

**Date of Evaluation:** 7/18/08

**Reason for Referral:**

Haya Al-Yasin is a 5 year-old girl with a history of resection of a pilocytic astrocytoma of the right cerebellar hemisphere in 9/05, shunted hydrocephalus, and recent-onset seizures. She also has a history of history of significant developmental delays. While an inpatient on Kennedy Krieger Institute's (KKI) Brain Injury Unit, direct neuropsychological assessment of Haya was limited. Thus, an outpatient follow-up visit was scheduled to try to obtain a more accurate picture of Haya's skills on standardized testing after her discharge from KKI on 7/9/08.

**Relevant History:**

Haya resides with her parents (Mohammed and Maha) and two sisters (ages 9 and 6 years) in Kuwait. The family speaks primarily English in the home, and to Haya.

According to medical record review, Haya was responsive and aware of her environment prior to one year of age. She reportedly vocalized spontaneously and consistently responded to others. She began to walk at 14 months, but walked with arms flexed at her elbows and palms facing forward. Additionally, Haya reportedly frequently fell as her unsteady gait became progressively worse. Soon after, she experienced deterioration of all neurological functions, including loss of pre-language skills previously developed.

Due to the change in neurological status and development skills, in 9/05, when Haya was 27 months of age, she was admitted an inpatient unit at The University of Freiburg in Germany for a series of medical tests. An MRI on 9/8/05 revealed a large cystic tumor of the right cerebellar hemisphere with severe compression and displacement of the brainstem and hydrocephalus. The tumor was completely removed on 9/9/05, and subsequent histological tests indicated a Grade I astrocytoma.

Immediately after the surgery, Haya's father reported that she recovered well. However, she continued to experience ongoing problems over the next several years. A CT scan on 9/13/05 and 9/19/05 showed bilateral subdural effusions. On 9/23/05, Haya reportedly slept for an abnormal amount of time, and subsequent CT scan showed persistence of the effusion on the right and an enlargement with compression of sulci on the left. The CT also revealed congestion of the lateral ventricle and 3rd ventricle with additional subdural hygroma of the right hemisphere and midline shift to the left. Right frontal and left occipital parenchymal lesions were also noted. Haya underwent a lumbar puncture, which indicated increased intra-cranial pressure (ICP), necessitating emergent removal of cerebrospinal fluid (CSF). ICP subsequently decreased and Haya reportedly improved neurologically. By 9/24/08, left hemisphere sulci were reportedly visible again, and the width of CSF spaces was unchanged. Haya remained hospitalized until 10/4/05, and reportedly made significant improvements in medical status. According to the medical record, she was alert, repeating words, feeding normally, and exhibited a normal sleep-wake cycle. Haya exhibited some residual neurological signs, however, including an inconsistent squint and right-sided hemiplegia and ataxia. At the time of discharge, she was referred for intensive inpatient rehabilitation.

In 1/06, when Haya was 31 months of age, a ventroperitoneal (VP) shunt was inserted due to ongoing hydrocephalus. A post-operative follow-up CT scan on 4/23/06 indicated no evidence of tumor recurrence, but also indicated no change in the size of Haya's ventricles, despite the shunt in the right frontal horn. Ventricles were distinctly dilated and of an abnormal shape; thus, it was suggested that her shunt was not functioning properly. A follow-up MRI on 8/1/06 again indicated distinctly dilated ventricles but did not indicate increased ICP. Thus, it was concluded at that time that the shunt function was normal, and no revision was necessary. In 2/07, an MRI of the brain revealed no significant changes in post-operative characteristics, in the ventricular system, or in the white matter. There was no abnormal enhancement, or recurrent or new lesions.

Haya has been closely followed by various medical professionals for follow-up. A follow-up medical evaluation

in 8/06 revealed that at that time, Haya was following simple commands, but had not yet developed active speech. She was making eye contact, grasping objects, rolling/crawling on her stomach, and able to independently drink and eat. However, despite improvements in overall function, the examiner noted severe deficits in meaningful speech, ataxia, inability to walk, and extremely poor coordination of hand functioning.

During the course of these medical complications, Haya had multiple evaluations of cognitive functioning, completed by a speech and language pathologist as well as periods of ongoing speech therapy. In 2/06, Haya participated in a speech evaluation in Kuwait. According to the report, she did not show interest in the examiner, did not respond to her name, and demonstrated perseveration on toys. She reportedly spent significant amounts of time holding toys, shaking them, and ignoring attempts to obtain her attention. Haya subsequently participated in speech therapy three times per week (24 sessions total) in order to address attention, receptive/expressive language, and oral motor skills. The follow-up evaluation in 5/06 revealed that Haya had made progress in responding to sounds, attending to faces, maintaining eye contact, and responding with smiles/coos. At the time, she was also able to recognize her name, understand "no," and react to familiar words. Oral motor skills had reportedly improved, and she inconsistently could make sounds to indicate discomfort, vocalize spontaneously, imitate vocalizations, and shake her head "no." Overall, the examiner concluded that Haya's language skills fell approximately at the 6-12 month level of development and that she had a global developmental delay. Because of gains in function, however, the examiner recommended that speech therapy be discontinued, temporarily.

In 11/06, when Haya was 41 months of age, she underwent another speech evaluation with the same provider in Kuwait. She had completed a total of 55 speech/language therapy sessions since 9/06. At the time of evaluation, Haya had reportedly made significant gains in receptive/expressive language and attention skills. She was more interactive and spontaneously babbled as well as attempted to imitate lip movements. The possibility of an audiological problem was ruled out.

Overall, Haya was relatively stable from a medical and developmental perspective until 1/08. On 1/12/08 when Haya was 4 years, 7 months, she experienced two tonic-clonic seizures. The first lasted 30 minutes in duration, while the second lasted approximately 5 minutes. Haya was initially treated with intravenous phenytoin, and subsequently with Tegretol. On 1/20/08, Haya participate in an EEG, and therefore did not receive her morning dose of Tegretol. She experienced a third seizure during the EEG. At the time of seizures, Haya was not walking or running, but was able to sit unsupported with good head control. A repeat MRI revealed that ventricles continued to be dilated and were irregularly shaped. There were no other abnormal findings or evidence of an acute event. Epileptic events were thought to be related to residual brain damage secondary to the critically increased ICP before the operation of Haya's tumor.

Haya is currently enrolled in a school for special needs, which she has attended since the fall of 2007. She initially attended a full-day session, but was hospitalized for a consecutive month in 1/08 after experiencing her first seizure, and did not return to school until 3/08. At that time, she began requiring a nap during the late morning, and was typically picked up from school by the early afternoon. Haya receives physical therapy in her home three days per week, and will resume speech therapy upon the family's return to Kuwait at the end of the summer.

Haya was admitted to KKI on 7/7/08 for multidisciplinary evaluations and recommendations for long-term planning. At the time of admission, Haya was prescribed Tegretol, Diazepam, and Timonil. Her parents were interested in determining what kinds of interventions and programming would be most appropriate for Haya in supporting her development. Her mother reported that immediately before admission, Haya was developing new skills. Reportedly, she was singing and counting along with her mother, appeared to understand some verbal directions, and was partially toilet-trained. Her mother reported that Haya had always experienced sleep difficulties, but that these difficulties had increased since the onset of her seizures. Haya was typically going to sleep at approximately 10:00 p.m., but almost always awakening by 3:00 am and returning to sleep inconsistently. Additionally, her mother reported behavioral changes which appeared to coincide with the onset of seizures.

Specifically, she noted a significant decrease in Haya's overall mood, an increase in crying and fussiness, and overall difficulties in soothing her.

Over the course of Haya's hospitalization at KKI, she was continued on Tegretol. On 7/07/08, however, she experienced a 3-minute generalized tonic-clonic seizure which self-resolved. Subsequently, Tegretol was increased. On 7/08/2008, Haya had an additional seizure, lasting 7 minutes and associated with periorbital cyanosis and brief oxygen desaturation requiring supplemental oxygen. She was also given Diastat. Thereafter, the seizure resolved and she was rapidly weaned back to room air. A neurology consult suggested repeat EEG, MRI, and an additional increase in Tegretol. Haya also showed significant irritability over the course of her hospitalization, the etiology of which was unclear. Following neurological consultation, it was suggested that she may have reflux, and Prevacid was started on 7/09/08. Following family expression of discomfort in the hospital, it was determined that further evaluations, including occupational, physical, neurological, audiological, and additional neuropsychological follow-up would take place as an outpatient.

Preliminary results from other outpatient evaluations reveal that audiology testing on 7/10/08 was normal. An EEG on 7/10/08 showed some epileptiform activity present in the temporal head leads on the left with some medium-high voltage activity and slowing, which was more severe temporofrontally on the right. Dr. Eric Kossoff, JHH neurologist who read the EEG, reportedly felt it was slow over the right side because of the spikes. Dr. Michael Johnston, KKI neurologist who evaluated Haya through the KKI Neurology Clinic on 7/15/08 felt the EEG results were consistent with a focal disturbance involving the right hemisphere. Haya reportedly had a short seizure on 7/14/08. An outpatient physical therapy evaluation indicated that based on Haya's recent growth and postural assessment, she is in need of a new adaptive stroller that provides proper fit, postural support, and comfort. The family will return to trial a new stroller.

Haya's family plans to return to Kuwait at the end of the summer, and she will return to her special education program in the fall.

**Procedures Administered:**

Clinical observations; Mullen Scales of Early Learning (MSEL); Parent Interview; Review of medical records

**Behavioral Observations:**

General Presentation: For the current evaluation, Haya returned to KKI for a one hour out-patient session. Her father, in-home caregiver, and a KKI International Patient Liaison were present for assessment session.

Arousal/Attention: Haya was awake and alert throughout the entire session. Throughout the session, visual attention was poor and it was difficult to engage Haya in test stimuli. Verbal cues and prompts were not successful in attracting attention and overall attention was significantly limited. The few items to which she initially attended did not sustain her attention after several seconds. After multiple attempts, her attention could be drawn to some objects on which she visually fixated for brief periods (e.g., book), but overall attention was fleeting. Haya also fixated on faces for several seconds. Her eyes moved frequently, although it was not clear whether Haya was visually exploring the environment. She did not readily attend to or show interest in most novel stimuli presented to her, except for music played on a tape player. When played, Haya's directed her attention more consistently on examiners, particularly when examiners sang along to music. When music was stopped, however, attention again became variable and difficult to engage. Haya was not observed to divide her attention between two tasks. Joint attention was only elicited by multiple efforts to direct her to a preferred item close by, and attempts were successful very few times.

Responding: Inconsistent generalized responding to tactile, auditory, and visual stimuli stimulation was observed. Haya's responding was extremely variable. While she often appeared to attend to examiner-presented stimuli, she reacted in variable ways and did not fully attend to the examiner except while music was played or the examiner

sang a preferred song.

Oral/Vocal/Language Behavior. Haya was observed to vocalize throughout the session. Although no clear verbalizations were noted, but she was noted to make several multiple sounds (i.e., nay, ya, hay, na). She produced both vowel sounds and consonant-vowel combination sounds, but did not appear to use these to communicate for the most part. She, however, questionably produced "na na na" while shaking her head, suggesting that she may have been communicating "no." Many vocalizations were made in the context of irritability, as Haya cried and yelled intermittently.

Receptively, Haya did not follow simple commands or clearly respond to her name or other words. There was no evidence that she reliably understood verbal commands.

Motor skills: Haya remained in her stroller for the beginning of the session, and was then removed and sat on the floor with the examiners and her caregiver. She was noted to stand and take several steps with significant support, and sat independently on the floor for approximately 30 minutes. Haya demonstrated spontaneous movement of upper and lower extremities. Although she was able to hold toys when directly placed into her hands by the examiner, she frequently dropped items within several seconds. She was noted to reach for and grasp an object on one occasion. Haya spent a significant amount of time visually fixating on her left hand while repetitively flapping it near her eyes.

Play: Haya did not engage in any meaningful, age-appropriate, or cooperative play behaviors. She did not display adequate understanding of turn-taking; rather, she appeared to watch the examiner during her "turn." When a toy was placed within her reach, Haya inconsistently reached for the object, and was not noted to examine or use objects functionally. Although she appeared to search for a dropped item during the inpatient evaluation, she did not appear to do so during the current evaluation.

Affect, Attachment, and Social Behavior. Haya's affect was extremely variable throughout the evaluation. She cried intermittently and was only calmed temporarily when music was played or when examiners sang a preferred song. Social smiles or other indicators of engagement were not noted. Haya made very brief, inconsistent and fleeting eye contact.

Test Results: The MSEL was administered to Haya during her inpatient stay on 7/7/08, 7/8/08 & 7/9/08; however, testing was limited due to seizures and significant irritability. Thus, attempts were made during the current evaluation to engage Haya more thoroughly with the testing stimuli. The results below reflect a combination of performance over inpatient and outpatient testing sessions, in order to reflect Haya's "best" skills. Scores are reported in comparison to other children Haya's age as a range of functioning (i.e., mildly impaired, average, high average) and as standardized scores. Due to her variability in attention and overall responsiveness, the results may underestimate some of Haya's "true" abilities.

Cognitive Development: In order to assess Haya's overall cognitive functioning, she was re-administered portions of the MSEL, a comprehensive measure of cognitive functioning for infants and preschool children. The MSEL includes four cognitive scales: Visual Reception, Fine Motor, Receptive Language, and Expressive Language.

Haya's performance on the MSEL resulted in an Early Learning Composite standard score of <49 (1st percentile rank for her age and within the Very Low range of functioning). The following table depicts Haya's MSEL performance (T-scores: Mean = 50, Standard Deviation = 10; Standard Scores: Mean = 100, Standard Deviation = 15):

Mullen Scales of Early Learning		
Scale	T-Score	Age Equivalent
Visual Reception	<20	7 months
Fine Motor	<20	7 months
Receptive Language	<20	6 months
Expressive Language	<20	12 months
	T-score	Percentile
Early Learning Composite	<80	1st

On the Visual Reception scale, Haya localized fixation on a moving stimuli (near and far) and alternated her vision from one object to another, and looked for a dropped item. She also reached for and grasped an object on one occasion. Although she was not observed to look for a toy hidden under a washcloth, turn a cup right-side up, or make object association, she demonstrated some skill scatter by showing interest in a book as a hinge and attending to pictures when a story was read to her. This was observed, however, during the inpatient evaluation only.

With regard to the Fine Motor scale, Haya accepted and grasped blocks when presented to her during the inpatient evaluation, but did not reach for any object. During the follow-up assessment, however, Haya reached for blocks and transferred an object from one hand to the other, resulting in a slight score increase. Additionally, she demonstrated some scattered skills by turning pages in a book and using two hands together, but Haya did this during the inpatient evaluation only. She did not imitate crayon lines as presented by the examiner.

Haya's performance on the Receptive Language scale revealed that she responded to voice and face by vocalizing, coordinated looking and listening, and attended to words and movements. She appeared to recognize and turn toward the sound of her name, but did not, however, appear to recognize any other words or demonstrate understanding of inhibitory words. There was no indication that she understood commands or gestures. Although she did not interact with herself in a mirror, she appeared to visually attend to her reflection. During the outpatient evaluation, Haya was noted to respond to her name, which was not noted during the inpatient assessment.

On the Expressive Language scale, Haya made several vocalizations, babbled voluntarily, and produced at least three consonant sounds. She also appeared to use inflection while jabbering and appeared to combine jargon with gestures (i.e., yelled "nay, nay, nay" while shaking her head).

Adaptive Functioning: On the Vineland-II (Mean = 100, Standard Deviation = 15), Haya's mother served as the informant while Haya was an inpatient at KKI. In many areas, Haya's adaptive skills were rated as impaired relative to other children her age. Her overall Adaptive Behavior Composite is significantly below average (SS = 45).

On the Receptive Language scale of the Communication domain, Haya was reported to partially understand the meaning of the word "no" and "yes." She also sometimes listens to a story for at least five minutes. Reportedly, Haya sometimes follows instructions with one action and one object (i.e., "Bring me the book"), but is not yet following two-step commands. Her mother reported that she understands basic questions (i.e., "Do you want to go outside to play"), and typically indicates her wants/desires. Expressive language skills include pointing to a preference, making sounds and gestures to indicate wants/needs, saying "mama/dada," and sometimes using gestures to indicate choice. She is not yet naming objects, using names for other family members, attempting to answer questions with words. Formal written communication skills have not yet emerged.

With regard to the Daily Living Skills domain, Haya eats solid foods, drinks from a straw, and sometimes drinks

from a cup, although she may spill. She often lets her mother know when she has a soiled diaper, which happens infrequently because regularly uses the toilet. However, she does so with complete assistance from her mother or other caregiver, and only usually only when placed on the toilet. Haya does not yet assist with dressing or pulling clothes on/off, but often takes off her socks. She does not yet help with simple household chores or clean up her personal possessions. She reportedly does not yet have understanding of functional household items (i.e., telephone, TV), but attempts to push buttons on remote controls or laptop computers.

In terms of socialization, Haya displays a preference for certain people and object, shows affection to familiar people, and imitates facial expression. Though she reportedly plays alone when in the presence of other children, she sometimes shows interest in other children her age. She reportedly plays well with her two sisters, although she occasionally pushes them away when they attempt to engage her. Haya uses actions to show happiness (i.e., hugs), and sometimes shows a desire to please others. She does not demonstrate friendship-seeking behavior or imitate more complex actions as performed by others.

With regard to gross motor skills, Haya reportedly crawls on her hands and knees across the floor and up stairs, and sometimes pulls herself to a standing position (with support, such as a table). While holding onto something, she takes at least two steps and stands alone for at least five minutes. Haya rolls and throws a ball while sitting, and sometimes climbs on and off low objects. She does not walk or run independently, climb on/off an adult sized chair, or walk up stairs.

Fine motor skills include picking up small objects, moving objects from one hand to the other, picking up objects with thumb/fingers, and squeezing objects. Hay also sometimes puts objects into or removes items from containers. She usually turns pages of a book or magazine one at a time, unwraps small objects, and sometimes stacks small objects (i.e., blocks). Haya reportedly does not open doors, use a twisting hand-wrist motion, or hold a pencil in the proper positions.

Haya's mother denied any significant behavioral concerns, but reported overall decreased mood and increased fussiness since the onset of Haya's seizures. Scores on the Vineland-II scales are reported in the following table:

Vineland-II Scale	SS or Age Equivalent (years:months)
<b>Communication</b>	44
Receptive	1:0
Expressive	0:10
Written	1:10
<b>Daily Living Skills</b>	41
Personal	1:1
Domestic	0:10
Community	<0:1
<b>Socialization</b>	51
Interpersonal Relationships	1:1
Play and Leisure Time	0:8
Coping Skills	<0:1
<b>Motor Skills</b>	54
Gross	1:1
Fine	1:8
<b>Adaptive Behavior Composite</b>	45

**Impression:**

Functions/Impairments: Haya Al-Yasin is a 5 year-old girl from Kuwait with a history of resection of a pilocytic astrocytoma of the right cerebellar hemisphere in 9/05, shunted hydrocephalus, and recent-onset seizures. She also has a history of significant developmental delays. Haya spent several days on KKI's Brain Injury Unit for comprehensive multidisciplinary evaluations, but direct neuropsychological assessment of Haya was limited. Thus, she returned for the current outpatient follow up visit to attempt to obtain a more accurate picture of Haya's skills on standardized testing.

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During this brief follow-up assessment, attempts were made to elicit additional developmental and behavioral testing data from Haya. Evaluation of cognitive skills during each session (inpatient and outpatient) were generally consistent. While Haya was noted to perform a few additional tasks during the outpatient evaluation, there were a few skills demonstrated during the inpatient evaluation that were not observed during the outpatient evaluation. Based on her best performance, results on a standardized measure of cognitive development revealed significantly below average functioning (6 to 12 months). Additionally, on a standardized parent report measure of daily functioning, Haya's mother's responses provided during the inpatient stay indicated that Haya is demonstrating skills which fall significantly below average for her age (8 to 20 month level).

Behaviorally, Haya also demonstrated significant difficulties with attention, social engagement, and affect throughout the evaluation sessions. As noted during the inpatient evaluation, during this outpatient follow up visit, Haya's attention and affect were extremely variable during the testing session. During all sessions, she consistently fixated on her left hand while repetitively flapping it near her eyes. Overall responsiveness to the examiners, including eye contact and social engagement, was extremely minimal and fleeting.

Haya's well below average performance and parent report of daily skills remains consistent with reports of her long-standing developmental delays since the resection of her tumor. Her presentation and pattern of neurobehavioral deficits suggest multiple areas of inefficiency in the development of higher cortical function and is consistent with a diagnosis of severe to profound mental retardation. In addition, above and beyond general deficits in cognitive skills, Haya displays several features consistent with pervasive developmental disorder, such as extremely limited joint attention and stereotypes of her hand. With her current neuropsychological profile, Haya will likely remain off track developmentally in relation to her peers. With the provision of intensive daily behavioral, attentional, and communication interventions, however, Haya will likely continue to make some gains in skills, and may learn to communicate or perform basic life activities.

Activities: Due to the above-mentioned neuropsychological impairments, Haya is unable to engage in age-appropriate activities (e.g., mobility, play). However, she can passively participate in preferred activities, such as games, toys, and music that she enjoys.

Participation: Due to Haya's impairments and activity limitations, she would greatly benefit from significant modifications to her environments to help promote development in motor, communication, visual, cognitive, and social skills. Careful planning will be necessary to ensure an appropriate home program and ongoing school placements for Haya to address neuropsychological impairments and limitations.

**Recommendations:**

*Educational*

- This report should be shared with Haya's current educational team. She will require special education services on a long-term basis, including a small class size with a low student-to-teacher ratio, highly structured functional communication training, and continued physical, speech, and occupational therapies.
- We have reviewed Haya's educational prior reports and strongly endorse her current educational program, as she will benefit most from a small, highly structured school program. We also endorse goals provided by occupational and speech therapies, including attempts to increase Haya's attention and joint attention, develop

eye contact, increase postural control and trunk stability, enhance bilateral coordination, respond to her name, and develop imitation skills. Goals for physical education are also endorsed. In addition, we recommend the following:

- Haya's educational program should include a structured daily program of sensory stimulation, and ~~teachers should have training in working with children with significant motor and cognitive limitations.~~
- Intensive and consistent Applied Behavioral Analysis (ABA) will likely be most helpful in ~~developing functional communication and in engaging Haya in educational activities in order to increase skills.~~ A professional with specific ABA training should be consulted (see resources below).
- Always be attentive to Haya's rhythms and moods. Learn to read her cues and respond to her when she is happy or upset.
- Provide colorful objects of different shapes, sizes, and textures that she can play with. Show her children's books and family photographs.
- Make sure other people who provide care and supervision for Haya have a solid understanding of her level of functioning and understand the importance of a consistent, loving, comforting relationship with her.
- Increase understanding of words by demonstrating/showing meaning as it is said.
- Develop word associations by giving word labels to everyday objects and activities.
- Encourage and positively reinforce (e.g., clapping) attempts to communicate.
- Speak slowly and give time to respond - up to 30 seconds after presenting stimulation.
- Speak to Haya in simple but lively language. Repeat new information frequently.
- Tell Haya what you're going to do before you start doing it.

#### *Activities to Promote Development*

- Strategies to promote development should be used and integrated across settings (i.e., therapies, home, school). Haya's parents and therapists can encourage her development with the following strategies:
  - Try to establish a regular nap-time each day and encourage Haya to sleep through the night.
  - Provide consistent, warm, physical contact (i.e., hugs, skin-to-skin contact) in order to provide a solid sense of security and well-being.
  - Always be attentive to Haya's rhythms and moods. Learn to read her cues and respond to her when she is happy or upset. Be attentive to when Haya is alert and attentive, upset, or fatigued. Provide stimulating activities when she is alert and content. If she is upset or tired, stop the stimulating activity, and provide her with comfort or rest.
  - Provide colorful objects of different shapes, sizes, and textures that she can play with. Show her children's books and family photographs. Provide images or books with high-contrast patterns, a bright, varied mobile, or an unbreakable mirror for play.
  - Provide Haya with a child-safe mirror so she can look at herself.
  - Avoid subjecting Haya to physical or psychological stressors or traumatic experiences (i.e., yelling, startling, excessively loud music or noises).
  - Make sure other people who provide care and supervision for Haya have a solid understanding of her level of functioning and understand the importance of a consistent, loving, comforting relationship with her.
  - Increase understanding of words by demonstrating/showing meaning as it is said. Develop word associations by giving word labels to everyday objects and activities.
  - Encourage and positively reinforce (e.g., clapping) attempts to communicate.
  - Talk to Haya frequently throughout the day. Describe the activities that you are doing (i.e., "I am putting your shirt on", "I am putting your shoes on", etc.), and make sounds that she can try to imitate (i.e., na-na, ba-ba, ma-ma). When Haya makes sounds, imitate her and praise his vocalization. Talk or sing during dressing, bathing, feeding, playing, walking or driving, using adult talk.
  - Haya would benefit from interactive play activities to promote visual attention, motor skills,



- responsiveness to stimulation, and cause and effect learning. Encourage play by reading books, singing songs, or playing soft music with her. Use interactive toys or games that light up, make sounds, music, or speak after pressing buttons. Also use toys that she can manipulate (big blocks, play telephone, trucks).
- Verbally and nonverbally praise Haya for responsiveness and appropriate behaviors (i.e., for pressing a button to make a light turn on).
  - Imitate any of Haya's appropriate play (i.e., if she presses a button, parent presses a button).
  - Describe what Haya is doing (e.g., "You pressed the button").
  - Provide close, physical contact to help Haya feel comforted and secure.
  - Sing to Haya and give her the opportunity to listen to music. Engage Haya in rhythmic movement such as dancing together with music.
  - Haya should be encouraged to play with her sisters. Provide Haya opportunity to observe other children play and provide her opportunity to interact with other children (i.e., children talking to her, playing with interesting toys with her, etc.).
  - Read to Haya every day. When reading books to Haya, point to pictures and describe the scenes in the book (i.e., animals, colors, etc.).
  - Play interactive games such as peek-a-boo and pattycake with Haya.
  - Avoid subjecting her to physical or psychological stressors or traumatic experiences (i.e., yelling, startling, excessively loud music or noises).

#### *Recommended Toys*

- Unbreakable mirrors
- Balls of all sizes and variety (make sounds, different textures).
- Musical toys, such as bells, maracas, tambourines, drums
- See-through rattles that show the pieces that make the sound
- Baby books with board, cloth, or vinyl pages
- Large brightly colored building blocks
- Cars, trucks, and other vehicles toys made of flexible plastic, with no sharp edges or removable parts
- Brightly colored toys
- Toys that light up
- "Cause and effect" toys that make noise or light when parts are pulled, pushed, opened, or moved.

#### *Motor Skills*

Continuation of physical and occupational therapies is recommended. Playing games, coloring, or engaging in simple fine motor activities are also encouraged. Encourage two-handed activities such as rolling clay or throwing a large ball, with gentle encouragement to use both hands.

#### *Speech and Language*

Haya's functional communication is below age expectations. It is imperative that continued emphasis is placed on functional communication. Whatever communication system is used at school should be carried over into the home for consistency. Speech and language strategies and goals should be integrated across settings and should regularly be relayed to Haya's parents so that they can focus on and reinforce similar behaviors at home. Emphasis should be placed on the ability to express basic wants, needs, and emotions such that Haya is able to participate in some form of symbolic interaction.

#### *Attention Modulation*

Significant difficulties with attention were noted. Haya is likely to work most successfully if learning periods are limited to focused sessions, lasting 2 to 5 minutes at a time, with provision of preferred activities in between.

*Social and Emotional*

- If Haya becomes frustrated or upset during activities, provide reassurance, and redirect Haya back to task, if possible.
  - Provide Haya with a reinforcer after performing difficult activities. As she responds consistently to music, this can be used as a reward.
  - If Haya has any difficulties adjusting to the social demands of school, she could become involved in supervised social groups through her school, if available.
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*Resources*

- The Shafallah Center for Children with Special Needs in Qatar may be helpful in guiding Haya's family toward similar resources in Kuwait, or possibly in training her providers. The center is located at 69 Lusail Street, West Bay Area, P.O. Box: 4251, Doha – Qatar; and can be contacted at Telephone Number: (00974) 495-6666. Website: <http://www.shafallah.org.qa/> Email: [info@shafallah.org.qa](mailto:info@shafallah.org.qa)
- The Association for Behavior Analysis International may also be able to aid the family in locating ABA providers. Nour Al-Qassab, of The Middle East Chapter (MEABA) in Dhahran, Saudi Arabia may be reached at Telephone Number +966-3-873-4598 or 97317401590. Email: [qassabnm@yahoo.com](mailto:qassabnm@yahoo.com) or [info@middleeastaba.org](mailto:info@middleeastaba.org)

It is important to note that these recommendations are based on Haya's current level of functioning. She would benefit from a follow up neuropsychological/developmental evaluation in approximately two to three years in order to help with ongoing educational program planning. If questions arise about this report, please feel free to contact Dr. Slomine at 443-923-2725.

The results of this evaluation were shared with Haya's father during the outpatient visit. Based on interactions with both parents, Mr. and Mrs. Al-Yasin appear to be developing an understanding of Haya's functional status and her current needs.

Results will also be discussed further with Haya's interdisciplinary team and family at a scheduled multidisciplinary team meeting at KKI on 7/29/08.

**Signature:** This visit note was electronically signed by Gianna Locascio, Psy.D.

**Date:** 07/24/2008 03:32 PM

**Signature:** This visit note was electronically signed by Beth Slomine, Ph.D, A.B.P.P.

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**Date:** 07/24/2008 at 4:19 PM