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Elite Fitness Training

THE CLUB
AT GIG HARBOR

1st Quarter 2020

Club Hours: Monday – Friday 5 a.m. – 8 p.m. Saturday 7 a.m. – 2 p.m. Sunday 9 a.m. – 11:00 a.m.

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MUSCLE ADAPTATION by Nick Powell

Whether you've maintained a lifestyle that prioritizes exercise and fitness your whole life, or if you're new to the world of working out, you probably have heard of or experienced the planning and progressing of a fitness program. There are countless programs out there with a wide range of purposes, as well as a wide range of *quality*. Some of the more popular ones in everyday American culture come with taglines designed to infer a "one size fits all" exercise approach that promises fast results, typically demonizing some other form of exercise and promising theirs is the greatest for you and everybody you know. The truth of the matter is that exercise, as it pertains to your health and fitness, is most effective at changing one's life if a fitness program accounts for an individual's specific life variables and goals. This is because the body undergoes *adaptation*, and more specifically for our purposes: muscular adaptation. The purpose of this article is to define the principle of muscular adaptation, and to demonstrate why it is important and how to apply its importance to your life.

Muscular Adaptation is most easily defined as a muscular system's resilience to the damages of exercise or training. Whether dealing with either anaerobic or aerobic exercise training, our bodies send signals for recovery and adaptation to heal and improve the future performance of a muscular system (the difference between adaptation and recovery will be highlighted in the following paragraph). Optimal manipulation of one's muscular adaptation to exercise is a key variable to attaining real results in a training program along with other key variables such as nutrition and sleep. The challenge is that human beings are unique in their life circumstances, and some people may require a different style of training and adaptation than others to reach their goals. Ideally, a training program will reflect the necessary progression of training guidelines derived from the specific life circumstances of the individual, as this will lead to increased adaptation to training.

Stated previously, as exercise causes damage to the body, signals are sent throughout to induce recovery and adaptation. Recovery differs from adaptation in that recovery processes induce *healing*, whereas adaptation processes induce the building of *resilience*, particularly in muscle fibers. Adaptation is what ultimately causes the changes in your muscular system. Your body and its affected muscular systems will not necessarily improve performance or aesthetics with just recovery processes occurring, as your body will prioritize healing first. For example, training until your muscles fail or knocking out a new high-intensity workout that has you on the floor afterwards will more than likely induce a strong recovery response in order to heal the damages you have inflicted. Although this healing is normal and optimal (your body SHOULD prioritize healing!), exercising to muscle failure or at intensities that you aren't used to will require a greater and longer *healing* response, which delays and diminishes an *adaptation* response. Changes in your overall fitness will be more difficult to come by in this cycle. This is where programming becomes quite important.

If inducing adaptation is the goal here, than how do we know where to start? The ultimate answer to everything in health and fitness is "IT DEPENDS." A training program depends on the manipulation of variables that already exist in your life. Not exercising or training a certain way for years on end will usually lead to a wall of no results, even if what you are doing is scientifically correct. For example, studies show that muscle gains will generally occur in resistance training with rep ranges of 8-12. However, it may be the case that you have been training in that rep range for years and can't seem to gain any muscle. At that point, your muscles have *adapted*, and a more optimal muscle-building range may actually be at a lower or higher range/resistance.

Properly programmed training programs will take an individual's personalized variables into account in order to ensure consistent muscular adaptation, and thus insuring results. Adaptation is what will keep you progressing in your fitness goals and lifestyle, and it's also what will keep exercise interesting and fun by providing you with new challenges along the way. If you ever have any questions about programming or overcoming a plateau in your fitness training, look no further than your trainers at The Club!

A new year often brings with it an introspection of life – What works? What doesn't? How can I do better? What needs to be improved? What will make my life, my family, my relationships better? These introspections may include our health, fitness, and nutritional goals. Each year US News and World Reports have a panel of experts in fields of nutrition, obesity, food psychology, diabetes, and heart health. These experts look at the main diets in the US (41 total) and rank them based on if it is easy to follow, have the ability to produce weight loss in the short and long term, is nutritionally complete, and if the diet's safe and have the potential for preventing/managing diabetes and heart disease.

The TOP 5 DIETS of 2019

#1 – **MEDITERRANEAN DIET**: A diet inspired by the lives and cultures around the Mediterranean Sea. It emphasizes eating fresh plant based foods (fruits, vegetables, legumes, whole grains, brown rice, beans & nuts, fresh fish, and olive oil. Pasta and red meat are also included but sparingly. Staying away from packaged or processed foods along with eating with friends and family is also emphasized.

#2 – **DASH DIET**: DASH = Dietary Approaches to Stop Hypertension. Endorsed by the USDA, this diet focuses on consuming fresh fruits and vegetables while reducing the intake of fat and cholesterol. Protein intake is moderate and this diet is high in fiber.

#3 – **FLEXITARIAN DIET**: (Flexible and Vegetarian) A mostly vegetarian diet that allows for occasional indulges of beef, chicken, and seafood. By eating more plants and less meat, it's suggested that adherents to the diet will not only lose weight but can improve their overall health, lowering their rate of heart disease, diabetes and cancer, and live longer as a result.

#4 (Tie) – **MIND DIET**: A blend of Mediterranean and DASH diets with a goal to reduce dementia and the decline in brain health as we age. This diet consists of green vegetables, nuts, whole grains, fish, poultry and olive oil. No fast or fried food, red meat, cheeses, butter, or sweets.

#4 (Tie) – **WEIGHT WATCHERS**: This diet, also ranked as best weight loss diet, uses Smart Points. Each participant has a point budget based on current goals. Weigh-ins and meetings provide follow through and support. You can eat anything but quantities are limited and the focus is on portion control.

Dr. Katz, director of Yale-Griffin Prevention Research Center, stated, "Even though we have new diets to evaluate every year, the ones that rank the highest are generally the oldest, most traditional ones." Fads will come and go, and we will see many more pop up in 2020, but good nutrition still lies in moderate, balanced eating that is neither processed nor packaged. Eat clean and healthy. Find what works for you. Be smart, determined, and deliberate in your choices, and your 2020 will be a nutritious one. Best of luck!

TOKYO—2020 by Jillian Petersen

The Olympics and Paralympics are two of the biggest sporting events that occur around the world. The primary difference between the Olympic and Paralympics is that while most of the participants in the Olympics are able-bodied, the participants in the Paralympics are affected by some form of physical disability. Olympic Games are an international multi sport event that is hosted by a different city once every four years, whereas Paralympic Games are hosted by the same country and are immediately following the Olympic Games.

The next Olympic Games will be held in Tokyo, Japan July 24th - August 9th of 2020 and the Paralympic Games will be held in Tokyo, Japan August 25th - September 6th of 2020. Logos are also different:



Elizabeth 'Liz' Baker is the visually impaired athlete that I guide for in a Sprint Distance Triathlon. We only met 6 weeks prior to the 2016 Rio Paralympic Games, and we raced on September 11th, 2016. Currently we are going on our 4th year of racing together this 2020 season. The first goal this season will be for Liz and I to qualify for Tokyo 2020 Paralympic Games. It is a process to qualify, and the last few years we have been building our points. First step was in the 2019 season, we had to race and race well to get enough points to be ranked high enough just to get a slot for our country in the Tokyo Paralympic Triathlon. Currently we are ranked 4th in the World and have earned enough points to get a slot for the USA team. Now we have to go race and take that spot we earned for the team. That race will be March 14th, 2020 in Sarasota, FL, and we have to be the first USA team across the line. This is an international event and there are other countries racing. There is only less than nine months to go in Liz's and my journey.

Race Schedule for 2020

14th March	Sarasota, FL	PATCO Paratriathlon Panamerican Championships
2nd May	Milan, Italy	Milan ITU Paratriathlon World Championships
24th June	Montreal, Canada	Montreal ITU World Paratriathlon Series
29th August	Tokyo, Japan	Tokyo Paralympic Games

If you enjoy this article, then you would like this autobiography by Marla Runyan. A visually impaired olympic runner titled "No Finish Line". Liz had never heard of her, but when she read Marla's book she said she cried the entire time. Because Liz said "It's a story of my life, we have the same disease." Another great book by one of the athletes also trying to make the Paralympic Triathlon team is a biography by Brad Snyder "Fire in my Eyes: An American Warrior's Journey From Being Blinded On The Battlefield To Gold Medal Victory".

Next article will be after our qualifying race in Sarasota, FL! Follow Liz and my journey #TeamTiny.



We're on Facebook!

Not a friend on Facebook yet? "Like" us today and look for new recipes and tips to stay lean, healthy and fit, as well as schedule updates and *Club* news!

Just search "*The Club at Gig Harbor*" in the Facebook search bar, look for the logo and click "like".

There are several benefits to a long slow moderate exercise from strengthening muscles, to training your respiratory system and more. Whether you're new to exercise or a regular around the gym, it can be difficult to build up the stamina required for a long-distance activity (45 - 90 minutes). Moderate activity is subjective, because each person will have their own ability. However, a good way to determine whether you're going "moderate", is to see if you can have a conversation with another member. If you can, then that's your moderate activity speed. Essentially, if your breathing isn't too heavy, and you don't feel like you're putting in too much effort, then you're activity is at a moderate pace (and by taking normal breaths, you're able to hold a conversation). Another way you can determine what your moderate pace is, is to check your heart rate. If you're performing at an easy effort, then your heart rate should be somewhere between 110 to 140 beats per minute.

How to estimate your Moderate Exercise Range

Three numbers needed that are special to you:

Age

RHR Resting Heart Rate: take in the morning when you are laying in bed, or if you have a smartwatch that tracks your heart rate, see what the lowest number is at rest (sleeping)

MHR Max Heart Rate = $220 - \text{Your Age}$. Then you need to find your heart rate reserve (HRH):

$$\text{Heart Rate Reserve (HRR)} = \text{Max HR (MRH)} - \text{Rest (RHR)}$$

$$\text{HRR} \times 0.5 \text{ (50\%)} = \underline{\quad} + \text{RHR} = \underline{\quad}$$

$$\text{HRR} \times 0.7 \text{ (70\%)} = \underline{\quad} + \text{RHR} = \underline{\quad}$$

Those two numbers would be your moderate exercise range, you can also then figure out what your vigorous exercise intensity zone are, 0.7 (70%) to 0.85 (85%) range.

Example:

Age: 36

RHR: 40

MHR: $220 - 36 = 184$

HRR = $\text{MHR } 184 - \text{RHR } 40 = 144$ HRR

HRR $144 \times 0.5 = 72$ + RHR $40 = 112$ HR

HRR $144 \times 0.7 = 100.8$ + RHR $40 = 140.8$ HR

Moderate Exercise Zone range is 112 to 144 heart rate

Aerobic exercise is best performed at a moderate effort. In aerobic exercise, or "with oxygen" exercise, your muscles have enough oxygen to produce energy needed to perform. Your breathing and heart rate will increase during aerobic activities, increasing your blood flow. Aerobic exercise helps keep your heart, lungs, and circulatory system healthy; some of these cardiovascular conditioning activities include:

Brisk Walk

Swimming

Running/jogging

Hiking

Cycling

Dancing

Climbing stairs at work

Playing sports as: Tennis, basketball, soccer, or racquetball

The difference between anaerobic "without oxygen" and aerobic "with oxygen" is anaerobic exercises are performed at maximum effort for a short time, activities include:

Weightlifting

Sprinting

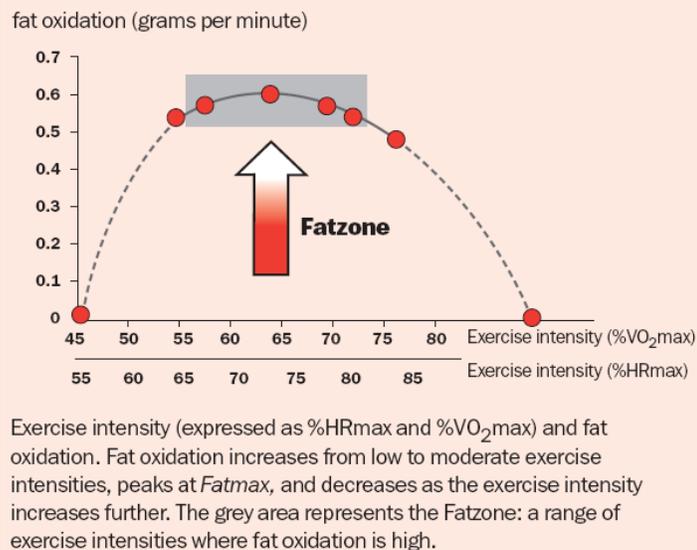
Quick bursts of Energy

Aerobic exercise has been shown in some studies to be better at reducing visceral fat. Visceral fat, or "belly fat" is found deep in the abdominal cavity, filling the spaces between internal organs. The term 'fat burning' refers to the ability to oxidize (or burn) fat, and thus to use fat instead of carbohydrates - as a fuel. Walking or running around 50-70% of your Max Heart Rate seems to be an optimal intensity to oxidize (burn) fat. At the onset of exercise, neuronal stimulation will increase the breakdown of fats into fatty acids and glycerol in adipose tissue and muscle. The duration of exercise however, plays a crucial role with the increasing importance of fat oxidation with longer exercise. In absolute terms, carbohydrate oxidation increases proportionally with exercise intensity, whereas the rate of fat oxidation initially increases, but decreases again at higher (vigorous) exercise intensities.

Moderate exercise intensity: 50% - to about 70% of your maximum heart rate

Vigorous exercise intensity: 70% - to about 85% of your maximum heart rate

Figure 1: Exercise intensity and fat oxidation



If you're not fit or just beginning an exercise program, aim for the lower end of your target heart rate zone. Then, gradually build up the intensity. The only proven way to increase fat oxidation during exercise is to perform regular physical activity. Research has shown that as little as four weeks of regular exercise, three times per week for 30-60min can increase fat oxidation and cause favorable enzymatic changes (enzymes help speed up chemical reactions in the human body). Fitness cannot be used to predict fat oxidation, this means there are some obese individuals that have similar fat oxidation rates elite athletes.

Some benefits to regular aerobic exercise has been shown to reduce risks of certain health problems, such as:

- Heart Disease
- High Blood Pressure
- Type 2 Diabetes
- Colon Cancer
- Breast Cancer

It can lower blood cholesterol by reducing the levels of LDL-cholesterol ('bad' cholesterol) and increase the amount of HDL-cholesterol ('good' cholesterol). It can also reduce:

- Anxiety
 - Stress
 - Depression
- As well as instilling a general sense of well-being

Fat oxidation has been shown to be higher during the post-exercise period in long duration vs. short durations as well as at a moderate intensity. By building on your endurance through treadmill, cycling, elliptical and stairs at a moderate intensity, you will in turn continue to burn fat post exercise. You will see an increase in your body's ability to transfer and use oxygen, while building your strength, without using too much physical and mental stress between 45-90 minutes of moderate activity (heart rate between 50% and 70% of max heart rate). Of course you don't just start out at this duration, you have to build up your endurance.

Exercise over about 90 minutes in length will deliver a whole range of physiological benefits. Your heart will get stronger. Your muscular endurance will improve as mitochondria (the 'powerhouse' of your cells) increase in size and number, and the capillaries that deliver blood to your muscles grow. Your very ability to breath – or your 'ventilatory capacity' – will improve as you work your respiratory muscles. Finally, you will train your metabolic system, as your body learns to use fat rather than glycogen (carbohydrates) as a fuel source.

When you have an exercise program it is great to incorporate a variety of aerobic and anaerobic activity. Having a few days of anaerobic "weightlifting" mixed with interval sprint training and then have a few days in moderate aerobic activity range has been shown to promote an increase in fat oxidation, fat burning.

TRAINER SWAP by Gabe Merritt

Here, at The Club, our goal is to service you, our clients, as best as possible. Our objective is that every single member reaches their fitness goals. Sometimes, this means switching trainers. In fact, it can be estimated that 20% of our members switch trainers at one time or another. It happens all the time, and it happens with every trainer. There can be a variety of reasons: workout plateaus, scheduling conflicts, personality conflicts, or simply that you are just looking for a workout change up. This is fine! It is not a bad thing. Nobody on our staff takes it personally. Remember, our goal is that you are loving your program and that you go tell your friends and family about our Club program

If you are interested in trying a new trainer, please let us know. Remember, we are here to service you. It is an exciting time here at The Club, we currently have 9 trainers here on staff and looking to add another. If you are interested in trying a session with one of our other trainers, we are more than happy to accommodate your needs.

We are successful when our clients are happy and achieving their fitness goals. If you are struggling for any reason, maybe trying a new trainer might help. Whether it is a “once in a while” thing, or a full time switch, you owe it to yourself to find out. Just ask!



Join us for these NEW CLASSES:

We are up to 24 classes a week!!

**Spin, Yin, Vinyasa, Bootcamp,
TRX, and Women and Weights
classes are now offered throughout the week**

**OUR CLASSES ARE FOR BOTH MEMBERS AND NON-
MEMBERS, SO HELP US SPREAD THE WORD AND
INVITE A FRIEND!**