PARENTHOOD

THE POWER OF PARENTING OT MANUAL

BEYOND PREEMIE

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Table of Contents

Introduction

This manual was designed with the goal in mind of empowering parents by providing accessible and reliable information on the different facets of child development such as motor development, feeding milestones, sensory processing, and overall parent mental health resources. The manual serves a follow along guide where you can find where your child is developmentally, recognize the skills that are to be achieved next, as well as exercises/activities to help encourage development. Throughout your reading I hope you gain valuable knowledge, resources, and skills that will increase your confidence in promoting your child's development and support your own mental health as a caregiver.

Kindly take a moment before and after reviewing this information to complete the two surveys below. Your input is incredibly valuable for the research of this project.

Pre-Survey

https://forms.gle/3bYD7vspGDeh1xcr6

Post Survey

https://forms.gle/2wRGghTQbXHMPiU4A

Parent Mental Health

OT's role in Mental Health

Occupational Therapists empower individuals to participate in meaningful occupations (anything that you need or want to do that is meaningful) within a variety of different environments and contexts. By using a holistic approach, occupational therapists have the unique ability to enhance mental health by not only addressing symptoms, but also through expanding coping skills and fostering participation in desired occupations.

Mental Health Associated with Feeding:

Being a parent to a child with feeding difficulties can be overwhelming, exhausting, frustrating and scary. In turn it can negatively impact mental health and the view of self in the parenting role, tearing down the confidence in being a caregiver. Whether it is difficulty with bottle/breast feeding an infant or dealing with a picky eater, feeding can be a difficult and long process as a parent, so it is important to give yourself grace throughout the process. It is also important to acknowledge the emotions that are felt when dealing with children with feeding difficulties and work through them.

Below are some affirmations to use to help acknowledge your experience:

- I am allowed to feel disappointed and frustrated. It does not make me ungrateful.
- I am allowed to grieve my child's feeding journey.
- I have the right to choose what method works best for me and my child.
- I am a great parent, and I am doing the best I can for my child.

Social Support:

Another effective way to navigate the journey of having a child with feeding difficulties can be joining support groups. This can be a difficult time, and it can be helpful to surround yourself with other families that have been in the same position and navigated similar experiences or are currently going through the same experiences.

Feeding Specific Support Groups:

- Feeding Matters Power of two Parent Mentor Program
- Hand to Hold NICU peer support
- Facebook groups

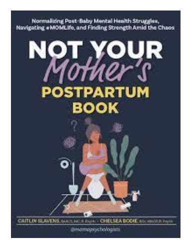
Importance of Self-Care

From an Occupational Therapy perspective engaging in self-care activities is essential for promoting physical, emotional, and mental wellbeing for any person, but especially for parents. It can be easy to forget about your own needs or place your needs on the back burner when taking care of children, however engaging in self-care activities can help recharge yourself, to allow you to better meet your children's needs. It is like the old saying you can't pour from an empty cup. It can be an activity that takes 2 minutes or a whole day, but engaging in an activity that is meaningful to you will help with your own mental health as a parent.

Below are some self-care activities to engage in that only takes a few minutes

- Take a walk outside
- Engage in deep breathing exercise (inhale for 3 seconds, hold for 3 seconds, exhale for 3 seconds and hold for 3 seconds before breathing in)
- Journaling: You can write freely or find journal prompts online to guide writing.
- Mindfulness techniques: noticing 3 things you can see, 3 things you hear, 3 things you smell,
- Engage in a favorite hobby

Mental Health Resources:



1. **Not your mother's postpartum book by Caitlin Slavens and Chelsea Bodie**- Discusses all things motherhood including feeding difficulties, birth trauma, body image, parent guilt and burnout, parenthood in the NICU and many more important topics
2. **Feeding Matters: www.feedingmatters.org**
   - Power of two Parent Mentor Program- "Families struggling to overcome the medical, emotional, financial, educational, and social issues often faced with PFD are matched with qualified family coaches who have first-hand experience with PFD. Through shared experiences, Power of Two family coaches offer emotional support, compassion, resources, and guidance – reminding caregivers that they are not alone".
3. **Hand to Hold: www.handtohold.org**
   Provides counseling, peer to peer support, support groups, educational resources, and online resources for NICU and post NICU parents
   - Mission: Hand to Hold provides personalized support before, during and after a NICU stay to help ensure all NICU families thrive.
4. **Texas Parent to Parent: www.txp2p.org**
   Texas Parent to Parent provides support, information, and education for families of children and adults with disabilities, chronic and mental health conditions and other health care needs.

Motor Development

Reflexes

Reflexes are important for survival, protection, movement initiation, postural development, developing patterns of movement, body structure development and overall interaction with the environment for learning.

Definitions:

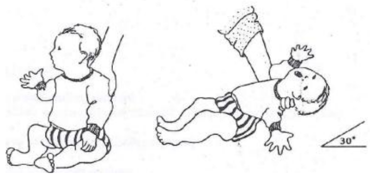
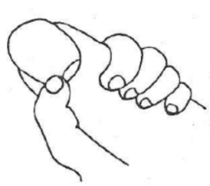
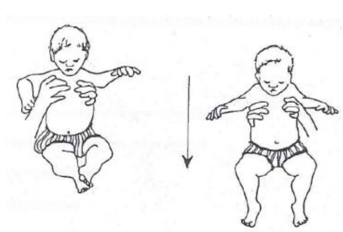
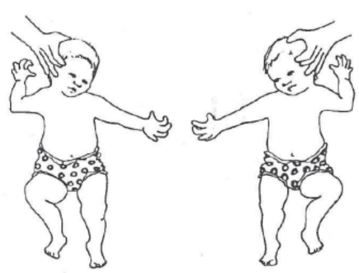
Reflex Onset- When we should start seeing the reflex appear in the child

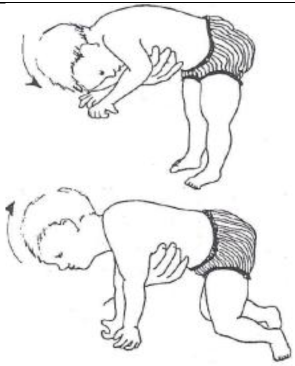
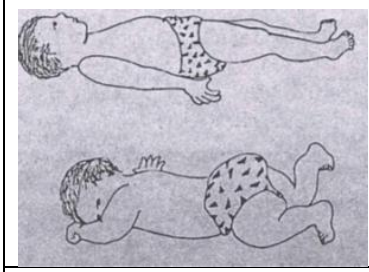
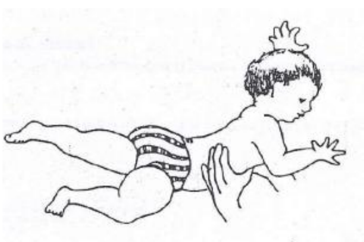
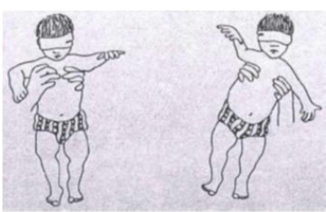
Reflex integration- When the reflex should start going away. Integration is important for more complex motor development such as rolling and crawling.

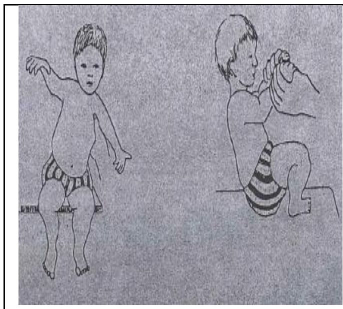
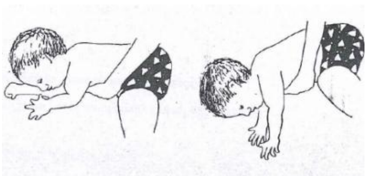
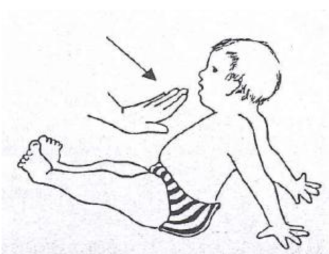
Stimulus- What action causes the reflex to appear

All images from Normal development of functional motor skills: The first year of life. (1992)

Reflex	Onset	Integration (should no longer perform by)	Stimulus/Response	Purpose
Rooting: 	28 weeks gestation	3 months	When corner of mouth is stroked from mouth towards ear baby will turn head towards finger, open mouth, and extend neck backwards. Can also stroke upper lip and lower lip and get same response.	Allows baby to search for bottle or nipple to latch for feeding.
Suck/Swallow Reflex: 	28 weeks gestation	4-6 months	When placing finger in baby's mouth baby will have a rhythmic sucking pattern followed by swallowing.	Important for feeding.

Moro Reflex 	28 weeks gestation	4-6 months	When infant is tilted backwards baby will throw back head, spread out arms and fingers then will pull arms tight into their chest.	This reflex is important for breaking up flexion pattern that is presented at birth. Also is a protective reflex.
Palmar Reflex 	Birth-2 months	4-6 months	When finger is placed in infants palm, infant will wrap fingers around your finger	Important for development of voluntary grasp. If not integrated in can inhibit normal grasp/release pattern.
Neonatal Positive Supporting 	35 weeks gestation	1-2 months	When held in an upright position and infants' feet make contact with firm surface, infants' legs will support a minimal amount of body weight	Important for future movement of standing.
Asymmetric Tonic Neck Reflex (ATNR) 	Birth	4-6 months	When infants had is gently turned to one side the arm & leg to side they turned to will extend out while side they turned away from will flex inwards	Important for developing coordination. Needs to integrate in order for rolling to take place.
Symmetrical Tonic Neck Reflex (STNR)	4-6 months	8-10 months	When infants head is flexed forward the arms will also flex inwards and legs will extend. When infants head is extended	Important for helping prepare baby for prop sitting and crawling.

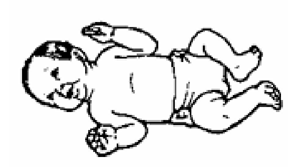
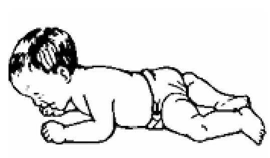
			backwards arms will also extend and legs will flex.	
Tonic Labyrinthine Reflex (TLR) 	Birth	4-6 months	When laying on back extensor muscles will turn on and when laying on stomach flexor muscles turn on	Important for head control and ability to gain rolling skills.
Landau 	3 months	12-24 months	When suspended horizontally in the air, baby will extend neck, hands, fingers, and legs. Looks like a superman position.	Helps promote extension to break up flexor pattern seen at birth.
Labyrinthine head righting/ Optical Head Righting 	Birth to 2 months	Persists throughout life	Position 1: When held up in a vertical position and baby is tilted to one side, the baby will attempt to keep head upright to straighten out body position Position 2: When placed on back and pulled up into a sitting position, baby will hold head up against gravity.	Important for maintaining head in correct alignment on body

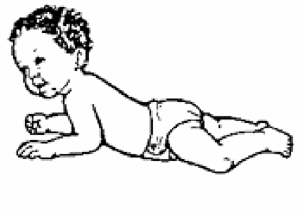
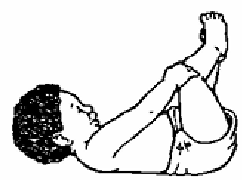
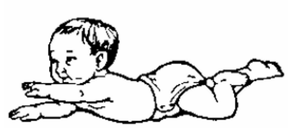
				
Protective Extension Forward: 	6-7 months	Persists throughout life	When center of gravity is displaced forward, arms will extend out to protect self to prevent falling.	Important for protecting self against falls.
Protective Extension Sideways: 	7 months	Persists throughout life	When center of gravity is displaced towards side, baby will throw out arm to protect self from falling	Important for protecting self against falls.
Protective Extension Backwards: 	9-10 months	Persists throughout life	When center of gravity is displaced, backwards baby will throw out arms backwards to protect self from falling	Important for protecting self against falls.

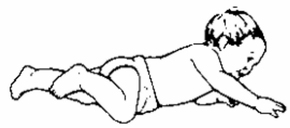
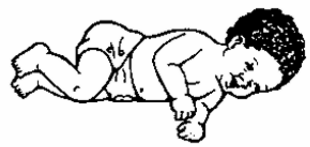
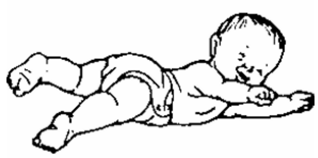
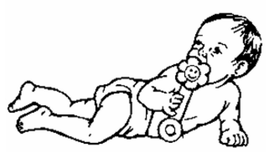
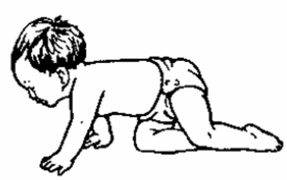
Gross Motor Development

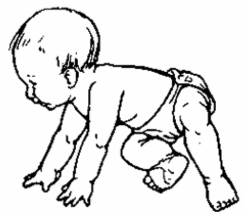
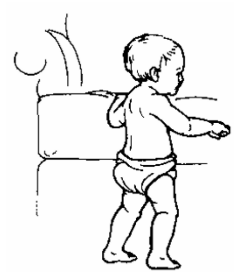
Gross motor development is crucial for building the foundational muscles required for movement, postural control, coordination, strength, and balance—all essential for everyday activities. Additionally, for fine motor development to progress, it is necessary for gross motor development to take place first. For example, a child won't be able to sit down and write name if they cannot hold themselves in a sitting position first.

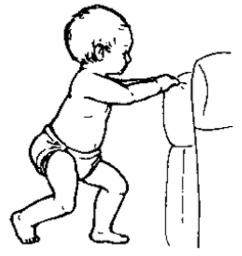
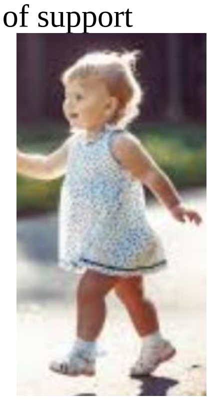
All images from Normal development of functional motor skills: The first year of life. (1995)

Age			
Newborn to 1 month:	Stomach Positioning: Baby has lack of head control on both back and on stomach. This is why it is important to engage baby in tummy time so baby can strengthen neck and back muscles for improved head control. 	Back Positioning: Baby's head is rarely in midline due to lack of head control. 	
2 months:	Stomach Positioning: Baby has improved head control and can lift head slightly. 	Back Positioning: Baby is unable to keep head in middle of body and often has it on one side. 	
3 months:	Stomach Positioning: Baby's head is 90 degrees from the floor with elbows directly under shoulders. Baby will also start to weight shift from left elbow to right and right to left.	Back Positioning: Baby can play with arms in the middle of their body with improved head control. Baby also has enough head control to tuck in chin.	

			
4 months:	Stomach Positioning: Baby has good head control and has elbows in front of shoulders. 	Back Positioning: Baby can lift head up and touch knees, as well as roll from back to side lying position.  	Sitting: Supported by caregiver in sitting position. 
5 months:	Stomach Positioning: Baby starts reaching with one hand while supporting self on other elbow. 	Back Positioning: Baby can reach out with both hands as well as holding toys with both hands in midline. Baby can also roll from stomach to back. 	Sitting: Can sit up by propping arms onto legs. Need help getting into sitting position. 
6 months:	Stomach Positioning: Baby is preparing for crawling.	Back Positioning: Baby can roll from back to stomach. Baby will also transfer toys from one hand to the other	Sitting: Hands free play while sitting, however still needs help getting into and out of sitting position

		 	
7 months:	Baby starts crawling! Baby will also play on propped up elbows  	Back Positioning: Baby can reach across midline with arms with more rotational movement due to crawling on stomach. 	Sitting: Baby has enough balance to play hands free in a sitting position with more rotational movement. 
8 months:	Sitting Position: Baby can catch self when off balance to protect self. This is called an equilibrium reaction. 	Creeping: Baby has stomach off the floor and is on hands and knees for movement. 	Tall Kneel: Baby will start to pull to stand from both knees on ground and will cruise along furniture. 

			
9 months:	Side Sitting: Baby is comfortable in many seated positions and will utilize many different rotational movements. 	Half Kneel: Baby will start to stand using a half kneel position with separation of left leg from right leg. 	Cruising Semi Turned: Baby will cruise along furniture but will become more confident and start to turn body away from furniture. 
10 months:	Transitioning to sit: Baby is able to lower self to a sitting position from standing. 	Cruising: Baby will cruise along furniture with one hand 	
11 months:	Transition to Sit: Baby lowers self into a sitting position from standing →half kneel→to sit. Focus is on separation of left and right legs.	Half Kneel: Baby is comfortable and stable enough to play in a half kneel position	Standing: Standing independently.

			
<u>12 months:</u>	<u>Walking:</u> Baby will walk with arms up high by head with a wide base of support that will cause them to move in a side-to-side pattern. (toddling)  www.pearsonclinical.co.uk		
<u>18 months:</u>	<u>Walking:</u> Will walk with a narrower base of support  amazon.com		

Activities to Promote Gross Motor Development:

All images from Positioning for play: Home activities for parents of young children (1992)

Tummy Time: Tummy time does not need to be done on the floor. Baby can be placed on our chest or across your lap to help encourage lifting of head. If doing tummy time on floor and baby needs more support to encourage lifting of head, you can place rolled up towel under chest for more support.

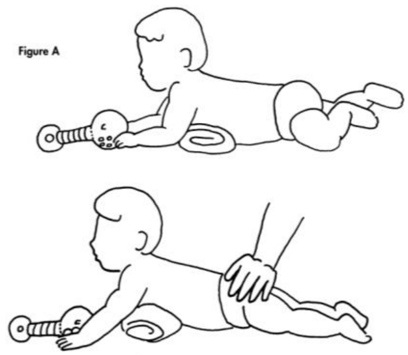


Figure A

Tummy time and reaching for toys: Encourage reaching for toys to encourage weight shifting by completing puzzles, ring stackers, placing items in a bucket, or reaching for pictures in a book.

Figure A

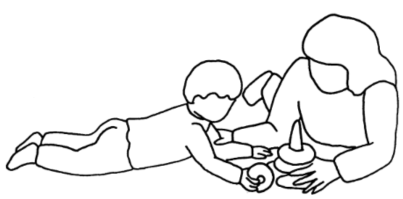
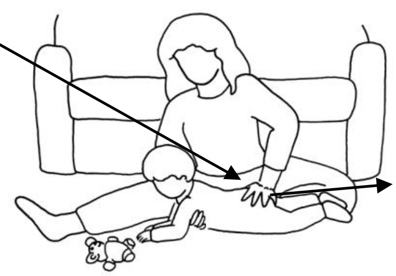
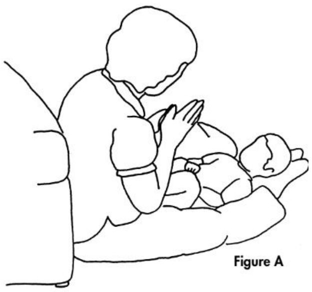


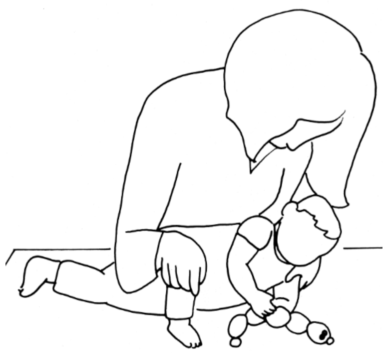
Figure B

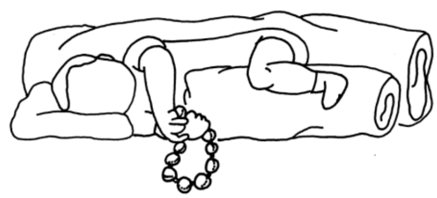


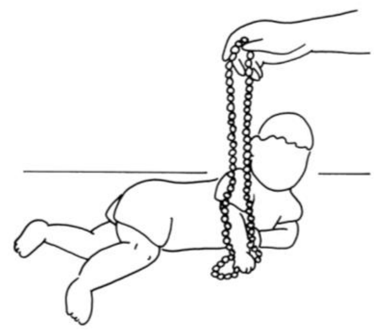
Playing on back: Encourage child to reach up by tucking chin and using core. Can achieve this by using items that are large enough to encourage reaching with both hands or reaching up to knees or feet.



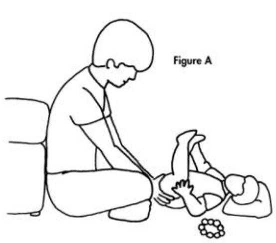
Side lying to encourage rolling: Utilize using your body to support baby to encourage being inside lying position. Can also roll up towels for support. It is important to use toys that is going to grasp child's interests such as light up toys, sound toys, or colorful toys.

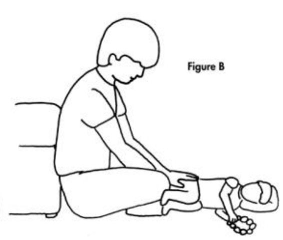


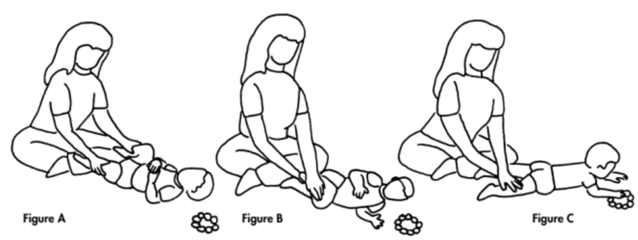




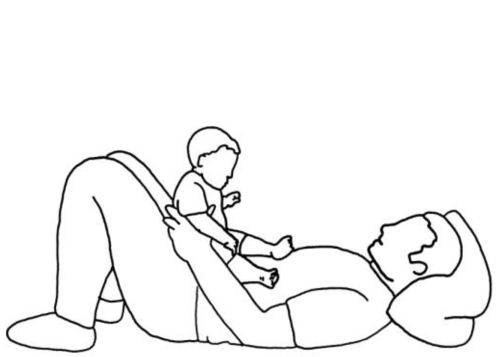
Back to Side and Back to stomach rolling: Stabilize child at hips to encourage use of stomach muscles when learning rolling. Encourage child to keep head in line with body and tuck chin when rolling.

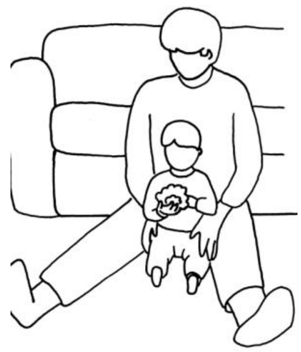


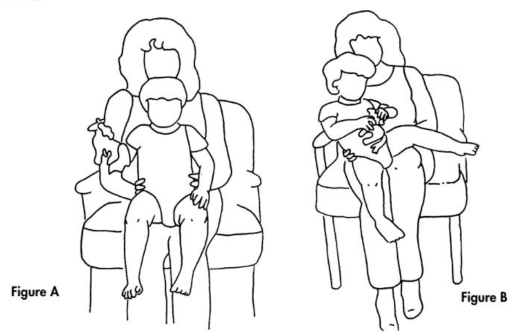




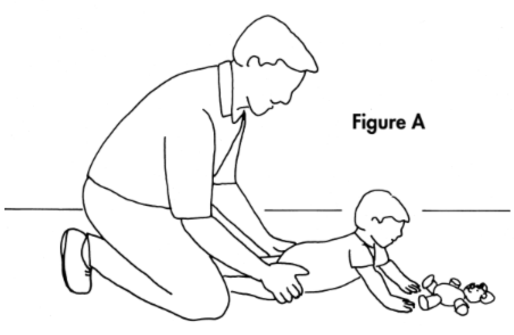
<u>Sitting:</u> To encourage sitting position, utilize your body to support child in sitting position until they have the strength to support self. You can also provide stability at hips to encourage use of core. Once child is able to sit up on own it is important to incorporate leaning to left and right to promote balance.

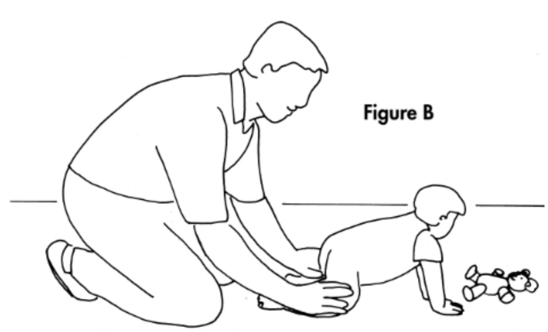




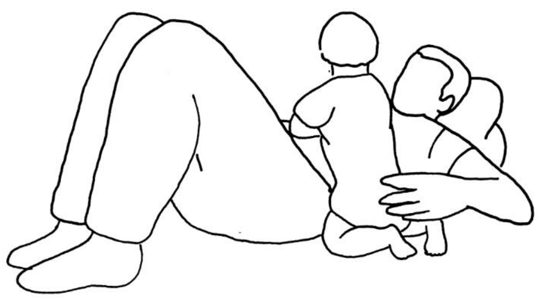


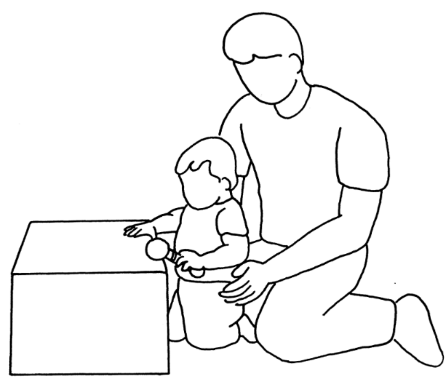
<u>Crawling</u>: Encourage child to bear weight through arms to strengthen muscles of shoulder, arms, and hands. Can utilize leg to help provide support and use hands to help tuck in knees to get into a 4-point position.





Kneeling: Encourage play in kneeling position by placing box or small table in front of child to play on. You can also utilize own body for child to come up onto kneeling.





Standing: Progress child from tall kneeling to half kneeling to standing. Once standing you can provide support at hips and knees from behind them to develop balance.

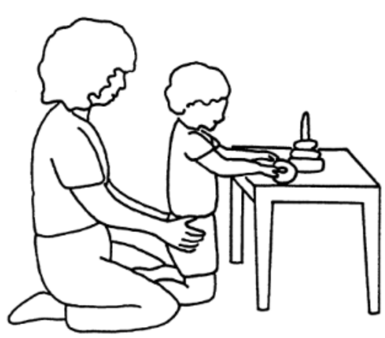
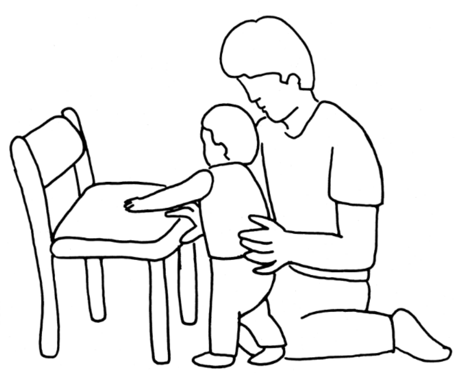
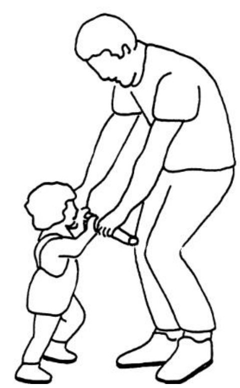


Figure A

Figure B

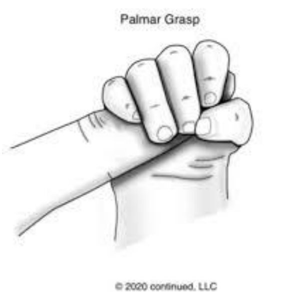
Figure C

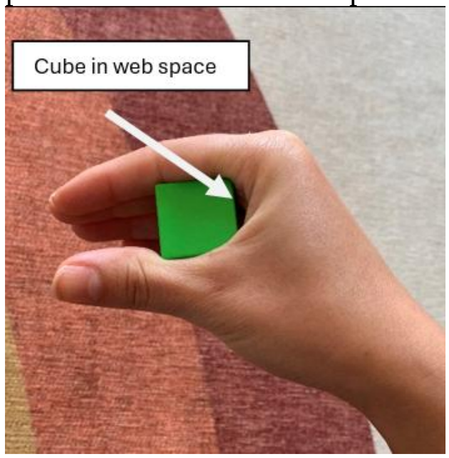

Walking: Encourage walking by having child push a laundry basket or box on their knees and progress to them doing this while standing and pushing a chair.

Fine Motor Development

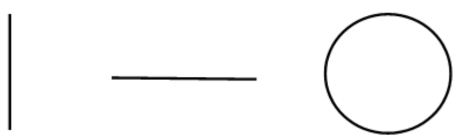
Fine motor development is important for developing the foundational skills for our everyday tasks that is important for overall success in other areas of life such as school, independence in self-care, and overall cognitive development. Fine motor development will typically develop after gross motor development due to needing strong core/trunk engagement in order to participate in fine motor activities.

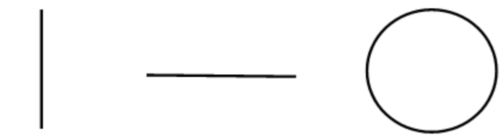
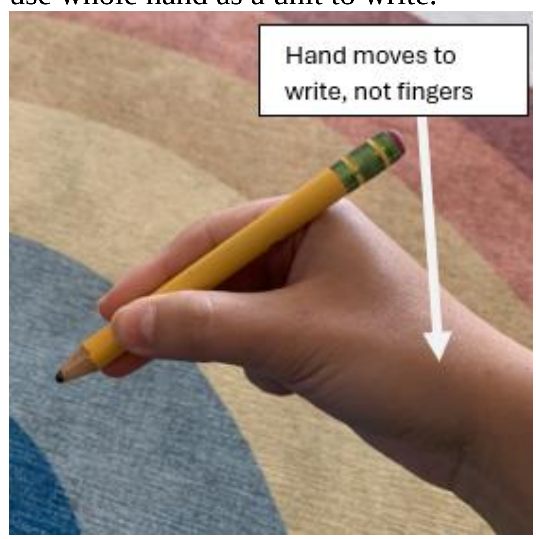
Age	Grasping Cube	Grasping Pellet
0-3 months:	Reflexive Palmar grasp 	
3-5 months:	**Ulnar Palmar Grasp:** Grasping on the pinky side on the hand 	
5-6 months:	**Palmar Grasp:** Grasping cube into middle of the palm. 	

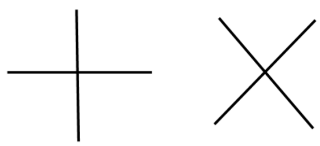
6-7 months:	**Radial Palmar Grasp:** Grasps using the thumb side of the hand. Cube is close to palm with no visible web space.  **Raking Grasp:** Child with pick up items utilizing a raking motion to grasp cube into palm of hand without using tips of fingers. 	**Raking Pellet**: into palm of hand without using tips of fingers 
8 months:	**Radial Digital Grasp:** Will grasp cube using pads of thumb and fingers with a visible web space. 	**Lateral Pinch:** Will pinch pellet using side of index finger and thumb 

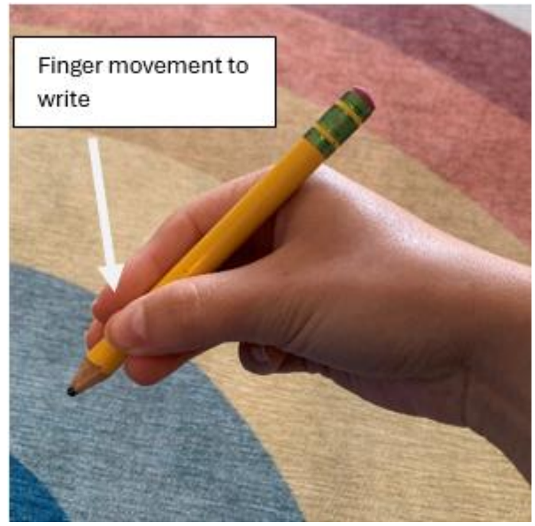
<table>
<tr><td><u>9 months:</u></td><td>Radial Digital Grasp: Will continue to grasp using thumb and pads of fingers, however, will be able to do so with more wrist extension.
</td><td>Inferior pincer: Will grasp pellet using pads of index and thumb.
</td></tr>
<tr><td><u>10 months:</u></td><td>3 Jaw Chuck Grasp: only uses 3 fingers (middle, index and thumb) to pick up cube. This is important to develop to have development of 3 finger grasp on a pencil.
</td><td>Fine Pincer (10-12 months): Will grasp pellets using a tip of index and thumb.
</td></tr>
</table>

Writing Development

Age	Pre-Writing Skill	Pencil Grasp
10-12 months	Child will begin scribbling on paper	**Palmar Supinate Grasp:** Also known as a fisted grasp. 
2 years:	**Imitates** vertical, horizontal, and circular strokes after being demonstrated the motions. 	**Digital Pronate Grasp**: Will hold pencil with index finger facing downward. 
3 years:	**Copies** vertical, horizontal, and circular strokes by just looking at an example, but does not need to be shown the motion to complete strokes.	Still using Digital Pronate Grasp.

		
<u>3.5-4 years:</u>		**Static Tripod Grasp:** 3 finger grasp on pencil however is not using isolated finger movements to write yet and will use whole hand as a unit to write.  **Static Quadrupod Grasp**: 4 finger grasp on pencil however is not using isolated finger movement to write yet and will use whole hand as a unit to write.

		
<u>4-5 years:</u>	Can copy cross, oblique cross, and some letters and numbers without being shown motion to complete stroke. 	Still utilizing Static tripod/quadrupod grasp.
<u>4.5- 6 years:</u>		**Dynamic Tripod Grasp:** 3 finger grasp on pencil with isolated finger movements to create strokes instead of whole hand movements  **Dynamic Quadrupod Grasp:** 4 finger grasp on pencil with isolated finger movements to create strokes instead of

		whole hand movements 
5-6 years: 	Can copy triangle, print own name, most lowercase and uppercase letters.	

Fine Motor Activities:

This list of activities is good for working on fine motor and preparing for prewriting skills:

Activities to Work on Fine Pincer Grasp		
Activity	Details of Activity	Picture
Create a Fruit Loop Necklace	Emphasizes finer pincer grasp and helpful for children who like to place small items in mouth but also need to work on fine pincer grasp	 handsonaswegrow.com
Peeling and placing stickers	Forces child to use a fine	

	pincer grasp due to stickers being thin.	 aussiechildcarenetwork.com.au
Turning pages of a book	Works on pincer grasps (make harder by using thinner pages or easier by using thicker page book)	 www.parents.com
Crumble paper art to work	Helps work on pinching and isolated finger movements by using fingers to roll paper into a ball.	 www.frugalmomeh.com
Lacing cards	Important for working on pincer, eye hand coordination, precision skills	 stephenjosephgifts.com

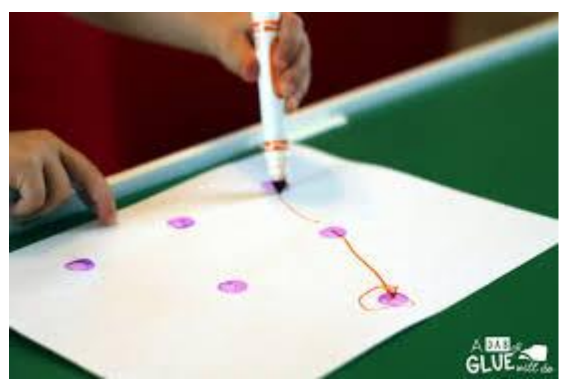
Tongs	Using activities with tongs can strengthen hands for pincer grasp as well as for pre scissor use. For older children Operation can be a fun game to use.	  amazon.com

Activities to work on Pencil Grasp

Activity	Details of Activity	Picture
Water doodle mat	Can use this to encourage engaging in pre-writing skills or to encourage 3 finger grasp on drawing tool.	 www.fruugo.us
Magnet Mazes	Gets child to engage in holding of a writing tool without having to color or write.	

		 www.lakeshorelearning.com
Peg boards	Can use 3 finger grasps on pegs and create fun designs	 www.forsmallhands.com
Q-tip painting	Using an item smaller and shorter than a pencil encourages use of a 3-finger grasp	 fromabcstoacts.com

Dot Markers	Fun way to encourage use of pencil grasp.	 amazon.com

Making Pre-Writing Skills Fun		
Activity	Details of Activity	Picture
Scribble Tablet	A fun way for kids to scribble or copy shapes that is different than just pencil and paper	 amazon.com
Connecting Dots	Connecting dots can make it easier for children to understand how to create the shape.	 www.adabofgluewilldo.com

When To Be Concerned About Developmental Delay

It is important to note that developmental milestones are not a strict schedule to be followed but are to be used as a guideline. When you notice your child is not progressing towards the next milestone or is slower to meeting milestones it is important to bring it up to your doctor to get early intervention to prevent any further delay.

Motor Development Resources

1. Pathways.org- provides developmental milestones information by age and topic for child by videos, checklists, and activity recommendations
2. CDC- provides developmental milestones information by age and topic for child.
3. OT Toolbox- Has fun and creative ideas for promoting motor development

Feeding Development

Age	Skills	Foods
10-14 weeks gestation	Swallowing Reflex	
16-20 weeks gestation	Non-nutritive sucking	
26-27 weeks gestation	Gag reflex develops	
28 weeks gestation	Rooting Reflex	
34 weeks gestation	Suck-Swallow-Breath develops	
Birth-3 months	Relying on sucking reflex.	Breastmilk/Formula
4-6 months	Will develop volitional sucking and increased tongue mobility including side to side and up and down movement. May indicate readiness for purees if able to demonstrate stable head and neck control.	Breastmilk/Formula Possibly: - Single ingredient purees
7-9 months	Munching with open mouth, tongue mashing with emerging up and down jaw movements. Full lip closure emerges on spoon, consistent tongue lateralization (bringing to side of mouth). Cup drinking with help.	Breastmilk/Formula Purees Soft mashed foods (avocado, potatoes, steamed carrots)
8-10 months	Vertical chewing (up and down motion)	Refer to 7-9 months
10-12 months	Vertical chewing (up and down) with emerging Rotary chewing (bringing food side to side). Uses fingers to self-feed and can transfer foods from side to side in mouth without difficulty	Breastmilk/Formula Grains Beans Ground meat
12-24 months	Diagonal and Rotary chewing. Finger feeds independently. Scoops with spoon (15 months). Independently feeding self with spoon. Takes sips	Breastmilk/Formula Eats all textures of food

	from open cup without help. Starts straw drinking.	
24-36 months	Circular Rotary chewing. Piercing food with fork. Drinks from open cup with no lid without spilling.	Choking Hazards: Hot dogs Popcorn Whole grapes Nut

Types of Chewing/Jaw movements:

1. **Vertical Chewing-** Up and down movement of jaw
2. **Diagonal Chewing-** The first stage of rotary chewing to development. Includes opening and closing of mouth in a diagonal pattern.
3. **Rotary Chewing-** Circular rotation of jaw during chewing with movement of food from side to side. (most mature form of chewing)

Types of Tongue Movement during feeding:

1. **Tongue Mashing-** up and down movement of tongue to break down food that does not involve using of teeth
2. **Tongue Lateralization-** ability to move food to sides of mouth for chewing

Feeding Positioning:

Having the proper body positioning for feeding is crucial in supporting the body in coordinating movements for feeding.

Correct Positioning should look like:

1. Hips at 90 degrees
2. Knees at 90 degrees
3. Feet at 90 degrees supported on floor or footrest
   It is important that feet are not dangling causing child to be in more unstable position where they focus on using core instead of focusing on eating
4. Head facing forward with chin slightly tucked

https://learnforlifeot.com.au www.sproutandthrive.com

Feeding techniques to implement:

1. Keep food at tip of spoon and only ½ filled to avoid overfilling mouth with food
2. When placing spoon in line with lower lip to encourage child to come forward
3. Allow time for child to swipe food from spoon using upper lip. Try to avoid scraping spoon on top of mouth and teeth.
4. Keep spoon to front of mouth to prevent gaging if spoon moves too far back

Activities to promote feeding:

1. Have child interact with food in ways that does not involve pressure to eat it such as helping to cook, playing with toys in the food, and playing games with food.
2. Engage child in sensory play prior to feeding time to help desensitize if the child has tactile defensiveness.
3. Talk about the qualities of food in a fun way and try to compare to other foods
   Ex.) Both a French fry and a sweet potato fry are long, thin, have same shape but have different colors

4. Creating crafts with food is a fun way to get child to interact with food without pressure to eat it. While creating craft you can encourage touching, smelling, and talking about food.

www.craftulate.com www.pathways.org www.realfoodallergyfree.com

Dr. Kay A. Toomey Myths to Feeding and Steps to Feeding:

Dr. Kay A. Toomey is a pediatric psychologist who created the The Steps to Feeding and Top 10 Myths of Mealtime in America. These two sheets are helpful for understanding the complexities to eating.

Top 10 Myths of Mealtime in America

MYTH #1 = Eating is the Body's number 1 priority.

Why it is false:

Actually, **BREATHING** is the Body's number 1 priority. Without good oxygenation, eating difficult because we shut off our airway briefly with every swallow and our oxygen level decreases slightly (or we have to significantly increase our respiratory rate to maintain oxygen such that we are burning off any calories we take in). **POSTURAL STABILITY** ("not falling on your head") is actually Body priority number 2. Eating is only Body priority number 3. If either breathing or postural stability are compromised, eating may be resisted.

MYTH #2 = Eating is instinctive.

Why it is false:

Eating is only an instinctive drive for the first month of life. From birth to 3-4 months of age, we have a set of primitive motor reflexes (e.g. rooting, sucking, swallowing) which help us eat while we lay down pathways in the brain for voluntary motor control overeating. Between the end of the 5th or 6th months of life, these primitive motor reflexes "drop out" and **eating is essentially a learned motor behavior after 6 months of age.**

MYTH #3 = Eating is easy.

Why it is false:

Eating is the MOST complex physical task that human beings engage in. It is the ONLY human task which requires every one of your organ systems and requires that all of those systems work correctly. In addition, EVERY muscle in the body is involved (one swallow for example, takes 26 muscles and 6 cranial nerves to coordinate). Plus, eating is the ONLY task children do which requires simultaneous coordination of all 8 of our sensory systems. Learning, Development, Nutrition and the Environment also have to be integrated in to make sure a child eats correctly.

MYTH #4 = Eating is a two-step process; 1 = you sit down, 2 = you eat.

Why it is false:

There are actually about 25 steps for typically developing children and 32 steps or more for children with feeding problems, in the process of learning to eat (see the Steps To Eating handout).

STEPS TO EATING

- chews and swallows whole bolus independently
- bites & chews, swallows some and spits some

EATING

- bites piece, chews "x" times & spits out
- bites piece, holds in mouth for "x" seconds & spits out
- bites off piece & spits out immediately
- full tongue lick
- licks lips or teeth, tongue tip taste

TASTE

- tip of tongue, top of tongue
- teeth
- lips
- nose, underneath nose
- chin, cheek
- top of head
- shoulder, neck
- arm, trunk/chest
- whole hand
- fingertips, finger pads
- one finger tip

TOUCH

- leans down or picks up to smell
- odor in child's forward space
- odor at table
- odor in room

SMELLS

- uses another food to interact with the food
- uses utensils/napkin/tool to manipulate food in own space
- uses utensils or container to serve self onto own plate/space
- uses utensils or a container to stir or pour food/drink for others
- assists in preparation/set up with food

INTERACTS WITH

- looks at food when directly in child's space
- being at the table with the food just outside of child's space
- being at the table with the food ½ way across the table
- being at the table with the food on the other side of the table
- being in the same room

TOLERATES

MYTH #5 = It is not appropriate to touch or play with your food.

Why it is false:

Wearing your food is part of the normal developmental process of learning to eat it. You can learn a great deal about the foods, BEFORE they ever get into your mouth, by touching them and playing with them first. It is "play with a purpose" that teaches a child the "physics of the foods" before the foods ever get into their mouth. **Being messy is an important part of learning to eat**.

MYTH #6 = If a child is hungry enough, he/she will eat. They will not starve themselves.

Why it is false:

This is true for about 94-96% of the pediatric population. For the other 4-6% of the pediatric population who have feeding problems, **they will "starve" themselves** (usually inadvertently however). For the majority of children with feeding difficulties, eating doesn't work and/or it hurts, and NO amount of hunger is going to overcome that fact. Children are organized simply; if it hurts, don't do it. If it doesn't work; cry and/or run away. Also, for children who have skill or medical problems with eating, their appetite often becomes suppressed over time, such that they no longer respond correctly to appetite as a cue to eat a sufficient number of calories

MYTH #7 = Children only need to eat 3 times a day.

Why it is false:

In order to meet their daily calorie requirements, children would have to eat adult sized meals if they only eat 3 times a day. Given their small stomachs and attention spans, it takes most children 5-6 meals a day to get in enough calories for proper growth and development.

MYTH #8 = IF a child won't eat, they EITHER have a behavioral OR an organic problem.

Why it is false:

Various research studies, and the data from our Center, indicates that between 65-95% of all children with feeding problems have a COMBINATION of behavioral AND organic problems. If you start with a physical problem with eating, you are going to quickly learn that eating doesn't work/hurts and a set of behaviors to avoid the task will become set into place. If you start with a purely behavioral/environmental reason for not eating, your compromised nutritional status or lack of experience will quickly begin to cause organic problems. As such, it is not useful to create a dichotomy in diagnosing or treating feeding problems.

MYTH #9 = Certain foods are only to be eaten at certain times of the day (ie. Breakfast foods only for breakfast, lunch foods only at lunch, snack foods only at snacks, dinner foods only for dinner), and only certain foods are "good for you".

Why it is false:

Food is just food. It is not breakfast food, or lunch food, or dinner food, or snack food, or junk food. Food is either a protein, a carbohydrate or a fruit/vegetable. While some foods do have more nutritional value than others, labeling foods as "good" or "bad" or "only to be eaten at X meal", is not helpful in teaching children to eat or to have a healthy relationship with food. If a child eats chicken and peas best at breakfast, that is okay. In addition, the so called "junk" foods actually play a huge role as **stepping stones** in teaching children with feeding difficulties to learn to eat a wide variety of other foods because these "junk"

MYTH #10 = Mealtimes are a proper social occasion. Children are to "mind their manners" at all meals.

Why it is false:

Actually, eating comes first. Manners come second. The skills for eating need to be learned first, before children can have good manners. Think about the 6-9 month old infant just learning to eat and how messy they get. Especially for children who have not learned to eat well, **mealtimes are a Teaching Opportunity and we parents are the Teachers**. Children eat so much better when their food is engaging, interesting and attractive. They also eat better when mealtime conversations are focused on talking about the food, and when adults are modeling how to eat and teaching the "physics" of food. So go ahead, enjoy your food and the feeding experience with your child! Be noisy, be messy and play with your food!!

Feeding with Infants:

Infant Cues: An important part of feeding infants is following an infant-led approach, which helps create a positive feeding experience by recognizing and responding to your baby's cues. Below are some common behaviors you might notice in your child and what they could indicate.

Feeding Cues: Infants will show they are hungry by

- Opening mouth and turning head towards breast or bottle
- Bringing hands to mouth
- Opening and closing mouth/ tongue movements
- Becoming more alert and active by moving arms and legs

Satiation Cues: Infants will show they are done with a feed by

- Weak suck
- Limited sucking
- Pulling away

Stress Cues:

- Arching
- Refusal
- Avoidance

Behavior for feeding: We want infants to be engaged and interested in feeding and want to prevent feeding when infant is disinterested or disengaged. Down below are characteristics of the Optimal feeding state and Nonoptimal feeding state.

www.rch.org.au

www.baby-chick.com

Optimal: Eager or Interested

- Actively awake and alert (Eager)
- Quiet wake and alert (Interested)
- Eyes closed but eagerly suckling

Nonoptimal States: Disinterested or Disengaged

- Drowsy (Disinterested)
- Asleep (Disengaged)
- Agitated (Disinterested)
- Crying (Disengaged)

www.interplast.com

www.dignityhealth.org

Pre-Feeding Oral Activities: Prior to giving baby bottle you can engage child in oral exercises to prepare their mouth muscles for feeding. You can do this by placing clean finger or pacifier in babies' mouth for them to suckle on.

www.shutterstock.com

"Feeding Positioning: Feeding positioning is essential for a positive feeding experience and will help promote an effective suck and swallow. It is important for any position that the infant has a tucking position and not extension position. If you don't have the tuck, you won't have the suck!"

- **Upright-** Used for infants who have good head/neck control and more mature swallowing skills

www.thebump.com

- **Side lying-** Can help support tongue movement and swallowing skills

www.feedeatspeak.co.uk

- **Propped-** Can make swallowing difficult and increase risk for choking

www.islandfeversisters.com

- **Flat**- Can make swallowing difficult and increase risk for choking

www.shutterstock.com

- **Reclined**- Can make swallowing difficulty and increase risk for choking

www.healthline.com

Promoting positive feeding skills for infant:

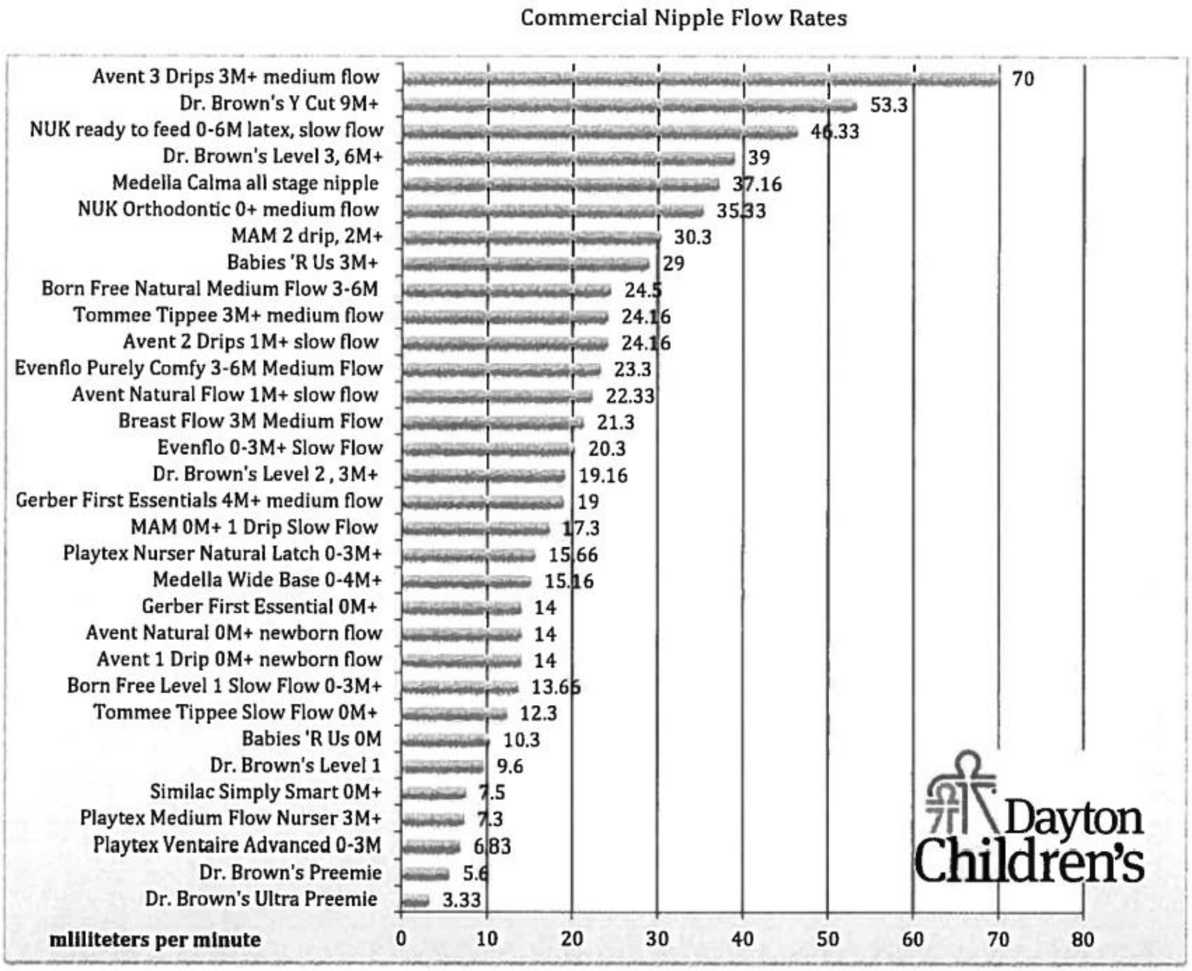
1. Create a calm environment
2. Position to enhance feeding performance
3. Ensure a goodness of fit between infant's oral motor skills and nipple flow rate
4. Start and end feed based off babies' cues
5. Ensure bottle flow rate is slower than breast to limit confusion
6. Try to limit twisting and turning of bottle to prevent loss of latch as frequent breaking of latch can increase infant fatigue
7. Paced feeding can teach babies how to safely swallow
8. Ensure that burping is an infant led activity; infants may asked to be burped by pulling away from nipple, changing suck pattern, no longer sucking, bearing down as if pooping at mid feed or end of feed; Burping needs vary among infants and feeding times

How to know if nipple is too fast

- Dribbling or spitting of milk
- Gulping
- Coughing
- Choking

How to know if nipple is too slow:

- Strong eager sucking with minimal transfer of milk out of nipple



When to pursue Feeding Therapy:

Infants:

- Trouble latching
- Weak suck
- Uncoordinated suck-swallow-breathe coordination
- Arching/crying during feeding
- Coughing or choking with feeding
- Frequent spitting up or vomiting with feeding’
- Feeding time lasting longer than 30 minutes
- Frequent respiratory illnesses
- Lack of adequate weight gain

Toddlers:

- Coughing or choking with feeding
- Gagging with food smells or textures
- Lack of adequate weight gain

- Spitting food
- Food refusal
- Difficulty chewing age-appropriate food and textures
- Does not enjoy eating a variety of foods
- Frequent respiratory illnesses

Feeding Resources:

1. Feeding Matters- Resource library has many different topics, books, podcasts, and links to other websites regarding pediatric feeding disorder and feeding difficulties.
    - Family Guide: https://www.feedingmatters.org/wp-content/uploads/2020/09/FeedingMattersFamilyGuide.pdf
    - Guide for Texture Exploration: https://www.feedingmatters.org/wp-content/uploads/2024/10/A-Guide-to-Texture-Exploration.pdf
2. HealthyChildren.org
   https://www.healthychildren.org/English/Pages/default.aspx

The Sensory System

The sensory system is important for helping us perceive the world around us. We do this by receiving sensory stimuli from the environment, interpreting the information, and then acting on the information given. Everyone's sensory system is different and processes information around us at different intensities. For example, some people may love the feeling of being on a roller coaster while others it makes them feel sick. We can become overstimulated from our environment if there is too much going on or we can have not enough stimulation causing us to miss important information within our environment.

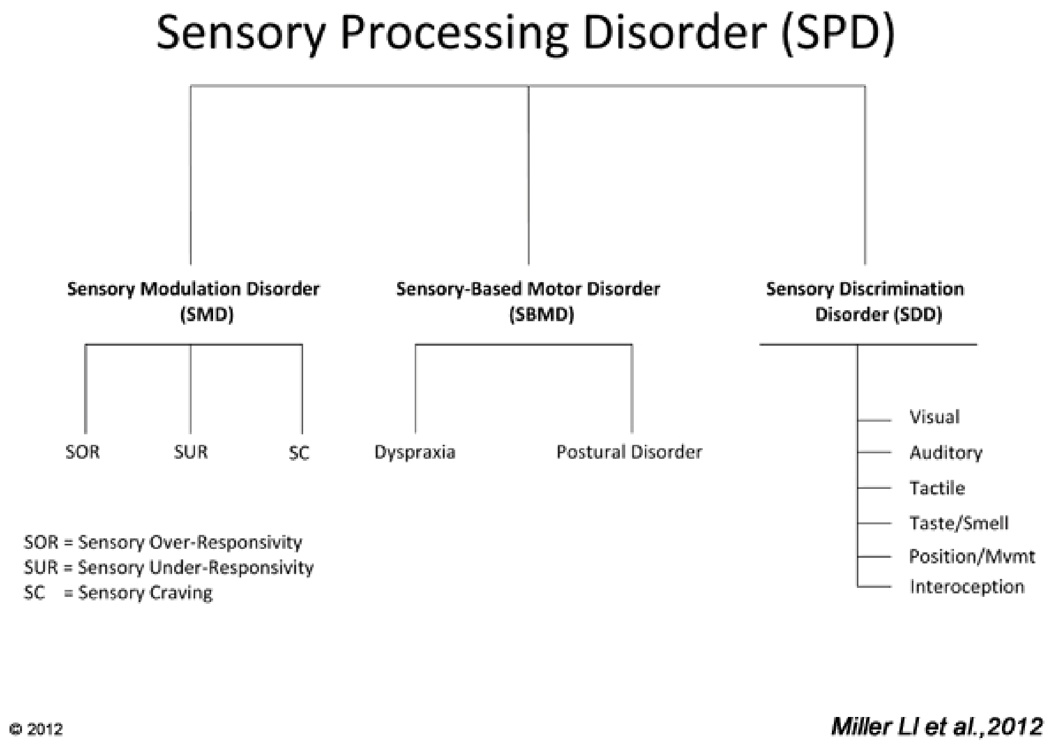
Definitions to Know:

Sensory Processing- The umbrella term for how we receive and interpret sensory information and respond to it.

Sensory Modulation- A subtype of sensory processing that involves difficulty with regulating responses towards sensory input. Can be seen through over responsive, under responsive, or sensory seeking.

Sensory Based Motor Disorders- A subtype of sensory processing disorder that involves difficulty processing sensory information needed for movement and motor coordination. Ex.) poor posture, difficulty sequencing movements, clumsy or awkward movements.

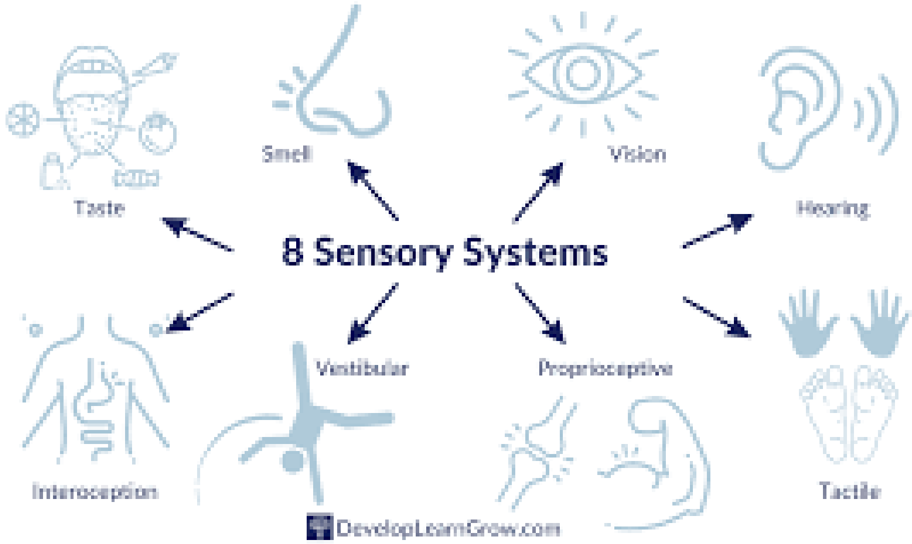
Sensory Discrimination- A subtype of sensory processing disorder that involves difficulty with interpreting sensory input and make comparisons between different sensations or distinguish between different sensations ex.) may not be able to distinguish between pain or being touched, may not understand how much pressure to put through pencil to make mark on paper due to not knowing difference between light and firm pressure.



<u>Types of Sensory Systems</u>

1. **Vestibular-** Important for detecting movement (circular or linear)
   Ex.) swinging on a swing
2. **Tactile-** Detects anything that makes contact with the skin. Important for awareness to body.
3. **Proprioception**- Helps us detect where our body is in space as well as relationship of each body part to each other. Important for motor planning, motor learning, and motor control.
4. **Visual-** Allows us to detect and process light. Important for visual perception skills and developing coordinated movement's
5. **Auditory**- Important for detecting, discriminating, and understanding sound.
   Can impact our alertness level.
6. **Olfactory**- Allows us to discriminate and be aware of smells around us. Important for eating and alertness level while eating.
7. **Gustatory**- Allows us to perceive taste of different food items. Important for eating.
8. **Interoception**- Ability to understand what is happening inside your body.

Ex.) Being able to detect when you are hungry or need to go to the restroom



Types of Sensory Processing:

1. **Sensory Seeking**- Craves sensory input more frequently and at larger intensities than most people, however, becomes more dysregulated when receiving the input.
   Ex.) Child plays outside for 30 minutes and comes back inside, but instead of calming down once inside the child will appear more energized and out of control.
   - What it looks like:
     - Moving constantly
     - Has outbursts when required to sit
     - Likes to crash into things
     - Hight tolerance for pain
     - Touching objects or people with no sense of personal space
     - Hard to calm down
2. **Sensory Over Responsive-** Overly sensitive to sights, sounds, movement, smells, and tastes
   Ex.) Has a melt down when hands get dirty during eating.
   - What it looks like:
     - Avoids messy play or certain textures
     - Easily startled by noises
     - Shows signs of distress when exposed to certain stimuli
3. **Sensory Under Responsive-** Less aware and less sensitive to sensory stimuli.
   Ex.) When alarm is going off child does not seem to notice.
   - What it looks like:
     - Unaware of what is going on in environment
     - Doesn't seem to notice when toghed or seriously hurt
     - Slow to respond to directions
     - Not bothered by typically bothersome noises

Interventions and Strategies for Sensory Modulation

1. **Sensory Seeking:**
    - Engage child in structured movement activities that have a clear start and stop. Ex.) Create obstacle course where child must jump 3 times catch a ball and skip to door and back.
    - Incorporate heavy work activities that include pushing, pulling, and jumping
    - Engage child in movement activities before doing sit down activities
    - Utilize visual cues between activities
2. **Over Responsive**:
    - Utilize deep pressure such as firm hugs can be calming over light touch which is more aversive
    - Incorporate one sensory experience at a time to avoid overstimulation
    - Reduce background noise, bright lights, or visually stimulating environments
    - Avoid high traffic areas
3. **Under Responsive:**
    - Utilize multiple sensory systems during activities
    - Incorporate more alerting activities
    - Offer movement breaks
    - Be patient for child to respond to sensory input

Activities to promote sensory development:

Tactile Activities:

1. Sensory Bin: Fill a bucket full of rice or beans and place fun toys in the bucket for your child to find
2. Finger Painting
3. Water toys
4. Playdough

Visual Activities:

1. Puzzles
2. Coloring
3. Marble run game
4. Board games
5. Blocks

Smelling Activities:

1. Coloring with smell markers
2. Scented sensory bin
3. Scented playdough

Movement Activities:

1. Swinging on a swing
2. Scooter board
3. Red light green light game
4. Rocking chair

Proprioception Activities:

1. Hopscotch
2. Body Sock
3. Jump rope
4. Massages
5. Bear Crawls

Sensory Information Resources

1. OT toolbox- Has creative activities to help with sensory processing https://www.theottoolbox.com/
2. Pathways.org- Provides sensory system activities by age https://pathways.org/

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