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Informative Essay

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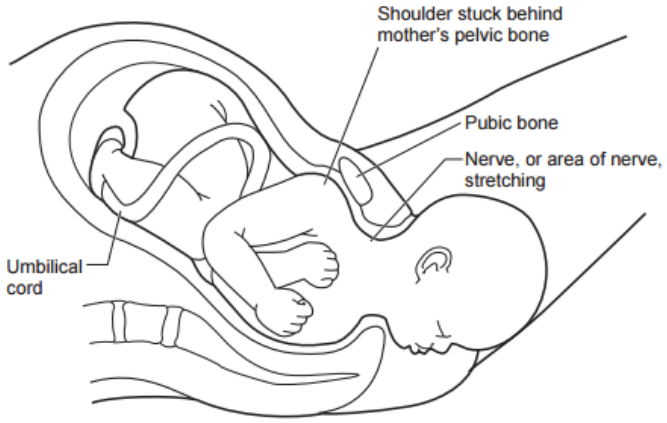
Top Threatening Birth Defect Unrecognized

Over 3 million birth defects occur every year in the United States ("Congenital Anomalies"). The most threatening, recurrent congenital anomalies known are heart defects, Down syndrome and neural tube defects (Mburia-Mwalili, Adel, and Yang Wei 1). Heart defects occur once in every 100 births; it is the leading type of birth defect. Down syndrome comes in second with 1 in about every 691 births, and neural tube defects come in third with 1 in every 1500 births ("Data & Statistics"). These high numbers recognize them as the most threatening to pregnant women. It is also a call for research to discover prevention and treatment. Though these birth injuries are relatively well known due to their high occurrence rate, research, and large support systems, they do not necessarily pose the biggest threat to newborn babies. One birth injury, with limited support systems and minimal studies, comes close to the leading defect with an occurrence of 1-5 in every 1,000 births; it is called Brachial Plexus Injury ("United Brachial").

Brachial Plexus injuries can occur under many circumstances such as car or motorcycle accidents, but they prominently occur during the birthing process. The brachial plexus is a group of nerve fibers which travel from the spine to the neck into the arms ("Birth Injury Guide"). They control the range of motion from the shoulders to the hands, and partially the chest and back ("Birth Injury Guide"). These nerves can be severed at birth, causing lifelong defects. Most injured do not even crawl as a baby, as their affected arm is too weak to support any weight. This

deficiency corrupts their daily lives forever. They cannot participate in certain physical activates like pushups in gym class, carry heavy items like a grocery bag, or for some, even drive a car. Those afflicted at birth endure severe pain or mild discomfort, a lifetime of therapy, surgeries, and emotional distress throughout their lives ("United Brachial").

It is equally important to recognize the high risk factors, such as shoulder dystocia, which contributes to its high occurrence rate (Birth Injury Guide). This birth predicament happens when a baby's shoulders become lodged in the mother's pelvic bone (e.g. see fig. 1), and the baby is born face first, or feet first ("United Brachial"; Birth Injury Guide). It occurs one in every 150



vaginal births ("Nursing Information").

Shoulder Dystocia at Birth (Fig. 1).

Shoulder dystocia, however, is not the problem, but rather the detrimental tactics doctors use to deliver the baby that causes BPI. Marsden Wagner, Formal Director of Maternal and Child Health for the California State Health Department, and other prestigious health research facilities, says that "the brachial plexus is damaged…when somebody yanks on the head, and that yanks on the brachial plexus and causes it to be injured. So it is an injury to the baby that is caused by the person who is attending the birth…it's a doctor-caused damage" ("United Brachial"). Doctors twist and pull on the fetal head which stretches the neck, and severs the

nerves in that area. This results in one or both arms to be fully or partially paralyzed ("United Brachial"). In 2011, a population-based study was performed on 241 Obstetric Brachial Plexus Injury (OBPI) patients who underwent surgical treatment at the Texas Nerve and Paralysis Institute. The most prevalent risk factor occurring within 97% of patients was shoulder dystocia. (Nath 3-4). Consequently, doctor's detrimental birthing tactics to deliver shoulder dystocia afflicted births are the true cause of BPI.

In the same study, those afflicted by shoulder dystocia usually had fetal macrosomia ("Fetal Macrosomia"). Macrosomia is a birth weight greater than 4500 g, or 9lb (Nath 1).The Texas Nerve and Paralysis Institute concluded that those with larger birth weight had undergone shoulder dystocia, and those with smaller weights had not (Nath 3). Thus, high birth weight is a risk factor for shoulder dystocia and brachial plexus injury (Nath 4). However, this is not to say that nonmacrosomic babies are immune to injury. All obstetric professionals present should be aware of all risk factors for every child no matter the weight. (Nath 5).

If its risk factors were readily available to doctors and pregnant women, brachial plexus injuries could be prevented. However, obstetrical practitioners and pregnancy resources seldom discuss the possibilities of shoulder dystocia or brachial plexus injury with expectant mothers. For example, education on birthing positions is imperative. Doctor's prefer women in lithotomy, laying on their backs, during labor because of the advantageous access it allows for maneuvering the baby (Wagner 80). However, this heightens the risk of shoulder dystocia. According to Wagner, it is the worst position to give birth in because it limits a mother's blood flow, and freedom to move (Wagner 81). He says: "For 50 years they have persisted in putting women on their backs, even though we have known scientifically for at least 25 years that that is the worst of all positions" ("United Brachial"). Lithotomy partially closes the pelvic outlet, by tilting the

pelvis downward. This halts the baby's journey out of the mother by causing frontal shoulder arrest (Morley). George Malcolm Marley, a board certified obstetrician of Fellow of the American College of Obstetricians and Gynecologists, also scolds the flat labor position saying "It's completely against natural child birth" ("United Brachial"). With the closed outlet, the baby's shoulder's become lodged behind the pubic bones ("Nursing Information"). Lithotomy is not the ideal position for the mother, but it generously gives doctors full access to the vaginal area.

To facilitate the delivery, doctors perform gentle downward traction, which is actually a harmful catalyst for BPI. During the procedure, the doctor pulls downward "lightly" on the baby's head to try to relieve it. Pulling lightly however does not release the baby from the mother's pelvic outlet because the baby's shoulders are wedged. Doctors then pull aggressively on the head, stretching the neck and ultimately severing the brachial plexus. Wagner rebukes the procedure all together: "They call it gentle traction; it's anything but gentle. The head should never be tugged on. Ever! At any time during the birth. But it is" ("United Brachial"). Whether the force is minimal or great, obstetricians should never pull on the head. To distinguish which obstetrical maneuvers during the second stage of delivery result in obstetric brachial plexus palsy (OBPP), *Acta Obstetricia Et Gynecologica Scandinavica*, a journal covering aspects of obstetrics and gynecology, printed a study done by Mollberg and his team of doctors in 2007.The study considered 38,749 births in the western part of Sweden from 1999 to 2001 and infants suffering from OBPP (Mollberg 1). It concluded that use of forceful downward traction after fetal third rotation is a risk of OBPP in vaginal deliveries (1). If the shoulders are unable to rotate, forceful downward traction would not help, but injury the shoulders (6). Data also revealed that though clinicians used downward traction, they did not view shoulder dystocia as an emergency (1).

This theory aligned with Beall Rodrigue's claim that shoulder dystocia is "under-reported" (6). Rodrigue has been involved with previous studies for shoulder dystocia to prevent, define, and treat it (Result Filters). Marley boldly tells the truth of the matter saying that "you would stop every brachial plexus injury if doctors would stop pulling heads" ("United Brachial"). Improved maneuvers and prospective studies need to be explored to find a way to release the shoulders with ease.

Various maneuvers though, have already been enacted that safely deliver the baby's shoulders. When the baby's shoulders are lodged behind the pelvic bones, doctors must change the position of not the baby, but the mother ("United Brachial"). Ina May Gaskin, a certified professional midwife, created the Gaskin Maneuver ("United Brachial"). By rolling the mother, the baby's relation to her changes and will slide out easily. There is no longer any risk of BPI as the baby's head is not stretched or tugged on in any way.

Unfortunately, BPI is scarcely recognized in society despite its extremely high occurrence rate. It is a birth defect that could be mostly resolved if only doctors, pregnant women, and the rest of the population were informed of its high risk factors. Shoulder dystocia is the main cause of this disease. However, if doctors discontinue lithotomy, it would rarely occur. Expectant mothers as well should be informed of correct, ideal birthing positions. Moreover, mothers of large infants should take extra precaution of the best position to ensure an open pelvic outlet. To ensure the baby's health, safer maneuvers need to be developed for shoulder dystocia emergencies. Before BPI can be properly prevented, and treated, it must first no longer be an anomaly.

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http://www.medicalveritas.com/images/00073.pdf George Malcolm Morley, MB ChB, FACOG

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