Objective: To describe the case of an infant with gastro-esophageal reflux disease which improved while under chiropractic care and to review the literature on chiropractic manipulation and gastro-esophageal reflux disease.

Clinical Features: A 4-month-old female infant with gastro-esophageal reflux disease was brought into the clinic by her mother for chiropractic care. The mother reported multiple episodes of reflux and vomiting per day. Slight asymmetry of the frontal bone was noticed with a flattening of the left side.

Methods: A literature search of PubMed using the subject heading “gastro-esophageal reflux disease AND chiropractic” or “GERD AND chiropractic or “acid reflux disease AND chiropractic” was performed. Intervention and Outcomes: The patient was treated with chiropractic manipulation in the form of sustained pressure and Activator adjusting instrument. Recommended treatment frequency was 2x/week for 2 weeks and 1x/week for 4 weeks after. Cranial adjustments were performed, particularly on the frontal bone. The patient’s mother reported a large bowel movement after the adjustment on the same day and a longer than normal subsequent sleep cycle. At the next visit the patient’s mother reported that the number of episodes per day of vomiting and reflux had decreased. Over the next 3 weeks both the number of episodes per day and number of days with any vomiting and reflux decreased. Within 3 weeks the infant had no reflux or vomiting.

Conclusion: There is limited literature about the effect of chiropractic care as a treatment for gastro-esophageal reflux disease. There are reports of successful chiropractic treatment of gastro-esophageal reflux disease. This patient’s reflux and plagiocephaly improved while under chiropractic care.

Key words: chiropractic, pediatrics, breastfeeding, subluxation, fetal, cholelithiasis, gallstones, gall bladder.

Introduction
A number of challenges arise for the chiropractor caring for the pediatric patient presenting with multiple symptoms of both musculoskeletal and non-musculoskeletal etiology. While anecdotal evidence of chiropractors treating gastro-esophageal reflux disease by adjusting the cervical spine or lumbar spine is plentiful, the supporting literature is limited. The purpose of this paper is to describe the case of a 4-month old female whose gastro-esophageal reflux disease and plagiocephaly resolved while under chiropractic care. Gastro-esophageal reflux disease (GERD) is common during the first year of life, peaking at 4 months of age. In a cross sectional survey of 948 parents of healthy children 13 months old and younger the reported frequency of regurgitation was measured. Regurgitation of at least 1 episode per day was reported in half of 0- to 3-month olds. Peak regurgitation was 67% at 4 months. The occurrence of symptoms decreased considerably from 61% to 21% between 6 and 7 months of age. By 10 to 12 months of age this symptom decreased to 5%. Many infants “outgrow” regurgitation by 7 months and most by 1 year.

Methods
The chiropractic care of the pediatric patient with non-musculoskeletal complaints is common in the chiropractic profession with an abundance of testimonials and anecdotes. To provide a perspective on the implications of the case, a selective review of the literature concerning the chiropractic care of pediatric patients with GERD was performed. The literature discussing the use of chiropractic spinal manipulation therapy in treating gastro-esophageal reflux (GER) and gastro-esophageal reflux disease (GERD) is sparse at best. A limited number of case reports of treating GER and GERD with chiropractic manipulation exist with positive outcomes presented. However, both the type and volume of research is not definitive.

A literature search of PubMed using the subject heading “gastro-esophageal reflux disease AND chiropractic” or “GERD AND chiropractic or “acid reflux disease AND chiropractic” was performed. Two articles were found. Alcantara and Anderson described the case of chiropractic care of a pediatric patient with symptoms associated with gastro-esophageal reflux disease, fuss-cry-irritability with sleep disorder syndrome and irritable infant syndrome of musculoskeletal origin. Treatment to the patient was described as high velocity low amplitude thrust (HVLA) type spinal manipulative therapy (SMT). This approach to care was successful with a total resolution of symptoms within 3 months of care.

Recently, Jonasson and Knapp presented the case of an 8-yr-old boy with gastro-esophageal reflux disease. The patient initially presented with complaints of headache and neck
Case presentation
A 4-month-old female was brought in for chiropractic care by her mother for recurrent vomiting after feeds of 2 months duration. The vomit was nonbilious with no suggestion of hematemesis. Prior to starting chiropractic care the mother was recommended to give the patient Ranitidine by her medical practitioner after a diagnosis of gastro-esophageal reflux disease (GERD). The mother was hesitant to commence medication so early in the treatment of GERD. The patient was recommended to a chiropractor by the maternal and child health nurse after the medical practitioner’s diagnosis. The patient was being breastfed at the time. Physical examination findings included normal vital signs, reflexes, responses, motor function and milestones. At birth the patient was at the 80th percentile for both height and weight. At 4 weeks the patient’s weight had decreased to the 75th percentile while height was still in the 80th percentile. At the 3 month checkup by the maternal and child health nurse the patient’s weight had dropped to the 50th percentile, while height was relatively stable at the 70th percentile. The patient’s mother reported that she had not gained significant weight in the past 2 months and was concerned that the decreased in percentile of her daughter’s weight was an indication of failure to thrive. Mild decreased neck tone was observed. Plagiocephaly was noted with frontal bone asymmetry consisting of a flattening of the left side.

The patient’s sleep was not interrupted by the reflux and vomiting. Mild tension of the abdomen was observed. However the patient did not exhibit the typical arching or upper body extension seen in GERD. Based on a chiropractic examination procedure incorporating postural examination and static and dynamic palpation of the spine, it was determined that the patient had spinal segmental dysfunctions at the axis and the 4th cervical vertebrae. The axis was determined to have a right posterior rotation with respect to the C3 vertebral body (VB). C4 was determined to have a left posterior rotation. The left sacroiliac joint was determined to have a posteriority. While the 4th lumbar vertebrae had a left posterior rotation and the 3rd lumbar vertebrae had a right posterior rotation. Following craniosacral technique procedures, cranial distortions of the left frontal and temporal bones were determined.

Intervention and outcomes
With the parent’s consent, the infant was treated with chiropractic manipulation in the form of sustained pressure and Activator adjusting instrument. Cranial adjustments were performed where needed, in particular the frontal bone. Myofascial treatment was performed on the abdomen in particular the left lower quadrant and diaphragm. No adverse effects were reported. On the second visit the mother reported on the day of the first adjustment the patient had a large bowel movement soon after, and slept for longer than normal. In the 2 days since the first treatment the mother reported a moderate decrease in the reflux. Considering the positive response to treatment the recommended treatment schedule was 2 visits per week for 2 weeks and 1 visit per week for 4 weeks, which the patient adhered to. Currently the patient is having treatment every 6 weeks. 2 days post-adjustment on the second visit the mother reported a decrease in the number of episodes of vomiting and reflux per day. Over the next 3 weeks both the number of episodes of vomiting and reflux per day decreased and the number of days with vomiting decreased. At the 4-week mark since commencing treatment the patient’s mother reported having no episodes of reflux and vomiting. The right-sided anteriority of the frontal bone was observed to be less severe. At 2 months the frontal bone asymmetry was fully resolved. No adverse effects of administered treatments were reported.

Discussion
Gastro-esophageal reflux (GER) is the passage of gastric contents into the esophagus. Its clinical presentation of vomiting or regurgitation is very common in infants and is usually self-limiting without requirement for further investigation. In contrast, gastro-esophageal reflux disease (GERD) requires considered management and may be a presenting symptom of food allergy requiring more intensive therapy than simple acid suppression.

The National Library of Medicine describes the following symptoms:

- Cough, especially after eating
- Excessive crying as if in pain
- Excessive vomiting during the first few weeks of life; worse after feeding
- Extremely forceful vomiting
- Not feeding well
- Refusing to eat
- Slow growth
- Weight loss
- Wheezing or other breathing problems

The health care provider can often make the diagnosis based on the infant’s symptoms and physical examination. Tests may be ordered if your child is not healthy or growing well, or when symptoms are severe and do not get better with treatment. All investigations for GER (barium, scintig-
raphy, endoscopy and pH probe) have considerable limitations and should only be considered on an individual base after the patient has been assessed. The definitive diagnosis of GERD in the pediatric population is determined by several means although no exact diagnostic protocols exist to accurately diagnose GERD in infants.11

Conclusion
In the case described here a 4-month-old patient’s GERD resolved while under chiropractic care. This study suggests to the possibility that similar patient groups may benefit from chiropractic treatment. While this was a single case of the successful treatment of GERD through chiropractic, more research must be done. Research into the mechanisms involved in the effect of SMT of the cervical and lumbar spine and the associated changes in the gastro-esophageal system is merited.

References