

# Module 5: Atypical Development—Increasing Awareness



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In this presentation, we will discuss atypical development. This is the last in a series of five modules relevant to infants and toddlers born prematurely. Unlike the other modules, this module is applicable to all infants and toddlers, including those born prematurely.

## Acknowledgements

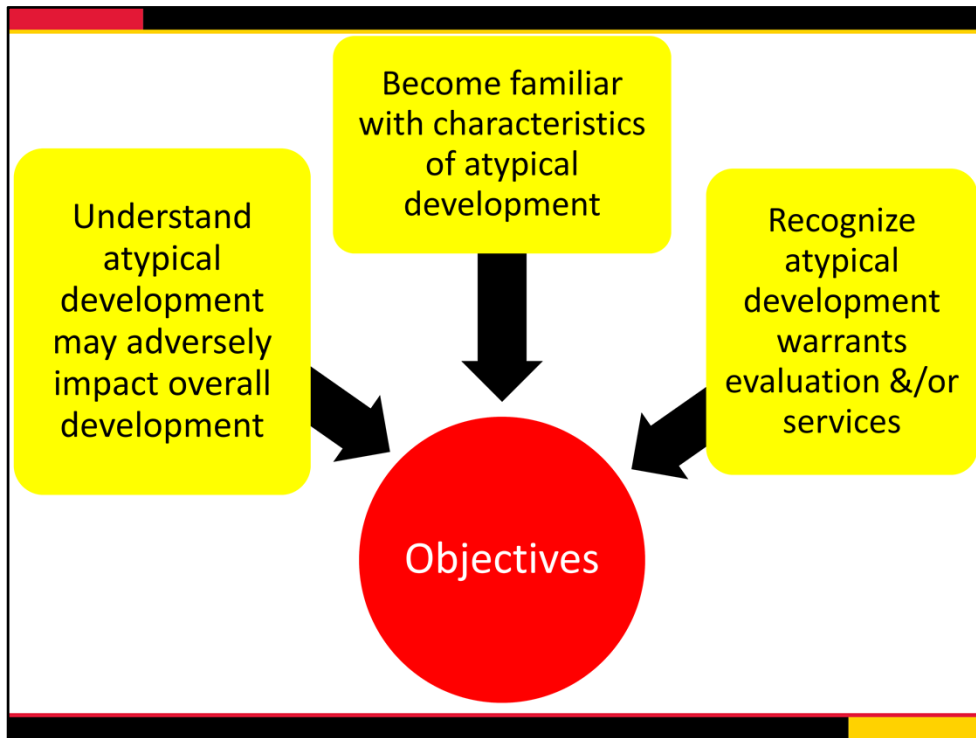
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This presentation was developed in consultation with the following professionals: Loretta Ferrell, Joanna Stewart, Lori Tolen and Cheryl Zalieckas (occupational therapists); Melissa Covington (speech and language pathologist); and Laura Evans, Kristen Murphy and Cassandra Nohe (physical therapists). Their contributions are greatly appreciated.



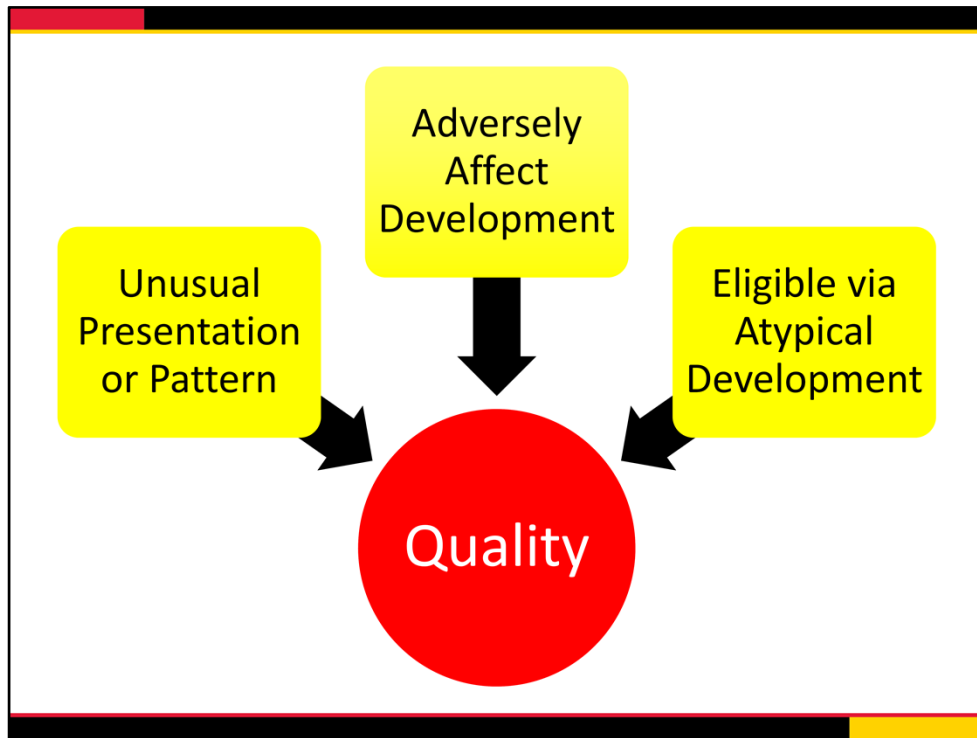
There are three objectives to this presentation. The first is to understand that atypical development may adversely impact a child's overall development. The second is to become familiar with characteristics of atypical development across multiple areas of development. The third and final objective is to recognize that atypical development warrants further evaluation and/or services.



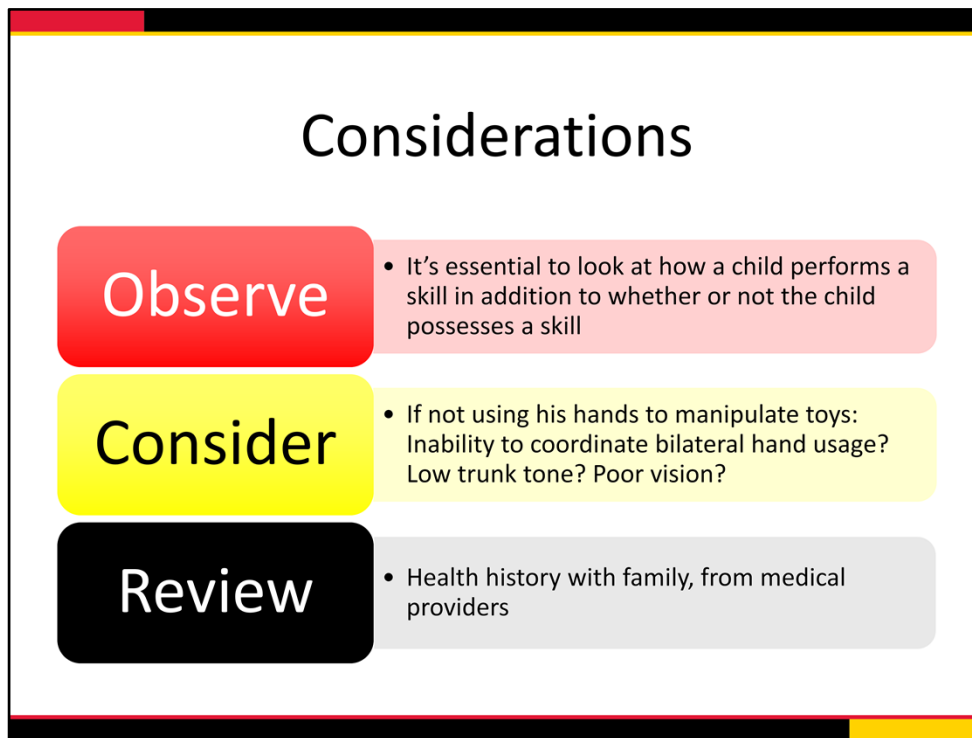
Atypical Development

## **BACKGROUND**

As early interventionists, it is important for us to look at quality of development in addition to milestone attainment. In some instances a 25% delay may not exist, but in the opinion of the early intervention team, some aspect of the child's development may be atypical.



The quality of development may be unusual in its presentation or pattern and adversely affect a child's overall development. Under these circumstances, the team can substantiate their clinical opinion with observations, interpretations of test results, review of records, and parent reports to determine eligibility based on atypical development.



There are three considerations when evaluating the quality of a child's development:

- observe,
- consider and
- review.

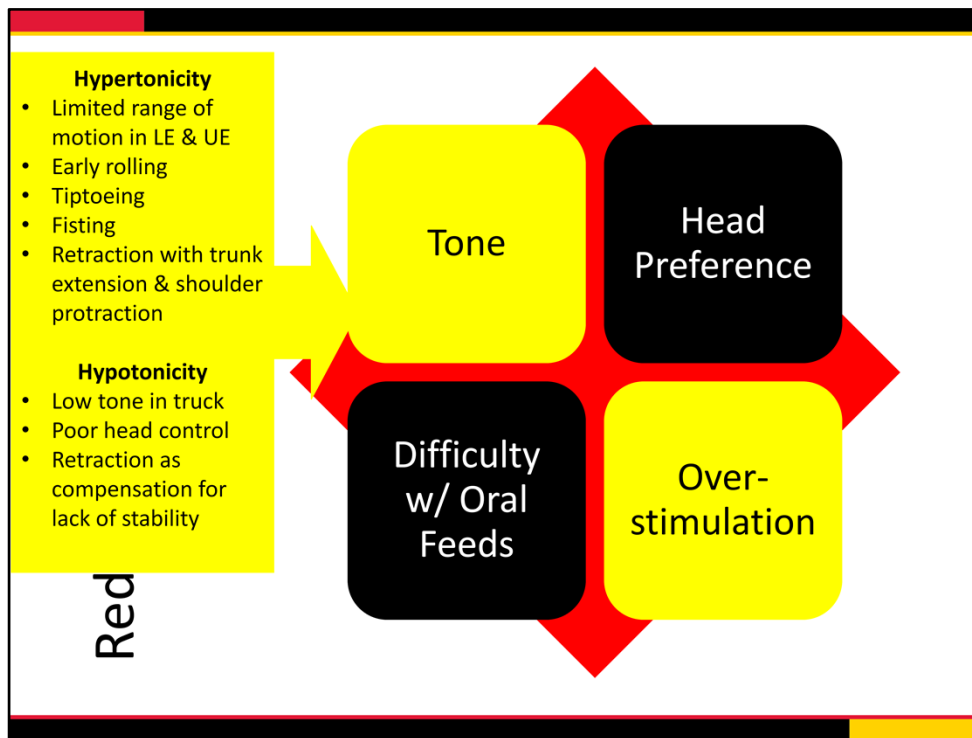
It's essential to look at how a child performs a skill in addition to whether or not the child possesses the skill. Thoroughly observe how the child is doing things, looking at the child as a whole child and not by an isolated domain. In addition, ask the family what they are seeing and ask them to describe what's hard for their child. Doing so helps you get the whole picture. If a child is not using his hands to manipulate toys, consider all potential contributing factors. Is it due to an inability to coordinate bilateral hand usage, or is it due to low trunkal tone causing the child to lean forward and brace himself against the table with one hand, or is it related to poor vision? Thoroughly review the child's health history with the family, and if needed, obtain reports from medical providers involved in the child's care. This will foster a better understanding of any potential underlying causes for the atypical characteristics observed.



Associated with Prematurity

## **ATYPICAL DEVELOPMENT**

While atypical development should be considered when evaluating and working with all children, there are several “red flags” commonly seen in infants and toddlers born prematurely.



There are four atypical “red flags” commonly seen in infants and toddlers born prematurely. The first is tone. Tone may be increased or decreased. Hypertonicity, or high tone, may present itself in several ways. You may observe limited range of motion in the lower extremities, particularly in the ankles, with the foot positioned in plantarflexion so that range into dorsiflexion is limited. You may also note limited range of motion in the upper extremities. Increased tone may also present itself in early atypical rolling or tip toeing in positive support, standing, or walking. In addition, you may observe fisting with an indwelling thumb or a lot of retraction with overall trunk extension and marked shoulder protraction. Hypotonicity, or low tone, may also be seen in the trunk and in poor head control. When a child has low tone, you may see a lot of retraction as a compensation for the lack of stability. As such, it is important to look at the whole child in a lot of different activities to tease this out. The second red flag is a head preference. For a variety of reasons, including intubation and positioning, some premature infants develop a strong preference for keeping their head to the right or the left. The third is difficulty transitioning to oral feeds and the fourth is being easily over-stimulated.



Applicable to All

## **ATYPICAL CHARACTERISTICS OF DEVELOPMENT**

Atypical development is applicable to all infants and toddlers; those born prematurely and those born at full-term, those with complex medical histories and those who have always been healthy. We will now explore a variety of atypical aspects of development that may warrant referral for evaluation and/or early intervention services. It is essential to note that this presentation is not all-inclusive; rather it is intended to increase your awareness of the possibilities.



## **GROSS MOTOR CONSIDERATIONS**

Next, let's consider aspects of gross motor development that may be atypical and warrant further assessment and/or services. Please note that atypical gross motor quality may be observed any time a child is using his or her big body muscles; this may be during an actual gross motor task or it may be during other tasks such as fine motor, cognitive, adaptive, or receptive language.

# Tone



Tone is the state of muscle tension inside a muscle or muscle group when it is at rest

## 3 Types

Hypertonicity

Hypotonicity

Mixed

Muscle tone is the state of muscle tension inside a muscle or muscle group when it is at rest. There are three types of atypical muscle tone: hypertonicity (where the muscles feel rigid or tight), hypotonicity (where the muscles feel mushy), and mixed (where you see a combination of increased and decreased tone).



The first type of atypical tone is hypertonicity. Babies and toddlers with hypertonicity have increased tone and may appear rigid or tight in some or all muscle groups. Hypertonicity may be reported by parents as having difficulty bending and straightening legs or separating them to change a diaper. You may observe legs that get very stiff and a back that arches every time a baby tries to roll over. It is important to identify and address hypertonicity early because, if not treated, increased tone can lead to later issues. Some children with increased tone then learn atypical patterns of movement, as this is the only way they can move; the brain then creates an atypical pathway for movement. The second type of atypical tone is hypotonicity. Babies and toddlers with hypotonicity have low muscle tone and may appear floppy or overly flexible, and their muscles may feel mushy. Hypotonicity may present itself in a variety of ways. In standing, a child may bend her knees. In sitting, a child may slouch or sit with a wide base of support, often placing the legs in a “W” position, keeping the head forward, and the mouth open. Low tone can make eye-hand coordination and object manipulation difficult, it can also impact feeding. The third type of atypical muscle tone is mixed. Sometimes children will present with mixed muscle tone. Children with low tone may use extension and increased tone to overcome their hypotonicity. For instance, in standing, a child may stand with her knees hyperextended and “lock out” the legs in an attempt to compensate for lower extremity muscle weakness. To ascertain whether or not a child has mixed tone it is important to adequately assess tone, carefully evaluating true muscle tone in all of the different muscle groups. As a reminder, the same tonal concerns seen in larger muscle groups are seen in the smaller muscles that impact fine motor and oral motor

skills. Be sure to look at the impact of atypical tone in other domains.

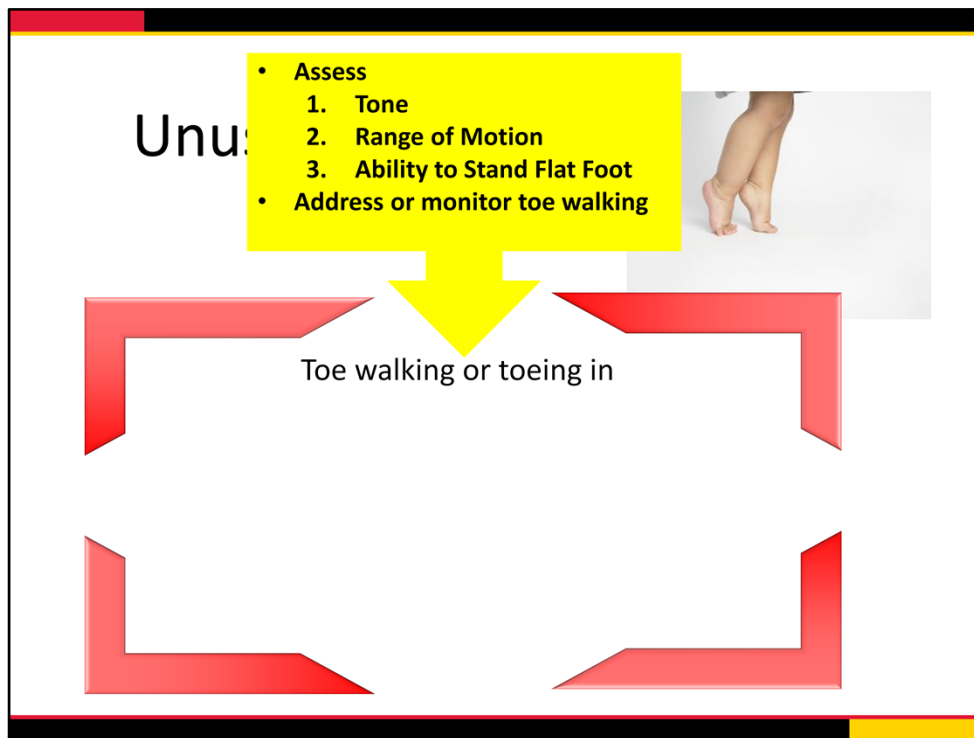
## Aversion to Tummy Time



Important for strength & vestibular input  
Important to educate families about importance

Sick children may lack opportunity  
Adaptations may help

Aversion to tummy time can be problematic. Tummy time is important for strength development and vestibular input. It's important to educate families about the importance of tummy time while reiterating the necessity of back sleeping. Sick children may not have had opportunity to be on their stomach and as such may not like it. Children with a g-tube, a history of certain surgical procedures such as cardiac surgery, or an encephalocele sometime need adaptations made (in consultation with their primary care provider) to allow for tummy time.



Some children walk, but do so using an unusual or atypical gait. This may present itself in several ways. First, a child may only walk on tip-toes and never walk with feet flat on the floor. In the beginning toe walking can be okay for sensory input; however, it's important to assess the child's tone, range of motion and their ability to stand flat foot. If the child's tone and range are fine, toe walking may be a sensory issue if it persists. Regardless of the cause, it's important to address or at least monitor persistent toe walking as it can evolve into tone and range of motion issues. When observing how children use their feet when walking, you may also notice lower extremity inversion, also known as "toeing in"—this may come from the ankle but it may also come from the hip.

## Unusual Gait II



- Turn whole body rather than rotating at trunk
- Laterally bend at trunk to avoid rotation
- Rotate trunk to compensate for atypical tone

Base of support wide or narrow  
Lose balance on uneven surfaces  
Rotational concerns

It is also atypical for a child to walk with an excessively wide base of support or very narrow base with legs rubbing or feet tripping. In addition, it's not typical for a child to be able to walk on flat surfaces but to lose balance on uneven surfaces like grass. Children may also display rotational concerns when walking. For instance, a child may turn his whole body rather than rotating at the trunk, laterally bend at the trunk to avoid rotation, or rotate the trunk to compensate for atypical tone and decreased strength.



## Unusual Gait III



- **Posturing: arm flexion with hand fisting**
  - **“High guard”:** arms held up with shoulder retraction
- Loose balance on uneven surfaces  
Rotational concerns  
Excessive arm movement  
Arm posturing  
Lack of stamina

When observing how a child walks, also pay attention to the arms. It is not usual for children to walk or run with excessive arm movements. It's also not typical for them to walk with posturing of the arms or while keeping arms in a “high guard” position. Posturing of the arm includes arm flexion with hand fisting and the “high guard” position includes arms held up with shoulder retraction. Some of these characteristics, like the “high guard” position, are typically seen in new walkers but should go away. A final consideration related to atypical characteristics of walking is lack of stamina or endurance. In this situation, the child lacks the energy or stamina to move around as much as or as long as other children of similar age, often hanging on a caregiver or leaning against surfaces.

# Torticollis



Involves head tilting or difficulty turning neck

Evaluation needed

Cervical x-ray essential prior to stretching

Assess leg length discrepancy

Watch for feeding, vision & motor coordination problems

Torticollis involves head tilting or difficulty turning the neck. When noticed, torticollis should be evaluated to determine if it is true torticollis or if the torticollis is secondary to positioning. There are numerous types and causes of torticollis. Suspected torticollis should be evaluated by the child's primary care provider. The primary care provider should order a cervical x-ray to out-rule skeletal anomalies. It is essential to know the results of the cervical x-ray prior to initiating stretching exercises. When torticollis is noted, the child should also be evaluated for a potential leg length discrepancy as the two may be related. Vision issues can also lead to a child keeping her head in one direction. The reverse is also true, prolonged asymmetry of the head and neck can lead to vision problems and motor coordination difficulties. Finally, it's important to recognize the potential impact of torticollis on feeding.

## Head Shape



**Types:** brachycephaly, plagiocephaly, scaphocephaly




Can lead to vision, hearing & other problems

Use positioning strategies first

Helmet use ideal around 9-10 months after conservative treatments tried

There are three types of atypical skull features: brachycephaly, plagiocephaly and scaphocephaly. Head shaping, if not treated early, can result in structural changes that can lead to vision and hearing issues and other problems. Specialists recommend addressing atypical head shaping with positioning strategies first. Increasing tummy time is also helpful because it results in less time spent on the back of the head. If conservative treatment approaches are not effective, the ideal time to refer for helmeting is around 9-10 months of age. Helmeting results are not as good after the child is 12 months old, but it is a viable intervention option until 18 months of age.

# Head Shape

	<p><b>Brachycephaly</b></p> <ul style="list-style-type: none"> <li>• Whole back of head is flattened</li> <li>• Causes widening of the head</li> <li>• Front of skull may bulge out</li> </ul>
	<p><b>Plagiocephaly</b></p> <ul style="list-style-type: none"> <li>• Head flattened at one side</li> <li>• Causes head to look asymmetrical &amp; distorted</li> <li>• Ears may not align</li> </ul>
	<p><b>Scaphocephaly</b></p> <ul style="list-style-type: none"> <li>• Long, narrow head</li> <li>• Common in preterm infants who spend time in the NICU</li> </ul>

As previously mentioned, there are three types of atypical head shaping. The first is brachycephaly. In brachycephaly, the whole back of the head becomes flattened, causing a widening of the head. Sometimes, the front of the skull may bulge out in compensation. The second type is plagiocephaly. In plagiocephaly, the head becomes flattened at one side, causing the head to look asymmetrical and distorted, sometimes resulting in misalignment of the ears. Scaphocephaly is the third type. In scaphocephaly, the head is long and narrow in shape. Scaphocephaly is particularly common in premature babies who spend time in the NICU.



## **FINE MOTOR CONSIDERATIONS**

Let's begin by considering aspects of fine motor development that may be atypical and warrant further assessment and/or services. Please note that atypical fine motor quality may be observed any time a child is using his or her hands; this may be during an actual fine motor task or it may be during other tasks such as cognitive, adaptive or receptive language.



## Difficulty Reaching or Manipulating Toys

Uncoordinated or jerky movements

Overshooting/undershooting

Difficulty maintaining trunk control to maintain balance

Resting one hand for increased control during release with other hand

Difficulty during reaching or object manipulation may present in a variety of ways. It may be atypical if the child uses uncoordinated or jerky hand or arm movements during fine motor activities. If you see this, take a moment to check the position of the joint as this may provide additional insight. Other atypical characteristics include consistent overshooting or undershooting when reaching, difficulty maintaining trunk control to balance and use hands to play, and resting one hand on a container for increased control during object release after a toddler is 12 months old.



## Fisting

**< 6 Months**

- Feel resistance or tightness
- See fuzzies or lint
- Notice unusual smell

**>6 Months**

- Persistent fisting, thumb in

Fisting is expected until 3 months of age; however, even at this age it can have an atypical presentation. While young infants fist, they should be able to open their hand freely and then re-close it. When opening a baby's hand it may be atypical if you feel resistance and tightness. It is atypical if you see fuzzies or lint in the palm and/or notice an unusual smell indicating the hand is not open enough. Persistent fisting after 6 months of age, particularly if the thumb is held in the palm, is atypical. Children with atypical fisting may benefit from range of motion exercises, massage and/or splinting.

## Poorly Graded Movements or Inadequate Isolation



Play limited to banging & rough handling

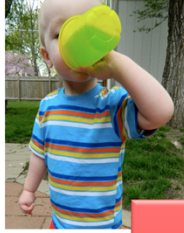
Smashing buttons on toys rather than pushing with control

Breaking crayons

Inability to isolate index finger to pick up a Cheerio by 12 months

Atypical fine motor control may present itself in poorly graded movements or inadequate isolation of movement. Examples of poorly graded movements include play that is limited to banging and rough handling of objects, smashing buttons on toys rather than pushing them with control and unintentionally breaking crayons. Inadequate isolation of movement, on the other hand, exists when a child can't isolate her index finger to pick up a Cheerio by 12 months of age.





## Asymmetric Hand Use

Inability to bring both hands to midline at same time after 3 months

Not being able to open/move hand/arm

Using only one hand to complete a task

Difficulty transferring

Unequal pincer

Asymmetric hand use is atypical in the older infant and toddler. Examples of atypical hand use include: an inability to bring both hands to midline at the same time after 3 months of age, not being able to open or move one hand or arm, using only one hand to complete a task, difficulty transferring objects from one hand to another which may be related to weakness in one hand, and an unequal pincer grasp with one hand picking up small objects with better coordination or strength. If one arm is not moving or not moving as well as the other arm, check the proximal positioning of the child's joints in addition to observing how the hands are being used. Also be aware that a structural deformity, such as absent fingers, may be the cause of the atypical presentations.



## Drooling or Tongue Protrusion

Drooling or tongue protrusion when  
using hands in a manner that requires  
intense concentration

Child may be working so hard with  
hands that oral-motor control is lost

When assessing quality of fine motor milestones, remember to look at the child's mouth during activities requiring intense concentration. It may be atypical if you see drooling or tongue protrusion when a child is using his hands in a concentrated manner. The child may be working so hard with his hands that oral-motor control is lost. Drooling is not atypical if it is related to teething.



## **COGNITIVE CONSIDERATIONS**

Next, let's consider aspects of cognitive development that may be atypical and warrant further assessment and/or services. Before proceeding, it's important to understand that cognition does not exist in isolation from development in other domains; as such, you need to look at the whole child, across multiple areas, when looking at the quality of cognitive skill attainment, not just the aspects presented in this section.

## Restricted Interest in Toys



Fixating on one part of object  
Need for nonfunctional routine or  
ritual

Stereotyped motor mannerisms  
Lack of pretend play

It is not typical for toddlers to display restricted interest in toys. It is atypical for a child to routinely fixate on one interest or part of an object. For example, consistently spinning the wheels on a car instead of rolling the car. It is also of concern if a child has a persistent need for a specific nonfunctional routine or ritual when playing with toys. For instance, lining up toys with precision in the same order on the same section of the floor after opening the toy box. Another concern is stereotyped motor mannerisms, such as hand flapping or finger flicking, during play. An additional concern is a lack of or restricted range of pretend play in toddlers.

## Difficulty Attending



Trouble keeping attention

Easily distracted

Runs or climbs when not appropriate

Difficulty playing quietly

Unable to wait for own turn

Difficulty transitioning between activities

While most young children have a relatively short attention span, it may be a concern if an older toddler often has trouble keeping attention to tasks or play activities to the same extent as other same-aged peers, is often easily distracted, often runs about or climbs when and where it is not appropriate, often has trouble playing quietly, often has trouble waiting for his turn, or often has excessive difficulty transitioning between activities.



## **SPEECH CONSIDERATIONS**

Next, let's consider aspects of speech development that may be atypical and warrant further assessment and/or services. Please note that atypical quality of speech may be observed any time a child is talking; this may be during an actual expressive language task or it may be during other tasks such as cognitive ones.



## Articulation Errors

**> 2 years**

Unable to pronounce all vowel sounds

**> 3 years**

Unable to pronounce p, b, m, w, h

The first speech consideration is articulation errors. Some articulation errors are expected and normal in toddlers. However, by 2 years of age, toddlers should correctly pronounce all vowel sounds and by 3 years of age, they should correctly pronounce: p, b, m, w, and h.

# Dysfluency



## Excessive stuttering

Occasional stuttering is normal in young children

Typically begins 2 - 5 yrs, sometimes 18 mos

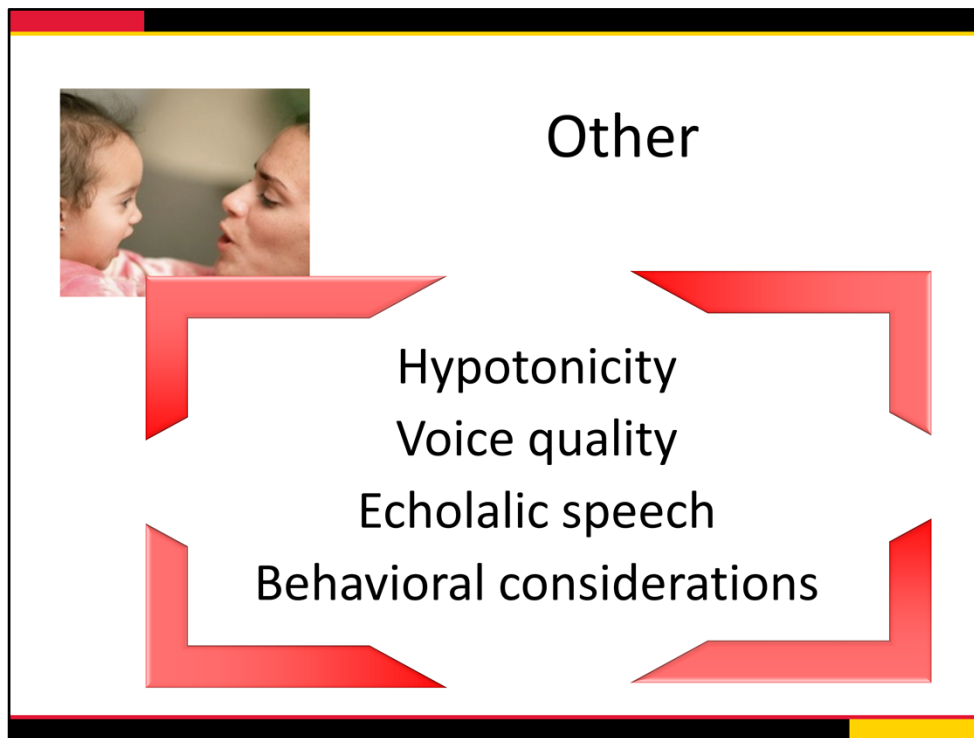
May begin gradually or suddenly

Comes & goes in cycles

If untreated, may become more severe over time

Dysfluency is another speech consideration. Dysfluency is excessive stuttering. Occasional stuttering is normal in young children. It typically begins between the ages of 2 and 5 years. Some children show signs of stuttering as young as 18 months. Many children go through a stage of development during which they repeat words and phrases, draw out sounds, or have other dysfluencies. In most cases, this "stuttering" is considered normal dysfluency. For some children however, seemingly normal dysfluencies are actually signs of early stuttering. Stuttering is a developmental speech disorder, beginning in early childhood. In about half of all cases it begins gradually over the course of many months. In the other half of cases the stuttering begins suddenly, within about two weeks. Early stuttering may not progress smoothly. Rather it comes and goes in cycles. Left untreated stuttering may become more severe over time.





There are four additional considerations when thinking about the quality of a child's speech. The first is hypotonicity. Low tone may result in atypical posturing of the mouth and drooling. This open mouth posture may make it difficult for the child to imitate sounds or imitate facial movements such as blowing a kiss or puffing out cheeks. The quality of a child's voice is a second consideration. A child's voice may be atypical if it is breathy, hoarse, nasal, or always too loud or too soft. A third consideration is echolalic speech. Echolalic speech involves immediate or delayed literal repetition of the speech of others in a non-meaningful manner. Finally, behavioral considerations include frequent hand clenching, eye blinking, body swaying, body or facial tension, tremors, inappropriate facial expressions, frustration, irregular breathing, avoidance of talking, or lack of gestures.



## **SOCIAL-EMOTIONAL CONSIDERATIONS**

Next, let's consider aspects of social-emotional development that may be atypical and warrant further assessment and/or services. Please note that atypical quality of social-emotional development may be observed any time and remember that family members have a lot to share.



## Atypical Emotional Development

**Difficulties with feelings:** sustained inconsolability, absence of smiles/joy, prolonged sadness/irritability, intense worry

**Issues with self-regulation:** excessive temper tantrums, frequent aggressive behavior aimed at others or self

Infants and toddlers with atypical emotional development have difficulty dealing with feelings and trouble with self-control. Difficulty with feelings and emotions may include, but is not limited to, sustained inconsolability when the infant is not sick and all needs (such as feeding and diapering) are met, absence of smiles or other signs of joy, prolonged sadness or irritability, and intense worry. Children with atypical self-regulation may have prolonged and excessive temper tantrums, exhibit frequent episodes of aggressive behaviors, such as hitting and screaming aimed at others, or hurt themselves.



## Atypical Social Skills

No, rare or unusual: eye contact, reciprocity, sharing enjoyment, joint attention, interest in others

Intense separation anxiety

Unusual fearfulness of people

Extreme shyness

Infants and toddlers with atypical social skills have difficulty interacting with others. The first area for consideration is eye contact; no eye contact or rare eye contact during activities with others is atypical. Unusual eye contact also warrants consideration as it is not typical for a child to, for instance, only stare intently out of the corner of their eyes without blinking. Absence of reciprocity, lack of sharing enjoyment or interests, problems with joint attention and apparent disinterest in parents or other children are also concerning atypical characteristics of social development. Other examples include intense separation anxiety, unusual fearfulness of people, and extreme shyness.



## **FEEDING CONSIDERATIONS**

Next, let's consider aspects of feeding that may be atypical and warrant further assessment and/or services.

## Not Orally Fed



Can become orally hypersensitive  
Muscles can set in atypical manner  
Important to provide positive oral motor  
experiences  
GI follow-up as a linkage service

Children who do not receive oral feeds can become orally hypersensitive and/or their oral-motor muscles can set in an atypical manner. It is important to provide these children with positive oral-motor experiences such as pacifiers and teethingers. Other pleasurable oral-motor experiences are ideal so the child does not become aversive or afraid. In addition, it's important that children with g-tubes receive routine follow-up from a gastrointestinal, GI, physician. This should be included as a linkage service on the IFSP.

## Positioning



**Body:** tilting to the side or leaning forward

**Head:** extending backwards or drooping forward

**Tongue:** retracting, thrusting forward, elevating, inability to lateralize

When looking at the quality of feeding, positioning is an important consideration. Look at the child's position in the highchair. Routinely tilting to the side or leaning forward when in a highchair is not typical; this may occur when a child has insufficient trunk tone for maintaining an upright, seated position. Next, look at the child's head. Holding the head extended backwards or allowing it to droop forward so that the chin rests on the chest is atypical; this atypical positioning of the head may be caused by poor head control resulting from hyper- or hypotonicity. Finally, look at the position of the child's tongue. It is not typical to see tongue retraction, thrusting, or elevation. Also look at how the child moves his tongue during the feeding; an inability to lateralize the tongue side-to-side is unusual. Any one of these atypical positioning characteristics may negatively impact feeding.

## Quantity of Intake



**Food aversion:** specific foods or textures

**Lack of interest:** picky eating, family dynamics, grazing

**Other:** difficulty biting or chewing, taking excessively long to chew or swallow, vomiting

The quantity of intake, or lack thereof, may be an indicator of atypical eating. A variety of reasons may contribute to the poor intake. One factor is food aversion; with food aversion, the child may gag or vomit with specific foods or textures. A lack of interest in eating may also contribute to poor intake. This may be secondary to picky eating. Some level of pickiness is to be expected in toddlers but excessive pickiness with strong taste or smell aversions is not typical. Family dynamics during mealtime may impact intake, as may continuous grazing instead of eating at designated mealtimes. Other contributing factors may include difficulty biting or chewing food, taking excessively long to chew or swallow food, or vomiting with or after feeds possibly due to reflux.





## **SENSORY CONSIDERATIONS**

Next, let's consider sensory aspects that may be atypical and warrant further assessment and/or services. When determining whether or not a sensory issue may be atypical, it is important to note that one concern by itself may not be an issue; however, if multiple concerns are seen or concerns persist over time, the issue may be problematic and warrants attention.

## Very Sensitive to Touch



Particular about clothes, bedding, tags

Aversive to textures or temperatures

Avoid being messy

Hate grooming activities

Constantly touch everything

Children who are very sensitive to touch may be particular about clothes, bedding or tags; refusing, for instance, to wear any items of clothing with a tag. These children may display aversive reactions to different textures or temperatures and avoid being messy or they may hate grooming activities, such as bath time, combing hair, cutting nails or brushing teeth. Some children, who are under sensitive to touch, seek contact instead of avoiding it and constantly touch everything.

## Extremely Distracted



**Sights & sounds:** unable to decipher what warrants attention or tune out everything, display unusual reaction or no reaction to unusual events

**Tastes & smells:** taste & smell everything, always keep something in mouth

Some children are extremely distracted by sights and sounds. They may be unable to decipher what is important and warrants attention or they may tune out everything; appearing not to hear although hearing tests are normal. Sometimes the presentation is subtler and the child displays unusual reaction to noises and sights or displays no reaction to highly unusual events. Other children are particularly preoccupied with tastes and smells. These children may taste and smell everything, even non-food items; some children may always keep something in their mouth.

## Unusual Pain Reaction



Doesn't appear to notice when hurt  
Screams and cries excessively when bumps  
into things or falls

Unusual reaction to pain may present in two ways: the child may not appear to notice when hurt, not crying after a fall or cut, or the child may scream and cry excessively when bumps into things or falls.

# Movement Concerns



**Seek movement:** jump, climb, fall, crash,  
constantly in motion

**Dislike movement:** aversion to swinging or  
bouncing, clumsy

Atypical concerns related to movement can be grouped into two categories: seeking movement and disliking movement. Movement seekers may frequently jump, climb, fall to the floor, and crash into things. These children are constantly in motion; they may be very fidgety or engage in repetitive movements, such as rocking, or they can literally move furniture around the house. Children who are fearful or dislike movement, may have an aversion to swinging or bouncing, or they may be very clumsy, bumping into things without seeming aware.

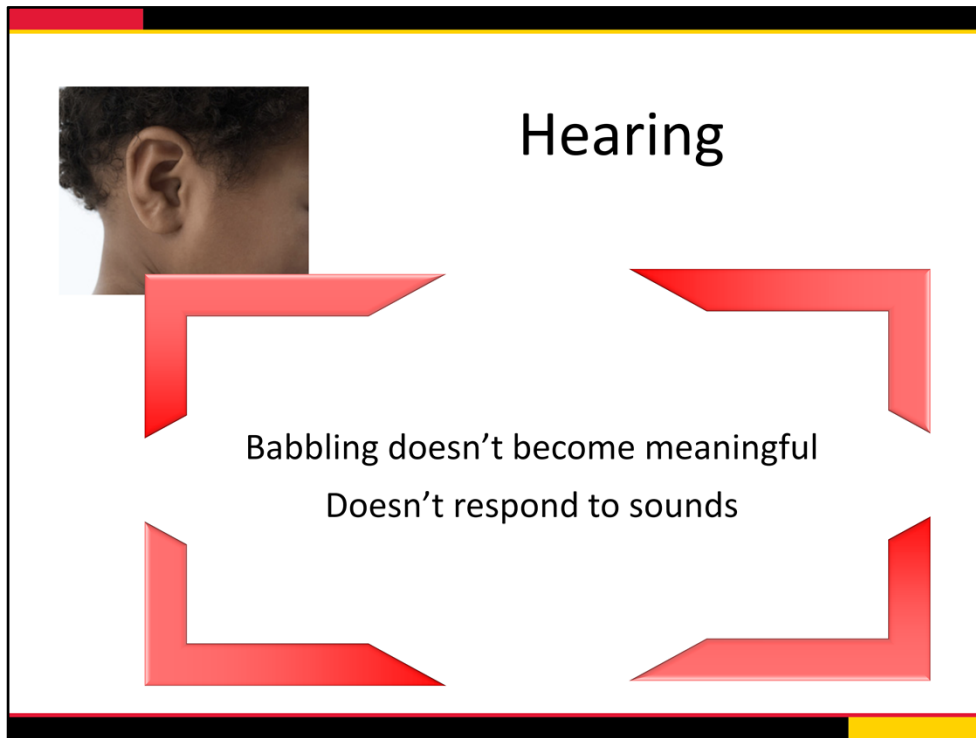


## **VISION & HEARING CONSIDERATIONS**

Next, let's consider aspects of vision and hearing that may be atypical and warrant further assessment and/or services. Please note that concerns related to vision and hearing can be observed across all domains of development.



Young children may need to see an ophthalmologist or optometrist if they squint or bring objects close to their eyes; this may be a sign of hyperopia or farsightedness and the child may benefit from glasses. Unusual head tilting or turning also warrants attention. This may be caused by strabismus or nystagmus. Strabismus is a misalignment of the eyes and nystagmus involves rapid back and forth eye movement as a result of the inability to fixate on objects. These children should also have their vision tested. When recommending vision testing by an ophthalmologist or an optometrist, include this as a linkage on the IFSP. Finally, color blindness may require modification to instruction.



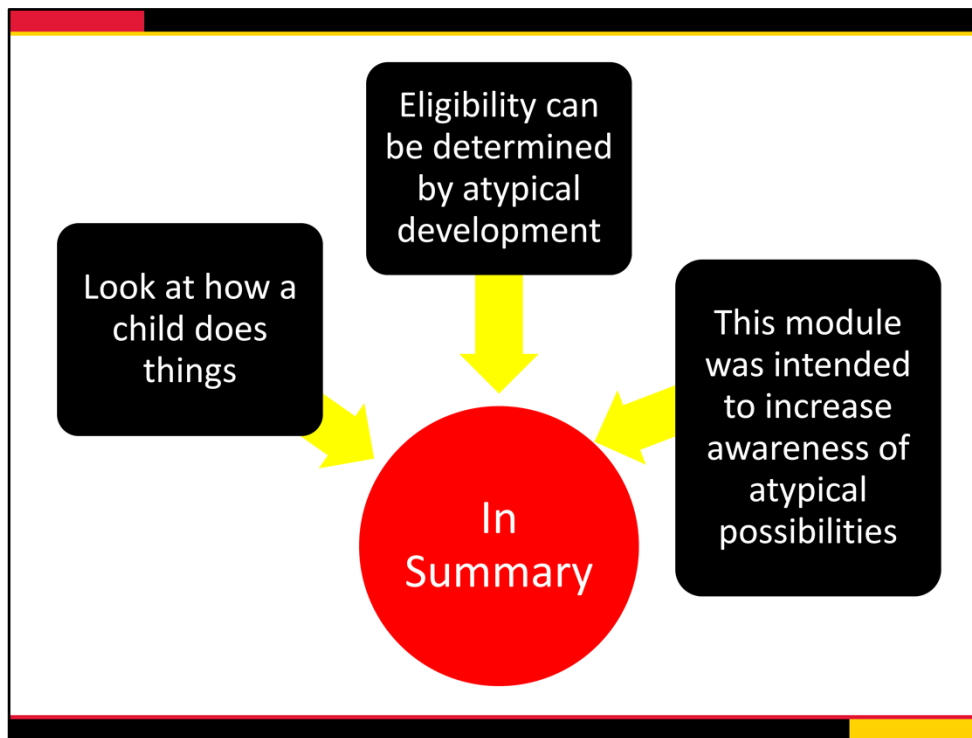
A child should have a hearing test if babbling doesn't become meaningful, as this may be an indicator of a hearing issue. A child should also have a hearing test if she doesn't respond to sounds, doesn't turn to sounds on both sides, doesn't awaken to loud noises, or doesn't startle to loud sounds. Depending on the situation, this may be added as an early intervention service or linkage on the IFSP.





## **CULTURAL INFLUENCES**

In addition to looking at the whole child, across domains, it is important to consider the child's culture and home environment because development can be influenced by both of these factors. For instance, limited eye contact may be a sign of respect and maintaining eye contact may be seen as an inappropriate way for children to interact with adults, responding only when spoken to first may also be viewed as a sign of respect, as may waiting for adult direction and making sure to ask permission before starting an activity. As such, it is important to remember that differences in behavior just described may not always indicate atypical development.



In summary, it's essential to look at how a child does things in addition to whether or not the child possesses a skill. Thoroughly observe how the child is doing things, looking at the child as a whole child and not by an isolated domain. The quality of development may be unusual in its presentation or pattern and adversely affect a child's overall development. Under these circumstances, the team can substantiate their clinical opinion with observations, interpretations of test results, review of records, and parent reports to determine eligibility based on atypical development. Therefore, it is important to refer children, with consistent atypical characteristics of development, for further evaluation by the appropriate early intervention or medical specialist. In this module we explored a variety of atypical aspects of development that may warrant referral for evaluation and/or early intervention services. It is essential to remember that this presentation was not all inclusive, rather it was intended to increase your awareness of the possibilities. If you observe anything that may be atypical, discuss a referral for evaluation with the family. When making a referral for evaluation, describe your concern and note that it is an evaluation of quality versus milestone attainment.