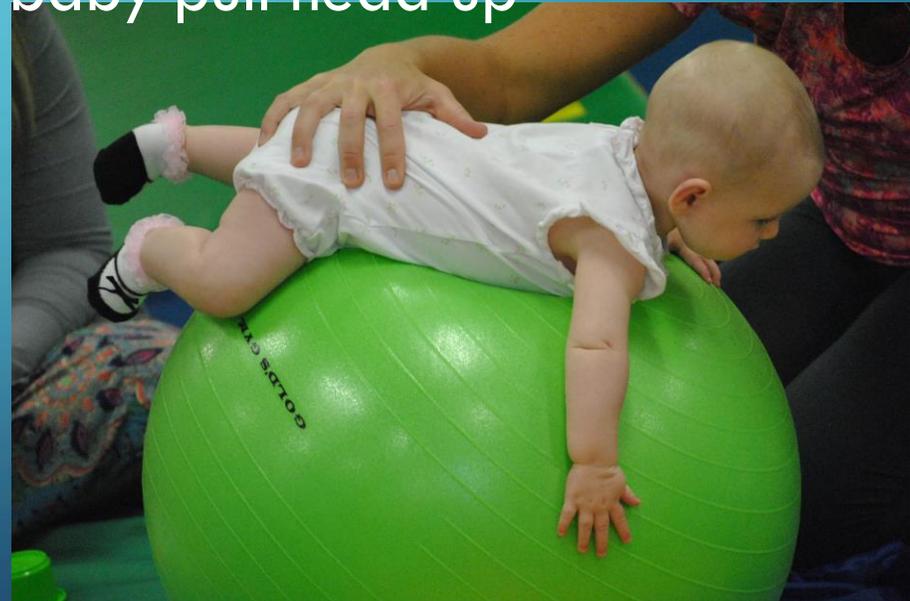
BALL STRETCHES ON TOP

- Baby should be able to hold head up
- Sit baby on top of ball; hold baby around hips to stabilize
- Gently rock ball forward and back
- Baby should 'right' his head as you move the ball
- Gently rock side to side slowly; baby should 'right' his head



BALL STRETCHES ON TUMMY

- Place baby on tummy facing away from you on large ball
- Sit or kneel behind ball and grasp baby's hips for support
- **Gently roll ball forward slowly**; watch baby pull head up
- Gently roll ball **side to side**; slowly
 - **aids balance and proprioceptive systems**



BALANCE: SIT ON TOP & ON TUMMY FOR HEAD AND NECK CONTROL



WHEN SITTING IN A CHAIR

- Leg and Tummy development for 2-3 months old:
 - Place baby on your lap on **their back with head towards you** (feet away from you)
 - **Lift up bottom** so legs lift up: legs will flex (bend) upwards when bottom is lifted; legs will straighten when you lower bottom
 - This strengthens **tummy muscles**

SOME FAVORITES TOYS & ACTIVITIES



TWO-SIDED ROCKER OR BRIDGE WITH HANDLES;



BALL PIT (SENSORY) & BIG BALLS (BALANCE)



MILK CARTON – INSIDE ACTIVITIES & RIDES ON TOP OF PARACHUTE; BARS FUN



SENSORY BALLS & TOYS INSIDE CRATE



SCOOTING & BALANCE (OBSERVE NECK)



MILK CARTONS – ACTIVITY CENTER & RIDE



FUN & MORE FUN!



SOFT BOOKS AND BALLS – PROMOTE LANGUAGE AND BALANCE





END WITH BUBBLES, BALL PIT, SLIDES OR RIDES –
THEY WILL NOT WANT TO LEAVE!



ADDED EQUIPMENT FOR BABY CLASSES







QUICK OVERVIEW

- **MUSIC** – use nursery rhymes and songs; mod. volume
- **EDUCATE YOUR PARENTS** on movement, value of lots of talking to babies, no TVs or screen until 2 years old
- **LOVING ENVIRONMENT** - CREATE a fun, relaxed class
- **PROMOTE MULTI-SENSORY ACTIVITIES**
- Use slow, gentle movements

PARENTS SHOULD CONTINUE TUMMY TIME EACH DAY AT HOME

- Ask parents to not come if their child is sick
- Parents can stay for multiple classes
- No shoes in the class room
- Wash hands before class and after class
- Wash blankets and toys after every use

INFORMATION WE NEED TO KNOW

- **BRAIN** is not complete at birth – only SURVIVAL COMPLETE
- **BRAIN** must develop connections (synapses) between cells
- **CONNECTIONS** are dependent on our **EXPERIENCES**
- **CONNECTIONS** are tagged with **EMOTIONAL CONTENT**
- **SAFETY and SECURITY** are the **BRAIN'S FIRST ORDER OF BUSINESS**
- **PRIMITIVE REFLEXES / POSTURAL REFLEXES GUIDE BRAIN DEVELOPMENT**

**JILL STAMM, PHD, NEUROSCIENTIST,
'BRIGHT FROM THE START'**

"The quality of your child's first relationships has broader and longer lasting effects than any other factor in your control."

CHILDREN LEARN through **PLAY because it is **enjoyable and stimulates REPETITION** which builds **PATTERNED NEURAL ACTIVITY = LEARNING (wiring)****

RESOURCES

- [Pathways.org](https://www.pathways.org/) – wealth of information
- ‘**active baby, healthy baby**’ by Margaret Sassé
- ‘**A Moving Child is a Learning Child**’ by Gill Connell/Cheryl McCarthy
- ‘**Bright From the Start**’ by Jill Stamm, PhD
- ‘**Thirty Million Words**’ by Dana Suskind, MD
- ‘**Baby Minds**’ by Linda Acredolo, PhD & Susan Goodwyn, PhD
- ‘**What Babies and Children Really Need**’ by Sally Goddard Blythe
- ‘**Retro Baby**’ by Anne H. Zachry, PhD, OTR
- **Center on the Developing Child**, Harvard University

THANK YOU!

- Nancy L Bates, PhD, MT(ASCP)
- Gym Magic KIDS
- See tummytyme.com **Go to Contact Us & Downloads: contains this presentation Plus TT Notes for Parents**
- GymMagic.com
- nancy@gymmagic.com

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ADDITIONAL SLIDES

TUMMY TIME INFO FOR PARENTS

- FIRST, **always sleep and nap on baby's back**. This has reduced SIDS by 50% - 'Back to Sleep' campaign from AAP
- When awake, fed and happy, begin Tummy Time in short **spurts of 3 to 5 minutes each, 2 to 3 times a day for a newborn (AAP recommendation)**
- Easiest first Tummy Time is to place baby's tummy on your tummy with you reclined and upper body elevated.

- SUGGEST parents **talk** to infants about everything that's going on
 - sets the stage for later language
- FIND A SPECIAL TEACHER = BABY MAGNET
- PROVIDE written, educational material for parents to take home
- Want parents to continue DAILY Tummy Time at home so educate them on easiest methods and benefits

- Set up routine of daily Tummy Time – many suggest after each diaper change and after naps
- While on their tummies, babies experience new sensations on body, arms and legs which inform them about their bodies and its location in space
- **By 3 months, hope to build up to one hour of tummy time a day divided into 30 minute sessions**

ADDITIONAL BENEFITS OF TUMMY TIME

- Lying on tummy when awake encourages drainage between ears and nose which may help ear infections
- Tummy Time encourages movement so that brain pathways are stimulated and connections driven
- **Development & learning** occur when nerve endings in muscles/ligaments in the body are stimulated

WHY ARE TVS, COMPUTERS AND SUCH NOT GOOD FOR BABIES AND YOUNG TODDLERS?

- Affect ‘attentional systems’, affect eye tracking, affect language development, affect behavior
- TVs have short sound bites and train the brain for shorter focus and shorter attention spans – adult viewing is very different than babies or toddlers

AAP SUGGESTS NO 'SCREEN' TIME UNTIL 2 YEARS OLD

- Eye tracking – 2D view of world that hardly moves
- TV programs stimulate and arouse but don't provide outlets for the excitement – behavior issues
- Language: develops as a back and forth, give and take of baby babble, pause, parent response. TV has no response and diminishes language development

TUMMY TIME POSITIONS (DR. ANNE ZACHRY)

- 1) Tummy to Tummy:** can begin in the hospital with mom reclined on back and baby on tummy facing mom
- 2) Lap Position:** mom or dad is sitting in chair with baby placed tummy down lengthwise across their lap. Keep baby's head aligned with their body. Parent can move legs up or down for added variety and stimulation or slowly sway legs side to side for more movement

3) Lying on Side: can be alternative to tummy placement for those resisting tummy time; roll up small blanket against back if needed for support; both arms should be in front; legs forward and bent at the knees

4) Tummy: on smooth, firm surface with mirror or toys in front of baby

5) Football Carry: hold baby in tummy-down position with your forearm between their legs while supporting their trunk and other arm supporting their chest and head

AS BRAIN MATURES, PRIMITIVE REFLEXES ARE REPLACED WITH POSTURAL REFLEXES

- **Primitive reflexes** are present at birth, but gradually disappear (inhibited) as the higher brain is connected
- **Postural reflexes** replace primitive reflexes in normal development through adequate stimulation.
- Postural reflexes coordinate our balance systems and remain active for life

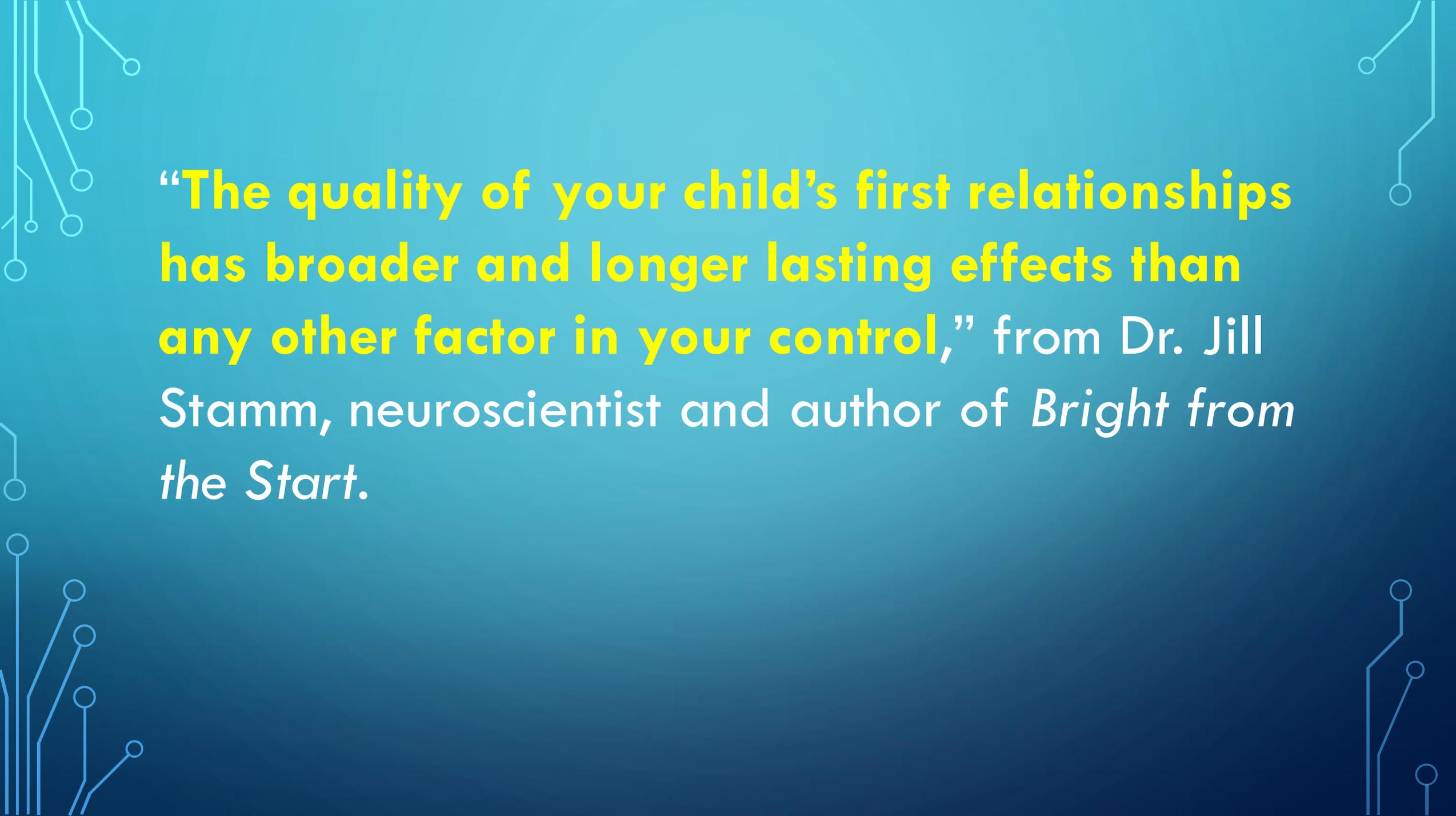
VESTIBULAR IS CONNECTED TO PRIMITIVE REFLEXES (MOVEMENTS) – GUIDE HIGHER BRAIN CONNECTIONS

- Primitive reflexes are hard-wired in brain stem; respond to sensory input → provide 'meaning' and 'understanding' due to sensory information
- Brain is waiting for stimulation from sensory input
- **Sensory input is coordinated through the vestibular system which connects sensory info to primitive reflexes (lower brain)**

VESTIBULAR CONNECTS TO PRIMITIVE REFLEXES - AUTOMATIC RESPONSES

- **Head control** leads the way for transitioning from unconscious movement to conscious, controlled movement.
- **Important Primitive reflexes** are tied to head movement and through repeated stimulation, guide the higher brain (cortex) to connect take over control from the primitive reflexes – inhibit primitive reflexes



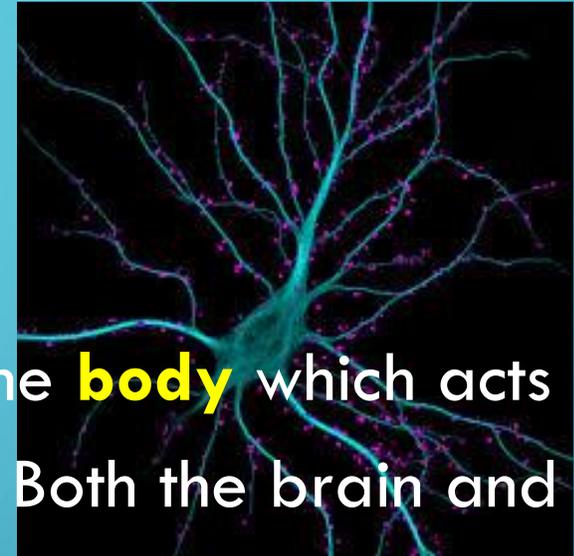
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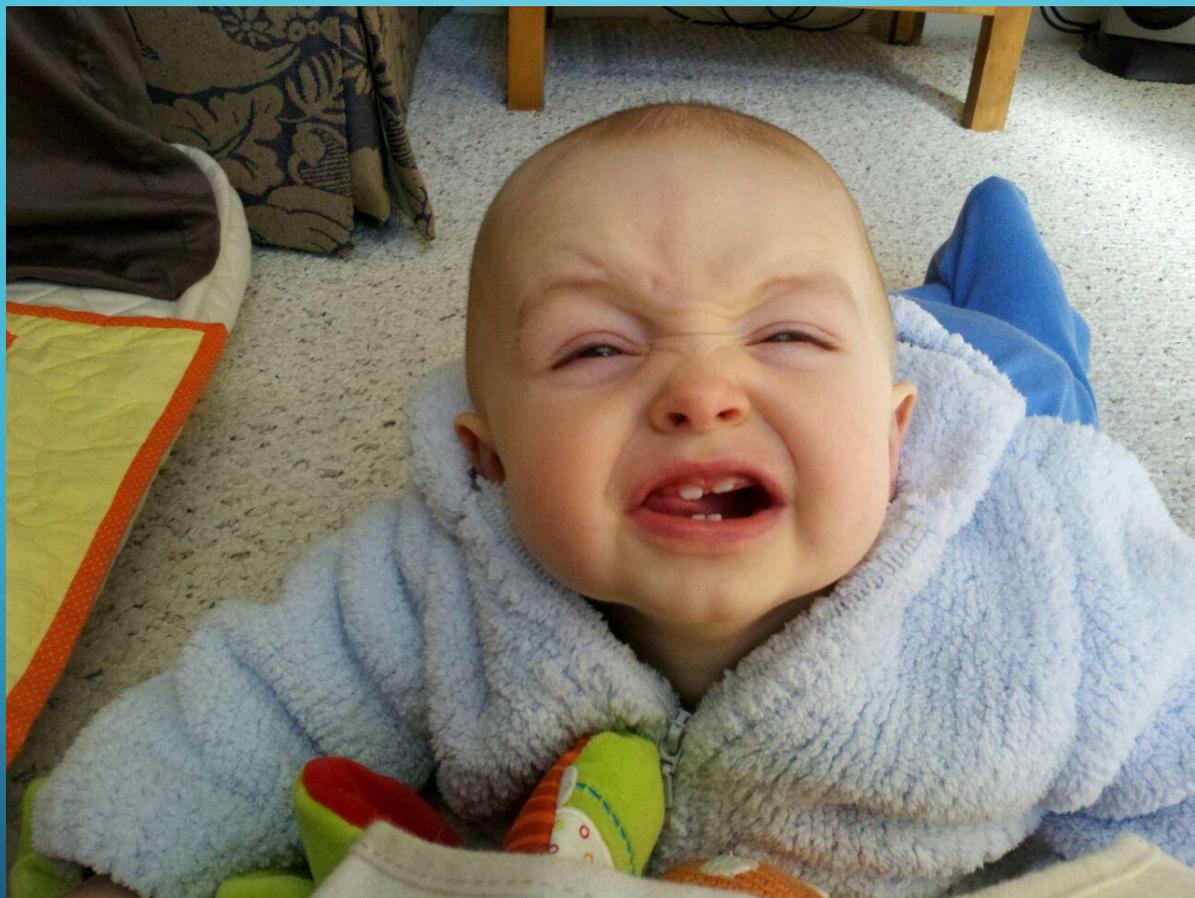
FIRST YEAR SETS UP THE BRAIN FOR ALL FUTURE LEARNING

- “All learning takes place in the brain, but it is the **body** which acts as the vehicle by which knowledge is acquired. Both the brain and body work together through the CNS, but both are dependent upon the senses for all information about the outer world,”

Sally Goddard Blythe, author in Primitive Reflex lit



MAKE A SCRUNCHIE FACE – HAVE FUN, BE SILLY!



MY YOUNGEST GRANDKIDS!

- Chipmunk cheeks!!
- This is where the PRECIOUS AND CHERISH come from!

