

**UNDERSTANDING THE MEDICAL RECORD IN
SHOULDER DYSTOCIA CASES: WHY THESE CASES
SOMETIMES SHOULD HAVE A NO-FAULT RECOVERY**

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ABSTRACT

Shoulder dystocia is one of the most common causes of litigation in obstetrics and gynecology. The most common serious complication from shoulder dystocia is brachial plexus although death of the baby can also occur. Brachial plexus injuries lead to paralysis of the arm of the neonate. While most of the injuries eventually resolve, a small percentage will remain permanent. This article explores the areas of litigation involved with brachial plexus injuries. It discusses what the attorney should look for in the medical record. It also looks at the controversial concept of traction as an etiology of brachial plexus injury. Finally, it discusses an alternative method for compensating those that have an injury when the litigation model is flawed.

I. INTRODUCTION

While some have argued that litigation in most cases results from poor outcomes and not from malpractice,¹ others, including trial lawyers and advocacy groups, consider malpractice lawsuits as the only way to protect the individual against unsafe products and practices.² Consider the following.

Labor was slowed but not unusual. The patient, thirty-years old, in her first delivery, had gained thirty-five pounds and was mildly obese prior to becoming pregnant. The estimated fetal weight one week before delivery was eight and one-half to nine pounds. The first stage of labor lasted sixteen hours, and with the nurse's help, the patient spent one and one-half hours pushing. The head began to crown (meaning the top of the head

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¹ Anna Mavroforou et al., *Physicians' Liability in Obstetric and Gynecology Practice*, 24 MED. & L. 2 (2005).

² See John Bratt, *Sending a Message "the Man" Will Understand*, BALTIMORE INJURY LAWYER BLOG (Apr. 14, 2010), <http://www.baltimoreinjurylawyerblog.com/2010/04/>.

could be seen with each push) revealing wispy black hair. The fetal heart rate dropped with each contraction, called compression decelerations.³ These events were normal and nonthreatening for this stage of labor.⁴ With a final push, the baby's head extended out with the face down and the back of the head pointing up towards the pubic ceiling. Even as it emerged, the head began to rotate to the side, also normal for labor.⁵

Then it happened. The head retracted against its mother. The cheeks puckered out. The infant's lips closed tightly, and the chin became flush against the perineum. Immediately, the physician knew what was occurring. He could visualize the left shoulder pinned against the promontory of the lower portion of the spine while the right shoulder was stuck behind the pubic bone. The physician knew that this was an emergency. Soon the infant would stop receiving blood flow from the mother. Even though the head was out, compression of the baby's chest in the canal prevented breathing. Now what?

The occurrence of shoulder dystocia during childbirth presents the obstetrician with an immediate medical crisis.⁶ His actions may relate directly or indirectly to a malpractice suit if a brachial plexus injury is found after delivery.⁷ No matter how excellent the care an obstetrician provides, he may have good reason to worry about medical liability in a future lawsuit. For years, physicians have recognized that perfect care can still lead to injury.⁸ Even if the physician is unsuccessful in a given procedure, it does not mean that liability should or will ensue.⁹ The medical community generally accepts that, although rare, permanent brachial plexus injuries can occur in utero.¹⁰ However, some in the legal community believe that there is little scientific support for this theory,

³ F. GARY CUNNINGHAM ET AL., *WILLIAMS OBSTETRICS* 340 (McGraw Hill, 21st ed. 2001) (1930).

⁴ *Id.*

⁵ *See id.* at 318–19.

⁶ *See* James Warren Sever, *Obstetric Paralysis: Its Etiology, Pathology, Clinical Aspects and Treatment, with a Report of Four Hundred and Seventy Cases*, 12 *AM. J. DISEASES CHILD.* 541, 541–42 (1916).

⁷ *See* Henry M. Lerner, *Shoulder Dystocia: What Is the Legal Standard of Care?*, 18 *OBG MGMT.* 56, 56 (2006).

⁸ *See id.*

⁹ *See* Lu Ann Treviño, *The Health Care Quality Improvement Act: Sword or Shield?*, 22 *T. MARSHALL L. REV.* 315, 318 (1997).

¹⁰ *See* *Shoulder Dystocia*, *ACOG PRAC. BULL.*, Nov. 2002, at 1045, 1046.

which they view as self-serving to the physician.¹¹ In fact, this article correctly points out that many of the studies that looked at an in utero etiology of brachial plexus injuries were flawed in that they ignored the possibility or probability that physicians did not document shoulder dystocia.¹² While certainly a possibility, studies that show the opposite also include this very limitation.¹³ Furthermore, it is a difficult assumption to make that all cases that found brachial plexus injuries in the absence of shoulder dystocia are simply cases of undocumented shoulder dystocia.

Perhaps another way to look at brachial plexus injuries is needed. Instead of fault, the State could treat brachial plexus neonatal injuries as strict liability and pay the neonate from state funds that are collected from other venues or awards, such as the punitive damage awards from other lawsuits. This may be a better solution for a condition that may be spontaneous, a result of the mother's weight, or a result of mishandling by the physician.

This article discusses the stages of labor, the parameters of shoulder dystocia—including risk factors for its occurrence—and the recommended responses to this issue. In addition, this article explores the duty physicians owe to their patients in this acute crisis as well as what actions could constitute malpractice. Finally, this article discusses an alternative way to look at the problem of fault and treatment.

II. THE MECHANICS OF NORMAL LABOR

In normal labor, three stages of delivery are present. The first stage begins with the onset of labor until the cervix is fully dilated.¹⁴ The second stage begins at full dilation and continues to the expulsion or delivery of the neonate.¹⁵ The third stage deals with the delivery of the placenta.¹⁶

The second stage of labor divides into several sub-stages primarily concerned with the movement of the neonate as it descends the canal.¹⁷

¹¹ See generally Les Weisbrod & Pat Stein, *Attacking the Brachial Plexus Injury Defense*, TRIAL, May 2001, at 42 (arguing that some studies have been published “merely to help doctors and birth attendants defend lawsuits”).

¹² See *id.* at 43 (citing Herbert F. Sadmire & Robert K. DeMott, *Erb's Palsy: Concepts of Causation*, 95 OBSTETRICS & GYNECOLOGY 941, 941 (2000)).

¹³ See *id.* (citing Bernard Gonick et al., *Shoulder Dystocia Recognition: Differences in Neonatal Risks for Injury*, 8 AM. J. PERINATOLOGY 31, 31, 33–34 (1991)).

¹⁴ *Grindstaff v. Tygett*, 655 S.W.2d 70, 72 n.2 (Mo. Ct. App. 1983).

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ See *id.*

These sub-stages are engagement, descent, flexion, internal rotation, extension, external rotation, and expulsion.¹⁸ These sub-stages primarily allow the largest diameter of the head to pass through the narrowest part of the birth canal in the correct juxtaposition.¹⁹ Engagement is the point at which the fetus enters the birth canal followed by the descent down the birth canal as a result of labor.²⁰ Internally, the fetus then rotates its head, usually into an anterior-posterior (anterior meaning front of the mother and posterior referring to her back) position, as it comes into contact with the soft tissues of its mother.²¹ The fetus then extends its head out of the mother with uterine contractions and maternal exertion through pushing (well known in labor).²² At this point, the fetus will rotate to the right or left from forty-five to ninety degrees.²³ This is called external rotation after which, facilitated by the obstetrician or deliverer, downward pressure is exerted so that the anterior shoulders pass the pubic bone.²⁴ Then, upward guidance by the deliverer supports the delivery of the posterior shoulder and arm followed quickly by expulsion of the trunk and lower extremities of the neonate.²⁵ This is the normal process of a vaginal delivery.

III. EXAMINING SHOULDER DYSTOCIA: WHAT IS IT?

Dystocia literally means difficult labor.²⁶ While shoulder dystocia is primarily a term used when there is difficulty during vaginal delivery with delivering the shoulders of the fetus, it is defined usually as “a delivery that requires additional obstetric maneuvers following failure of gentle downward traction on the fetal head to effect delivery of the shoulders.”²⁷ Even with this definition, researchers have noted that there are major differences in the incidence of shoulder dystocia when comparing not just

¹⁸ See CUNNINGHAM ET AL., *supra* note 3, at 301–05.

¹⁹ See *id.* at 316.

²⁰ *Id.* at 58.

²¹ See *id.* at 319.

²² See *id.*

²³ See *id.*

²⁴ *Olinger v. Univ. Med. Ctr.*, 269 S.W.3d 560, 565 (Tenn. Ct. App. 2008).

²⁵ See CUNNINGHAM ET AL., *supra* note 3, at 319.

²⁶ NICHOLSON J. EASTMAN, *WILLIAMS OBSTETRICS* 778 (Appleton-Century-Crofts, Inc., 10th ed. 1950) (1930).

²⁷ See *Shoulder Dystocia*, *supra* note 10, at 1045.

different countries but different regions as well.²⁸ When shoulder dystocia is present, a maneuver or series of maneuvers that extend beyond the customary guidance described above are required.²⁹ Shoulder dystocia occurs primarily after extension and during the external rotation and expulsion sub-stage of delivery.³⁰ After delivery of the fetal head, as the head is turning, the shoulders get stuck anteriorly behind the pubic bone and posteriorly against the sacral promontory of the spinal cord.³¹ The sacrum is the five fused bones at the base of the spine just above the tailbone, and the sacral promontory is the first of these fused bones.³²

Shoulder dystocia remains one of the most anxiety-producing situations for an obstetrician. Potential complications to the fetus include a fractured clavicle,³³ fetal hypoxia,³⁴ fetal death from asphyxia (a result of compression of the umbilical cord between the fetal abdomen and the maternal birth canal),³⁵ and brachial plexus injuries.³⁶ Risks to the mother include post-partum hemorrhage (bleeding),³⁷ rectovaginal fistula (a connecting hole or pathway between the vagina and the rectum),³⁸ fourth degree episiotomy tear (tear into the rectum),³⁹ and uterine rupture.⁴⁰ Of all the causes of medical litigation in obstetrics and gynecology, shoulder

²⁸ Magnus Christoffersson et al., *Shoulder Dystocia and Brachial Plexus Injury: A Case-Control Study*, 82 ACTA OBSTETRICA GYNECOLOGICA SCANDINAVICA 147, 149 (2003).

²⁹ Edith D. Gurewitsch et al., *Comparing McRoberts' and Rubin's Maneuvers for Initial Management of Shoulder Dystocia: An Objective Evaluation*, 192 AM. J. OBSTETRICS & GYNECOLOGY 153, 154 (2005).

³⁰ See Gary D.V. Hankins & Steven L. Clark, *Brachial Plexus Palsy Involving the Posterior Shoulder at Spontaneous Vaginal Delivery*, 12 AM. J. PERINATOLOGY 44, 44-45 (1995).

³¹ *Id.* at 45.

³² See 24 THE ENCYCLOPEDIA AMERICANA 83 (Int'l ed. 1986).

³³ Robert B. Gherman et al., *The McRoberts' Maneuver for the Alleviation of Shoulder Dystocia: How Successful Is It?*, 176 AM. J. OBSTETRICS & GYNECOLOGY 656, 660 (1997).

³⁴ *Neonatal Complications: Recognition and Prompt Treatment of Shoulder Dystocia*, 6 PA. PATIENT SAFETY ADVISORY 18 (2009), available at [http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/dec16_6\(suppl1\)/documents/18.pdf](http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/dec16_6(suppl1)/documents/18.pdf).

³⁵ *Id.*

³⁶ David B. Acker et al., *Risk Factors for Shoulder Dystocia*, 66 OBSTETRICS & GYNECOLOGY 762, 764 (1985).

³⁷ CUNNINGHAM ET AL., *supra* note 3, at 460.

³⁸ *Miller-McGee v. Wash. Hosp. Ctr.*, 920 A.2d 430, 432 (D.C. 2007).

³⁹ CUNNINGHAM ET AL., *supra* note 3, at 325.

⁴⁰ David L. Zisow, *Uterine Rupture as a Cause of Shoulder Dystocia*, 87 OBSTETRICS & GYNECOLOGY 818, 819 (1996).

dystocia is among the four most common causes of litigation along with fetal distress, rupture of the uterine during trial labor post previous cesarean section, and misdiagnosis of breast cancer.⁴¹

IV. BRACHIAL PLEXUS INJURIES

The most common serious complication following a shoulder dystocia delivery is brachial plexus injury.⁴² The incidence of brachial plexus injuries is rare and has been estimated at 0.5 to 2.6 per 1,000 live births.⁴³ The injury manifests itself by the inability of the infant to actively move its upper extremity, even though the passive range of motion is equal on both sides of the body.⁴⁴ The brachial plexus consists of nerves that extend from the spinal cord at the level of C5, C6, C7, C8, and T1.⁴⁵ Most commonly, the upper plexus is the one damaged.⁴⁶ This is called Erb's or Duchenne's palsy.⁴⁷ In Erb's palsy, the upper arm is flaccid while the lower arm is extended and rotated.⁴⁸ In Erb's palsy, infants generally have little to no movement in the shoulder and arm.⁴⁹ Erb's Palsy injuries commonly resolve within a year, most in the first few months,⁵⁰ although some persist beyond twelve months.⁵¹ Damage to the lower plexus, which

⁴¹ Dawn Collins, *Why Do Patients Sue Their Obstetrician/Gynecologists?*, CONTEMP. OB/GYN, Aug. 2000, at 15, 15–24.

⁴² See Luigi Raio et al., *Perinatal Outcome of Fetuses with a Birth Weight Greater than 4,500 Grams: An Analysis of 3356 Cases*, 109 EUR. J. OBSTETRICS & GYNECOLOGY & REPROD. BIOLOGY 160, 161–62 (2003) (providing a table of the characteristics of the births studied).

⁴³ Gloria D. Eng et al., *Obstetrical Brachial Plexus Palsy (OBPP) Outcome with Conservative Management*, 19 MUSCLE & NERVE 884, 884 (1996).

⁴⁴ See Joel B. Adler & Robert L. Patterson, *Erb's Palsy: Long-Term Results of Treatment in Eighty-Eight Cases*, 49 J. BONE & JOINT SURGERY 1052, 1053 (1967).

⁴⁵ James J. Nocon & Les Weisbrod, *Shoulder Dystocia*, in OPERATIVE OBSTETRICS 339, 340 (John Patrick O'Grady et al. eds., 1995).

⁴⁶ RAHUL K. NATH, OBSTETRIC BRACHIAL PLEXUS INJURIES: ERB'S PALSY: THE NATH METHOD OF DIAGNOSIS AND TREATMENT 4–5 (2007).

⁴⁷ Suneet P. Chauhan et al., *Brachial Plexus Injury: A 23-Year Experience from a Tertiary Center*, 192 AM. J. OBSTETRICS & GYNECOLOGY 1795, 1795 (2005).

⁴⁸ *Id.*

⁴⁹ *See id.*

⁵⁰ Valerie Donnelly et al., *Neonatal Brachial Plexus Palsy: An Unpredictable Injury*, 187 AM. J. OBSTETRICS & GYNECOLOGY 1209, 1209 (2002).

⁵¹ *See* Myron Gordon et al., *The Immediate and Long-Term Outcome of Obstetric Birth Trauma*, 117 AM. J. OBSTETRICS & GYNECOLOGY 51, 54 (1973) (discussing the length of paralysis of children with brachial plexus injuries).

consists of nerve roots C7, C8, and T1, is known as Klumpke's palsy.⁵² Children with Klumpke's palsy exhibit little or no movement in the wrist or hand and possess "a characteristic clawlike deformity of the hand."⁵³

Pediatric neurologists identify at least four types of nerve damage.⁵⁴ The most severe is avulsion in which the "nerve root is torn from the spine."⁵⁵ With rupture, the nerve is partially ripped but not at the point where it connects to the spine.⁵⁶ Less severe is neuroma, which develops after avulsion or rupture occurs.⁵⁷ With neuroma, scar tissue develops around the injured nerve as the body tries to heal itself hindering nerve conduction to the muscles.⁵⁸ The least severe of the four is praxis in which there is damage, but it is not so severe that the nerve does not completely heal itself without any scar tissue.⁵⁹ In evaluating the cases, an attorney should check with the neurologist or read the neonate records to determine which type of injury the plaintiff has developed as the majority of brachial plexus injuries resolve themselves in six months.⁶⁰ An avulsion though is a permanent brachial plexus injury.⁶¹

Physicians argue that research suggests brachial plexus injuries can occur spontaneously.⁶² However, recent research confirms that non-shoulder dystocia brachial plexus injuries, while rare, are more than likely mechanistically a process distinct from shoulder dystocia brachial plexus palsy.⁶³ The possibility of spontaneous pre-labor development of brachial plexus injury serves as an increasingly used defense by physicians in shoulder dystocia cases.⁶⁴

⁵² Lon Walters, *Evaluating the Brachial Plexus Birth Injury Case*, TRIAL, July 1998, at 65, 65.

⁵³ Weisbrod & Stein, *supra* note 11, at 43.

⁵⁴ Walters, *supra* note 52, at 66.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ See Donnelly et al., *supra* note 50, at 1209.

⁶¹ See Edith D. Gurewitsch et al., *Risk Factors for Brachial Plexus Injury with and Without Shoulder Dystocia*, 194 AM. J. OBSTETRICS & GYNECOLOGY 486, 490 (2006).

⁶² See *id.* at 486-87.

⁶³ See *id.* at 491.

⁶⁴ See Weisbrod & Stein, *supra* note 11, at 42.

Yet, as noted above, some trial lawyers dismiss the possibility of spontaneous brachial plexus injuries.⁶⁵ These lawyers see the research in this area as self-serving and as simply a means to provide aid to those who are defending lawsuits in this arena.⁶⁶ Whether brachial plexus injuries occur in utero is not merely an exercise in semantics. If courts dismiss the possibility of in utero brachial plexus injuries, then the injury can only occur when the physician potentially can affect the outcome on the fetus.

In fact, one state appellate court took this concept to the ultimate extreme.⁶⁷ In a brachial plexus injury medical malpractice suit, a Louisiana court of appeals overruled the lower court after it dismissed the plaintiffs' suit with prejudice.⁶⁸ The trial court admitted that it did not know what happened in the case but felt forced to rule for the defendants.⁶⁹ The appellate court found manifest error and reversed on the ground that the trial court should have used the doctrine of *res ipsa loquitur*.⁷⁰ The appellate court made this finding despite the fact that a review by a medical review panel found no breach of any standard of care and concluded that the injury resulted from a "yet unknown intrauterine mechanism."⁷¹ The Louisiana Supreme Court reversed the court of appeal's decision finding that a "reasonable factual basis" existed in the record for the dismissal of the plaintiff's case.⁷² Still, the fact that the court was even willing to use the doctrine of *res ipsa loquitur* points to the dichotomy that exists between the two sides. Just where does the malpractice occur in these cases? Can this injury occur in the absence of a breach of any standard of care as argued by defendants, or do brachial plexus injuries only occur in the presence of malpractice?

V. THE STANDARD OF CARE IN LABOR

What is the standard of care? While each state may have specific language to address the standard of care, most have statutes similar to

⁶⁵ *See id.* at 43.

⁶⁶ *See id.* at 42–43.

⁶⁷ *See Salvant v. State*, 935 So. 2d 646, 650 (La. 2006) (citing *Salvant v. State*, 904 So. 2d 946, 962 (La. Ct. App. 2005)).

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.* at 649–50.

⁷² *See id.* at 659.

Virginia⁷³ where the standard of care is “that degree of skill and diligence practiced by a reasonably prudent practitioner in the field of practice or specialty.”⁷⁴ During labor, an obstetrician should consider and be prepared for the shoulder dystocia to occur in any delivery,⁷⁵ even though the incidence of shoulder dystocia is only 1 in 67 to 1 in 200 deliveries.⁷⁶

Brachial plexus injuries to infants can result in millions of dollars of damages each year.⁷⁷ On one side, there is a young infant with a severe arm injury. On the other side, there is a doctor whose only defense is to say, “I didn’t pull too hard.” As Weisbrod and Stein concluded, “Sound reason and the weight of the evidence are on the side of plaintiff lawyers in these cases.”⁷⁸ Given the difficulty of knowing when shoulder dystocia will occur, how best can a physician and patient prepare for this event? For the hospital staff “four specific standards apply to all delivery facilities.”⁷⁹ First, all staff in labor and delivery should be trained as to what their role should be in the event that shoulder dystocia occurs in the labor and delivery suite.⁸⁰ Second, labor and delivery nurses should be thorough in their knowledge of shoulder dystocia and possess the information and skills to know how and when to employ both the McRoberts maneuver and suprapubic pressure.⁸¹ Third, if possible, another available obstetrician should assist and anesthesia and pediatrics should be notified immediately if they are not already present.⁸² Fourth, the obstetrician should have the training and composure to perform the necessary procedures to deliver the baby.⁸³

⁷³ See generally VA. CODE ANN. § 8.01-581.20 (2007) (providing an example of a standard of care definition).

⁷⁴ Blevins v. Sheshadri, 313 F. Supp. 2d 598, 601 (W.D. Va. 2004).

⁷⁵ Lerner, *supra* note 7, at 61.

⁷⁶ *Id.*; see also T.F. Baskett et al., *Perinatal Implications of Shoulder Dystocia*, 86 OBSTETRICS & GYNECOLOGY 14, 14 (explaining the results of a ten-year study which demonstrated that about half of a percent of deliveries resulted in shoulder dystocia).

⁷⁷ Lerner, *supra* note 7, at 56.

⁷⁸ Weisbrod & Stein, *supra* note 11, at 47.

⁷⁹ Lerner, *supra* note 7, at 61.

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

VI. RECOGNIZING SHOULDER DYSTOCIA IN THE MEDICAL RECORD

It is recognized in the literature that shoulder dystocia is not always well documented.⁸⁴ This can make comparing statistics across countries problematic. Even without the diagnosis of shoulder dystocia, the record should be reviewed for other signs of its occurrence. The most commonly recognized sign of shoulder dystocia is the “turtle sign.”⁸⁵ The turtle sign is when the neonate’s head retracts against the mother after delivery.⁸⁶ Another sign of shoulder dystocia is the requirement of additional obstetrical maneuvers after delivery of the neonate head and after an initial failure to deliver the shoulders with gentle traction.⁸⁷ One study suggested that shoulder dystocia should be defined as a prolonged delivery time of greater than sixty seconds between the delivery of the head and that of the body.⁸⁸ This has not yet been adopted by the American College of Obstetrics and Gynecology (ACOG).⁸⁹ However, a prolonged delivery time between the head and body could indicate the presence of shoulder dystocia.⁹⁰

VII. CAN SHOULDER DYSTOCIA BE PREVENTED?

To prevent brachial plexus injuries prior to labor, only two options exist. The first option is to perform cesarean sections on every woman. This will, of course, eliminate all shoulder dystocia cases.⁹¹ However, it will not eliminate brachial plexus injuries, as there are reports of brachial plexus injuries after cesarean section.⁹² Cesarean sections also increase the

⁸⁴ See Weisbrod & Stein, *supra* note 11, at 43.

⁸⁵ See Reedy v. Pompa, 310 S.W.3d 112, 115 (Tex. Ct. App. 2010).

⁸⁶ Taber v. Roush, 316 S.W.3d 139, 144 (Tex. Ct. App. 2010).

⁸⁷ *Shoulder Dystocia*, *supra* note 10, at 1045.

⁸⁸ C.Y. Spong et al., *An Objective Definition of Shoulder Dystocia: Prolonged Head-to-Body Delivery Intervals and/or the Use of Ancillary Obstetric Maneuvers*, 86 *OBSTETRICS & GYNECOLOGY* 433, 436 (1995).

⁸⁹ See *Shoulder Dystocia*, *supra* note 10, at 1046.

⁹⁰ See Thomas J. Benedetti & Steven G. Gabbe, *Shoulder Dystocia: A Complication of Fetal Macrosomia and Prolonged Second Stage of Labor with Midpelvic Delivery*, 52 *OBSTETRICS & GYNECOLOGY* 526, 526, 528–29 (1978).

⁹¹ Lerner, *supra* note 7, at 57.

⁹² See Leslie Iffy & Pamela Pantages, *Erb’s Palsy After Delivery by Cesarean Section (A Medico-Legal Key to a Vexing Problem)*, 24 *MED. & L.* 655, 658, 660 (2005); see also Isaac Blickstein et al., *Antepartum Risks of Shoulder Dystocia and Brachial Plexus Injury for Infants Weighing 4,200 g or More*, 45 *GYNECOLOGIC & OBSTETRIC INVESTIGATION* 77, 79 (1998).

morbidity to the mother.⁹³ The second option is to identify risk factors that one could use to consider a preemptive cesarean section.⁹⁴

VIII. RISK FACTORS ASSOCIATED WITH THE OCCURRENCE OF SHOULDER DYSTOCIA

While no single or multiple risk factors are predictive of shoulder dystocia, there are conditions that increase the likelihood of it occurring.⁹⁵ However, the absence of these risk factors does not mean that shoulder dystocia is not possible.

A. *Macrosomia: Honey, We Blew Up the Baby*

Macrosomia occurs when birth weight is beyond a specific weight,⁹⁶ defined by some as greater than or equal to 4,500 grams⁹⁷ and by others as greater than or equal to 4,000 grams.⁹⁸ ACOG is “the leading professional group for women’s health care providers in the United States.”⁹⁹ ACOG recommends prophylactic cesarean sections only for infants with estimated fetal weights greater than 5,000 grams, although it recommends that a patient with diabetes receive a cesarean for weights above 4,500 grams.¹⁰⁰

Nevertheless, “numerous studies have consistently documented a causal relation between [shoulder dystocia] and fetal size.”¹⁰¹ Researchers have found increased shoulder dystocia rates with increasing fetal size.¹⁰² “However, specificity is rather low since it has been established that 48 to 89% of [shoulder dystocia] occur in non-macrosomic fetuses.”¹⁰³ Although fetal size is the most reliable risk factor for shoulder dystocia, it

⁹³ Edith D. Gurewitsch & Robert H. Allen, *Shoulder Dystocia*, 34 CLINICS PERINATOLOGY 365, 369 (2007).

⁹⁴ See Blickstein et al., *supra* note 92, at 79.

⁹⁵ See *Shoulder Dystocia*, *supra* note 10, at 1046.

⁹⁶ See CUNNINGHAM ET AL., *supra* note 3, at 757–58.

⁹⁷ *Id.*

⁹⁸ *Id.*; see also Chauhan et al., *supra* note 47, at 1797.

⁹⁹ *Madrigal v. Mendoza*, 639 F. Supp. 2d 1026, 1030 (D. Ariz. 2009).

¹⁰⁰ See *Shoulder Dystocia*, *supra* note 10, at 1047.

¹⁰¹ Isaac Blickstein, *Can Shoulder Dystocia Be Prevented?*, OBGYN.NET (1999), <http://www.obgyn.net/pregnancy-birth/pregnancy-birth.asp?page=/firstcontroversies/prague1999blickstein>.

¹⁰² See Thomas S. Nesbitt et al., *Shoulder Dystocia and Associated Risk Factors with Macrosomic Infants Born in California*, 179 AM. J. OBSTETRICS & GYNECOLOGY 476, 478 (1998).

¹⁰³ Blickstein, *supra* note 101.

has been repeatedly estimated that over twenty unnecessary cesarean sections are needed to prevent one case of shoulder dystocia and approximately one thousand unnecessary cesarean sections are needed to avoid one brachial plexus injury.¹⁰⁴

One study performed a retrospective review of their deliveries over a twenty-year period.¹⁰⁵ Of 89,978 deliveries, 89 cases of brachial plexus injuries occurred (one per one thousand births).¹⁰⁶ For every 10,000 deliveries, the brachial plexus injury is permanent.¹⁰⁷ Of those 89 brachial plexus injuries, 85 delivered vaginally, and the median birth weight was only 3,750 grams, not even macrosomic.¹⁰⁸ In this study, macrosomia, in which the authors used a weight definition of over 4,000 grams, was predicted in only 4% of the cases.¹⁰⁹ Still, there is a greater correlation between shoulder dystocia and birth weight than between shoulder dystocia and other factors.

Fetal birth weight remains a major predisposing factor to shoulder dystocia.¹¹⁰ Iffy's study, in contrast to Chauhan's study, found that 74% of the neonates that sustained an injury at birth secondary to a shoulder dystocia emergency weighed over 4,000 grams at birth.¹¹¹ Of course, this, by definition, means that 26% were less than 4,000 grams.¹¹² This same study found a shoulder dystocia case in which the neonate was less than 3,000 grams at birth.¹¹³ This study is limited by the fact that it only looked at patients that already had a diagnosis of shoulder dystocia, birth injury, or both.¹¹⁴ Thus, one may get the impression from reading this study that the incidence of birth injury in pregnancy is higher than it actually is.

A Swiss study of over 340,000 cases found 3,356 cases in which the newborn was over 4,500 grams, a non-multiple birth, a non-breach delivery, and a term delivery.¹¹⁵ Of the 3,356 qualifying cases, 207

¹⁰⁴ See Blickstein et al., *supra* note 92, at 77.

¹⁰⁵ See Chauhan et al., *supra* note 47, at 1796–97.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.* at 1799.

¹⁰⁸ See *id.* at 1797.

¹⁰⁹ *Id.*

¹¹⁰ Leslie Iffy et al., *Diabetes, Hypertension and Birth Injuries: A Complex Interrelationship*, 22 MED. & L. 207, 210 (2003).

¹¹¹ *Id.*

¹¹² See *id.*

¹¹³ *Id.*

¹¹⁴ See *id.* at 209.

¹¹⁵ See Raio et al., *supra* note 42, at 161.

received an elective cesarean section in which there was no incidence of shoulder dystocia or brachial plexus injuries.¹¹⁶ The remainder either presented in spontaneous labor or had their labor induced.¹¹⁷ Comparing induced to spontaneous labor, the incidence of shoulder dystocia (about 10%) and brachial plexus injuries (3%) were approximately the same.¹¹⁸ This study suggests that elective cesarean section will prevent not only brachial plexus injuries but also shoulder dystocia.¹¹⁹ Yet, other studies have found that brachial plexus injuries can occur after cesarean section.¹²⁰ Cesarean delivery incidence of brachial plexus injuries is estimated to be between 1% and 4 % of all cases.¹²¹

Plaintiffs' attorneys argue that the obstetrician is liable for not determining the weight of the fetus before labor.¹²² Unfortunately, the methods for determining fetal weight in utero are not an accurate measure of fetal weight.¹²³ As one research group concluded, the ability of physicians to accurately predict macrosomia is limited.¹²⁴

B. Maternal Gestational Diabetes

Maternal diabetes is a contributing factor in the development of macrosomia, and therefore, must be factored in when estimating the risk of shoulder dystocia.¹²⁵ Maternal gestational diabetes can lead to increased width across the shoulders (also called the bisacromial diameter).¹²⁶ Women with a diagnosis of gestational diabetes mellitus possessed a 1.7

¹¹⁶ See *id.* at 161–62 (illustrating the incidence of shoulder dystocia and brachial plexus injuries based upon intended method of delivery).

¹¹⁷ See *id.* at 162.

¹¹⁸ See *id.*

¹¹⁹ See *id.*

¹²⁰ *Shoulder Dystocia*, *supra* note 10, at 1046.

¹²¹ Stergios K. Doumouchsis & Sabaratnam Arulkumaran, *Are All Brachial Plexus Injuries Caused by Shoulder Dystocia?*, 64 *OBSTETRICAL & GYNECOLOGICAL SURV.* 615, 617 (2009).

¹²² See Stephen H. Mackauf, *Responding to Defenses in Erb's Palsy Cases*, *TRIAL*, May 1998, at 53.

¹²³ See Siri L. Kjos, *Excessive Fetal Growth: Identification and Management of Macrosomia*, in *MANAGEMENT OF COMMON PROBLEMS IN OBSTETRICS AND GYNECOLOGY* 103, 103 (4th ed. 2002).

¹²⁴ See *id.* at 105.

¹²⁵ See *Shoulder Dystocia*, *supra* note 10, at 1046.

¹²⁶ *Cardillo v. Aron*, No. 06-744, 2010 WL 986503, at *5 (Mass. Super. Jan. 6, 2010).

times higher chance of having shoulder dystocia.¹²⁷ “Most studies have shown that [diabetes mellitus] is an operational factor only when [birth weight] is [greater than] 4000 g[rams].”¹²⁸ It is well known that mothers with gestational diabetes predispose for large infants.¹²⁹

C. Obesity

“Macrosomia is more frequent in obese women”¹³⁰ As such, with or without diabetes mellitus, obesity is a risk factor for shoulder dystocia but only to the extent that obesity is a risk factor for macrosomia and diabetes.¹³¹ No study has found obesity as a factor independent of macrosomia.¹³² Thus, “no relation has been found between obesity and [birth weight] in [shoulder dystocia] cases.”¹³³ Raio, though, did find that the risk of shoulder dystocia is higher in shorter women who also had macrosomia than in taller women.¹³⁴ More specifically, Mehta found that a higher maternal body mass index (measure of body fat based on height and weight) may play a role in lengthening the second stage of labor,¹³⁵ which in itself, is sometimes associated with shoulder dystocia.¹³⁶

D. Other Predictors

Other factors that have been suggestive of a possible relationship with shoulder dystocia include multi-parity, post-term gestation, abnormal labor pattern, previous history of macrosomia, previous history of shoulder dystocia, and labor induction for the present pregnancy.¹³⁷ None of these are very accurate, either alone or in combination, at predicting a shoulder dystocia.¹³⁸ However, history of shoulder dystocia and macrosomia should

¹²⁷ Yvonne W. Cheng et al., *The Relationship of Fetal Position and Ethnicity with Shoulder Dystocia and Birth Injury*, 195 AM. J. OBSTETRICS & GYNECOLOGY 856, 858 (2006).

¹²⁸ Blickstein, *supra* note 101.

¹²⁹ See Iffy et al., *supra* note 110, at 216.

¹³⁰ Blickstein, *supra* note 101.

¹³¹ See *id.*

¹³² *Id.*

¹³³ *Id.*

¹³⁴ See Raio et al., *supra* note 42, at 164.

¹³⁵ See S.H. Mehta et al., *What Factors Are Associated with Neonatal Injury Following Shoulder Dystocia?*, 26 J. PERINATOLOGY 85, 86 (2006).

¹³⁶ Cheng et al., *supra* note 127, at 857.

¹³⁷ See *Shoulder Dystocia*, *supra* note 10, at 1046.

¹³⁸ See *id.*

alert the physician to the risk of macrosomia with or without diabetes in the current pregnancy.

IX. THE PREDICTIVE VALUE OF RISK FACTORS

Thus, the pre-labor medical record of the mother of the neonate with brachial plexus injury should be examined closely for a failure to test for diabetes. Signs of macrosomia also should be explored. Any mother with a previous history of macrosomia or shoulder dystocia should be evaluated for macrosomia as the pregnancy reaches maturity (at least starting at thirty-eight weeks). The other factors that were mentioned above are only to complete the picture,¹³⁹ as opposed to being indicative of impending shoulder dystocia.

Despite the discussion above, ACOG's standard says an elective cesarean section for all infants with an estimated fetal weight of 5,000 grams or an estimated fetal weight of 4,500 grams if the mother possesses a diagnosis of diabetes.¹⁴⁰ Much literature has been devoted to the question of whether doctors should recommend elective cesareans to women with birth weights less than that currently recommended by ACOG.¹⁴¹ Various studies have suggested different numbers of cesarean sections to prevent one instance of permanent brachial plexus injury. Doumouchtsis estimated that 3,695 cesarean sections would have to be performed on women without diabetes with an estimated fetal weight of greater than 4,500 grams to prevent 1 instance of permanent brachial plexus injury.¹⁴² Rouse estimated that an additional 2,345 cesarean sections in women with an estimated fetal birth weight of 4,000 grams or more would have to be performed to prevent 1 permanent brachial plexus injury.¹⁴³ In 1996, this would cost an additional 4.9 million annually.¹⁴⁴

X. TOO LATE FOR PREVENTION, SHE'S IN LABOR

Thus, to avoid occurrences of shoulder dystocia, one only needs to perform more cesarean sections. This hardly is a satisfactory conclusion. No system is perfect, especially in light of the fact that, as previously

¹³⁹ See Giles Manley, *Inside the Brachial Plexus Injury Case*, TRIAL, May 2007, at 57.

¹⁴⁰ *Shoulder Dystocia*, *supra* note 10, at 1047.

¹⁴¹ See, e.g., Lerner, *supra* note 7, at 58.

¹⁴² Doumouchtsis & Arulkumaran, *supra* note 121, at 619.

¹⁴³ Dwight J. Rouse et al., *The Effectiveness and Costs of Elective Cesarean Delivery for Fetal Macrosomia Diagnosed by Ultrasound*, 276 J. AM. MED. ASS'N 1480, 1483 (1996).

¹⁴⁴ *Id.*

discussed, there is controversial evidence of brachial plexus injury in utero.¹⁴⁵ Regardless of risk factors, some deliveries will experience shoulder dystocia.

XI. OBSTETRIC MANEUVERS FOR SHOULDER DYSTOCIA

Physicians use multiple maneuvers during a shoulder dystocia crisis. While many records do not refer to these maneuvers by name, they may contain the description of the procedure. The following maneuvers do not need to be performed in any particular order.¹⁴⁶ Generally though, one first should look for the McRoberts maneuver and for suprapubic pressure.¹⁴⁷

A. *McRoberts Maneuver*

The McRoberts maneuver is the act of pulling the mother's legs up towards her abdomen.¹⁴⁸ It does not increase the dimensions of the pelvis.¹⁴⁹ Instead, it essentially changes the angle of the symphysis pubis in relation to the baby's anterior shoulder.¹⁵⁰ This change in the angle often frees the impaction of the shoulder from behind the pubic bone.¹⁵¹ The McRoberts maneuver has the effect of rotating the pelvis.¹⁵² By rotating the pelvis, the pubic symphysis is raised approximately one centimeter.¹⁵³ However, most researchers say there is no increase in diameter.¹⁵⁴ Regardless of whether it increases diameter or has the effect of shifting the pubic bone relative to the impacted shoulder, it is a highly effective maneuver.¹⁵⁵ One study found that the McRoberts maneuver, combined with other maneuvers, resolved the shoulder dystocia in 39% of the cases.¹⁵⁶

¹⁴⁵ See Sever, *supra* note 6, at 542.

¹⁴⁶ Taber v. Roush, 316 S.W.3d 139, 145 (Tex. Ct. App. 2010).

¹⁴⁷ *Id.*

¹⁴⁸ Deron C. Hicks & Travis C. Hargrove, *Torts*, 60 MERCER L. REV. 375, 383 (2008).

¹⁴⁹ See CUNNINGHAM ET AL., *supra* note 3, at 461.

¹⁵⁰ *Id.*

¹⁵¹ Lerner, *supra* note 7, at 63.

¹⁵² See *Shoulder Dystocia*, *supra* note 10, at 1047.

¹⁵³ See Bernard Gonik et al., *An Alternate Maneuver for Management of Shoulder Dystocia*, 145 AM. J. OBSTETRICS & GYNECOLOGY 882, 883 (1983).

¹⁵⁴ Lerner, *supra* note 7, at 63; see also CUNNINGHAM ET AL., *supra* note 3, at 461.

¹⁵⁵ See Gonik et al., *supra* note 153, at 884; Lerner, *supra* note 7, at 63.

¹⁵⁶ See Robert B. Gherman et al., *Obstetric Maneuvers for Shoulder Dystocia and Associated Fetal Morbidity*, 178 AM. J. OBSTETRICS & GYNECOLOGY 1126, 1128 (1998) (referring to Table III).

B. Suprapubic Pressure

Suprapubic pressure is the second most commonly listed method¹⁵⁷ and can be used either simultaneously with the McRoberts maneuver or soon afterwards.¹⁵⁸ With suprapubic pressure, a nurse places a hand or fist just above the pubic bone of the mother and applies downward pressure.¹⁵⁹ The purpose, of course, is to dislodge the top shoulder of the baby from behind the pubic bone, and thus, clear the way for a delivery.¹⁶⁰ The combination of both the McRoberts maneuver and suprapubic pressure has been known to solve over 50% of shoulder dystocias.¹⁶¹

C. Woods Corkscrews Maneuver

If the McRoberts maneuver and suprapubic pressure does not resolve the shoulder dystocia, the obstetricians or midwives usually implement the Woods corkscrew maneuver next.¹⁶² As a maneuver, it is found third most often in records.¹⁶³ The Woods corkscrew maneuver is performed by the obstetricians or midwives placing pressure on the anterior or posterior shoulder of the baby with their fingers.¹⁶⁴ This rotates the shoulder either clockwise or counter-clockwise, releasing the anterior shoulder from its trapped position.¹⁶⁵ Although a very effective maneuver when it can be used,¹⁶⁶ the Woods corkscrew maneuver logically is harder to accomplish in the tight birth canal.¹⁶⁷ A variation on the Woods corkscrew maneuver, the Rubin maneuver, may also be utilized. With the Rubin maneuver, pressure is placed on the posterior of the baby's shoulder with the purpose of flexing the shoulder slightly forward on the chest, and thus, decreasing the width that passes through the canal.¹⁶⁸

¹⁵⁷ Manley, *supra* note 139, at 52.

¹⁵⁸ Lerner, *supra* note 7, at 63.

¹⁵⁹ *Id.*

¹⁶⁰ *See id.*

¹⁶¹ Gherman et al., *supra* note 156, at 1127.

¹⁶² *Id.*

¹⁶³ Manley, *supra* note 139, at 52–53.

¹⁶⁴ *Id.*

¹⁶⁵ Lerner, *supra* note 7, at 63.

¹⁶⁶ *Id.*

¹⁶⁷ *See* CUNNINGHAM ET AL., *supra* note 3, at 461.

¹⁶⁸ *See id.* at 462.

D. Posterior Arm Sweep

If the previously discussed maneuvers prove unsuccessful, the physician may next try and deliver the posterior arm.¹⁶⁹ Although not usually documented, the physician places a hand in the vagina to locate the arm and then sweeps that arm forward over the chest wall of the baby.¹⁷⁰ The purpose is to sweep out the posterior arm and shoulder, allowing the anterior shoulder to deliver.¹⁷¹

E. Proctoepisiotomy

Some support the use of proctoepisiotomy—cutting the tissue between the vagina and the rectum.¹⁷² However, this is controversial.¹⁷³ Currently, ACOG makes no recommendation as to whether an episiotomy should be performed, although they note that it may be done to create access for previously mentioned maneuvers.¹⁷⁴

F. Zavanelli Maneuver and Other Interventions

The Zavanelli maneuver is rarely used due to the significant risk to both the fetus and mother.¹⁷⁵ To perform the Zavanelli maneuver, the physician pushes the baby's head back into the uterus, and an emergency cesarean section is performed.¹⁷⁶ Sometimes, the head cannot be reinserted, and the Zavanelli maneuver fails.¹⁷⁷ In the most comprehensive study of Zavanelli maneuvers, O'Leary failed at cephalic replacement over 10% of the time.¹⁷⁸ Some have argued that failure to do a Zavanelli maneuver is a breach of the standard of care.¹⁷⁹ The procedure is so rare;

¹⁶⁹ Manley, *supra* note 139, at 53.

¹⁷⁰ See M.B. McFarland et al., *Perinatal Outcome and the Type and Number of Maneuvers in Shoulder Dystocia*, 55 INT'L J. GYNECOLOGY & OBSTETRICS 219, 220 (1996).

¹⁷¹ See CUNNINGHAM ET AL., *supra* note 3, at 462.

¹⁷² See, e.g., *Shoulder Dystocia*, *supra* note 10, at 1047 (noting that this procedure can create more room in the posterior vagina).

¹⁷³ Manley, *supra* note 139, at 53.

¹⁷⁴ *Shoulder Dystocia*, *supra* note 10, at 1047.

¹⁷⁵ See *id.*

¹⁷⁶ *Regions Bank ex rel. Estate of Harris v. Hagaman*, 84 S.W.3d 66, 67 (Ark. Ct. App. 2002).

¹⁷⁷ See Gherman et al., *supra* note 156, at 1129.

¹⁷⁸ See James A. O'Leary, *Cephalic Replacement for Shoulder Dystocia: Present Status and Future Role of the Zavanelli Maneuver*, 82 OBSTETRICS & GYNECOLOGY 847, 847, 849 (1993).

¹⁷⁹ *Crocker v. Roethling*, 675 S.E.2d 625, 627 (N.C. 2009).

however, that it is not generally considered a standard procedure.¹⁸⁰ Additionally, fetal death and fracture of the spine has been reported along with other severe fetal damage.¹⁸¹

As the medical emergency continues, a physician may perform symphysectomy. This is where the pubic bone of the mother is surgically bisected to give room for the shoulder to deliver.¹⁸² This, of course, increases the risk to the mother.¹⁸³

Although there is no duty to do all of the above procedures, failure to properly make use of some of the above delivery techniques once shoulder dystocia is encountered may lead to a viable case against the obstetrician.¹⁸⁴ At a minimum, the obstetrician should attempt the McRoberts maneuver with or without suprapubic pressure, and subsequently, the Woods corkscrew maneuver.¹⁸⁵ Fundal pressure is contraindicated during a shoulder dystocia until the shoulder is freed.¹⁸⁶

Obstetricians are trained to perform the above maneuvers as well as a few other maneuvers of last resort, which are not part of the normal expectation in the standard of care in the shoulder dystocia emergency.¹⁸⁷ As the emergency progresses, the obstetrician can deliberately break the clavicle, thereby, decreasing the shoulder diameter.¹⁸⁸ This is not only difficult to do in utero but carries its own risks, although it is preferable to hypoxia and infant death.¹⁸⁹

XII. AREAS OF LITIGATION

Even with the proper performance of the maneuvers, brachial plexus injuries may still occur.¹⁹⁰ There are two primary areas where claims arise. The first, discussed above, is whether the obstetrician knew or should have known that the risk of shoulder dystocia was high enough that the

¹⁸⁰ See Lerner, *supra* note 7, at 64.

¹⁸¹ See, e.g., Eugene C. Sandberg, *The Zavanelli Maneuver: 12 Years of Recorded Experience*, 93 *OBSTETRICS & GYNECOLOGY* 312, 317 (1999).

¹⁸² Manley, *supra* note 139, at 57.

¹⁸³ See *id.*

¹⁸⁴ Walters, *supra* note 52, at 67.

¹⁸⁵ See *id.*

¹⁸⁶ See *Shoulder Dystocia*, *supra* note 10, at 1047.

¹⁸⁷ See Manley, *supra* note 139, at 52–55.

¹⁸⁸ CUNNINGHAM ET AL., *supra* note 3, at 463.

¹⁸⁹ *Id.*

¹⁹⁰ *Shoulder Dystocia*, *supra* note 10, at 1047.

obstetrician should have discussed the possibility with the mother,¹⁹¹ and thus, provided the mother with the option of choosing a cesarean section.¹⁹² The discussion of whether any mother should be able to choose the option of cesarean section, regardless of whether there is a medical indication, is left for another article to explore. The second claim assumes that since the baby has a permanent brachial plexus injury, the obstetrician must have pulled too hard at delivery (a concept frequently referred to as traction in courts).¹⁹³ The first claim presumes that risk factors, conditions, and symptoms are discoverable that could predict with accuracy shoulder dystocia. The second claim uses the vague concept of traction, which is measured not in force but in an assumption after the fact.

XIII. “PUSH ME, PULL ME, PUSH ME, OR PULL ME OUT:”¹⁹⁴ A LOOK AT THE CASES

In Texas, infant Jordan developed shoulder dystocia during the delivery, and the physician used moderate traction to resolve the shoulder dystocia.¹⁹⁵ In a subsequent lawsuit, plaintiff’s expert testified that the physician used too much traction.¹⁹⁶ In Illinois, plaintiffs brought against Dr. Moore alleging infant Keenum’s permanent brachial plexus injury was the result of Dr. Moore using “greater-than-gentle traction” during the delivery in response to a shoulder dystocia situation.¹⁹⁷ Also, infant Zavian received a brachial plexus injury in Louisiana as a result of alleged excessive traction on the head and neck by the obstetrician/gynecologist during delivery.¹⁹⁸ The parents of baby Austin alleged negligence on the part of Dr. Rapaport’s use of excessive force causing a brachial plexus injury in Pennsylvania.¹⁹⁹ And in Connecticut, baby Omar’s brachial plexus injury was caused by the negligence of his physician by, among several other allegations, the application of excessive traction while attempting to alleviate a shoulder dystocia.²⁰⁰

¹⁹¹ See Manley, *supra* note 139, at 57.

¹⁹² *Id.*

¹⁹³ Pilcher v. Talbert, No. 00-P-1954, 2003 WL 1700245, at *2 (Mass. App. Ct. Mar. 31, 2003).

¹⁹⁴ PEARL JAM, YIELD (Epic 1998) (citing lyrics to the song “Push Me, Pull Me”).

¹⁹⁵ See Taber v. Roush, 316 S.W.3d 139, 145 (Tex. Ct. App. 2010).

¹⁹⁶ See *id.* at 146.

¹⁹⁷ Stapleton *ex rel.* Clark v. Moore, 932 N.E.2d 487, 492 (Ill. App. Ct. 2010).

¹⁹⁸ Grimes v. La. Med. Mut. Ins. Co., 29 So. 3d 505, 506–07 (La. Ct. App. 2009).

¹⁹⁹ Pringle v. Rapaport, 980 A.2d 158, 161–62 (Pa. Super. Ct. 2009).

²⁰⁰ Earlington v. Anastasi, 976 A.2d 689, 692–93 (Conn. 2009).

Additionally in Louisiana, baby Steen and mother were awarded \$500,000.00 against Dr. Ryan when Dr. Ryan did not immediately cease “all” traction after the typical turtle sign.²⁰¹ Dr. Ryan allegedly applied moderate traction for thirty seconds in an attempt to free the shoulder before performing a Zavanelli maneuver and a subsequent cesarean section.²⁰² Lastly, Dr. Boler in Illinois allegedly used excessive traction to free the shoulder dystocia and the delivery of baby Sanders leading to a brachial plexus injury.²⁰³ Dr. Boler diagnosed Ms. Sanders with shoulder dystocia after a shortened rapid labor of four hours.²⁰⁴ Dr. Boler applied a vacuum extractor to baby Sanders’ head and used “gentle” traction in an attempt to deliver baby Sanders.²⁰⁵

In the *Sanders* case, the plaintiff said that the physician used excessive traction.²⁰⁶ The mother, though, was hardly in a position to observe the amount of actual traction utilized by the defendant. On the other hand, the defendant physician, who was admittedly motivated to minimize the amount of force used, was also in the best position allegedly to remember what he did during the delivery. The physician apparently used a mechanical device and only used “gentle” traction.²⁰⁷

XIV. WHAT ARE THE STANDARDS WITH TRACTION?

In just the cases above, you have various standards espoused by both plaintiffs and defendants. Even defendants disagree on what should be done.²⁰⁸ The standard is both moderate traction and never more-than-gentle traction.²⁰⁹ The standard also is never to give any traction once shoulder dystocia occurs²¹⁰ versus the use of “gentle” traction as

²⁰¹ *Steen v. Prof'l Liab. Ins. Co. of Am.*, 962 So. 2d 470, 473 (La. Ct. App. 2007).

²⁰² *Id.*

²⁰³ *See Ruffin ex rel. Sanders v. Boler*, 890 N.E.2d 1174, 1177 (Ill. Ct. App. 2008).

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ *Id.*

²⁰⁷ *Id.* Dr. Boler actually did not remember the Tanisha Sanders delivery but only testified based on his usual practice and his notes. *Id.*

²⁰⁸ *See, e.g., id.* (testifying that “gentle traction is the only kind of traction the standard of care permits a doctor to apply”); *Steen v. Prof'l Liab. Ins. Co. of Am.*, 962 So. 2d 470, 474 (La. Ct. App. 2007) (finding that “all physicians agreed that the standard of care is to cease all traction upon encountering shoulder dystocia”).

²⁰⁹ *Stapleton ex rel. Clark v. Moore*, 932 N.E.2d 487, 493 (Ill. App. Ct. 2010).

²¹⁰ *Steen*, 962 So. 2d at 474.

appropriate.²¹¹ *Williams Obstetrics* is one of the primary standard medical school textbooks.²¹² According to *Williams*, physicians should use gentle downward traction after delivery and external rotation of the head.²¹³ However, in the next paragraph, it states that moderate traction may be necessary if there is a delay in the delivery after presentation of the head.²¹⁴ Yet, this is an emergency. An infant's life is at stake. Once shoulder dystocia is occurring, isn't any traction that saves the baby better than no traction at all? And unless the obstetrician is liable for not recommending a cesarean section pre-labor, should the obstetrician be held liable for actions to save the baby? In part, it depends on the procedures performed in this situation. It should not come down to how hard the obstetrician allegedly pulled on the baby.

XV. WHAT THE HELL IS TRACTION?

Traction is about force.²¹⁵ According to Webster's dictionary, traction is "the adhesive friction of a[n] [object] on a surface on which it moves"²¹⁶ or "a state of tension created by . . . a pulling force."²¹⁷ Traction is necessarily about pulling against resistance.²¹⁸ Whether it is mild, moderate, or extreme, it still is a force being applied to the baby.²¹⁹ Studies show that the amount of force generally applied differs based on the type of delivery.²²⁰ Devices designed to read force have found that the peak forces used by clinicians increase just under 50% in difficult deliveries and more than double in instances of shoulder dystocia.²²¹

²¹¹ *Stapleton*, 932 N.E.2d at 493.

²¹² Leslie J. Reagan, *Rashes, Rights and Wrongs in the Hospital and Courtroom: German Measles, Abortion and Malpractice Before Roe and Doe*, 27 *LAW & HIST. REV.* 241, 241 (2009).

²¹³ See CUNNINGHAM ET AL., *supra* note 3, at 319.

²¹⁴ *Id.*

²¹⁵ See generally Bernard Gonik et al., *Mathematic Modeling of Forces Associated with Shoulder Dystocia: A Comparison of Endogenous and Exogenous Sources*, 182 *AM. J. OBSTETRICS & GYNECOLOGY* 689, 689 (2000) (referring to birthing process forces and clinician-applied forces).

²¹⁶ WEBSTER'S NEW COLLEGIATE DICTIONARY 1237 (1977).

²¹⁷ *Id.*

²¹⁸ See Gonik et al., *supra* note 215, at 689 (stating that in cases of shoulder dystocia, force is needed to dislodge the baby when resisting delivery).

²¹⁹ See *id.*

²²⁰ See Doumouchtsis & Arulkumaran, *supra* note 121, at 618.

²²¹ See *id.*

The normal delivery is accomplished with a combination of both endogenous forces in the form of the mother pushing and some exogenous forces with some traction from the clinician.²²² In the normal uncomplicated delivery, it is recommended that the clinician suction the infant's nasopharynx after the delivery of the head before expulsion of the rest of the baby.²²³ During this period, the mother should not push so that the physician can complete the suction.²²⁴ But I have observed on multiple occasions the spontaneous push of the mother that leads to immediate delivery of the infant. The endogenous forces are clearly strong enough at times to lead to expulsion of the fetus.²²⁵ These maternal forces can worsen the impaction and the stress on the brachial plexus.²²⁶ Both endogenous and exogenous forces can contribute to birth injury.²²⁷ Estimated measurements of endogenous forces were four to nine times greater than exogenous forces on the brachial plexus during a shoulder dystocia delivery.²²⁸ Thus, while limitations in normalization limit the conclusions that can come from this study,²²⁹ it is clear that significant endogenous forces can occur during labor.

However, it would be a mistake to presume that by itself, maternal force is enough to cause a brachial plexus injury. Evidence suggests that maternal forces are *normally* insufficient to cause brachial plexus injury,²³⁰ but what about in abnormal situations, such as when the shoulders are wedged against the pubic bone? Unfortunately, there is no study that has measured the forces necessary to cause a brachial plexus injury and compared those forces to the maximum forces exerted by the mother.²³¹

The goal, of course, is to get the baby out before more severe complications to the baby or the mother occur (with death of the baby a

²²² See CUNNINGHAM ET AL., *supra* note 3, at 316–19.

²²³ *Id.* at 319.

²²⁴ AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, EMERGENCY: CARE AND TRANSPORTATION OF THE SICK AND INJURED 500 (Bruce D. Browner et al. eds., 8th ed. 2001).

²²⁵ See *Ingram v. Little Co. of Mary Hosp.*, 438 N.E.2d 1194, 1195 (Ill. App. Ct. 1982).

²²⁶ See *Ruffin ex rel. Sanders v. Boler*, 890 N.E.2d 1174, 1180 (Ill. Ct. App. 2008).

²²⁷ See Cheng et al., *supra* note 127, at 859.

²²⁸ See Gonik et al., *supra* note 215, at 690.

²²⁹ See *id.* (acknowledging the limitations of this study regarding the ability to account for all factors in making these measurements).

²³⁰ See Gurewitsch & Allen, *supra* note 93, at 228.

²³¹ See Gonik et al., *supra* note 215, at 689–99.

distinct possibility).²³² How much force is too much? If the choice is between a fractured clavicle and death, a fractured clavicle is preferred. If the choice is between brachial plexus injury and death, brachial plexus injury is preferred. The reality is that physicians are not making this choice. They are trying to deliver a baby that is at risk in an acute emergency. There is no machine present in the labor room that measures the amount of force being applied. It is already known that in stressful deliveries physicians use stronger traction than in normal deliveries.²³³ It is not a surprise that during stress some physicians apply more force than they intended. But was it too much?

How does one know that too much force was used? Weisbrod and Stein seem to suggest that the physician must have used too much force because otherwise there would have been no brachial plexus injury.²³⁴ This conclusion is based on a faulty premise—that there is no evidence endogenous forces can play a role in brachial plexus injuries.²³⁵ This is not an established fact. There is enough information available to conclude that questions are still open on the subject. A physician could use too much force; yet, the infant in that instance could not develop a permanent brachial plexus injury. In another delivery, the physician could use less force, and a brachial plexus injury could occur. In the first example, the physician breached the duty of care, but the injury did not occur. The second delivery involved no breach of duty of care, but the injury occurred anyway. Until there is a way to routinely measure the amount of force used, the concept of using excessive traction as a means to find fault is problematic. Liability should be applied where there is proof that fault is present. Where the plaintiff depends on the quicksand of excessive traction without actual measurements, fault should not be assessed.

XVI. SOLVING THE PROBLEM

The problem is that there is still a neonate with a brachial plexus injury. While the incidence of brachial plexus is low, it is still devastating to the mother and child. Brachial plexus injuries, secondary to birth trauma, represent the perfect case for an alternative compensation model. Excluding the macrosomic infant that the physician should have

²³² See *Crocker v. Roethling*, 675 S.E.2d 625, 627 (N.C. 2009). In this case, infant Crocker allegedly died secondary to hypoxia due to a severe shoulder dystocia during birth. *Id.* at 632.

²³³ See Doumouchsis & Arulkumaran, *supra* note 121, at 618.

²³⁴ See Weisbrod & Stein, *supra* note 11, at 44.

²³⁵ See *id.* at 43–44.

discovered pre-labor and that satisfies the recommendations of the ACOG, it is, at best, difficult to assess fault based on the amount of traction assumed to be used.²³⁶ Yet, plaintiffs are eager to claim fault on the part of the physician because of the amount of therapy costs the neonate will incur for years to come.²³⁷

A. Health Courts

There are jurisdictions that have considered the advantages of no-fault payments. The federal government and several states have proposed the idea of health courts. Proposals have been made in several states including Pennsylvania, Maryland, New Jersey, New Mexico, New York, Oregon, and Virginia.²³⁸ In all, twenty-six proposals have been made in eight states to create health courts, although none have yet passed into law.²³⁹ Health courts would be administrative panels.²⁴⁰ These panels would consist of expert judges, neutral experts, or both in place of juries to award compensation to plaintiffs.²⁴¹ Health courts would presumably decrease the costs of awards or at least create some uniformity in standard of care applied.²⁴² Health courts were proposed as well in the federal system,²⁴³ but similar to the states, this bill has yet to pass.

B. Virginia Birth Injury Fund²⁴⁴

The Commonwealth of Virginia's Birth Injury Fund is a model that can be expanded upon. This fund primarily is available to all live births of infants with permanent need of assistance who have brain or spinal cord

²³⁶ See discussion *supra* Part XIV.

²³⁷ See Jill Poth Lack, *The Role of the Occupational Therapist in Life Care Planning*, in PEDIATRIC LIFE CARE PLANNING AND CASE MANAGEMENT 149, 154–56 (Susan Riddick-Grisham ed., 2004) (noting the costs and therapeutic treatments associated with brachial plexus injuries in infants).

²³⁸ See Olga Pierce, *Analysis: See You in Health Court?*, REDORBIT (July 7, 2006), http://www.redorbit.com/news/health/562962/analysis_see_you_in_health_court/index.html; *Legislative Activity on Health Courts*, COMMON GOOD, <http://commongood.org/f-healthcourtslegislation.html> (last visited Jan. 30, 2011).

²³⁹ See *Legislative Activity on Health Courts*, *supra* note 238.

²⁴⁰ Paul Barringer, *Health Courts: A Better Approach to Malpractice Reform*, COMMON GOOD (June 23, 2005), <http://commongood.org/healthcare-reading-cgpubs-opeds-43.html>.

²⁴¹ E. Donald Elliot et al., *Administrative "Health Courts" for Medical Injury Claims: The Federal Constitutional Issues*, 33 HEALTH POL. POL'Y & L. 761, 763 (2008).

²⁴² See *id.*

²⁴³ H.R. 2787, 111th Cong. (1st Sess. 2009).

²⁴⁴ VA. CODE ANN. § 38.2-5000 (2007).

injuries that occurred during labor, delivery, or immediately postpartum.²⁴⁵ Money for this fund comes from each obstetrician who chooses to participate and from hospitals that pay a specific amount per birth occurring in their hospital.²⁴⁶ To participate, a physician paid \$5,900.00 in 2010, an amount that will increase up to \$6,200.00 over the following three years.²⁴⁷ Hospitals pay \$55.00 per month per live birth; this amount goes up to \$200,000 in a given twelve-month period.²⁴⁸ All nonparticipating physicians pay \$300.00 per year.²⁴⁹ For obstetricians participating in the program, this compensation is the exclusive remedy available to their patients that qualify.²⁵⁰

This fund operates similar to worker's compensation.²⁵¹ Like the health courts, there is a board whose decisions are final.²⁵² Compensation is available for medical costs and earnings but excludes pain and suffering.²⁵³ The Birth Injury Fund led to resolution in 69 days for paid claims and only 127 days for unpaid claims.²⁵⁴

Other countries have also moved towards no-fault recovery systems. Both Sweden and New Zealand have no-fault compensation for medical injury.²⁵⁵ While it is probably not feasible that the United States move towards a no-fault system, there are some conditions that occur in which it could make sense. Brachial plexus injuries secondary to birth complication is one such condition.²⁵⁶

²⁴⁵ *Id.* § 38.2-5001.

²⁴⁶ *Id.* § 38.2-5020 (2010).

²⁴⁷ *See id.*

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ Charles M. Key, *Toward a Safer Health System: Medical Injury Compensation and Medical Quality*, 37 U. MEM. L. REV. 459, 480 (2007).

²⁵¹ *Id.* at 481–84.

²⁵² VA. CODE ANN. § 38.2-5011 (2009). Questions of law are available for judicial review. *See id.*

²⁵³ Key, *supra* note 250, at 479.

²⁵⁴ *Id.* at 483.

²⁵⁵ David M. Studdert & Troyen A. Brennan, *Toward a Workable Model of "No-Fault" Compensation for Medical Injury in the United States*, 27 AM J.L. & MED. 225, 229–30 (2001).

²⁵⁶ *See generally* David M. Studdert & Troyen A. Brennan, *No-Fault Compensation for Medical Injuries: The Prospect for Error Prevention*, 286 J. AM. MED. ASS'N 217, 218 (2001) (highlighting the problems of "individual judgment" in exacerbating "underlying causes of error").

A health court could be created that is funded by physicians, hospitals, insurance companies, and all punitive damage awards. One of the principal purposes for punitive damage awards is to punish the perpetrator for reprehensible acts.²⁵⁷ The plaintiff has already received compensatory damages that “represent the closest possible financial equivalent of the loss or harm” that was suffered.²⁵⁸ Punitive damages are about the defendant and not about the plaintiff. Placing that punitive damage award into a health court or taxing it and putting the tax into a health court will provide the resources to fund not all torts but only those with difficult evaluations, such as brachial plexus injury secondary to alleged excessive traction.²⁵⁹

Take for example the State of Virginia, which had 106,684 births in 2008.²⁶⁰ The cesarean section rate in 2006 was above 30% of all deliveries,²⁶¹ meaning there were about 74,608 vaginal deliveries in Virginia in 2008.²⁶² The incidence of brachial plexus injuries is about 1 per 1,000 vaginal births.²⁶³ Of these, approximately 12% of the neonates will be diagnosed with a permanent brachial plexus injury, or in this example, about nine babies in the State of Virginia for one year.²⁶⁴ Going through the health court would markedly decrease the cost of litigation, and the patient could receive compensation earlier. While this would eliminate the need for contingency fees, the patient would still pay reasonable attorney fees. This would be a very limited endeavor, although, there are other conditions that could fit this model.

XVII. CONCLUSION

Permanent brachial plexus secondary to shoulder dystocia is a rare condition, but it frequently leads to litigation. There are two areas of litigation: pre-labor maternal care and during labor care. The attorney in the former should look for major and minor risk factors, including but not

²⁵⁷ Gregg D. Polsky & Dan Markel, *Taxing Punitive Damages*, 96 VA. L. REV. 1295, 1297 (2010).

²⁵⁸ VICTOR E. SCHWARTZ ET AL., PROSSER, WADE AND SCHWARTZ’S TORTS 535 (12th ed. 2010).

²⁵⁹ See discussion *supra* Part XVI.A.

²⁶⁰ See *Births, Birth Rates, and Fertility Rates 2008*, INFOPLEASE.COM, <http://www.infoplease.com/ipa/A0763849.html> (last visited Feb. 3, 2011).

²⁶¹ Rita Rubin, *Answers Prove Elusive as C-Section Rate Rises*, USA TODAY, Jan. 8, 2008, at D1.

²⁶² See *Births, Birth Rates, and Fertility Rates 2008*, *supra* note 260.

²⁶³ Chauhan, *supra* note 47, at 1796–97.

²⁶⁴ See *id.* at 1799.

limited to macrosomia, gestational diabetes, obesity, previous macrosomia, previous diabetes, previous shoulder dystocia, body mass index, and multiparity. Even the presence of these risk factors does not mean that the physician should not have attempted a vaginal trial, but it may suggest that the physician should have been more aggressive in determining the estimated fetal weight. Unfortunately, methods of determining fetal weight are considered somewhat inaccurate. The current recommendations are that physicians should perform elective cesarean sections only with estimated fetal birth weights over 5,000 grams or 4,500 grams with a diagnosis of gestational diabetes.²⁶⁵ Studies suggest that doing cesarean sections to prevent permanent brachial plexus injuries in neonates who weigh less than 4,500 grams would not be cost effective.²⁶⁶

The diagnosis of shoulder dystocia is not uniform across the medical community. Attorneys should consider whether there was a shoulder dystocia if there was delayed second stage of labor without other indication or if there was descriptions of obstetrical maneuvers to free the shoulders. With a diagnosis of shoulder dystocia, at a minimum, the physician should have utilized the McRoberts maneuver and suprapubic pressure along with the Woods corkscrew maneuver. Fundal pressure is contraindicated at least until there is documentation that the shoulder is freed. While it is true that the vast majority of brachial plexus injuries are more than likely secondary to excessive exogenous forces or traction, this is not an absolute; some endogenous forces may play a role or the only role in a small number of cases.²⁶⁷ Because of this possibility, health courts created by the states could effectively treat this condition as a no-fault condition and apply relief to all who have a permanent diagnosis.

²⁶⁵ See *Shoulder Dystocia*, *supra* note 10, at 1047.

²⁶⁶ See generally Rouse et al., *supra* note 143, at 1484 (stating that \$4.9 million would have to be expended in order to prevent one permanent brachial plexus injury).

²⁶⁷ See discussion *supra* Part XII.