

Birth Injury – Exploring Legal Options

By Patrick Malone

The joyous process of childbirth occasionally ends in tragedy: a serious injury to the baby, or even death of mother or child. Children who suffer injuries during or just after the birthing process often face enormous medical needs. Families need objective, reliable information to help them understand what happened and why. Once they know whether the injury was preventable, and whether someone may be at fault for causing the injury, then they can make rational choices about whether to pursue a medical malpractice claim.

In this article, I discuss the major preventable causes of serious injury to children during labor and delivery, and in the newborn period. These include:

- Asphyxia from lack of oxygen to the brain during childbirth. This can cause cerebral palsy or other injury to the brain.
- Brain injury from direct trauma to the head during delivery.
- Nerve injury to an arm or hand because of stretching or tearing of the major nerve feeding the arm. This is called brachial plexus palsy.
- Brain damage from jaundice. This is called kernicterus.

Then I discuss the steps that obstetricians, midwives, nurses and pediatricians take to prevent these kinds of injuries, including:

- Fetal monitoring of the baby's heartbeat during labor and delivery.
- Prenatal tests done to determine if a baby can withstand the normal stresses of labor and delivery.
- Treatment of a mother's high blood pressure at the end of pregnancy, which can be life-threatening for both baby and mother.
- Treatment of pregnancy-related diabetes.
- Manipulations of the baby whose shoulder is stuck in the birth canal to produce a safe delivery without nerve damage.
- Treatment of newborns to bring down their level of bilirubin, which causes the yellow skin tone known as jaundice.

I also discuss the kind of injuries that usually are NOT appropriate to see a lawyer about. Finally, I discuss what you should look for in choosing an attorney to evaluate your issues and help you decide whether to bring a lawsuit.

What injuries are related to negligence by a doctor or other health care provider during the birthing and newborn time?

Occasionally during the birthing process, the physical stresses on the baby may cause serious injuries. It is estimated that between two and seven babies out of 1,000 will become injured during delivery. Birth injury can occur because of the baby's size or the position of the baby during labor and delivery. Babies with a birthweight over about 4,000 grams (8 pounds, 13 ounces) are at higher risk, as are babies born before 37 weeks of pregnancy. For some pregnant mothers, the size and shape of the mother's pelvis prevents the baby from being safely born vaginally, and a caesarean section operation is required. In other children, difficult or prolonged labor or childbirth can cause birth injuries. Your doctor or midwife should be aware of all of these risks and should take reasonable precautions to avoid complications during the birthing process.

Some leaders of the medical community complain that modern parents expect to have a "perfect" childbirth process and that if they do not, they will file frivolous medical malpractice lawsuits against the obstetrician, midwife, nurse or other persons involved in providing the care. In our experience as attorneys who represent families and parents, this is completely untrue. Parents seek out lawyers and investigate the legal process only when the child has suffered a devastating injury that has ruined or severely hampered a child's normal life.

There are three main types of injuries that occur at the time of birth and that can relate to negligence by a health care provider.

- Brain injury from lack of oxygen. The typical brain injury at birth is caused by asphyxia. The technical term is hypoxic ischemic encephalopathy. It typically results from inadequate oxygen to the baby's brain during the birthing process.
- Brain injury from direct trauma to the head. Another type of brain injury at birth is caused by trauma to the head that can result in bleeding inside the brain or direct injury to brain tissue.
- Nerve injury to an arm or hand. The typical nerve injury is called Erb's palsy or brachial plexus palsy.

It can take months or even years to determine how severe and permanent these injuries are. Children who suffer brain injury at birth go on to develop a seizure disorder and/or cerebral palsy. Cerebral palsy is not typically diagnosed until a child has reached his or her first birthday, but the signs of CP are usually obvious long before that. Nerve injury is usually obvious shortly after birth. However, many nerve injuries can heal with time.

How do I know if negligence is a possible cause of my child's injuries?

Serious injury to a newborn baby as the result of medical negligence by a doctor or nurse or other health care provider can occur in the following circumstances:

- Not recognizing or properly responding to fetal distress.

- Allowing the pregnancy to go beyond 41 weeks without proper testing, or 42 weeks in any event.
- Failing to act on changes in the mother's condition during pregnancy, especially gestational diabetes (diabetes that starts in pregnancy) or pregnancy-induced hypertension (also known as pre-eclampsia).
- Causing or failing to respond to the umbilical cord being entrapped or compressed.
- Misuse of a vacuum extractor or forceps.
- Misuse of the labor-stimulating drug Pitocin (Oxytocin).
- Delay in ordering or performing a C-section (Caesarean section).
- Using the wrong maneuvers to deliver a baby whose shoulder has become stuck in the birth canal.
- Poor resuscitation and newborn care after birth.
- Failing to aggressively treat jaundice in a newborn. This causes a condition known as kernicterus.

This lists only the most common circumstances. Other potential situations exist in which sub-standard treatment may have caused serious injury to a child.

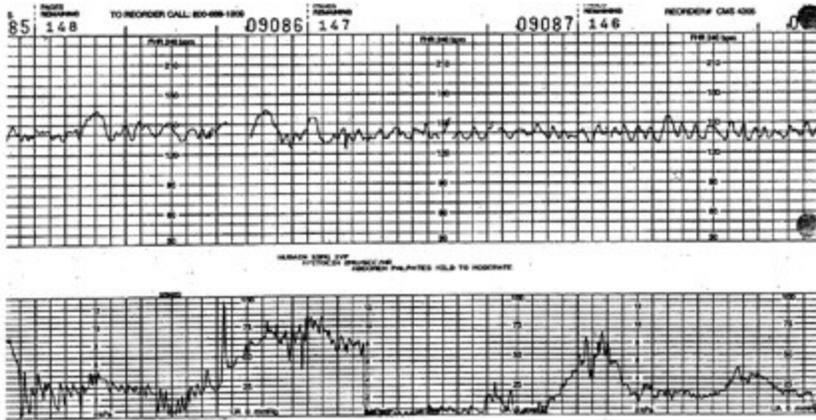
Brain Injury from Asphyxia

Asphyxia is the most common cause of brain injury at birth. Asphyxia in the birthing process occurs when the baby does not receive enough oxygen through the unborn baby's lifeline: the umbilical cord, which is connected to the placenta, which is attached to the mother's uterus. During labor and delivery, doctors and nurses look to the electronic fetal monitor for changes that can provide warning signs that a baby is at risk for asphyxia. If the fetal monitor shows a pattern of decelerations in the baby's heart rate late in the contraction or variably during the contraction, this can be a sign of a problem.

Fetal Monitoring

The electronic fetal monitor puts out a strip of paper that shows the baby's heart rate, which should range from about 120 to 160 beats per minute, in relation to the timing of the mother's uterus contraction. Here is an example:

The top bar graph is the baby's heart rate. Each horizontal box represents 10 seconds, and the slightly darker lines show one minute. Each vertical box represents a change in heart rate of 10 beats per minute. This baby's heart rate on this strip ranges from about 120 to 160 beats per minute, completely normal.



The bottom graph shows the strength of the mother's uterine contractions. When the line gets near the bottom, the uterus is relaxed. In determining if a baby is under distress, it is important to look for drops in the baby's heart rate - decelerations - in connection with the timing of the uterine contractions. There are three basic types of decelerations: early, late and variable.

Early Decelerations: Early decelerations (decels) have a gradual drop in the baby's heart rate with the onset of the drop occurring with the onset of a contraction. The U-shape of the early decel mirrors the upside-down-U shape of the contraction. An early deceleration is entirely normal and is not associated with lack of oxygen to the baby.

Late Decelerations: Late decelerations have the same characteristics as early decels, but the onset occurs after the onset of the contraction. Late decelerations can mean the baby is not getting enough oxygen from the mother's placenta. The size and depth of a late decel is not the key, because even subtle late decels can be ominous. As the contraction builds, blood flow through the placenta is diminished, leaving the fetus to rely on reserves. When reserves are inadequate, the baby's heart rate decreases and a late decel occurs. After the contraction ends, normal blood flow usually resumes and the heart rate recovers.

Variable Decelerations: Variable decels can occur before, during, or after a contraction, or when no contraction is present (nonperiodic). It is characterized by an abrupt drop in FHR, followed by an abrupt return to baseline. Variable decels can vary in size, timing, depth and duration. Also, atypical variable decelerations can occur, which are more diagnostic of a fetus at risk.

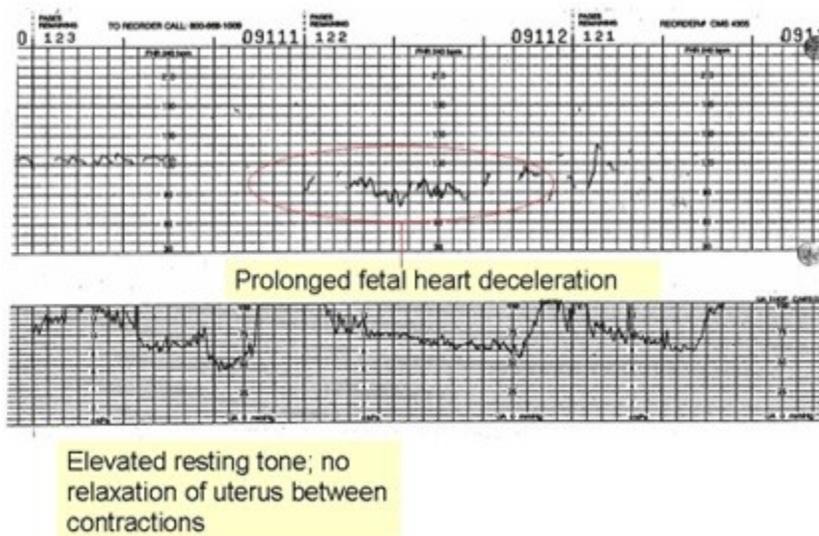
Variable decelerations are associated with cord compression. Thus, the duration of the decel may be tied to the period of time that the cord is compressed. When the umbilical cord is compressed, it causes an increase in fetal blood pressure, reduces oxygen supply to the fetus, and activates responses in the brain which result in a decrease in heart rate and the development of variable decelerations. As hypoxia becomes prolonged, the decelerations may become deeper and last longer.

"Beat-to-beat" variability: Another important hallmark of baby well-being on a fetal monitor strip is the "beat-to-beat variability" of the baby's heart rate. The fetal heart rate varies from one beat to the next, because two branches of the nervous system control changes in the heart rate.

The sympathetic branch is constantly trying to speed up the heart, while the parasympathetic branch is trying to counteract this by slowing the heart. These beat-to-beat changes are referred to as variability. Normally, the sympathetic and parasympathetic nervous systems have equal opposite effects on the heart rate, resulting in a consistently variable heart rate pattern. When the equilibrium is altered, accelerations and decelerations may occur. Further, the reduction or cessation of oxygen flow to the brain can lead to a decrease or loss of variability. This shows on the fetal monitor strip by the baby's heart rate becoming less "squiggly" and more flat or compressed, with little change from beat to beat.

The next slide shows a prolonged deceleration in the baby's heart rate, down to as low as 80 beats per minute, while at the same time the mother's uterus is not completely relaxing between contractions. (This is also known as uterine hyperstimulation.) The gaps show that the monitor is frequently failing to pick up the signal from the baby's heart. This baby went on to suffer profound brain injury because the mother's uterus ruptured and all oxygen to the baby was lost for a number of minutes. The nurse-midwife was trying to have the mother undergo a vaginal delivery after a prior caesarean section ("VBAC" - vaginal birth after caesarean).

Naval Hospital: 20.40



Prenatal testing late in pregnancy

Before a mother goes into labor, tests are available to determine if a baby can undergo the stresses of labor and delivery safely. The standard of care calls for some type of fetal assessment when risk factors for uteroplacental insufficiency exist, or other specific clinical situations develop, such as:

1. decreased fetal movement,
2. hypertensive disorders (Pregnancy-induced hypertension or pre-eclampsia),

3. diabetes,
4. oligohydramnios (reduced amniotic fluid, meaning the baby is not urinating normally in the uterus),
5. intrauterine growth retardation, and
6. post-dated pregnancy (baby is overdue).

There are several fetal tests that are available to assist the doctor in determining if a baby may be compromised. These include:

- fetal movement counting,
- the non-stress test ("NST"),
- the contraction stress test ("CST"),
- the oxytocin challenge test ("OCT")
- the biophysical profile ("BPP"),
- ultrasound, and
- doppler flow testing.

These tests are used to gather information about:

1. whether the fetus has adequate reserves to withstand the stress of labor,
2. whether the intrauterine environment is hostile and no longer capable of promoting normal fetal growth and development, and
3. whether the fetus is under stress and would benefit from immediate delivery.

High blood pressure in Pregnancy

Clinical Signs and Symptoms

Hypertension (high blood pressure) occurs in almost one in ten pregnancies. Pregnancy may induce hypertension or aggravate a woman's pre-existing hypertensive condition. When a woman develops pregnancy-induced or aggravated hypertension, the pregnancy may continue to term. However, the risk of maternal or fetal death or injury increases in pregnancies complicated by hypertension. The condition may lead to fetal growth retardation, premature birth, and uteroplacental insufficiency (an insufficient environment for the baby because of loss of blood flow from the uterus to the placenta), which can diminish the flow of oxygen and nutrients to the fetus and cause fetal distress.

An obstetrician may respond to these potential complications by checking the mother's blood pressure at more frequent intervals, hospitalizing the mother for testing and observation, initiating drug therapy, ordering laboratory tests, or terminating the pregnancy.

Clinical Signs

Hypertensive conditions of pregnancy are classified by when the hypertension is diagnosed and what other clinical findings accompany it. For example, when the patient develops high blood

pressure before becoming pregnant, or is diagnosed before the 20th week, the condition is called chronic hypertension. This may be mild or severe, depending on the blood pressure measurement. Patients who have chronic hypertension are at increased risk for developing more serious complications at a later stage of the pregnancy.

If the patient develops hypertension after the 20th week, the condition is called pregnancy-induced hypertension. If hypertension is accompanied by proteinuria (excess protein in the urine), or edema (swelling of extremities or the face, caused by fluid retention), or both, obstetricians refer to it as pre-eclampsia. Proteinuria is usually detected by a dipstick reading at the prenatal visit. Although it is not routinely done, a 24-hour total protein urine test can be performed when the obstetrician desires a more reliable indicator of the problem. The obstetrician need not rely only on the dipstick result, when time permits further evaluation. Edema is the least significant indicator of a worsening hypertensive condition, because it is a normal finding in many pregnancies. However, edema of the hands and face is significant when hypertension is present and accompanied by excessive weight gain.

The signs of elevated blood pressure, proteinuria, and edema are important not only in diagnosing preeclampsia, but also in determining the severity of the disease. Therefore, the patient's blood pressure, urine, and weight gain should be checked at each prenatal visit. Other clinical findings that indicate a rapidly worsening situation are visual disturbances, ranging from slight blurring to partial or complete blindness; severe headaches; and right upper abdominal pain.

Preeclampsia is life-threatening when several factors combine to produce a condition known as the HELLP syndrome (hemolysis, elevated liver enzymes, and low platelet count). Another life-threatening complication, called eclampsia, arises when preeclampsia is accompanied by convulsions. Either of these may require the prompt delivery of the baby, regardless of the stage of pregnancy, to protect the mother.

There is no cure for preeclampsia other than terminating the pregnancy. However, even though adverse maternal consequences usually can be avoided by an early delivery, the baby may be compromised. The obstetrician must balance the benefits to the baby of treating the preeclampsia and prolonging the pregnancy against the risks of growth retardation and asphyxia, as well as the risks to the mother. Therefore, to implement a successful management plan, the doctor must accurately determine the age of the fetus.

Obstetricians may consider using antihypertensive drugs to control the underlying condition and to improve the outcome for mother and baby. Appropriate management of a hypertensive condition should include more frequent evaluations of maternal and fetal well-being. The obstetrician must instruct the patient to report immediately any of the well-known symptoms. The critical questions for a lawyer investigating a birth trauma case, will be whether the doctor ignored or failed to properly interpret the clinical data, failed to properly monitor the mother's condition, failed to hospitalize the mother when necessary to determine the severity of the disease, failed to assess fetal well-being before her condition or the baby's became life-threatening, and failed to properly consider other relevant clinical information.

Care in the Newborn Period

Care of a baby who has had asphyxia at birth is critical to preventing further injury and minimizing any injury that has occurred. Some of the goals that are believed to improve the neurologic outcome of a newborn include:

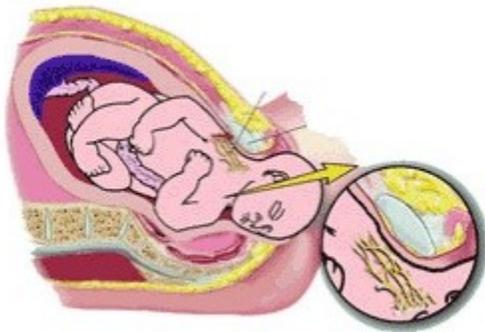
- Maintaining normal blood glucose (sugar),
- Maintaining normal blood pressure,
- Preventing or controlling seizures, and
- Preventing or minimizing cerebral edema (brain swelling).

In assessing the cause of a baby's brain injury, it is often important to consult with a qualified expert in pediatric neurology and/or neonatology to answer the questions about the role of events before birth versus those immediately after birth in causing a significant injury.

Nerve Injuries to the Arm and Hand (Brachial Plexus Palsy)

Brachial plexus palsy is a condition in which the brachial plexus (network of nerves related to the arms and hands, near the shoulder) is injured. This injury can occur when there is a difficulty during delivery. This type of birth delivery complication is referred to as shoulder dystocia. A possible consequence of this type of delivery complication can be the baby's inability to rotate and flex the arm. If swelling or bruising occurs around the nerves, movement of the arm or hand usually returns within a few months. Should the nerve be torn, permanent nerve damage may result.

Here is a diagram of how shoulder dystocia can lead to permanent nerve injury:



In the event of shoulder dystocia, there are various ways to free the baby's shoulder from underneath the mother's pelvic bone without causing injury to the brachial plexus.

Risk factors for Brachial Plexus include gestational diabetes, obesity in the mother, excessive weight gain during pregnancy, macrosomia (a baby weighing more than 4000 grams or

approximately 9 lbs.), a previous large baby, a post-term pregnancy, or a small pelvis.

If your child has brachial plexus palsy that interferes significantly with his or her ability to use the arm or hand, a legal consultation with an attorney could be appropriate. The attorney will review the childbirth records to determine what was done exactly to deliver the child and whether any inappropriate maneuvers were done. If you have video of the birth, that could provide significant evidence of what happened.

Brain Injury from Jaundice (Kernicterus)

An important but fortunately uncommon type of birth-related brain injury occurs when the baby has jaundice (yellowing of the skin) at birth and does not receive adequate treatment to lower the blood levels of the substance that causes yellowing: bilirubin. This excess bilirubin, if the level is not brought down promptly, can get into brain tissue and damage the brain permanently. This damage is called kernicterus. When physicians do not take newborn jaundice seriously enough or fail for whatever reason to treat it aggressively, and the baby then suffers brain injury, a legal consultation with an attorney may be appropriate. Kernicterus is nearly always preventable with appropriate treatment.

Common Mistakes Made in Treating Jaundiced Babies

Jaundice is very common in newborns and usually causes no serious harm. But that can lull doctors and nurses into an overly complacent attitude about jaundice. Here is an important list of mistakes in treating newborn jaundice – or high bilirubin -- taken from a website written by physicians who specialize in treating injuries from high bilirubin. The website is: www.kernicterus.org. It has other valuable information too.

When bilirubin is very high, do not make or let your child's physicians make any of the following mistakes in care:

1. Not believing the bilirubin level from the lab, and delaying treatment while it is repeated. There is no problem in repeating the test, but don't delay treatment for an instant while waiting for the repeat - you have nothing to lose by treating with a huge dose of phototherapy, gavage feeding, hydrating, ordering a type and cross match and blood. If the bilirubin drops rapidly to a relatively safe level, and the child is asymptomatic, the exchange transfusion can be cancelled.
2. Delaying treatment or interrupting phototherapy for diagnostic testing to determine the risk of an exchange. If a sepsis workup or LP is needed, or an echocardiogram etc., do it under the lights. If it's not possible, keep the lights on every possible minute. If the baby needs to go for a test out of the unit, the lights go with him or her.

3. Not examining the baby for signs of acute kernicterus .
4. Using the indirect bilirubin instead of the total serum bilirubin. Although it is true that the direct (conjugated) bilirubin is non-toxic, it binds to the same serum albumin site as toxic bilirubin, displacing it into brain tissue. Use the total bilirubin.
5. Allowing the bilirubin to reach potentially dangerous levels. Visual inspection by experienced personnel, transcutaneous bilirubins, blood bilirubin are all easy to do. It's much easier to prevent bilirubin from rising too high than to treat it when it does.
6. Measuring the bilirubin and not comparing it to hour-specific norms. This is very important. A bilirubin level in a one-day-old may be normal or dangerously high depending on whether the baby is 24 or 47 hours old. A level of 8.5 would be in a high-risk zone (95th percentile) in a 24h old baby, and in a low risk zone (40th percentile) in a 47-hour-old baby.

[End of excerpt from www.kernicterus.org.]

Other Birth-Related Injuries

The following are some of the more common birthing injuries. Most of these eventually heal without permanent injury to the child and are usually not appropriate for a legal case.

caput succedaneum - Caput is a severe swelling of the soft tissues of the baby's scalp that develops as the baby travels through the birth canal. Some babies have some bruising of the area. The swelling usually disappears in a few days without problems. Babies delivered by vacuum extraction are more likely to have this condition.

cephalohematoma - Cephalohematoma is an area of bleeding underneath one of the cranial bones. It often appears several hours after birth as a raised lump on the baby's head. The body resorbs the blood. Depending on the size, most cephalohematomas take two weeks to three months to disappear completely. If the area of bleeding is large, some babies may develop jaundice as the red blood cells break down.

bruising/forceps marks - Some babies may show signs of bruising on the face or head simply as a result of the trauma of passing through the birth canal and contact with the mother's pelvic bones and tissues. Forceps used with delivery can leave temporary marks or bruises on the baby's face and head. Babies delivered by vacuum extraction may have some scalp bruising or a scalp laceration (cut).

subconjunctival hemorrhage - Subconjunctival hemorrhage is the breakage of small blood vessels in the eyes of a baby. One or both of the eyes may have a bright red band around the iris. This is very common and does not cause damage to the eyes. The redness is usually absorbed in a week to ten days.

facial paralysis - During labor or birth, pressure on a baby's face may cause the facial nerve to be injured. This may also occur with the use of forceps for delivery. The injury is often seen when the baby cries. There is no movement on the side of the face with the injury and the eye

cannot be closed. If the nerve was only bruised, the paralysis usually improves in a few weeks. If the nerve was torn, surgery may be needed.

fractures - Fracture of the clavicle or collarbone is the most common fracture during labor and delivery. The clavicle may break when there is difficulty delivering the baby's shoulder or during a breech delivery. The baby with a fractured clavicle rarely moves the arm on the side of the break. There may be bruising over the broken bone. Simply immobilizing the arm and shoulder is the recommended treatment and healing begins quickly.

Further Reading for Parents

This is an excellent book: *Children with Traumatic Brain Injury: A Parents' Guide*, edited by Lisa Schoenbrodt (Woodbine House 2001). It is focused more on injuries to older children but is useful for all parents.

Legal Consultation

Birth injury lawsuits are defended aggressively by hospitals and the insurance companies that represent doctors, midwives and nurses. Any family who is thinking about bringing a lawsuit needs to consult with an experienced lawyer who knows the ins and outs of these cases. The lawyer needs to be very conversant with the medicine. He or she also needs to have the financial resources to fund the litigation, which can be very expensive.

Here are some specific questions I urge people to ask when looking for a personal injury lawyer in general. These questions also apply to birth injury.

- What kind of cases does this lawyer handle on a day-in, day-out basis?
- How long has the lawyer been working in the field in which you need a lawyer?
- Does the lawyer try lawsuits in court, or is every case settled out of court or referred to other lawyers to try?
- What is the lawyer's track record of verdicts and settlements?

You can read my explanation for these questions, and get more tips for finding a lawyer, in my article, "Eleven questions to ask before hiring a personal injury lawyer," which can be downloaded from my website, www.patrickmalonelaw.com, as part of our "free injury fact kit."

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