

## BEHAVIOR

### Behavior, Case #1

Written by Gray M. Buchanan, Ph.D.

The parents of a three-year-old boy are concerned that he is not yet toilet trained. How would you counsel them? What are the signs that indicate that a child may be ready for toilet training?

### Definitions for Specific Terms:

**Enuresis** – Repeated voiding of urine into bed or clothes (whether voluntary or intentional)

**Nocturnal** – Passage of urine only during nighttime sleep

**Diurnal** – Passage of urine during waking hours

**Encopresis** – Repeated passage of feces into inappropriate places (e.g., clothing/floor) whether involuntary or intentional w/constipation and overflow incontinence – evidence on physical exam  
Anticipatory guidance – the preparation of a child to assist with relieving fear and anxiousness of an event expected to be stressful.

### Review of Important Concepts:

#### Historical Points

1. Is the child showing any interest in the toilet?
2. Does the child have any known developmental delays?
3. You should ask specifically about gross motor, fine motor, speech, and social skills.
4. You may want to gauge the parental expectations for toilet training.

#### Physical Exam Findings

1. You should examine the genitalia for labial adhesions, meatal stenosis, or any other abnormalities.
2. Check for defects in the lower spine such as a sacral dimple, placement of the anus, anal tone, lower extremity tone, and reflexes.

#### Clinical Reasoning

1. Should one expect a three-year-old boy to be potty trained?
  - a. Toilet training varies widely by culture and caregiver and will typically begin when children are developmentally demonstrating some autonomy and mastery. Many caregivers begin with anticipatory guidance around toileting when children are approximately 1 to 1 ½ years of age. Typically developing children will generally demonstrate developmental skills needed for toileting between 18-30 months of age. Developmentally children follow a progression of nighttime bowel continence, followed by daytime bowel continence, then daytime urine continence, and finally nighttime urine continence.

- b. In regard to urinary continence approximately 30% of children sense bladder fullness by 2 years of age and almost all typically developing children by 4 years of age. On average, daytime continence is attained by the majority of children by 3 ½ years and by 5 years approximately 85% of children demonstrate nocturnal dryness. Typically developing children older than 5 years void approximately 5-8 times/day. If urinary continence issues persist past 5 years of age the condition may be labeled enuresis.
  - c. In regard to bowel function, the incidence of difficulties is approximately 3% in children 4 years of age, 1.5% in children 7-8 years of age, and 1.5% in 10-11 year olds. If bowel difficulties persist past 4 years of age the condition may be labeled encopresis.
2. How can you help the parents determine if their child is ready for potty training?
- Readiness Signs – a child should demonstrate physical, cognitive, and behavioral signs for initiation of toileting.
- a. Cognitively, the child should be developed enough to follow simple directives and be able to label toileting activities (e.g., pee pee).
  - b. Physically, the child should demonstrate dry periods lasting 2-3 hours suggesting bladder muscles developed enough to demonstrate continence. Bowel movements should also be well formed and the child should be able to ambulate, sit, and assist with the removal of clothing.
  - c. Behaviorally, the child should be demonstrating an interest in more independence, be open to attempting toileting, and be able to provide a sign of the need to toilet (e.g., verbal or nonverbal cue, facial expression, posture, etc.). Most children will also demonstrate a discomfort when wet/dirty.


### Other Helpful Information

Parents should be counseled on the readiness signs (briefly outlined above) and can be provided with guidelines for toileting (see ages and stages resources below). Additionally, counseling parents on potential behavioral reward systems for encouraging readiness and the need to provide verbal praise for attempts and signs of readiness can be helpful. Finally, in this scenario parents should be encouraged to attend to the readiness signs their child is providing and a plan for further monitoring toileting skills (toileting log/diary) may be implemented for review at future appointments.

### Suggestions for Learning Activities:

- Ask the student to provide a general timeline of developmental skills children typically demonstrate for toileting readiness
- Role play how to respond to parents when such toileting concerns present
- Review DSM criteria of enuresis and encopresis and the potential behavioral and pathophysiological causes for such conditions

### Other Resources:

- <http://www.healthychildren.org/English/ages-stages/Pages/default.aspx>
- Houts, A. C. (2003).  [Behavioral treatment for enuresis](#). In A. E. Kazdin & J. R. Weisz, (Eds), Evidence-based psychotherapies for children and adolescents (pp. 389-406) New York: Guilford.
- [http://drhouts.com/pdfs/12%20Houts%20\(2003\)%20Behavioral%20Tx%20Enuresis%20Kazdin%20&%20Weisz%201.pdf](http://drhouts.com/pdfs/12%20Houts%20(2003)%20Behavioral%20Tx%20Enuresis%20Kazdin%20&%20Weisz%201.pdf)
- The American Academy of Pediatrics Guide to Toilet Training (2003) by Mark Wolraich

## **Behavior, Case #2**

Written by Joanne Kennedy, M.D.

A 16 mo boy has had several episodes of breath holding leading to cyanosis and becoming limp for a few seconds. They occur when he is angry or upset. What is the most likely diagnosis? How would you counsel the parents? What work-up may be warranted?

### **Definitions for Specific Terms:**

**Syncope (commonly called fainting)**- A sudden and usually brief loss of consciousness and postural tone, caused by a transient decrease in cerebral blood flow. Etiologies include breathholding spells, vasovagal syncope, postural or orthostatic hypotension, arrhythmias, seizures, and hypoglycemia. Apnea: From the Greek "absence of breath," refers clinically to the partial or complete cessation of respiratory flow. An episode lasting more than 20 seconds usually is considered pathologic and may be accompanied by cyanosis, hypotonia, bradycardia, or pallor.

**Hypotonia**- Decreased muscle tone. It can be a condition on its own, called benign congenital hypotonia, or it can be indicative of another problem where there is progressive loss of muscle tone, such as muscular dystrophy or cerebral palsy. An infant with hypotonia exhibits a floppy quality or "rag doll" feeling when he or she is held.

**Seizure**- Seizures and epilepsy are not synonymous. A seizure is defined as uncontrolled electrical activity in the brain that may be manifested clinically by loss of consciousness, abnormal motor activity, behavioral and emotional abnormalities, sensory disturbances, or autonomic dysfunction. Epilepsy: Recurrent convulsive or non convulsive seizures.

**Cyanosis**- A bluish color of the skin and the mucous membranes due to insufficient oxygen in the blood. For example, the lips may show cyanosis. Cyanosis can be evident at birth, as in a "blue baby" who has a heart malformation that permits blood that is not fully oxygenated to enter the arterial circulation. Cyanosis can also appear at any time later in life. The word "cyanosis" comes from the Greek "cyanos" meaning dark blue. Approximately 5 g/dL of unoxygenated hemoglobin in the capillaries generates the dark blue color appreciated clinically as cyanosis. For this reason, patients who are anemic may be hypoxemic without showing any cyanosis. Cyanosis can be caused by: Lack of oxygen (such as in suffocation or cyanotic heart disease), Abnormal hemoglobin (such as methemoglobinemia), or Toxins (such as cyanide). Mild cyanosis may be hard to detect. Usually the oxygen saturation of the blood has to drop from the normal level of nearly 100% to below 90% before cyanosis occurs. In dark-skinned people, cyanosis may be easier to see in the mucus membranes (lips, gums, around the eyes) and nail beds, rather than in the skin. It may also appear on the feet, nose, and ears.

### **Review of Important Concepts:**

#### **Historical Points**

The history is critical for making the etiologic diagnosis, selecting confirmatory investigations, and guiding appropriate therapy.

- What was the child doing right before the event?

- Are there any prodromes or associated symptoms?
- What is the duration of unconsciousness?
- Does the child (or household contacts) take any medications?
- Is there family history (sudden cardiac death, deafness)?

### Physical Exam Findings

Although not always revealing, a thorough physical examination is required and should focus on the neurologic and cardiovascular system.

1. What is the pulse and BP?
2. Do they vary from supine to standing?
3. Are there any murmurs or clicks?
4. Are there any focal neurologic findings?
5. Is the fundoscopic exam normal?

### Clinical Reasoning

1. What might cause a child this age to have a syncopal episode?
  - a. Breath holding spell:
    - Cyanotic Type (“classic” breath-holding spell) is rare prior to 6 months of age, peaks at about age 2 years, and resolves spontaneously by 5 years of age. These spells are self-limited and have a uniformly favorable prognosis. After being startled or becoming upset, the child may make a short gasp and then exhale and stop breathing. The child becomes cyanotic and there is a brief period of unconsciousness, at which time normal breathing restarts. The spells often occur with tantrums but are not thought to be a willful act of defiance. Breath holding spells can run in families. If a child's parents had similar spells in childhood, the child may be more likely to have spells. Children with iron deficiency anemia may also have increased episodes of breath holding.
    - A second type of breath holding spell is known as a Pallid Type. These typically are initiated by a seemingly innocuous stimulus, such as frustration at play or scolding; a painful experience; a sudden startle; or a minor trauma, such as venipuncture. There is an initial quieting, with breath holding in the end-expiratory phase, followed by pallor, brief loss of consciousness, loss of muscle tone, and a fall to the ground. The spells are self-limited and have an excellent prognosis; affected children are asymptomatic between the spells and physically and intellectually normal.
  - b. Seizure:
 

Nonfebrile seizures occur in children of all ages. The prevalence of epilepsy in the pediatric population is 4 to 6 cases per 1000 children. In this case presentation, we should consider myoclonic, atonic and absence seizures. Myoclonic seizures are characterized by brief, sometimes repetitive symmetric muscle contractions with loss of normal body tone. Atonic seizures typically cause the child to fall because of the sudden loss of postural tone. Simple absence seizures are characterized by brief (5 to 20 sec) lapses in consciousness, speech, or motor activity, sometimes associated with flickering of the eyelids.
  - c. Neurocardiogenic Syncope:
 

Vasovagal or neurocardiogenic syncope are due to autonomic dysfunction and usually occur in adolescents after prolonged motionless standing in a crowded and warm environment.

- d. Cardiac Syncope:
- Arrhythmogenic or structural heart conditions always must be considered in the differential diagnosis of syncope. For example, prolongation of the QT interval may predispose to ventricular arrhythmias, syncope, and generalized seizures. The QT interval is prolonged when the corrected QT interval or QTc is above the upper normal limit for age, usually more than 0.44 seconds. The condition may be due to acquired heart disease but more often is congenital and inherited. Other historical findings may be suggestive. For example, in the Jervell and Lange-Nielsen syndrome, there is associated sensorineural deafness.
  - Hypoglycemia may cause syncope, usually in those who have diabetes. Associated symptoms include weakness, hunger, sweating, agitation, and confusion. The onset is always gradual.
2. What diagnostic studies if any should you obtain?
- a. A 12-lead ECG could be employed for evaluation of arrhythmias. A detailed interpretation must include the rhythm, conduction, premature beats, presence of a delta pre-excitation wave, chamber enlargement, and accurate measurement of the PR, QRS, and QT intervals (corrected QTc).
  - b. A cardiology consultation could be considered if a pathologic heart murmur is heard, there is chest pain preceding syncope, arrhythmia, prolonged QT interval, Q waves on ECG, or a family history of cardiomyopathy or sudden death.
  - c. An EEG is considered for patients in whom there is prolonged loss of consciousness, suspected seizure activity.
  - d. A hemoglobin should be performed as there is a high incidence of iron-deficiency anemia in children with breath-holding spells. There is improvement after treatment with ferrous sulfate.

### Diagnosis and Treatment

1. The most likely diagnosis for this child, pallid spells, can be made based on the history without further testing. Although generally not necessary if the diagnosis of pallid spells by history needs confirmation, an ocular compression test may be performed under EEG and ECG surveillance.
2. What advice should you give the parents?  
Although the label “Breath Holding Spell” suggests a voluntary action, such spells are actually involuntarily and reflexive. The duration of the spells is typically from 2 to 20 seconds but can last as long as a minute or more. Approximately 20% to 30% of breath-holders have a family member who exhibited Breath Holding Spells during childhood. There are no well-documented differences between genders. Studies that have tried to detect significant behavioral or psychological differences between breath-holders and control groups have been unsuccessful. Reassure parents about the nonharmful outcome of these spells. You can give a layperson’s account of how interrupted breathing patterns can lead to loss of consciousness. Although it may be difficult, parents need to be calm and not over react to the event. They should not give in when the child becomes upset for fear that the child will have a spell as this may reinforce temper tantrums.

### Suggestions for Learning Activities:

- View videos of breath holding spells available on You Tube.
- Role-play giving advice to parents on how to react to breath holding spell.

**Other Resources:**

- **The Child Who Passes Out** Hassib Narchi *Pediatr. Rev.* 2000;21;384-388
- **Long Term Prognosis for Children With Breath Holding Spells** Olsen AL, Mathiasen R, Rasmussen NH, Knudsen FU *Dan Med Bull.* 2010 Nov;57(11):A4217.
- **Caring for Your Baby and Young Child: Birth to Age 5** AAP publications
- AAP NEWS Vol. 26 No. 5 May 1, 2005 pp. 1

## **Behavior, Case #5**

Written by Gray M. Buchanan, Ph.D.

A seven year-old boy is still wetting the bed at night. How would you evaluate the patient and counsel him and his family? What treatment modalities are available for enuresis and when should they be implemented?

### **Definitions for Specific Terms:**

**Enuresis** – Repeated voiding of urine into bed or clothes (whether voluntary or intentional)

**Nocturnal** – Passage of urine only during nighttime sleep

**Diurnal** – Passage of urine during waking hours

### **Review of Important Concepts:**

#### **Historical Points**

- Does the child have any known developmental delays?
- You should ask specifically about gross motor, fine motor, speech, and social skills. Is there a family history of enuresis?
- Does the child take any medication (e.g. a diuretic). Does the child have a medical problem (e.g., diabetes, seizure disorder, spina bifida)?
- Enuresis is not by definition a functional disorder and; therefore, ruling out any organic dysfunction is essential.

#### **Physical Exam Findings**

1. Elevated blood pressure might reflect renal dysfunction; bladder percussion may find distention from outlet obstruction or neurogenic disease.
2. Examination of the back can identify vertebral anomalies; neurologic examination of lower extremities may identify spinal cord disease (e.g., altered gait, diminished muscle reflexes, up-going toes).
3. You should examine the genitalia for labial adhesions, meatal stenosis, or any other abnormalities.
4. Check for defects in the lower spine such as a sacral dimple, placement of the anus, anal tone, lower extremity tone, and reflexes.
5. Tonsillar hypertrophy is associated with disordered sleep and enuresis.

#### **Clinical Reasoning**

1. Should one expect a seven-year-old boy to be dry at night?
  - a. DSM-IV criteria define enuresis as “repeated voiding of urine into bed or clothes.” The behavior must be present either twice per week for at least 3 consecutive months or interfere with social, academic, or other areas of functioning. Chronological and developmental age must be 5 years. Developmentally children follow a progression of nighttime bowel continence, followed by

daytime bowel continence, then daytime urine continence, and finally nighttime urine continence.

- b. On average nocturnal dryness is demonstrated by 85% of children by 5 years of age. Typically developing children older than 5 years void approximately 5-8 times/day. At age 5 approximately 7% of males and 3% of females have enuresis. By age 10 the rates are approximately 3% and 2%, respectively.
2. Should you treat this boy and what treatments are available?
    - a. Because spontaneous remission progresses each year of age, some individuals question whether or not enuresis should be treated. However, if the patient presents with repeated voiding treatment options should be discussed. Failure to treat may result in poor sanitation, poor self esteem, embarrassment/teasing from peers, and/or family conflict.
    - b. Urine alarm treatment – One of the most effective treatments uses an alarm that is sounded when the child wets. These alarms are commercially available and generally take a training period of 8-12 weeks. They have been shown to demonstrate success rates up to 90% and appear as effective, or more effective, than medication in most studies.
    - c. Medication – Several medications are currently available to assist with enuresis. Imipramine (Tofranil), Desmopressin Acetate (DDVAP), and Oxybutynin Chloride (Ditropan) have all demonstrated some effectiveness. All are associated with potentially severe side effects from fluid and electrolyte disturbances to cardiac arrhythmias. While each medication has demonstrated some effectiveness, when the medication is terminated most children demonstrate relapse, with non-relapse percentages being approximately equivalent to the spontaneous remission rates.
    - d. Multiple Intervention Packages – Numerous treatment packages have been examined which involve a variety of components (see resources below). These include various combinations of medications, urine alarms, hourly awakenings, positive practice, overlearning procedures, retention control training, and behavioral therapies.

### **Other Helpful Information**


Commonly parents report that children presenting with enuresis are exceedingly deep sleepers. However, while some studies demonstrate that children with enuresis may be more difficult to arouse, most sleep studies do not suggest a relationship between enuresis and depth and/or stage of sleep. No specific emotional conditions are associated with enuresis. However, commonly noted concerns include family conflict, immaturity, and anxiousness.

### **Suggestions for Learning Activities:**

- Ask the student to provide a general timeline of developmental skills children typically demonstrate for toileting readiness
- Role play how to respond to parents when such concerns present
- Review DSM criteria of enuresis and the potential behavioral and pathophysiological causes for such conditions



**Other Resources:**

- <http://www.healthychildren.org/English/ages-stages/Pages/default.aspx>
- Houts, A. C. (2003).  [Behavioral treatment for enuresis](#). In A. E. Kazdin & J. R. Weisz, (Eds), Evidence-based psychotherapies for children and adolescents (pp. 389-406) New York: Guilford.
- [http://drhouts.com/pdfs/12%20Houts%20\(2003\)%20Behavioral%20Tx%20Enuresis%20Kazdin%20&%20Weisz%201.pdf](http://drhouts.com/pdfs/12%20Houts%20(2003)%20Behavioral%20Tx%20Enuresis%20Kazdin%20&%20Weisz%201.pdf)
- The American Academy of Pediatrics Guide to Toilet Training (2003) by Mark Wolraich

## **Behavior, Case #6**

Written by Gray M. Buchanan, Ph.D.

The parents of a two-year old are concerned because he “refuses to eat.” What additional information do you need? How would you evaluate him and counsel his family?

### **Definitions for Specific Terms:**

**Failure to thrive (FTT)**- A child whose growth is below the 5<sup>th</sup> percentile for age or whose weight crosses at least two major percentile lines on a standard growth chart (e.g. 75<sup>th</sup> to below 25<sup>th</sup> percentile).

**Food refusal**- Feeding problem in which children refuse to eat some or all foods presented and exhibit problems with growth.

### **Review of Important Concepts:**

#### **Historical Points**

- Does the child have any known developmental delays? You should ask specifically about gross motor, fine motor, speech, and social skills.
- Was the child premature or small for gestational age?
- Does the child take any medications which affect appetite/weight or is any medical condition present (e.g., diabetes, GERD, cystic fibrosis, HIV, etc.)?
- Is the child presented with appropriate foods for his/her age?
- Does the child refuse all foods or just certain foods? What are they?

#### **Physical Exam Findings**

1. Examine for dysmorphic features which may suggest syndromes associated with short stature and/or feeding difficulties.
2. Specific organ diseases should be assessed (e.g., chronic serous otitis media, abdominal masses, congenital heart disease).
3. Examine for low muscle tone and peripheral reflexes.
4. Cranial nerve dysfunction related to swallowing.
5. Hypertonicity and hyperreflexia not related to cerebral palsy.
6. Evaluate for physical abuse (e.g., burns, fractures, retinal hemorrhages, skin lesions).
7. Appearance of skin (detectable pallor, bruising, petechiae), hair (texture, pluckability related to malnutrition), mucosal surfaces, and oral/dental evaluation.

#### **Clinical Reasoning**

1. When should the parents be concerned regarding the child’s refusal to eat?  
Mild forms of weight loss secondary to underfeeding are not uncommon in the first 3 years of life. It is acceptable for children from 0 – 24 months to cross growth percentiles. However, if the child presents with an extended pattern of food refusals, significant weight loss and/or FTT a comprehensive medical and psychosocial evaluation would be appropriate. Assessment will typically involve classifying the difficulty which will assist in treating the child, if necessary.

Classifications may include medical etiologies (e.g., GERD, prematurity), difficulties related to oral-motor delay (e.g., cerebral palsy), and/or behavioral etiologies [e.g., conditioned anxiety, feeder-child interactions, stimulus control associations (i.e., environmental characteristics or situations that serve to trigger maladaptive feeding behaviors)].

2. Should you treat this child and what treatments are available for feeding difficulties?
 

Food refusals are fairly common at this age and one determining factor in seeking additional treatment will be weight loss. A thorough clinical interview with the caregiver(s) regarding the child's feeding history, mealtime routines, and techniques that have been tried with the child will be a step toward gathering data to determine if intervention is needed. A nutritional diary of the child's food intake may also be informative in determining the presenting difficulties. If weight loss is present a variety of treatments may be available depending on the classification of the difficulty.

  - a. Behavioral components of treatment – numerous behavioral techniques are typically employed and may include stimulus control procedures (e.g., modification of environmental factors or situations that serve to trigger maladaptive eating), appetite manipulation, contingent social attention (i.e., positive social attention for desired eating), desensitization of feeding related fears, modeling, and tangible consequences.
  - b. Nutritional rehabilitation – typically involves a nutritionist who will establish appropriate intake, restoration, and maintenance of nutritional needs. This might include working to stabilize a feeding schedule, diminish between meals foods and liquids and increase monitoring of nutritional intake by caregivers.
  - c. Medical intervention – outpatient and inpatient treatment approaches exist which can assist with managing food refusals which also involve weight loss. Often history and physical examination may lead to further laboratory evaluation to identify organic causes. This might include evaluation for blood cell count, urinalysis, chemical panel (electrolytes, calcium, glucose), sweat test, serologic screening for celiac disease, evaluation for gastroesophageal reflux, and/or study of gastrointestinal malabsorption.
  - d. Multiple Intervention Packages – Most approaches to food refusals and FTT include a multidisciplinary team. Treatment may be outpatient and/or inpatient depending on the severity of difficulties, caregiver management abilities and other factors. Management most typically involves professionals including physicians, psychologists, nutritionists/dieticians, speech/language therapists, and occupational therapists.

### **Other Helpful Information**

Observation of the parent-child interaction and observations of feeder-child interactions during mealtimes can be extremely informative in deciding on interventions. Changes in feeding should be considered in relation to the child's social emotional development also. During the toddler years children are often beginning to assert their autonomy and noncompliance (e.g., food refusal, dressing themselves, etc.); therefore, helping caregivers to understand such normal developmental milestones and patiently monitor such changes is necessary. It may be the case that this child is simply a "picky eater" and parents may just need some nutritional counseling and feedback about what is typical for age.

### **Suggestions for Learning Activities:**

- Ask the student to provide a general timeline of feeding behaviors and milestones in oral motor development
- Role play how to respond to parents when such concerns present

- Review potential behavioral and pathophysiological causes for such conditions as FTT

**Other Resources:**

- <http://www.healthychildren.org/english/ages-stages/baby/feeding-nutrition/Pages/default.aspx>
- [http://kidshealth.org/parent/growth/growth/failure\\_thrive.html](http://kidshealth.org/parent/growth/growth/failure_thrive.html)

## **Behavior, Case #8**

Written by Joanne Kennedy, M.D.

The parents of a 7 year-old boy receive a call from the child's teacher because he is having difficulty following directions and behaving in class. She feels he has a short attention span and is distractible. How should you proceed? What are possible etiologies of why a child is demonstrating these behaviors?

### **Definitions for Specific Terms:**

**Attention-Deficit/Hyperactivity Disorder (ADHD)**- a neurobiological disorder that is characterized by developmentally inappropriate impulsivity, inattention, and to some degree, hyperactivity.

**Disruptive behavior disorders**- includes two similar disorders: oppositional defiant disorder (ODD) and conduct disorder (CD). Common symptoms occurring in children with these disorders include: defiance of authority figures, angry outbursts, and other antisocial behaviors such as lying and stealing. It is felt that the difference between oppositional defiant disorder and conduct disorder is in the severity of symptoms and that they may lie on a continuum often with a developmental progression from ODD to CD with increasing age.

**Simple tics**- Sudden, purposeless, repetitive, involuntary movements or vocalizations. They may commonly include such behaviors as eye-blinking, mouth-opening, sniffing or throat clearing. Tics are commonly seen in childhood occurring in up to 20 percent of all children. Tics can be temporary, lasting less than 12 months, or chronic.

**Tourette syndrome**- A complex, genetically inherited disorder whose primary manifestation includes tics (both motor and vocal) lasting for more than one year. Tourette syndrome is usually mild and is often accompanied by other conditions including ADHD, obsessive-compulsive behavior, learning disabilities and mood disorders.

### **Review of Important Concepts:**

#### **Historical Points**

- Does the child have any significant past medical history including prematurity, low birth weight, in utero exposure to alcohol or tobacco, brain injury or risk of lead poisoning?
- Is there a family history of ADHD?
- Have the symptoms persisted for at least six months?
- Were any of these problems noted before age 7?
- Do these symptoms happen in more than one setting?
- Does the child have problems in social settings or making friends?
- Social history is important including details such as new baby at home, parental discord, etc.

#### **Physical Exam**

1. Is the child's growth and development normal for age?
2. Are there any stigmata of an underlying syndrome (fragile-X syndrome, fetal alcohol syndrome)?
3. Have vision and hearing screens been performed and are they normal?

4. Is his neurological exam normal?

### Clinical Reasoning

1. How should you proceed?

The child should have a full check up to review the history and perform a physical exam with screening tests such as vision and hearing. If risk is suggested, one should consider lab testing for lead, thyroid function, etc.

2. If you suspect ADHD, the diagnosis of ADHD requires that a child meet DSM-IV criteria.

Document the following:

- a. Documentation of at least six of nine behaviors in the hyperactive/impulsive domain and/or in the inattentive domain
- b. The presence of these behaviors in two or more settings (e.g., home and school) for at least 6 months
- c. The presence (by history) prior to 7 years of age, and
- d. Significant impairment in learning and/or social interactions

Note:

- Behavior questionnaires for parents, which are specific for the diagnosis of ADHD, help clinicians make the diagnosis in office practice. These behavior scales ask questions about each of the 18 behaviors in the DSM-IV criteria for ADHD. Several published forms are available.
- The assessment of ADHD requires evidence directly obtained from the classroom teacher (or other school professional) regarding the core symptoms of ADHD, the duration of symptoms, the degree of functional impairment, and coexisting conditions. A physician should review any reports from a school-based multidisciplinary evaluation where they exist, which will include assessments from the teacher or other school-based professional. The AAP recommends the use of (ADHD-specific) rating scales as a clinical option when evaluating children for ADHD.

3. What are possible etiologies for these behaviors?

- a. Research has demonstrated that ADHD has a very strong neurobiological basis. Although precise causes have not yet been identified, there is little question that heredity makes the largest contribution to the expression of the disorder in the population.
- b. In instances where heredity does not seem to be a factor, difficulties during pregnancy, prenatal exposure to alcohol and tobacco, premature delivery, significantly low birth weight, excessively high body lead levels, and postnatal injury to the prefrontal regions of the brain have all been found to contribute to the risk for ADHD to varying degrees.
- c. Other illnesses may manifest as inattention. Examples would include thyroid disease, drug use, anemia which should be considered based on history and physical exam. The school should also be asked to consider screening for learning disabilities as part of their comprehensive evaluation.

4. Can there be common co-existing diagnoses?

- a. Around two-thirds of children with ADHD have at least one other coexisting disorder. Disruptive behavior disorders, mood disorders, anxiety disorders, tics, Tourette syndrome, and

learning disabilities are among the most common conditions that co-occur in children with ADHD.

- b. The lives of most adults with ADHD are complicated by overlapping symptoms of such conditions as anxiety, depression, or substance use.
- c. In the case of tics, the intermittent nature of the condition may make it difficult to pinpoint in the early stages of the disorder; however, over time, a pattern of motor tics and other behaviors will emerge. During the assessment process, it is important to determine the intensity and frequency of the symptoms. In addition, it is essential to ascertain the degree to which the tics and other behaviors impair functioning and affect self-esteem from the viewpoint of parents, peers, school personnel, and the child with the condition. Patterns associated with the tics (for example, are they brought on or made worse by stress or tiredness) may also be key in recommending appropriate modifications or strategies to deal with them. Significant impairments may be seen with both chronic tic disorder and Tourette syndrome.

### **Suggestions for Learning Activities:**

- Review evaluation tools for ADHD that are commonly used to have teachers and parents report behavior (for example, the Conner's form). Students could practice completing these forms and/or scoring the forms.
- Participate in a school observation and/or attend the Behavior and Developmental clinic and observe a physician evaluation of ADHD.
- Visit the CHADD website and read blogs written by parents of children with ADHD.

### **Other Resources:**

- **Diagnosis and Treatment of ADHD in School-age Children in Primary Care Settings: A Synopsis of the AAP Practice Guidelines** Pediatrics in Review, Feb 1995; 16: 76 - 77.
- **www.CHADD .org**
- **National Resource Center on ADHD at [www.help4adhd.org](http://www.help4adhd.org)**

## **Behavior, Case #10**

Written by Philip Malouf, M.D.

The parents of a two-year-old ask how to control their son's temper tantrums. Describe how you would address this situation and what advice you would give.

### **Definitions for Specific Terms:**

**Temper tantrum**- an intense display of anger, stubbornness, screaming, crying, defiance, and occasionally violence that is associated with a child in emotional distress.

### **Review of Important Concepts:**

#### **Historical Points**

- How often are the temper tantrums and what circumstances provoke them?
- How does the child behave during and in the interval between temper tantrums?
- How do the parents respond to the tantrums?
- Are parental expectations consistent with the child's developmental age?
- Have there been any changes at home or school (e.g. birth of new sibling, changed schools)?
- Is the child having any other behavioral or developmental problems?
- Are there any signs or symptoms of obstructive sleep apnea?
- Does the child have any chronic or recurrent medical problems that necessitate frequent doctor's visits and/or needle sticks?

#### **Physical Exam Findings**

1. A thorough developmental assessment should be performed to determine if there are findings consistent with a pervasive developmental disorder (e.g. speech delay or other behavioral concerns).
2. The practitioner should perform a detailed physical exam to assess for findings consistent with allergic rhinitis, atopic dermatitis, or any other illness that makes the child physically uncomfortable.

#### **Clinical Reasoning**

1. How do parents' reactions encourage or discourage temper tantrums?
  - a. Temper tantrums are a common, normal developmental behavior in children from one to five years of age. They occur, in part, due to the child's natural progression toward self-reliance and independence. Before entering school, a child's view of the world is egocentric, with little recognition of the position of other individuals and morality. This often leads to problems when they encounter limitations in the form of parental and societal rules and restrictions imposed in the interest of the child's safety. The problem is compounded by the fact that children at this age do not have a complete verbal or emotional vocabulary. Often, the act of throwing a temper tantrum is a manifestation of an emotion that is not anger—such as fear, confusion, or sadness—that they are unable to express in any other way. Unlike adults who have the ability to verbalize frustrations or simply walk away, young children have neither the sophisticated ability to articulate their emotions nor the freedom to walk away.



- b. Problematic tantrums are those that occur more than three times per day, last longer than 15 minutes each, or lead to property destruction or physical harm. They are often associated with disordered eating, sleeping, and/or peer relationships.
  - c. Parental expectations that are inappropriate for the child's age and developmental maturity may create unnecessary tensions between parents and children and lead to tantrum behavior. Too many rules or restrictions leave a child feeling more frustrated and predisposed to tantrums whereas children who are given frequent opportunities to make choices tend to feel less conflict. During a tantrum, a child should be allowed to vent their frustration in an acceptable manner. When a child is silenced and not allowed to make their feelings known they become prone to more frequent and aggressive tantrums. Social disruptions including domestic violence, divorce, and frequent moves--as well as more common stressors like violence on television and scary movies—contribute to the development of tantrums.
  - d. Finally, children depend on parents for consistency and calm. As a tantrum is often an expression of emotions that are not anger, it can be confusing and counterproductive to respond with anger. Shouting and spanking indicate to a child that the parent is also out of control. If the parent remains calm, it often helps discourage tantrums from occurring or persisting.
2. What appropriate management strategies may help control this behavior?
- Timely anticipatory guidance is often key in minimizing and controlling temper tantrums. Parents can use the following strategies to help reduce the frequency or severity of tantrums:
- a. Childproof the home to minimize unnecessary conflicts.
  - b. Distract the child. Children are like dynamite with a fuse and stick portion; it makes the most sense to intervene before the spark reaches the stick. Children often show signs of overwhelming emotion or frustration building up prior to the “explosion.” Parents should be counseled to look for those signs and intervene prior to the tantrum. The intervention most often utilized is distraction--take the child from the inflammatory situation and re-direct them to a new activity.
  - c. Teach the child how to vent their anger in an acceptable manner (e.g. encourage them to articulate their feelings, squeezing a designated pillow).
  - d. Tell the child that you understand why they are frustrated.
  - e. Copious praise for positive behaviors (no matter how small).
  - f. Provide consistent daily routines and allow reasonable choices when possible to increase a small child's sense of control.
  - g. Ignore attention-seeking tantrums and during tantrums remove children from “the audience.” If a child is completely ignored the parents should be wary of a brief initial increase in unwanted behavior (“response burst”) that may occur.
  - h. Time-outs are appropriate for older or more developmentally mature children who display adverse behaviors (violence) during a tantrum despite warnings to stop those behaviors.
  - i. Holding children may give them a sense of security and help calm them.
3. What are side effects of spanking?
- Although most Americans attest to being spanked as children, the American Academy of Pediatrics currently recommends against spanking as a form of discipline, citing the following reasons:
- a. During temper tantrums, children are often seeking stability or control. Spanking gives the perception of a parent who has lost control of the situation.
  - b. Spanking models that violence is an okay response when we should, in fact, be instilling the idea that violence is never acceptable.
  - c. Spanking teaches aggression and anger rather than responsibility and rational behavior.

- d. Parents are inconsistent with spanking; proper discipline requires consistency. Furthermore, there is never a clear line between what offences warrant spanking and which do not. This is unclear to children who should have clearly delineated responsibilities and consequences.
- e. Spanking can lead to physical struggles which may cause harm to the child.
- f. Compared with children who are not spanked, children who are spanked are more likely to become adults who are depressed, use alcohol, have more anger, hit their own children or spouses, or engage in violent criminal activities.

**Diagnosis:**

1. Normal temper tantrums
2. Problematic temper tantrums

**Suggestions for Learning Activities:**

- Ask the student the questions listed under “clinical reasoning” to assess their thinking about the case.
- Role-play with the student a health maintenance visit in which they are counseling a parent on the prevention and management of temper tantrums.
- Ask the student how they would counsel a parent on how to administer a time-out.
- Ask the student to describe features and potential causes of problematic tantrums.

**Other Resources:**

- Chapter 37 Temper Tantrums by Geeta Grover. Berkowitz, *Pediatrics: A Primary Care Approach*, 3<sup>rd</sup> Ed. ©2008 American Academy of Pediatrics.
- [www.healthychildren.org](http://www.healthychildren.org)