



*Redcord® is the common thread between healthcare and an active life*

Medical – Active – Sport



# Redcord® – Works for Every Body!

Redcord® is the leading provider of solutions for functional enhancing exercise. The solutions will enhance physical functioning and general wellbeing as well as sports performance. Redcord offers high-level competence related to treatment of musculoskeletal pain and neuromuscular dysfunction.

Based on experience from professional applications since 1991 and knowledge from scientific research, Redcord has developed knowledge based solutions for three purposes; Medical, Active and Sport.

**Medical** includes solutions to reduce the suffering of individuals and costs for society due to musculoskeletal pain and neuromuscular dysfunction.

The main user groups are:

- Healthcare professionals treating patients with musculoskeletal pain or neuromuscular dysfunction, e.g. physical therapists, chiropractors and medical doctors
- Patients with musculoskeletal pain or neuromuscular dysfunction, e.g. shoulder, neck, and back pain

**Active** offers solutions accessible to everyone for the maintenance of a high quality of life.

The main user groups are:

- Fitness professionals and other providers of corrective exercise and medical fitness services
- People of all ages who want to participate in an active life

**Sport** consists of functional and practical solutions to maximize performance.

The main user groups are:

- Trainers, coaches, and sport teams seeking performance enhancement and injury prevention
- Athletes at any level who strive to maximize their sport performance

Based on acknowledged principles and a scientific attitude, Redcord develops and delivers solutions consisting of course methods, exercise equipment and business proposals.



# Redcord® is the common thread between healthcare and an active life

Redcord® suspension exercise is effective and useful for anyone who would like to improve their functional level. Redcord is an integrated tool for athletes as well as therapists and patients for medical rehabilitation, functional enhancement exercise, injury prevention and performance training.

## Pain relief and improved physical function



### Medical

Neurac (NEURomuscular ACTivation) is our unique method for treatment of musculoskeletal and neuromuscular disorders. Neurac consists of tailored exercises and techniques utilizing the Redcord Workstation.

#### Neurac aims to:

- Reduce aches and pains
- Optimize neuromuscular control and muscle coordination
- Restore full range of motion and functional movement patterns

## Participate in an active life



### Active

Redcord Active is our solution developed for the active segment. This method applies high effort without the need for high mechanical load, using key biomechanical principles to optimally enhance muscle activation and function.

#### Redcord Active focuses on:

- Integrate local and global muscles
- Improve core control
- Enhance balance, flexibility and functional strength

## Improve your performance



### Sport

Redcord Sport is our solution developed to enhance performance. It consists of challenging three-dimensional exercises which directly prevent injuries and enhance athletic performance.

#### Redcord Sport enhances:

- Functional strength and core stability
- Coordination and movement control
- Rotational power

# Neurac® – Pain relief and improved physical function

Neurac® (**NEUR**omuscular **AC**tivation) is our innovative treatment method with standardized testing procedures. The method is developed in the field of therapeutic exercise in combination with suspension therapy. Neurac is based on acknowledged scientific principles and can be integrated in any evidence based practice. The method is focusing on optimized neuromuscular control for patients with long-term musculoskeletal disorders. It is also suitable for a variety of neurological disorders as well as postoperative rehabilitation.

## Definition of Neurac

Neurac is a treatment method which through high levels of neuromuscular stimulation aims to restore functional movement patterns.

- Optimize neuromuscular control
- Restore normal range of motion
- Reduce or eliminate pain

## Neurac treatment has four main elements:

### 1. Suspension exercise

- Closed kinetic chain (body-weight-bearing exercises)
- Unsteadiness, controlled instability provided by the ropes and slings

### 2. Perturbation

- Perturbing the ropes and slings manually to increase unsteadiness
- Controlled vibration applied by Redcord Stimula \*

### 3. Workload

- Precise grading of the exercise
- Neuromuscular challenge gradually increased

### 4. Pain free approach

- No provocation of pain
- Alternatively no increase of existing pain



Neurac treatment

\* Information about Redcord Stimula at page 10

# Neurac® - Testing for best practice results

Neurac® testing is developed as an assessment tool to screen patients for weak links in function and muscle interaction.

## Neurac testing

Neurac Testing screens the body for painful movements, neuromuscular dysfunctions and imbalances. Dysfunctions in the biomechanical system are referred to as Weak links, and are perceived as the underlying cause of the problem. Neurac treatment corrects these dysfunctions by stimulating neuromuscular control in order to regain functional movement patterns.

An important element of neurac testing procedure is to identify weak links.

## Weak link

A weak link is a deficit within the biomechanical chain that produces dysfunction in the musculo-skeletal system. The cause of the deficit can be related to:

- The osteoligamentous subsystem
- The muscular subsystem
- The neural subsystem
- The interaction between the subsystems

## Neurac motor control tests

The focus is on the deep stabilizing system. The test localizes low isometric contraction within the neutral zone.

## Neurac myofascial chain tests

Neurac myofascial chain tests evaluate movement quality and function.

Each test has 5 standardized levels of difficulty, and to pass a level the test should be performed without provoking pain.

### Neurac testing (Myofascial chains)



Prone bridging



Supine pelvis lift



Side-lying bridging

# Neurac® education program

Redcord® provides a specially designed education program for therapists, doctors and health professionals working with musculoskeletal disorders.

The education program is based on many years of research, innovative development and clinical experience.

Neurac treatment has been developed with the input from medical and therapy professionals in collaboration with an international network of researchers and clinicians.



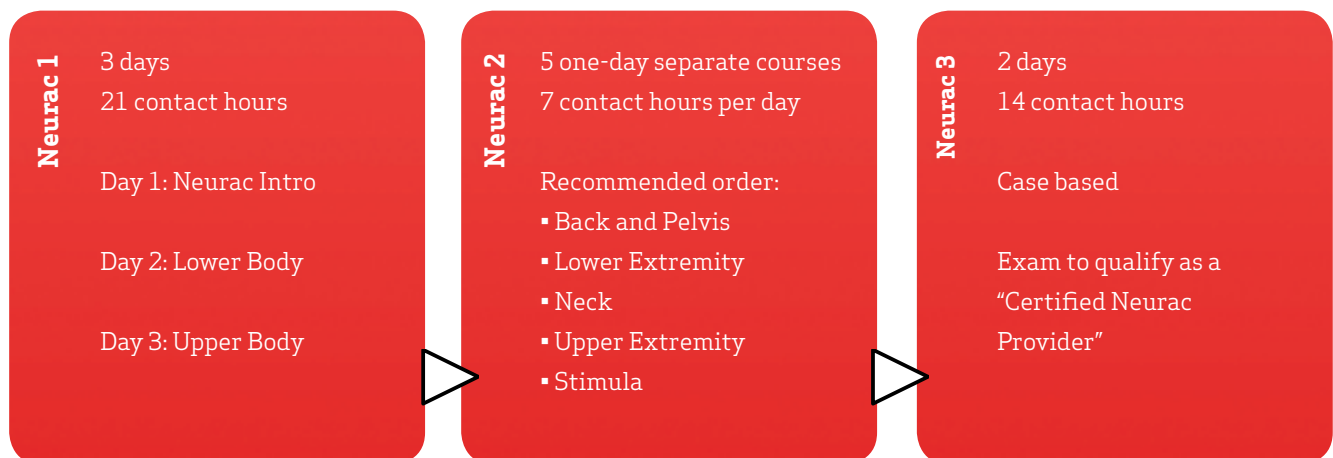
Neurac treatment



Neurac courses for therapists

## Let our knowledge be your security - Neurac courses for therapists

Knowledge is one of Redcord's key advantages. For more than 20 years Redcord has developed treatment and training techniques, and arranged courses for therapists and fitness instructors. All courses are founded on scientific principles.



# The Redcord® Workstation Professional

The ONLY solution for Neurac® treatment - Redcord® Workstation Professional.

An unlimited number of positions including full body suspension are made available by the sliding suspension system.

The full range of suspension exercise progressions, Neurac testing, and treatment, can be easily administered by the therapist and safely performed by the user.

## Benefits

- Easy Neurac testing and treatment
- Secure suspension for comfortable and effective management of pain
- Easy to get the appropriate biomechanical positions with elastic cords
- Quick adjustments of ropes, slings and elastics
- Full range of suspension exercise progressions
- Adaptable to all patients
- Freedom of movement in the ropes
- Easier to perform manual techniques



Redcord Workstation Professional is a comprehensive package including, the sliding suspension system, Redcord Trainers, and a selection of elastic cords, slings and ropes.

More information about equipment solutions at: [www.redcord.com](http://www.redcord.com)

## Solutions for several purposes

Our solutions are developed for Neurac treatment, group and home training.



Neurac treatment with Redcord Workstation Professional



Group training with Redcord Trainer (company prevention)



Home training with Redcord Mini

# Active – Participate in an active life

Active is designed for medical fitness, injury prevention, overall wellness, home and portable training.

Redcord suspension exercises are effective and useful for anyone who would like to improve their daily function. The exercises are used by therapists, and ordinary people world wide for rehabilitation, functional activity and injury prevention.

You can offer your customers exactly what they expect – highly skilled services with medical background.

- Excellent work out for everybody, regardless of age, ambition or skill.
- Time efficient – better results in less time!
- Easy to adjust to your level



Redcord corrective exercise – according to the biomechanical requirements.



## Let our knowledge be your security - Redcord Active course program

Redcord has developed a unique course program for personal trainers, pilates instructors and others who work with wellness and fitness - for individual training or small groups. All courses are founded on scientific principles.

### Active Introduction

1 day  
7 contact hours

The basic principles of Redcord suspension exercise

### Active Advanced

2 one-day courses  
7 contact hours per day

- Corrective Exercise
- Multi-suspension Exercise

### Active Pro

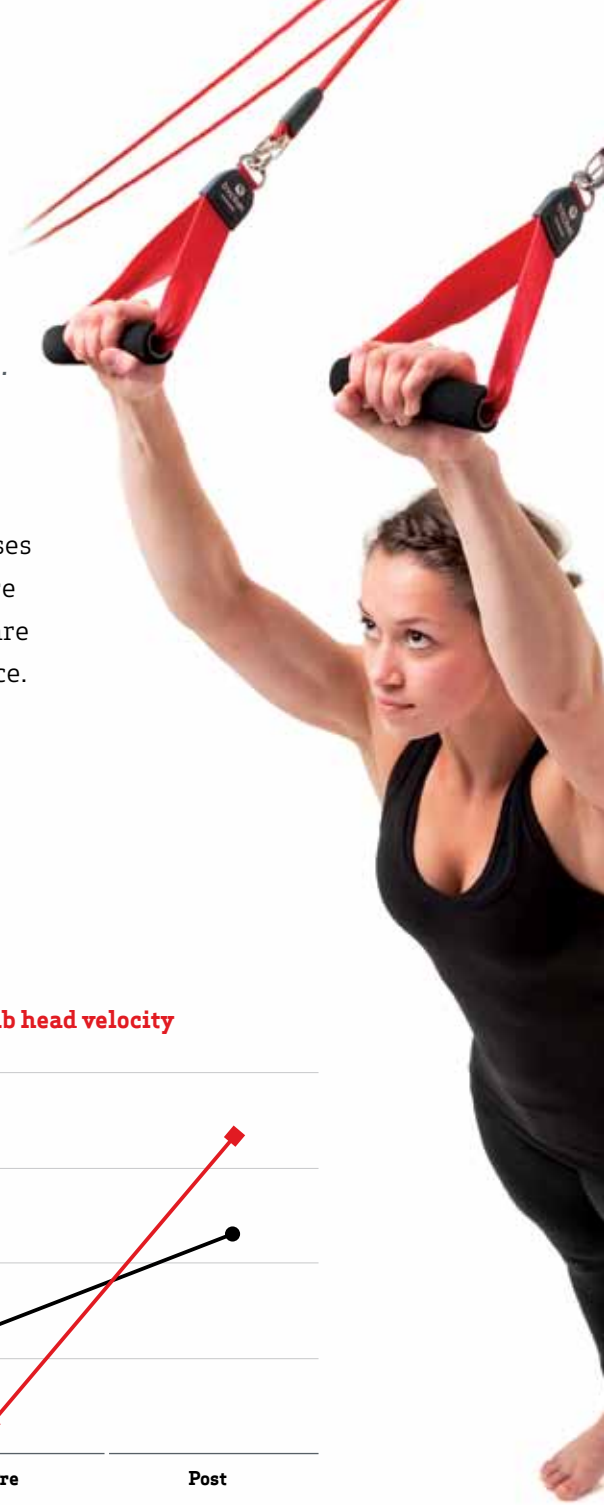
2 days  
14 contact hours

Personal exercise plans  
Exam to qualify as a "Redcord Active Specialist"



# Sport – Improve your performance

Sport is developed for trainers, coaches and athletes who seeks to enhance performance and prevent injuries.



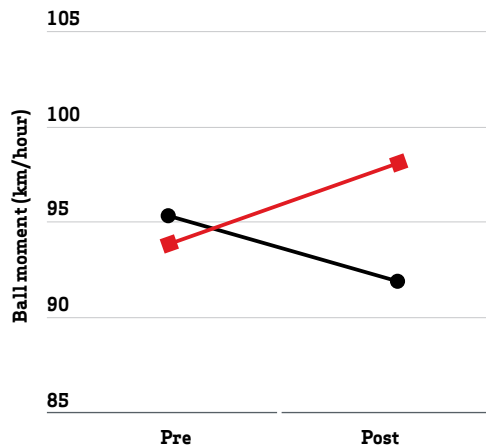
Redcord Sport involves exercises with three-dimensional movements where bodyweight is used as resistance. The exercises promote functional strength and rotational power as well as core stability, coordination and movement control. The movements are natural and have a high carry-over effect to athletic performance.



New studies confirm that sling exercise training provides better results than conventional training and increases sport performance directly.

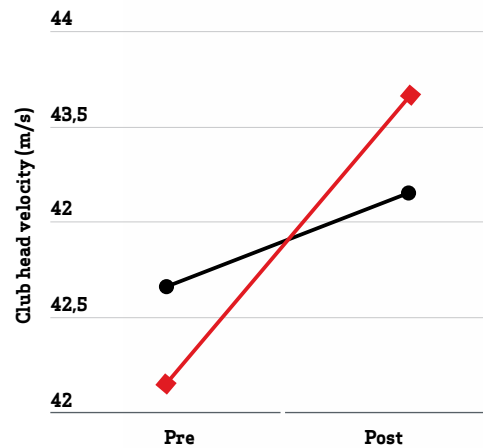


## Soccer study | Kicking velocity



Stray Pedersen J.I, Magnussen R, Kuffel E, Seiler S: Sling Exercise Training improves balance, kicking velocity and torso stabilization strength in elite soccer players. *Medicine & Science in Sport & Exercise* 38(5):S243, 2006

## Golf study | Club head velocity



Seiler S, Skaanes P.T, Kirkesola G: Effects of Sling Exercise Training on maximal clubhead velocity in junior golfers. *Medicine & Science in Sports & Exercise* 38(5):S286, 2006

— Redcord Sport training  
● Standard training



Sport activities

# Research and development

Neurac® is a highly effective method for treatment of musculoskeletal and neuromuscular ailments. The method has been developed over many years in collaboration with an international network of researchers and clinicians. At our Redcord® clinic in Norway and with our network of researchers worldwide we work continuously to further improve clinical outcome of Neurac treatment.

Studies have shown that pain and/or inactivity cause the nervous system to alter normal neuromuscular patterns. The altered patterns impair musculoskeletal function, which provokes further pain. Neurac restores impaired muscular coordination patterns, often provides immediate relief from acute and chronic pain, and thus improves physical function.

### Vibration with Redcord Stimula

Redcord Stimula enables controlled vibrations (frequency, applied energy level, vibration pattern and time) that is applied locally in closed kinetic chain. This is done through special techniques and positions using Redcord equipment.



The equipment is a result of several years' development, systematical clinical testing and re-testing.

### Augmented effects with vibration:

#### Proprioception

Vibration particularly triggers muscle spindles, which is the most important mechanoreceptor for kinesthesia. Optimal frequency is 80 – 100Hz.

#### Muscle activation

Vibration triggers excitability, rate coding, and synchronization of motor units. Optimal frequency is 30 – 50 Hz.

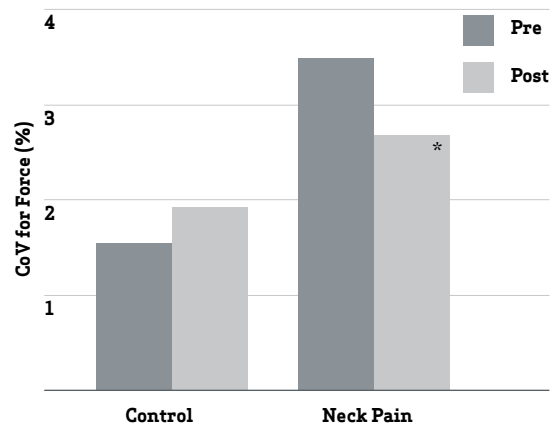
#### Antagonist co-contraction

Via spinal reflexes vibration triggers increased co-contraction of antagonists.

#### Pain relief

Vibration is used as an anesthetic tool. Effects are probably both related to central and “gate control” mechanisms. Optimal frequency is 50 – 150 Hz.

### Research on neck pain patients



\* statistical significant improvement in force steadiness for neck pain subjects after one session of vibration with Redcord Stimula  
In conclusion, women with neck pain have reduced force steadiness, likely due to alterations in Ia afferent input. Vibration, which modulates Ia afferent input, increases force steadiness in patients with neck pain. Muceli S, Farina D, Kirkesola G, Katch F, Falla D: Reduced force steadiness in women with neck pain and the effect of short term vibration. J Electromyogr Kinesiol 2010;21(2):283-90

## **Redcord® Clinic – Practice for best results**

*Our Redcord® Clinic serves as a center of excellence for the Neurac® method in the international Neurac community. New techniques and procedures are continuously developed and standardized to improve the Neurac method.*

At Redcord Clinic the therapists use the Neurac method to assess and treat patients with musculoskeletal pain and neuromuscular disorders. The results are particularly good for conditions such as:

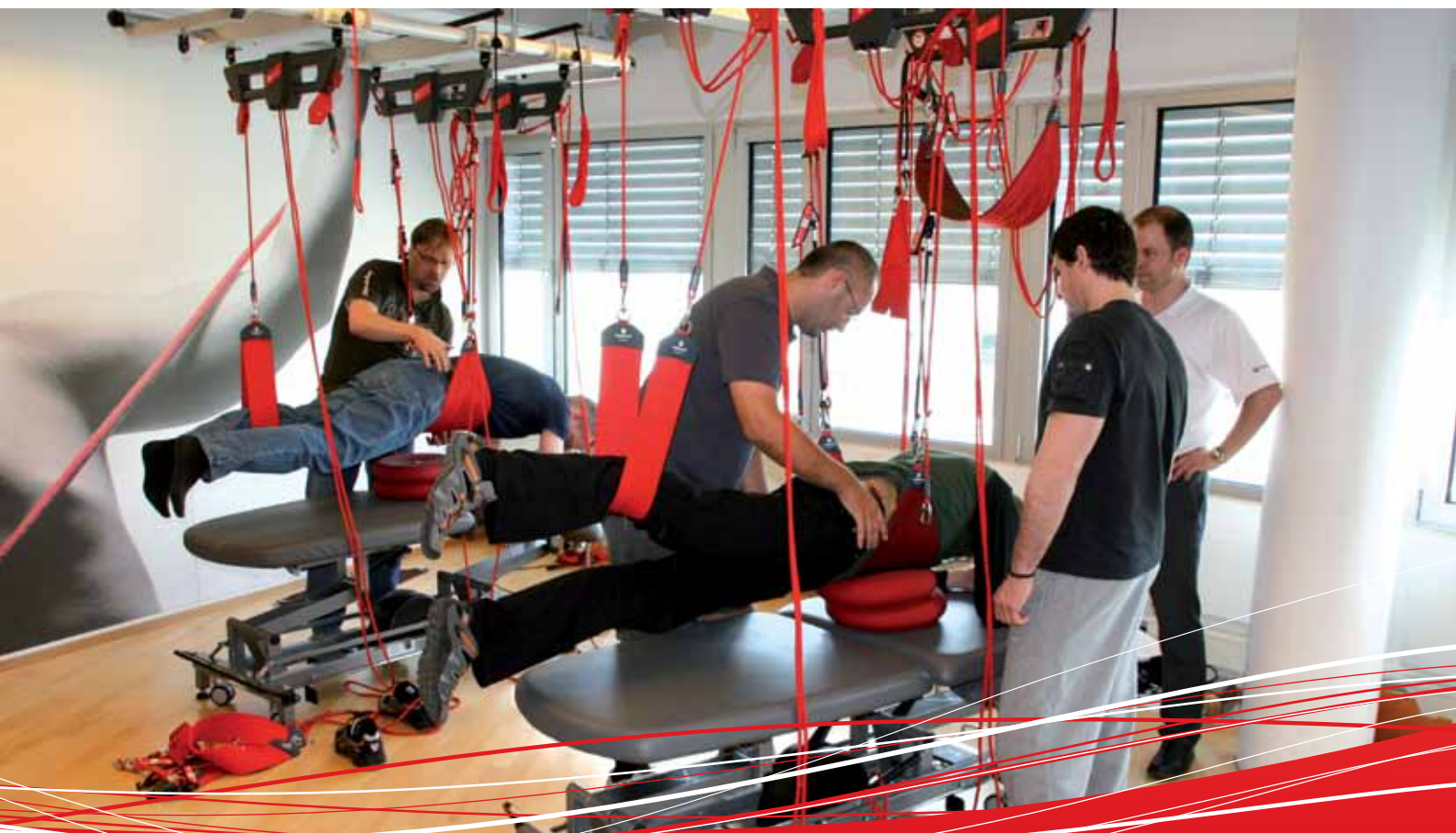
- Low back and pelvic pain
- Neck disorders (e.g. whiplash, neck pain with headache)
- Shoulder and arm dysfunctions (e.g. impingement, shoulder instability, tennis elbow)
- Lower extremity disorders (e.g. arthritis and patellofemoral pain)

### **Systematic evaluation of treatment responses**

An individualized treatment plan is developed for the patients based on the treatment response from the first three consultations.

Long term follow up, including exercise programs, is emphasized. The treatment outcome is systematically monitored with validated patient forms. Our clinical experience is transferred into our education programs.

The Redcord clinic offer services to companies for company prevention, as well as treatment and group training at the workplace.



# Works for Every Body!



[www.redcord.com](http://www.redcord.com)

