PEDRIATRIC ABUSIVE HEAD TRAUMA (SHAKEN BABY SYNDROME)

2 CONTACT HOUR

Learning objectives:

- Define pediatric abusive head trauma (PAHT).
- Discuss the incidence of PAHT.
- Explain the cause of PAHT.
- Describe risk factors for PAHT.
- Evaluate the signs and symptoms of PAHT.
- Explain the pathophysiology of PAHT.
- Explain ways to prevent PAHT.

During the 2010 Kentucky legislative session, 314.073 Nursing Continuing Competency requirements were amended to include a requirement for all nurses (and other child care providers) to obtain 1.5 hours of education related to pediatric abusive head trauma or “shaken baby syndrome”. The one and one-half (1.5) hours required under this section shall be included in the current number of required continuing education hours. We are pleased to offer this very important course to you which will meet your requirements. This is a one-time training course for nurses and will not need to be repeated in the future.

Introduction

It's a relatively slow evening at the Emergency Department of Soma Community Hospital. Sharon, the charge nurse, is hoping that the relative quiet will prevail. At that moment, a middle-aged women bursts through the door carrying a baby in her arms. “Help me! My grandbaby’s dying. She started shaking and twitching and now she won’t wake up!”

Eight-month-old Beth is unresponsive. Her respirations are shallow, and both of her forearms are bruised. Beth’s pupils are unequal in size. Beth’s grandmother tells Sharon, “The baby was asleep when I got to my son’s house. I told him that I’d babysit so he and his wife could go out for the evening. He works two jobs, and his wife is all by herself day and night with the baby. They seem so tired and stressed, so I suggested they go out. When I went to check on the baby about half an hour later, she started to twitch and shake and vomit, and then she just went limp!”

As Sharon listens, she begins to wonder whether little Beth might be a victim of pediatric abusive head trauma (shaken baby syndrome).

What is pediatric abusive head trauma (PAHT)?

Pediatric abusive head trauma (PAHT), also known as shaken baby syndrome and shaken impact syndrome, is a severe type of child abuse that occurs when an infant or child is vigorously shaken by the shoulders, arms or legs; when the infant or child experiences deliberate, direct blows to the head; or when he or she is deliberately dropped.2,3,4,7,12 PAHT can occur in a matter of seconds and from as few as three violent shakes.3,12

PAHT injuries generally occur in children less than 2 years of age but can be seen in children up to 5 years of age.12 Almost all PAHT victims suffer serious, often permanent, health consequences, including brain damage, blindness, paralysis, speech and language disorders, and death.2,3

Incidence

PAHT is a leading cause of child abuse deaths in the United States. Data indicates that the incidence of PAHT is between 1,000 to 1,500 infants per year. According to information from the Centers for Disease Control and Prevention, of the nearly 2,000 children who die from abuse every year, PAHT is responsible for 10 percent to 12 percent of these fatalities.10

PAHT is most often identified in children between 3 and 8 months of age, but is seen in children up to 5 years of age.7,10,12 About 60 percent of PAHT victims are male.7 It is estimated that one-third of PAHT victims die from their injuries, one-third suffer from life-changing injuries, and one-third suffer minor injuries.4
Cause and risk factors

In the majority of cases, an angry parent or other caregiver shakes the baby or child to punish or quiet him or her. PAHT most often occurs when the baby is crying miserably without being able to be calmed or quieted. The caregiver becomes angry and frustrated, loses control and shakes the baby. Although the caregiver may not have intentionally harmed the baby, it is still a form of child abuse.12

Nursing alert! PAHT does not occur from gentle rocking or bouncing, playful swinging or tossing the child in the air, or jogging with the baby or child. It is also highly unlikely to result from accidents such as falling down stairs or falling off chairs.12

It is estimated that in 65 percent to 90 percent of cases of PAHT, the abusers are male, the baby’s father or the mother’s boyfriend, and generally in their early 20s.7 However, results of a recent study led by Dr. Debra Esernio-Jenssen, medical director of the Child Protection Team at the University of Florida at Gainesville, showed that the victims of PAHT are just as likely to be abused by a woman, although women are less likely to be convicted of the crime.11

The study, which was published in the March 7, 2011, online issue of the journal Pediatrics, consisted of analysis of data collected over a period of 10 years on 34 cases of PAHT in infants. Results showed that the gender of the abusers was equally split between males and females, and that female abusers were usually quite a bit older than male abusers.11 Esernio-Jenssen commented that she thinks there may be a bias about the gender of abusers. She noted, “As a whole, society expects women to be nurturing caregivers.” Further research is necessary to explore gender issues pertaining to PAHT.

Nursing alert! Nurses should avoid gender bias when assessing for child abuse. Women as well as men commit PAHT.

What makes some tired, frustrated caregivers commit child abuse while others do not? There are some characteristics of child abusers that increase the risk for PAHT. These include the following factors:

- Child abusers were often the victims of child abuse themselves, and there may be a past or current history of domestic violence. There may be a history of animal abuse or other criminal behaviors. They have little or no understanding of normal parenting or the normal growth and development patterns of children. Abusers may also have a history of mental illness, such as depression and substance abuse problems. Abusers may also have a history of acute or chronic physical health problems.4,6,8
- Child abusers often may be young (e.g., teenage parents), be single parents, have poor or inadequate social support systems, feel isolated, possess limited coping mechanisms, have poor impulse control and have low self esteem. Abusers often have negative views of themselves and of their child.4,8
- Child abusers may have unrealistic expectations of a baby or child’s behavior. For example, they may expect the child to cry only occasionally or to cry for only short periods of time. They may expect the child to be “good” at all times and seldom misbehave. They may also have a punitive childrearing style involving frequent severe punishments for the slightest mistake or misbehavior.4
- Victims of child abuse may be the result of unwanted pregnancies or being the “wrong” sex. For example, the parents wanted a boy and the mother gave birth to a girl.8
- Certain populations of children are at increased vulnerability for PAHT. These include infants and children who are drug affected, premature, have colic, have physical or developmental disabilities, have chronic illnesses or emotional/behavioral problems.4

The environment of an abusive situation often shows a family in crisis because of problems such as a death in the family, divorce or financial problems. Research indicates that there is a strong relationship between poverty and child abuse. Loss of employment, home foreclosures and general lack of money to buy food and pay bills mean an increase in stress, an increase in the number of children who live in homes below the poverty level, and an increase in the risk of child abuse.4,8

Recent studies show that PAHT incidence increased with the declining economy.1,9 Researchers at University Hospitals Rainbow Babies and Children’s Hospital in Cleveland reviewed the hospital’s database for cases of “non-accidental head trauma” in children up to 2 years of age from December 2001 through June 2010. During this time period, 639 children under the age of 2 were admitted for traumatic injuries, and 93 of the cases were classified as non-accidental head trauma. Forty-three cases occurred in the 31 months of the recession period, defined as December 2007 through June 2010, compared with 50 cases during the 72 months of the non-recession period, defined as December 2001 through November 2007. The researchers also found that significantly more serious injuries that caused more deaths and instances of severe brain injury occurred during the recession.9

Another research project conducted by Dr. Rachel P. Berger, an assistant professor of pediatrics at the University of Pittsburgh School of Medicine and an attending physician at the Children’s Hospital of Pittsburg, and her colleagues showed a link between child abuse head injuries and the falling economy. The researchers analyzed records from 2004 to 2009 at four urban hospitals located in Pittsburgh, Seattle, Cincinnati and Columbus, Ohio. Only cases of “unequivocal” abusive head trauma were included in the data analysis. The recession period was defined as having begun on Dec. 1, 2007, though the end of the study period, Dec. 31, 2009.1

Throughout the study period there were 511 cases of trauma. The average age of patients was slightly over 9 months, and their ages ranged from 9 days to 6.5 years old. About six in 10 patients were males, about the same number were Caucasian, and 16 percent of the children died from sustained injuries. Prior to the economic downturn, the average number of abusive head trauma cases was just short of five per month. After the economy began to falter, the number of cases increased to more than nine per month.1
Nursing alert! Findings of these types of research suggest that nurses and other health care professionals should be alert to economic variations as a risk factor for child abuse.

**Signs and symptoms**

Caregivers may not even be aware of how much damage can be done by shaking a baby. Even a few seconds of shaking or striking a baby’s head with a soft object such as a pillow can be enough of a trauma to significantly injure newborns and small infants.12

In comparison to adults and older children, infants’, babies’ and younger children’s brains are actually softer. Their neck muscles and associated ligaments are weak, and their heads are large and heavy in proportion to the rest of their bodies. This makes them especially susceptible to injury as a result of shaking.12

Signs and symptoms of PAHT range in severity and specificity. The injuries that are the result of this trauma may not be immediately apparent and may be non-specific. For example, infants may vomit or become irritable, signs of a number of problems, not just PAHT. In fact, some children may never receive medical attention because injuries are not readily apparent.7,10

Sometimes, even in less severe cases in which babies appear normal after the shaking, problems may develop or become noticeable years after the injury. For example, the first symptom of PAHT may not be evident until the child starts going to school and shows behavioral or learning problems. Since considerable time may have passed since the abuse, it may be difficult to link such problems to PAHT.7

Here are some signs and symptoms that PAHT has occurred:

- Brusing on a child less than 1 year old, particularly on a child who is not mobile.4
- Multiple bruising on multiple areas of the body. Bruising on the forearms where a baby or child may have been grabbed while being shaken. Bruising on the abdomen, ears or neck in children 4 years old or younger.4
- Vomiting without diarrhea or a history of the child coming into contact with a viral infection.4
- Lethargy, sleepiness and progressive deterioration in consciousness. The victim may become unresponsive or unconscious. There may be problems tracking movements or an inability to focus the eyes.7,12
- Decrease in verbalization or smiling.7,12
- High-pitched or abnormal crying.4
- Behavioral changes, such as irritability or fussiness.4,7,12
- Seizures, rigidity or arching of the back.4,7
- Unequal pupil size.7
- Vision loss.4,12
- Inability to raise the head.7
- Pale, bluish or cold, clammy skin.4,12
- Difficulty breathing or respiratory arrest.4,7,12
- Slow pulse.4
- Bulging of the fontanel (soft spot on the baby’s head).4

Nursing alert! Many times PAHT victims are brought to a doctor or emergency department for what is sometimes referred to as “silent injuries.” This means that parents or caregivers do not provide or admit to a history of abuse, so health care professionals may not know to look for less specific or less obvious signs of abuse. Therefore, milder cases of PAHT may go undetected.7

**Pathophysiology and resulting injuries**

When a baby or young child is forcefully, vigorously shaken, the head rotates about the neck without control. The younger the infant or child, the less well developed are the neck muscles, which are unable to provide strong support for the head. These forceful, shaking movements cause the brain to move violently back and forth within the skull. These abrupt movements can rupture the blood vessels and nerves throughout the brain and damage brain tissue. The brain may strike the inside of the skull as it moves back and forth. This can cause bruising of brain tissue and bleeding into the brain. The damage to the brain causes it to swell, putting pressure on blood vessels and further exacerbating brain injuries.7

There are many types of injuries that result from PAHT. These include, but are not limited to the following.

**Irreversible brain damage and death**

Depending on the severity of injury, brain damage may be irreversible and lead to life-long problems including blindness, severe learning disabilities, paralysis, hearing loss and central nervous system injury. In some cases, the injury may be so severe that the victim dies.

Injuries caused by acceleration-deceleration of the brain as it moves violently within the skull are related to bruising of brain tissue, referred to as contusions. These injuries can interfere with normal nerve functions in the bruised area of the brain. The brain may hit bony prominences inside of the skull, leading to intracranial hemorrhage or hematoma.7 The cerebral veins are particularly vulnerable to injury at the location where they cross the subdural space.4
The effects of contusions can include:4,5,13
- Severe scalp wounds from striking a surface such as a floor or mattress or from being struck.
- Difficulty breathing from increased pressure caused by swelling and bruising and from brain stem involvement. Note that the brain stem contains the cell bodies for most of the cranial nerves and influences cardiac, respiratory and vasomotor functions. It is also the center for vomiting and coughing reflexes.
- Drowsiness and changes in levels of consciousness, disorientation, or extreme behavioral changes due to increased intracranial pressure (ICP) that is associated with head injury.
- Hemiparesis (weakness on one side of the body) due to compromised blood flow to the injured area of the brain.
- Unequal pupils as a result of brain stem involvement.
- Seizures.
- Coma and death from severe, irreversible damage to vital brain areas such as the respiratory center.

CT (computed tomography) scans may show evidence of brain tissue damage, hematomas and fractures. EEG recordings may show progressive abnormalities.5

Closed head injury

Closed head injury, also referred to as concussion, is the result of a blow to the head that makes the brain twist within or hit the skull but not hard enough to cause a contusion (see Irreversible brain damage and death in the preceding section). There may be a loss of consciousness (ranging from a few minutes to less than six hours) due to temporary neural dysfunction. The baby or child may vomit from local injury, become lethargic or irritable, and may display unusual behavior changes. Older children may complain of dizziness, nausea and headache.

Recovery is usually complete within one to two days in babies and children who suffer from an uncomplicated concussion. CT scans generally do not show any signs of fracture, bleeding or nervous system involvement. However, if the children are victims of repeated injuries, even mild concussions can have a cumulative effect and lead to serious – and sometimes irreversible – brain injury.5,13

Subdural hematoma

Violent shaking or abrupt impact that causes excessive brain movement can cause damage to cerebral veins such as those of the subdural space (the space between the dura mater and arachnoid of the brain) that connect the cerebrum to the dura.4,5 Subdural hematoma can have serious consequences including paralysis, vision disturbances, progressive deterioration of neurologic status, respiratory compromise, coma and death.5,13

Some signs and symptoms of subdural hematoma include:4,5,13
- Intermittent periods of unconsciousness that become longer and more severe.
- Severe headache.
- Deterioration of orientation and levels of consciousness from pressure on the brain stem.
- Respiratory disturbances from pressure on the brain stem.
- Cyanosis.
- Cold, clammy skin.
- Inability to move extremities appropriately from brain damage.
- Dilated pupil on the same side as the hematoma due to compression of the third cranial nerve.
- Seizures from increased intracranial pressure (ICP).
- Progressive neurologic deterioration as bleeding continues. Signs of this deterioration include dilation of pupils, elevated systemic blood pressure, decrease in pulse rate and coma. Death may occur.

CT scans or MRIs show altered blood flow in the area of the injury.4

Vision problems

Retinal hemorrhage is abnormal bleeding of the blood vessels in the retina, the part of the eye that converts light into nerve signals that the brain turns into visual images. When these blood vessels are damaged by injury (such as PAHT), the bleeding can cause temporary or permanent loss of visual acuity.14 This can lead to permanent visual disturbances, even blindness.

Other causes of visual disturbances include subdural hematoma, damage to the occipital lobe of the brain, brain stem damage and damage to cranial nerves.4,5,13 These disturbances can range from mild, temporary loss of visual acuity to permanent loss of visual acuity to blindness.

Central nervous system injury and spinal cord injury

When the baby is shaken, the violent movements can cause the neck to move so abruptly that the cervical area of the spinal cord can be damaged. As the neck moves back and forth, the cervical spinal cord can be compressed.13,15

Damage to the cervical spinal cord can cause:15
- Paralysis or paresis.
- Respiratory compromise, which sometimes becomes ventilator-dependent.
- Inability to move or difficulty moving extremities.
Hemorrhage into the central nervous system (brain and spinal cord) can be consequences of PAHT. Hemorrhage can lead to a wide variety of clinical signs and symptoms, including but not limited to:4,5,13,15
- Paralysis or paresis.
- Respiratory compromise.

Speech and hearing loss

Victims of PAHT may also suffer hearing loss. Hearing disturbances can be caused by a number of factors. For example, the temporal lobes of the brain are responsible for hearing. Broca’s area of the cerebral cortex is responsible for language.5,13,15 Being able to hear, speak and process language can be compromised, depending on the areas of the brain that are damaged.

Subdural hematoma, contusions, brain stem injury and damage to cranial nerves can all contribute to disturbances in speech, language and hearing.

Learning disabilities

As noted above, learning disabilities may not become evident for years after injury caused by PAHT. For example, suppose a relatively minor contusion or intracranial bleeding occurs in an infant, causing damage to speech or other areas of the brain. Speech problems may not be obvious until the child reaches the age of being able to verbally communicate. Learning or behavioral problems may not be noted until the child starts school and teachers document specific learning problems, behavior problems or vision and hearing issues.

Because months or even years may have passed since the initial injury, it may not be possible to link the child’s current problems to abuse. However, there may be a continual pattern of abuse, and educators as well as health care providers need to remain alert to instances of suspected child abuse.

Fractures

Fractures may also be consequences of PAHT. For example, the violent motions of shaking a child can result in rib fractures.4 Grasping or twisting a baby’s or child’s arms may cause fractures of the bones of the arms.4 Fractures of the long bones, the skull and vertebrae also may occur.4,7 Careful investigation of the cause of any fracture is essential.

Cerebral palsy

Cerebral palsy is a group of neuromuscular disorders caused by damage to the upper motor neurons. It can be caused by prenatal or perinatal damage, or be a consequence of PAHT.4,5

PAHT cerebral palsy (CP) is associated with brain hemorrhage, spinal cord damage and lack of oxygen to the brain as a result of brain injury or respiratory compromise.4,5

Signs and symptoms of CP related to PAHT include, but are not limited to:4,5
- Lethargy.
- Irritability.
- High-pitched or unusual cry.
- Inability to control his or her head.
- Poor sucking reflex.
- Delayed motor development.
- Head circumference may be smaller than normal.
- Abnormal reflexes or muscle tone.
- Abnormal postures, such as arching of the back.

Documentation and reporting

It is imperative that findings from cases of suspected child abuse be meticulously documented and promptly reported. Nurses have legal and moral obligations to report suspected child abuse.

As of this writing, most states and territories of the United States have mandated that nurses report suspected cases of child abuse. Note that this mandate does not require that you be able to prove abuse, only that there are reasons to suspect that abuse has or is taking place.

- All health care facilities, including hospitals, outpatient centers, clinics and physicians’ offices and others, should have policies and procedures in place to guide nurses and other health care professionals in the reporting and documentation of suspected child abuse. Nurses must be familiar with these policies and procedures and know how to access them and follow them without delay.
- Nurses should know how to access child protective services when needed. They should also be familiar with local, state and national child abuse hotlines. For example, the national
hotline for reporting child abuse is 1-800-4-A-CHILD. This number serves the United States and Canada and is staffed 24 hours a day, seven days a week.

- When reporting suspected cases of child abuse, be sure to include whether the suspected victim has siblings or whether other children live in the same home.4
- Document any signs and symptoms. Be specific and objective. Don’t document opinions. Document facts. If it is important to document caregiver behaviors, document only what you observe. You can document caregiver statements by putting them in quotes, such as, “The child’s father, Mr. John Doe, states, ‘I am sick and tired of taking care of this whining kid. I wish he’d just disappear!’”
- Take pictures of any injuries and file them as part of the medical record. Be sure to follow your organization’s policy and procedure on taking pictures of patients.
- Document observations of caregiver reactions and interactions with child.4

Preventing child abuse

PAHT is 100 percent preventable!7 Prevention depends on increasing awareness of the dangers of shaking and helping parents and caregivers deal with stress.

For example, the national Center on Shaken Baby Syndrome (www.dontshake.org) offers a prevention program called the Period of Purple Crying, which is designed to help parents and other caregivers understand crying in normal infants and to help educate and empower them to prevent PAHT.7

The National Abuse Hotline (1-800-422-4453) is not only used to report child abuse but also can refer parents and caregivers to parenting support groups.3

Here are some suggestions for preventing PAHT:4,7,10

- After a birth, assess the family environment. Do the new parents or caregivers have parenting skills or do they need referrals to home health services? Is there an adequate support system for the family? Are there family members and friends to help care for the baby and other children when the parents need a “break”? Does the family have adequate financial support? Do they need social services consults? How do the parents interact with their children? An adequate assessment can identify potential problems and appropriate assistance can be arranged.
- Have the parents been taught about normal growth and development for babies and children? Do they know that crying is to be expected? Parents and caregivers need education on these factors.
- Have the parents been taught about the dangers of shaking a child? They may not realize how dangerous shaking a child can be.

Here are some things that should be included for patient/family education for the prevention of PAHT and how to deal with a crying baby:5,7,10

- Never shake an infant or child.
- Never discipline your child when you are angry.
- Do not hold your child during arguments with other children, family members or others.
- Make sure that the baby’s basic needs are met such as: Is the baby hungry? Tired? Frightened? Have a soiled diaper? Does he or she need to be burped?
- Check the baby for signs of sickness, such as a fever, rash or swollen gums.
- Offer the baby a pacifier or toy.
- Rock or walk with the baby and hold him or her close while breathing slowly and calmly.
- Take the baby for a ride in a stroller or place him or her in a child safety seat in the car and go for a drive. The motion of the car may help to calm the infant.
- Softly sing or talk to the baby. Play soothing, soft music.
- Place the baby on his or her back in the crib.
- Call a friend or family member to take care of the baby while you take a break.
- Discuss concerns with your health care provider. If you feel you are losing control and may harm your baby, seek help from the provider or call the National Abuse Hotline (1-800-422-4453).

More prevention ideas - working with the media

Messages through the media can have a wide reach to multiple audiences. The media can also uniquely help to reframe shaken baby syndrome as a public health problem, rather than just a criminal investigation. CDC has created a companion guide for the media on reporting on shaken baby syndrome. You can share this guide with local media or use it to develop messages when you speak to journalists. The guide, “A Journalist’s Guide to Shaken Baby Syndrome: a Preventable Tragedy,” as well as radio public service announcements and broadcast-quality video that includes b-roll, full-screen tips, and downloadable scenarios, are available at: www.cdc.gov/Injury.
Collaborating with other organizations and the business community

Partnerships and collaborations can be critical elements for achieving success. They can be instrumental in expanding your reach to new audiences, augmenting resources, adding outreach channels, facilitating message dissemination within the community, and offering referral sources for your program. For example, when your partners collaborate to deliver the same prevention messages through communication channels used by your target audience, it extends the messages’ reach and frequency. Effective messages that are delivered to the same audience through multiple channels are more likely to be remembered and move the audience to take the desired action.

Initiating partnerships

While every situation and partnership is unique, here are some general steps often used to build partnerships:

1. **Assess your current situation.** Planning your prevention effort should involve a careful analysis of your organizational resources and needs, including staff, funding, facilities, technology, and expertise. This information will help clarify when a potential collaboration with another organization can support your program goals.

2. **Identify potential partners.** The relationship should be mutually beneficial. Identify organizations that support your mission of preventing injuries and improving health and safety for new parents and their babies. Determine how collaboration will mutually support short- and long-term goals. First consider those with which you have successfully partnered in the past. Then consider new partners, such as the media and business communities. These organizations can help you reach new parents with key information and resources and strengthen your advocacy for prevention efforts, or perhaps combine resources with you and other organizations to develop a collaborative prevention effort in the community supported by a range of like-minded civic groups. For example, an employer’s “lunch and learn” program for new parents in a business setting, or building relationships with human resource or employee assistance professionals in large corporations may lead to other opportunities to build community support for parents.

3. **Develop your “pitch.”** After strategically selecting groups with which you might work, develop your “pitch,” or selling points, and your “ask,” that is, what you want the organization or individual to do as part of the collaboration. For example, you may want to ask them to join you in incorporating shaken baby syndrome prevention messages and parent support activities into their ongoing communication activities with parents, caregivers, and other relevant audiences. This will vary based on the resources, needs, and priorities of each organization. In addition, showcase the benefits that your potential partners will gain by collaborating. Be sure to highlight benefits that are most relevant to their values and mission.

4. **Make contact.** Whenever possible, deliver your partnership proposal in person. Consider bringing at least one other person, because different communication styles and demeanors can influence an encounter. However, make sure that your team speaks with one voice, based on the messages you develop. Delivering mixed messages creates confusion and weakens your credibility.

5. **Establish the partnership.** Being credible and offering incentives are important, but these may not be enough. Use your passion to make potential partners believe they should be involved. Describe how your programs and services can make a difference. Share information about the emotional and financial burdens caused by shaken baby syndrome. Underscore how your community will benefit from your collaborative efforts, how others are getting involved, and how even seemingly small contributions can help prevent injury and death. Confirm how the proposed partnership is mutually beneficial. Be specific about what you are asking the organization to do.

6. **Give thanks.** Never forget the power of the phrase “thank you.” Acknowledge partnership agreements promptly. Look for creative ways to convey your gratitude to partners often and thank them publicly.

Here is a list of resources. With your help we can make a difference and reduce shaken baby syndrome cases in the state of Kentucky.

- **National Center for Injury Prevention and Control** – Violence prevention is a major focus of the National Center for Injury Prevention and Control (Injury Center). As the lead federal agency for injury prevention and control, CDC’s Injury Center works closely with other federal agencies; national, state, and local organizations; state and local health departments; and research institutions. [www.cdc.gov/Injury](http://www.cdc.gov/Injury).

- **National Center on Birth Defects and Developmental Disabilities** – Promotes the health of babies, children, and adults, and enhances the potential for full, productive living by providing positive parenting tips and information on developmental milestones and screening. [www.cdc.gov/ncbddd/child/default.htm](http://www.cdc.gov/ncbddd/child/default.htm)

- **Administration for Children and Families** – The Administration for Children and Families, within the Department of Health and Human Services, is responsible for federal programs that promote the economic and social well-being of families, children, individuals, and communities. [www.acf.hhs.gov](http://www.acf.hhs.gov)
- **Administration for Children and Families, Children’s Bureau** – Is designed for professionals concerned with child abuse and neglect, child welfare, and adoption. [www.cbexpress.acf.hhs.gov](http://www.cbexpress.acf.hhs.gov)
- **The Child Welfare Information Gateway** – The Child Welfare Information Gateway (a merger of the former national Clearinghouse on Child Abuse and Neglect Information and National Adoption Information Clearinghouse) provides access to information and resources to help protect children and strengthen families. [www.childwelfare.gov](http://www.childwelfare.gov)
- **FRIENDS National Resource Center** – A federally mandated training and technical assistance provider for agencies working to prevent child abuse. [www.friendsnrc.org](http://www.friendsnrc.org)
- **American Academy of Pediatrics** – The American Academy of Pediatrics (AAP) and its member pediatricians dedicate their efforts and resources to the health, safety, and well-being of infants, children, adolescents, and young adults. The AAP has approximately 60,000 members in the United States, Canada, and Latin America. The AAP develops guidelines on a variety of pediatric health issues and distributes a wide range of patient education materials. [www.aap.org](http://www.aap.org)
- **American Professional Society on the Abuse of Children (APSAC)** – A nonprofit national organization focused on meeting the needs of professionals engaged in all aspects of services for maltreated children and their families. Especially important to APSAC is the dissemination of state-of-the-art practice in all professional disciplines related to child abuse and neglect. [www.apsac.org/mc/page.do](http://www.apsac.org/mc/page.do)
- **The California Evidence-Based Clearinghouse for Child Welfare (CEBC)** – Identifies and disseminates information about evidence-based practices relevant to child welfare. The CEBC provides guidance to statewide agencies, counties, public and private organizations, and individuals. This guidance is provided in a simple, straightforward format, reducing the user’s need to conduct literature searches, review extensive literature, or to understand and critique research methodology. [www.cachildwelfareclearinghouse.org](http://www.cachildwelfareclearinghouse.org)
- **Children’s Safety Network National Injury and Violence Prevention Resource Center** – Provides resources and technical assistance to maternal and child health agencies and organizations seeking to reduce unintentional injuries and violence toward children and adolescents. This is one of four Children’s Safety Network Resource Centers funded by the Maternal and Child Health Bureau of the U.S. Department of Health and Human services. [www.childrenssafetynetwork.org](http://www.childrenssafetynetwork.org)
- **Childhelp® USA** – A national nonprofit organization dedicated to helping victims of child abuse and neglect. Childhelp’s approach focuses on prevention, intervention, and treatment. The Childhelp National Child Abuse Hotline, 1-800-4-A-CHILD, operates 24 hours a day, seven days a week, and receives calls from throughout the United States, Canada, the U.S. Virgin Islands, Puerto Rico, and Guam. Childhelp’s programs and services also include residential treatment services (villages); children’s advocacy centers; therapeutic foster care; group homes; child abuse prevention, education, and training; and the national Day of Hope®, part of National Child Abuse Prevention Month every April. [www.childhelp.org](http://www.childhelp.org)
- **Child Welfare League of America** – An association of nearly 800 public and private nonprofit agencies that assist more than 3.5 million abused and neglected children and their families each year with a range of services. [www.cwla.org](http://www.cwla.org)
- **Circle of Parents** – Provides a friendly, supportive environment led by parents and other caregivers. It is a place where anyone in a parenting role can openly discuss the successes and challenges of raising children. [www.circleofparents.org](http://www.circleofparents.org)
- **FrameWorks Institute** – For several years, has conducted communications research on how people think about children’s issues in general, and child development and parenting in particular. [www.frameworksinstitute.org](http://www.frameworksinstitute.org)
- **The International Society for Prevention of Child Abuse and Neglect (ISPCAN)** – Mission is to prevent cruelty to children in every nation, in every form: physical abuse, sexual abuse, neglect, street children, child fatalities, child prostitution, children of war, emotional abuse and child labor. ISPCAN is committed to increasing public awareness of all forms of violence against children, developing activities to prevent such violence, and promoting the rights of children in all regions of the world. [www.ispcan.org](http://www.ispcan.org)
- **National Alliance of Children’s Trust and Prevention Funds** – A membership organization that provides training, technical assistance, and peer consulting opportunities to state Children’s Trust and Prevention Funds to strengthen efforts to prevent child abuse. [www.msu.edu/user/nactpf/](http://www.msu.edu/user/nactpf/)
- **National Center on Shaken Baby Syndrome** – Has a mission to educate and train parents and professionals, and to conduct research that will prevent shaking and abuse of infants in the United States. It provides help to professionals and parents looking for information, ideas, and answers to questions about shaken baby syndrome. [www.dontshake.org](http://www.dontshake.org)
- **The National Children’s Advocacy Center Child Abuse Library Online** – One of the largest professional collections of published knowledge, educational materials, and resources related to child maltreatment in the United States. It provides training, online services, and annotated bibliographies to organizations and individuals, and offers resource packages to decision makers and researchers. [www.nationalcac.org](http://www.nationalcac.org)
- **National Exchange Club (NEC)** – Is committed to making a difference in the lives of children, families, and our communities through its national project to prevent child abuse. The NEC foundation’s most successful method of countering abuse is by working directly with parents through the parent aide program. The foundation coordinates a nationwide network of nearly 100 Exchange Club Child Abuse Prevention Centers that use the parent aide program and provide support to families at risk for abuse. [www.preventchildabuse.com](http://www.preventchildabuse.com)
- National Indian Child Welfare Association (NICWA) – Addresses the issues of child abuse and neglect through training, research, public policy, and grassroots community development. NICWA improves the lives of American Indian children and families by helping tribes and other service providers implement activities that are culturally competent, community-based, and focused on the strengths and assets of families. www.nicwa.org

- National Maternal and Child Health Center for Child Death Review: Keeping Kids Alive – Promotes, supports, and enhances child death review methodology and activities at the state, community, and national levels. It builds public and private partnerships to incorporate Child Death Review (CDR) findings into efforts that improve child health. Building on the extensive knowledge of current CDR programs, the center actively involves states in its service development. www.childdeathreview.org/state.htm

- National MCH Center for Child Death Review – Resource center for state and local child death review programs, funded by the Maternal and Child Health Bureau. It promotes, supports, and enhances child death review methodology and activities at the state, community and national levels. www.childdeathreview.org


- Parents Anonymous® Inc. – Community of parents, organizations, and volunteers committed to strengthening families and building strong communities; achieving meaningful parent leadership and shared leadership; and leading the field of child abuse and neglect. www.parentsanonymous.org

- Prevent Child Abuse America – Works to prevent abuse and neglect of our nation’s children. Through its chapters in 43 states and its voluntary home visitation services provided by Healthy Families America® in more than 400 communities nationwide, Prevent Child Abuse America helps provide healthy, safe, and nurturing experiences for more than 100,000 families every year. www.preventchildabuse.org/index.shtml

- Promising Practices Network on Children, Families and Communities (PPN) – A group of individuals and organizations who are dedicated to providing quality evidence-based information about what works to improve the lives of children, families, and communities. www.promisingpractices.net

- Shaken Baby Alliance – Collaborates with community agencies and professionals to provide support for victim families (including adoptive and foster parents) of shaken baby syndrome, to advocate justice for shaken baby syndrome victims, and to increase awareness of the problem. www.shakenbaby.com

- Zero to Three – To support the healthy development and well-being of infants, toddlers, and their families. The organization accomplishes this by informing, educating, and supporting adults who influence the lives of infants and toddlers. www.zerotothree.org

References


**PEDiatric ABUSIVE HEAD TRAUMA (SHAKEN BABY SYNDROME)**

**Final Examination Questions**
Choose True or False for questions 1 through 10 and mark them online at Nursing.EliteCME.com

<table>
<thead>
<tr>
<th>Question</th>
<th>True</th>
<th>False</th>
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<tbody>
<tr>
<td>1. Pediatric abusive head trauma can occur in a matter of seconds.</td>
<td>☐</td>
<td>☑</td>
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<tr>
<td>2. Pediatric abusive head trauma is a leading cause of child abuse deaths in the United States.</td>
<td>☐</td>
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<tr>
<td>3. Pediatric abusive head trauma can occur from playful swinging.</td>
<td>☐</td>
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<td>4. Single parents are at greater risk for committing pediatric abusive head trauma.</td>
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<td>5. High-pitched crying is usually normal and not a sign of pediatric abusive head trauma.</td>
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<tr>
<td>6. The cerebral veins are particularly vulnerable to injury at the location where they cross the subdural space.</td>
<td>☐</td>
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<td>7. A concussion is more serious than a contusion.</td>
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<tr>
<td>8. Some signs and symptoms of subdural hematoma include; intermittent periods of unconsciousness that become longer and more severe.</td>
<td>☐</td>
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<td>9. Learning disabilities caused by pediatric abusive head trauma may not become obvious for years after the abuse has taken place.</td>
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<td>10. When documenting suspected child abuse, it is OK to document that you believe a child is being abused.</td>
<td>☐</td>
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