

HEALTHY BABY MOTOR DEVELOPMENT 0-3 MONTHS



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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 play ideas for healthy motor development

DEFINITIONS

GROSS MOTOR

Involves large muscle groups for large movements

FINE MOTOR

Involves smaller muscle groups of the hands and mouth for refined and specific movements

SENSORY

Refers to the brain's ability to receive, interpret, and effectively use information provided by all 8 senses:

vision, hearing, taste, smell, touch, the detection of movement (vestibular), body/joint position (proprioception), and inner body sense (interoception)

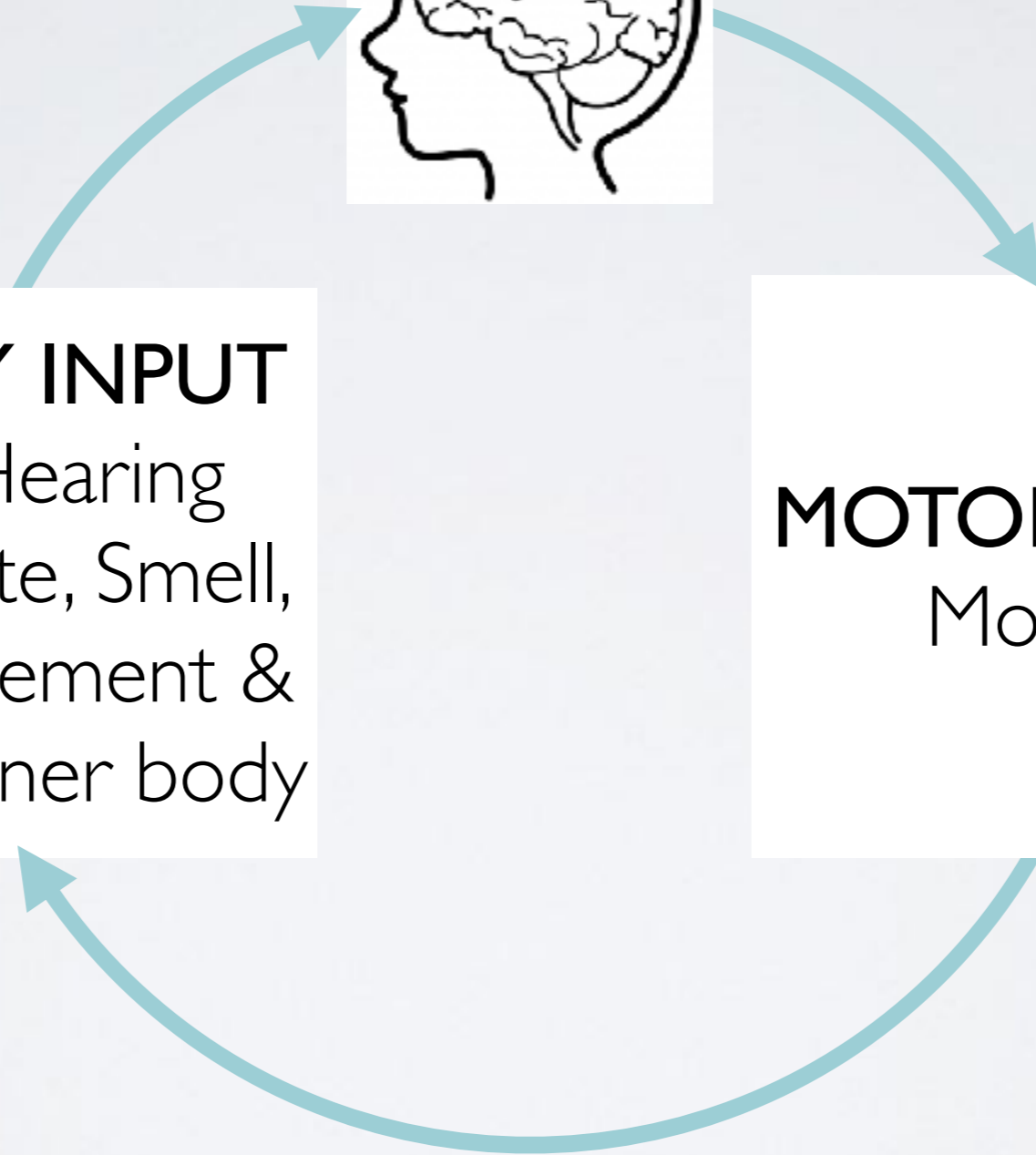


SENSORY AND MOTOR SYSTEMS



SENSORY INPUT
Vision, Hearing
Touch, Taste, Smell,
Body Movement &
Position, Inner body

MOTOR OUTPUT
Movement



SENSORY AND MOTOR DEVELOPMENT

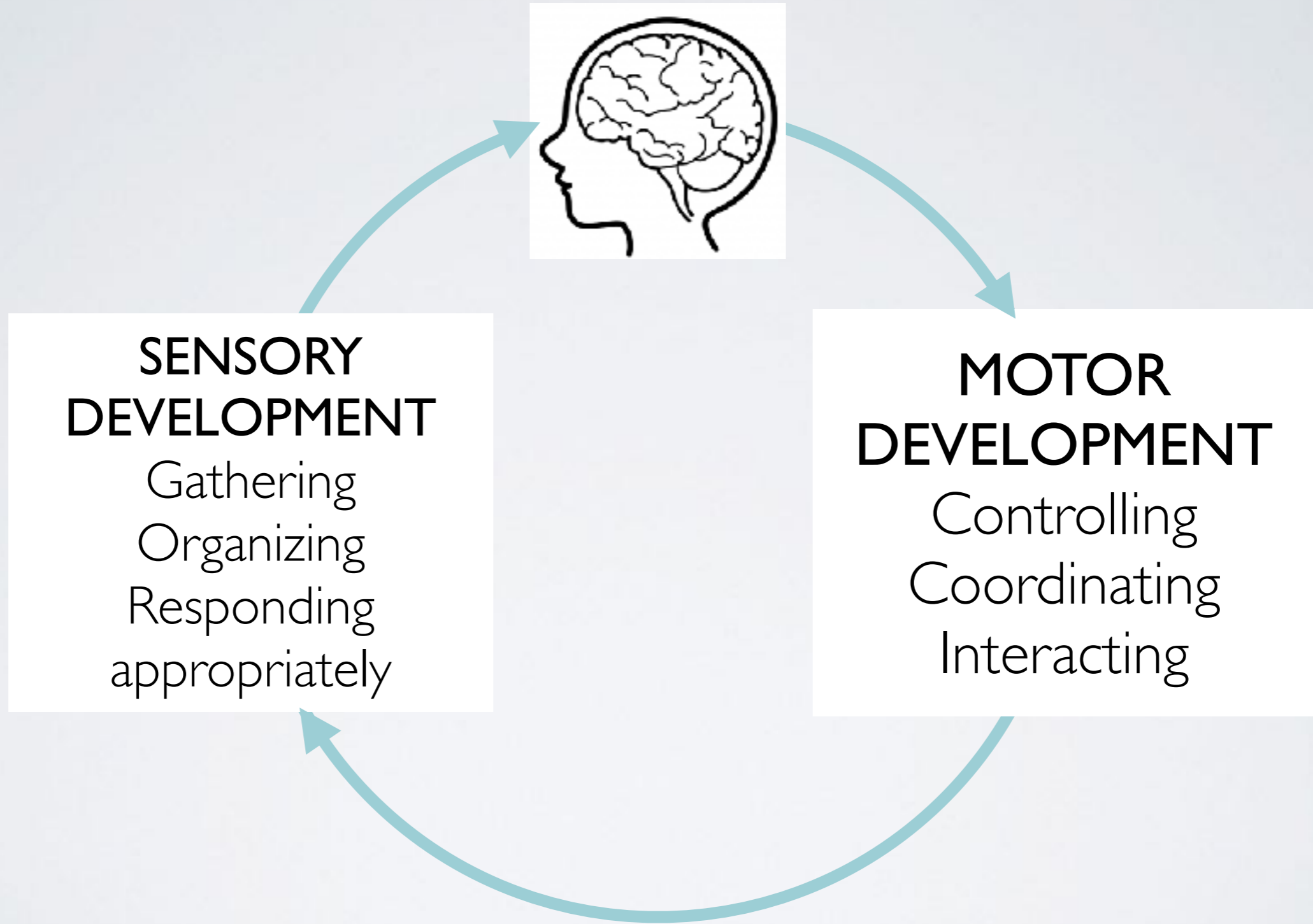


SENSORY DEVELOPMENT

Gathering
Organizing
Responding
appropriately

MOTOR DEVELOPMENT

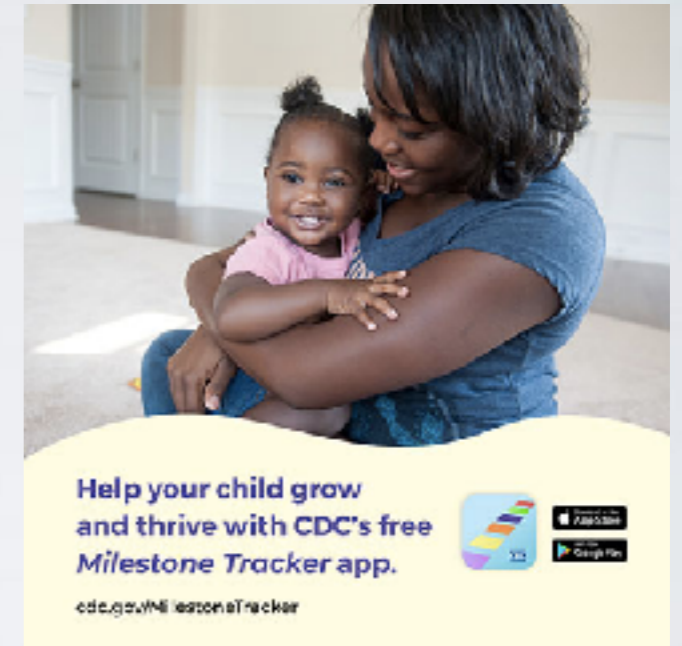
Controlling
Coordinating
Interacting



DEVELOPMENTAL MILESTONES

The AAP 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”
 - Talk to your pediatrician if any of these milestones are missing



MOTOR SKILLS

Motor Skills/Abilities



- At an age when they are usually achieved, but there is individual variability and a wide range of normal
- Look at the big picture of development
- Gaps can help us to be intentional about purposeful play

The goal of healthy physical development is full and independent participation in the activities that are meaningful to your child and your family

0-3 MONTHS

GROSS MOTOR

Lifts head briefly and turns cheek on back or tummy



Lifts head briefly to 45 degrees while on tummy

Lifts and holds head up in midline while on tummy

Pushes up on forearms while lying on tummy

Starts to hold head steady when being carried upright



0-3 MONTHS

FINE MOTOR

Random arm movements



Reaches for toy held above chest



Brings hands together and to mouth



Closes and opens hands



Starts to hold objects

0-3 MONTHS

SENSORY

Rooting, sucking, swallowing

Looks towards lights and faces

Visual tracking side to side

Coos and smiles

Turns head toward sound and voice



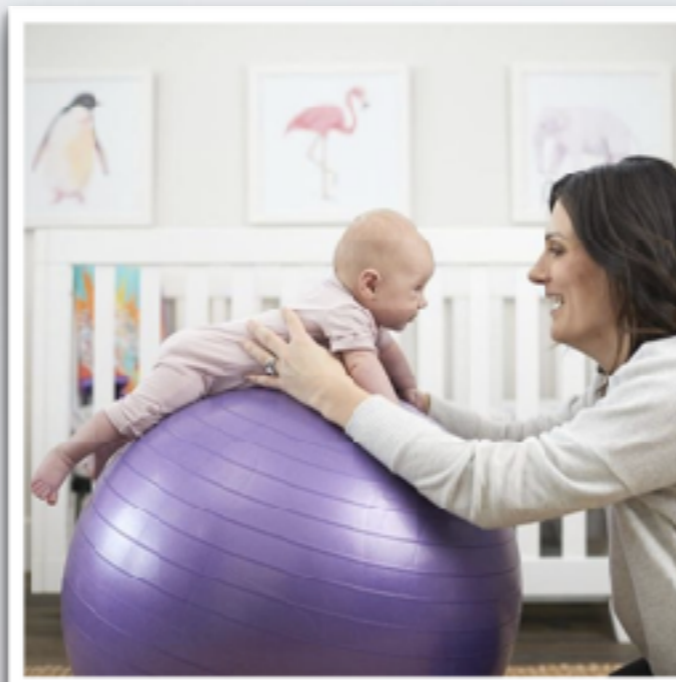
3-6 MONTHS

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!



TUMMY TIME SET UP



TUMMY TIME IDEAS: VISION



Face to face



Board book circle



High contrast



Mirror



With a friend

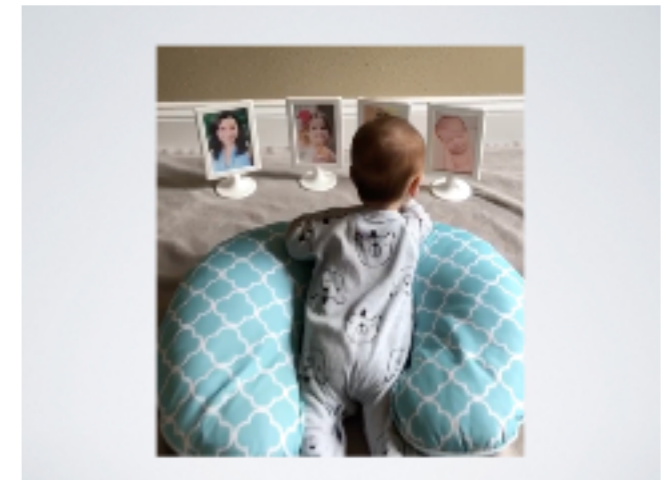


Photo gallery

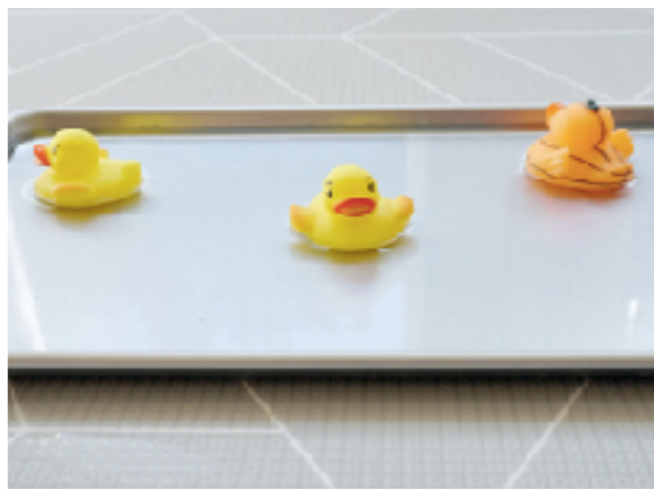
TUMMY TIME IDEAS: TOUCH



Mess-free finger paint



Textures



Tray and water

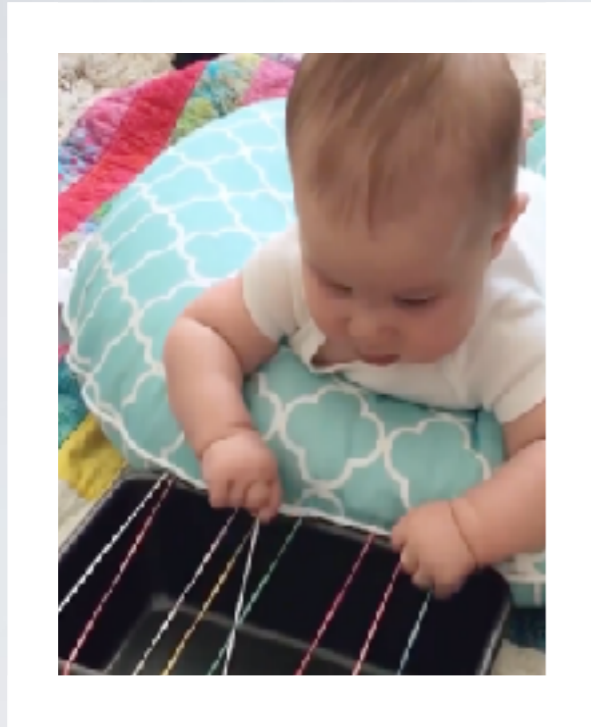


Exploring temperature

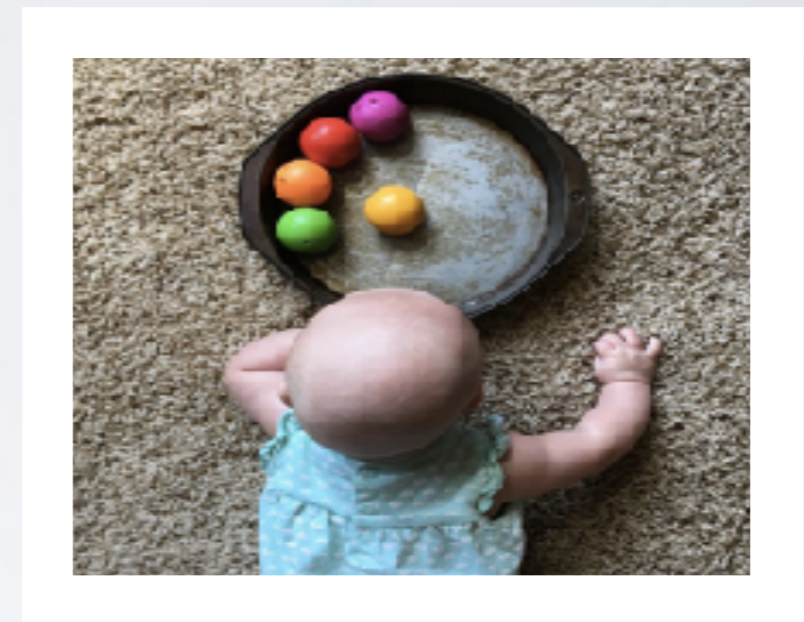


DIY sensory bags

TUMMY TIME IDEAS: SOUNDS AND SMELLS



Rubber band guitar



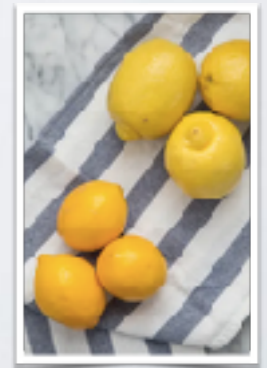
Herbs and fruits



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

INTEROCEPTION

- Honor baby's communication and support his needs



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 consistent 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 healthy motor development, 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

Alberta Infant Motor Scale

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>



explore
pediatric
therapy



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busytoddler

QUESTIONS AND DISCUSSION