

EFFECTS OF AMINO NEURO FREQUENCY SPORTS PRO (ANF Sports Pro) ON MOTORIC AND FUNCTIONAL ABILITIES IMPROVEMENT OF ELITE LEVEL ALPINE SKIER – CASE REPORT

Mikel H-G Hoff ¹, Edin Krupalija²

1. ANF Academy · Calle de Las Adelfas 5 · Nueva Andalucia · 29660 Marbella, Spain
2. Udruženje za tretman boli i rehabilitaciju Doktor Fizikal, Sarajevo

Summary:

Amino Neuro Frequency Sports Pro (ANF Sports Pro) is a part of Amino Neuro Frequency therapy, nowadays classified as a frequency medicine. ANF Sports Pro is a specific concept intended for trainers, physiotherapists and doctors working with professional and Semi Pro athletes.

RESEARCH GOAL is to determine the effects of ANF Sports Pro treatment on motoric and functional abilities improvement of alpine skier Marko Sljivic, and to point out the involvement of the nerve system in controlling the performance process in sports by creating the oscillation stability using ANF Sports Pro treatment with neurological frequency specified for different neurological functions.

SUBJECT SAMPLE is BIH representative in alpine skiing, Marko Sljivic, aged 24, height 181 cm, weight 77 kg.

VARIABLES SAMPLE consists of different motoric and functional abilities tests: vertical jump (Sargent), standing long jump, straight bar standing biceps curl, pull up endurance, supinated grip pull up, maximum attempt of a push-up. Assessment of functional abilities was performed by BEEP test, 1 maximum attempt. As necessary for this research and matching the participant needs, a shortened ANF Sports Pro questionnaire was made, containing 38 questions.

RESULTS: Results of shortened ANF Sports Pro questionnaire show that, after conducted treatment with ANF Sports Pro discs, subjective feeling of Marko Sljivic is improved in variable segments: „Are you feeling tired?“, „Do you have any complaints on your muscles and joints?“, „Do you feel slightly increased pulse?“, „Do you feel the chest pressure?“, „Do you feel mentally tired?“, „Urine after the competition/training is dark, yellow/brown?“, „Do you feel pain in muscle/muscles after the competition?“, „Do you feel pain in muscle/muscles after the training?“. Results between initial and final measurement in certain motoric abilities show that there has been an improvement in tests: vertical high jump, long jump, dead hang with bent elbows, load endurance, pushups, beep test - passed levels, beep test - distance traveled, beep test - VO2max. At bar pull-ups test, the participant remained at the same level.

CONCLUSION: ANF Sports Pro concept shows in practice that there has been certain changes regarding athlete's condition, and most importantly, there has not been any negative effects. ANF Sports Pro, in addition to the athlete's sports performance, also has a positive effect on the athlete's health.

Key words: Amino Neuro Frequency Sports Pro, ANF Sports Pro, Beep test, improvement, transformation, sport.

1. INTRODUCTION

ANF Sports Pro is a specific concept intended for professional athletes, trainers, physiotherapists and doctors working in sports. Concept originates from Amino Neuro Frequency Therapy (ANF therapy). ANF has become the top choice of pioneer therapists and physiotherapists (1), as well as doctor's worldwide who prefer the non-chemical, holistic treatments with instant results (2). Research is based on ANF Sports Pro discs program and assorted motoric and functional abilities tests, in short: ANF

Sports Pro questionnaire containing 38 questions and variables for functional abilities assessment BEEP test (3-7). Usage of high tech achievements has been affecting the results in amateur and professional sports for a long time. There are many researches on how the amateur sport, and especially professional one, does not guarantee the athletes' good health. In some countries, sport is a symbol of national strength, as in the others, it is a business. Aspiring to the top sports results, sports science is working on improvement of sport training and nutrition technology, by shortening the rest period between two trainings so that athlete could recover fast and do the next training with increased intensity comparing to the previous one, without injuries or overstrain. However, because of the pressure imposed on trainers and athletes by club management, public, fans, etc., training periodization is not complied and recovery period is shortened while the training intensity is increased, which leads to pathological changes in athletes organism. Pathological changes such as micro traumas or ruptures of musculoskeletal system can occur as an aftereffect of physiological or biochemical overstrain (8). As possible causes of heart fatigue origin are enlisted: the transient ischemia with heart muscle micro damages, metabolic abnormalities (high concentration of free fatty acid in blood), oxidative stress, changes in calcium metabolism and long lasting tachycardia during exercising (9, 10). Hematological changes caused by the intensive trainings are coming from hemoglobin key role in oxygen transport by blood and thus the determination of cardio respiratory endurance (11). High intensity training activity itself with inflammatory stress may influence the erythrocyte fragility. The iron deficiency in blood of athletes is the most studied theme in sports hematology. Although it may occur in all sports, most commonly is described in endurance sports, especially with runners. Causes of iron deficiency, with or without associated anemia, are blood loss (menstrual bleeding, bleeding from urinary or digestive system, especially after long lasting competitions or aerobic endurance trainings, sweating) and/or insufficient dietary intake (12). When referring to neuroendocrine system, some changes related to overload and overtraining, like the changes of emotional status, sleeping disorders and hormonal regulation disorders, show the existing changes in coordinative function of hypothalamus in its endocrine axis - pituitary gland targeted endocrine gland (13). Hypothalamus has a central role in integration of the whole network of hormonal functions and cytokine that are participating in metabolism regulation, providing the necessary energy and adaption of training load. Hypothalamus is an integrator of peripheral signals and has an important role in central responses regulation to stress and training (14). Acute aftereffect of hormonal and biochemical changes, caused by the long term, intensive endurance trainings, is suppressed function of many immune components. For example, during multiple hours recovery from long-term intensive endurance training, decrease in leukocyte count, activity of natural killer cells, function of T and B lymphocytes, neutrophils and immunoglobulin concentrations A (IgA) in saliva might be recorded (15, 16). Patellar tendinitis (jumping knee) may develop with athletes that are exercising explosive movements of lower extremities (17). During past centuries, scientists and researchers were studying nerve system oscillations. One of the main issues they faced was how to repair and re-establish the optimal oscillations once they are weakened or damaged. Healthy nerve system and its optimal oscillations might guarantee the good health (19).

2. MECHANISAM OF ANF SPORTS PRO DISC ACTION

Mechanism of ANF Sports Pro discs works as follows: It is widely known that nerve system manages human body and that all functions of human body are controlled by frequencies. However, if any neurological part has a weakness like inflammatory process, it damages the perfect oscillation. Every single part of the body functions requires the perfect oscillations in order to optimize its function. How do neurons oscillate? Human body has more than 15 million different chemical frequencies, which occur when neurons create fusions with different cells like hormones, blood cells, tissue cells, organ cells (each cell has a completely negative or positive charge) and all of them create function at the end. If, from any biochemical reason, some of these cells are not present or are damaged (since perfect

oscillation is not appearing because of foregoing reasons), weakness will be encountered. ANF works with more than 230 different discs that are programmed with neurological frequencies assigned to specific functions. Discs are emitting the correction frequency thus helping to correct the weakened frequencies. Disc frequency aims to target from neuron nerve system that will almost immediately start to copy this frequency in order to help normalize damaged or weakened signal. To be able to do so, neuron has to establish the connection to different cells available in that area as soon as possible, so it can normalize the oscillation and create perfectly strong junctions. ANF therapy was invented by Dr. Mikel H-G Hoff (2012. and ANF Sports Pro 2016.). Now, there are more than 30 different ANF Sports Pro discs, each with its own unique specifications and functions. Combining different discs, all bodily functions (nerves, muscles, organs, lymphatic system and hormones) can be approached to help achieve a better health and well-being. ANF disc is a small disc compiled of special material (developed by NASA) and rare carbonized metal. After complex procedure, this thin metal disc layer has an exact quantity of pure carbonized metal for frequency constancy. This combination enables the disc to be charged with frequencies, and it sends and receives the frequencies to/from the body as well. Discs can be charged with different oscillations, wave speed and shape, aiming the different neurons, cells and organs. This therapy does not have any negative side effects nor does it contain any chemical or organic substances. It might be applicable to all ages following a well designed ANFSports Pro performance and recovery plan. The body is already using these frequencies to function, discs are only amplifying them. By doing so, bodily functions are starting again to function normally or strengthen and/or normalize. ANF Sports Pro is a new approach for achieving athlete's top performances and for rapid and quality recovery.

Research goal was to determine the effects of ANF Sports Pro treatment on motoric and functional abilities improvement of elite Alpine skier Marko Slijivic, and to point out the nerve system involvement in the performance control process in sports, by creating the stability in oscillation using the ANF Sports Pro application with neurological frequencies that are specified for different neurological functions.

3. WORK METHODS

Subjects sample

Subjects sample in this experimental research presenting the case report, is elite level skier Marko Slijivic, aged 24, height 181 cm, weight 77 kg. He represented Bosnia and Herzegovina on Winter Olympic games in Innsbruck 2012. and he is a candidate for WOG 2022. in Beijing.

Variables sample

for motoric abilities assessment: explosive strength, static strength, repetitive strength, and one functional abilities test. Two variables for explosive strength assessment: vertical high jump – Sargent (20) and long jump from place. Two variables for static strength assessment: dead hang with bent elbows and load endurance. Two variables for repetitive strength assessment: pull up bar and pushups (21). One variable for functional abilities assessment is BEEP test (22). Two variables that are assessing the vital signs: blood pressure in 3 consecutive measurements when lying down and pulse in 3 consecutive measurements also lying down. One variable is assessing the condition stability and it is oxygen saturation measured by pulse oximeter – SpO2 (23). participant fulfilled the shortened ANF Sports Pro questionnaire during initial and final measurement, which consists of:

USUALLY BEFORE COMPETITION/TRAINING: Do you have sleeping problems? Do you feel stress/anxiety? Do you feel tired? Do you have any complaints on your muscles and joints? Was your urine dark, yellow/brown before competition/training?

USUALLY DURING COMPETITION/TRAINING: Do you feel slightly accelerated pulse? Do you feel chest pressure? Do you have accelerated breathing/hyperventilation? Do you feel mentally tired? Do you feel stress/anxiety? Do you have negative thoughts? Do you feel muscle(s) cramps?

USUALLY AFTER COMPETITION/TRAINING: Was your urine dark, yellow/brown after competition/training? Do you have sleeping problems? Do you feel muscle(s) pains after the competition? Do you feel muscle(s) pains after the training? Does your recovery takes long? Does your emotional recovery takes long?

HOW WOULD YOU RATE YOUR cardiovascular endurance, strength endurance, speed, anaerobic capacity, agility, balance?

WHICH SYMPTOMS DESCRIBE BEST YOUR PSYCHO-PHYSICAL CONDITION AFTER INITIAL AND FINAL TEST? Heart palpitation (skipping a beat), short breath, hyperventilation (accelerated breathing), troubles breathing, dizziness, chest pain, foggy brain, lack of concentration, aches in tibias muscles, aches in hamstring muscles, aches in lower back muscles.

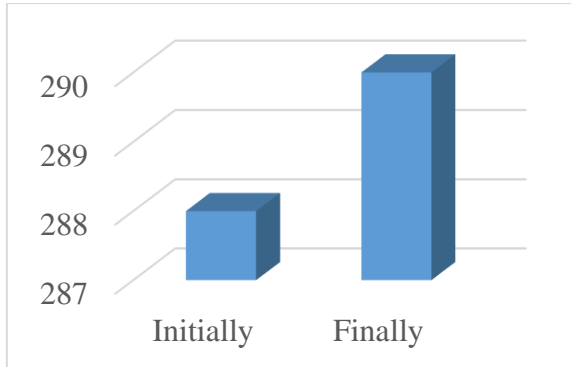
4. WAYS OF COLLECTING DATA

Had to be in good sport shape and good health condition, which is important to emphasize, since maximum test were applied. Program was implemented during Monday-Friday period, making one competitive micro cycle. Both testing started at 13:00 and room temperature was 21°. Schedule was as follows: two days before initial testing (Saturday and Sunday) he had two races at FIS (18) cup, first day of testing was a day off (Monday), afterwards he had three days of racing in a row (one race per day), NJC and FIS (Tuesday, Wednesday and Thursday). The day after was a day off when we conducted the final testing (Friday). Meaning, he did not have any days off from 23rd to 29th January, but every day contained activities with maximum intensity (competitions and testing). Testing contained 7 variables and shortened ANF Sports Pro questionnaire in total. From Monday to Friday, the same protocol was applied, but on Wednesday, first protocol Performance 1 containing 57 discs was removed, and second protocol Performance 2 containing 44 discs was applied. Participant was taking necessary minimum of 4 l of water per day from Monday to Friday. Using shortened ANF Sports Pro questionnaire containing 38 questions, the participant submitted his opinion on his health condition in initial and final questionnaire.

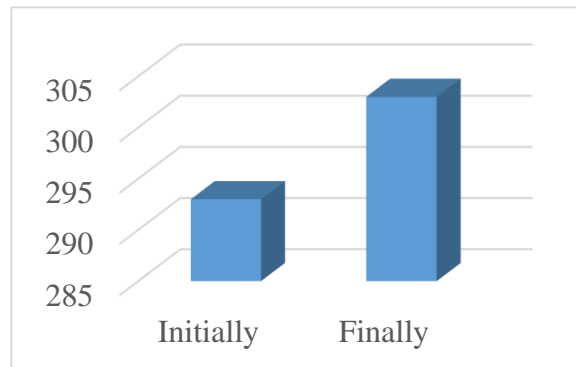
5. RESULTS

Results of shortened ANF Sports Pro questionnaire shows that after the conducted treatment with ANF Sports Pro discs, subjective feeling of Marko Slijivc in segment – usually before competition/training, has changed in variables „Do you feel tired?“ and „Do you have any complaints on your muscles and joints?“ from statement sometimes to statement never. In ANF Sports Pro shortened questionnaire segment referring to subjective assessment – usually during competition/training, there was a change in variables „Do you feel slightly accelerated pulse?“ and „Do you feel chest pressure?“ from statement never to statement sometimes, and in variable „Do you feel mentally tired?“ from sometimes to never. In five days of treatment application, the participant stated that in segment Usually after competition/training, in variable “Was your urine dark, yellow/brown after competition/training?”, statement changed from sometimes to never; in variables „Do you feel muscle(s) pains after the competition?“ and „Do you feel muscle(s) pains after the training?“ statement changed from sometimes to never. Regarding the individual assessment of motoric and functional abilities quality, the participant felt the change with cardiovascular endurance, which was rated with average value on initial measurement and with strong value in final measurement. Participant feels the presence of hyperventilation (accelerated breathing) during both initial and final measurements, while the feeling of heavy breathing that was present during initial testing, was gone in final measurement. Results between initial and final measurement regarding certain motoric abilities showed that there was an increase in tests: vertical high jump, long jump, dead hang with bent elbows, load endurance, beep test - passed levels, beep test - distance traveled, beep test - VO2max. In test pull up bar, the participant remained at the same level. The average blood pressure value during initial measurement was 142/67, and during final measurement was 139/74. Measurements of SpO2 showed the increase from initial 97% to the final 99%. The average value of pulse during initial measurement was 60 beats

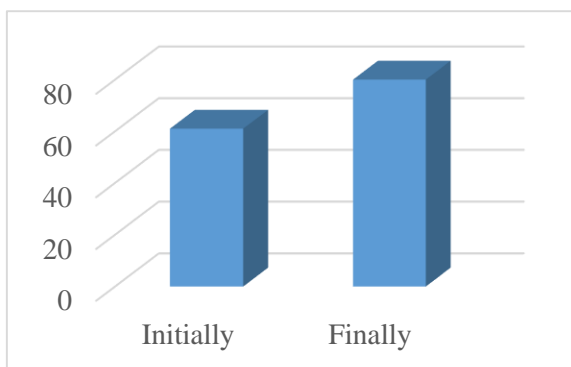
per minute, while during final measurement, heart beats decreased to the average value of 48 beats per minute. As you may notice, the value of O2 saturation increased for 2% and pulse value for 12 beats per minute.



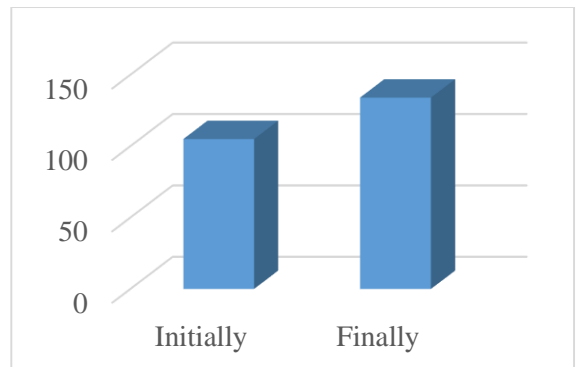
Graph 1. Vertical high jump



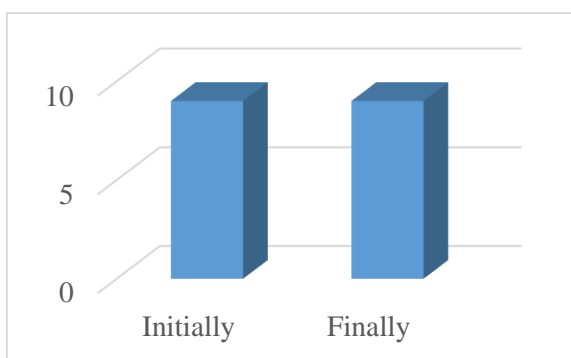
Graph 2. Long jump from place



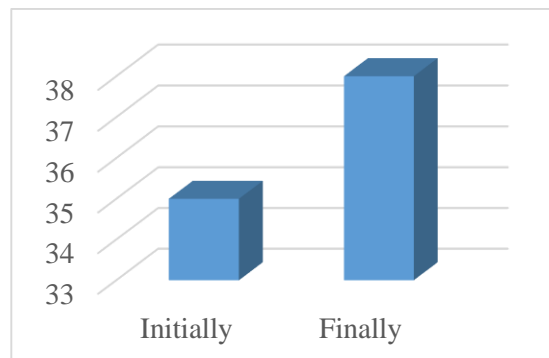
Graph 3. Dead hang with bent elbows



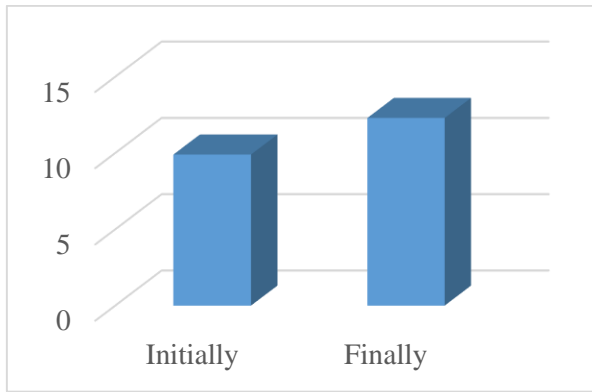
Graph 4. Load endurance



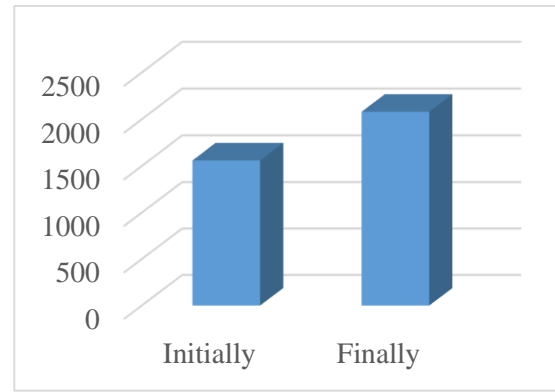
Graph 5. Pull up bar



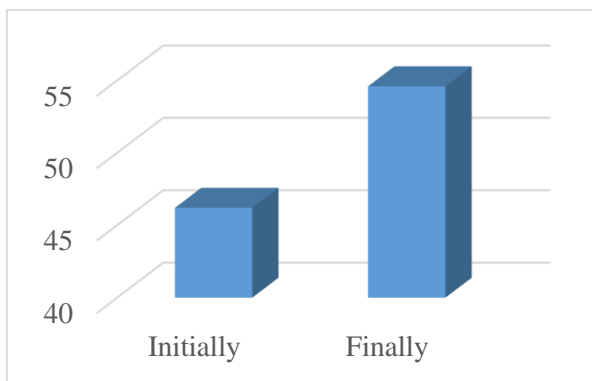
Graph 6. Pushups



Graph 7. Beep test - passed levels



Graph 8. Beep test - distance traveled



Graph 9. Beep VO2max

6. DISCUSSION

Results are showing us that there has been some changes in some motoric tests and in subjects' subjective assessment based on ANF Sports Pro questionnaire, which further shows that the goal of this research has been fulfilled: determining the effects of ANF Sports Pro treatment on motoric and functional abilities improvement of elite skier Marko Sljivic, and pointing out the nerve system involvement in the performance control process in sports, by creating the stability in oscillation using ANF Sports Pro treatment with neurological frequencies specified for different neurological functions. Blood pressure did not change significantly, but pulse value decreased by 12 beats per minute. Measurements of SpO2 showed the increase from initial 97% to the final 99%, as well as the pulse from initial 60 to final 48, where the O2 saturation value increased for 2%. The highest improvement was achieved in beep test because the running length increased for 520 meters without breathing difficulties present. Regarding results of shortened ANF Sports Pro questionnaire, subject's subjective feeling in improved segments confirmed the nerve system involvement in control of all sports performances, including the subjects subjective feeling. Urine has changed its color after consumption of 4 l of water per day and became transparent, which tells us that participant did not took enough care about his body hydration, that may, on the other side, reflect his performances at the end. Brownstein and sur. (24) state that neuromuscular fatigue takes 48-72 hours to recover, while the glycogen level after one match and after 48 hours' time is still decreased by 50% which brings us to significant deterioration of work, motoric and functional abilities. This research shows that after 7 days (from 23.01.2021 to 31.01.2021.) consecutively (4 races and 2 testing with maximum intensity) and without single day off, instead of work abilities deterioration, a significant improvement of motoric

and functional abilities was achieved with the help of ANF Sports Pro discs and to a great extent. It should be mentioned that, two days before the initial testing, participant was rated 2nd place at the competition and he was even disqualified a day before the testing, while the first day after the final testing at the competition, when he was supposed to be most tired, he won the 1st place. Results of Taylor and sur research in the explosive strength area gave positive results only after 8 to 12 weeks, so did Daussin and sur in VO2max improvement after 8 to 12 weeks (25, 26), whilst in this research, thanks to ANF Sports Pro discs, those results were achieved after 5 days (from 25.01.2021. to 29.01.2021.). Both performance protocols have holistic impact to the organism, rather than partial, which means that they did not interact the isolated arm muscles group and probably that is the reason why there was no improvement in repetitive strength, since it is necessary to interact certain muscles groups which activate by doing pushups and pull up bar, e.g. partially. There also exists an assumption that during skiing, arms are not engaged as much in order to develop the repetitive strength after 5 days activity, but it is necessary to do the aimed arm exercises in the gym. As human body has several different energies (thermal, kinetic, potential, mechanical, cellular, etc.), implementing holistic activity with protocols Performance1 and Performance2 increased the energy while optimizing all previously mentioned energetic potentials and therefore accelerating athlete's recovery. That is the reason for changes in ANF Sports Pro questionnaire as well as in individual motoric tests. There is a big number of protocols for sports performances improvement in ANF Sports Pro concept, without side effects reflecting athlete's health.

7. CONCLUSION

Based on obtained study results of Alpen skier Marko Slijivic case, there were certain changes using the ANF Sports Pro method, so it might be recommended for this method to have active usage in Alpen skiing as well as in other sports with demanding increase of motoric performances, especially of functional abilities over longer periods, since it showed that there were no negative side effects reflecting athlete's health. This study presents two performance protocols and their influence on motoric and functional performances, on athlete's health as well, therefore creating new possibilities for further researches in this area including multiple participants and longer time period.

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EDIN KRUPALIJA

Email: doktor.fizikal@gmail.com

+38763031330

Udruženje za tretman boli i rehabilitaciju Doktor Fizikal, Sarajevo

Jukićeva 130

Sarajevo

Bosna i Hercegovina