



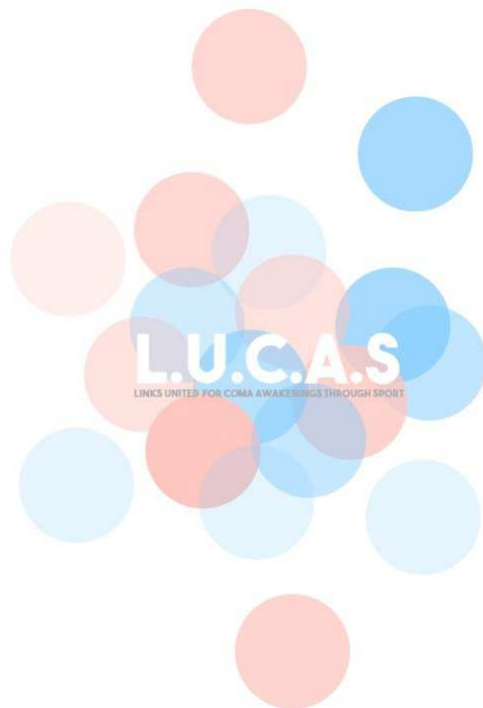
# ***LUCAS***

*Links United for Coma Awakenings through Sport*

## **CASE HISTORY**

**Country: Lithuania**

**Organization: Siauliai University**



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## **A case history in applying/testing the LUCAS' process and methodology**

*A story of the experience of people involved that can be an highlight as a significant case study as far as the use of the LUCAS' methodology is concerned*

### **1) Description of the case history** (lessons organisation + sport applied/movement activities/physical activities as tools and means to achieve the expected objectives and results)

During the first meeting he complained about partial control of the left side of the body (spastic plegia, i.e. residual effects of a concussion and contusion, remained), difficulties in looking after himself, weakness of muscles. He moves his left leg in the hip and knee joint, however, the movements are poorly coordinated, there is full spasticity in the left arm. There are contractures on the left elbow and foot. Cognitive functions are not disturbed (MMSE, Mini Mental State Examination – 28 points). Rivermead Mobility Index is 12 points out of 15. He moves in a wheelchair when he is not in his home surroundings. In bed he moves by himself, takes a sitting position. He stands up and sits down with assistance, however, if he needs to change his body position, help is needed. When sitting on a chair he feels stable and safe. Using auxiliary aids he can move in his home environment independently, climb up or down 4 stairs. He cannot change his position without assistance, e.g. to take a sitting position from the edge on the bed and vice versa. He is able to use a bathroom independently. The modified questionnaire on motivation for rehabilitation after a brain injury (51 point). Dizziness Handicap Inventory – 26 points (mild handicap). Because of dizziness and balance disorders it is not safe to go out alone, to do household chores, to go down the sidewalk, to walk in the dark. Isometric force of the hand muscles responsible for grip – left hand 2,46 kg, right hand – 8,94 kg. The strength of the left hand achieved in the first seconds is minimal (evaluation with ErgosII diagnostic equipment). The control of waist muscles is bad, the balance is disordered.

Referring to the data of the evaluation and medical history an individual rehabilitation programme was made: hippotherapy – 10 times 30 minutes each, kinesi therapy – 16 times 45 minutes each, psychologist's consultations/sessions – 4 times 60 minutes each (for the evaluatee and his family members). Hippotherapy and kinesi therapy sessions were applied twice a week, psychologist's consultations were applied once a week. The aim of the hippotherapy session was to develop trunk control, balance, to reduce spasticity. The aim of kinesi therapy was to stimulate patient's functional mobility reducing the contractures that had been formed, increasing the amplitudes of the movements of the left arm and leg, to teach how to relax, to develop the force of the muscles of the extremities, to develop the movements of everyday activity. During a kinesi therapy session passive and active amplitude exercises, passive extension, ideomotor workout and a task-oriented method were applied.

#### Parents

Valdas Greivys, now is 31 is years of age. Coma reason is trauma in the street (fightings). In the pilot action mother and father participated together with patient. On Wednesdays family could attend lessons from 12am to 18 pm., according their opportunities. All this time there are specialists who are ready to work with them. Usually they start at 16 p.m, because mother and father are still working. According their age they belong to the group of persons who are retired, but in order to support sun's rehabilitation they still working. Mother is pharmacist and father works in machine shop. Individual rehabilitation sessions were organized in Siauliai University, Sport hall of 60 min.

Main activity was joint exercises or other physical exercises devoted preventing contractures, strengthening spine muscles, keeping balance, increasing trunk motion range. Other group of exercises

devoted for strengthening legs and knees, tarsus tendons and muscles, hands and arms strength and motions. Activities were performed under the guidance of specialists (standing/sitting/laying in pairs). Additional equipments (balls, ropes, skittles, and mats) were used.

Sensor reinforcement – music was added. Every other session the music was chosen by Valdas and father. The most positive emotions and demonstration of close interrelations were observed during common applied sport activities: basketball, rope pulling, and volleyball. The main outcome for both of target group was an improvement of the quality of physical health and their relationship.

During the sessions that took place 30 min. Valda's parents have consultations and trainings with specialists and discuss more effective ways how to involve and keep achieved results at home. They learn new ways of exercising, in order to prevent own physical trauma's, to reveal already existing physical problems, to plan individual work. The individual work plan was arranged after detailed analysis of psychological climate in family, peculiarities of emotional interrelationship, differentiation of social roles in family.

On Fridays Families and persons after coma could attend lessons from 12am to 18 pm., according their opportunities.

Hypotherapy sessions. The Program was developed with a frequency of one's per week (every Friday from 12 am to 18 pm), in individual sessions of 30 minutes. Parent's activity was organized applying method of individual sessions.

Valdas' parents have consultations and trainings with specialists discussing more effective ways how to involve and keep achieved results at home. The main issue for Valda's parents was how to motivate him to take care about himself when parents are at work (to heat meals, to do the order in kitchen and his own room). Usually the time when parents were at work he spends at computer, so the social skills after coma were decreased. Physical therapist gives consultations and teaching for parents how to learn new ways of exercising, in order to prevent own physical trauma's, to reveal already existing physical problems, and planed individual work, that they must do at home. They are taught right ways of motion, collaboration with caregiver during physical activity.

The main outcome is the improvement of disease awareness about his/her relative and prevention of symptoms associated with physical tiredness; development of interrelations and social inclusion; improvement of the quality of physical health.

## 2) **Beneficiaries** (*beneficiaries of the case history indicating type, and type of disability etc.*)

The medical case history. He had a head trauma on 7 August 2010. He was hospitalized in a level 3 coma and had an urgent surgery. When the condition was stabilized, the rehabilitation started that lasted until 30 November 2010, later outpatient rehabilitation was applied. Every year he goes to Palanga rehabilitation hospital at his own expense. His family members work with Valdas at home, perform kinesitherapy exercises.

## 3) **Involved Organizations**

4) **Outcomes** (*Indicating the results that have been achieved at the end of the activity*)

The main outcome is the improvement of disease awareness about his/her relative and prevention of symptoms associated with physical tiredness; development of interrelations and social inclusion; improvement of the quality of physical health.

5) **Success and Challenges** (*positive aspects and critical points*)

For the first time Valdas came to the hippotherapy centre in a wheelchair accompanied by his both parents. He was uncommunicative, reserved and unsociable. However, already after the first hippotherapy sessions Valdas became more courageous, few minutes after he had got up on the horse he would start to communicate, make jokes. Soon his parents began to notice their son's emotional changes and were very happy about them. Beginning with the third session the trunk control and balance while sitting on the horse were evidently improving, a sitting position improved, the spasticity of the left side of the body while riding a horse decreased. Valdas was glad about the changes in his everyday life, he stated that the evenings were different, coming back home after a hippotherapy session he felt more relaxed, he would overcome unpleasant thoughts and control his anger more easily. The motivation to "stand up and go" was increasing. He was making steps more and more courageously using an elbow crutch and would come to the sessions without a wheelchair. The family members were glad with Valdas' achievements and quick results, their motivation and confidence were increasing and fatigue was decreasing. During a hippotherapy session Valdas and his parents got acquainted with other participants of the research, exchanged the contacts, communicated not only at hippotherapy centre but also at another time.

During kinesitherapy sessions Valdas' motivation was also increasing, he was striving to independently perform tasks, was motivated. He paid much attention to the tasks that were focused on a certain result, to "reach", "grip", "push", "move" a thing (a ball, a cup, etc.) with the left hand. These exercises were performed at the end of the sessions. Every task started with an ideomotor exercise (imagining), then it was attempted to perform a movement observing, repeating for several times. At the end of rehabilitation Valdas was able to independently shift his hand over his leg holding a tennis ball in his hand. The spasticity of the arm decreased, he would intentionally hold a thing put in his hand. Muscle force and endurance increased. The kinesitherapy sessions were observed by his parents as well, they were gaining experience, noticed new measures applied, observed their son's work and were glad to see his results.

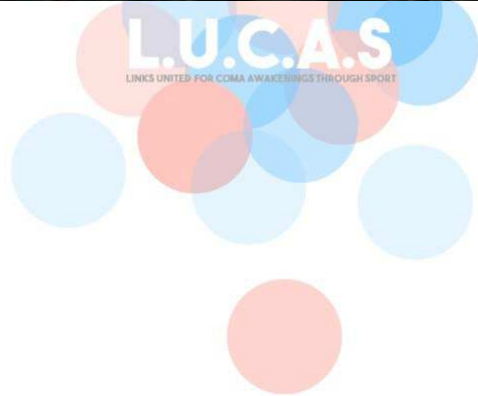
After rehabilitation Valdas' functional mobility has improved, the spasticity of the left side has decreased, the trunk control (activation of multifidus muscles) has improved, the strength of the muscles has increased, the contractures have decreased, he has learned to relax performing passive exercises, while walking the balance is better. Rivermead Mobility Index is 13 points out of 15. He can change his position without anyone's help, he could not do that before rehabilitation. The modified questionnaire

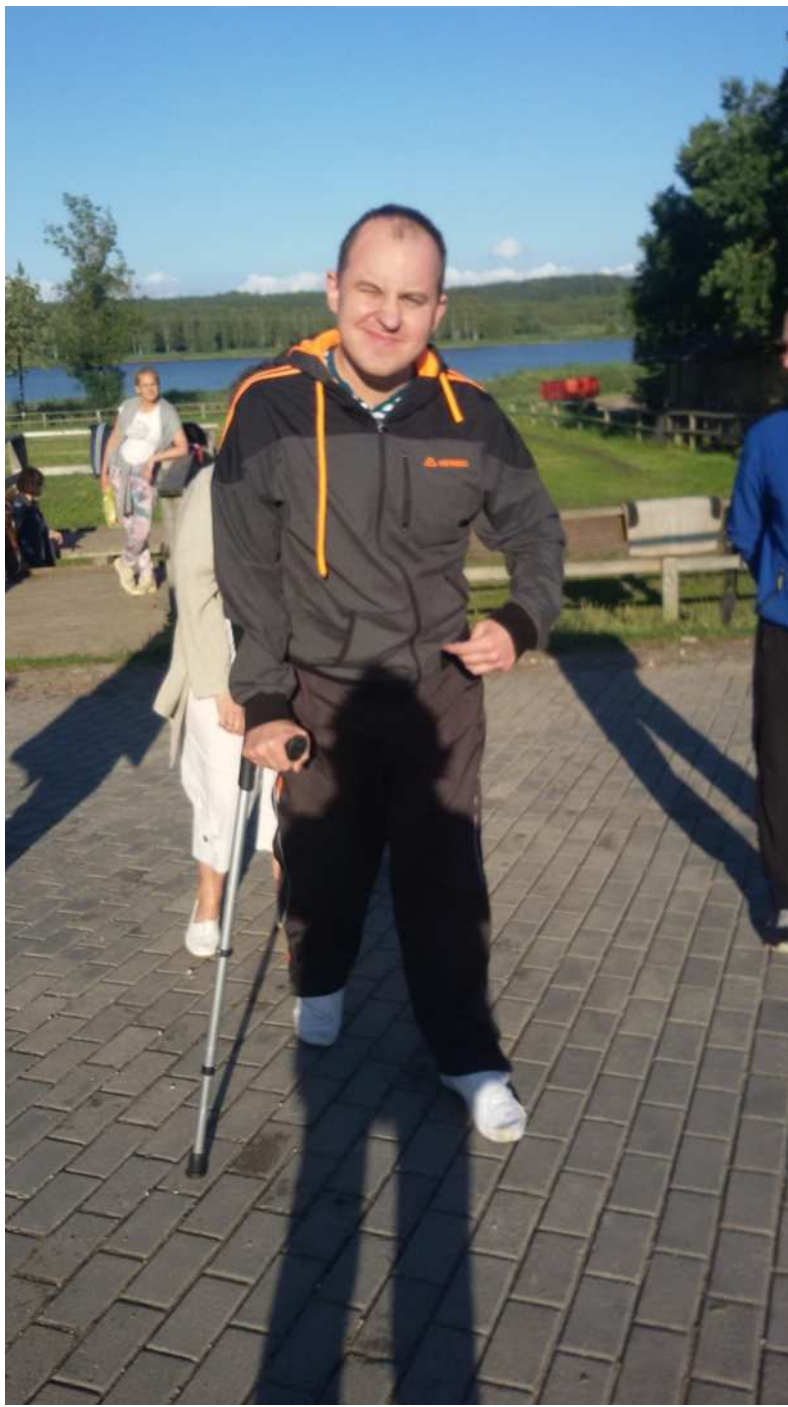
on motivation for rehabilitation after a brain injury (42 points). Dizziness Handicap Inventory – 30 points (mild handicap). Because of dizziness and balance disorders it is still unsafe to go out alone, to do household chores, to go down the sidewalk, to walk in the dark. Isometric force of the muscles responsible for grip of the left hand decreased – 1.80 kg, however, the strength of the left hand achieved in the first seconds has increased and it evenly increases during the evaluation. Isometric force of the muscles of the right hand has increased – 15,07 kg. The emotional condition has improved. Valdas has become more cheerful, shared his smile and impressions more often, willingly communicated, anger outbursts have become less frequent.

6) **Photos**









7) **Contacts**

Mobile +37065071922, facebook Valdas Greivys