



**Hogeschool van Amsterdam**  
European School of Physiotherapy

**Effectiveness Of Critical Alignment Therapy Versus  
Conventional Physiotherapy In Treatments Of Patients With  
Chronic Non-Specific Lower Back Pain**

*A Pilot Study*

Professional Assignment of

Ron Ben Ari, Hadleigh Gillibrand, Laura Herle & Angel Jimenez Cirujano

Amsterdam, 18 January 2008





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## **Foreword**

In particular, we would like to thank the following people:

Bas Moed, our coach, for guiding us through this project. We especially appreciated his constructive feedback which was always helpful and on time. Also his teaching regarding evidenced based practice gave us the insight to achieve a meaningful result.

Gert van Leeuwen, our client, for agreeing to help us carry out this research project. His contribution was especially valuable as regards finding consenting subjects to be included in the yoga intervention.

Snezana Klobucar, a Critical alignment therapist, for introducing Critical alignment therapy to us. Her teaching during an earlier university module was both informative and inspiring. We also appreciated her work concerning the production of the written protocol for the Critical alignment therapy.

And last not but least we would like to give our heart felt thanks to those who kindly agreed to be subjects for our research. Without them none of this would have been possible.

## **Introduction**

As students of Physiotherapy with a common interest in yoga we were motivated to carry out a research into the potential benefits of yoga versus conventional Physiotherapy. Following an interesting module in Critical alignment therapy, a newly developed yoga modality, it became clear that we had the opportunity to use Critical alignment therapy as a research intervention. After meeting with the founder, Gert van Leeuwen, a contract was agreed upon to complete a research project. Lower back pain was identified as a subject which both Physiotherapy and Critical alignment therapy had common parallels. It was obvious that the scope of this research would normally require more time and resources, so a pilot study was initiated. The end product was a scientific article and a presentation.



Professional Assignment Project (2008)

## **Effectiveness Of Critical Alignment Therapy Versus Conventional Physiotherapy In Treatment Of Patients With Non-Specific Chronic Lower Back Pain**

Ron Ben Ari, Hadleigh Gillibrand, Laura Herle & Angel Jimenez Cirujano

*European School of Physiotherapy, Hogeschool van Amsterdam, Tafelbergweg 51, Amsterdam, The Netherlands*

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### **Abstract**

Lower back pain (LBP) is a significant socio-economic health problem. 60-90% of the population in the Netherlands will experience lower back pain at least once in their lives. A specific and effective treatment protocol for LBP has been a point of discussion and research for many years. Nowadays alternative treatment methods are receiving more focus and research, however, the level of evidence for their effectiveness is rather limited. This pilot study aims to investigate the effect of a recently developed yoga therapy, Critical alignment therapy (CAT), in comparison to conventional Physiotherapy treatment in patients with non-specific chronic lower back pain (CLBP). The duration of both interventions was four weeks as it is recommended to refer a patient back to the physician if no improvement occurs after three weeks. As outcome measurement the Quebec back pain disability scale (QBPDS) was used as it measures daily life functionality ("Activities of Daily Life" - ADL) - the most limiting factor in patients with CLBP. Fourteen subjects were eligible after recruitment. All filled in the QBPDS before and after the intervention. Results showed that, CAT was more effective in improving ADL functionality than conventional Physiotherapy. However, the authors recommend further research be completed in order that more evidence is gained to support these results.

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*Keywords:* critical alignment therapy (CAT), conventional physiotherapy, non-specific chronic lower back pain (CLBP), Quebec back pain disability scale (QBPDS)

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## Introduction

Lower back pain (LBP) is a widely prevalence socio-economic health problem. The Dutch national Physiotherapy guidelines (KNGF 2003) for chronic lower back pain (CLBP) have reported that 60-90% of the country's population will experience LBP at least once in their lives and 90% of these sufferers will have non-specific CLBP (Bekkering et al. 2003). Indeed from all musculoskeletal complaints, LBP generates by far the highest costs due to absenteeism from work (Bekkering et al. 2003). Classification of LBP may be due to its duration, with acute LBP lasting up to 6 weeks, and chronic LBP classified as pain and disability for more than three months (Bekkering et al. 2003). It has been postulated that patients with CLBP may exhibit impaired psychomotor functioning, such as decreased speed of information processing and poor postural control (Luoto et al. 1999 & Satu et al. 1996) together with severe pain and poorer scores for physical and social functioning. Treatment of CLBP encompasses a wide spectrum of modalities, such as exercise therapy, education, relaxation, acupuncture, massage therapy, spinal manipulation and yoga (NHS 2000, Bekkering et al. 2003 & Chou et al. 2007). According to Eisenberg et al. (1993, 2002) LBP is one of the most commonly reported reasons for use of complementary alternative medicine. An estimated 14.9 million Americans practice yoga, 21% of which use it for treating neck and back pain (Saper et al. 2002). Treatments for CLBP have been a point of discussion and research for some years. Thus Physiotherapy and alternative methods have received more focus in order to gain more evidenced based research (Sherman et al. 2005). It has been reported that for some yoga methods, clinical evidence is presenting significant results in improvement of CLBP (Williams, 2005; Sherman et al. 2005). With newly developing yoga therapies, such as Critical alignment therapy (CAT) (Leeuwen, 2004), further research is required to increase evidence comparing them to conventional therapies. With this in mind this pilot study aims to evaluate the effects on ADL functionality of four weeks interventions of CAT versus conventional Physiotherapy on non-specific CLBP subjects. Furthermore this pilot study aims to stimulate further research into this promising field.

## Methods

### *Setting*

The total duration of the study was two month. It took place in two locations: Hogeschool van Amsterdam and at the Bharata yoga centre in Amsterdam.

### *Subjects*

The duration for recruitment of subjects was two weeks. To recruit as many subjects as possible in this timeframe subjects were recruited separately from two sites. Physiotherapy subjects (control group) were recruited through the researchers and CAT subjects (intervention group) were recruited through CAT instructors. Fourteen subjects were eligible after recruitment. Prior to admission to the pilot study all subjects had to complete three tasks: 1. subjects had to fill in a questionnaire – it provided among others, data about duration of symptoms, age and etiology of LBP; 2. subjects had to fill in the Quebec back pain disability scale (QBPDs) - the total score of the scale was used to establish a similar baseline level regarding ADL functionality amongst all subjects; 3. subjects had to undergo two most common neurological physiotherapeutic tests: 1. straight leg raising test (SLR test); 2. sensibility test. A positive test SLR test was defined with occurrence of irregular sensations between 30° and 70° while raising the leg. A positive sensibility test was defined by irregular sensations compared with the opposite lower limb, on superficial touch. Positive outcomes would indicate neurological symptoms, signaling specific CLBP (Bekkering et al. 2003) and hence exclusion from the study. With the gathered data of the questionnaire, the total score of the QBPDs and with the outcome of the two tests the researchers analysed all subjects regarding inclusion and exclusion criteria (Table 1). Fourteen subjects in total were eligible: Seven Physiotherapy subjects and seven CAT subjects. Subjects could not be randomly allocated to the different groups. This was mainly due to recruitment restrictions caused by the short-term nature of the pilot study. However, in order to achieve some level of blinding subjects were directed to believe that the only criterion being measured is their particular intervention. Before starting the intervention differences in the two groups were mainly age range and pain medication usage. The age range in

the Physiotherapy group was 27 (SD: 2.9) and 41 (SD: 9.1) in the CAT group. In the Physiotherapy group nobody took pain relieving medication whereas two from the CAT group did so (Table 2).

**Table 1 Inclusion/Exclusion criteria**

Inclusion	Exclusion
History of non-specific CLBP with symptoms persisting for $\geq 3$ month	CLBP due to a specific cause
18 to 65 years old	Unexpected weight loss to rule out possibility of malignant pathologies
Total score $\leq 13$ and $\geq 34$ points on QBPDS	Positive straight leg raising test / Changes in sensibility

**Table 2 Baseline characteristics**

	Physiotherapy group	CAT group
<b>Gender F: M</b>	3:4	3:4
<b>Age range</b>	27 (SD: 2.9)	41 (SD: 9.1)
<b>Pain relieving medication</b>	0	2
<b>Neurological symptoms</b>	0	0

### **Procedure**

Both intervention groups received a 1-hour weekly treatment for four weeks. The duration of treatment was chosen as it is recommended by the Dutch national guideline (KNGF 2003) to refer a patient back to the physician if no improvement occurs after three weeks. In addition to the intervention, subjects were instructed to exercise at home, five days per week. Homework control and evaluation was accomplished by frequent verbal commitment. After the last week of intervention both groups filled in the QBPDS. Outcomes were compared to

the total score from the first measurement to establish the effect on ADL functionality.

### **Physiotherapy intervention**

Physiotherapy subjects were treated individually by the four researchers themselves. Allocation of subjects was done in a randomized manner. A treatment protocol was followed (Appendix A) in order to obtain standardization. The protocol was based on the Dutch national guideline (KNGF, 2003) for patients with non-specific CLBP. As the guideline does not recommend a specific exercise program, rather that all exercises are equally beneficial, the researchers decided for the most modern and frequently used technique based on “core” muscle exercises. These exercises aim to improve the segmental stability of the lower spine and have been identified as more effective than traditional strengthening methods (Kasai, 2006). Recognized core exercises were prescribed along with specific exercises focused on ADL functionality. The protocol concentrated on three main areas: 1. Education – explanation to subjects of “core” muscles (Transverse abdominus & Multifidus - see picture 1 in Appendix A) and activation with palpation; 2. Strength – activation of “core” muscles in specifically loaded postures; 3. Endurance – holding postures for longer periods of time with activation of “core” muscles. A detailed protocol of the Physiotherapy intervention is given in Appendix A.

### **CAT intervention**

CAT<sup>®</sup> is a newly developed therapy by Gert van Leeuwen, owner of the Bharata Yoga center in Amsterdam. After many years of treating subjects with CLBP as well as other spinal pathologies he developed his so called “Critical alignment therapy”. All CAT subjects were treated in groups by three CAT therapists. Group’s size was between 10 and 15 participants consisting of subjects participating in the pilot study and other regular participants. The CAT intervention consists like any other yoga style of relaxation exercises and yoga postures (asanas). However there are three main differences to conventional yoga classes: 1. individual assessment – before the first lesson every patient receives an individual assessment by a CAT therapist; 2. use of a head stand bench – a bench (see picture 2 in Appendix B), developed by Gert van Leeuwen, where the patient is in an inverted position but with the head not touching the ground;



3. use of a wooden bow – a bow (see picture 5 in Appendix B), also developed by Gert van Leeuwen, where the patient experiences extreme spinal extension for several minutes. The detailed protocol of the Critical alignment therapy is given in Appendix B.

**Instruments**

In order to achieve both a baseline, pre and a post intervention measurement the QBPDS was chosen. This scale uses a questionnaire which asks patients to score on a scale of 0 to 5 their level of disability regarding 20 activities of daily life. According to Davidson & Keating (2002, 2004) and Fritz, & Irrgang (2001), the QBPDS is a reliable measurement tool. Other tools are available, however, the QBPDS scale was chosen as it focuses on measurement of functional activities at one point in time.

**Statistical analysis**

The results of the study have been analyzed with the paired samples t-test using SPSS 15.0. The level for significance was set at 0.05.

**Results**

A comparison between the two groups on QBPDS score using independent t-test showed no significant difference ( $p < 0.05$ ) before the interventions were commenced. In table 3 the mean starting and ending scores (pre and post intervention) of both groups on QBPDS are presented and suggest a better result for the Physiotherapy group. However, after statistical analysis the Physiotherapy intervention showed no effect on ADL functionality ( $p > 0.05$ ). In contrast the CAT intervention showed a significant improvement ( $p < 0.05$ ) in ADL functionality after four weeks of treatment.

**Table 3 Starting and ending scores of the QBPDS**

	Starting score		Ending score	
	Mean	SD	Mean	SD
Physiotherapy	22	10	10	7
CAT	23	6	14	6

**Discussion**

Similar research has indicated clear benefits of certain yoga therapies over conventional treatments for subjects with non-specific CLBP (Sherman et al, 2005 and Williams et al, 2005). The results of this pilot study show that, although both show global improvements, there is only a statistically significant improvement in ADL functionality in those subjects who followed the CAT protocol. However, it is important to note that this study faced some restrictions which affect its overall validity; The statistical analysis was conducted on only five subjects in each group, as four subjects dropped out the study. Three of them did not return the QBPDS and one was not willing to continue the intervention. Blinding was restricted to one level by the subjects not knowing that there was comparison between the two interventions. Randomisation of subjects was only possible in the Physiotherapy intervention when assigning subjects to therapists. Furthermore, the CAT intervention was administered in a group setting whereas the Physiotherapy intervention was given on a one-to-one basis. The different setting may have influenced the outcome, as the “team spirit” may add additional benefit. The timescale of the study also led to recruitment issues which resulted in the use of existing CAT patients, which led to a significant age difference between the groups. This difference might be a confounding factor as CAT may be more effective on an elderly population. The fact the CAT subjects were required to pay and the Physiotherapy subjects were not, this may also have increase the CAT subject’s motivation. Finally, the client and the authors’ influence on the interventions questions inter-therapist reliability and also possible conflicts of interest. Although these issues may suggest decreased validity of this study the results still suggests possible benefits on a physiotherapeutic level. The fact that CAT shows a real increase in ADL functionality merits further investigation. Indeed, the use of such tools such as the headstand bench in CAT may offer physiotherapists real benefits but no evidence has been gained thus far to support its efficacy. The researchers suggest that following investigations will held in this topic to support future multidimensional therapy for people with non-specific LBP. In conclusion, this study indicates that four weeks treatment of patients with non-specific CLBP using CAT is more effective than

conventional Physiotherapy with regard to improving ADL functionality.

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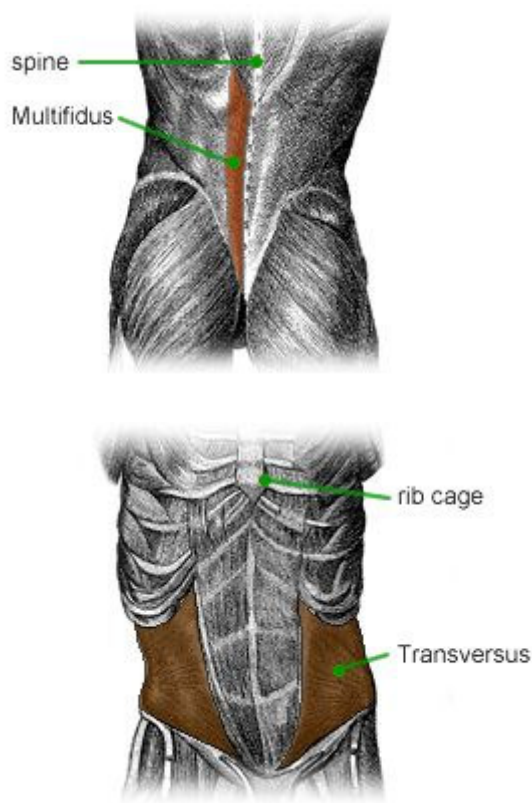
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## Appendix A - Physiotherapy intervention

### Week 1–“Contracting core muscles”

The first week’s treatment is focused on educating the patient regarding the deep “core” muscles which are often under-used in patients with lower back pain. Before more active exercises can be performed the patient first must have control and confidence in activating these important “core” muscles.

There are two main deep (core) stabilising muscles that support the lower back: the Multifidus muscle and the Transversus abdominis muscle.



Picture 1

#### **Stage 1: Education**

The patient is educated regarding the above core muscles in terms of their importance for the prevention of lower back pain.

#### **Stage 2 – Contractions**

Patient lies supine with a neutral spine position and flexed knees. Physiotherapist explains how to contract core muscles with bio-feedback

(palpation). It is important that the patient understands that he/she should contract the core muscles without affecting his/her breathing. The external muscles (rectus abdominus/obliques should remain relaxed).

#### **Patient contact**

1 hour

#### **Home exercises**

Contractions – Patient lies supine and practices contractions while using self-palpation.

#### **Dosage**

3 x 10 contractions 2 x per day 5 days per week

### Week 2 – “Endurance contractions”

The second week of treatment focuses on longer and more controlled contractions of the core muscles. The patient also graduates to contracting his/her core muscles in different positions.

#### **Stage 1 – Education**

The physiotherapist explains the importance of core muscles in regards to posture and endurance.

#### **Stage 2 – Endurance contractions**

Starting in a supine position the patient practices holding the contractions for 10 seconds, then 20 seconds, then 30 seconds until a contraction of up to 5 minutes is possible.

#### **Stage 3 – Endurance contractions in postures and movements**

Once the patient has mastered the contractions over a long time period he/she can practice holding them in postures such as sitting, kneeling, on hands and knees and standing. Further to this the patient can try to hold the contractions throughout ADL movements such as sitting at a computer or getting out of a car.

#### **Patient contact**

1 hour

#### **Home exercises**

Endurance contractions – supine, sitting, kneeling, standing and then in ADL movements.

### **Dosage**

3 x 10 x 1 minute contractions in each position and ADL movement. 1 x per day for 5 days.

### **Week 3 – “Stability contractions”**

The essence of all core muscle training is to increase both endurance and stability in the trunk and spine in order to provide a more stable base for arm and leg movements. Therefore week 3 is to introduce active movements of the arms and legs whilst holding the core in a contracted state. All exercises should be completed in a slow, controlled manner with little movement of the pelvic girdle. Below is a toolkit of exercises to be used by the physiotherapist.

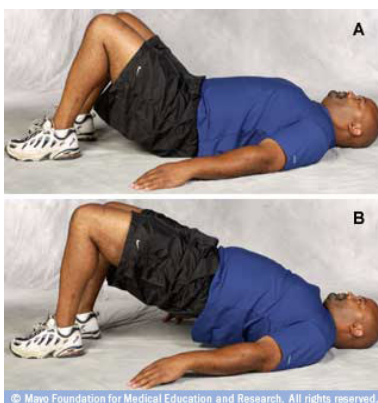
#### **Stage 1 – Education**

The physiotherapist explains the importance of core muscles in regards to trunk/spine stability and arm/leg movements.

#### **Stage 2 – Stability contractions**

##### **Exercise 1 – Bridging**

Patient lies supine with knees flexed and arms by his/her side. Core muscles are contracted simultaneously with gluteal muscles and the patient lifts trunk upwards until spine is in neutral position. The position is held for 3 deep breaths or 10 seconds.



##### **Exercise 2 – Leg Slides**

Patient lies supine with knees flexed and arms by his/her side. Core muscles are contracted and the patient slowly slides one leg along the floor (extension) until the back of the knee is 5cm from

the floor before returning the leg to the previous position. This is repeated using the other leg.

(Picture not available)

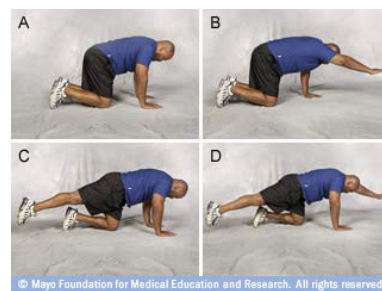
##### **Exercise 3 – Single leg & arm raises**

Patient lies supine with a neutral spine and, after contracting the core muscles, raises one leg so that the knee joint is at 90 degrees. He/she then raises the arm on the same side to touch the knee. Both limbs are then slowly returned to their starting position. This is repeated with the other leg and arm and then, as a next step, opposing leg and arm raises can be tried.



##### **Exercise 4 – “Quadriped”**

Patient is on hands and knees with a neutral spine position. Core muscles are contracted and patient raises right arm to be parallel with the floor. The patient then stretches the arm away from him/her and holds it there for 3 deep breaths. This is repeated for all 4 limbs. The next level is to rise opposite limbs (e.g. right leg and left arm).



##### **Exercise 5 – Segmental rotation**

Patient lies supine with a neutral spine and legs flexed. Core muscles are contracted and the patient slowly rotates his/her legs to the left (A) until a slight stretch is felt. The position is held for 3 deep breaths and then the knees are returned to the starting position. The exercise is then repeated to the right side (B).



### ***Patient contact***

1 hour

### **Home exercises**

The exercises prescribed along with the dosage will depend on the patient's individual capacity to complete the exercises during the one hour contact with the physiotherapist. A dosage example is given below upon which each physiotherapist may base their treatment.

### ***Dosage***

Exercise 1 – Bridging: 3 x 10 second holds 3 x per day x 5 days

Exercise 2 – Leg Slide: 1 set of 10 slides per leg 3 x per day 5 days per week

Exercise 3 - Single Leg & Arm Raises: 1 set 10 raises each side (+ opposite limbs); 3 x per day 5 days per week

Exercise 4 - “Quadriped”: 1 set 10 raises each side (+ opposite limbs); 3 x per day 5 days per week

Exercise 5 – Segmental Rotation: 1 set 10 rotations to each side 3 x per day

### **Week 4 – “Stability contractions & ADL training”**

The final week of treatment will involve continued use of the toolkit of exercises described in Week 3 as well as specific functional training on those ADL movements which have previously given the patient the most problems. For example, if the patient has trouble lifting from floor level, the physiotherapist will educate and assist the patient in breaking down the movement to see how it can be improved or adjusted in order to avoid pain.



## Appendix B - Critical alignment therapy

### Assessment of the spinal issues

In a 30-45 minute intake, Gert van Leeuwen first has a conversation with the client to find out what his/her complaint is, how it occurred and what the daily routine of the client is (e.g. musician, computer work), etc. Then he checks the mobility of the clients back in a sitting position (see picture 1). This already gives 75% of the diagnosis. Finally, by letting the client stand upside down in the headstand bench, it will become clear where the stiffness is located and if the back is willing to move in the stiff area (see picture 2). Then the diagnosis is explained to the patient. It is important that the patient understands how the complaint was caused in the body and in which way this can be improved. Therefore the client gets specific focus points to work on in the therapy classes.



Picture 1



Picture 2

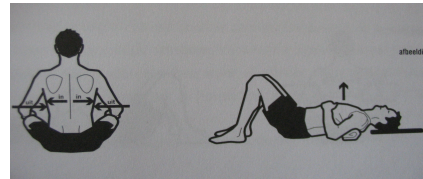
### Duration of classes

Therapy classes last 1 hour. The clients are advised to follow at least one class a week (during 10 weeks). Some people follow more than one class a week. After 10 classes people can choose to continue the Therapy classes or to follow regular yoga classes.

### Exercises/Asanas, sequence and dosage

Every week the Therapy classes have a different theme/focus. One time the focus will be on relaxing and mobilizing the upper back combined with coordination of the neck (putting the neck into place). The other time exercises will be taught to mobilize and strengthen the lower back. 99% of the classes start with an exercise that relaxes and

mobilizes the area beneath the shoulder blades by lying on a thin roll, the head is supported by the black strap. (See picture 3)



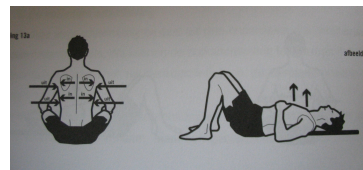
Picture 3

In combination with specific breathing techniques and guidance of the teacher, the client learns to relax target areas and to recognize and alter preferred body postures and movements.

The verbal guidance is related to meditation techniques. This makes the client aware of his body, his breathing pattern and that he is actually doing the exercises. The exercises are performed in a specific order in which the client is being stimulated to do more difficult exercises that build up to a climax. In this way the client is in a 'flow', forgets his daily problems and experiences the class as if it lasted for 20 minutes.

Some other exercises that are given in every therapy class are written below:

Rubber strap in the upper back: relaxation of the upper back and neck



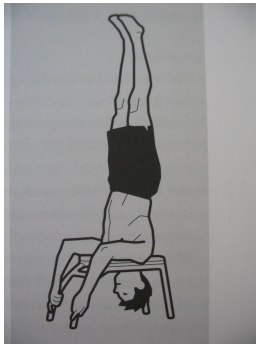
Picture 4

Lying on a wooden bow: exercises performed on the wooden bow are used for mobilization of the upper back, lower back and SI-joint.



Picture 5

Head stand bench: with and without the support of the wooden bow. This exercise relaxes the shoulders and surface muscles of the back. It stabilizes the deep postural muscles of the back.

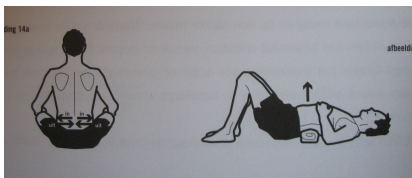


Picture 6b



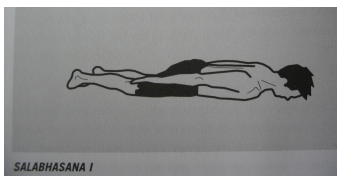
Picture 6b

A thin or thick roll in the lower back: this depends on the type of lower back complaints. The exercise is for relaxation and mobilization of the lower back.



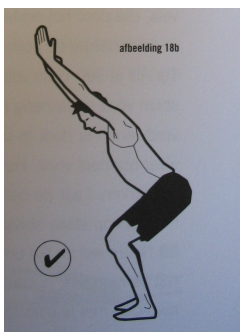
Picture 7

Salabhasana I: Neck coordination exercise



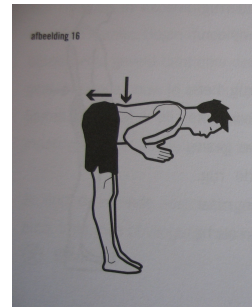
Picture 8

Utkatasana 1: strengthens the (lower) back



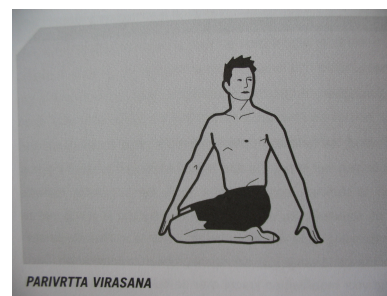
Picture 9

Utkatasana 2: strengthens the (lower) back



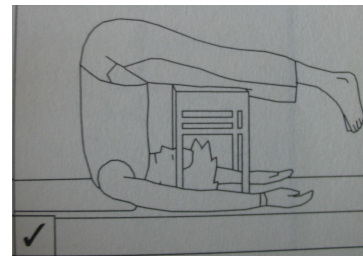
Picture 10

Parivrtta Virasana: torsion of the spinal column.



Picture 11

Halasana: relaxation of shoulders, neck and surface muscles of the back. Strengthen deep postural muscles of the back.



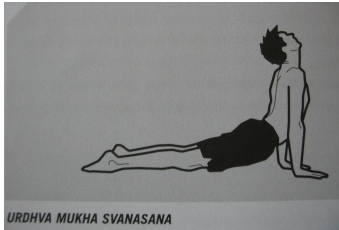
Picture 12

Tadasana III: relaxation and bending of the back



Picture 13

Urdhva mukha svanasana: relaxation and bending of the back



Picture 14

### ***Cognitive approach***

Cognitive approach is woven in the guidance and explanation of the exercises. The guidance of the teacher is very important for the client. This will help/support him how to cope with the pain that he can feel when doing the exercises. If automatic negative thoughts arise by experiencing pain, the client can easily be scared off by the exercise and get more tension in the body, instead of letting go of the tension.

### ***Homework exercise and dosage***

The homework exercises that are very effective and that are quite easy to perform by oneself are stated in the table below:

<b><i>Exercise</i></b>	<b><i>Picture</i></b>	<b><i>Dosage (approx.)</i></b>
Rubber strap for the upper back	4	5-10 min. a day
Thin roll for the upper back	3	5-10 min. a day
Thin/Thick roll for the lower back	7	5-10 min. a day
Neckcoordinationexercise (Salabhasana 1)	8	2 x 2 min. a day
Utkatasana 2	10	Several times during the day
Tadasana 3	13	Several times during the day
Urdhva mukha svanasana	14	3 x 1 min. a day



## **Summery professional asignemnt project**

Hogeschool van Amsterdam, School of Physiotherapy

**From:** Ron Ben Ari, Hadleigh Gillibrand, Laura Herle & Angel Jimenez Cirujano

**Date/year:** 18 January 2008

**Title:** Effectiveness Of Critical Alignment Therapy Versus Conventional Physiotherapy In Treatments Of Patients With Chronic Non-Specific Lower Back Pain

### **Research question:**

"What is the effect of a four weeks treatment of Critical alignment therapy versus conventional Physiotherapy on A.D.L functionality in patients with chronic non-specific low back pain"?

### **Summary:**

Lower back pain (LBP) is a significant socio-economic health problem. 60-90% of the population in the Netherlands will experience lower back pain at least once in their lives. A specific and effective treatment protocol for LBP has been a point of discussion and research for many years. Nowadays alternative treatment methods are receiving more focus and research, however, the level of evidence for their effectiveness is rather limited. This pilot study aims to investigate the effect of a recently developed yoga therapy, Critical alignment therapy (CAT), in comparison to conventional Physiotherapy treatment in patients with non-specific chronic lower back pain (CLBP). The duration of both interventions was four weeks as it is recommended to refer a patient back to the physician if no improvement occurs after three weeks. As outcome measurement the Quebec back pain disability scale (QBPDS) was used as it measures daily life functionality (ADL) - the most limiting factor in patients with CLBP. Fourteen subjects were eligible after recruitment. All filled in the QBPDS before and after the intervention. Results showed that, CAT was more effective in improving ADL functionality than conventional Physiotherapy. However, the authors recommend further research be completed in order that more evidence is gained to support these results.

### **Conclusion:**

This study indicates that four weeks treatment of patients with non-specific chronic lower back pain (CLBP) using Critical alignment therapy (CAT) is more effective than conventional Physiotherapy with regard to improving ADL functionality

### **Recommendations/suggestion for further research/projects:**

The fact that Critical alignment therapy (CAT) shows a real increase in daily life functionality merits further investigation. Indeed, the use of such tools such as the headstand bench in CAT may offer physiotherapists real benefits but no evidence has been gained thus far to support its efficacy. The researches suggest that following investigations will held in this topic to support future multidimensional therapy for people with non-specific lower back pain.