RESISTANCE TRAINING

Advanced Concepts

Volume 1

NFPT

Application and Importance of Resistance Training Principles that Impact Fitness Goals, from Weight Loss to Improved Athletic Performance.

Resistance Training Manual

An essential guide for weight and resistance
training for sports and fitness

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Recommended Reading – NFPT Personal Trainer Manual, as well as the Sports Nutrition Manual & Endurance Training Manual for the best possible holistic education experience.

Preface & Introduction

Welcome to one of the most unique and valuable approaches to learning advanced education in the area of resistance training as it relates to health, fitness, and sports. Be prepared for an "inside out" approach to the study of resistance training. Unlike most study & reference manuals teaching to this subject, this manual is based around the exact same independent research that has earned the National Federation of Professional Trainers (NFPT) its esteemed position as an industry leader having cre-dentialed thousands of certified fitness professionals. For the purpose of com-prehension NFPT research has been translated and presented such that com-plicated relative body function and scien-tific terminology as they relate to resistance training topics are better under-stood. This policy is the hallmark and tradition of the National Federation of Professional Trainers.

Weight training education is where NFPT excels. It is undisputed that NFPT pioneered weight training education and research long before it was universally accepted as a means to managing bodyweight and maintain a state of physical fitness among general fitness enthusiasts. Resistance training education emerged from the observations made by scientists concerning the results of resistance exer-cise on the competitive bodybuilder. In the middle 80s, there weren't any resis-tance based certification programs until 1988 when NFPT, based on studies and research involving bodybuilders, made it's début in the weight training education and the personal trainer certification industry.

Any number of books today can effec-tively educate on the rudimentary approach to resistance training but none offer the insight provided by the National Federation of Professional Trainers. This manual is beyond the scope of those resources and is meant to complement them in an effort to produce the best and most advanced resistance training professional possible. When you take the test for this course, we want you to have mastered the understanding of the fundamental application of weight training and have a measurable degree of related Knowledge, Skills and Abilities (KSAs) on this topic.

All of these individual chapters focus around diverse scenarios teaching to the direct holistic interaction that exists between the relative human anatomy & biology, and the application of force and resistance against muscular contraction. Education on how the body functions and adapts to applied resistance is paramount and is the trademark of the National Federation of Professional Trainers. The interaction and responses on the part of multiple body systems relating to the application of varied amounts of resistance is the exceedingly overlooked element of resistance training programs. You will find the educational approach unique and enlightening as NFPT methodologies are discussed and the sound scientific reasoning behind the research is presented. Learn how NFPT research findings impact issues ranging from weight maintenance to extremely advanced resistance-based sports perfor-mance.

General Health and Resistance Exercise Considerations

General Resistance Exercise Advice

Who Should Establish a Goal of General Fitness?

If you are looking for a self-improvement exercise program, and you are a non-athlete, chances are you fall into one of three categories. First, you may be over-weight. If this is the case, fat loss may be your goal of choice. If you are under-weight, weight gain may be your goal of choice. Finally, if you are not grossly over, or under weight, and as stated earlier, you are a non-athlete then general fitness will quite likely be your goal of choice.

What is General Fitness?

All forms of exercise have value. The question is, finding the exercise that will give you the results you want and need. General fitness is a compromise, of sorts, between aerobic activity and resistance activity. Ideally, the optimum general fitness exercise program will include the best of both these worlds.

The proper resistance exercise routine can cause not only an increase in muscle tissue, but a cardio affect as well. This simply means that while you are conditioning the muscles by weight training, you can condition the cardiorespiratory systems by shortening the rest periods between the exercises you perform. While this is true, it should also be considered that during resistance exercise, regardless of the shorter rest periods, there is little in the way of improved "fatty acid oxidation". This simply means that the muscle's uptake of fat and oxygen during the performance of this fast paced resistance activity is not significantly enhanced.

The term "general fitness" implies low-to-moderate intensity of effort, which is correct. To increase the intensity of effort in general fitness training, is to change your goal altogether. Whenever intensity of effort is great, there is a degree of adaptation undergone by the body. This type of adaptation is desirable to the "incremental" athlete, or to those interested in conditioning themselves for a higher level of fitness or some sort of sport (there is an entire section devoted to sports conditioning later in this manual).

Generally speaking, for our purposes here, general fitness can best be achieved through a combination of fast-paced resistance exercise, and the performance of low intensity, long duration, steady state aerobic activity (70% of maximum heart rate maintained for about 20-30 minutes per session, with sessions performed no more often than 3-4 times per week). If one were forced to choose between fast-paced resistance exercise and low-level aerobics for general fitness, fast paced resistance exercise should be the activity of choice.

Setting up a Resistance Program for General Fitness

When you choose to establish a general fitness routine based around resistance exercise, incorporate the following concepts.

Use a 2-day split routine. This is to say you should do half your muscle groups on day #1, then the other half of your muscle groups on day #2, and then rest or perform aerobics on day #3. In layman terms, the major muscle groups to be considered in creating these routines are the chest, back, triceps, biceps, shoulders, trapezius, hamstrings, glutes and quadriceps (perform exercises for abdominals, forearms, and calves randomly as desired).

Stay in the area of 12-15 repetitions per set, to unassisted failure. This will provide for some lean weight increase, muscle energy increase, and with reduced between set recovery, some cardio as well. Your performing in the 12-15 repetition range represents the necessary compromise between heavy and light training, and will enable you to more quickly reach your general fitness goals.

If the cardio affect is desirable, remember to take shorter rest periods between sets. Your recovery heart rate should be somewhere around 115 BPM. This is to say that your heart rate, after a set, needs to come down to approximately 115 BPM before you continue with your next set. Keep in mind that the faster you train the more repetitions you will drop in each following set. This is especially true in the beginner. With time, you will reach a point where you are losing fewer and fewer repetitions. Wastes accumulate in the muscles during sets in this repetition range, while at the same time blood