

Study on FCR and Brain Function

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Introduction & Definition of Functional Cranial Release:

Computer Dynamic Posturography (CDP) is commonly utilized to determine the effects of different sensory conditions on balance. This study utilizes the Bertec Balance Plate to examine the effects of endo-nasal balloon manipulations to the cranial bones has on the vestibular system.

Endo-nasal manipulations have been around since 1940's. (5) Introduced by chiropractors and naturopaths for head pain (3) (5) ear and sinusitis care (6) (2) (8) (5). It has been taught in accredited chiropractic colleges as an elective course (10) (11)(12)(13) as well as many seminar settings over the years. It has not gained acceptance mainly due to the lack of research and uniform methods.

Discomfort to patients can be increased with doctor methods and might cause practitioners to discontinue these treatments even in light of the benefit that some patients receive.

Defenition: "The methods of improving the biomechanics of the cranium and improving air flow through the upper nasal chambers through the release of connective tissue restrictions in order to improve oxygenation and circulation of nutrients in and around the central nervous system with the use of latex finger cots through the nasal passage which utilize expansive pressures."

Methods:

A series Cranial Release's was performed where the connective tissues that surround the brain and spinal cord called the Dura Mater are specifically released using endonasal balloon inflations.

The patient is first prepared for the treatment using a vibrocussor and Pettibon Multiple Digital toggled MDT adjusting instrument using a proprietary method.

The patient was testing in a standing position using a slight force to determine the automatic correction of the patient when they are pushed into a certain direction in a certain area on the cranium and pelvis. The results are taken into account and this determines the both the position and the placement of the balloon into the nasal concha. The balloon is inflated until the pressure is slightly released and the balloon has passed through just into the throat. I did this over 4 consecutive days.

I conducted a comparative study to observe the relationship between the FCR treatment and improvement in brain function using the Bertec balance platform system. The patient was tested prior to starting any care and on the same day that care was performed and then post testing data was collected the day after the last treatment. The Spectrum of data consists of anterior-posterior sway range and lateral sway range gathered pre and post treatment from a randomized selection of patients who underwent treatment.

Patients were tested in four categories; flat surface (eyes open), flat surface (eyes closed), foam surface (eyes open), foam surface (eyes closed). Within each category the anterior-posterior sway range and lateral sway range was recorded in inches of movement. The area of movement recorded was the range of balance for each patient. Depending on the areas of instability, FCR was then performed to encourage improved brain function in the vestibular, cerebellum and frontal lobes systems.

The gathered data (pre and post) was arranged as a total of all subjects and also divided by gender to show other possible relationships. The mean of the total data was used to provide a visual description of improvement and charted for reference.

The mean anterior-posterior and lateral sway was used for each test (Flat SEO, Flat SEC, Foam SEO, Foam SEC) to formulate the area on axis per total and by gender.

The bar graph representations are literal interpretations of the data while the area on axis was used to portray balance results as shown via the Bertec balance system. From the mean ranges, the percent improvement per group was calculated and represented in the tables below.

Results:

Overall there were significant differences between pre and post examinations. The most dramatic findings were with the Flat Surface Eyes Closed (Flat SEC) and Foam Surface Eyes Closed (Foam SEC) as seen in Table 1. For all subjects there were up to 29% improvement in brain balance compensation while eyes were closed and up to 12% improvement in brain balance compensation while eyes were open.

Report

There appeared to be a stronger relationship between the FCR and Balance exam with the male subjects by a slight margin. The lateral sway range was one variable that had only minor differences pre and post.

ALL SUBJECTS				
Ant-Post Sway Range				
	FlatSEO	FlatSEC	FoamSEO	FoamSEC
pre	0.25	0.35	0.37	0.57
post	0.22	0.34	0.26	0.40
% improvement	12.00	2.86	29.73	29.82
Lateral Sway Range				
	FlatSEO	FlatSEC	FoamSEO	FoamSEC
pre	0.13	0.14	0.21	0.31
post	0.13	0.13	0.21	0.24
% improvement	0.00	7.14	0.00	22.58
FEMALE SUBJECTS				
Ant-Post Sway Range				
	FlatSEO	FlatSEC	FoamSEO	FoamSEC
pre	0.23	0.32	0.39	0.49
post	0.19	0.30	0.27	0.36
% improvement	17.17	8.79	29.90	27.47
Lateral Sway Range				
	FlatSEO	FlatSEC	FoamSEO	FoamSEC
pre	0.13	0.32	0.20	0.24
post	0.13	0.39	0.22	0.18
% improvement	0.00	-19.95	-7.20	27.85
MALE SUBJECTS				
Ant-Post Sway Range				
	FlatSEO	FlatSEC	FoamSEO	FoamSEC
pre	0.28	0.38	0.32	0.72
post	0.29	0.32	0.25	0.49
% improvement	-1.52	15.61	22.91	31.27
Lateral Sway Range				
	FlatSEO	FlatSEC	FoamSEO	FoamSEC
pre	0.12	0.15	0.22	0.44
post	0.11	0.15	0.19	0.36
% improvement	3.66	0.00	12.50	17.48

All results for this were at or near zero percent improvement while anterior-posterior sway range saw larger results. Subjects had smaller margins of change between pre and post while tested in the balance exam with eyes open. This was true for flat and foam surfaces. When the subjects closed their eyes the difference was drastic. Specifically when discussing the Foam SEC for anterior-posterior sway. Percent improvement proved to be at 29.82% for all patients (27.47% improvement for females and 31.27% improvement for males). Percent lateral sway improvement occurred highest also for Foam SEC with all subjects averaging 22.58% improvement (27.85% improvement for females and 17.48% improvement for males). The area of instability represents the lateral and anterior-posterior sway together. Here the red represents the pre examination for instability and blue is post treatment. Foam SEC for all subjects is represented in figure 4.

We see here that post treatment the area of the sway is less than pre treatment. In figure 8 and figure 12 we see the differences in gender. Where the female subjects found most gains with anter-posterior sway it appeared that male subjects made gains in both lateral and anter-posterior.

Discussion:

Overall there were significant differences between pre and post examinations. The most dramatic findings were with the Flat Surface Eyes Closed (Flat SEC) and Foam Surface Eyes Closed (Foam SEC) as seen in Table 1. For all subjects there were up to 29% improvement in brain balance compensation while eyes were closed and up to 12% improvement in brain balance compensation while eyes were open.

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