

HEALTHY BABY MOTOR DEVELOPMENT 0-3 MONTHS



Robyn Lam, PT, DPT, C/NDT
Evergreen Parent Baby Group
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OBJECTIVES



1. Define gross motor, fine motor, and sensory skills and how they contribute to development
2. Identify motor and sensory milestones for 0-3 months, preview 3-6 months
3. Gain tips for play ideas for healthy development

DEFINITIONS

GROSS MOTOR

Involves large muscle groups for skills such as rolling, sitting up, crawling, standing, walking, running, jumping, and climbing



FINE MOTOR

Involves smaller muscle groups of the hands and mouth for refined and specific movements, such as picking up small objects, holding and using a spoon, dressing, and handwriting



SENSORY

Refers to the brain's ability to receive, interpret, and effectively use information provided by all 7 senses: **vision, hearing, taste, smell, touch, the detection of movement (vestibular) and body/joint position (proprioception)**



SENSORY AND MOTOR SYSTEMS

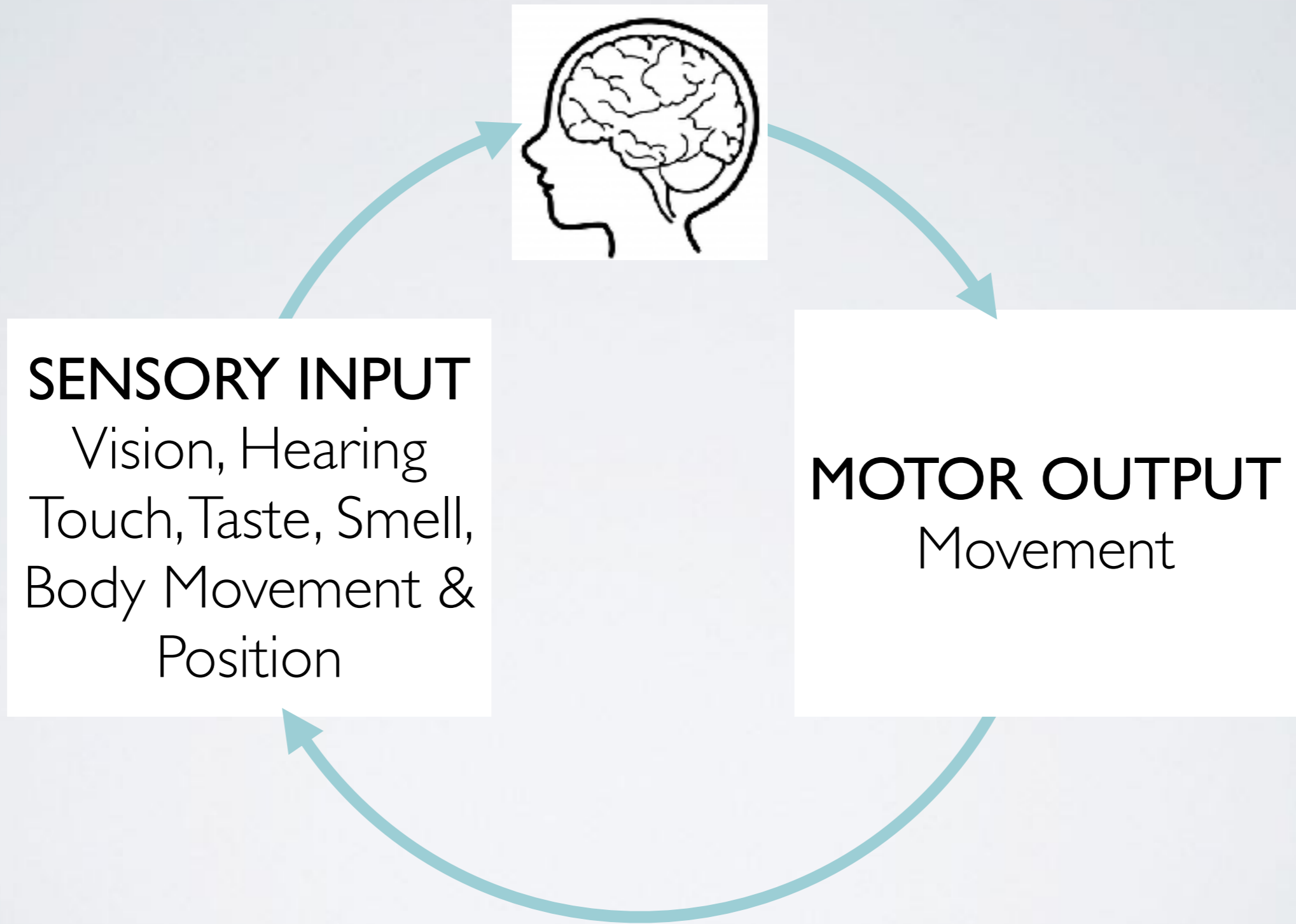


SENSORY INPUT

Vision, Hearing
Touch, Taste, Smell,
Body Movement &
Position

MOTOR OUTPUT

Movement



SENSORY AND MOTOR DEVELOPMENT

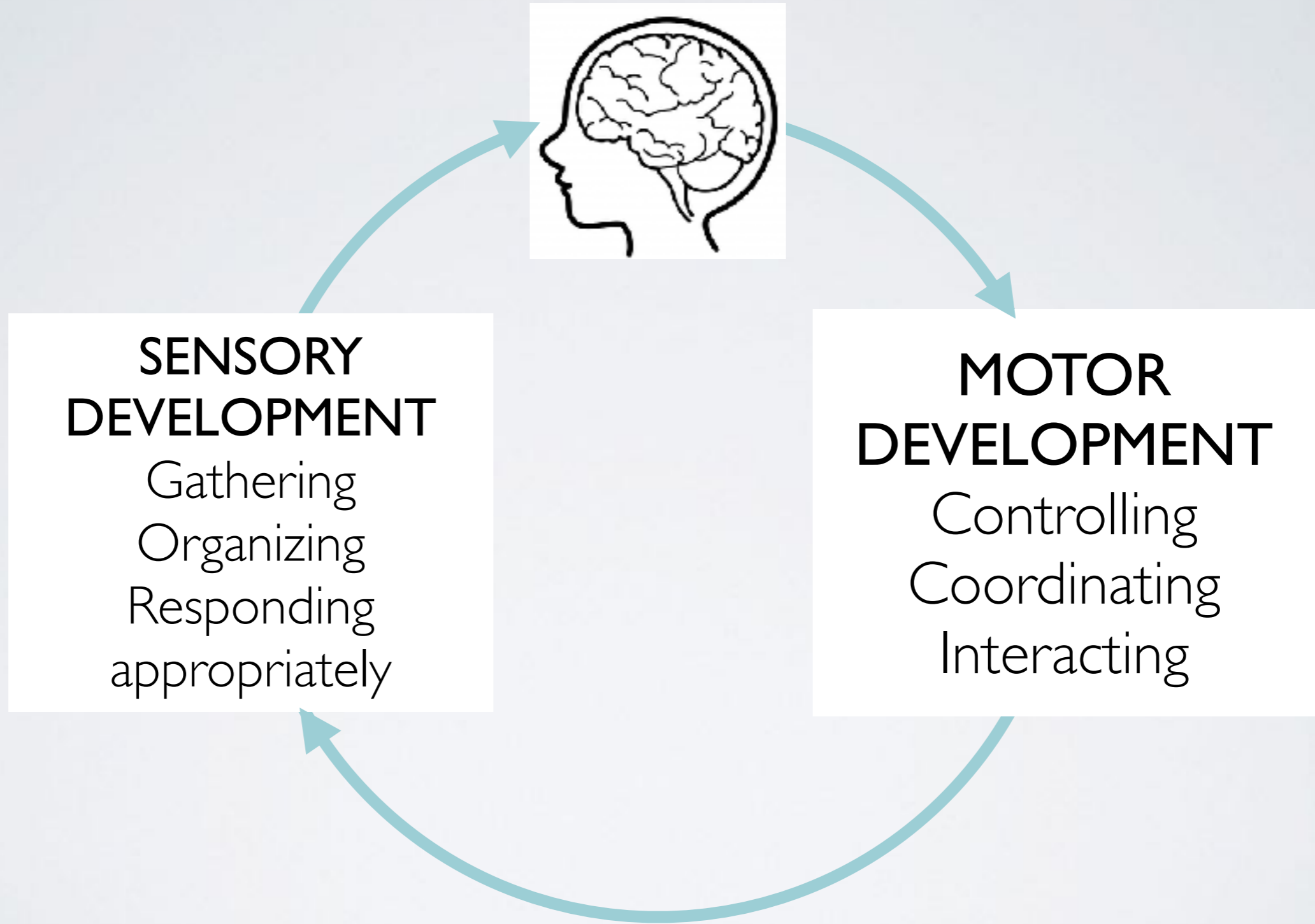


SENSORY DEVELOPMENT

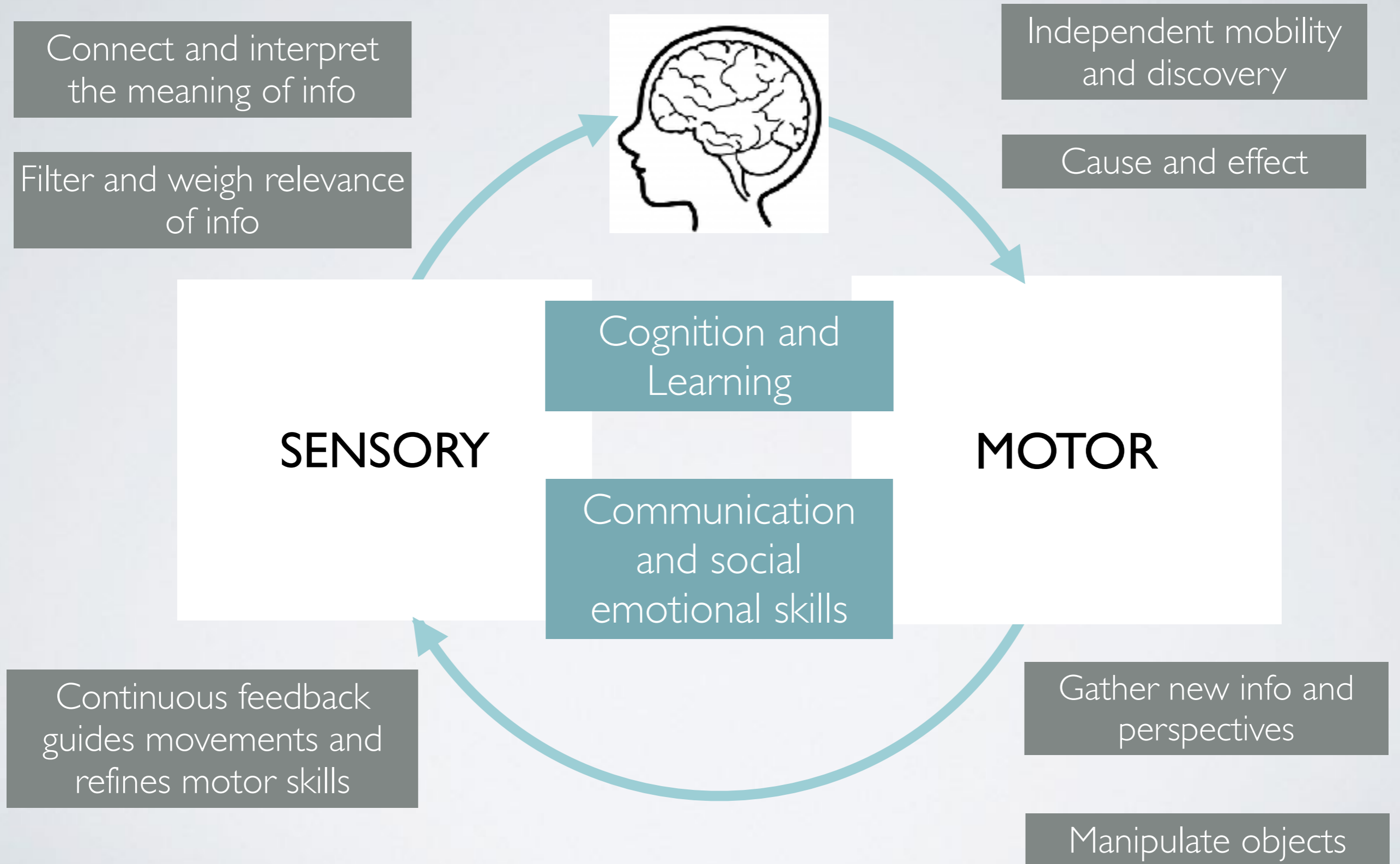
Gathering
Organizing
Responding
appropriately

MOTOR DEVELOPMENT

Controlling
Coordinating
Interacting



EFFECTS OF SENSORY AND MOTOR DEVELOPMENT



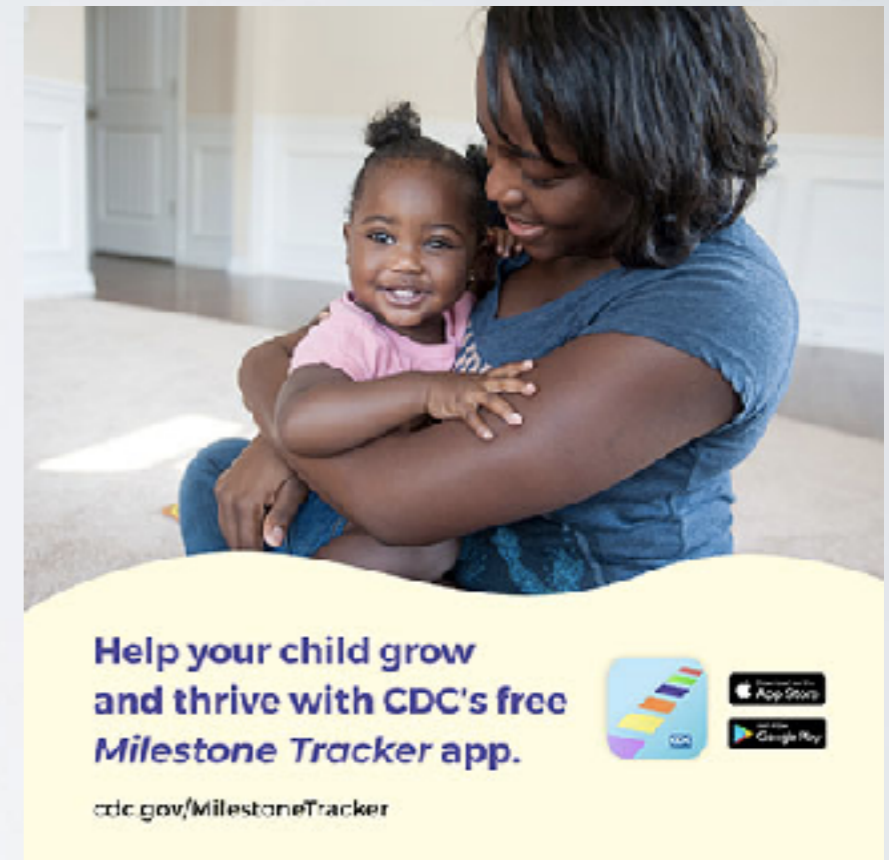
MOTOR MILESTONES



- Checkpoints for development
- Babies develop at their own pace and there is a range of typical development for skills
- The goal of healthy physical development is full and independent participation in the activities that are meaningful to your child and your family

MOTOR MILESTONES

- The APA and CDC published new milestone checklists in 2022
 - Social/Emotional
 - Language/Communication
 - Cognitive
 - Movement/Physical Development Milestones
- New milestones are set at an age where at least 75% of children are expected to exhibit these skills
- Aim is to gain clarity on delays and reduce “wait and see”



0-3 MONTHS

GROSS MOTOR	FINE MOTOR	SENSORY
Lifts head and turns side to side on back or tummy	Reaches for toy held above chest	Rooting, sucking, swallowing
Lifts and holds head up in midline while lying on tummy	Brings hands to mouth	Visual tracking side to side
Pushes up on forearms while lying on tummy	Closes and opens hands	Coos and smiles
Holds head steady when being carried upright	Starts to hold objects	Turns head toward sound and voice

3-6 MONTHS

GROSS MOTOR	FINE MOTOR	SENSORY
Rolls both ways	Reaches out for toys while on tummy	Babbles to get attention “ba, da, ma”
Pushes up on hands on tummy, pivots	Transfers a toy from one hand to another while playing on back	Tastes first soft foods
Uses hands to support self in sitting	Reaches with both hands to play with feet	Enjoys social play
Takes full weight on legs when in supported standing	Plays with hands together in midline	Mouths hands and toys

BABY PLAY!



IMPORTANCE OF PLAY



“To engage in activity for **enjoyment and recreation** rather than a serious or practical purpose.”

It is an activity that is **intrinsically motivated**, entails **active engagement**, and results in **joyful discovery**.

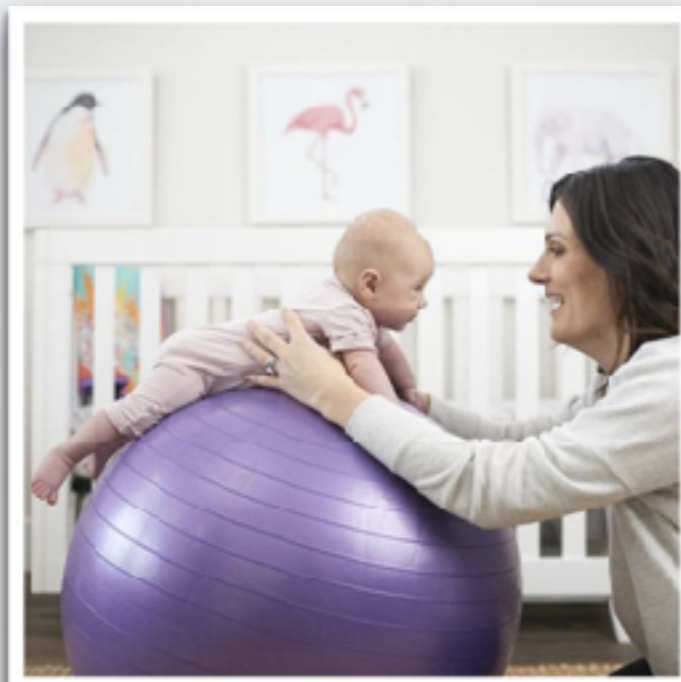
(Yogman et al, 2018)

Play is essential to development because it contributes to the **cognitive, physical, social, and emotional well-being** of children and youth.

(Ginsberg et al, 2007)

THE #1 PLAY POSITION FOR
BABIES 0-3 MONTHS IS ...

TUMMY TIME SET UP



TUMMY TIME IDEAS: VISION



Face to face



Board book circle



High contrast



Mirror



With a friend

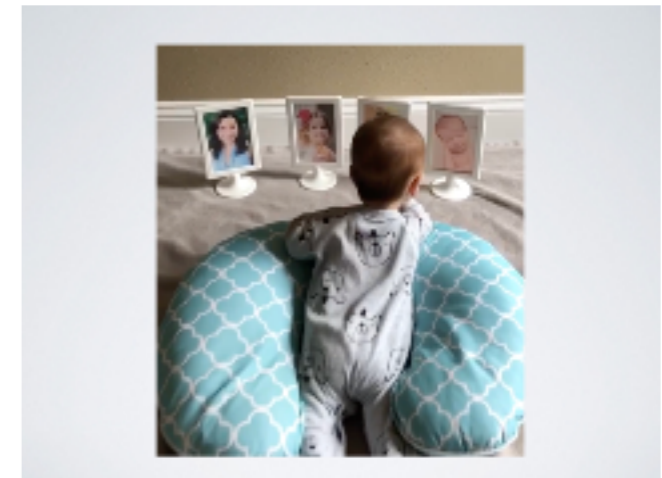


Photo gallery

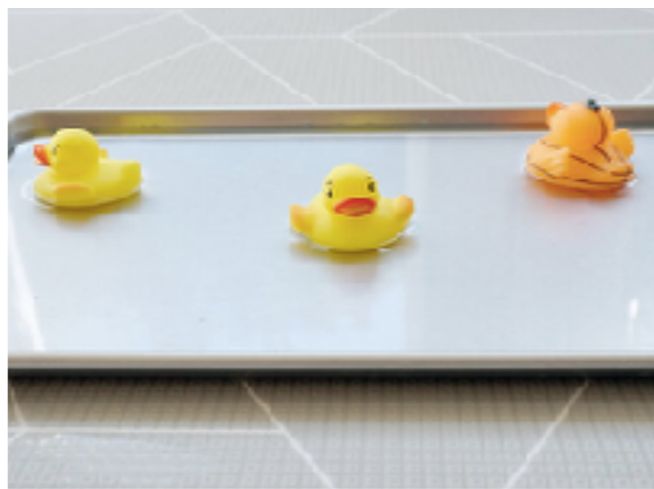
TUMMY TIME IDEAS: TOUCH



Mess-free finger paint



Textures



Tray and water

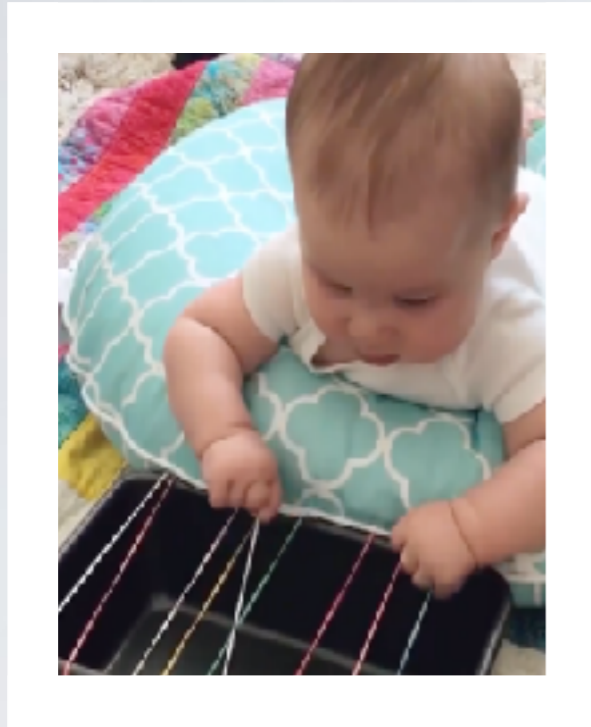


Exploring temperature

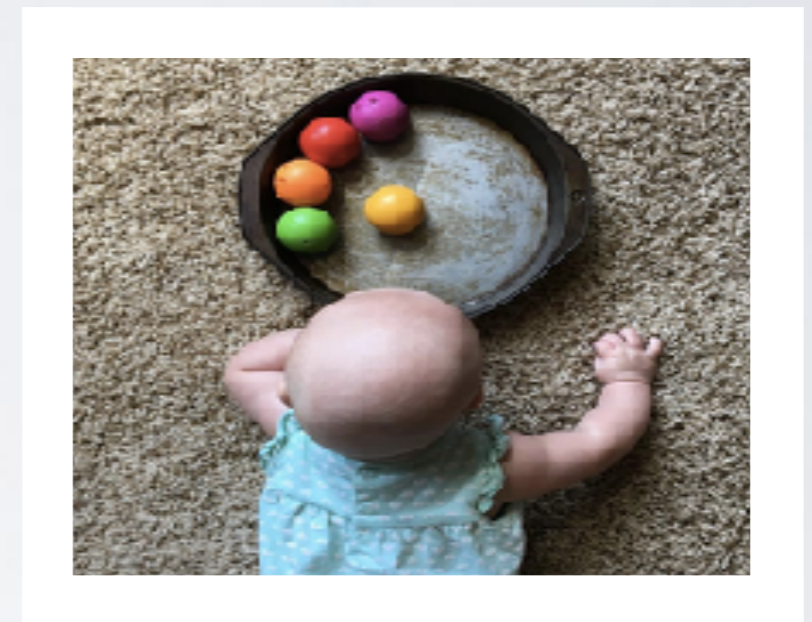


DIY sensory bags

TUMMY TIME IDEAS: SOUNDS AND SMELLS



Rubber band guitar



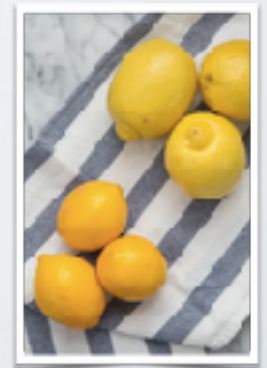
Herbs and fruits



Musical wobbler toys



Percussion and music toys



MORE SENSORY MOTOR PLAY IDEAS

PROPRIOCEPTION

- Massage
- Gentle bouncing up and down



VESTIBULAR

- Dancing
- Swinging and spinning
- Baby wearing



SIBLING PLAY IDEAS



- “Show and tell”: Sibling is the expert and shows baby household items, toys, colors, numbers, demonstrates how to play or use items
- Body parts: Sibling gently touches and points out body parts “this is my nose, this is your nose!”
- Peek-a-boo with a blanket
- Songs
- Silly dances, silly faces, tickles to make baby smile and laugh

SIBLING PLAY IDEAS

- Face to face tummy time on the floor or parallel play side by side on the floor
- Tummy to tummy (if sibling is old enough to safely hold baby)
- Singing together
- Imitation play (hand motions during songs, using a spoon, fork, or cup, playing with a ball, gross motor skills like rolling, sitting up, walking, climbing, jumping)
- Reading books or showing pictures to baby



BABY GEAR?





PLAGIOCEPHALY AND TORTICOLLIS

TIPS TO PREVENT FLAT SPOTS AND TORTICOLLIS



1. BACK TO SLEEP, TUMMY TO PLAY!

- Start tummy time from day 1 and make it fun! Tummy time on caregiver's chest is a cozy place to start
- Strength gained in this position is the foundation for all motor skills
- Place baby on tummy every time she wakes
- Aim for at least 3 times per day. Start with 5 min and gradually increase

2. ENCOURAGE BABY TO TURN BOTH WAYS

- Alternate holding baby on your right and left while breast/bottle feeding and while carrying
- Put interesting toys on both sides while playing
- Alternate baby's direction of position in crib and on changing mat



3. HELP BABY FIND THE MIDLINE

- Play, make eye contact, and sing with baby in your lap facing you
- For babies that are eating solids, position high chair directly facing you while spoon feeding
- Encourage head and body in midline using tightly rolled thin blankets or washcloth towels while in the car seat or stroller if baby needs more support

4. LIMIT TIME IN BABY "HOLDERS"

- Prolonged time (10+ min) in infant swings, reclined seats, and rockers increase pressure on the back of the head and can make flat spots and rotated head position worse
- Take baby out of infant car seat when you're out of the car
- Set up a safe area on the floor as the first choice for playtime for free movement and exploration



SENSORY AND MOTOR RED FLAGS

- Persistent difficulty with feeding, swallowing
- Loss of skills
- Overly sensitive (or very insensitive) to stimuli like loud noises, textures, pain, temperature, light, smells
- Difficulty lifting head or pushes head back forcefully
- Stiff legs, very little movement
- Keeps hands fisted, stiff arms, very little movement
- Uses only one side of the body to move, strong hand preference
- Turns head or tilts to only one side, neck tightness, lump in neck muscles
- Flat spot on back or one side of the head

CHILD DEVELOPMENT PROFESSIONALS

PHYSICAL THERAPISTS

Help babies and kids reach independence and maximize participation by working on strength, flexibility, range of motion, posture, balance, coordination, and movement patterns



OCCUPATIONAL THERAPISTS

Work on daily life skills, such as handwriting, dressing, eating, taking part in social activities, and sensory integration



SPEECH LANGUAGE PATHOLOGISTS

Help improve communication tools (both verbal and non-verbal) and to tolerate sensory stimulation, executive function skills, feeding and swallowing



SUMMARY

- Sensory and motor development support one another and fuel cognition, learning, social emotional and communication skills
- Free movement and tummy time is the building block for all motor skills, and can help prevent and improve plagiocephaly and torticollis
- Start tummy time early, a little at a time, and often!
- Play is essential for healthy development
- Red flags in development: don't just "wait and see!" Check in with a pediatrician or specialist.

REFERENCES

1. Ginsburg, K. and the Committee on Communications, and the Committee on Psychosocial Aspects of Child and Family Health (2007). The Importance of Play in Promoting Healthy Child Development and Maintaining Strong Parent-Child Bonds. Pediatrics, from The American Academy of Pediatrics, 119.
2. Yogman, M. et al, and the Committee on Psychosocial Aspects of Child and Family Health, Council on Communications and Media (2018). The Power of Play: A Pediatric Role in Enhancing Development in Young Children. Pediatrics, from The American Academy of Pediatrics Clinical Report, 142.

Motor Milestones from Standardized Assessments

Hawaii Early Learning Infant Profile

Peabody Developmental Motor Scales, Second Edition

Additional online resources

Pathways <https://Pathways.org>

CanChild <https://CanChild.ca>

American Academy of Pediatrics <https://Healthychildren.org>

Zero To Three <https://Zerothreeto.org>

Your Kids Table www.yourkidstable.com

Can Do Kiddo www.CanDoKiddo.com

The Inspired Treehouse <https://theinspiredtreehouse.com/>

CDC's Developmental Milestones <https://cdc.gov>

QUESTIONS AND DISCUSSION



explore
pediatric
therapy



Robyn Lam, PT, DPT, C/NDT
Physical Therapist
hello@eptkids.com
www.eptkids.com



ept.kids
grossmotormama
milestones.and.motherhood
kidsplaytricks
theworkspaceforchildren
inspiremyplay
my.strong.little.body
busytoddler