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# SCOLIOSIS REDUCTION WITH B.A.E. METHOD ON A 21 YEARS OLD FEMALE WITH CHECK UP AFTER A YEAR AND A HALF [6]

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***Abstract:*** *Ideopathic scoliosis in a 21-year-old female who works as a hairdresser. The girl reports frequent pains in the cervical and lumbar tracts together with pain at her knees. She has been treated with the biomechanic anthropometric ergonomic method (B.A.E.) with positive results.*

***Method:*** *the girl was previously treated only with the physiotherapic protocols with insufficient result for two years. During the medical and physiotherspical management the pain improved only for short periods under treatment, she has been treated with the B.A.E. method for 18 months with positive outcomes both in the mobility and in the pain.*

***Keywords:*** *Posture, Biomechanic Anthropometric Ergonomic Method, scoliosis, back pain, pain in the lower limbs.*

## INTRODUCTION

### The Postural Correction in Synthesis

The postural correction is an associative learning of many stimuli and responses. The whole is aimed at the acquisition of complex and integrated schemes in the "Human System" with all that follows it.

It is therefore the environmental stimuli that in producing a change in the management of the gravitational field create postural changes related to variations in postural recruitment caused by different external stimuli.

From this derives the fact that in the absence of continuous external changes practiced where the person concentrates the body antigravity management (as for the standing station the feet and then the occlusal plane) any method of gymnastics or re-education can have only periodic successes and only during the practice of the exercises themselves with advantages that over time tend to be dampened and canceled by the restoration of that initial posture that was the postural representation of the individual subject in that particular environment.

In conclusion while considering that movement and exercise in general are good and if done in a targeted manner with specific methods certainly bring postural improvements. Such improvements are not maintainable for a long time if not continually insisting with the methodologies themselves.

The big difference we have in the corrections by the Biomechanical Anthropometric

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Ergonomic Method (B.A.E.) lies precisely in the possibility of continuously giving different external receptions to stably provoke a postural change in this case targeted and lasting.

This new postural situation associated with periods of exercise and kinesitherapy customized is stabilized in a short time with very high-profile results.

## EXPOSITION

From the analysis of the postural ergonomist dott. Pivetta Ferdinando using the B.A.E protocol, it is an anti-gravity attitude out of the protocol used, both stationery and walking.

There is an impropriety in the use of the knees, moreover in a launching attitude, both walkind and stationary there are differences in the management of the load on the podalic segments, which highlight being supinate (the rear foot is placed outward) and adduced (the forefoot is placed inward) and with a greater load on the heels. On the frontal plane, we notice that the knees have a squint and an asymmetry of the kneecaps.

The pelvis generates an excessive antiversion producing an asymmetric hyperlordosis (with uneven antiversion of the two parts of the pelvis).

The posterior iliac crests carry further forward resulting in incorrect alignment of the column on the rear frontal plane, visible through the inhomogeneity of the heights of the shoulders, of the triangle by the size (space, located between arms and body on the frontal plane, whose outer lines delimit the thorax and hip, by the buttocks rhymes, we also notice the misalignment and excessive tension of the shoulder blades. Frontally the clavicles have a disproportionate tension on the origin of the sternocleomastoid muscle and the sternum is pushed forward (keeled sternum).

The head is excessively forward compared to the torso, the column that is managed with an incorrect hyperlordosis in the lumbar tract also the dorsal kyphosis forces the head to an incorrect cervical lordosis, producing a curve reversal, consistent with the reported problems.

From the side images you can see that the subject is unbalanced forward and has lost the dimension of verticality.

Moreover, the stability analysis shows that the balance between readiness and stability is unfavourable, this is probably dictated by an incorrect position of the occlusal plane as height, alignment and intercuspidation (the greater number of contacts between the teeth, necessary to express the strength of the chewing muscles) of the occlusal planes, as well as the lack of some back supports, highlighted during the test and confirmed by the final analysis.

### Results

Following are the initial and final baropodometric and photographic images to offer a more direct line of comparison. The data relate to a time frame ranging from 30/05/2017 to 03/01/2019.

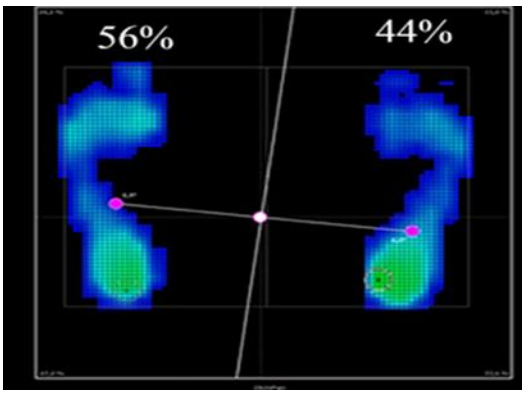


Fig.1

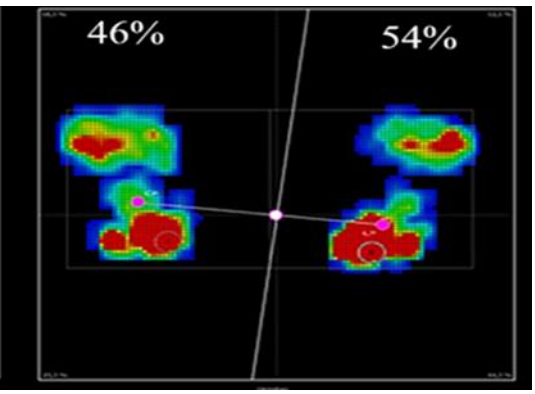


Fig.2

In Fig.2 at the control, it appears in compensatory attitude showing greater load on the right emisoma. Notice the angles of the podalic axes of negative value in Fig. 3 and 4.

Notice the angles of the podalic axes still not yet symmetrical but now positive, Fig5, left foot 2,30 somebody. and Fig6, right foot 5,06 (already in the sphere of normality).

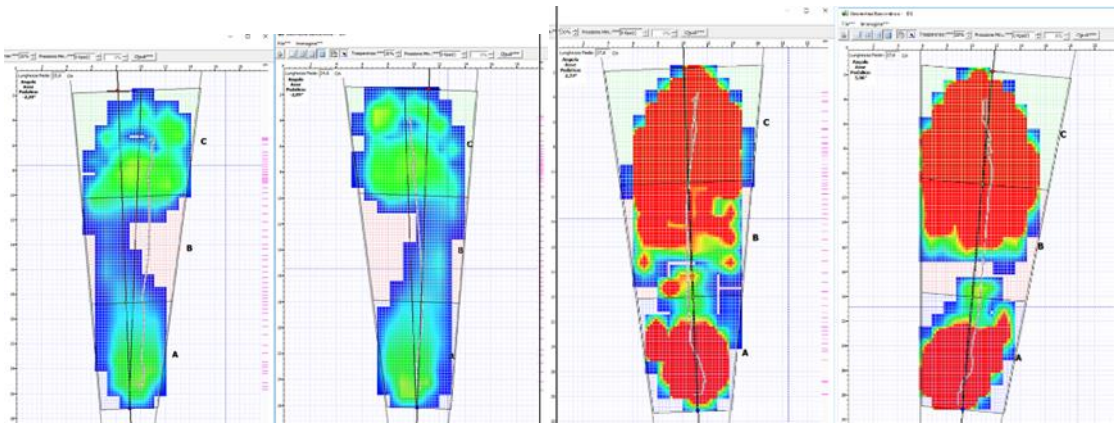

Fig.3 Fig.4 Fig.5 Fig.6


Fig.7 Fig.8


Fig.9 Fig.10

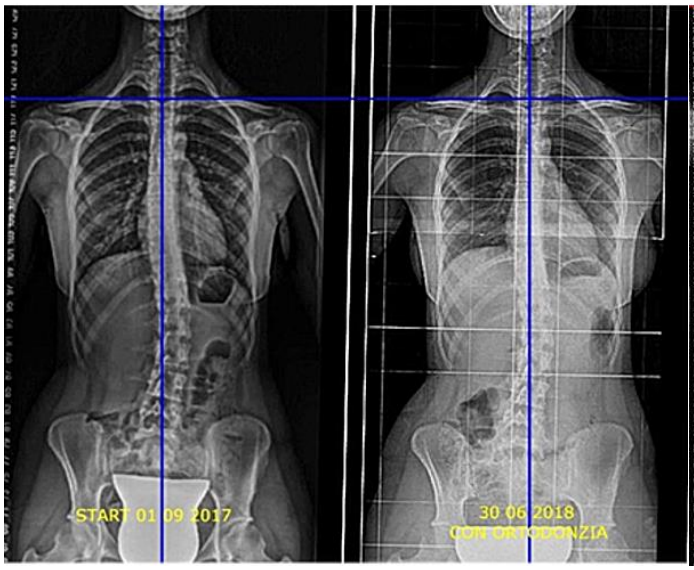


Fig.11

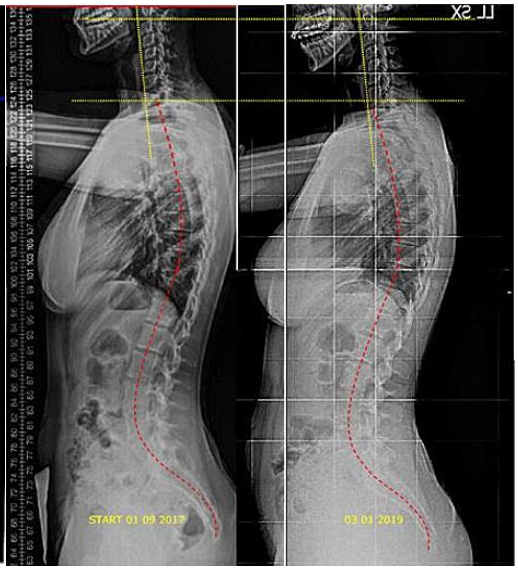


Fig.12

Interpreting with the images reported with the Biomechanical Anthropometric Ergonomic Method B.A.E. according to the indices of normality we have the conclusions.

## CONCLUSIONS

From the comparison of the baropodometric images in orthostatism (fig. 1 and 2) it can be noticed as the distribution of the loads is more coherent and the rotation of the hip is decreased.

An improvement is also found in the dynamics of the pitch (fig. 3 and 4) where the dynamic centre of gravity follows the ideal line, evidence that the rotations are clearly improved, and the load distribution is more uniform (fig. 5 and 6).

From the photographic analysis the subject is more centered, the sternocleidomastoid muscles work more consistently (they have changed the fixed point of attachment) and the kneecaps are less internally rotated (their position is more inward more than necessary) (fig. 7).

From the images on the lateral plane (fig. 8 and 9) it can be seen how the head is more vertical and in general how the physiological curves of the rachis (especially the lumbar tract) are normalizing.

From the back images (fig. 10) we can see how the shoulders are better aligned and the shoulder blades are more open to witness a better distributed and coherent muscle tonic work.

All this is much more evident if one takes into account the subject's X-rays (Fig. 11 and 12) where the scoliosis appears to be significantly improved tending towards normalisation.

Finally, the subject has reported a remarkable benefit of the painful symptomatology with a consequent improvement of the lifestyle.

## Materials and Methods:

Baropodometer Footcheker Loran Eng., 2012

Biomechanical Anthropometric Ergonomic Method B.A.E.

## REFERECES

Pacini, T., (2015). Biomechanical Anthropometric Ergonomic Method for Assessment and Correction of the Human Posture, PhD Thesis, *University of Ruse "Angel Kanchev"*. (2015)

Massara, G., T. Pacini, G. Vella, (2008). Ergonomia del sistema posturale, Fabrica del 3° millennio, Marrapese Ed. S.R.L. Roma, 2008.

Planas, P., Rehabilitacio Neuro – Occlusal (2ed.), *Amolca*, 2008.

Rocabado, M., Z.I. Annette, (1991). Musculoskeletal Approach to Maxillofacial Pain, Lillincott Williams and Wilkins, 1991.

Pacini, T., (2012). Biomechanical, anthropometric and ergonomic method of controlling the posture of the human body. *Science and Spor*t, 4, 2012. ***(Оригинално заглавие:*** Пачини Т., (2012). Биомеханичен, антропометричен и ергономичен *метод за контрол на стойката на човешкото тяло. Наука и спорт, 4, 2012).*

Pacini, T., Deiulis E., Coli E., (2013) Interaction between lumbar lordosis and m.iliopsoas. *Science and Sport*, 6, 2013. ***(Оригинално заглавие:*** Пачини, Т., Деюлис Е., Коли Е., (2013) Взаимодействие между лумбална лордоза и m.iliopsoas. Наука и спорт, 6, 2013).

Pacini, T., (2013). Neck posture, cervical spine problems, temporomandibular joints and the Anthropometric Ergonomic Biomechanical (A.E.B.) Method, *University of Ruse "Angel Kanchev"*, 2013.

Pacini, Tiziano, Ferdinando Pivetta, Elisabetta de Juliis, (2013). Neck's posture: woman 54 years old suffering from Dizziness, Labyrinthitis, Headache, Neck Pain, Shoulder Pain, Carpal Tunnel Syndrome, treated with Biomechanical Anthropometric, *University of Ruse "Angel Kanchev"*, 2013.

Pacini, Tiziano, Elisabetta de Juliis, Andrea Pacini, (2019). Thermography and Posture: The thermography allows to see the change of muscular muscles of the various body parts in real time. A person shows at the thermography investigation a muscular surface that is detectable as an image proportional to the quantity of heat emitted by the muscles and by their work. Its usage can be studied in association with the B.A.E. method, *University of Ruse "Angel Kanchev"*, 2019.

Pacini, Tiziano, Elisabetta de Juliis, Ferdinando Pivetta, (2019). Implications of the Posture and of the gravitational field management in the Fibromyalgia and in its symptoms of pain and panic: progress test in the treatment of a 48 fibromyalgic man with the Biomechanic Anthropometric Ergonomic Method B.A.E. for 18 months, *University of Ruse "Angel Kanchev"*, 2019.