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**A SERIOUS TRAUMA ON A WOMAN AT THE AGE OF 21. SHE IS ACTUALLY 47 NOW WITH BIG WALKING DIFFICULTY EVEN USING CODIVILLA SPRINGS. SHE HAS BEEN TREATED WITH B.A.E. METHOD FOR TEN AND A HALF MONTHS<sup>1</sup>**

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***Abstract:** A serious trauma due to a car accident 26 years before the B.A.E. treatment: the L4 and L5 vertebrae were fractured. The person walks in shaky way and has pain in the whole body. Method: person with results of surgery for Lumbar fracture fixation and a residual scoliosis and postural inconvenience on the entire body; treated with Biomechanical Anthropometric Ergonomic Method.*

***Keywords:** Posture, Biomechanical Anthropometric Ergonomic Method, traumas, post-surgery pain in the back, walking difficulty.*

***JEL Codes:** I 10, I 20*

## **INTRODUCTION**

The person is a woman, 47 years old with severe pain in the whole body. At the age of 21 she had a severe trauma with fracture of L4 and L5 Lumbar Vertebrae. She underwent a surgery to fix the fractured vertebrae. Post-surgery rehabilitation. Both feet remain bent but the right one a little more.

## **EXPOSITION**

Walking is impossible so a Codivilla spring is applied. After rehabilitation pain at the torso-lumbar spine develops with frequent headache; pain is described as alternating, muscular, posture appears incorrect; she declares the situation to have developed since after the accident. Periodic

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<sup>1</sup> The paper is presented of October 26, 2018 at the scientific conference RU & SU'18 in the Health Promotion section with the original title: „A SERIOUS TRAUMA ON A WOMAN AT THE AGE OF 21. SHE IS ACTUALLY 47 NOW WITH BIG WALKING DIFFICULTY EVEN USING CODIVILLA SPRINGS. SHE HAS BEEN TREATED WITH B.A.E. METHOD FOR TEN AND A HALF MONTHS“.

physiotherapy throughout years with modest results and no real benefit. Situation stops normal working life.

In time pain and stress become so intense that the person's psychology deteriorates; character changes from asocial and jolly to solitary and sad.

**Materials and Methods:**

Biomechanical Anthropometric Ergonomic Method



**Pic. 1.**

As can be seen in picture 1, the face was evidently asymmetrical at Start. Left cheek is completely different from right.

The head appears to have rotated left above the shoulders.

Walking is highly altered as can be seen in picture 2.

The person needs to use her arms in order to maintain a sufficient balance and stand up.



**Pic. 2.**



**Pic. 3.**

The situation was so bad that one could not test her with a Baropodometer.

Comparison of the radio-diagnostic images made during surgery was necessary. On such basis one could observe the lack of lumbo-sacral movement as a result of the surgery as can be seen in picture 4.



**Pic. 4.**

As can be seen on picture 4, the vertebrae between L3 and S1 are blocked in a stabilizing cage made of bars and screws. For such reason no bending of the lumbo-sacral region is allowed.

The person has a bend in the feet with a modest capability of recalling them. She can only walk with Codivilla springs on both feet.

After a careful exam we could make up that she would never have a normal style of walking; an autonomous movement could however be allowed by changing the locomotion strategy.

The person could walk, even if not easily, by using the tips of the feet and lifting the pelvis.

Considering the body adapts to gravity following general receptive system, we wondered how we could change the described situation by changing the environmental receptor signals.

So we took some pictures to understand how her strategy changed her body and how she could have been without the trauma, following the Biomechanical Anthropometric Ergonomic Method. At the beginning the person was as can be seen in picture 5.



**Pic. 5.**

After that, we underwent a manual Postural Reset so as to change, even partially, the previous motor engram.

We asked the person to wear special feet interfaces; they differ from the ones used up to then, since they entrain an increased walking effort as they are produced to provoke a body movement body opposed to walking itself. In time the person has been monitored and has undergone weekly elongation sittings for two months after beginning the Ergonomic Postural treatment.

After about ten and a half months we checked the person.

As can be seen in the following pictures, her relationship with the gravitational field has radically changed with doubtless advantages.

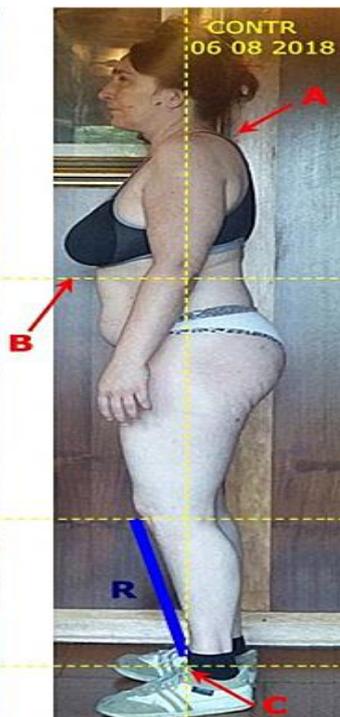
In Picture 6 the completely changed face expression can be observed. The central image shows the important changes of expression as well as of facial alignment after only two and a half months.

In the right-hand image the result at the check after about ten and a half months can be seen. The person's character appears deeply changed and the increased comfort is quite visible even when compared to the central image.

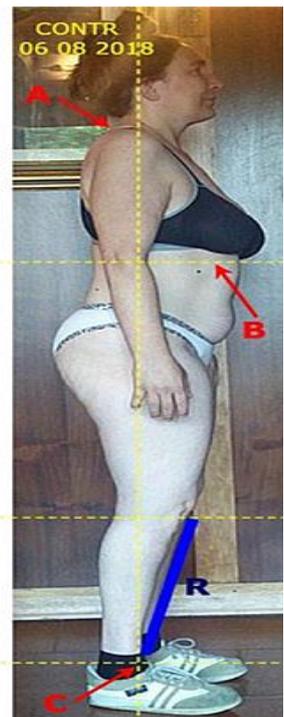


Pic. 6.

The body structure has changed quite a bit and allows to better manage the gravitational field; a much better stability in walking as well as standing up can be observed; it is associated to a quickness in reaction as if in normal conditions.



Pic. 7.



Pic. 8.

We took pictures on the side of the person (pictures 7 and 8); we inserted in both initial as well as in the control images a reference line (R) parallel to the leg; that would give the same inclination so as to check the changes of the body above it.

That way an increase in height of the person after being treated with B.A.E. Method can be seen in both pictures from right as well as from left hand side.

Please note the arrows marked A, B and C which are associated to arrows showing how the head raised and moved back along with the change in the shoulders' position (A), the breast raised (B); the vertical line tangent to the ear lobe now falls in proximity of the ankle as opposed to the forefoot as before (C), pictures 7 and 8.

Moreover, one can notice an important and somehow unexpected phenomenon; despite the surgical cage, a lumbar lordosis is taking shape.

The gluteus maximus muscle manages to work better in the higher part. Thanks to the visible backward movement in the chest part, the ileo-psoas muscles can increase the working time during which they lever on the small trochanter. By doing so the ileo-psoas muscles ensure the pelvis a better and more comfortable position, thus ensuring better ergonomics.

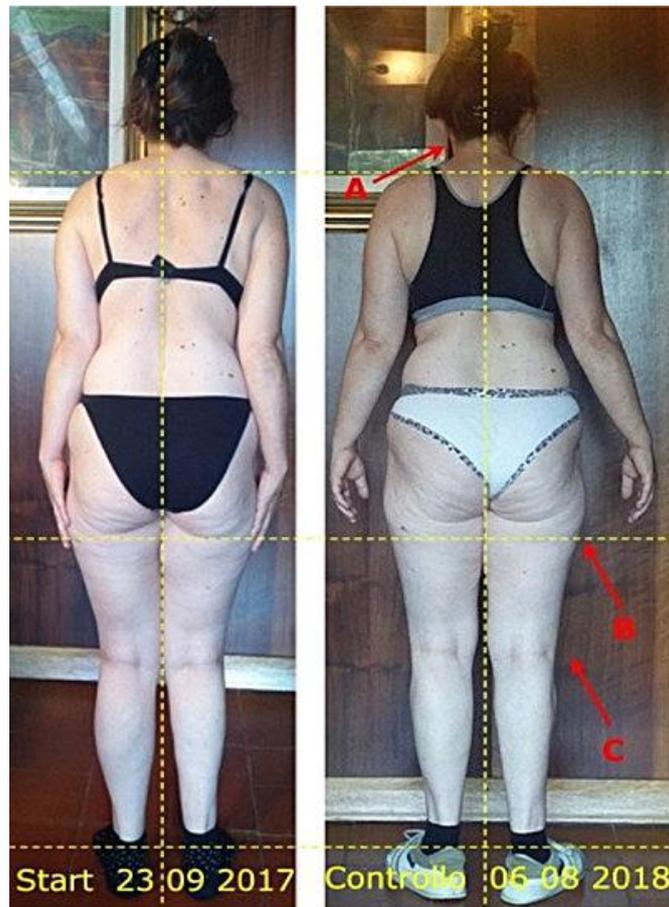
As can be seen in front (picture 9) and back (picture 10), an improvement in the use of the entire leg can be observed, starting from the knees which show a lower level of valgus knee.

The reduction of valgus knee is mainly due to the different work of the ileo-psoas muscles and to the improved balancing, as described in previous articles.



Pic. 9.

Please observe the straight and well centered head (A), the breast lifting (B) and the reduction of the valgus knee (C); in general, a reduction of the initial scoliotic posture.



**Pic. 10.**

Please observe in picture 10, back view, the head and bust straightening between beginning of treatment and following control (A), as well as a better work of the gluteus maximus muscles that show an evident raise of the gluteal folds (B). Even in this view the reduced valgus knee can be seen.

After about six months of treatment with feet and occlusal interface following the Biomechanical Anthropometric Ergonomic Method, the person started working regularly after many years.

### **CONCLUSION**

After around 10 and a half months of treatment with the Biomechanical Anthropometric Ergonomic Method we considered results with the parameters of the Biomechanical Anthropometric Ergonomic Method.

The situation is as follows:

- 1 The pain symptoms have disappeared completely after two months using the Ergonomic Tutors following the B.A.E. Method even in absence of instrumental values.
- 2 The person declares to have used on a daily basis the Tutors which is demonstrated by the photographic improvement.
- 3 This shows how one can obtain results unachieved with classic rehabilitation methods and orthopedic techniques even in post-surgery serious cases.

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