Research Studies on the Use of Osteopathy in the Treatment of Infants and Children

Compiled by John Smartt, Osteopath, February 2016

“The prognosis of infantile postural asymmetry (IPA) is currently unclear. This leads to a substantial uncertainty about the indication of early intervention. During a prospective 2 years follow-up the effect of early intervention on IPA was investigated using a video based scoring.

**Methods:** Thirty-nine infants (18 male) with IPA were examined for their postural asymmetry at the age of 3 months, 1 and 2 years. At age 1 and 2 years cervical rotation deficit, cervical lateral flexion and trunk convexity in the sitting position as well as trunk convexity while crawling were videotaped and scored on a 5-points scale for each item by 5 independent and blinded observers. At the age of 3 months the asymmetry was documented using a 24 points scale [1] and the results were transformed to the 20 points scale for older children. During the 2 years the parents chose the treatment of their children independently.

**Results:** Thirty-one of the basal videos, 33 videos at 1 year of age and 34 videos at 2 years of age could be analysed. During the first/second year 10/20 infants received no treatment (nt), 4/2 infants received physiotherapy (pt), 14/9 infants received osteopathy (o) and 5/2 infants received osteopathy plus physiotherapy. Only 13 children stayed on the same treatment during both years (nt n=5, pt n=2, o n=6). The postural asymmetry showed the following mean (range) changes on a 20-points scale: Group nt first year: –0.22 (–6.25 to +3.75), second year: –0.38 (–5.75 to +4). Group pt first year: +0.08 (–2.25 to +2), second year –1.37 (–2.25 to –0.5). Group o first year +2.0 (–2.5 to +6.5), second year +1.7 (–2.25 to +4.75). Group o plus pt first year +5.15 (2.75 to +7), second year +4.25 (+1.25 to +7.25).

**Conclusions:** The results indicate that on average the IPA does not disappear in untreated children and may deteriorate severely in a single case and a combined therapy consisting of physiotherapy and osteopathy seems to be the most effective intervention.”


"Dacryostenosis is an obstruction of the nasolacrimal duct and is the most common cause of epiphora and ocular discharge in newborns. Whereas most cases resolve spontaneously, invasive treatment may become necessary if symptoms persist past age 6 to 12 months. In the present case, a 9-month-old boy with persistent dacryostenosis was scheduled for lacrimal duct probing after first-line treatments failed. After a single session of osteopathic manipulative treatment, the patient’s epiphora and other symptoms resolved, and he no longer needed surgical probing. A review of the literature highlights key pathophysiologic processes, management options, and musculoskeletal aspects of dacryostenosis. Physicians should consider osteopathic manipulative treatment in the management of dacryostenosis."

"The present multi-center randomized single blind parallel group clinical trial enrolled newborns who met the criteria for gestational age between 29 and 37 weeks, without any congenital complication from 3 different public neonatal intensive care units. Preterm infants were randomly assigned to usual prenatal care (control group) or osteopathic manipulative treatment (study group). The primary outcome was the mean difference in length of hospital stay between groups."

"A total of 695 newborns were randomly assigned to either the study group (n=352) or the control group (n=343). A statistical significant difference was observed between the two groups for the primary outcome (13.8 and 17.5 days for the study and control group respectively, p<0.001, effect size: 0.31). Multivariate analysis showed a reduction of the length of stay of 3.9 days (95% CI -5.5 to -2.3, p<0.001). Furthermore, there were significant reductions with treatment as compared to usual care in cost (difference between study and control group: 1,586.01; 95% CI 1,087.18 to 6,277.28; p<0.001) but not in daily weight gain. There were no complications associated to the intervention."

"Osteopathic treatment reduced significantly the number of days of hospitalization and is cost-effective on a large cohort of preterm infants."


"This is a retrospective pilot study of a database where four clinical files of individuals diagnosed with GERD [gastroesophageal reflux disease] in clinical treatment were analyzed. The data used for analysis were taken from questionnaire I-GERQ-R starting and ending at the osteopathic treatment. It was observed that in 28 ± 5.72 days scores fell from an average of 15.5 ± 4.45 to 0.50 ± 0.50, determining reduction of all symptoms of reflux. A child presenting respiratory disorders has presented total relief of symptoms. Osteopathy has been effective to eliminate reflux symptoms"


"Little research has been conducted looking at the effects of osteopathic manipulative treatment (OMT) on preterm infants. Aim of the Study. This study hypothesized that osteopathic care is effective in reducing length of hospital stay and that early OMT produces the most pronounced benefit, compared to moderately early and late OMT. A secondary outcome was to estimate hospital cost savings by the use of OMT. Methods. 110 newborns ranging from 32- to 37-week gestation were randomized to receive either OMT or usual pediatric care."
Early, moderately early, and late OMT were defined as <4, <9, and <14 days from birth, respectively.

Result. Hospital stay was shorter in infants receiving late OMT (-2.03; 95% CI -3.15, -0.91; P < 0.01) than controls. Subgroup analysis of infants receiving early and moderately early OMT resulted in shorter LOS (early OMT: -4.16; -6.05, -2.27; P < 0.001; moderately early OMT: -3.12; -4.36, -1.89; P < 0.001). Costs analysis showed that OMT significantly produced a net saving of €740 (-1309.54, -170.33; P = 0.01) per newborn per LOS.

Conclusions. This study shows evidence that the sooner OMT is provided, the shorter their hospital stay is. There is also a positive association of OMT with overall reduction in cost of care.”


"Childhood acute otitis media (AOM) is highly prevalent. Its usual sequela of middle ear effusion (MEE) can lead to conductive hearing loss, for which surgery is commonly used."

"Tympanogram data demonstrated a statistically significant improvement in MEE at visit 3 in patients in the SC+OMT group (odds ratio, 2.98; 95% confidence interval, 1.16, 7.62; χ² test for independence, P=.02). The AR data analysis showed statistically significant improvement at visit 3 for the SC+OMT group (z=2.05; P=.02). There was no statistically significant change in MEE before or immediately after the OMT protocol." "A standardized OMT protocol administered adjunctively with standard care for patients with AOM may result in faster resolution of MEE following AOM than standard treatment alone.”


"Children aged 5 to 15 years with a primary diagnosis of ADHD who were admitted to a single neuropsychiatry unit from November 2008 to September 2009 were randomly assigned to an intervention group (OMTh [osteopathic manipulative therapy] + conventional care) or a control group (conventional care only). Biancardi-Stroppa Modified Bell Cancellation Test accuracy and rapidity scores were recorded for both groups at baseline and after 10 weeks. Statistical analyses included univariate tests and multivariate linear regressions."

"Multivariate linear regression showed that OMTh was positively associated with changes in the Biancardi-Stroppa Test accuracy (β=7.948 points; P=.04) and rapidity (β=9.089 points; P=.03) scores. “Participants who received OMTh had greater improvement in Biancardi-Stroppa Test scores than participants who received conventional care only, suggesting that OMTh can potentially increase performances of selective and sustained attention in children with ADHD.”

"The aim of this paper is to present a case report of bilateral congenital talipes equinovarus treated with two short-leg serial casting in combination with osteopathic manipulative treatment." "A newborn, 12 days old, with severe bilateral congenital talipes equinovarus entered to the Department of Orthopedics at the University of Chieti, Italy. The pediatric orthopedic surgeon applied two single series of short-leg casts, at 12 and 20 days of age. The osteopath scheduled 4 indirect myofascial release techniques sessions."

"At day 33 the newborn achieved a complete correction of the congenital talipes equinovarus deformity and there was no need to apply a third series of casts."


"Two groups (103 patients each) of preterm infants aged 29-36 weeks without medical complications received routine pediatric care and osteopathic sham therapy was administrated to the study group only for the entire period of hospitalization."

"To the best of our knowledge, this study is the first in the field showing no placebo effect on newborns."


"Autism or Autistic Spectrum Disorder (ASD) is a Pervasive Developmental Disorder (PDD) with abnormal or impaired development in reciprocal social interaction, abnormal or impaired social communication and social imagination. Recent theories focused on the possibility of autism being linked with gastrointestinal (GI) abnormalities. Moreover, the problem behaviour typical of autism might be linked to the underlying medical symptoms such as abdominal pain, diarrhoea, and bloating typical of GI dysfunction." "The study utilised VOT [visceral osteopathic technique] on 49 autistic children aged 3–8 yrs to investigate possible effects of the techniques. The children in the study were suffering from gastrointestinal symptoms and presented with impaired social relationship and communication, but were otherwise healthy. VOT was applied to the abdomen (duodenum, ileo-caecal valve, sigmoid and pancreas areas) and gastrointestinal and behavioural changes were measured after 6 osteopathic treatment sessions, once a week for six weeks. Each intervention session was for thirty minutes. The evaluation of the study was accessed via 8 questionnaires given to the parents who were asked to grade the child’s response following the VOT intervention e.g. frequency of bowel movement, appetite eye contact and other parameters."

"Statistical analysis indicated improvement in the gastrointestinal symptom of vomiting (p = 0.00029) and in the parameter of poor appetite (p = 0.039) after application of VOT. The subjects also had a significant improvement in eye contact
(p = 0.035) one of the most characteristic social behavioural symptoms of autistic patients.”

“The experimental hypothesis has been supported indicating a positive effect of VOT on the measured symptoms and behavioural patterns of Autistic children. This data indicates that the use of VOT on GI function may be of benefit to autistic children.”


"Of the 8 studies included in the present review, 5 consisted of asthmatic children and the others of children with the following conditions: cystic fibrosis, bronchiolitis, recurrent respiratory infections, among others. Only 2 studies did not identify positive results with the use of manual therapy. The other 6 studies found some benefit, specifically in spirometric parameters, immunologic tests, anxiety questionnaire, or level of salivary cortisol."

"The use of manual techniques on children with respiratory diseases seems to be beneficial. Chiropractic, osteopathic medicine, and massage are the most common interventions. The lack of standardized procedures and limited variety of methods used evidenced the need for more studies on the subject."


"The term osteopathic manipulative treatment (OMT) currently encompasses more than twenty types of osteopath-performed manual treatments. The OMT techniques of choice in treating preterm infants are myofascial release, balanced ligamentous/membranous tension, indirect fluidic and v-spread."

"In the present study, 8 osteopathic practitioners were involved and randomly divided in two groups: 4 osteopaths performing the evaluation (group A), and 4 osteopaths performing the evaluation and the treatment (group B). Osteopaths from group A and B entered to the NICU in different hours of the schedule days, to provide blinding and to avoid possible confounding. None of the osteopathic practitioners were involved in the study design, data entry or statistical analysis. In addition all practitioners, except for the treating osteopath, were unaware of patients allocation."

"Results showed a significant association between OMT [osteopathic manipulative therapy] and LOS [length of stay] reduction (mean difference between treated and control group: -5.906; 95% C.I. -7.944, -3.869; p<0.001). OMT was not associated to any change in daily weight gain."

"The present study suggests that OMT may have an important role in the management of preterm infants hospitalization."
"Background and Aims The use of osteopathic manipulative treatment (OMT) in preterm infants has been documented and results from previous studies suggest the association between OMT and length of stay (LOS) reduction, as well as significant improvement in several clinical outcomes. The aim of the present study is to show the effect of OMT on LOS in a sample of premature infants.

Methods A double blinded randomized controlled trial was conducted on preterm newborns admitted in a single NICU between 2010–2011. N=51 subjects free of medical complications and with gestational age >28 and <38 weeks were enrolled and randomized in two groups: study group (N=21) and control group (N=30). All subjects received routine pediatric care and OMT was performed to the study group for the entire period of hospitalization. Endpoints of the study included differences in LOS and daily weight gain.

Results Results showed a significant association between OMT and LOS reduction (mean difference between treated and control group: –1.787; 95% c.i. –3.555, –0.0015; p<0.05). OMT was not associated to any change in daily weight gain.

Conclusions The present study confirms that OMT could play an important role in the management of preterm infants hospitalization."

"Occurrence of AOM [acute otitis media] diagnosed by physicians blinded to temporal bone status was the main outcome." "Severe suture restriction of the temporal bone was identified in 23 children (35.9%). At least one AOM episode was diagnosed in 14 (48.3%) of the ears associated with temporal bones previously identified as having severe suture restriction and in 28 (28.3%) of those without severe suture restriction. Higher risk for AOM was explained by severe suture restriction of the temporal bone (adjusted relative risk (RR), 2.26, 95% CI 1.43 to 2.91, p<.01), pacifier use (RR, 2.59, 95% CI 1.51 to 3.22, p<.01) and younger age (RR, 0.22, 95% CI 0.10 to 0.52, p=.001)."

"The study results indicate that severe suture restriction of the temporal bone is a risk factor for AOM in young children."

"Compared with children in the control group, carers of children receiving cranial osteopathy were nearly twice as likely to report that their child’s global health had 'improved' at 6 months rather than 'decreased' or 'remained the same' (38% vs 18%; odds ratio 2.8, 95% CI 1.1 to 6.9)"

"This trial found no statistically significant evidence that cranial osteopathy leads to sustained improvement in motor function, pain, sleep or quality of life in children aged 5-12 years with cerebral palsy"

"These clinical findings support the hypothesis that osteopathic treatments contribute to the improvement of cranial asymmetries in infants younger than 6.5 months old presenting with NSOP [nonsynostotic occipital plagiocephaly] characteristics."


"Premature newborns and infants are usually required to successfully transition from gavage to nipple feeding using breast or bottle before discharge from the hospital. This transition is frequently the last discharge skill attained. Delayed acquisition of this skill may substantially prolong hospital length of stay. The authors describe a case of hospitalized premature twins who had considerable delays in attaining nipple-feeding skills. Because of their inability to take all feedings by nipple, preparation for surgical placement of gastrostomy tubes was initiated. Before the surgeries were scheduled, the inpatient osteopathic manipulative medicine service was consulted, and the twins received a series of evaluations and osteopathic manipulative treatment (OMT) sessions. During the OMT course, the twins' nipple feeding skills progressed to full oral feeding, which allowed them to be discharged to home without placement of gastrostomy tubes. The authors also review the literature and discuss the development of nipple feeding in premature newborns and infants and the use of OMT in the management of nipple feeding dysfunction."


"Outcome by diagnostic groups suggested that UCST [Upledger craniosacral therapy] is particularly effective for patients with headaches and migraine, neck and back pain, anxiety and depression, and unsettled babies. Seventy percent (70%) of patients on medication decreased or discontinued it, and patients' average general practitioner consultation rate fell by 60% in the 6 months following treatment."

"Patients' ages ranged from neonates to 68 years. Seventy-four percent (74%) of patients reported a valuable improvement in their presenting problem. Sixty-seven percent (67%) also reported a valuable improvement in their general well-being and/or a second health problem. Outcome by diagnostic groups suggested that UCST is particularly effective for patients with headaches and migraine, neck and back pain, anxiety and depression, and unsettled babies."


"Osteopaths performing OMT [osteopathic manipulative treatment] were trained to use only indirect and fluidic techniques which included: indirect myofascial,
sutural spread, balanced membranous tension and balanced ligamentous tension (according to teachings of William Garner Sutherland, DO, and others).

"The study suggests that osteopathic treatment may reduce a high occurrence of gastrointestinal symptoms and the rates of long-term stays."


"This study included 13 children with cerebral palsy diagnosed as having chronic constipation by a gastroenterologist. The subjects were separated into 2 groups. Group 1 was treated with osteopathic methods and group 2 underwent both medical and exactly the same osteopathic treatments of group 1."

"Osteopathic treatments included fascial release, iliopsoas muscle release, sphincter release, and bowel mobilizations."

"The satisfaction of the subjects or the families with the treatments was not different when the groups were compared (P > .05). Constipation Assessment Scale scores decreased significantly in both groups (P < .05). Pretreatment (initial evaluation) and posttreatment (follow-ups at 3 and 6 months) results revealed no difference between the groups in either aspects (P > .05). However, both groups showed significant improvements compared with baseline evaluations (P < .05)."

"Osteopathic methods were as effective as osteopathic methods in addition to medical care for both treatment groups. The results of this study suggest that osteopathic methods may be helpful as an alternative treatment in constipation."


"Infants presenting with episodes of pallor, that were severe enough to alarm their parents or other caregivers, were submitted to an 8-hour polysomnographic recording measuring heart rate, respiratory rate and movements, electroencephalogram, oxygen saturation, electromyography, eye movements (Morpheus®, Medatec, Brussels, Belgium). All registrations were read out by one expert (ED). The polysomnographic examination was interpreted according to the criteria of the Belgian National Institute for Insurance and Invalidity (R.I.Z.I.V.), based on published and accepted scientific criteria. These criteria state that an 8-hour polysomnographic recording is abnormal if one of the following criteria is met: (a) more than one central apnea of more than 20 seconds with a desaturation (SaO2 < 88%); (b) bradycardia of less than 60 beats per minute; (c) more than 3 obstructive apneas lasting more than 3 seconds"

"The results of the second polysomnographic recordings showed a significant decrease in the number of obstructive apneas in the osteopathy group (P=0.01, Wilcoxon test), in comparison to the control group showing one a trend suggesting a gradual physiologic decrease of obstructive apneas. However, the difference in the decline of obstructive apneas between the groups after treatment was not significant (p=0.43)."

"Fifty-five patients were included in the study. Individual analyses of the 11 outcome variables revealed statistically significant improvement in two mobility measures for patients who received OMT—the total score of Gross Motor Function Measurement and the mobility domain of Functional Independence Measure for Children (P<.05). No statistically significant improvements were seen among patients in the acupuncture treatment arm."


"Pediatric dysfunctional voiding (DV) presents physical and emotional challenges as well as risk of progression to renal disease. Manual physical therapy and osteopathic treatment have been successfully used to treat DV in adult women; a pediatric trial of manual physical therapy based on an osteopathic approach (MPTOA) has not been reported. The aim of this study was to determine whether MPTOA added to standard treatment (ST) improves DV more effectively than ST alone."

"The treatment group exhibited greater improvement in DV symptoms than did the control group (Z = −2.63, p = 0.008, Mann–Whitney U-test). Improved or resolution of vesicoureteral reflux and elimination of post-void urine residuals were more prominent in the treatment group."

"Results suggest that MPT-OA treatment can improve short-term outcomes in children with DV, beyond improvements observed with standard treatments, and is well liked by children and parents."


"The study was conducted on 28 children with non-specific TMD [temperomandibular dysfunction] symptoms, limited mouth opening, history of trauma (delivery trauma, accident trauma). Patients were randomly divided into two groups: an OMT group (study group) and a no-intervention group (control group). All subjects underwent a first kinesiographic recording to evaluate the amplitude and velocity of maximal opening-closing movements. Study group patients underwent a second kinesiographic recording 2 months after OMT. Control group patients were submitted to a control kinesiographic recording six months after the first one. Kinesiographic tracings were acquired using the K7I system."

"The kinesiographic data of the study group showed a moderate statistically significant difference (p<.07) of maximal mouth opening (MO) parameter and a high statistically significant difference (p<.03) of maximal mouth opening velocity (MOV) parameter. No statistically significative difference (null hypothesis confirmed) of kinesiographic parameters in the control group was observed."
"The results of this study suggest that OMT can induce changes in the stomatognathic dynamics, offering a valid support in the clinical approach to TMD."


"The aim of this study was to assess the therapeutic efficacy of osteopathic treatment in infants with postural asymmetry. A randomized clinical trial of efficacy with blinded video scoring was performed. Sixty-one infants with postural asymmetry aged 6 to 12 weeks (mean 9wks) were recruited. Thirty-two infants (18 males, 14 females) with a gestational age of at least 36 weeks were found to be eligible and randomly assigned to the intervention groups, 16 receiving osteopathic treatment and 16 sham therapy. After a treatment period of 4 weeks the outcome was measured using a standardized scale (4-24 points). With sham therapy, five infants improved (at least 3 points), eight infants were unchanged (within 3 points), and three infants deteriorated (not more than -3 points); the mean improvement was 1.2 points (SD 3.5). In the osteopathic group, 13 infants improved and three remained unchanged; the mean improvement was 5.9 points (SD 3.8). The difference was significant (p=0.001). We conclude that osteopathic treatment in the first months of life improves the degree of asymmetry in infants with postural asymmetry."

"At each visit the osteopathic technique, and the area it was applied to, was adapted depending on the diagnostic palpation of the osteo-path who assessed and treated position, tissue quality, mobility, and relation to the environment of the skull, sacrum, iliac and coccygeal bones, thorax, sternum, diaphragm, and abdomen. The specific procedures were recorded by the osteopath. For instance, so-called primary respiration and the cranial rhythmic impulse, thought to be very fine autonomous rhythmic changes of tissue quality, were used to disengage fixations of adjoining structures"


"To determine the incidence of iatrogenesis (ie, aggravations and complications) derived from OMT [osteopathic manipulative therapy] in the pediatric patient population."

"A retrospective review of medical records was conducted looking for documentation of aggravations or complications subsequent to OMT. Treatment-associated aggravations were defined as worsening of symptoms or complaints after treatment. Treatment complications were defined as cerebrovascular accidents, dislocation, fracture, pneumothorax, sprains and strains, or death as a treatment outcome. The authors documented all occurrences of treatment-associated aggravations or complications recorded at each office visit, as well as the timing of an aggravation between office visits."

"502 pediatric patients' medical records reviewed"

"No treatment-associated complications were documented. Thirty-one (9%) patients had documented treatment-associated aggravations."

"Osteopathic manipulative treatment appears to be a safe treatment modality in the pediatric population when administered by physicians with expertise in OMT."
Future studies should be prospective and include larger numbers of patients to document the safety of OMT in this clinical application.”


"Pilot cohort study with 1-year posttreatment follow-up. At follow-up, subjects' parents or legal guardians and their referring and/or family physicians were contacted to determine recurrence of otitis media since intervention."

"Five (62.5%) subjects had no recurrence of symptoms. Of the three remaining subjects in this cohort, one had a bulging tympanic membrane, another had four episodes of otitis media, and the last underwent surgery after recurrence at 6 weeks posttreatment. Closer analysis of the posttreatment course of the last two subjects indicates that there may have been a clinically significant decrease in morbidity for a period of time after intervention."

"The present study indicates that osteopathic manipulative treatment may change the progression of recurrent otitis media."


"Babies in the experimental group were assigned massage intervention therapy that include gentle rubbing, stroking, passive movements of the limbs and other means of kinaesthetic stimulation performed by professionals until the infant is 8 months old. The findings suggest that 8-month-old LBW infants who received massage intervention were less likely to snore during sleep, required less feeding on waking-up at night, and appeared more alert during the day. These apparent correlations remained significant after adjustment was made for major potential confounders."


"The aim of this study was to assess the therapeutic efficacy of osteopathic treatment in infants with postural asymmetry. A randomized clinical trial of efficacy with blinded video-scoring was performed. Sixty-one infants with postural asymmetry aged 6 to 12 weeks (mean 9wks) were recruited. Thirty-two infants (18 males, 14 females) with a gestational age of at least 36 weeks were found to be eligible and randomly assigned to the intervention groups, 16 receiving osteopathic treatment and 16 sham therapy. After a treatment period of 4 weeks the outcome was measured using a standardized scale (4-24 points). With sham therapy, five infants improved (at least 3 points), eight infants were unchanged (within 3 points), and three infants deteriorated (not more than -3 points); the mean improvement was 1.2 points (SD 3.5). In the osteopathic group, 13 infants improved and three remained unchanged; the mean improvement was 5.9 points (SD 3.8). The difference was significant (p=0.001). We conclude that osteopathic treatment in the first months of life improves the degree of asymmetry in infants with postural asymmetry.”
"Osteopathic manipulative treatment (OMT) is an underutilized noninvasive treatment method for patients with asthma. The use of OMT may help decrease mortality and morbidity rates among this patient group. The authors conducted a randomized controlled trial attempting to demonstrate the therapeutic relevance of OMT in the pediatric asthma population. With a confidence level of 95%, results for the OMT group showed a statistically significant improvement of 7 L per minute to 9 L per minute for peak expiratory flow rates. These results suggest that OMT has a therapeutic effect among this patient population"

"Objective: The aim of this study was to determine whether the use of a specific manual therapy technique, rib raising, could produce short and intermediate term improvements in the lung function in children with chronic asthma.

Clinical Features: A comparative single case study was carried out between two asthmatic children aged 16-17, both with a long history of mild asthma requiring the use of ventolin up to five times a week. Intervention: One received the rib raising technique and the other a sham technique. Pre and post treatment FEV1 and FVC were recorded for both participants over the short and intermediate term.

Outcomes: The rib raising participant showed, in the short term (20 minutes post treatment), up to a 13.81% increase in FVC and up to an 18.37% increase in FEV1 compared to the sham technique of 3.48% and 8.28%, respectively. In the intermediate term (one week post treatment) the rib raising improved FVC by 10.49% and FEV1 by 24.90%, while the sham yielded FVC improvements of 0.87% and FEV1 of 5.73%. Overall FEV1/FVC increased by 8% in the rib raising compared to only 3% in the sham technique.

Conclusions: These results demonstrate that rib raising produce an increase in the lung function of an asthmatic child in the short and intermediate term.

"The results of this study suggest a potential benefit of osteopathic manipulative treatment as adjuvant therapy in children with recurrent AOM [acute otitis media]; it may prevent or decrease surgical intervention or antibiotic overuse."

"Treatments were gentle techniques on areas of restriction consisting of articulation, myofascial release, balanced membranous tension (according to teachings of William Garner Sutherland, DO, and others), balanced ligamentous tension, facilitated positional release, and/or counterstrain treatments."

"The predominant complain was inability to suck either at breast or bottle."
"The baby was being fed with a nasogastric tube."
"Osteopathic treatment addressing the cranial and extracranial structures, with particular emphasis on the condylar and sacroiliac compressions, was carried out."
"Immediately following second treatment, he sucked 60ml of formula on his own. The amounts sucked progressed erratically after that next week."
"By that time, Baby X was almost 8 weeks old. He presented on this occasion without the nasogastric tube,"
"At five months of age... he is continuing to thrive. Developmental milestones were age appropriate. Solids were gradually introduced at approximately four months of age."


"A pilot study of six infants".
"At the time of first measurement, the difference between pre- and post fed fat estimations of breast milk was small in infants with a dysfunctional suck. Following osteopathic treatment, the difference between pre- and post fed fat estimations were comparable with the fat estimations from the breast milk of infants who were feeding normally."


"For 3 years, children between 18 months and 12 years of age with and without recognized neurologic deficits were studied at the Osteopathic Center for Children. Their response to 6 to 12 osteopathic manipulative treatments directed to all areas of impaired inherent physiologic motion was estimated from changes in three sensory and three motor areas of performance. Houle’s Profile of Development was used to compare neurologic with chronologic age and rate of development, and scores were age-adjusted. Results in children after treatment were compared with those following a waiting period without treatment. Neurologic performance significantly improved after treatment in children with diagnosed neurologic problems and to a lesser degree in children with medical or structural diagnoses. The advances in neurologic development continued over a several months’ interval. The results support the use of osteopathic manipulative treatment as part of pediatric healthcare based on osteopathic medical philosophy and principles."