



Preparing to Take Your Baby Home

The American Academy of Pediatrics (AAP) has published discharge guidelines for high-risk newborn babies. Generally, babies may be ready for discharge when they

- are steadily gaining weight
- have a stable temperature in a regular crib
- can feed from a bottle or the breast without difficulty breathing or other problems
- have mature and stable heart and breathing ability.

The baby will undergo some or all of the following before discharge: hearing test, eye exam for retinopathy of prematurity, metabolic screening blood test, a car seat study, immunizations/respiratory syncytial virus prevention, and assessment for special home equipment and home care.

Preparing for discharge begins the day the baby is admitted to the NICU. It is important to encourage parents to actively participate in direct care activities with the baby as soon as possible during the baby's hospital stay. Before discharge, parents and other primary caregivers will need instruction on

- feeding (feeding plan for moms who plan to breastfeed)
- basic infant care (baths, skin care, taking temperature)
- infant cardiopulmonary resuscitation (recommended if available in your hospital)
- symptoms of illness
- sleep positioning and safe sleeping
- car seat safety
- use and care of special medical devices and equipment
- giving medications
- performing special procedures or care, such as suctioning or special dressings
- basic home safety.

Preparing the Home, Friends, and Family for Baby's Homecoming

The AAP Committee on Environmental Health has identified these problems with secondhand smoke exposure:

- decreased lung growth
- decreased lung function
- increased frequency of lower respiratory tract infections and respiratory symptoms.

Research also clearly shows that exposure to smoke can cause ear infections and related hearing problems, increased incidence of hospitalization related to bronchitis or pneumonia, and increased risk for sudden infant death syndrome (SIDS).

Anyone who may be caring for the baby needs to know about the safe sleep campaign that recommends placing babies on their backs for sleeping (see Safe Sleep). Studies demonstrate that this position significantly reduces the incidence of SIDS. Caregivers should allow the baby to have tummy time when the baby is awake and a caregiver is there to observe him or her.

If the family has a family pet, they should be encouraged to bring home clothing or a blanket with the baby's scent on it before the baby is discharged so the pet can become familiar with the baby's scent. The baby's direct contact with pets should be limited until the baby is older and the pet has become comfortable with this newest family member.

As the family prepares their home for their new baby, they should look for sturdy furnishings and equipment. Be sure that all products meet current safety standards. This is especially important when borrowing or buying second-hand items.

Preparing for When the Baby Cries

Caregivers should have a plan in place for times when the baby is crying or fretful. They can enlist the help of trusted family members or friends who can help when they are tired or need a break. The baby's crying episodes may increase in frequency and severity at times, especially at 8–12 weeks of life. This crying is not related to sickness or ability of the caregiver.



Shaken Baby Syndrome

Shaken baby syndrome (SBS) is a form of abusive head trauma and is the term used to describe the constellation of signs and symptoms resulting from violent shaking or impacting of the head of an infant or small child. Although shaking an infant can cause neurologic injury, blunt impact or a combination of shaking and blunt impact can also cause injury. In recognition of the need for broad medical terminology that includes all mechanisms of injury, the American Academy of Pediatrics (AAP) 2009 policy statement, "Abusive Head Trauma in Infants and Children," recommends use of the term *abusive head trauma* (AHT) by medical professionals to describe an inflicted injury to the head and its contents. The AAP supports prevention efforts that reduce the frequency of AHT and recognizes the utility of maintaining the use of the term shaken baby syndrome for prevention efforts.

Because there is no central reporting registry for cases and a lack of standardized data, statistics on SBS/AHT are not available on a national level. However, it is recognized as the most common cause of mortality and accounts for the most long-term disability in infants and young children. Based on a North Carolina research project published in the *Journal of the American Medical Association* in 2003, approximately 1,300 U.S. children experience severe or fatal head trauma from child abuse every year (Keenan et al., 2003). The same study revealed that approximately 30 per 100,000 children under age 1 suffered inflicted traumatic brain injuries.

What Can Happen to a Shaken Baby?

Shaking an infant can cause bleeding within the brain or the eyes. The degree of brain damage depends on the amount and duration of the shaking and the forces involved in impact of the head.

There are various signs and symptoms of SBS/AHT that range on a spectrum of neurological alterations from minor (irritability, lethargy, tremors, vomiting) to major (seizures, coma, stupor, death). These neurological changes are due to destruction of brain cells secondary to trauma, lack of oxygen to the brain cells, and swelling

of the brain. Extensive retinal hemorrhages in one or both eyes are found in the vast majority of these cases. Subdural hematoma, brain swelling, and retinal hemorrhages are accompanied in some, but not all, cases by bruising of the part of the body used as a "handle" for shaking. Fractures of the long bones and ribs may also be seen in some cases. In many cases, however, there is no external evidence of trauma either to the head or the body.

The consequences of less severe cases may not be brought to the attention of medical professionals and may never be diagnosed. In most severe cases, which usually result in death or severe neurological consequences, the child usually becomes immediately unconscious and suffers rapidly escalating, life-threatening central nervous system dysfunction.

Any of these injuries can lead to severe disability or death. If you suspect a child has been shaken, seek medical attention immediately. This could be the difference between life and death.

Common symptoms of SBS include lethargy, extreme irritability, decreased appetite, vomiting for no apparent reason, grab-type bruises on arms or chest (rare), no smiling or vocalization, poor sucking or swallowing, rigidity or posturing, difficulty breathing, seizures, head or forehead appears larger than usual, inability to lift head, and inability of eyes to focus or track movement or unequal size of pupils.

A significant proportion of cases of SBS/AHT (about 25%) die during the initial phase of hospitalization. The survivors do very poorly as shown in a number of studies. In a study done in Canada, only 7% of the survivors were reported as "normal," 12% were in a coma or vegetative state in the hospital, 60% had a moderate or greater degree of disability, 55% had lasting neurologic deficits, 65% had visual impairments, and 85% would require ongoing multidisciplinary care for the rest of their lives. The negative effects following hospital discharge are likely to be underestimated, because it often takes several months or even years before neurologic and developmental difficulties become apparent.



Activities involving an infant or a child such as tossing in the air, bouncing on the knee, placing a child in an infant swing or jogging with them in a back pack, do not cause the brain, bone, and eye injuries characteristic of shaken baby syndrome.

What Population Is at Highest Risk?

Babies less than 1 year of age (with the highest risk period at 2–4 months) are at greatest risk for SBS/AHT, because they cry longer and more frequently and are easier to shake than older and larger children. Male infants are at a slightly greater risk than females.

How Can SBS/AHT Be Prevented?

It is important to note that SBS/AHT is preventable. Parents should share the message of the dangers of shaking with all who care for their infant or child, including spouses, their own parents, siblings, day care providers, and others. Parents need to let those caring for the infant know that it is okay to call for help when needed.

Most cases involving shaking injuries occur when a frustrated care giver loses control with an inconsolable crying baby. It is important to realize just saying “don’t shake a baby” is not enough; a plan of action or suggestions to deal with the situation need to be offered. Parents and other care providers need assurance that allowing a baby to cry is okay if all of their needs have been met.

There is evidence that infant crying is the most important stimulus for SBS/AHT. The Period of PURPLE Crying program approaches SBS prevention by educating parents about normal infant development and, specifically, about

crying patterns to be expected in normal infants based on scientific evidence about infant crying. Information about the Period of PURPLE Crying is available at <http://PURPLEcrying.info/nann>.

For an overview of various prevention programs addressing SBS/AHT, please see www.cdc.gov/concussion/pdf/preventing_sbs_508-a.pdf and http://dontshake.org/pdf/WhitePaper_SBS_AHT_Evidenced_Based_Prevention_12-21-10.pdf

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Preparing to Take Your Baby Home: Information for Parents

Babies are ready to go home when they

- are gaining weight regularly
- keep a normal temperature in a regular crib
- can feed from a bottle or the breast without breathing or other problems
- have regular heart beat and breathing (no periods of stopped breathing [known as *apnea*] or slow heart rate [known as *bradycardia*])

To get ready for your baby to come home, help care for your baby as soon as possible during your baby's hospital stay. Before going home, you and others who will take care of the baby will need to learn about

- feeding
- voiding and stooling patterns
- basic care (baths, skin care, taking temperature)
- safety at home
- infant cardiopulmonary resuscitation (CPR)
- signs of illness and protecting your baby from infection
- sleep positioning
- car seat safety
- use and care of special equipment
- giving medicine
- other special care that your baby might need.

Before leaving the hospital, your baby may have some or all of the following

- eye exam
- hearing test
- car seat study
- critical congenital heart disease and jaundice screening and eye examinations
- immunizations and respiratory syncytial virus prevention
- assessment for special home equipment and home care.

Your Home

To prepare for your baby to come home, give your baby's room a thorough cleaning. Remove dust and dirt, but

avoid the use of strong-smelling cleaning products. Premature babies don't like strong smells, and their lungs are still growing. Don't let anyone who is sick or smoking around your baby. If you have a pet, keep the pet away from the baby until the baby is older and the pet has become used to this newest family member.

The room should be comfortable—not too hot or stuffy. Look for sturdy furniture and baby care items. Be sure that they meet today's safety rules. This is especially important if you are borrowing or buying used items.

The baby should always be placed on his or her back for sleep. This position is safest and decreases the chance of sudden infant death syndrome (SIDS). When you are with the baby and he or she is awake, you can place your baby on his or her tummy to help make his back and neck muscles strong.

Have a plan for times when the baby is crying or fretful. Your baby may cry more at times, such as at 8–12 weeks. This kind of crying is not because the baby is sick or you are not a good parent. It is easy to become angry when the baby won't calm down when you try to comfort him or her. Reach out to trusted family and friends who can help when you are tired or need a break.

About Shaken Baby Syndrome

What is shaken baby syndrome?

Shaken baby syndrome happens from violent shaking of the head of an infant or small child.

What can happen to a baby that is shaken?

Shaking an infant can cause bleeding in the brain or the eyes. The degree of brain damage varies. Any of these injuries can lead to severe disability or death. If you suspect a child has been shaken, get medical help right away. This could be the difference between life and death.

What are the symptoms of Shaken Baby Syndrome?

- Decreased muscle tone
- Crying all of the time



- Poor feeding or vomiting for no reason
- No smiling or baby talk
- Poor sucking or swallowing
- Stiffness or posturing
- Difficulty breathing
- Seizures
- Head or forehead appears larger than usual or soft spot on head appears to be bulging
- Not able to lift head

What population is at the highest risk?

Babies who are less than 1 year of age (with the highest risk period at 2 to 4 months) are at greatest risk. Babies can cry longer and more often at this age. Male infants are at a slightly greater risk than females.

How can shaken baby syndrome be prevented?

It is important to know this is preventable. Parents should share the message of the dangers of shaking with all who care for their infant or child. This includes husbands, grandparents, older children, day care providers, and

others who care for your baby. Parents need to let those caring for the infant know that it is okay to call for help when needed.

Most cases involving shaking injuries occur when a frustrated caregiver loses control with a crying baby. It is important to realize that just saying “don’t shake a baby” is not enough; a plan of action or suggestions to deal with the situation need to be offered. Parents and other care providers need assurance that allowing a baby to cry is okay if all of their needs have been met.

Information about the Period of PURPLE Crying is available in the list of resources at <http://PURPLEcrying.info/nann>, www.cdc.gov/concussion/pdf/preventing_sbs_508-a.pdf, and http://dontshake.org/pdf/WhitePaper_SBS_AHT_Evidenced_Based_Prevention_12-21-10.pdf.