CASE STUDY

Resolution of Breech Presentation and Successful VBAC in a Patient Undergoing Webster Technique: A Case Study & Selective Review of the Literature

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Abstract

Objective: The purpose of this case study is to discuss the outcome of a pregnant patient presenting with a frank breech fetal presentation undergoing chiropractic care.

Clinical Features: A 35-year-old multiparous female presented to the chiropractor at 34 weeks pregnant. A frank breech position of the fetus was confirmed with ultrasound by her obstetrician. The patient had a history of cesarean section and was seeking chiropractic care for vaginal birth after cesarean section.

Intervention and Outcomes: Over the course of two weeks, the patient was analyzed and adjusted utilizing Webster and Diversified techniques. The patient underwent four adjustments before reporting vertex positioning of the fetus confirmed by her obstetrician via ultrasound.

Conclusions: Chiropractic care in the form of Webster Technique on a pregnant patient with a frank breech presenting fetus later reported vertex positioning of the fetus following two weeks of care. The patient went on to have a successful, natural, vaginal birth process with no reported complications. This is the patient's second vaginal birth after cesarean delivery.

Key words: Webster Technique, pregnancy, chiropractic, breech, subluxation, adjustment, manipulation, frank breech, cesarean section

Introduction

Fetal presentation is diagnosed by a combination of Leopold maneuvers, pelvic examination, ultrasonography, or other imaging techniques. All of these techniques are used by obstetricians in the diagnosis of fetal positioning starting as early as 28 weeks' gestation. Fetal position is then described using lie, presentation, and position. Lie is the relation of the long axis of the fetus to the maternal long axis. Presentation is determined by the portion of the fetus that is lowest in the

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birth canal. Position is the relation of the presenting portion of the fetus in comparison to the maternal pelvis.¹ The desired fetal position is termed the vertex position which is with the fetus in the head down position and the occiput anterior. Breech presentation is defined as a position of a fetus in which the feet or buttocks appear first during birth. The incidence of breech presentation occurs in 3%-4% of all labors and in 7% of all pregnancies at 32 weeks.²

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The most common breech presentation is frank breech presentation occurring in 64% of all breech pregnancies.³ Frank breech is when the head is up, the legs are flexed at the hip with both knees in extension, and the buttocks present first. There are many other forms of breech presentations including complete, incomplete, footling and transverse breech positions. Breech presentations rarely spontaneously reposition to a cephalic presentation beyond 34 weeks of pregnancy and because of this 80%-100% of breech presenting fetus' are delivered by caesarean section.⁴

In a randomized controlled trial conducted from 1981 to 1982, researchers wanted to test the hypothesis that cesarean section was a superior strategy in the non-frank breech presentation of infants at term.⁵ The study showed that maternal morbidity was higher among women delivering by cesarean section and concluded that selective management protocols under controlled conditions are reasonable alternatives to elective cesarean section. There are also studies showing no differences in maternal morbidity and low neonatal morbidity with cesarean deliveries. The Term Breech Trial is a randomized multicenter trial conducted between January 1997 to April 2000 to determine if there are benefits to a planned cesarean section versus a planned vaginal delivery. The study included 26 countries and 2088 women with a singleton fetus in a frank of complete breech. These women were randomly assigned to planned cesarean or planned vaginal birth. The results showed that there was a lower neonatal mortality or serious neonatal morbidity in the planned cesarean group than in the planned vaginal birth group.³ It is obvious that there are research studies supporting and refuting both sides of the spectrum but relatively few women wish to have cesarean section when asked in early pregnancy,⁶ therefore alternative options should be explored first to accommodate the natural birthing process.

Until the 1960's, vaginal breech deliveries (VBD) were the first option for women with breech presentations. Since then, the amount of medical intervention has increased and VBD's have decreased. The increased use of cesarean instead of VBD is in part because of the diminishing expertise in vaginal breech delivery¹ and, consequently, the rate of cesarean deliveries increased every year in the United States from 1996 to 2014. According to the Centers for Disease Control and Prevention (CDC), 32.2% of all deliveries in the United States were delivered by cesarean in 2014.7 Cesarean sections are considered as the first, safest, and most effective way of delivering breech presentations today in spite of the research refuting this claim. "There are no clinical or ultrasonographic assessments that can guarantee a safe and easy birth of the after-coming head in breech presentations." This is one reason why obstetricians believe all breech presentations should be delivered by cesarean section.⁸ Another reason for this transition is because it is believed to be a safer option for mothers. There have been several studies over the past decade that show that birth by cesarean section is safer while others show no correlation.

While the data is still inconclusive, it is evident that through effective management during labor, many term breeches can be delivered vaginally and safely for both mother and baby. One statistic states that although mortality due to cesarean delivery is rare, overall maternal morbidity associated with cesarean delivery is twofold higher compared to vaginal delivery. 8

In order to avoid cesarean sections medically, obstetricians opt to do an external cephalic version (ECV). ECV is a procedure in which the baby is manipulated by pressure through the mother's abdominal wall into a cephalic (head-down) position.9 While some obstetricians still perform ECV's to avoid cesarean section, it is not the primary option for breech management in the medical field. This process is successful approximately 50% of the time in the properly selected cases.¹ By 34 weeks, many women may have chosen their delivery strategy if the fetus remains in breech and according to the statistics above, would be an elective cesarean section. ECV as a management technique is normally offered at 36 weeks.¹⁰ This is two weeks after the cesarean section is initially offered. As previously stated, the majority of women prefer a vaginal birth over a cesarean birth.⁶ Since ECV is utilized to manually turn the baby into the appropriate position for vaginal delivery, it is obvious that the medical community does not employ the options that women desire first in the decision making process based on this timeline.

Many women will seek alternative options to reposition the baby and to avoid cesarean sections. Some options include moxibustion, a traditional Chinese medicine technique, ginger paste, homeopathic remedies, fetal acoustic stimulation, hypnosis, yoga and chiropractic.¹¹ Chiropractors use a specific chiropractic analysis and diversified adjustment that is called the Webster Technique that is used to improve the function and articulations of the pelvis and sacrum. "The goal of the adjustment is to reduce the effects of subluxation and/or SI joint dysfunction. In so doing neurobiomechanical function in the sacral/pelvic region is improved."¹²

With the analysis and adjustment of a sacral subluxation, the Webster Technique may have a positive effect on the causes of dystocia.¹² Dystocia is difficult labor characterized by an abnormally slow progress of labor. This slow progress of labor is the result of a variety of abnormalities which include abnormalities of expulsive forces, presentation, position, or development of the fetus, abnormalities of the maternal bony pelvis, or of the birth canal.¹³ These irregularities can occur together in combination or as a single incidence. Webster Technique may be used to help women presenting with a breech fetus to avoid some of the riskier approaches to delivery so that she may have a natural, vaginal birth process.

Case Report

Patient History

The patient was a 35-year-old female presenting to the chiropractic office at 34 weeks' gestation with a frank breech fetal malposition diagnosed by her obstetrician via ultrasound. The patient was pregnant with her third child. The first pregnancy went to full term and resulted in a cesarean section. The second pregnancy resulted in a full term vaginal birth. The patient presented with the desire to have another vaginal birth after cesarean section.

Chiropractic Examination

An orthopedic examination of the patient revealed Ely Heel to Buttock Test to be positive on the left. This test is a common exam utilized to assess the integrity of the lumbar spine and specifically the lumbar nerve roots and iliopsoas muscles. The test is performed with the patient in the prone position, which is face down on the table. The examiner flexes the patients' knee to 90 degrees and then approximates the foot over to the opposite buttock. The examiner then reaches under the flexed knee to hyperextend the thigh off of the table. A positive on this test is indicative of possible inflammation of the lumbar nerve roots, lumbar nerve root adhesions, or spasm of the iliopsoas muscle. The patient was also assessed via static and motion palpation. End point tenderness with hypomobility was found in the lumbosacral areas. Motion palpation revealed multiple subluxations and muscle spasms in the lumbar, cervical, and upper thoracic areas.

Surface electromyography (sEMG) is a surface electrode technique that involves placing electrodes on the skin overlying the muscles that are being evaluated. The electrodes measure differences in muscle tension to evaluate myotonic dysfunction. The chiropractor is then able to use these findings to support the findings that may have been indicated on the orthopedic examination. This evaluation is done paraspinally at 15 anatomically paired sites and compared to a programmed normative database. sEMG scans are interpreted utilizing three factors; amplitude, symmetry, and frequency. Amplitude is the signal level measured in microvolts. The higher the signal the greater the amount of muscle activity is in that area. Symmetry is comparing the amplitudes from left to right at each spinal level.¹⁴ Lastly, frequency is measured in Hertz and evaluates the frequency of the EMG signal. The patients' results showed high muscle tension at C1 on the right and high muscle tension at C3 on both right and left sides of the patient. (See Figure 1)

A paraspinal thermal scan was used to measure skin temperature differences along the spine to evaluate sympathetic nerve function. The use of thermography is based on the presence of temperature asymmetries between the involved area of innervation and the corresponding area on the opposite side of the body.¹⁵ The detection of a significant temperature difference between corresponding sites on opposite sides of the body is highly suggestive of nerve impairment.¹⁶ The impaired peripheral nerves that are detected through thermography are nerves of the sympathetic nervous system. The sympathetic nervous system controls vasculature throughout the body and therefore alters the skin temperature when there is a disturbance in this part of the nervous system. Insight Technology is the spinal scanning system that was used for this thermal assessment. Infrared sensors compare temperatures at 25 anatomical points and compared to a database of normal limits within the system. The analysis is determined by two factors, symmetry and pattern. Symmetry is the difference in temperatures from left to right at the same spinal level. The values are indicated as mild, moderate, and severe based on standard deviations just as in sEMG. The patient had mild asymmetry at T4 on the right and moderate asymmetry at C5 on the right. (See Figure 2)

Chiropractic Analysis & Intervention

The patient was first analyzed utilizing Webster analysis. This analysis is a two-step process which begins with the patient lying prone on a pregnancy pillow. A pregnancy pillow is a specialized pillow developed by the International Chiropractic Pediatric Association (ICPA) that allows for a pregnant patient to lie comfortably on her stomach. The analysis begins by checking for leg lag. Leg lag is assessed by approximating the feet to the buttocks simultaneously and feeling for the leg with the most resistance. The side with the greatest resistance is the side of sacral rotation. This patient was found to have left sided leg lag that would indicate a left posterior sacral base. The adjustment is performed in the prone position on the side of sacral rotation. A light posterior to anterior force with drop and a slight medial torque was used with contact on the second sacral tubercle, step one of the Webster Technique. Step two is a soft tissue assessment of the round ligaments located on either side of the lower abdomen. The patient is instructed to lie supine to assess for taut muscle fibers or nodules along this ligament. The taut muscle fibers are usually found on the opposite side of sacral rotation that in this case would be on the right. A light inferior to superior pressure was applied to the round ligament to release the tension in the area.

An assessment of the atlas, the first cervical vertebrae in the spine, using motion and static palpation was used to obtain a Gonstead listing. The term listing has come to mean the group of letters that represents the direction of travel of a misaligned part.¹⁷ An atlas listing contains four letters such as ASLP which would indicate the vertebrae with anterior, superior, left, and posterior with respect to the position of the axis which is the vertebrae below. The chiropractor is then able to apply this listing with Diversified Technique to deliver the adjustment.

The patient was advised to return three times a week for assessment. Webster Technique and Gonstead analysis systems were used as described above and for the following three visits, the patient presented with the same subluxations and an adjustment was delivered. On the fourth visit, the patient was found to have additional subluxations at C4, T5, and T6 that were adjusted utilizing Diversified technique.

Chiropractic Care Outcome

The patient was analyzed and adjusted over the course of two weeks utilizing Webster and Diversified techniques for a total of four adjustments. On the fifth visit, a week following the previous adjustment, the patient reported that the fetus was now in the vertex position as determined by her obstetrician via ultrasound. This ultrasound confirmation occurred two weeks after the initial adjustment. The patient went on to have a vaginal hospital delivery. There were no stated complications with the birthing process.

Discussion

The Webster Technique

Webster Technique was developed by Dr. Larry Webster, DC as a specific sacral analysis, diversified adjustment, and related soft tissue release to be used on all weight bearing individuals including the pregnant population throughout pregnancy.¹⁸ Dr. Webster also founded the International Chiropractic Pediatric Association (ICPA) which is a nonprofit organization that specializes in educating chiropractors on the care of pregnant women and children. This organization administers the class that teaches the Webster Technique for proficiency and certification. The ICPA defines Webster Technique as, "a specific chiropractic analysis and diversified adjustment. The goal of the adjustment is to reduce the effects of subluxation and/or sacroiliac (SI) joint dysfunction. In so doing neurobiomechanical function in the sacral/pelvic region is improved."¹⁸ It is recognized that the Webster Technique may have a positive effect on the causes of dystocia based on the improvement of function within the SI joint. This theory is based on the concept that sacral misalignment contributes to the main causes of dystocia via uterine nerve interference, pelvic misalignment, and the tightening and torsion of specific pelvic muscles and ligaments.¹² The effects of this chiropractic adjustment are based on numerous case studies (Table 1) and reported results from the use of this technique in chiropractic practices.

Chiropractic adjustments, often for the purpose of correcting vertebral subluxation, confer measurable health benefits to people regardless of the presence or absence of symptoms.¹⁹ These health benefits are unique for each individual person and involve many physiological and/or biomechanical changes.¹² The Webster Technique specifically addresses the subluxation complex of the sacrum and the pelvic articulations with the round ligament.

The pelvic bowl is comprised of three bones, two ilia conjoined posteriorly by the sacrum. The movement of these bones occurs when they meet at the SI joint. The SI joint movement pattern is complex because its anatomical configuration allows displacement in 3 planes and axes in a combined manner. However, the amplitude of this movement is restricted to approximately 1 to 4° of rotation and 1 to 2 mm of translation.²⁰ There are three major ligaments that suspend the uterus within the pelvic bowl: the uterosacral, ovarian, and round ligaments.

The location of the uterus is dynamically positioned by the stretch of these ligaments.²¹ The uterosacral ligament arises from the posterior wall of the uterus and it inserts on the anterior face of the sacrum at the S2-S3 level. In step one of the Webster Technique, the adjustment is delivered for sacral rotation. Because this ligament attaches to the sacrum, there may be a biomechanical effect on this ligament by releasing tension that may be associated with sacral rotation. The round ligament passes from the lateral uterus, through the internal abdominal ring, and along the inguinal canal to the labia majora.²² The purpose of the round ligament is to maintain anteversion of the uterus and limit posterior movement. If tension were to develop within the ligament, it could effect the position of the uterus based on its function to keep the uterus in an anterior position. In step two of the Webster Technique, the woman's lower abdomen is palpated for nodules, taut bands, edema, adhesions, or tenderness along the round ligament.²¹ If any of these are found, myofascial trigger point therapy is performed to release any palpable nodules allowing the ligament and surrounding musculature to relax. It is shown that there is a direct relationship with the bony pelvis and the

musculature within it. Through the Webster Technique assessment, neurobiomechanical dysfunction caused by SI joint subluxation can be restored.

Chiropractic Review of Literature

care is utilized for many Chiropractic different musculoskeletal conditions including pelvic instability that may lead to low back pain. Because of the popular and well known notion that chiropractors facilitate low back pain, many women who experience pain throughout pregnancy seek out the care of chiropractors for relief. Through previous case studies,²³⁻³⁶ it has also been shown that this care throughout pregnancy may facilitate women avoiding cesarean sections that would otherwise be utilized in the case of dystocia caused by abnormal fetal presentations. One case study involves a 26vear-old female receiving a Webster adjustment during labor. The patient had been in labor for 23 hours and the fetus was asynclitic on the left side. The fetus was also exhibiting decreased heart tones and the mother was experiencing weak uterine contractions. There were three midwives present facilitating the birth and after many homeopathic remedies and patient positioning to no success, it was decided that Webster Technique would be applied. The patient was adjusted for a left rotated sacrum with associated ligament contacts and psoas release. Following the adjustment, the patient was reported to have stronger and more frequent contractions and the fetal heart tones stabilized. Five hours later, the fetus was asynclitic again which prompted another psoas release. One hour after her last spinal adjustment, the patient successfully delivered vaginally.37 Several case studies where the Webster Technique was utilized to address pelvic instability through sacral subluxations and associated trigger point therapies had positive results (Table 1). These results show concomitant breech pregnancies to be positively effected when their sacral subluxations were addressed via Webster Technique analysis. These women were able to avoid having elective or planned cesarean sections, which is the most common medical approach to a breech presenting fetus.^{4,23-36} Of these case studies, there are multiparous and nulliparous women ranging from 24 to 41 years of age.

The average gestation at the time of presentation is 33 weeks. Webster Technique was even shown to have positive results after one visit²⁸ as well as in pregnancy with multiples.²⁹ This demonstrates the wide range of presentations that are associated with pregnancy and the effectiveness of Webster Technique in those circumstances.

Limitations

The limitations presented with Webster Technique are related to the research as well as the case study presented. While the research shows positive outcomes from Webster Technique administration, proving a direct correlation between the adjustment and the results can still be subjective. This case study involves the results to a solitary patient. A much larger inclusion study involving more women and chiropractors would bring more validity to the technique. One example of a larger study is an exploratory practice-based study conducted on 81 pregnant patients receiving chiropractic care in the form of Webster Technique for abnormal fetal presentation. Fetal presentation was determined by palpation, ultrasound imaging, or both at an average of 31.8 weeks. Of the 81 original participants, 63 pregnancies were available for analysis. Of the 63 abnormal fetal presentations, 44 were vertex presenting at birth. It is concluded that the use of Webster Technique in this study can be beneficial to women with breech pregnancies.³⁸ While this study brings in a larger cohort for analysis, many of these patients received concurrent or previous care for their abnormal fetal presentations. Determining whether the results obtained were a specific result of the Webster Technique or from a combination of the alternatives used cannot be discounted in evaluation of the research. This concept can be applied to the case study presented. There were no reports of any other alternative treatments used during the time of care, but the patient did report prior techniques used including acupuncture and "cat cow." The notion of the Webster Technique facilitating these alternatives cannot be excluded in this case. There are also possibilities of spontaneous version, at home remedies that the patient may utilize on their own without reporting, false reports from patients, or even misdiagnosis from the obstetrician. Subjectivity can also be based on the fact that the body's response to subluxation varies from person to person,¹⁹ thus the response to an adjustment will differ between individuals. While reporting on the results adds to the research, the Webster Technique needs scientific studies that present more in depth and technical analyses of the pelvic cavity and the effects of an adjustment on the female during pregnancy.

Conclusion

Webster Technique has proven to be effective in this report of a 35-year-old multiparous female patient seeking vaginal birth after cesarean section. The patient presented with frank breech presentation. Utilizing Webster Technique during her pregnancy helped to reestablish normal sacral biomechanics of the female pelvis through sacral adjustments and trigger point therapy. After four chiropractic adjustments, the fetus was confirmed to be in the vertex position and the patient went on to have a natural vaginal birth with no complications. While this is a single case study and reports on an individual outcome, it contributes to the current research available on Webster Technique. More in depth research is necessary in order to evaluate the role of Webster Technique on the female pelvis, its effectiveness throughout pregnancy, and the outcomes of its administration during pregnancy.

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Figures

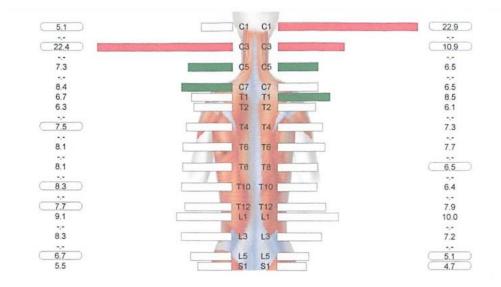


Figure 1: Initial sEMG scan.

| | C1 | 0.7 |
|--|---|--------------------------|
| 0.4 | C2 | |
| 0.1 | | |
| | C4 | 0.4 1.1 |
| | C4 C5 | 1.1 |
| 0.2 | Ce | |
| 0.2 | C7 | |
| 0.2 | TI | |
| 0.2 0.2 0.2 0.3 0.0 | C6 C7 T1 T2 T3 | |
| 0.0 | T2 | |
| 0.0 | | 0.0 |
| | 14 | 0.8 |
| | T4 T5 T6 T7 | 0.8 0.4 0.2 0.2 |
| | 16 | 0.2 |
| 2.2 | 17 🗖 | 0.2 |
| 0.1 | T8 | |
| 0.2 | T9 | |
| 0.5 | T10 | |
| 0.5 | T11 | |
| 0.1 0.2 0.5 0.6 0.7 0.4 | T8 T9 T10 T11 T12 L1 L2 | |
| 0.7 | L1 b | |
| 0.4 | 12 | |
| | L3 [] | 0.1 |
| 0.1 | 4 | |
| | 16 | 0.3 0.1 |
| | L5 S1 | 0.1 |

Figure 2: Initial thermal scan.

| Title | Author(s) | Journal | Conclusion |
|--|--|---|--|
| Resolution of Breech Presentations Following Adjustment of Subluxations Utilizing the Webster Technique: A Case Series | Joel Alcantara DC, Sal Martingano DC, Vivian Keeler DC, Liselotte Schuster DC, Jeanne Ohm DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | This case series describes five different women who all had breech to vertex outcomes confirmed by their OB-GYNE. |
| Resolution of Breech Presentation Confirmed by Ultrasound Following the Introduction of Webster Technique | Pamela Stone-McCoy, DC, CACCP & Margaret Sliwka, DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | Pre and post ultrasounds confirmed the transition of the fetus from a breech to a vertex position. |
| Resolution of Transverse Breech Pregnancy Following Administration of Chiropractic Using the Webster Technique: A Case Study & Selective Review of the Literature. | Danielle Drobbin, BA, DC & Sara La Rosa, BS, DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | This case describes the resolution of a transverse breech pregnancy at 33 weeks, following utilization of Webster Technique, confirmed by midwife. |
| The Webster Technique in a 28-year-old woman with Breech Presentation & Subluxation. | John C. Thomas BA, DC | Journal of Vertebral Subluxation Research | Using the protocols of the Webster Technique, chiropractic care was administered to correct the sacroiliac subluxation and the trigger points along the round ligament that were found during analysis. Evaluation of the patien on the subsequent visit showed removal of the sacroiliac subluxation, relaxation of the trigger points along the round ligament, and a cephalic presentation of the fetus. Confirmed by nurse midwife. |
| Resolution of breech presentation confirmed by ultrasound following Webster's Technique | Miranda Abbott DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | Webster Technique protocol while using the Activator Adjusting Instrument along with trigger point therapy was successful in decreasing sacral subluxation and the fetus assumed a normal vertex position |

| Resolution of Transverse Breech Presentation Confirmed by Ultrasound Following Webster Technique to Reduce Subluxation Resolution of a Twin Breech Presentation with the Application of Webster and Diversified | Megan Afshar DC Danita Thomas Heagy, DC & Shawn Wrubel, DC | Journal of Pediatric, Maternal & Family Health – Chiropractic Journal of Pediatric, Maternal & Family Health – Chiropractic | This case describes a patient who was able to avoid a cesarean section and proceed with an uncomplicated vaginal delivery. The patient was able to undergo normal vaginal birth, avoiding medical intervention such as External Cephalic Version and cesarean section. |
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| Chiropractic Technique Resolution of Breech Presentation and Successful Vaginal Birth Following Administration of Webster's Technique: A Case Study | Pamela Stone- McCoy DC, CACCP, Melissa Sell DC, Krystal Drwencke DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | This case describes the resolution of a breech presentation and a normal vaginal birth following the administration of Webster's Technique. |
| Resolution of Pain and Breech Presentation Following Subluxation Based Chiropractic Care: A Case Report and Update of the Literature | Tiffany Juergens Clark, DC & Joel Alcantara, DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | Chiropractic care administered over 2 visits using the Webster Technique resulted in the baby assuming the vertex position as imaged on ultrasound. |
| Resolution of Breech Presentation Following Application of Webster Technique: A Case Report | Helya Dashtkian DC & Heather Whittle-Davis DC, FICPA, CCEP | Journal of Pediatric, Maternal & Family Health – Chiropractic | The patient avoided cesarean section and had an uncomplicated vaginal delivery following administration of the Webster Technique protocol. |
| Successful Clinical Outcomes Confirmed via Ultrasound in a Patient with Placenta Previa and Breech Fetal Presentation with Chiropractic Care | John Edwards DC & Joel Alcantara DC | Journal of Pediatric, Maternal & Family Health - Chiropractic | The patient was cared for with a combination of Diversified Technique and Webster Technique with successful outcomes. Comparative ultrasound imaging confirmed the breeched fetus assumed a vertex position with the placenta migrating to more than 3 cm away from the os of the cervix. |

| Resolution of Breech Presentation after Application of Webster Technique in a 35 Year Old Female: A Case Study | Karen Ferguson, DC, F.I.C.P.A. & Greg Kulesza, DC | Journal of Pediatric, Maternal & Family Health – Chiropractic | Chiropractic care was administered to a pregnant patient with a breech presentation using the Webster Technique. Post ultrasound confirmed the vertex position and cesarean section was avoided. |
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| Resolution of Breech Presentation Using an Activator Adjusting Instrument to Administer Webster's Technique in Three Women Undergoing Chiropractic Care. | Drew Rubin, BS, DC, CCSP, DACCP | Journal of Pediatric, Maternal & Family Health - Chiropractic | Webster Technique was administered with the sacral component completed using the Activator adjusting instrument. Each fetus successfully turned within 4 visits. Of the three women under care, two went on to have normal vaginal deliveries. One patient developed other complications during delivery and required an emergency C- section. |
| Chiropractic Care of a Pregnant Patient Presenting with Intrauterine Constraint Using the Webster In- Utero Constraint Technique: A Retrospective Case Study | Danielle Drobbin, BA, DC, Claire Welsh, BS, DC | Journal of Pediatric, Maternal & Family Health - Chiropractic | The ultrasound confirmed that the baby had moved into the vertex position and the planned cesarean section was cancelled. |

 Table 1: Chiropractic Articles – Case Studies Involving the use of Webster Technique and the Outcomes