



TSR Rehab &lt;technicallyslp@gmail.com&gt;

---

**GB Early Intervention Resource Guide**

3 messages

---

**Wende Hanna** <eslbusiness@coralwave.com>  
To: TECHNically Speaking <technicallyslp@gmail.com>

Tue, Nov 26, 2013 at 9:55 AM

Hi Dr. Johnson,

I believe I would have mentioned to you briefly that the GB Down Syndrome Society is producing an Early Intervention Resource Guide. Would you be willing to be a contributor in the Speech, Hearing & Communication section? I can forward to you the specific areas we would need you to address.

Thanks,

Wende

---

**TECHnically Speaking** <technicallyslp@gmail.com>  
To: Wende Hanna <eslbusiness@coralwave.com>

Tue, Nov 26, 2013 at 10:02 AM

Good Morning,

I would be honored to be a part of this resource guide. Please forward me all information and the dates you need the information by.

Shameka Johnson, Ph.D., CCC-SLP  
Owner/Founder  
Augmentative and Alternative Communication/Severe Disabilities in Multicultural Populations

[Quoted text hidden]

---

**Wende Hanna** <eslbusiness@coralwave.com>  
To: TECHNically Speaking <technicallyslp@gmail.com>

Wed, Dec 11, 2013 at 9:37 AM

Thank you Dr. Johnson,

Your help is greatly appreciated. I am hoping that your submission would include the following:

- 1) Speech milestones that your infant should be meeting, and how a parent can recognize/detect if their child has a speech/communication problem
- 2) Techniques the parents can use at home that can assist the child with speech/communication

- 3) How different conditions present themselves with respect to speech/communication
- 4) Testing that can be done regarding speech for this area
- 5) Treatment options

I am hoping to receive your submission by Christmas.

Thanks and I look forward to meeting with you next week.

Wende

**From:** TECHnically Speaking [mailto:[technicalslp@gmail.com](mailto:technicalslp@gmail.com)]

**Sent:** Tuesday, November 26, 2013 10:03 AM

**To:** Wende Hanna

**Subject:** Re: GB Early Intervention Resource Guide

[Quoted text hidden]

From: [TheBahamasWeekly.com](http://TheBahamasWeekly.com)

**BAHAMAS INFORMATION SERVICES UPDATES**  
**Grand Bahama Early Intervention Resources Guide Released**  
Mar 24, 2014 - 10:48:40 AM

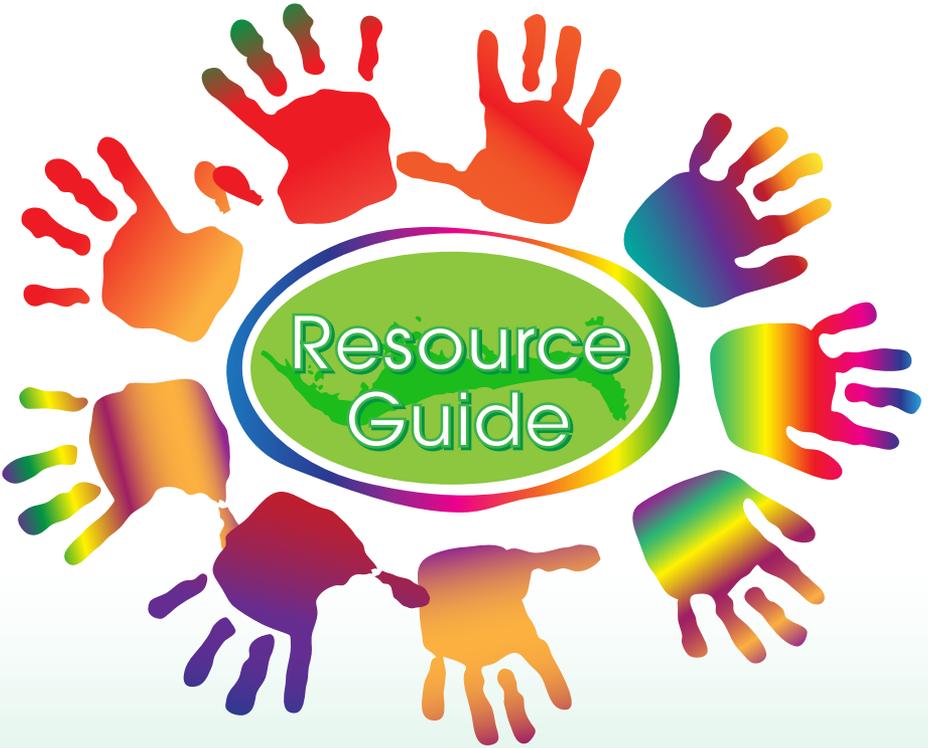


Freeport, Grand Bahama - Minister for Grand Bahama, the Honourable Dr. Michael Darville accepts the first catalogue of Grand Bahama Early Intervention Resources Guide for Children with Special Needs, March 21, 2014. Pictured from left making the presentation: Cheryl Hurst, Andrea Beckles, Uzlene Nesbitt, Wendi Hanna, Dr. Darville, Senator Tanisha Tynes and Charmaine Adderley.

© Copyright 2014 by thebahamasweekly.com -

March 2014

# Grand Bahama Early Intervention



For Children  
With Special Needs

A publication of the



# ***Foreword***

By Ms. Cheryl Wood, Former Principal of the Beacon School

## **Advocate and Educator- Special Needs**

The underlying premise of early intervention strategies for children with special needs is predicated upon the necessity of proper early identification policies. There should be a concerted effort from all relevant stakeholders to recognize and advocate for the appropriate identification of children who may be potentially at risk whether it is a cognitive need, affective issue or a psychomotor challenge.

Mothers and fathers, as the first and primary caregivers of their children, need to be cognizant of developmental milestones for children. If there are other siblings in the family, then parents have a good measuring stick to determine the progress of their special needs child. It is important that parents fulfill their parental obligations of taking children for routine checkups and the mandated immunizations. In this way health care professionals will be able to resolve with greater efficiency if they need to intervene specifically for a child.

Health care professionals, particularly family physicians or general practitioners, must be savvy about growth patterns for very young children. In this way, they will be able to advise parents on what are the most immediate steps to be taken if there is a suspicion of a disability. There is no need to adopt a wait and see attitude to ascertain what must be done to intervene as quickly as possible for the child with a special need. Technology has made it possible to determine from birth, whether or not a child may be at

risk for hearing impairments, visual disorders, psychomotor issues or cognitive delays.

Similarly, operators of early childhood programs-preschools, kindergarten programs - must be astute and diligent in recognizing a child who may have a special need. They may call upon their teaching skills and appropriate observations techniques of children who have achieved developmental milestones in the normal fashion as compared to students who have a challenge. Vigilant educators will be able to make recommendations to parents so that children may get assistance as expeditiously as possible.

Children with developmental delays are already more disadvantaged than the child who develops normally, so early identification and early intervention strategies become crucial to minimize any further loss a special needs child may experience. Early intervention means that the caregivers of a child with a psychomotor issue may begin training with the child when he/she is a toddler, rather than waiting for some other nebulous, undefined time period. It also means that the child who has a hearing impairment may be fitted with hearing aids, learn how to communicate using sign language or speech therapy at an early age. Early Interventions means that the child who is visually impaired may begin mobility and orientation training as soon as he is diagnosed as having that disability. Early Intervention is not only crucial it is powerful for the child with special needs.

# Chapter 1

## Recognition and Diagnosis

### Table of Contents

Recognition and Diagnosis.....	Page 5
Gross Motor Skills.....	Page 16
Fine Motor Skills .....	Page 37
Speech, Hearing & Communication .....	Page 43
Cognitive Development & Early Childhood Education.....	Page 57
Social Development .....	Page 63
Acceptance and Coping .....	Page 67
Recognition of Contributors.....	Page 75
Recognition of Patrons.....	Page 76

The nervous system is the most important organ in the body that is intricately tied to all other organs. It allows an individual to adapt and respond to the various changes that continually occur inside and outside the body.

Child development is a dynamic, fluid process beginning with the evolution of the nervous system in the fetal period and proceeding in an orderly and predictable manner. It is subdivided into several streams of development centered on functional skills that can be measured and compared over time:

1. Gross Motor
2. Fine Motor
3. Language
4. Social and Adaptive
5. Cognition/Intelligence

Developmental delay can affect any of these streams and can occur as a result of many different disorders affecting a child either in the womb or during early life.

Although we all develop at different speeds, there are milestones that parents eagerly look for to reassure themselves that a child is developing normally. This information is passed down generations from parents to children and documented in every society as the normal standards/average that every child should achieve.

We often hear from family, friends or health care providers that a child will:

- Lift head when lying on tummy at 1 month
- Rolls over at 3 months (back to front and front to back)
- Sits up unassisted at 6 months
- Pulls to a stand unassisted at 10 months
- Walks unassisted at 12 months
- Coos at 3-5 months
- Babbles at 5-7 months
- Bi-syllabic speech (Mama, Dada) at 12 months
- Speaks in 2 word sentences at 24 months and has 50-100 words vocabulary

However when the time passes and these milestones have not been acquired it means that development may not proceed at a normal pace. This raises the anxiety level and the dilemma of wait and see versus seeking help early can be nerve wrecking to most parents.

### Patterns of Abnormal Development

In developmental disorders, the timing, order, or sequence of the acquisition of specific readily recognizable skills, commonly referred to as milestones, is

disturbed. The assessment of abnormal development employs the principles of delay, deviance, dissociation, and regression (Accardo et al 2008).

1. Developmental delay describes a slower rate of development, that is, when a child attains milestones in the typical sequence but at a delayed rate;
2. Deviance occurs when a child acquires milestones out of the usual sequence within a single stream of development. For example, a child who crawls before sitting unsupported demonstrates deviant gross motor skills.
3. Dissociation describes differing rates of development across the 5 streams of function. For example, a child with intellectual disability may have a delay in speaking skills but walk independently at a typical age.
4. Regression is the least common pattern of abnormal development but is the most concerning. It is defined by a loss of developmental skills and may be evident with a progressive slowing in a child's rate of development. It suggests a progressive neurologic or metabolic deterioration.

Developmental delay does not automatically mean disability, as early identification and aggressive goal directed intervention can result in normal functioning. Developmental disability has become an emerging health concern, but has not been receiving adequate attention in the Bahamas. Other countries like Canada and the US have recognized this issue.

Developmental disabilities are a heterogeneous group of related early-onset chronic disorders that share the essential feature of a predominant disturbance in the acquisition of cognitive, motor, language, or social skills, which has a significant and continuing impact on the developmental progress of children (APA, 1994).

There is no greater joy than the birth of a healthy child and no greater fear than when parents first realize that there may be something wrong with their child's development. This is followed by the stages of our typical grief reaction:

- **Denial (No! No! Definitely not my child!)**
- **Anger (Directed at everyone including yourself)**
- **Despair (Why? Why me? Why us?)**
- **Acceptance**

Parents are typically the first individuals to recognize problems with a child's development but many remain in denial, hoping that they will be proven wrong. I say to all parents trust your gut feeling and have it checked out promptly. Report to your health care provider, it is better to be safe than sorry. The early years of a child are the years of greatest learning potential, hence early identification and intervention result in better outcomes. As a back-up, primary health care providers utilize healthy baby visits as opportunities to evaluate and monitor a child's development.

### **Evaluation principles:**

A child's development is evaluated in several health

care paradigms using differing methods.

**Developmental surveillance.** Developmental surveillance is the traditional process used in pediatric primary care for the recognition of children who may be at increased risk of a developmental disorder. History and examination obtained at each clinic visit may raise the suspicion for developmental delay. The child is then referred for formal developmental evaluation.

**Developmental screening.** Developmental screening is a more formal procedure, performed on all children at discrete times during the course of preventive health care. A child may be assigned a risk category, with those in the lower categories typically requiring more frequent surveillance or screening, whereas those at highest risk requiring more detailed developmental and medical testing.

**Developmental evaluation.** Developmental assessment is a more complex process aimed at identifying specific developmental disorders. It is comprised of developmental testing and developmental quotient (DQ) calculations.

Developmental disorders present to professionals at varying points in time, depending on the affected stream of development and the severity of the delay:

1. Sensory impairments are typically identifiable during the first year of life.
  - a. The vision-impaired child will fail to fix and follow objects by 3 months of age.
  - b. The hearing-impaired child who is not identified during newborn hearing screening can be

recognized with lack of response to sound or turning to voice during the first 6 months or through absence of saying “mama” or “dada.”

2. Children with severe motor disabilities typically present with absence of rolling or sitting. When mild, the toddler may have a delay in onset of independent walking or deviant toe-walking.
3. The child with a communication disorder, including autism, or an intellectual disorder may present to the physician as early as 18 months with absence of early vocabulary development, interest in others, use or response to name or pointing, imitation, or following of simple verbal requests.
4. Others with communication or intellectual disabilities may present between ages 2 to 3 years, when vocabulary fails to grow, short sentences are not formed, or verbal requests cannot be followed.

Although we will invariably identify the developmental delay as a child gets older and there is a greater expectation of function, many times we cannot answer the question “What is the underlying cause?” It is imperative that we try to identify the exact underlying cause as it may:

- Assist in making treatment decisions,
- Allow for specific anticipatory guidance
- Provide idea about long-term prognosis, and
- Provide recurrence-risk information for family planning.

However, it should be understood that an exact ae-

tiology may never be identified but just as important or even more critical is “What can be done to improve outcome?”

It is estimated that 40% to 60% of children with developmental delay will have a cause identified through history, physical, or laboratory examination, with most children in the moderate to severe range of impairment or delay (Flint 1996; Curry 1997).

### Diagnostic Investigations:

A detailed history and comprehensive examination are essential for accurate diagnosis and appropriate treatment and should either confirm or negate clinical diagnosis.

#### *Evaluation for developmental delay can include:*

- Laboratory testing such as:
  - genetic testing (e.g. chromosomes for Down’s Syndrome)
  - blood or urine testing for inborn errors of metabolism such as phenylketonuria is important because they are potentially treatable (van Karnebeek et al 2012).
- Neuroimaging (such as MRI, CAT scans and ultrasounds) - Should be considered when examination reveals significant motor findings or suggests structural defects or abnormal head growth.
- Neurophysiological Testing include:

- An electroencephalogram (EEG) which is recommended with suspicion of seizure activity.
- Visual Evoked Potential (VEP) which is recommended if child is not focusing or has visual impairment especially in the absence of structural eye abnormalities.
- Hearing evaluations are mandatory with suspicion of Speech & Language Delays and include:
  - Otoacoustic Auditory Emission (OAE) which is screening test that is recommended for all newborns.
  - Brainstem Auditory Evoked Response (BAER) which should be performed on children if a formal hearing test cannot be done or in the cases of infants when the OAE screen is abnormal.

EMG/NCS (electromyogram/nerve conduction studies) is recommended with suspicion of motor delay due to muscle disease or hypotonia (floppiness) secondary to peripheral nerve involvement.

### **Bahamian Experience:**

While the exact prevalence rate of developmental disabilities in the Bahamas is currently not available, compared to other developing countries, such as the USA and Canada, extrapolation leads us to estimate that 10% of all children under the age of 15 years have some form of developmental delay. Data from Princess

Margaret Hospitalís PENNDARS (Pediatric Neurology, Neurodevelopmental and Rehabilitation Services) program gave some insight into the extent of problems faced by children at risk for or with developmental delay.

Between August 2001 and 2011 over 1000 children were screened, of which more than 50% required therapeutic intervention in two or more domains. Like most countries, we understood that our limited resources could not match the demand and so the most effective strategy was to incorporate the parents into the interdisciplinary team (educating them and teaching them to provide the necessary therapies). The amount of family participation has a direct correlation to and is the main determinant of outcome measures.

The combined experience of PENNDARS and Private Neurology Practice highlights that we are just seeing the tip of the iceberg. Considering the census reported the population size to be 350 thousand plus (one third being children), this means an estimated 10 thousand children with developmental delay will require intervention for many years.

In the face of our daunting tasks, an integrated approach with collaboration and partnership between parents, health care providers, schools, government entities and non-governmental organizations (NGOs) is the only way that innovative, creative, affordable and cost-effective solutions can be provided, given the limited resources and unique geographical challenges (700 islands and cays) of The Bahamas.

I will end by reminding you that there is always hope and that through prayers, commitment and hard work, we will get through the grief reaction. Once you as

parents accept that the child has a delay then we can finally:

**1. Roll up our sleeves and get to it! - The work that is awaiting.**

**2. Combine efforts to help the children reach their maximal potential!**

---

Dr. Edwin Demeritte

Pediatric Neurologist / Neurophysiologist

Bahamas Neurological Center

### **A Parent's Insight**

*“As mothers we often know when something is not right with our children, even if it is the first child; mother's instinct or some other type of natural insight. Often times with Autism, parents are the first to suspect something is not quite normal even if we don't admit it to other persons. If you suspect your child's behaviour or development is not on par with peers their age, inquire further. A few simple questions to the child's babysitter or preschool can be the first level of screening. Preschools are often hesitant to tell parents what they suspect may be a case of autism/developmental delay. In my son's case the development of his younger sister who was close in age to him, highlighted his halt in development. The two children's speech started to sound alike although he was a year*

*and a half older. This initial observation led my husband and I to determine further what might be wrong. A series of tests is usually needed. Delays in development of speech can be caused by more than one issue. All delays are not a result of Autism.*

*Our son's hearing was one of the first things checked. We also made inquiries to doctors about their observation of him and their view of his behaviour and development. We were unable to come to a firm diagnosis quickly. The process involved having him first assessed by a speech therapist, then a paediatric neurologist and finally by a psychologist from the Ministry of Education. By the age of three we had confirmed a diagnosis of pervasive developmental disorder which is a disorder on the Autism spectrum. As autism is a complex neurological disorder, the path to its diagnosis may also be complex involving several professionals. While the diagnosis may be devastating to some parents, it is also helpful to quickly diagnose so that the appropriate intervention can be implemented. Early intervention allows the child to get the help they need right away. The intervention will require an array of therapy: speech, occupational, physical, behavioural, dietary and possibly medical interventions. Autism does not disappear because we are embarrassed and fail to react. It is also not a condition caused by parents. Parents must stop wasting valuable time worrying about what they could have done and quickly move to act to help improve their child's condition. Autism affects children from all types of households: wealthy, poor, educated, uneducated.”*

# Chapter 2

## Gross Motor Skills

Gross motor development involves full body movements of the trunk and legs, culminating in independent walking, running, and climbing.

As children grow and develop, various physical and developmental milestones will be reached at each age level. No two children are alike. Children will differ in their growth patterns and in the way they interact with and respond to their environment.

When an infant is developmentally delayed or has neurological impairments, motor skills are oftentimes delayed and may not develop easily. The speed at which the infant masters skills will depend on his ability to develop balance, coordination and postural control needed to move his body in space.

As the infant grows, he will want to reach out and explore his surroundings. This provides the motivation necessary to promote the development of gross motor skills.

If an infant's ability to see or hear is affected, or there are medical conditions that have an effect on his general motor functioning, the infant will have problems progressing in the normal developmental patterns.

Each developmental level builds on a previously developed skill. An infant will experiment with many different movements at the same time.

Playing with your baby and making it possible for him to move around in his environment is very helpful in his development.

Motor skill development involves both the large and small muscles of the body. A significant amount of growth takes place in the first two years of life. There is a rapid increase in strength, co-ordination and physical growth during this period.

Typically, development starts from the head and moves down the body. This means that the first set of skills that the baby needs to develop involves the muscles that control his ability to support his head and neck.

Those controlling the trunk and his arms are next in developing. This allows him to be able to reach out and explore his environment.

Muscle control for walking is usually the last to develop.

## RED FLAGS

Listed below are some motor challenges that an infant may experience. These can alert a parent that the infant may be at risk for developmental problems or is already having problems.

For each set of skills, an age is given as a guideline. A parent with any concern regarding a child's development is cautioned to seek the advice of a medical doctor.

AGE	GROSS MOTOR SKILLS RED FLAGS
Birth	<ul style="list-style-type: none"> <li>• Head always positioned to one side.</li> <li>• Unable to clear nose/face when placed on tummy.</li> <li>• Unable to open hands/hands fisted.</li> <li>• Exaggerated arching of the back (bending backwards)</li> </ul>
One month	<ul style="list-style-type: none"> <li>• Unable to open / close hands</li> <li>• Limited movements of arms or legs.</li> <li>• Absence of reciprocal movement of limbs</li> </ul>
Two to three months	<ul style="list-style-type: none"> <li>• Unable to hold head in mid-line when pulled into the sitting position</li> <li>• Arching of the back</li> <li>• No effort to roll</li> <li>• Head always turned to one side</li> <li>• Feels floppy or stiff</li> </ul>
Four to five months	<ul style="list-style-type: none"> <li>• Unable to stretch arms out or bring them to midline</li> <li>• Unable to hold head in middle when held in sitting</li> <li>• No effort to remain upright when placed in supported sitting</li> <li>• No attempt to roll</li> <li>• Does not push up on arms when placed on tummy</li> </ul>
Six to seven months	<ul style="list-style-type: none"> <li>• Unable to position head in midline when lying on back or in sitting</li> <li>• Cannot sit with hands for support</li> <li>• Not rolling</li> <li>• Not pushing up on hands when on tummy</li> <li>• Does not bear weight on feet when held upright</li> </ul>

AGE	GROSS MOTOR SKILLS RED FLAGS
Eight to nine months	<ul style="list-style-type: none"> <li>• Cannot sit independently</li> <li>• No head control</li> <li>• Feels floppy</li> <li>• Feels stiff when limbs are moved</li> <li>• Does not reach out for/or play with toys</li> <li>• Cannot creep or crawl</li> </ul>
Ten to twelve months	<ul style="list-style-type: none"> <li>• Not sitting independently by age 10 months</li> <li>• Unable to change position from lying to sitting to kneeling to standing</li> <li>• Trunk and limbs stiff</li> <li>• Extremely poor balance</li> <li>• No hand function</li> </ul>
Other Signs	<ul style="list-style-type: none"> <li>• Walking with hands held up and close to the body</li> <li>• Only walking on toes; feet never flat</li> <li>• Frequent falling</li> <li>• Unusual creeping patterns</li> <li>• Any known medical diagnosis e.g.: Down syndrome, Cerebral Palsy, visual impairment, seizure disorder.</li> </ul>

The following chart serves as a general guideline of motor development for a variety of skills. Parents should remember that although no two children are alike; there is an age range within which skills are expected to be mastered.

DEVELOPMENT CHART		
Motor Skill	Average Age Achieved	Age Range (90% Infants)
Head erect & steady when held upright	6 weeks	3 weeks-4 months
Lifts self by arms when tummy	2 months	3 weeks-4 months
Rolls from side to back	2 months	3 weeks-5 months
Grasps cube	3 months, 3 weeks	2-7 months
Rolls from back to side	4 months	2-7 months
Sits alone	7 months	5-9 months
Crawls	7 months	5-11 months
Pulls to stand	8 months	5-12 months
Plays Pat-a-cake	9 months, 3 weeks	7-15 months
Stands alone	11 months	9-16 months
Walks alone	11 months, 3 weeks	9-17 months
Builds tower of 2 cubes	13 months, 3 weeks	10-19 months
Scribbles vigorously	14 months	10-21 months
Walks up stairs with help	16 months	12-23 months
Jumps in place	23 months, 2 weeks	17-30 months

## Activities for promoting gross motor skill development

### Head Control

Head control is the first movement that a baby achieves. This is important for the development of other skills such as sitting, crawling and walking. The development of head control requires strength and co-ordination of the muscles which flex (bend) and extend (straighten) the neck.

A baby will develop head control in three positions: prone (on tummy), supine (on back) and in sitting. A baby can be motivated to lift the head to look at an object, to locate a sound or to focus on an adult's face.

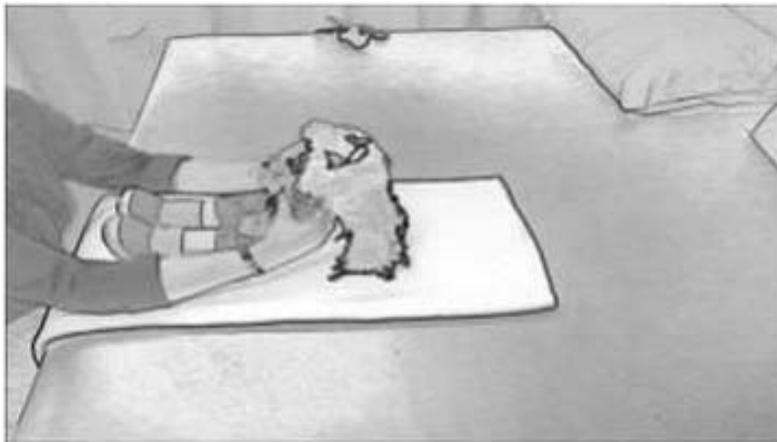
### Developing head Control

#### *Supine (on back)*

(a) One way of encouraging the development of head control in an infant is to place the baby on the back facing you. Place both your hands behind her shoulders, giving only enough support to prevent his head from falling backwards.



(b) Slowly raise him up towards you as if you are sitting him up. Then slowly lower him again. As you are lifting him, the muscles of the neck will become active in holding his head steady.



(c) When he gets stronger, you can then try the activity by holding both his hands and gently pull him into the sitting position.

2. Encourage the baby to focus his eyes in the middle

by using a flashlight or brightly colored object. Slowly move the light/object from side to side allowing the baby to turn his head as he looks at the object.

3. If your baby tends to keep his head turned to one side, make an effort to feed or play with him from the opposite side. This will encourage him to turn his head in both directions.

### Prone (on tummy)

1. One of the best ways to strengthen baby's neck muscles is to lay him on his tummy for "tummy time." Extend baby's arms in front of him and place a rolled-up towel or blanket under his chest to prop him up. Getting down to his eye level or putting a toy in front of him so he has something interesting to gaze at helps provide motivation. Gradually increase the amount of tummy time as baby gets older and his neck and shoulders get stronger.



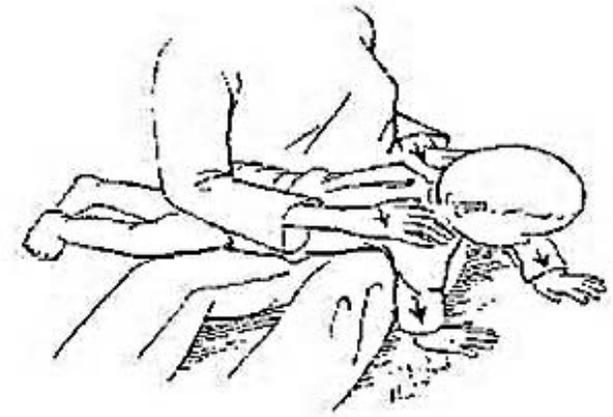
2. Lay the baby on your tummy. Call him by name so that he has to lift his head to see you.



3. Position yourself directly in front of your baby. Blow bubbles near him so he can watch them move.



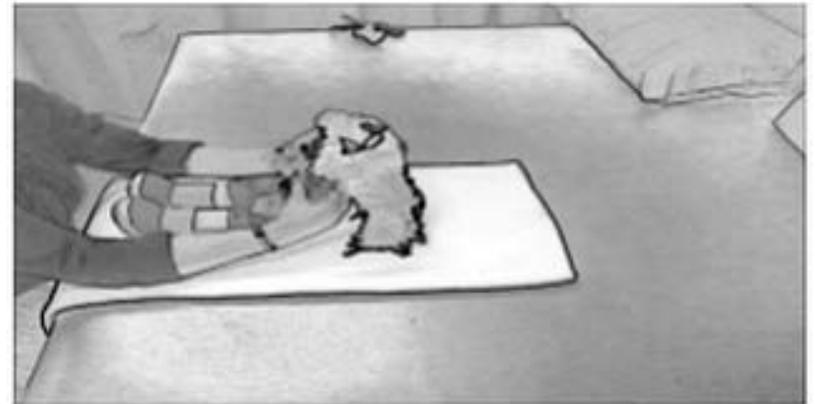
4. Place infant across your lap with his hands resting on the floor. Place a mirror or toy in front of him and encourage him to lift his head to see himself or the toy.



### Sitting

1. Sit your baby facing you. Place your hands behind her shoulders and gently move her from side to side. Also bring her forward and backward.

**Do the activity slowly, giving her time to respond.**



Simply exercising the neck muscles by turning the head also helps strengthen them. Hold your baby in front of you and show him a toy or other object of interest on alternating sides to entice him to turn his head.

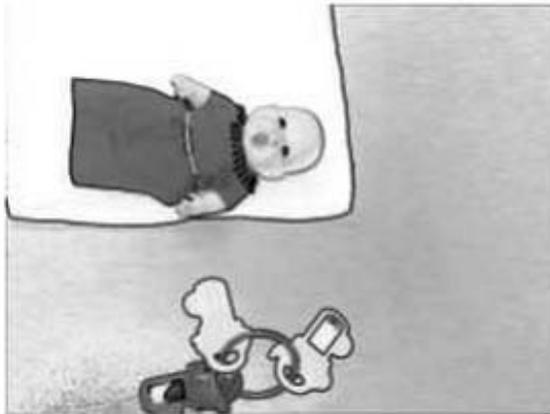
## ROLLING

The first movement that allows a baby to change his position is rolling. This movement requires some amount of head control along with rotation of the trunk.

An infant who is 'stiff' will have problems coordinating the movements necessary to roll, while the infant who is floppy or weak will have problems beginning the movements.

Babies usually require some motivation to move.

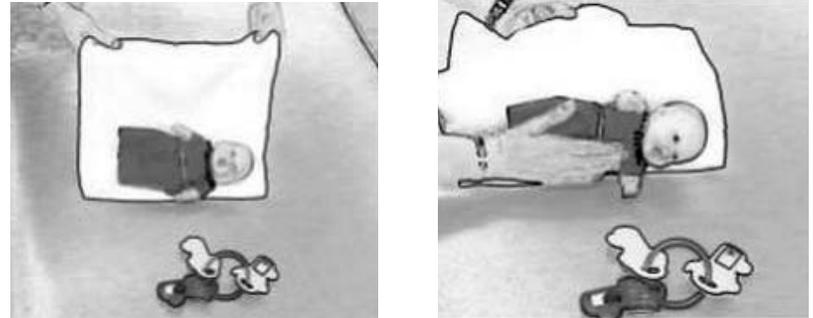
### Teaching Your Baby to Roll Over



(a) Place a blanket on the floor and position your baby on her back along one edge of the blanket. If she can't hold her head up she's likely not ready to roll over.

(b) Shake a toy and play with it before putting it on the floor just out of your baby's reach. Watch to see if your baby tries to reach for the toy. She may stick her arm out but does not move.

(c) Gather the other side of the blanket in your hand. As your baby attempts to reach for the toy, lift the edge of the blanket so your baby is slightly turned towards the toy. If she seems scared or becomes upset, gently lower the blanket and console her. *You want to make sure that rolling over is a pleasant experience for your baby.*



(d) Lift the edge of the blanket again carefully. Place one hand on her belly. Gently roll her on to her tummy. Make sure that the toy is well within reach and she's able to realize that rolling over allowed her to reach the toy. Roll her to her tummy time each day until she becomes comfortable with rolling over on her own.

2. Place your baby on her back. Gently rotate her by lifting one hip to cross the body. This will slowly rotate her body to mimic the movement she should do when she rolls over on her own from back to front.



## Range of motion exercises

Range of motion exercises involves moving the joints of the body through their full and available range. The bones of the body are connected by tendons, ligaments and muscles. When we move joints, these structures are also stretched and remain easy to move.

Many infants may develop tightness in some muscles, making it difficult for joints to move. If we do not provide the necessary exercises to these joints and muscles, then the child will have difficulty moving.

Range of motion exercises should be done daily and can be included as part of the routine care of the child during bathing, feeding dressing and playing with the infant.

### 1. Shoulder Flexion

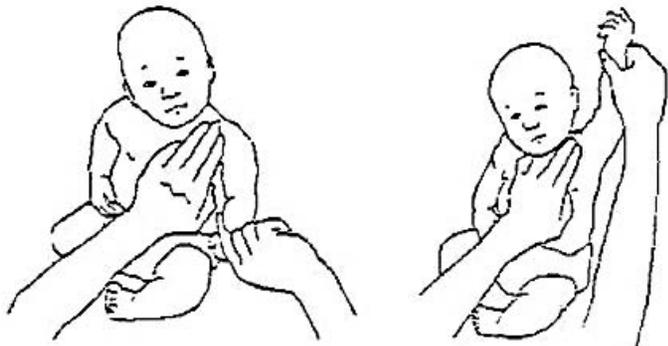
Place child lying on back.

#### Hand Placement

Place one hand at the top of the shoulder so that it doesn't come up. Hold the wrist with the other hand.

#### Motion

Lift the arm up so that the hand goes over the head. Keep the elbow straight.



### 2. Shoulder adduction

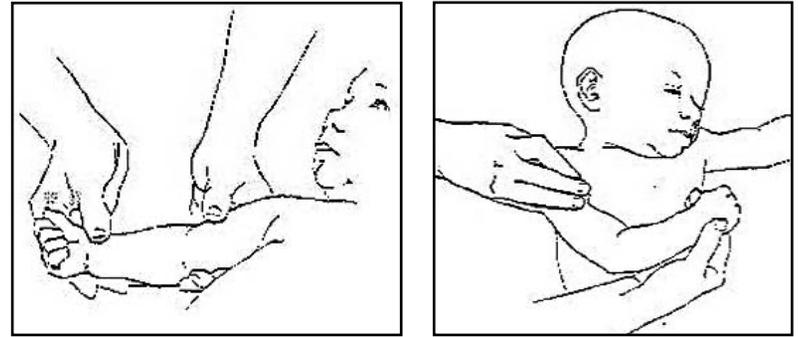
Lay child on his back, arm away from body.

#### Hand Placement

Place one hand at the shoulder. Hold the wrist with the other hand.

#### Movement

Bend the arm across the body toward the other arm.



### 3. Shoulder abduction

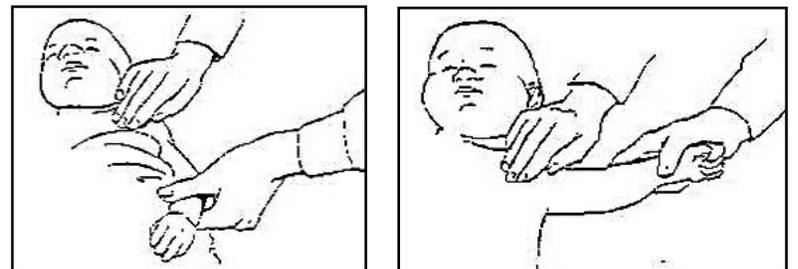
Place child lying on back.

#### Head Placement

Stabilize the shoulder of one so it doesn't come up. Hold forearm with the other hand.

#### Motion

Lift the arm sideways away from the body. Bring the arm straight out to the side.



#### 4. Elbow Flexion and Extension

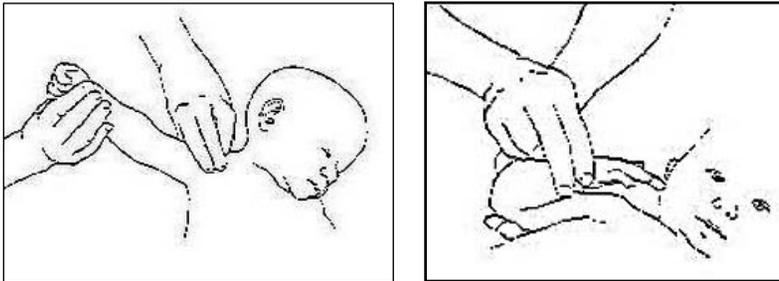
Lay child on back, elbow straight, arm away from body.

##### Hand Placement

Place one hand at the elbow. Hold wrist with other hand.

##### Motion

Gently bend the elbow, and then straighten.



#### Range of Motion Exercise for legs

##### Hip flexion

1. With baby on his back, put one hand on baby's upper leg and the other hand on the sides of baby's foot. Start with the leg out straight.



2. Bend the knee up toward the belly and hold.

3. Then straighten the leg.

#### Knee flexion and extension

1. With baby on his back, put one hand on baby's upper leg and the other hand on baby's foot. Start with leg straight, holding the upper leg still.



2. Hold the foot up and slowly bend the knee towards the body and hold.

3. Then straighten the knee back out. Hold and then repeat.

#### Ankle plantar flexion

1. With baby on his back, put one hand on the upper leg and the other hand on the foot.

2. Use the hand on the upper leg to hold the leg still and gently bend the ankle down and hold for 3 seconds. Then return to the starting position. Repeat.



## Ankle dorsiflexion

1. With baby on his back, put one hand on upper leg and grasp baby's heel with the other hand. Start with leg out straight.

2. Use the hand on the upper leg to hold the leg still and bend the ankle up so that the toes move toward the knee. Hold for 3 seconds and return to the starting position.



### For the infant with hypotonia

1. Give the baby lots of tummy time to stimulate head lift and movement.
2. Place baby on a towel or blanket on the floor and pull up the sides gently in order to stimulate the child into developing muscle contractions necessary for balance.
3. Place a small beanbag on a hand or foot and help the baby to raise that limb.
4. Bounce the baby on a large rubber ball while supported in a sitting position. Be careful to hold the baby firmly!

Remember to always firmly support the child by holding on to the torso, not the arms.

Always keep these sessions short and fun for both you and baby.

Remember to always be safe.

## A Parent's checklist

There is reason for concern if child fails 1 or more milestones.

### Gross Motor Skill Milestones for Infants

	Yes	No
<b>0 - 3 Months</b>		
Lifts head when on tummy	<input type="checkbox"/>	<input type="checkbox"/>
Holds head in middle in supported sitting	<input type="checkbox"/>	<input type="checkbox"/>
Kicks feet when on back	<input type="checkbox"/>	<input type="checkbox"/>
Brings hands and fingers to mouth	<input type="checkbox"/>	<input type="checkbox"/>
<b>3 - 6 Months</b>		
Plays with feet and brings feet to mouth when on back	<input type="checkbox"/>	<input type="checkbox"/>
Begins to roll over	<input type="checkbox"/>	<input type="checkbox"/>
Begins to sit with support	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No
<b>6-9 Months</b>		
Rolls easily, using rotation	<input type="checkbox"/>	<input type="checkbox"/>
Sits and plays with toys	<input type="checkbox"/>	<input type="checkbox"/>
Begins to crawl on hands and knees	<input type="checkbox"/>	<input type="checkbox"/>
Moves from lying down to sitting up	<input type="checkbox"/>	<input type="checkbox"/>
Begins to pull to stand on furniture	<input type="checkbox"/>	<input type="checkbox"/>

**9-12 Months**

Pivots in sitting to reach a toy behind	<input type="checkbox"/>	<input type="checkbox"/>
Moves from standing holding on to sitting	<input type="checkbox"/>	<input type="checkbox"/>
Cruises or walks sideways along furniture	<input type="checkbox"/>	<input type="checkbox"/>
May stand without support	<input type="checkbox"/>	<input type="checkbox"/>

**12-15 Months**

Sustained standing without support	<input type="checkbox"/>	<input type="checkbox"/>
Independent walking	<input type="checkbox"/>	<input type="checkbox"/>
Stoops to pick up a toy and returns to stand	<input type="checkbox"/>	<input type="checkbox"/>
Begins to play while squatting	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No
<b>15-18 Months</b>		
Carries or pushes a toy when walking	<input type="checkbox"/>	<input type="checkbox"/>
Creeps down steps on hands and knees	<input type="checkbox"/>	<input type="checkbox"/>
Climbs up steps using the railing	<input type="checkbox"/>	<input type="checkbox"/>
Takes a few backward or sideways steps	<input type="checkbox"/>	<input type="checkbox"/>
Begins to run, but not well-coordinated	<input type="checkbox"/>	<input type="checkbox"/>

*Adapted from Rady Children's Hospital, San Diego*

**Local Resources**

If you are looking for a Physical Therapist who can assist you in developing your child's gross motor skills, contact the following:

**Grand Bahama Health Services**

Physiotherapy Department 350-6700

**Wholistic Health & Rehabilitation Centre**

Oreka Thompson, 351-9472

**Lucayan Medical Centre**

East Sunrise 373-7400

## A Parent's Insight

*“My child was born with Down Syndrome and had the typical signs of hypotonia (low muscle tone) - he was floppy, think of a rag doll. He started physical therapy when he was about 4 months old. At first it was difficult to watch him struggle to just lift his head up off of the mat, but we gave him plenty of ‘tummy time’ on the floor at home which forced him to look up to see what was going on around him and strengthen his neck muscles. By 23 months he was walking and now he can hold his own just like any other toddler!”*

## Chapter 3

### Fine Motor Skills

Have you ever watched a toddler feed himself raisins or cheerios? As insignificant as this may seem, it is actually a skill- a precise pincer grasp, that allows one to pick up small objects with the tip of our thumb and first finger. Most children will develop this skill by the age of 6 months, for those with an impairment of the fine motor skills, a task such as this can be a monumental challenge.

Fine motor skills primarily involve the shoulder, arms, and hands, allowing refined skills such as grasping, writing, and throwing. These are the skills that gives one their independence. The ability to feed oneself, clean oneself, dress oneself; to hold a job, have an occupation. Indeed these are the skills that can define the enjoyment of one's life.

Occupational therapists are professionals who promote independence in daily living skills in clients of all ages when a physical, developmental, or psychosocial challenge interferes with the person's abilities. (Fine Motor Skills for Children with Down Syndrome, 2006)

### Sensory Awareness

Our hands are one of the most sensitive parts of the body, and the ability to perceive sensations assists in developing coordination and the movements unique to the human body. Sensation enables us to feel and understand what we feel- the difference between something hot and something cold, something sharp versus

smooth, etc. It also helps us to properly position our joints and muscles so we don't constantly bump into objects. Helping your child develop sensory awareness will be an ongoing part of their development .

As infants, the mouth is the main sensory organ. You will notice that infants bring everything to their mouth. Encourage them to develop this sensory organ by offering them objects to mouth that

- have no removable parts or parts that can be broken off
- will stand up to being bitten and chewed
- are bright and colorful
- offer a variety of textures (eg. smooth;bumpy)

Visual sensation is also critical to a child's existence in his environment. Observe your child as you jingle keys, or some other object he finds interesting, in front of him, then move it to the left and right of his face. His eyes should follow the object and the sound. Babies love the human face- get in his face! Make funny faces and sounds, and he will become familiar with the different configurations of the human face (happy, sad, laughing, crying, etc.)

\* Massage- gently massaging your child's hands and arms will make him more aware of the sensations in these limbs.

\* During playtime, sing rhymes and songs that have movements and words that help them learn about and use their body ( eg. Head, shoulders, knees and toes;

Deep and wide, If you're happy and you know it- Clap your hands, stomp your feet, etc.)

As your child becomes a toddler, playtime becomes an awesome opportunity to encourage fine motor skill development.

Stickers- placing stickers on your child's forehead, cheeks, palms, etc will help him focus on the sensation of that body part while peeling it off.

Play dough-rolling the dough , flattening it out with their hands will help develop hand strength and coordination. This strength will become important when it comes to writing and being able to apply the pressure required when using a pencil or pen.

Blocks- grasping, stacking and knocking down the blocks will help with coordination. Initially it may be a challenge to stack one block on top of another, but with practice and encouragement, as he learns when he needs to have a firm touch versus a light touch, his tower of blocks will get higher and higher.

Balls- rolling the ball and then throwing the ball are also good fine motor skill development activities.

Bath time can also be used as an opportunity to develop sensory and fine motor skills:

\* Allowing him to splash in the water

\* Squeezing a sponge and letting the water fall from above his head

\* BUBBLES!BUBBLES! BUBBLES! Bubblebaths offer a unique sensory experience that even adults enjoy!

\* Bring tub toys in the tub and hide them under the bubbles for him to find-make a big deal when he finds them

\* Practice pouring water from one container into another (helps develop the wrist movement required)

The household offers endless opportunities to practice fine motor skill development. Some fine motor activities your child will enjoy include:

\* Banging pots and pans

\* Ringing the doorbell (isolating the pointer finger)

\* Stacking plastic cups

\* Putting their hands in dry beans or uncooked rice (sensory perception)

\* Feeding himself raisins or cheerios ( fine pincer grasp)

\* Turning the light switch on and off (cause and effect)

There are many ways a parent can encourage fine motor development, however it is important to be aware of the stage of development your child is at. Observe if your child is overly sensitive in different environments (too hot, too cold, too bright, too noisy) or with certain textures of materials (rough, scratchy). These sensitivities may serve as additional inhibitors to his development. It is best to CHALLENGE, but NOT FRUSTRATE your child. If your child is not interested or enjoying the activity, stop and refocus his attention somewhere else, and try again another time.

As your baby becomes a toddler, give him the opportunity to try and do things independently- let him try and feed himself, it WILL BE MESSY; let him take his diapers out of his bag- you WILL HAVE TO PUT THEM-BACK; let him try and take his pull up off himself before bath time- IT WILL TAKE LONGER TO GET HIM IN THE TUB. It requires a parent's patience, but with the knowledge that it will help with his development, the extra time and work makes it worth it.

Try and find the opportunities to include fine motor activities in your every day activities so you do not see it as another chore on your to do list. Make your child aware of his environment by verbalizing everything: "Let's go UP the stairs", "Get IN the tub", "Let's GO to the store!" , "Let's put on your RED shirt today- Hands UP!"

Here is a list of developmental toys that are helpful:

\* Baby mirror

\* Rattles and squeeze toys

\* Chewy toys

\* Touch and feel books

\* Baby activity gym

\* Stacking rings

\* Slinky

\* Blocks

\* Cloth/mesh tunnel for crawling through

# Chapter 4

## Speech Hearing & Communication

Language refers to a system of learned abstract symbols and rule-governed structures used to send and receive messages. Language is typically subdivided into the following:

- Receptive language is the efficient understanding of these symbols and rules. It is often the most recognizable reflection of intelligence in development for parents and professionals.
- Expressive language involves the expression of the symbols and rules.
- Pragmatic language refers to the ability to use language appropriately within a social, situational, and communicative context. In the development of pragmatics, a child acquires the ability to use language in a social context.

Although delays in receptive, expressive language often reflect disorders of learning or intellect, it is a delay in the development of pragmatic skills, coupled with delays in the other areas of language that results in autistic spectrum disorders.

### Speech and Language Therapy: What every parent should know

A communication disorder is a speech and language disorder that addresses difficulties and/or deficits present within an individual's oral motor function,

- \* Stuffed toys that vibrate when pressed
- \* Puzzles with large knobs
- \* Toy telephone/cellphone
- \* Toy keys

### Local Resources

Unfortunately at the time of this publication there are no practicing occupational therapists in Grand Bahama, public or private.

cognitive ability, expressive and receptive language, and/or articulation-phonological production skills. What is important to note about a communication disorder is that it is more than just 'not talking right' or 'having a stutter'. A communication disorder can manifest itself within a child's reading ability, ability to follow directions, answer WH (what, who, why, where and when) and Yes/No questions, and even recalling information and following directions. A communication disorder is so great that it can affect a child's educational progress and their ability to do something as simple as express their wants and needs.

Your child may present with all or one or more of the documented communication disorders that can be presented. Primarily, it is important for you to understand that communication disorders are divided into 4-5 categories (may vary depending on the professional you speak with). These categories include:

**A. Speech Disorder:** A speech disorder means that your child is demonstrating difficulties in the areas of articulation, fluency, voice/vocal production and phonological processing and awareness skills. This category of a communication disorders focuses specifically on the way in which words and sounds are produced and the oral structures involved in that production.

**B. Expressive Language Disorder:** An expressive language disorder means that your child is demonstrating difficulties in their ability to verbally express themselves. This is impacted not by speech (speech production may be clear and intelligible) however; it is affected by factors such as sentence structure, vocabulary development, comprehension, recalling skills, morphology, and even processing skills.

**C. Receptive Language Disorder:** A receptive language disorder means that your child is demonstrating difficulties in their ability to understand and decode what is being said or has been personally read. This impacts their processing skills, ability to follow directions, comprehend and recall items and in turn will impact your expressive language skills.

**D. Swallowing Disorder:** A swallowing disorder addresses the specific mechanism of swallowing and feeding ability. Factors included involve swallowing, chewing, choking and coughing difficulties during the feeding process.

**E. Social and Pragmatic Skills Disorder:** These disorders are primarily impacted by the child's ability to engage in conversation, interact with peers and others in the community, know how to complete proper conversational turn taking, and recognizing what is and is not appropriate during interaction with peers and others within the community.

All children are measured secondary to a set of communication and language development milestones. Although it is important to note that every child will progress differently, there is a guideline to assist you in being aware of when your child's development and mastery of communication milestones are noticeably different from other typically developing children of the same age.

Below you will note a list of the speech developmental milestones and some key tips and red flags to assist you in being aware of a difference in your child's development that may require attention.

AGE	DEVELOPMENTAL MILESTONE
<b>BIRTH - 3 MONTHS</b>	<ul style="list-style-type: none"> <li>· Reacts to loud sounds</li> <li>· Smiles when spoken to</li> <li>· Coos and makes pleasure sounds</li> </ul>
<b>4 - 6 MONTHS</b>	<ul style="list-style-type: none"> <li>· Follows sound</li> <li>· Responds to changes in your voice</li> <li>· Pays attention to music</li> <li>· Babbles in a speech manner that includes sounds p, b, and m</li> </ul>
<b>7 MONTHS - 1 YEAR</b>	<ul style="list-style-type: none"> <li>· Listens when spoken to</li> <li>· Understands words for common items</li> <li>· Responds to requests and directives</li> <li>· Babbles using long and short group of sounds like dada, baba, up etc.</li> <li>· Imitates speech sounds</li> <li>· Has one to three words in his vocabulary such as hi, dog, mama, and dada</li> </ul>
<b>1 - 2 YEARS</b>	<ul style="list-style-type: none"> <li>· Knows and can identify some body parts</li> <li>· Can follow simple verbal commands</li> <li>· Enjoys simple stories and poems and rhymes</li> <li>· Can point to pictures verbally labeled</li> <li>· Developing new words daily</li> <li>· Can put two words together</li> <li>· Can ask two word questions (where kitty)</li> </ul>

AGE	DEVELOPMENTAL MILESTONE
<b>2 - 3 YEARS</b>	<ul style="list-style-type: none"> <li>· Has a word in their vocabulary to identify almost everything</li> <li>· Uses 2-3 word sentences to talk and ask questions</li> <li>· Has mastered the k, g, f, t, d and n sounds</li> <li>· Speaks in a manner that is understood by family and friends</li> <li>· Labels objects to request them</li> </ul>
<b>3 - 4 YEARS</b>	<ul style="list-style-type: none"> <li>· Can attend to more than one sound and/or conversation at one time</li> <li>· Can answer simple WH-questions such as who, what, where and why</li> <li>· Discusses activities and events that has happened to them</li> <li>· Creates and uses 3-4 word sentences</li> <li>· Speaks with ease with limited articulation difficulties and is easily understood</li> </ul>

Again, it is important to note that each child develops at a different pace and level so if your child has not met these milestones yet, DO NOT panic. It is important to allow your child at least 6 months beyond the milestone age mark before seeking outside consultation and intervention.

Some red flags that may indicate your child may indicate your child is experiencing a speech/articulation disorders includes but is not limited to:

<b>RED FLAGS</b>	<b>TECHNIQUES</b>
<b>Trouble pronouncing words or sounds accurately</b>	Model sounds and words for the child. Accurate production can assist when they have said something inaccurate.
<b>Presence of a lisp when speaking (s or th sounds)</b>	Show the child how to place their tongue when producing the sound. Make them aware of the presence of the tongue being seen which is not proper.
<b>Difficulty understanding what the child has said</b>	Depending on the circumstance (excitement, anger, fluency) instruct the child to slow down and speak slowly to help comprehension and incorporate technique number one.
<b>Cuts-off or adds sounds to words</b>	Remind your child that a sound does or does not belong there and model it correctly for them.
<b>Abnormal nasal quality when speaking</b>	See a trained therapist/ENT specialist
<b>Breathy or harsh tone when speaking</b>	See a trained therapist/ENT specialist
<b>Stuttering-chops up words when talking</b>	Prompt the child to slow down, be patient and DO NOT attempt to finish words or speak for them

<b>RED FLAGS</b>	<b>TECHNIQUES</b>
<b>Prolongation of words or sounds when speaking</b>	Prompt the child to slow down, be patient and DO NOT attempt to finish words or speak for them
<b>Clutters words together-rapid speech</b>	Prompt the child to slow down, be patient and DO NOT attempt to finish words or speak for them
<b>Abnormal production compared to peers of same age</b>	See a trained therapist

It is important to note that most of these red flags of language will become most noticeable when the child has reached school age. Some red flags that may indicate your child may indicate your child is experiencing a language disorders includes but is not limited to:

<b>RED FLAGS</b>	<b>TECHNIQUES</b>
<b>Trouble answering who, what, when, where, why, and how questions</b>	Read stories that allow you to ask questions about the pictures in the book. Also, while watching T.V., driving in the car or in the community ask questions about the things that are going on in your environment. Answer a question the proper way and have them repeat your response to see how it is done.

RED FLAGS	TECHNIQUES
<b>Difficulty recalling information (remembering)</b>	<p>Break information down into smaller components and have them repeat it back to you immediately (what did I say?).</p> <p>Use simple wording and add gestures and visual cues as needed.</p>
<b>Trouble following directions</b>	<p>Break information down into smaller components and have them repeat it back to you immediately (what did I say?).</p> <p>Use simple wording and add gestures and visual cues as needed.</p>
<b>Difficulty remaining on topic/task</b>	<p>Redirect the child. Make sure to stop them (gently) and remind them of the topic. Have them tell you what the topic was. Prompt them to tell you something about the topic in three sentences. To stay on task, break tasks into smaller tasks. For example, if the child cannot sit for 30 minutes break the task into three 10 minute tasks. Also provide incentives for completing a task, <b><i>first you do this - then you can get this.</i></b></p>

RED FLAGS	TECHNIQUES
<b>Difficulty learning and retaining new concepts/information</b>	<p>Be sure to review information learned. Create simple lessons. Carry over lessons, concepts and information into the child's environment so that they have increased experience with it.</p>
<b>Difficulty communicating grammatically accurate sentences (verbally or written)</b>	<p>Model grammatically correct sentences. Have the child review and revise written sentences. When a sentence does not make sense, ask the child does that make sense? Then have them try to break the sentence down to correct it.</p>
<b>Difficulty explaining/summarizing one's ideas and/or thoughts</b>	<p>Prompt them to take their time, give them questions to help guide them. Break the explanation down into smaller components such as first, second, last.</p>
<b>Trouble with processing word problems verbal or written</b>	<p>Break information down into smaller components and have them repeat it back to you immediately.</p> <p>Chunk information into categories of importance.</p>

RED FLAGS	TECHNIQUES
<b>Difficulty attending to tasks (unable to focus)</b>	Redirect the child. Make sure to stop them (gently) and remind them of the topic. Have them tell you what the topic was. Prompt them to tell you something about the topic in three sentences. To stay on task, break tasks into smaller tasks. For example, if the child cannot sit for 30 minutes break the task into three 10 minute tasks. Also provide incentives for completing a task, first you do this - then you can get this.
<b>Difficulty functionally engaging with peers ( in various settings)</b>	Teach your child social skills such as how to greet people in the morning. Practice these tasks with them and have them do a challenge of meeting one new friend each day and come home with a name and hobby of the new friend.

RED FLAGS	TECHNIQUES
<b>Trouble telling you what they have read, predicting what may happen or sequencing events</b>	Have them tell you what the topic was. Prompt them to tell you something about the topic in three sentences. Sequence the events of the topic, discuss the main event, characters, plot and prediction using a story web.

If you begin to notice any of these red flags within your child’s communication development, there are things you can do at home to assist with addressing the problem during, before and after your child receives speech and language intervention.

Overall, if you see a difficulty or disorder’s signs and symptoms emerging within your child’s speech and language skills, it is always best to consult with both your pediatrician and speech and language pathologist. A speech pathologist will complete assessments that will rule out the presence of speech and/or language difficulties determine the presence and/or determine the severity. Most speech pathologists will complete a comprehensive assessment that includes a hearing screen, speech assessment for articulation and phonological disorders and a language assessment for expressive and receptive language. A speech-language pathologist may discuss signs and symptoms and predictions of things occurring with your child outside of communication disorders; however, an SLP does not and cannot diagnose for Autism spectrum disorders and other syndromes and genetic impacts. In addition, we cannot diagnose for Attention disorders and hyperactivity difficulties. However, it may be recommended

that you be referred to a specialist who can diagnose these areas. Some SLPs may also include additional testing that is generally not routinely conducted which may be an additional cost to your assessment bill such as fluency testing, voice or swallowing assessments and Augmentative and Alternative Communication (AAC) Assessments. Generally, an AAC assessment is only conducted when a child is presenting with communication disorders that result in limited verbal communication or verbal communication that is not functional or intentional. Most children who are recommended for AAC assessments are non-verbal, who have less than 50% verbal communication that is intentional and/or they are unable to functionally and intentionally express their wants and needs with their natural speech.

It can never hurt to receive a speech and language assessment that results in no further recommendation. It is better to be safe than late in providing intervention. Early intervention is better than late or no intervention and most cases. Remember, early intervention can only help and enhance never hurt the communication development of your child. Trust your gut and instincts. You know your child better than any specialist and therapists. If you see something that seems out of the ordinary and you are not satisfied with the response or the results of the first specialist you see, it is okay to receive a second opinion.

Once a speech pathologist has evaluated your child and recommended speech and language services, there are a variety of intervention/treatment techniques they may incorporate. Treatment is based on the child's diagnosis, ability, and current results of their assessment. There is no one right treatment or way to treat a communication disorder. Many thera-

pists may try a mixture of techniques and interventions to address the speech and language needs and goals your child may have. Over the years, researchers have created many evidenced practices that we like to incorporate at various times within our clinical career. What is most important for you to know and remember is that a popular treatment method (Ipad, ABA etc.) does not mean it will work for your child. It is the therapist's job to tap into your child's ability and determine what works best, trust them to do this. They are trained and clinically certified to do what will work best for your child. A diagnosis of Autism for example does not mean that the treatment methods you find on the internet and YouTube will be the methods that will assist your baby. Allow the therapist to first introduce techniques and methods that have proved to be beneficial. Follow their lead, and be involved in the therapy. It may be hard to believe, but sometimes attempting to do treatment or use techniques you have heard of or found via the internet can do more harm than good and set the child back in their therapeutic process.

### A Parent's Insight

*"I remember encouraging my son to keep his tongue in. I think this was an idea that I had read that you could remind your child about and assist them with. It is not a problem now, however, I cannot say if it was because of what I did or whether he outgrew it. I did take him to a speech therapist when he was quite young. It was a benefit to him and also I was able to gain guidance on ways to assist him with clear diction. I would have liked to have continued with this."*

## Local Resources

Newborn/infant hearing screenings can be done at  
Lucayan Medical Centre, visiting audiologist,  
Dr. Kim Scrivens 373-7400

# Chapter 5

## Cognitive Development & Early Childhood Education

### Cognitive Development

Cognitive development basically refers to thinking skills. This includes †learning, understanding, problem-solving, reasoning, and remembering.

#### 0-3 months

- Focuses on and follows moving objects, including human faces
- Responds to sounds (quiets or makes movement)
- Prefers high contrast items and geometric shapes

#### 3-6 months

- Explores objects with their hands and mouth
- Traces the source of a sound with their eyes
- Reaches for a nearby object and grasps

#### 6-9 months

- Finds a partially hidden object
- Shows displeasure at the loss of a toy
- Likes to bang objects together

#### 9-12 months

- Imitates gestures
- Shows an interest in picture books
- Looks for a hidden toy

#### 12-24 months

- Points to body parts in a game
- Stacks and knocks over objects
- Points to objects when named

## 24-36 months

- Builds a tower of five to seven objects
- Identifies picture as a boy or girl
- Follows two or more directions

### Activities/Areas to focus on:

These cognitive developmental milestones are to be used as guidelines, as every child develops at their own unique pace, especially children with special needs. Regardless of your child's age, look for what they are currently doing and go from there to work on helping them master these skills before moving on to more complex ones. Do not focus on trying to get them to do things that are in the 12-24 month age range when they are doing things in the 3-6 months age range. They have to develop the building block skills before they can master the ones further down. For example, a child needs to learn head control and how to roll, sit, crawl and stand before they can walk.

Looking at these guidelines can also help you to see what kinds of activities you should be/can be doing with your child. Again, assess where your child is at and work from there. It is easy to compare your child with another child the same age who is doing a lot more than your child. This can lead to feelings of hopelessness, disappointment and fear but just try your best not to compare your child to others, as they are a unique being working in their own unique path. Focus on what your child IS doing and not just what they are not doing. Celebrate every new skill (no matter how little) that your child develops and see it as a huge accomplishment and motivation to continue the work you have been putting in.

## Sensory Stimulation

For children that have visual and/or hearing impairments, focus on providing sensory stimulation such as massage, giving them different textures to feel, teaching them how to feel around their environments as well as giving them visual and auditory stimulation.

### Hand over hand modeling

This technique used with repetition is good to use when teaching new skills. For example, if teach a child to stack blocks. Take your hand and place it over your child's hand and help them to place a block on top of another. Do this a few times and then see if your child can do it without your assistance. If not, use the hand over hand modeling again. Once your child does the action, make sure and praise him.

### References:

<http://www.pbs.org/wholechild/abc/>

<http://medcarepediatric.com/DevelopmentalChecklist.pdf>

[http://toolboxes.flexiblelearning.net.au/demosites/series12/12\\_11/toolbox12\\_11/projects/play\\_dev/html/pdl\\_scd\\_01.htm](http://toolboxes.flexiblelearning.net.au/demosites/series12/12_11/toolbox12_11/projects/play_dev/html/pdl_scd_01.htm)

### Local Resources

The Special Services/Education Division of the Minis-

try of Education exists, in part, to serve the needs of special children on the island. Their mission statement indicates that they will make available impartial and effective support and educational services that elevate the social, emotional, psychological, spiritual, academic and economic interest of everyone needing their service. School Psychological Services is a unit within this division.

The School Psychological Services has a staff of qualified psychologists who are in place to offer diagnostic and therapeutic services for school aged children and their families. This can be an initial resource to turn to if you suspect that your child is not developing as he should. Diagnostic services can be provided to children as young as 6 months. Diagnostic tests are not painful or intrusive in anyway; they involve observing the child and comparing his behavior to the developmental milestones he would be expected to have met at his age. Tests are performed at regular intervals during childhood to continually assess the child's development. Referrals can be made from this office for medical intervention, assistance from Social Services and alternative educational options.

Preschools attached to the Ministry of Education primary schools offer a public early childhood education option. By law, space is allocated for one special needs child per class. At present, there are preschools attached to six primary schools in Grand Bahama: Bartlett Hill Primary, Lewis Yard Primary, Maurice Moore Primary, High Campbell Primary, East End Primary and Martin Town Primary. Admission to the Government run pre-school, or for older children, the Beacon School, is dependent upon a referral that comes from this office.

Appointments can be arranged through the submission of a referral form which can be obtained from their office in the Cornelius Smith Government complex. Referral forms can be submitted by concerned parents/guardians, teachers or school administrators, social workers or the courts.

**Telephone contact: 602-9550**

Since 2012 Hampton Academy has been providing a learning environment for regular and special needs toddlers, preschoolers and kindergarten children. Children with special needs are fully involved in classroom and playtime activities alongside their peers; onsite therapeutic services are provided for those children who require them. Hampton Academy I and II (separate location) provides academic, social and functional skills for pre-k-12th grade children with (but not limited to) autism, learning disabilities, behavior disorders, down syndrome, mentally challenged, developmental delay and speech impairments.

**For more information contact- 374-3477**

### **A Parents Insight**

*"I tried to allow my son to experience anything and everything. My rational was that the more experiences he had would give him more actual memory experiences to draw on. I made a point to take him everywhere with me, explaining where we were going and what we were doing- in the food store shopping, looking at the birds or the stars, just about anything; and of course*

- talk, talk, talk. Even though he was a very quiet child  
- almost silent, I continued to talk to him as if he was talking back to me in the hope that language would eventually follow. If you reinforce ideas and concepts in many different ways eventually some of the ideas will remain. I am still surprised that sometimes just one experience will leave such lasting impressions.

*I have always been a firm advocate for getting him into a learning environment from an early age, luckily at all the pre- schools that he attended the staff were fantastic, taking extra time and extra patience with him-very beneficial for socialization and other developmental milestones. I remain grateful to all of them for giving him a good start with learning in a structured environment. I believe that this has helped him get to where he is today. Visual reinforcement of ideas is very helpful for learning everything.”*

## Chapter 6

### Social Development

Children learn a lot by imitation-especially from other children. Siblings, cousins, playgroups and nurseries can be an invaluable resource/experience for a child with special needs. Watching young children at play can also teach adults a lot about acceptance. Rarely does a child see their playmate as a friend with special needs, he is only their friend

Social and adaptive development: Personal-social skills and adaptive skills occur parallel to the other streams of development but differ in that they are not independent areas. They are dependent on development in motor, language, and intellectual skills and are subject to environmental and cultural influences.

- Social development requires both language and problem-solving skills but is more heavily-dependent on appropriate language. Social skills delays are seen in children with intellectual disorders, communication disorders, and autism spectrum disorders

- Adaptive skills, such as feeding, toileting, and dressing require both language and problem-solving skills but are more dependent on problem solving. Delay in adaptive skill attainment is necessary for the diagnosis of [intellectual disability](#).

Social Development refers to learning how to interact with others. It is about learning how to have relationships with family, friends, and teachers and how to respond to the feelings of others. We live in a very social world these days so the development of these skills are important.

Here are some social developmental milestone guidelines:

### **0-3 months**

- Sucks their hands and fingers
- Observes their hands
- Shows pleasure in response to social stimulation

### **3-6 months**

- Enjoys peek-a-boo
- Laughs aloud
- Pays attention to their own name

### **6-9 months**

- Distinguishes between familiar and unfamiliar people
- Shows displeasure at the loss of a toy
- Expresses several different emotions

### **9-12 months**

- 'Helps' in dressing by holding out arms and legs while being dressed
- Mimics simple actions

### **12-24 months**

- Plays by themselves and initiates their own play
- Shows pride and pleasure at new accomplishments
- Imitates adult actions in play

### **24-36 months**

- Shows awareness of gender identity
- Begins parallel play (engages in solitary activities near others)
- Uses objects symbolically in play

## **Activities/Areas to focus on:**

### **Eye Contact - is a nonverbal form of communication**

With infants and young ones do a lot of visual tracking exercises using your face. Let them focus on you and then slowly move your face to each side of the child's face and have them try to follow you with their eyes.

Bang/drum on a table or exercise ball with your hands while facing the child and then stop. Do not bang again until they make eye contact. Get them to see that you will only bang/make sound if they are looking at you.

When you are hanging out with your child place a sticker of an eye or a pair of eyes on your forehead. † Encourage them to look at the stickers. † It may not be exactly looking at your eyes but it is training them to look in the right direction in a funny, less threatening way.

### **Social Interactions**

Place them in social play groups and/or preschool settings from an early age. Being around other peers can promote your child's development in all areas (e.g., speech and language, cognitive, motor, etc) and motivate your child to try to do what the other children are doing.

It is so important to have your children interact with others (peers and adults) in as many ways as possible from early on in their lives. Take them with you when you run errands as much as you can and to social events (e.g., kids birthday parties, family events, etc.).

Do not keep them at home away from valuable social opportunities. There may be some glances of curiosity or even frustrated glances when a child with special needs is having a meltdown in the foodstore or wherever but please do not let this stop you from bringing that child into the social world. Those glances are usually because of genuine curiosity, lack of understanding and/or pure ignorance. Children with special needs can teach everyone a thing or two about their beauty including their own parents, siblings, peers and other adults.

## **Chapter 7**

### **Acceptance and Coping**

#### **Parenting a Special Needs Child**

##### **Introduction**

Parents of a child with special needs are faced not only with developmental challenges, but also with the realization that their child may have limitations, and not the endless possibilities that other children have (Loewenstein, 2007).

##### **Receiving the News**

Some parents are informed that they are having a special needs child before their child is born, sometimes the diagnosis is made after birth and parents are informed during infancy. At times being alerted early and having a longer period to adjust is helpful. However, despite the preparatory time period, coping with the news is difficult.

Most parents do not cope well and experience a range of emotions - feelings of guilt, sadness, anger, anxiety, and fright; all of which can often be accompanied with episodes of crying uncontrollably. These emotions must be identified and resolved if emotions persist or increase in intensity, a state of depression can develop (Jean, 2011)

##### **Ways to Cope with the News**

Every parent desires and expects a healthy, well-

developed child, therefore having a child with special needs can be traumatic. The following are several processes which can help parents cope with this shock:

- \* Identify the emotions that you are experiencing.
- \* Accept your child's condition and grieve what your child may never be.
- \* Become informed. Read, and ask your medical doctor questions.
- \* Share your feelings with your partner or with a trusted confidant.
- \* Talk with the parent of another special needs child; and
- \* Allow yourself to cry, feel sad and mourn the loss of your child's potential and possibilities.

It is important to note that each parent's grieving will be different, as dreams for their child are identified and modified.

### **Strategies for Fostering Acceptance**

There are many strategies that can be helpful to parents of special needs children to assist with fostering acceptance and strengthening relationships in the family, they are as follows:

- \* **Set Realistic Expectations** - Do not expect yourself to be a perfect parent all of the time. There is no perfect parent, and every parent makes mistakes. However, be open to recognizing and accepting mistakes and make changes.

- \* **Identify Strengths** - Each child has intrinsic strengths. Recognize your child's strengths. Assist and allow those strengths to be maximized and when possible, use strengths to overcome limitations and promote self-reliance and a sense of mastery.

- \* **Take care of yourself** - To be effective parents we must be able to put ourselves first some of the time and adequately take care of ourselves. Despite the needs and demands of your special needs child, make time for yourself. Identify an interest or hobby that gives you pleasure and a sense of satisfaction. Give yourself permission to pursue it and make time to do so consistently.

- \* Allow the love of God, your family and yourself to prevail in your home in all situations and;

- \* Maintain a loving atmosphere.

### **Maintain Healthy Relationships**

Identify and build relationships with individuals which allow support for each other emotionally. This person can be a friend, family member, or another parent. Foster the relationship, make time and invest in it and allow the relationship to grow. Spend time together, share errands, phone calls, play dates and other positive activities.

#### ***Tips for fostering strong healthy relationships between Siblings***

Siblings should be informed and involved in family discussions regarding the special needs condition as

soon as possible and given information as appropriate. After the initial discussion, be guided by questions asked by your child, give age-appropriate answers and always share information that is critical to the health and safety of special-needs sibling.

- \* Allow siblings to share in the care of your special child.
- \* Be open to identifying, promoting and supporting positive involvement of all siblings
- \* Readily identify any negative emotions and behaviours, and ensure that all children are protected, and supervised appropriately.
- \* Be aware of and assist each sibling's involvement appropriate to their ability.
- \* Allow the involvement of each sibling to be determined by their individual level of ability and interest and;
- \* Do not allow siblings to care for special needs child at the expense of their own interests and activities.

### Tips for enhancing parents' relationship

The birth of a special needs child can be traumatic for parents, and have an adverse impact on their relationship. The ideal effect on parents, occurs when parents work together, supporting each other as fully as possible with increasing love and devotion in their union.

To enhance their relationship, parents need to incorporate several practices:

- \* Make time for each other. Arrange to spend time together without children. Establish and maintain lunch dates, date night, joint massages, read a book together or any other activity they both enjoy.
- \* Support each other with care of your special needs child and all your children.
- \* Be open with each other with the emotions you are experiencing. Often emotions are duplicated, and openly sharing emotions leads to affirmation and resolution.
- \* Identify the ways in which you have benefited as a couple, and openly share and discuss with each other.
- \* Do not express disagreements in front of children and;
- \* Express anger, blame and other negative emotions honestly, but do not direct at each other.
- \* If you are unable to overcome negative feelings, seek Professional help.

### Resources

Helpful resources about the special needs of your child are available.

The internet, books, CD's, films are all informative.

Family members provide support and nurturance.

Your Pediatrician will provide meaningful medical information and answers to questions.

Other parents of special needs children are sensitive to your needs and can provide support.

Support groups are helpful, providing a forum for parents with similar needs and concerns.

Social Workers, Psychologists and Psychiatrists can assist with emotional issues.

Priests and other members of the Clergy provide spiritual guidance.

## REFERENCES

Jean, C. (2011). Coping with the news that your child has special needs. Retrieved January 9, 2014 from <http://carijean.hubpages.com/>

Loewenstein, D. (2007). Increasing our acceptance as parents of children with special needs.

Retrieved January 16, 2014 from Exceptional Parent, 37(1), 28-29.

### A Parent's Insight

*"I was extremely anxious about telling my older children that their baby brother had Down Syndrome. I felt*

*guilty about the unknown burden I would be putting on them and the impact that it would have on their lives. Would they be traumatized or feel neglected by the extra attention and time that this special child would demand? When I did finally build up the nerve to have the big discussion I quickly discovered that all of my fears were an unnecessary burden I had put on myself. I explained to them that every person has their challenges and their brother is no different. He may take a little longer to walk, and to talk, and he may look and sound a bit different, but other than that he is pretty much just like everybody else. Of course they have questions and concerns as days go by, but we address them as they arise. To this day, they have been his biggest motivators and his best teachers. They have taught him how to wrestle and be mischievous (to my dismay) ; when they do their homework, he wants to do homework. When they play baseball, he wants to play baseball. He is a typical little brother!"*

## Definitions

Although a great number of children with special needs do not ever receive an exact diagnosis, some of the more common conditions that are seen in the Bahamas are differentiated below.

**Autism Spectrum Disorder (ASD)** and autism are both general terms for a group of complex brain disorders of brain development. These disorders are characterized, in varying degrees, by difficulties in social interaction, verbal and non-verbal communication and

repetitive behaviors. ASD can be associated with intellectual disability, difficulties in motor coordination and attention and physical health issues such as sleep and gastrointestinal disturbances. Some persons with ASD excel in visual skills, music, math and art. Autism appears to have its roots in very early brain development. However, the most obvious signs of autism and symptoms of autism tend to emerge between 2 and 3 years of age.

**Cerebral Palsy** is an umbrella term for the group of disorders affecting a person's ability to move. It is a permanent life long condition, but generally does not worsen over time. It is due to damage to the developing brain either during pregnancy or shortly after birth. Cerebral palsy affects people in different ways and can affect body movement, muscle control, muscle coordination, muscle tone, reflex, posture and balance. People who have cerebral palsy may also have visual, learning, hearing, speech, epilepsy and intellectual impairments. Cerebral palsy is the most common physical disability in childhood.

**Down Syndrome (Trisomy 21)** occurs when an individual has a full or partial extra copy of chromosome 21. This additional genetic material alters the course of development and causes the characteristics associated with down syndrome. A few of the common physical traits of DS are low muscle tone, small stature, an upward slant to the eyes and a single deep crease across the center of the palm- although each person with DS is a unique individual and may possess these characteristics to different degrees, or not at all. Individuals with down syndrome possess varying degrees of cognitive delays, from mild to severe. Most people with DS have cognitive delays that are mild to moderate.

## Recognition of Contributors

Recognition & Diagnosis - Dr. Edwin Demeritte

Pediatric Neurologist / Neurophysiologist

Bahamas Neurological Center

**Gross Motor Skills** - Dianne May, Registered Physical Therapist, Heather Hanlan, Dip Physical Therapy, Masters in Physio Therapy, Evadne Roberts- Public Hospitals Authority

**Speech, Hearing & Communication** - Shameka Johnson, Ph.D., CCC-SLP

Assistant Professor - Communication Disorders

**Augmentative and Alternative Communication/Severe Disabilities in Multicultural Populations**

**Social & Cognitive Development**- Kathryn Higgs, M.A., Licensed Clinical Psychologist

**Acceptance & Coping** - Dr. Jean M. Turnquest

Clinical Director of Psychiatry

Grand Bahama Health Services

## ***Recognition of Patrons***

This publication would not have been possible if it were not for the support of the 2013 Buddy Walkers of Grand Bahama and our Corporate Patrons listed below.

Albuild Hardware & Lumber Company

Automotive & Industrial Distributors

Bishop Michael Eldon School

BLADE

Corp Law Court Ltd.

Expert Customs Brokers

Fidelity Bank

FOCOL

Freeport Construction Company

Freeport Jetwash

Graham Thompson & Co.

Grand Bahama Cooperative Credit Union

Grand Bahama Port Authority

James Sarles Realty

Kelly's Freeport Ltd.

Larry & Carmen Albury

Life Community Church

Lucaya Nursery

Modalena Ltd.

Musical Peacock

Norris R. Carroll & Co.

Paint Fair Ltd.

Palm Security

Pelican Bay Hotel

Pharmachem Technologies

Records, Archiving & Management Co. Ltd.

Sanitation Services

Savmor Drugs

Sawyers Fresh Market

Star General Insurance

Teachers & Salaried Workers Union

The Kidney Centre

The Walk In Clinic

Veronica D. Grant & Co.

