

# CASE STUDY

## Resolution of Double Footling Breech Presentation and Successful Vaginal Twin Birth Following Adjustment of Vertebral Subluxation

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### Abstract

**Objective:** To describe the chiropractic care of a pregnant woman with a double footling breech malpresentation.

**Clinical Features:** A 38-year-old female presented for chiropractic consultation and possible care in her 30<sup>th</sup> week of gestation with twins in a footling breech presentation. According to the patient, she received no previous chiropractic care and experienced three previous singleton pregnancies without complication. The patient was physically active, playing volleyball and swimming for sport.

**Intervention and Outcome:** The patient was cared for over a two-week period consisting of five patient visits. Due to the patient's size, the Activator instrument was utilized to adjust a sacral subluxation following the principles of the Webster Technique. Both fetuses turned to vertex, facilitating a successful vaginal birth without the use of medications.

**Conclusion:** This case report provides supporting evidence on the benefits of chiropractic care for the pregnant woman with a double footling breeched fetus. We encourage further research in this field.

**Keywords:** *Chiropractic, Webster Technique, pregnancy, breech, subluxation, adjustment, footling breech, twins*

### Introduction

Approximately 3–4% of pregnancies at term will result in breech presentation.<sup>1</sup> Breech presentation may be associated with uterine or fetal abnormalities but according to the medical literature, it is usually an error of orientation.<sup>2-3</sup> The prevailing thinking is that vaginal breech delivery is associated with significant risk and thus the preferred mode of delivery is Cesarean section. Indeed, in a recent study by Bjellmo et al.<sup>4</sup>, the investigators found vaginal breech delivery, regardless of whether planned or actual, and actual breech cesarean delivery (CD) were associated with excess risk for neonatal mortality compared with vaginal cephalic

delivery, but not with cerebral palsy. However, the authors noted that the risk for neonatal mortality and cerebral palsy in planned breech CD did not differ significantly from planned vaginal cephalic delivery. As such, the absolute risk for these outcomes was low, and taking into consideration potential long-term adverse consequences of CD for the child and later deliveries, the authors concluded that vaginal breech delivery may be recommended, provided competent obstetric care and strict criteria for selection to vaginal delivery. There is also the psychosocial sequelae of cesarean delivery and as Lobel and DeLuca<sup>5</sup> found that women who deliver by cesarean section

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have more negative perceptions of their birth experience, their selves, and their infants, exhibit poorer parenting behaviors, and may be at higher risk for postpartum mood disturbance compared to women delivering infants vaginally. They also found evidence that suggests that cesareans adversely influence women's moods and perceptions by restricting the control that they can exercise over birth and by violating expectations about childbirth. Based on these findings, these authors recommend ways to reduce these consequences of cesarean deliveries or to reduce the rates of cesarean deliveries. Towards these efforts, a number of alternative healthcare approaches are available to women with breech pregnancies.<sup>6</sup> Of interest in this case report is the use of chiropractic services by this patient population. In the interest of evidence-informed practice, we describe the chiropractic care of a woman with a double footling breech with positive outcomes.

### Case Narrative

A 38-year-old female presented for chiropractic consultation and possible care. This patient was in her 30<sup>th</sup> week of gestation with twins in a footling breech presentation. According to the patient, she received no previous chiropractic care and experienced three previous singleton pregnancies without complication. The patient was physically active, playing volleyball and swimming for sport.

On postural examination, the patient demonstrated an anterior head carriage, an elevated left iliac crest relative to the right. Left sacral restriction was noted on the standing 8-point-check. With the patient in the standing position and supported with her hands on wall, the chiropractor's thumbs are placed on the patient's posterior superior iliac spine (PSIS) and ipsilateral sacral ala. The patient is then instructed to perform ipsilateral and contralateral hip flexion and palpating for sacroiliac (SI) joint motion. This examination revealed normal SI joint biomechanics on the right but palpation of the left PSIS and sacral ala revealed limited motion indicating a left sacral subluxation. Given the patient's size and her inability to assume a prone position, the patient received chiropractic care in the standing position. An Activator instrument was utilized to deliver an adjustment to the sacral ala on the left side, midway between the PSIS and S<sub>2</sub> tubercle. This adjustment resulted in restoration of motion on the left SI joint.

The patient was cared for similarly over a period of 11 days consisting of five patient visits. Interestingly, both fetuses autologously turned from the footling breech position to vertex position, facilitating a successful vaginal birth without the use of medications.

### Discussion

In general, when the fetus does not present by the head into the lower pelvis in the occipito-anterior position in the mid-cavity of the pelvis, the fetus is said to be in a fetal malposition. The head is positioned left or right in an occipito-transverse position, with the occiput rotating posteriorly (an occipito-posterior position malposition) or when the head is in the left or right occipito-transverse position and the head remains in the transverse position (an

occipito-transverse malposition). If there is complete extension of the head and neck, the face will present for delivery and hence a face malposition or in a brow presentation, the fetal head stays between full extension and full flexion so that the biggest diameter presents (i.e., brow presentation). All other presentations of the fetus other than vertex or as described for malposition is a malpresentation.<sup>7</sup> Of interest in this case report is the fetal malpresentation resulting in breech. Specifically, a footling breech resulting in both feet (double footling) positioned below the buttocks at the inlet of the maternal pelvis.

A number of predisposing or risk factors have been identified for breech pregnancies. In a study of 14,433 singleton pregnancies and a review of the literature, Fruscalzo et al.<sup>8</sup> found that advanced maternal age, early gestational age, low neonatal weight at delivery and female gender resulted to be risk factors for fetal breech presentation at delivery, while multiparity and Sub-Saharan-African ethnicity resulted to be protective. In a population-based cohort study involving 611,021 women; Cammuet al.<sup>9</sup> found 28,059 were delivered in breech presentation with a prevalence of 4.59%. Independent determinants of breech presentation at delivery were: gestational age and birth weight (the lower, the higher the incidence of breech at birth), parity (the frequency of breech decreased with increasing parity) and maternal age (the older the mother, the higher the odds for breech presentation). Women who had a scarred uterus, due to a previous cesarean section, women who gave birth to a female offspring and women whose baby showed a congenital malformation, were more prone to be delivered in breech presentation. Other predisposing factors for breech presentation include prematurity, uterine malformations or fibroids, polyhydramnios, placenta previa, fetal abnormalities (eg, CNS malformations, neck masses, aneuploidy), and multiple gestations. Fetal abnormalities are observed in 17% of preterm breech deliveries and in 9% of term breech deliveries.<sup>10</sup> We would add here, from a chiropractic perspective the subluxated pelvis as a contributing factor to breech presentations.

In addition to the need to correct a fetal malposition or malpresentation prior to birth for reasons previously described, there is the finding that there are differences in fetal behavioral dynamics and neurodevelopment. Among fetuses in breech presentation, Goncalves et al.<sup>11</sup> reported significantly higher mean fetal heart rate and LF/(HF + MF) ratio (which measures the autonomic balance among neural control mechanisms from different sources; LF = low frequency, HF = high frequency, and MF = movement frequency) and lower entropy than seen in their matched cohorts in cephalic presentation.

The chiropractic approach to the pregnant woman with a breech presentation is the Webster Technique.<sup>12</sup> Although historically sometimes referred to as fetal turning technique, the purpose of the Webster Technique is to balance the pelvis and allow for optimal ecology of the fetus. By so doing it has been observed that fetuses innately self-correct to the optimum position for birthing. In the case presented, the attending chiropractor did not utilize the Webster Technique due to the patient's size restriction to position the patient in the prone position even with the use of pillows and the swing-away piece. Rather, the attending chiropractor used the Webster

Technique principle of adjusting sacral subluxation to restore pelvic biomechanics in the most convenient way possible.

As a context to further discussions on the clinical observations reported in this case report, we performed a systematic review of the literature on the chiropractic care of pregnant women with fetal malposition and presentations in particular. Towards these efforts, we acknowledge the work of several authors with their review of the literature on the chiropractic care of pregnant women in general. Stuber and Smith<sup>13</sup> concluded from their systematic review of the literature that chiropractic care is associated with improved outcomes in pregnancy-related LBP. However, the authors cautioned that due to the low-to-moderate quality of evidence of the included studies (N=6), any definitive statement as to the efficacy of such care must be cautious given the lack of randomized, controlled trials at that time Alcantara et al.<sup>14</sup> identified the use of validated outcome measures in the chiropractic care of pregnant patients. Alcantara et al. found that despite their heterogeneity and inconsistency of use, PROs demonstrate some measure of effectiveness in the chiropractic care of pregnant patients.

A year ago, Hall et al.<sup>15</sup> published their systematic review of the literature (up to 2015) on the effectiveness of manual therapies for managing pregnancy-related low back and pelvic pain. Using 7 databases, they found 348 non-duplicate records, 11 articles reporting on 10 studies on a total of 1198 pregnant women for their meta-analysis. The therapeutic interventions predominantly involved massage and osteopathic manipulative therapy. Meta-analyses found positive effects for manual therapy on pain intensity when compared to usual care and relaxation but not when compared to sham interventions. The authors concluded that there is currently limited evidence to support the use of complementary manual therapies as an option for managing low back and pelvic pain during pregnancy.

In addition to describing their study results with the Webster Technique, Alcantara et al.<sup>16</sup> reviewed the literature on fetal malposition and malpresentation in pregnant women under chiropractic care. Clark and Alcantara<sup>17</sup> updated this literature review in 2013 as well as Drobbin et al.<sup>18</sup> in 2015 and Cherry and Wilson<sup>19</sup> in 2016. Cherry and Wilson<sup>19</sup> described the care of a 27-year-old pregnant female with vertebral a breeched fetal presentation. The patient was cared for with the Webster Technique to adjust the patient's sacrum, Logan technique and pressure applied to the round ligament the patient noticed a change in the baby's position after the first adjustment. The patient was adjusted manually once and the fetal position was confirmed to have turned from a breech fetal position to a vertex fetal position by ultrasound (US) imaging after one week of care.

Drobbin and McClain<sup>18</sup> described the care of a 35-year-old multiparous female presented to the chiropractor at 34 weeks pregnant with a frank breech fetus as confirmed US imaging. The patient had a history of cesarean section and was seeking chiropractic care for vaginal birth after cesarean section (VBAC). 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. We therefore review the literature as a follow-up from 2016 to the present. We consulted Pubmed (2016-2017), Index to Chiropractic Literature (2016-2017) and MANTIS (2016-2017) for this purpose. We used as search terms with the various fetal malpositions (i.e., face and brow positions, occipito-transverse position and occipito-posterior position) and fetal malpresentations (i.e., breech and transverse lie) along with "pregnancy" in various Boolean combinations with chiropractic. We found two additional case reports on a pregnant woman presenting with fetal malposition or malpresentation benefitting from chiropractic care. We found one case report by Falk and Stinson<sup>20</sup> described a 26-year-old female in her 27th week of pregnancy after experiencing low back pain. One week later an ultrasound (US) imaging determined the baby was in a breech position. She had a previous natural birth with no complications and was beginning chiropractic care with hopes of avoiding a cesarean section. The patient received a total of 29 visits and cared for with the Webster Technique. The fetus moved from a breech position to a normal vertex (or head down) position as confirmed through US imaging. This case report adds to the literature that chiropractic care (i.e., following the principles of the Webster Technique to address a sacral subluxation) to balance a woman's pelvis presenting with a double footling breech fetus may experience positive outcomes (i.e., auto-correction of fetal malpresentation).

In closing, we must caution the reader on the lack of generalizability of the case reported due to the presence of bias based on a post-positivist research paradigm. Acknowledged confounders leading to bias in this case report include the lack of a control group, possible spontaneous fetal correction of the breech baby and the natural history of breeched babies (i.e., some auto-correct). However, from a constructivist perspective where a person's perception creates their reality, one could argue that the success of this case report forms the basis for our generalization in caring for similar patients.

## Conclusion

This case report provides supporting evidence on the benefits of chiropractic care for the pregnant woman with fetal malpresentation. We encourage further research in this field.

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