FIGHTFIT TRAINER HANDBOOK

FIGHTFIT® FITNESS

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WHAT IS FIGHTFIT?

HISTORY

FightFit was founded in 2005 in Jacksonville, FL. FightFit's founder, Jason Watson, is a 6th degree black belt in Taekwondo and 5th degree black belt in Hapkido. Jason has been teaching martial arts since 1992.

Jason saw an opportunity to engage the parents of the kids he was teaching in his martial arts classes and a way to utilize his gym in "off hours." What started out as a few classes a week turned into a full-time boutique fitness program with 23+ classes per week and a fully dedicated space.

Word spread, and over the years other martial arts facility owners asked to license the FightFit program. In 2018, we modified the name to FightFit Fitness (you will see us refer to FightFit and FightFit Fitness interchangeably throughout this guide) and the "Affiliate" program was developed to deliver the FightFit Fitness experience to other gyms and in 2019, FightFit Fitness launched its FightFit Trainer Certification Program offering a combined FIghtFit Trainer Certification and continuing education credits (CECs/CEUs) to Certified Personal Trainers (CPTs).

PHILOSOPHY

FightFit strives to improve the overall fitness of every member by progressively challenging members with new workouts so the body is forced to adapt and react. The focus is on improving both aerobic and anaerobic capacity.

To achieve this goal, FightFit leverages techniques and elements of boxing, kickboxing, martial arts, high intensity interval training (HIIT), high intensity functional training (HIFT) and high intensity circuit training (HICT).

A FightFit workout provides a challenging and safe workout for all individuals interested in improving their overall fitness. FightFit can be customized for the elderly as well as for children. You will find adaptations for each exercise to

accommodate the needs of a diverse memberele. Over the years, we have developed 100+ workouts incorporating over 200 exercises with modifications to suit various strength and fitness levels. In this FightFit Fitness Program, you will learn to develop the same types of workouts for your members.

Additionally, we incorporate fitness assessments to establish a baseline and then do follow-ups to track progress. The initial assessment is done prior to the member's first class, so trainers can learn about the member and work appropriately with each person based on individual needs. You will find assessment documents later in this handbook.

HOW THIS TRAINING PROGRAM IS ORGANIZED

The FightFit Fitness Certification Program incorporates text and video. You will find video examples of each exercise that is incorporated into our FightFit workouts, as well as videos on some of the more complicated topics and video examples of a FightFit Fitness workout, so you can see firsthand what a FightFit workout looks like and how it is led.

This handbook is broken into two major sections. The first section covers general fitness information and research that is relevant to the FightFit Fitness Program. In this section we cover anatomy, aerobic and anaerobic metabolism as well as general fitness guidelines. The second section is specific to FightFit Fitness. In this section we take you through our workouts, how and why they are structured the way they are, and you will find a compendium of all the exercises we integrate into our workouts with hyperlinks to videos of the movements.

We hope that you not only find this program informative but we truly hope that you will spread the word and bring FightFit Fitness to your members.

THE SCIENCE OF FITNESS

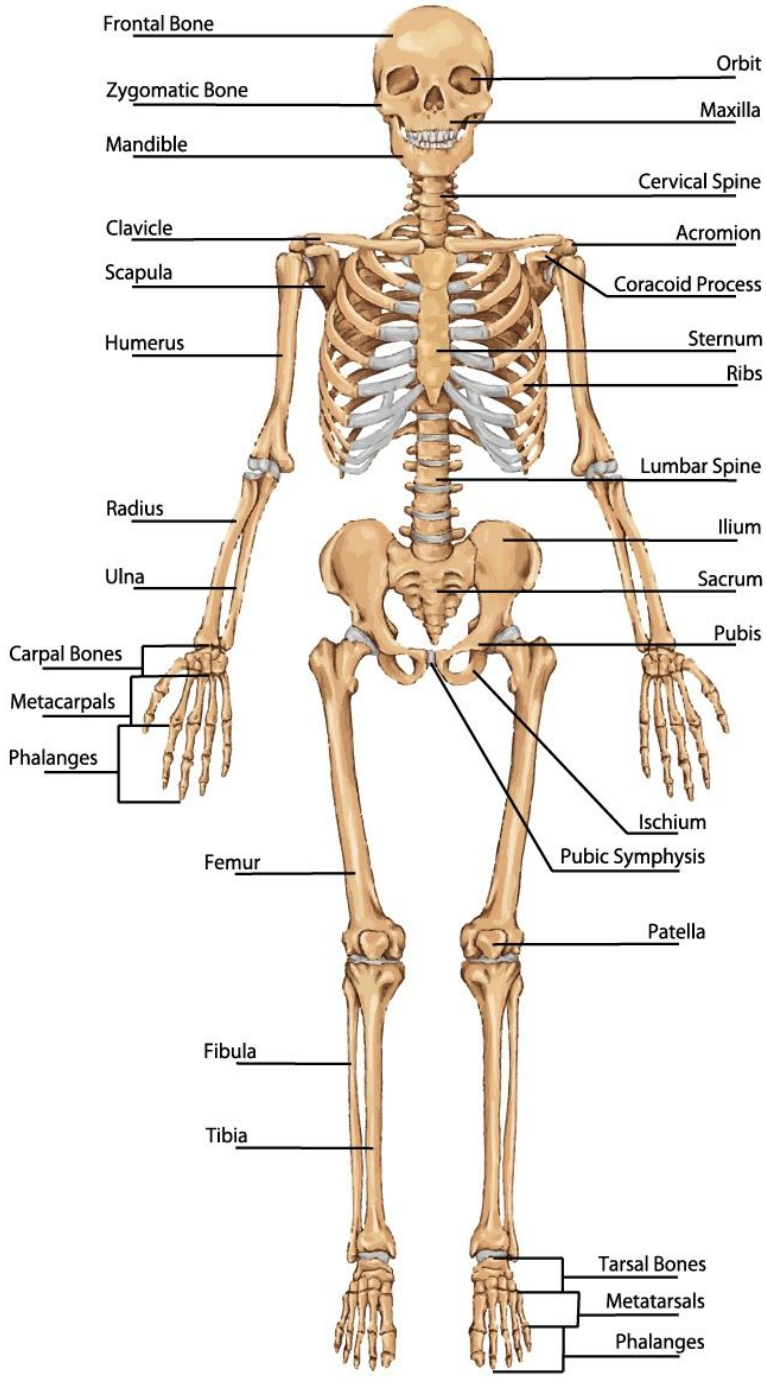
ANATOMY

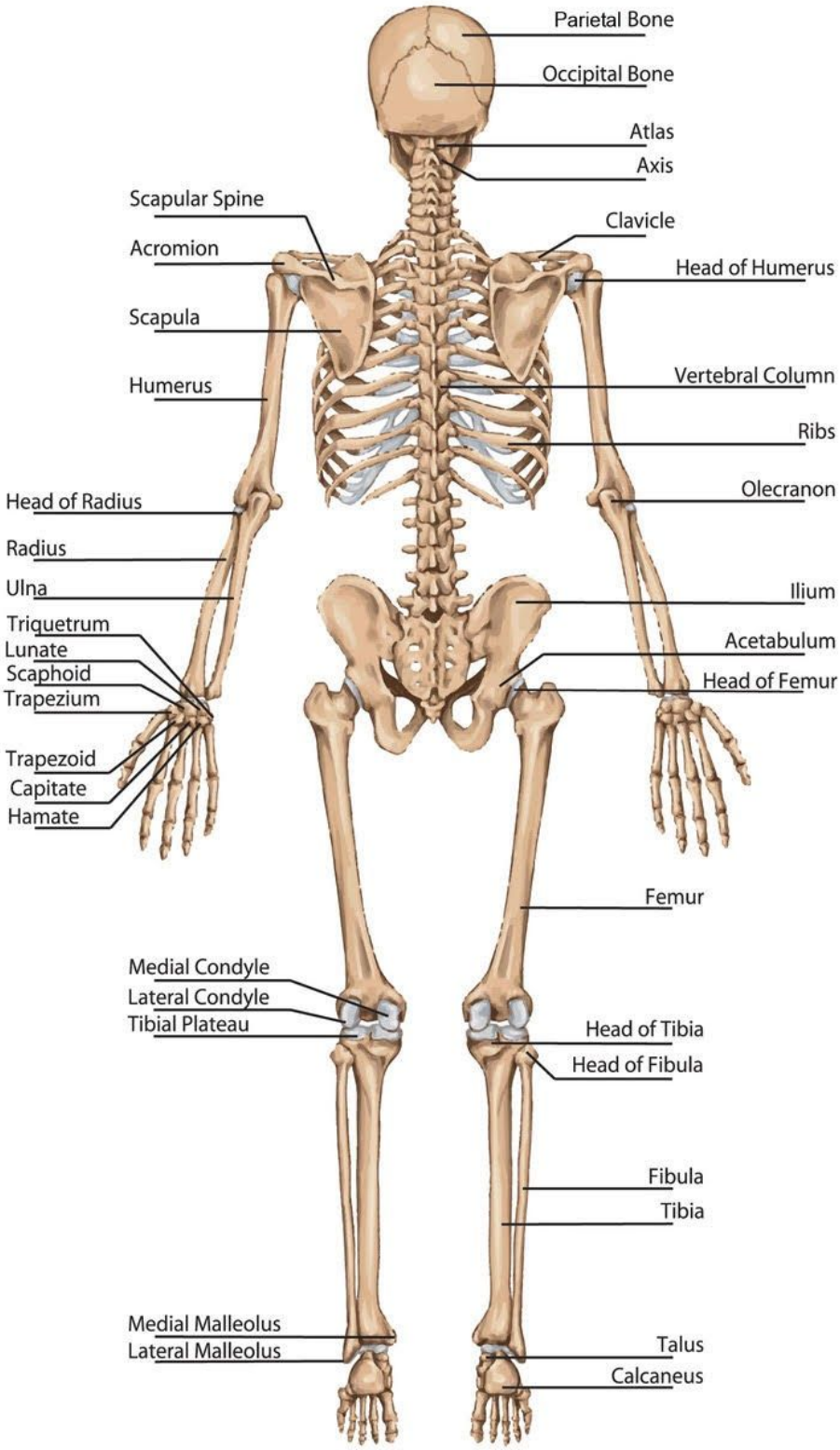
FightFit Fitness combines aerobic and anaerobic elements, combining aspects of boxing, kickboxing, weight training, high intensity interval training and high intensity functional training.

A certified FightFit Trainer should have an understanding of the human anatomy impacted by FightFit workouts. The following diagrams will help highlight those areas.

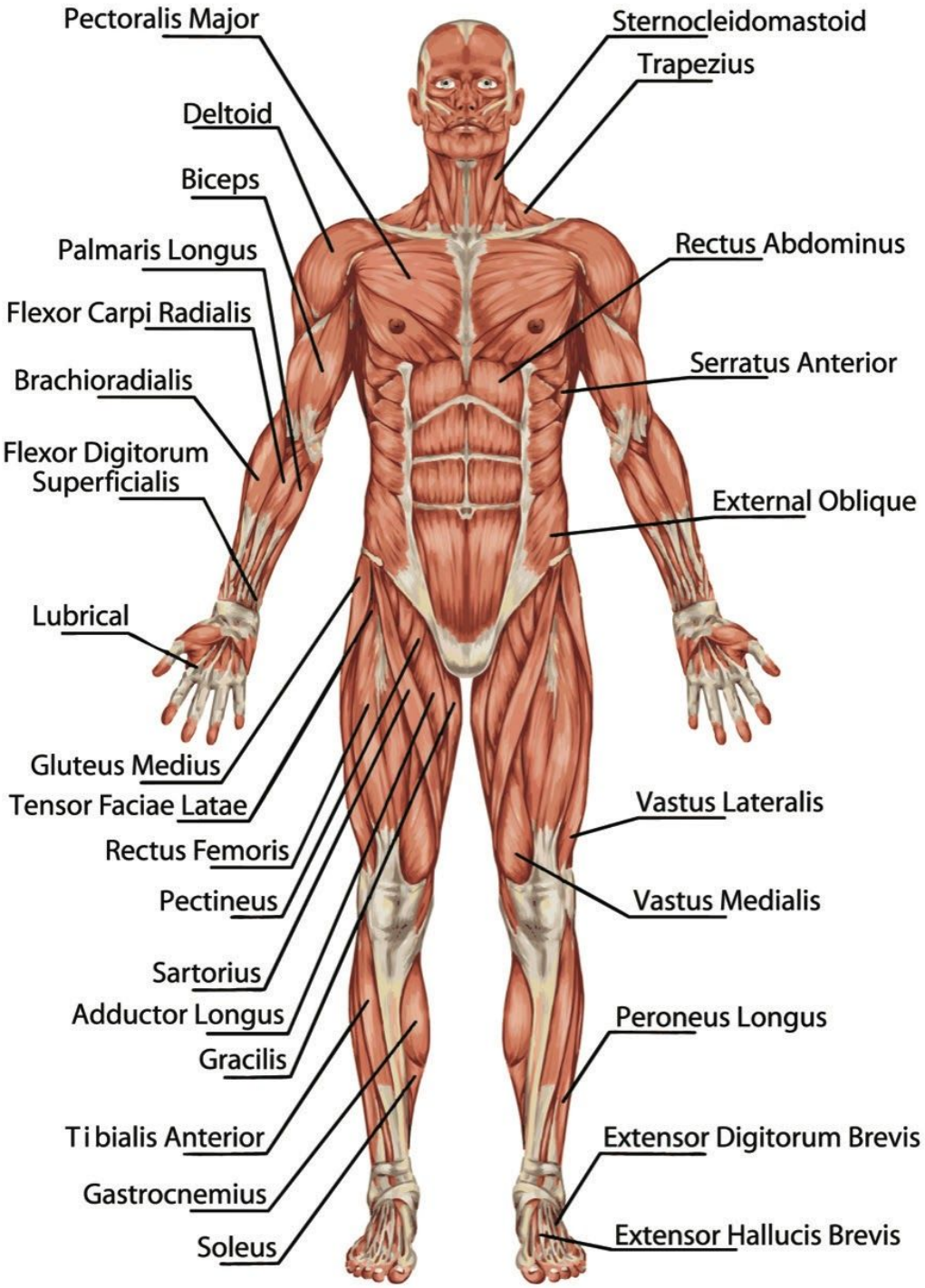
Spend some time reviewing the following diagrams until you have committed them to memory.

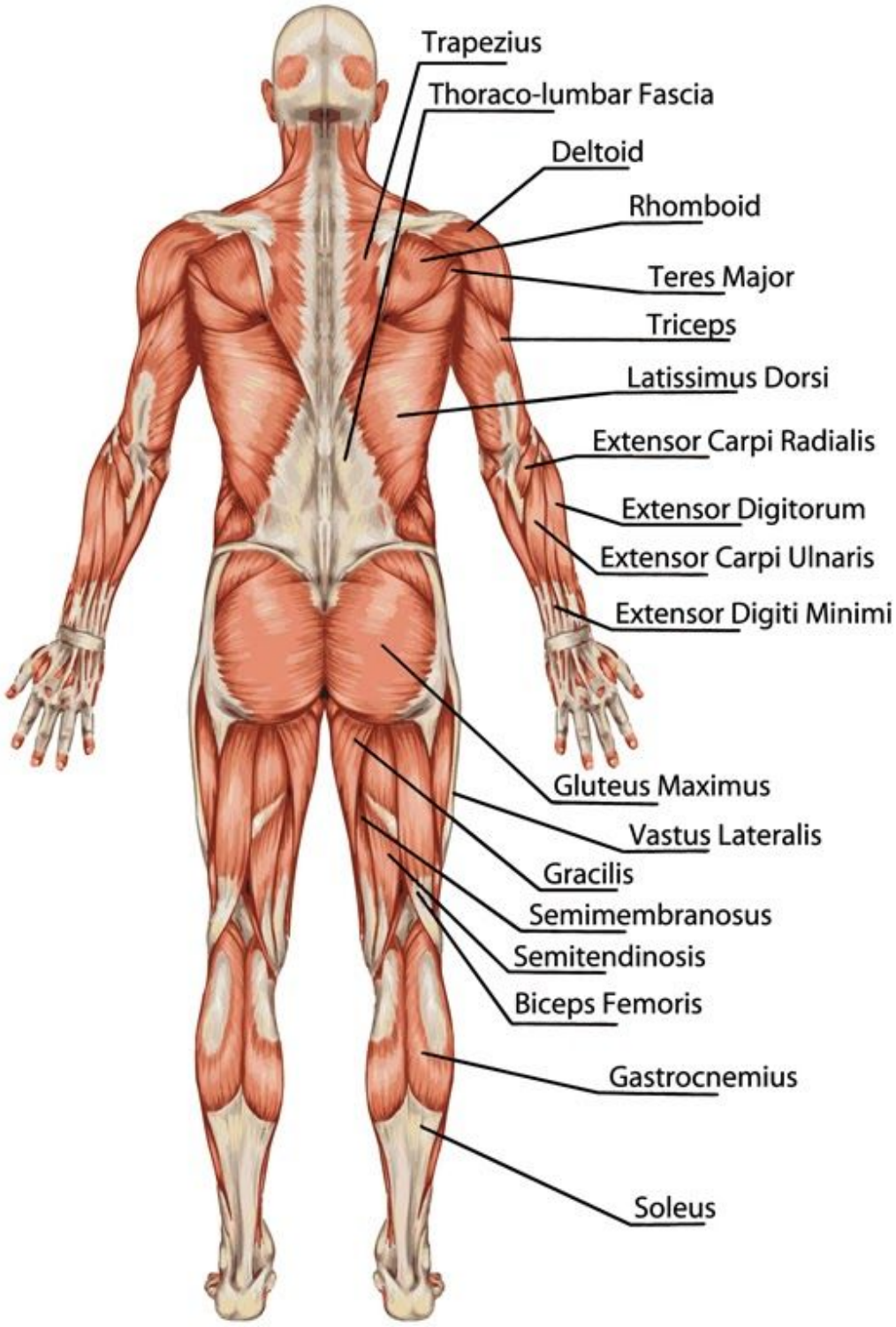
Skeletal Structure





Musculature





THE NEUROMUSCULAR SYSTEM

The nervous system, muscular system and skeletal system all work in tandem to generate human movement.

The Nervous System

The nervous system is one of the main organ systems of the body. It utilizes a specialized cell called a neuron that transmits and coordinates signals between the brain and spinal cord and the muscles of the body. The nervous system is responsible for the activation of muscles and learned patterns of movement. The nervous system stores these patterns of movements which makes it easier to hit a baseball or land a round-house kick with focused practice.

The nervous system has two subsystems, the central nervous system, consisting of the brain and spinal cord, and the peripheral nervous system, consisting of the nerves that connect the brain and spinal cord to the rest of the body. The peripheral nervous system is then further subdivided into the autonomic and somatic nervous systems. The somatic system is responsible for the voluntary control of movement while the autonomic system supplies neural input to the involuntary systems of the body such as the heart, lungs and digestive system.

The autonomic system is divided into the sympathetic and parasympathetic systems. The sympathetic system helps the body prepare for an activity while the parasympathetic system helps the body return to a homeostatic state of rest and recovery.

There are 3 types of neurons -- sensory, interneuron and motor. The sensory neurons send signals to the brain. The interneurons transmit signals from neuron to neuron, while the motor neurons send signals from the brain to effector sites such as muscles. All 3 types are active during exercise.

Different types of sensory neurons have different types of sensory receptors. Mechanoreceptors respond to mechanical forces and then send their signals via sensory neurons to the central nervous system. Among other abilities, the

mechanoreceptors allow us to monitor the position of our muscles and bones, called proprioception.

The Muscular System

The muscular system permits movement of the body, maintains posture and circulates blood throughout the body. It is controlled by the nervous system. Together with the skeletal system, it forms the musculoskeletal system.

Skeletal muscle constitutes one-third to one-half of the body mass of the average person. Each skeletal muscle is an organ that contains muscle tissue, connective tissue, nerves and blood vessels. A fibrous connective tissue called epimysium covers the body's more than 430 skeletal muscles.

The general structure of a muscle fiber is composed of myofibril which consists of two types of myofilaments, a thick filament composed of myosin and a thin filament composed of actin. Muscular contraction is caused by the interaction between actin and myosin as they temporarily bind and release from each other. The binding leads to muscle contraction and the release of the bond to muscle relaxation.

Neuromuscular System

A motor unit consists of a motor neuron and the muscle fibers it innervates. When a motor unit is activated, all of its fibers contract. The force of the contraction is controlled by the number of motor units that are activated. Electrical impulses are transported from the central nervous system through the neuron. When the impulse reaches the end of the neuron chemicals called neurotransmitters are released.

Neurotransmitters are chemical messengers that cross the tiny gap (synapse) between the motor neuron and the muscle fiber telling the muscle fiber to contract. This particular neurotransmitter is called acetylcholine. Acetylcholine stimulates the muscle fibers which then initiates muscle contraction.

Motor Units

Muscles are divided into motor units. A motor unit consists of a motor neuron and the muscle fibers it innervates. Motor units are either on or off, there is no in between. In other words, if there is a stimulus that activates the motor neuron, all of the muscle fibers connected to that neuron will maximally contract. They cannot just partially contract.

Hence, the overall force of a muscle contraction depends on the size of the motor unit, meaning how many muscle fibers are contained within that unit, and how many total motor units are activated.

The size of a motor unit is related to the function of the muscle within which it resides. Where fine muscle movements are required, a motor unit may only consist of 10-20 muscle fibers, whereas with gross movements of large muscles, there may be 2,000-3,000 muscle fibers in the motor unit.

When a signal is sent to the motor neuron to execute a movement, motor neurons are not all recruited at the same time. The motor neuron size principle states that smaller motor neurons are recruited before larger motor neurons are recruited.

Slow-Twitch & Fast-Twitch Muscle Fibers

As more motor neurons are recruited, more force is applied to the muscle. Different types of muscle fibers are innervated by small and larger motor neurons. Small motor neurons innervate slow-twitch fibers; intermediate-sized motor neurons innervate fast-twitch, fatigue-resistant fibers; and large motor neurons innervate fast-twitch, fatigable muscle fibers. The slow-twitch fibers generate less force than the fast-twitch fibers, but they are able to maintain these levels of force for long periods. These fibers are used for maintaining posture and making other low-force movements. Fast-twitch, fatigue-resistant fibers are recruited when the input onto motor neurons is large enough to recruit intermediate-sized motor neurons. These fibers generate more force than slow-twitch fibers, but they are not able to maintain the force as long as the slow-twitch fibers. Finally, fast-twitch,

fatigable fibers are recruited when the largest motor neurons are activated. These fibers produce large amounts of force, but they fatigue very quickly. They are used when one must generate a burst of large amounts of force, such as sprinting or heavy resistance training. All muscles contain both fast- and slow-twitch fibers, but in different proportions.

Slow-twitch fibers, also known as type I, have a large number of capillaries, myoglobin and mitochondria. This allows them to better utilize oxygen, which makes them better suited for aerobic and endurance activities.

Fast-twitch fibers, also known as type II, are generally subdivided into type IIa and type IIx. Both types of have fewer capillaries, myoglobin and mitochondria, which makes them fatigue quicker than type I fibers. Type IIa fibers are also known as intermediate fast-twitch muscle fibers. They can use both aerobic and anaerobic metabolism whereas Type IIx fibers are mostly anaerobic and are recruited to produce maximum force and power.

The following is reprinted with permission from the American Council on Exercise

Slow-twitch Vs. Fast-twitch Muscle Fibers
Source: American Council on Exercise
By: Pete McCall
Date: October 30, 2015
https://www.acefitness.org/education-and-resources/professional/expert-articles/5714/muscle-fiber-types-fast-twitch-vs-slow-twitch

If you watch sports on TV, at some point you've probably heard a commentator talk about an athlete having explosive or powerful muscles. For example, professional football player JJ Watt has received a lot of attention for his off-season conditioning program, which includes flipping a large truck tire. A sportscaster was recently discussing Watt's training techniques and mentioned that Watt was working on his fast-twitch muscle fibers in an effort to become more explosive. At first this sounds kind of hokey—fast-twitch muscle fibers? Is that really a thing, and is it possible to do certain exercises that focus on one type of muscle fiber?

The answers, in short, are yes and yes.

Yes, there are different types of muscle fibers in the body, which are classified based on how they produce energy. Yes, the different muscle fibers can be trained using specific exercises designed to focus on how they create energy or generate force. While a variety of types of muscle fiber have been identified, including type I, type IC, type IIC, type IIAC, type IIA, type IIA and type IIX, they are generally classified as being either slow-twitch or fast-twitch (see table).

Six things to know about slow-twitch, or type I, muscle fibers:

1. Slow-twitch fibers contain mitochondria, the organelles that use oxygen to help create adenosine triphosphate (ATP), which is the chemical that actually fuels muscle contractions, and are considered aerobic.

2. Slow-twitch fibers are also called red fibers because they contain more blood-carrying myoglobin, which creates a darker appearance.

3. Because they can provide their own source of energy, slow-twitch fibers can sustain force for an extended period of time, but they are not able to generate a significant amount of force.

4. Slow-twitch fibers have a low activation threshold, meaning they are the first recruited when a muscle contracts. If they can't generate the amount of force necessary for the specific activity, the fast-twitch muscle fibers are engaged.

5. The tonic muscles responsible for maintaining posture have a higher density of slow-twitch fibers.

6. Steady-state endurance training can help increase mitochondrial density, which improves the efficiency of how the body uses oxygen to produce ATP.

As you can see, slow-twitch fibers have specific characteristics for how they function, which means they can be trained to be more aerobically efficient with the proper exercise program.

Techniques for training slow-twitch fibers:

- Exercises that feature sustained isometric contractions with little-to-no joint movement keep the slow-twitch muscle fibers under contraction for an extended period of time. This can help improve their ability to utilize oxygen

to produce energy. Examples include the front plank, the side plank and the single-leg balance.

- Resistance-training exercises using lighter weights with slower movement tempos for higher numbers of repetitions (i.e., more than 15) can engage the slow-twitch fibers to use aerobic metabolism to fuel the activity.
- Circuit training, which involves alternating from one exercise to the next with little-to-no rest while using lighter weights, can be an effective way to challenge slow-twitch fibers.
- Body-weight exercises for higher numbers of repetitions can be an effective way to challenge aerobic metabolism, which helps improve the efficiency of slow-twitch fibers.
- When working with body-weight only or lighter amounts of resistance, use shorter rest intervals of approximately 30 seconds between sets to challenge the slow-twitch fibers to use aerobic metabolism to fuel the workout.

Here are things to know about fast-twitch, or type II, muscle fibers:

1. Fast-twitch fibers can be further classified into (1) fast-twitch IIa - fast oxidative glycolytic, because they use oxygen to help convert glycogen to ATP, and (2) fast-twitch type IIb - fast glycolytic, which rely on ATP stored in the muscle cell to generate energy.
2. Fast-twitch fibers have a high threshold and will be recruited or activated only when the force demands are greater than the slow-twitch fibers can meet.
3. The larger fast-twitch fibers take a shorter time to reach peak force and can generate higher amounts of force than slow-twitch fibers.
4. Fast-twitch fibers can generate more force, but are quicker to fatigue when compared to slow-twitch fibers.
5. The phasic muscles responsible for generating movement in the body contain a higher density of fast-twitch fibers.

6. Strength and power training can increase the number of fast-twitch muscle fibers recruited for a specific movement.
7. Fast-twitch fibers are responsible for the size and definition of a particular muscle.
8. Fast-twitch fibers are called “white fibers” because do not contain much blood, which gives them a lighter appearance than slow-twitch fibers.

As you can see, the characteristics of fast-twitch fibers are more suited for explosive, strength-and power-based sports like football. Therefore, when an announcer talks about how a training program benefits a specific type of muscle fiber, they are being accurate with the science.
If you want to engage more fast-twitch fibers to help you increase strength levels or become more explosive, here are a few specific techniques that work.
Techniques for engaging fast-twitch fibers:

- Resistance training with heavy weight stimulates muscle motor units to activate more muscle fibers. The heavier the weight, the greater the number of fast-twitch fibers will be recruited.
- Performing explosive, power-based movements, whether it is with a barbell, kettlebell, medicine ball or simply your own body weight, will recruit greater levels of fast-twitch fibers.
- Fast-twitch fibers will fatigue quickly, so focus on using heavy weight or explosive movements for only a limited number of repetitions (e.g., two to six) for maximum effectiveness.
- Because they deplete energy quickly, fast-twitch fibers require longer rest periods to allow motor units to recover and to replace spent ATP. Therefore, allow at least 60 to 90 seconds of rest after each explosive or strength exercise.

Understanding how the physiology of the body adapts to exercise can help you develop more effective exercise programs for your specific needs. Genetics determines how much of each muscle-fiber type you possess; however, identifying

whether you are fast- or slow-twitch dominant would require an invasive muscle biopsy. Therefore, if you find that you tend to enjoy more endurance-based activities and that they are relatively easy for you, you probably have a greater number of slow-twitch fibers. Conversely, if you really dislike going for long runs, but enjoy playing sports that rely on short bursts of explosive movements, or if you like weight training because it is relatively easy, you are probably fast-twitch fiber dominant. An exercise program that applies the right training strategies for your muscle fibers can help you to maximize the efficiency and enjoyment of your workout time.

Characteristics Of Type I And Type II Muscle Fibers

Characteristic	Slow-twitch	Fast-twitch IIa	Fast-twitch IIb
Force production	Low	Intermediate	High
Contraction speed	Slow	Fast	Fast
Fatigue resistance	High	Moderate	Low
Glycolytic capacity	Low	High	High
Oxidative capacity	High	Medium	Low
Capillary density	High	Intermediate	Low
Mitochondrial density	High	Intermediate	Low
Endurance capacity	High	Moderate	Low

METABOLISM & FITNESS

An Overview of the Biological Energy Systems for Training

High-intensity exercise can result in up to a 1,000-fold increase in the rate of ATP (the fuel used in cells) demand compared to that at rest. To sustain muscle contraction, ATP needs to be regenerated at a rate complementary to ATP demand. Three energy systems function to replenish ATP in muscle: (1) Phosphagen, (2) Glycolytic, and (3) Oxidative or Mitochondrial Respiration. The three systems differ in the substrates used, products, maximal rate of ATP regeneration, capacity of ATP regeneration, and their associated contributions to fatigue. Fatigue is best defined as a decreasing force production during muscle contraction despite constant or increasing effort. The replenishment of ATP during intense exercise is the result of a coordinated metabolic response in which all energy systems contribute in different degrees based on an interaction between the intensity and duration of the exercise, and consequently, the proportional contribution of the different skeletal muscle motor units.

Metabolism

Metabolism refers to the processes the body uses to break down nutrients, form compounds the cells can use for energy and use those compounds to fuel cellular functions. The body secretes enzymes to break down food into sugars, proteins, and fats. Each cell of the body can then incorporate them in aerobic or anaerobic metabolic processes to form adenosine triphosphate (ATP) which is the fuel used in the cell.

Exercise requires the mechanical contraction of muscle tissue. These contractions enable individuals to move their limbs or modulate their heart rate to meet the physical demands of exercise. Muscle contractions require energy, and muscle tissue generates this energy by releasing it from a chemical fuel called adenosine triphosphate (ATP). However, the amount of ATP in each gram of muscle is only enough to support about ten cycles of contraction (a few seconds worth) before it is

exhausted. Thus, muscles must constantly regenerate ATP to support rapid contractions during exercise.

As previously stated, ATP can be replenished by way of 3 energy systems: The Phosphagen System, Glycolytic System (Glycolysis) and Oxidative System (Mitochondrial Respiration). The Phosphagen and Glycolytic Systems are anaerobic, meaning they do not require the presence of oxygen to create ATP. The Oxidative System, per its name, requires oxygen to perform its work.

At any given time, all 3 energy systems are active. The extent to which one is more active than another is related to the intensity and duration of the activity.

Phosphagen System

At the start of an activity and during the approximate first 10 seconds of a high intensity activity such as sprinting and heavy load resistance training, the phosphagen system is most active in replenishing ATP. The phosphagen system provides the quickest replenishment of ATP. The body stores very little ATP, which is why the phosphagen system is so critical during intense activity. The phosphagen system relies on a molecule called creatine phosphate (CP). As CP stores can be quickly depleted, the replenishment of ATP cannot keep up with demand during very high intensity workouts such as sprinting. To replace ATP when CP is depleted during high intensity activities, the glycolytic system steps in.

Glycolytic System

Because it can produce more ATP from a single molecule than the glycolytic system, the body prefers the oxidative system for ATP replenishment. However, it cannot perform its magic when there is an oxygen deficit - brought on by performing high intensity activities for longer than 10 seconds. Therefore, the body must rely on the glycolytic system.

The digestive system breaks down carbohydrates into glucose where it streams through the blood or is stored for later use as glycogen in the liver or muscle tissue. The body then produces enzymes to break down glycogen and glucose. This enzymatic process, glycolysis, which is used to replenish ATP, is slower than the Phosphagen/CP process, however, it has the potential to produce a larger supply of ATP. When glucose or glycogen is catabolized during high-intensity performance only a partial breakdown or oxidation occurs, compared to the complete oxidation

when reliant on mitochondrial respiration. This partial breakdown occurs because the production of pyruvate (which glucose and glycogen are converted to during glycolysis), occurs at rates that exceed the capacity of the mitochondria to take up pyruvate. In the mitochondria, the complete oxidation of pyruvate can occur. While some pyruvate is transported out of contracting muscle fibers, most is converted to lactate. Contrary to the popular notion that lactate is a bad thing, the production of lactate in muscle during intense exercise is beneficial as, among other benefits, it helps remove pyruvate from the cells which helps sustain a high-rate of glycolysis and, hence, allows ATP production to continue during high intensity activities. Once the activity slows down, oxygen becomes available and lactate reverts back to pyruvate, allowing aerobic metabolism and the complete oxidation of pyruvate to occur. Some lactate may also be transferred to the liver and be re-converted back to glucose, or glycogen within muscle, or alanine (an amino acid). These conversions require energy that is supplied by aerobic metabolism.

Oxidative System/Mitochondrial Respiration

When there is enough oxygen and pyruvate can be shuttled into the mitochondria of the cell, it undergoes a process called the Krebs cycle where the ATP resynthesis rate is slower than glycolysis but can occur for a longer duration as long as the exercise intensity is low enough. This is the oxidative system, also known as mitochondrial respiration.

The primary source of ATP at rest and during low intensity exercise is the oxidative system. It primarily utilizes carbohydrates and fats as substrates. At rest, approximately 70% of ATP resynthesis is derived from fats and 30% from carbohydrates. As the intensity of exercise increases, there is a shift from fats to carbohydrates. During high intensity exercise, almost 100% of the energy is derived from carbohydrates. During prolonged steady-state exercise, the body shifts from carbohydrates back to fats for energy.

For comparison sake, mitochondrial respiration of pyruvate delivers a net 38 ATP from a single blood glucose cell as compared to just 3 ATP from that same blood glucose cell via glycolysis. Fat oxidation produces even higher ATP yields. Triglycerides stored in fat cells can be broken down via enzymes into free fatty acids. Some of these fatty acids enter the bloodstream where they can circulate and enter muscle fibers. These fatty acids enter the mitochondria and undergo oxidation (as long as there is enough available oxygen) which can produce

hundreds of ATP. A single triglyceride molecule can produce over 300 ATP molecules.

Protein can also be a source of energy when it is broken down into its constituent amino acids. These amino acids are converted into glucose, pyruvate or other Krebs cycle intermediates to produce ATP. Protein oxidation is not a significant source of energy for most activities but can contribute to ATP production during prolonged activity.

FightFit Workouts are primarily anaerobic in nature with a fair amount of aerobic mixed in, as the majority of our workouts fall in the High or Moderate Intensity category. Our Tabata workouts, which are meant to be done at maximum intensity, would fall into the Very High intensity category utilizing the phosphagen and glycolytic system. Again, the aerobic and anaerobic systems work in tandem at all levels of intensity, it is just a matter of which system is primary given the intensity and duration of the activity.

FITNESS GUIDELINES

Below, we outline the fitness guidelines and standards provided by the U.S. government (Dept of Health & Human Services) as well as the American College of Sports Medicine (ACSM). Regular attendance at FightFit Fitness classes would handily meet requirement.

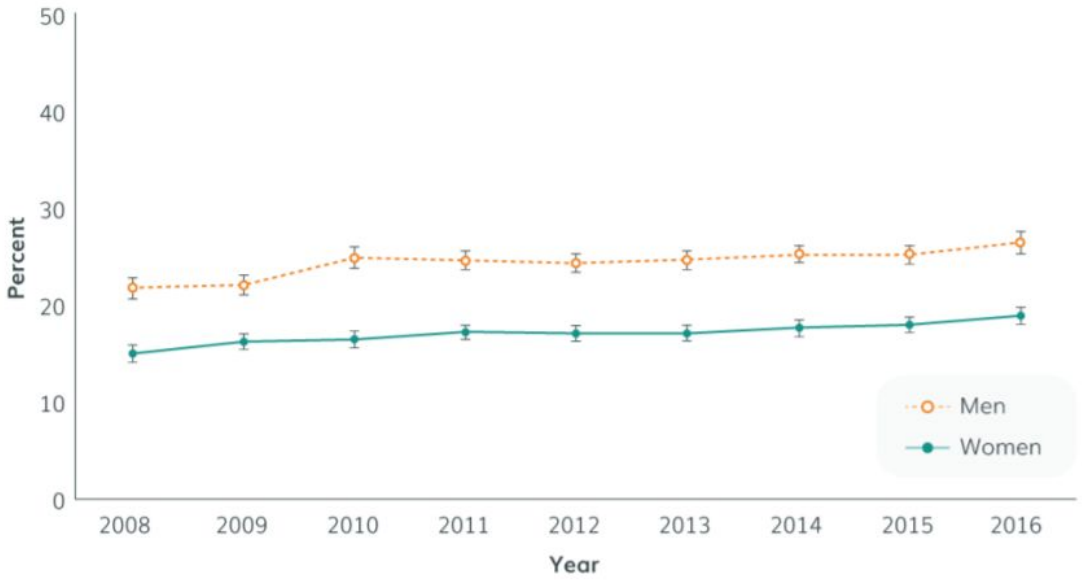
Physical Activity Guidelines For Americans

SOURCE:
U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, DC: U.S. Department of Health and Human Services; 2018.

It is recommended that adults get 150 minutes of moderate or 75 minutes of vigorous aerobic activity each week, such as brisk walking or running. The Physical Activity Guidelines also suggest two days of weight lifting or other muscle-strengthening activities. Despite strong evidence of the health benefits, only half of Americans are getting enough aerobic activity and about 20 percent meet the guidelines for strength training.

Today, about half of all American adults—117 million people—have one or more preventable chronic diseases. Seven of the ten most common chronic diseases are favorably influenced by regular physical activity. Yet nearly 80 percent of adults are not meeting the key guidelines for both aerobic and muscle-strengthening activity, while only about half meet the key guidelines for aerobic physical activity. This lack of physical activity is linked to approximately $117 billion in annual health care costs and about 10 percent of premature mortality.

Percentage of U.S. Adults Ages 18 Years or Older Who Met the Aerobic and Muscle-Strengthening Guidelines, 2008–2016



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (NHIS).

Key Guidelines for Adults

- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) to 150 minutes (2 hours and 30 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Preferably, aerobic activity should be spread throughout the week.
- Additional health benefits are gained by engaging in physical activity beyond the equivalent of 300 minutes (5 hours) of moderate-intensity physical activity a week.
- Adults should also do muscle-strengthening activities of moderate or greater intensity and that involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.

Physical Activity Intensity

The Guidelines consider the intensity with which people do physical activity. Some activities are a higher intensity than others because they require more energy to do. For example, a person expends more energy walking briskly than slowly

strolling. Absolute rates of energy expenditure during physical activity are commonly described as light, moderate, or vigorous intensity. Energy expenditure is expressed by multiples of the metabolic equivalent of task (MET), where 1 MET is the rate of energy expenditure while sitting at rest.

A MET is the ratio of the rate of energy expended during an activity to the rate of energy expended at rest. For example, 1 MET is the rate of energy expenditure while at rest. A 4 MET activity expends 4 times the energy used by the body at rest. If a person does a 4 MET activity for 30 minutes, they have done 4 x 30 = 120 MET-minutes (or 2.0 MET-hours) of physical activity. A person could also achieve 120 MET-minutes by doing an 8 MET activity for 15 minutes.

Two Methods of Assessing Aerobic Intensity

The intensity of aerobic physical activity can be defined in absolute or relative terms. Absolute Intensity Absolute aerobic intensity is defined in terms of METs, as described above:

Absolute Intensity Measurement / MET

- Light-intensity activities are defined as waking non-sedentary behaviors of less than 3.0 METs. Walking at 2.0 miles per hour requires 2.5 METs of energy expenditure and is therefore considered a light-intensity activity.
- Moderate-intensity activities are defined as 3.0 to 5.9 METs. Walking at 3.0 miles per hour requires 3.5 METs of energy expenditure and is therefore considered a moderate-intensity activity.
- Vigorous-intensity activities are defined as 6.0 METs or more. Running a mile in 10 minutes (6.0 mph) is a 10 MET activity and is therefore classified as a vigorous-intensity activity.
- Information on the absolute intensity of many activities for adults can be found in the Compendium of Physical Activities (https://sites.google.com/site/compendiumofphysicalactivities/home).

From the Compendium, "Circuit Training" is defined as 8.0 METs and "Boxing - Punching Bag" is defined as 5.5 METs and "Boxing - Sparring" is 7.8 METs. FightFit Fitness workouts represent a combination of the aforementioned with a reasonable estimate being 7-8 METs during a typical FightFit Fitness workout.

Relative Intensity Measurement

Relative Intensity can also be defined relative to fitness, with the intensity expressed in terms of a percent of a person's maximal heart rate, heart rate reserve, or aerobic capacity reserve. For example, relative moderate intensity is defined as 40 percent to 59 percent of aerobic capacity reserve (where 0 percent of reserve is resting and 100 percent of reserve is maximal effort). Relative vigorous-intensity activity is 60 percent to 84 percent of reserve.

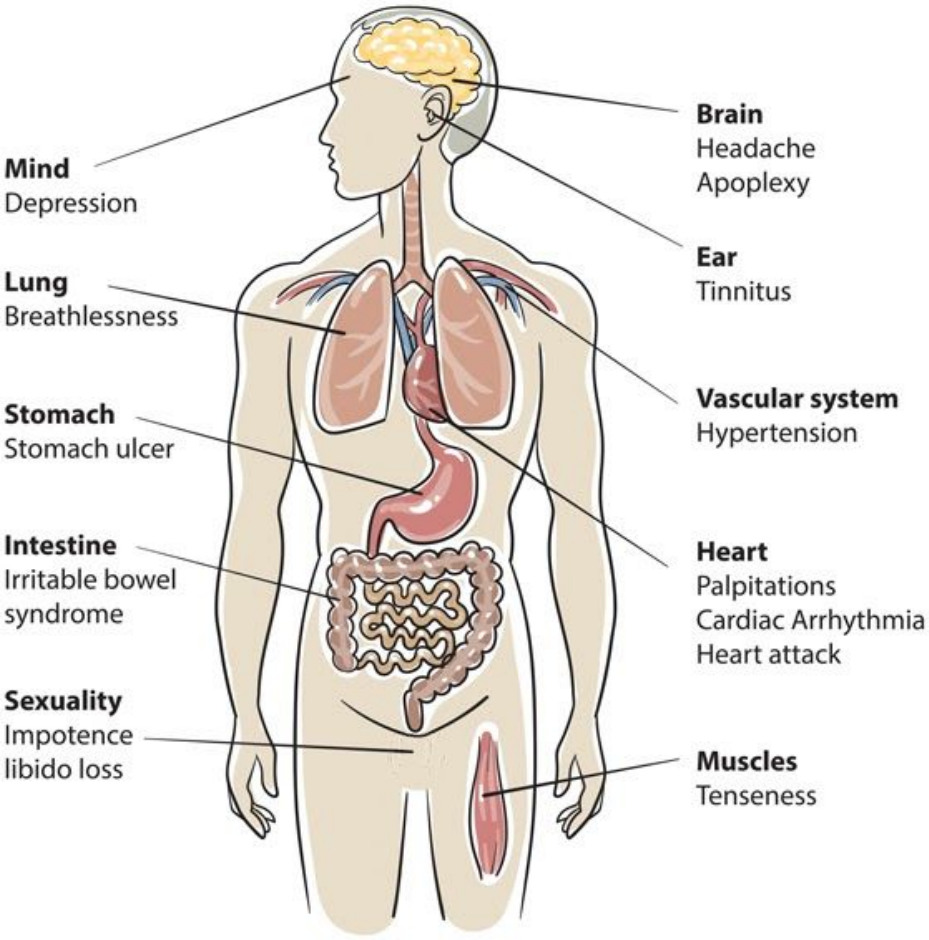
To better communicate the concept of relative intensity (or relative level of effort), a simpler definition is useful:

- Relatively moderate-intensity activity is a level of effort of 5 or 6 on a scale of 0 to 10, where 0 is the level of effort of sitting, and 10 is maximal effort.
- Relatively vigorous-intensity activity begins at a 7 or 8 on this scale. Using Minutes of Moderate- and Vigorous-Intensity Activity to Reach a Goal People can meet the key guidelines by doing either moderate- or vigorous-intensity physical activity or a combination of both.
- A simple rule of thumb is that 1 minute of vigorous-intensity activity counts the same as 2 minutes of moderate-intensity activity. The lower limit of vigorous-intensity physical activity (6.0 METs) is twice the lower limit of moderate-intensity activity (3.0 METs). Therefore, 75 minutes of vigorous-intensity activity a week is roughly equivalent to 150 minutes of moderate-intensity activity a week.

BENEFITS OF EXERCISE ON STRESS & OVERALL HEALTH

Exercise has proven to reduce stress (see research below). There is healthy stress and unhealthy stress. Over time, unhealthy stress may lead to negative outcomes and a number of diseases. By reducing the effects of stress, exercise can alleviate, delay or prevent some forms of disease. It is helpful to understand some of the common stress related symptoms so you can speak to your members about the positive effects of exercise.

NEGATIVE EFFECTS OF STRESS



Group Fitness

Stress can take its toll mentally, physically and emotionally. In contrast, it has been shown that group fitness classes can counter the deleterious effects of stress. In fact, a 2017 study published in The Journal of the American Osteopathic Association, "Effects of Group Fitness Classes on Stress and Quality of LIfe of Medical Students" showed that group exercise participants showed significant improvements in mental (12.6 percent), physical (24.8 percent) and emotional (26 percent) well being, even more so than individual fitness participants. Beyond just exercise, there is something about exercising in a group, specifically, (social aspects, competition and motivation, etc.), that provides an even greater remedy to stress.

Brain Health

Beyond stress reduction, exercise has many other health benefits. A 2018 study published in NeuroImage, "Effect of Aerobic Exercise on Hippocampal Volume in Humans" showed that aerobic exercise can keep the brain from shrinking. That's right, on average, the human brain shrinks about 5% per decade after age 40. The metaanalysis showed that aerobic exercise slows down this brain shrinking process, specifically in the hippocampus, the area of the brain that is involved in forming memories.

Additional brain benefits of exercise come from its ability to reduce insulin resistance and inflammation, aid in the growth and development of new blood vessels in the brain, and stimulate the release of brain derived neurotropic factor (BDNF). BDNF has been associated with cognitive improvement and the alleviation of depression and anxiety.

Heart Health

It has long been known that aerobic exercise is good for the heart, however, a growing body of research is showing that resistance exercise training can have similar beneficial effects.

A study coming out of the Aerobics Center Longitudinal Study, which follows 7,000 participants, shows that less than one hour of resistance exercise per week lowers the risk of developing metabolic syndrome. Metabolic syndrome refers to a group of risk factors that raises one's risk for heart disease and other health problems, such as diabetes and stroke. The metabolic syndrome risk factors were reduced by

17-29%, depending on how much resistance exercise was incorporated into their weekly workout routine. However, beyond one hour of training, no improvements were noted. So, less than one hour of resistance exercise per week can stave off significant health risk factors.

Another study pulling from the same database showed that lifting weights for less than an hour a week may reduce risk for a heart attack or stroke by 40 to 70 percent. They measured three health outcomes: cardiovascular events such as heart attack and stroke that did not result in death, all cardiovascular events including death and any type of death and resistance exercise reduced the risk for all three.

HIIT, HIFT, HICT -- WHAT'S THE DIFFERENCE

The traditional definition of HIIT included short bursts of repeated vigorous activity interspersed by periods of rest or low intensity exercise, typically executed within the same form of exercise or movement. The focus was on the level of intensity (sprint 100 meters, then jog 300 meters, then repeat), not necessarily the type of exercise being performed and the duration of the activity and rest is prescribed and typically remains constant. HICT, on the other hand, focuses on the "circuit" part of the definition. A circuit is traditionally defined as the performance of a variety of exercises. So, the "intensity" is still a factor, but instead of performing intense activity of the same exercise, circuit training involves the performance of a variety of exercises (jumping jacks, pushups, kettlebell swings, etc.) and, like HIIT, the duration of activity and rest is usually constant. Finally, HIFT generally involves exercises that use multiple joints and numerous muscles (think Crossfit). Instead of only moving the elbows, for example, a functional exercise might involve the elbows, shoulders, spine, hips, knees and ankles. HIFT may also vary the activity duration and it may or may not incorporate rest.

For us, at FightFit, our workouts encompass all 3 varieties of high intensity training. The all bag-work (punches and kicks) interval groupings resemble traditional HIIT while the majority of our workouts look more like HICT or HIFT training where we incorporate a variety of exercises in a circuit with set work/rest times (HICT) and other circuits where we emphasize compound movements like pushups, lunges,

squats and thrusters with an undefined work/rest ratio in “For Time” or “AMRAP” workouts.

STRENGTH AND MUSCULAR GROWTH

As with any activity, FightFit Fitness workouts are a combination of aerobic and anaerobic activity, with some workouts more aerobic in nature and others more anaerobic. We generally recommend the use of low load resistance completed to failure during the specified interval, when using resistance. For example, most individuals cannot do 2 minutes of continuous box dips or pushups. The individual would perform the exercise to failure, rest and then take up the exercise again if there is any time remaining within the interval.

The research is not definitive when it comes to all of the effects of low resistance, high volume exercise, but there is directional research that can help us understand the impact our workouts have on members.

According to a December 2017 article (Strength And Hypertrophy Adaptations Between Low- Vs. High-load Resistance Training: A Systematic Review And Meta-analysis) in the **Journal of Strength and Conditioning Research,** similar muscle hypertrophy (growth) can occur with either low resistance, high volume exercise or high resistance, low volume exercise. The research is less definitive when it comes to the impact on Type I vs Type II muscle fibers and the impact on strength improvements, according to a September 2018 article (Are The Hypertrophic Adaptations To High And Low-load Resistance Training Muscle Fiber Type Specific?) in **Frontiers in Physiology**. However, it is generally believed that low resistance, high volume exercise provides greater increases to Type I muscle fiber and studies have shown that individuals following this protocol show greater improvement in their ability to increase the number of repetitions completed to failure versus individuals following a high resistance, low volume exercise program. On the contrary, high resistance, low volume exercise produces larger increases in strength than those following a low resistance, high volume program.

It should be noted that the vast majority of studies on this topic have test subjects complete exercises to failure. From a practical standpoint, it is more difficult for individuals to complete low resistance, high volume sets to failure. As FightFit workouts generally include this type of exercise, it is important for the FightFit

Certified Trainer to encourage members to push themselves to failure during resistance exercises.

BOXING & KICKBOXING

Kickboxing is a group of stand-up combat sports based on kicking and punching, historically developed from karate mixed with boxing. Kickboxing is practiced for self-defence, general fitness, or as a contact sport. Historically, kickboxing can be considered a hybrid martial art formed from the combination of elements of various traditional styles.

Most FightFit Fitness Workouts will combine boxing/kickboxing with non-resistance, resistance and core work. Typically, about 50% of the workout will be “on the bag”, meaning a combination of boxing and kickboxing movements will be deployed. However, the bag work can be virtual, where participants are shadow boxing, replicating the punching and kicking movements without a bag present.

Both boxing and kickboxing have proven to provide excellent aerobic training and below you will find some studies supporting that conclusion.

Below are the results of an ESPN poll ranking boxing as the most difficult sport across 10 categories of skill and athleticism. ESPN surveyed a group of sports scientists from the United States Olympic Committee, academicians who study the science of muscles and movement, a star two-sport athlete, and sports journalists:

Degree of Difficulty: Sport Rankings												
SPORT	END	STR	PWR	SPD	AGI	FLX	NER	DUR	HAN	ANA	TOTAL	RANK
Boxing	8.63	8.13	8.63	6.38	6.25	4.38	8.88	8.50	7.00	5.63	72.375	1
Ice Hockey	7.25	7.13	7.88	7.75	7.63	4.88	6.00	8.25	7.50	7.50	71.750	2
Football	5.38	8.63	8.13	7.13	6.38	4.38	7.25	8.50	5.50	7.13	68.375	3
Basketball	7.38	6.25	6.50	7.25	8.13	5.63	4.13	7.75	7.50	7.38	67.875	4
Wrestling	6.63	8.38	7.13	5.13	6.38	7.50	5.00	6.75	4.25	6.38	63.500	5
Martial Arts	5.00	5.88	7.75	6.38	6.00	7.00	6.63	5.88	6.00	6.88	63.375	6
Tennis	7.25	5.13	7.13	6.75	7.75	5.63	3.00	5.00	8.38	6.75	62.750	7
Gymnastics	5.38	6.13	6.63	5.00	6.38	10.00	7.50	6.88	4.50	4.13	62.500	8
Baseball/Softball	4.63	5.75	7.63	6.50	6.75	4.75	5.13	5.63	9.25	6.25	62.250	9
Soccer	7.75	4.50	5.13	7.25	8.25	4.75	3.63	6.25	6.50	7.50	61.500	10
Skiing: Alpine	5.13	5.25	6.00	7.38	6.13	5.63	8.38	6.00	5.13	5.63	60.625	11
Water Polo	7.88	6.63	6.88	5.38	6.38	5.00	4.25	6.38	6.25	5.63	60.625	11
Rugby	6.75	7.00	6.38	5.88	6.00	4.13	6.50	7.88	4.38	5.63	60.500	13
Lacrosse	6.63	5.13	5.75	7.00	6.63	4.75	4.38	6.13	7.13	6.88	60.375	14
Rodeo: Steer Wrestling	4.00	7.00	7.88	3.88	4.88	5.00	7.88	6.88	5.13	4.00	56.500	15

In another study (The Effects Of Five Weeks Of Kickboxing Training On Physical Fitness) published in July 2014 in Muscles Ligaments Tendons Journal, kickboxing was shown to provide significant improvement in upper-body muscle power, aerobic power, anaerobic fitness, flexibility, speed and agility.

Injury Prevention

Though non-contact, FightFit Fitness boxing and kickboxing can lead to injuries due to overuse and improper technique. The Trainer should provide each participant with adequate coaching on technique, intensity and rest prior to classes and close supervision during classes.

Also note that Trainers are not immune to injury. In a 2003 study (National Strength & Conditioning Association Incidence Of Injury In Kickboxing Participation) published in the **Journal of Strength and Conditioning Research** in 2003, injuries from kickboxing were reported in 31% of the instructors and 15.5% of the participants. The most common participant injuries were the back, knee and ankle. Improper technique was the cause of injury reported by 25% of the subjects, 20% who felt their injury was due to a significant increase in exercise and 17% believed the movements were performed too fast. So, roughly, 62% of the injuries could have been prevented with proper coaching!

Breathing

This topic tends to get little emphasis in group training environments, but proper breathing can help your members recover quicker between intervals and increase their aerobic and anaerobic capacity through proper breathing.

The following excerpts are reprinted with permission from the National Academy of Sports Medicine

Breathe Right: Inhale. Exhale. Repeat.
Source: National Academy of Sports Medicine
By: Laura Quaglio
Date: November 2, 2017
https://blog.nasm.org/fitness/breathe-right-inhale-exhale-repeat/

Are your clients breathing right?
The act of breathing seems incredibly simple, but doing it properly can be surprisingly complex–and of vital importance to your clients' performance.

HOW IT WORKS
The average person's lungs move about 0.5 liters of air with each relaxed breath. That amount can jump to 3 liters during vigorous exercise.

When you inhale, air travels through your nose and mouth and on through the pharynx, larynx, trachea, bronchi, and smaller and smaller tubes called bronchioles (which are the thickness of a hair) to 600 million small sacs in the lungs called alveoli. Each alveolus is surrounded by a net of tiny capillaries, where red blood cells drop off carbon dioxide and pick up oxygen (a process called "gas exchange").

When you exercise, the levels of carbon dioxide and hydrogen ions in your bloodstream increase. This leads to a drop in blood pH, which triggers an increase in breathing rate. In fact, the primary driving force behind almost all respiration (especially at sea level) is a need to remove carbon dioxide, not to take in oxygen. (At altitude, respiration increases because the blood is less saturated with oxygen.) Exercise increases respiratory system efficiency, but it doesn't significantly increase lung capacity

BREATHS BY THE NUMBERS

- 12-15 AVERAGE NUMBER OF BREATHS TAKEN PER MINUTE AT REST
- 17,000 APPROXIMATE NUMBER OF BREATHS TAKEN PER DAY
- 6 MILLION APPROXIMATE NUMBER OF BREATHS TAKEN PER YEAR

SURPRISING OUTCOMES OF BAD BREATHING

The diaphragm is a dome-shaped muscle beneath the lungs. When you inhale, it flattens and moves downward, pressing against the abdominal organs so the lungs can expand. However, many adults don't properly engage the diaphragm—poor posture, stress, and other factors lead people to breathe shallowly, moving the upper rib cage more than it should. It can also cause discomfort in the chest and back muscles, weaken the muscles in the pelvic floor and lower back, and disrupt proper movement of the shoulders and spine.

To help clients practice proper diaphragmatic breathing, have them place their hands on their lower ribs so they can feel them rise and fall as they breathe. The majority of the breathing motion should be felt here, not the upper chest, during everyday life and especially during exercise.

HOW TO BREATHE DURING EXERCISE

The gold standard during strength training is to inhale on relaxation and exhale during exertion. For cardio, you generally breathe in and out through the nose or, when intensity ramps up, through the mouth. Here, a few breath-control tricks to try with your clients.

For clients who tend to hold their breath, encourage them to count each rep out loud.

If clients experience side-stitches while running, suggest exhaling during the left footfall (not the right).

If your client can't catch his breath, have him stand tall with his hands behind his head to open the lungs and allow for deeper inhalations—don't bend over with hands on knees.

To gauge exercise intensity, use the talk test: If the person can't talk much, they're in the high-intensity range. If they can carry on a conversation, the intensity is low to moderate.

When cooling down or stretching, deep, slow breathing helps calm the body and aid in recovery.

References:
NASM (National Academy of Sports Medicine). 2017. NASM Essentials of Personal Fitness Training (6th ed.). Burlington, MA: Jones and Bartlett Learning.

STARTING YOUR FIGHTFIT PROGRAM

It's important that every FightFit Fitness Certified Trainer have familiarity with the FightFit philosophy. It will help you to not only understand why we think this is a better way to fitness but it will also help you explain the difference between our program and other fitness programs.

- Certification is required of all trainers. **Only FightFit Certified Trainers can teach FightFit classes.**
- **FightFit does not provide comprehensive fitness education. Trainers are taught the specifics of FightFit and FightFit programming. However, there are many aspects to teaching individual and group fitness classes and we strongly encourage all Trainers to get appropriately trained and certified as a personal or group fitness trainer from a recognized NCCA fitness organization or association before conducting FightFit classes. You, as a Trainer, are solely responsible for the safety and well-being of yourself and those you train. It is up to you to ensure that all individuals that you teach are physically, mentally and medically ready to take FightFit classes.**
- To get started with FightFit, we recommend heavy bags, plyo boxes, medicine balls (slam balls) and dumbbells. All of our workouts can be performed with just these 4 pieces of equipment. However, because the heavy bag are a large piece of equipment that some spaces cannot accommodate, the strikes (punches and kicks) can be performed with dumbbells or even without weights (shadow boxing) without unduly diminishing the effectiveness of the FightFit workout.

OUTFITTING A GYM

For group classes, we recommend setting up 4 stations which will accommodate up to 8 members. Due to the intervals and mixed equipment use, 2 members can share one station.

Here is the recommended equipment as you start your FightFit Fitness practice. We have preferred pricing with Century Martial Arts but any vendor may be used to procure product.

		
Heavy Bags Century Martial Arts Wavemaster 2XL Pro	Gloves (Multiple Sets) - Century Martial Arts Open Palm Fitness Glove	Strive Medicine Ball Century Martial Arts (2-10lb; 2-15lb)

For Century Martial Arts wholesale pricing, Contact **Nick Weinbrenner- Fitness Account Developer**
405-426-4118 nweinbrenner@centurymartialarts.com
Apply here: https://info.centurymartialarts.com/account-sign-up

	
Plyo Boxes Available at Amazon Garage Fit	Dumbbells 4 sets of 5lb, 10lb, 15lb; 2 sets of 25lb

ADVANCED SET – ADD THIS TO YOUR STARTER SET AS YOUR BUSINESS GROWS

	
BOSUs	Kettlebells

SUGGESTED TECHNOLOGY & AUDIO/VIDEO EQUIPMENT

- iPad
- AppleTV
- TV Monitor (recommend 55”)
- TV Mount

MANAGING THE MEMBER EXPERIENCE

First, you need to understand why members join gyms and why they quit. The below is not a complete list but what we typically find in the research.

Why Members Join & Why They Quit

Why they join:

1. They like the trainer*
2. They like the workouts
3. The workouts are unique and interesting
4. They're getting results*
5. Location and classes are convenient
6. They don't have the equipment at home
7. The price is right

And why they quit:

1. They don't like the trainers*
2. They're not receiving "true value" / too expensive
3. They don't use membership enough
4. They get bored / there's not enough variety*
5. Classes don't suit their schedule
6. They don't know what to do when they get there*
7. They travel a lot or their schedule changed
8. They don't have the time

* You, as a trainer, have direct control over these elements. For example, you can help members achieve their goals by making sure they know how to properly perform each exercise, you're assessing their progress via the PS2 and Heart Rate &

Recovery tests, you're motivating them through the energy and passion you bring to every workout.

A good trainer possesses the following qualities:

They're Passionate & Energetic. They have a passion for fitness and enjoy seeing their members succeed in achieving their goals. They bring energy and enthusiasm to each and every class. They're pushing their members to achieve more than the member thinks possible.

They're knowledgeable. They understand each workout and can clearly and succinctly explain the workout of the day to his/her class. They can perform, demonstrate and modify each exercise to accommodate member needs.

They're marketers. They are always looking for opportunities to market the program outside of the gym and they're reminding current member of upcoming activities and events.

<u>The In-gym Experience</u>

- Maintain a clean gym.
    - Antiseptic wipes should be easily accessible.
    - Trainers should wipe down equipment after each class.
    - Have class members wipe down equipment between use if they are sharing equipment.
    - It should go without saying, but keep the bathrooms clean.
    - Ensure all equipment is aligned by station before class and replaced after class.
    - Have extra gloves available for new members and for those that may have forgotten theirs.

PREPARING MEMBERS FOR THEIR FIRST CLASS

Clothing & Equipment

- Remind them to wear comfortable clothes that allow for easy movement.
- Have them bring a towel and water bottle. It's important to stay hydrated. The workouts are challenging and proper hydration helps avoid injuries and health risks as well as assisting in recovery.
- Gloves are required for striking the bag. Most workouts incorporate some form of heavy bag strikes. Your gym should have gloves in stock for you to purchase or you can purchase online via Amazon or other sports retailers. We recommend grappling gloves that are also referred to as open-finger or half-finger gloves. These gloves allow you to keep them on while performing all of our exercises.

Preparing For The Class

- Recommend they arrive at least 15 minutes prior to their first class to do an initial fitness assessment. The assessment templates (Pushup/Situp/Squat & Heart Rate Recovery) are provided at the end of this section.
- Review basic striking techniques (punches & kicks) and foundational exercises of squats, lunges and pushups (if you haven't already reviewed squats and pushups in the assessment).
- Ask the member of any known health issues or limitations so that you can modify exercises to suit their capabilities.
- Discuss their activity and fitness level. Let them know that exercises can be modified to suit various strength and fitness levels.

Class/Workout Overview

- Remind them to start slow, that it's always easier to push yourself harder or increase your weights in later rounds.
- Make sure they hydrate during class.
- Remind them to be a good classmate and wipe down equipment after use.
- Remind them to rehydrate and refuel after class.

CLASS PLANNING CHECKLIST

Workout Overview (These Are General Guidelines And Timing Will Vary Per Workout)

- The Warm-Up: 4-5 Minutes
- Workout Explanation: 2-3 Minutes
- The Workout: 30-40 Minutes
- The Cool-Down: 3-5 Minutes

Pre-workout Checklist

- Review the Workout of the Day.
- Become familiar with each exercise, its description and its modifications.
- Be sure that you can demonstrate the exercises and their modifications.
- Set up the stations and equipment prior to class.
- Stock wipes.
- Display the exercises on a whiteboard, chalkboard, or monitor so everyone can follow along.
- Ensure that you have the applicable timer sequence loaded on your timer app.
- Ready your music playlist (Pandora, Spotify, etc.)
- Check room temperature (too hot or too cold can be hazardous.)
- Encourage water consumption.
- Identify new-comers before class begins. Welcome them. Ease them into their first workout - let them know what to expect and encourage them to start slowly.
- Complete member fitness assessments prior to class.

CONDUCTING A CLASS

Introductions

- If possible, before class, get to know new members. Ask how long they have been working out, how often they exercise, and if they have any injuries (so you can modify movements).
- Introduce yourself.
- Ensure everyone is checked in.
- Ask if anyone is new to FightFit (if you missed this in the pre-class period). Welcome newbies to class and keep an eye on them throughout class. Make sure they have gloves, are comfortable with the gloves and encourage them to ask questions during class.
- Emphasize to new members that they should perform FightFit workouts at 50% effort and then increase from there as they feel comfortable. Members should gradually increase effort over several workouts. This will decrease pain and soreness and allow them to recover in time for the next workout. For those members in good fitness shape, they can exert additional effort but should take it easy on bag work if they are not used to striking a heavy bag. Remember, you want new members to become regular members and if they injure themselves, even just overly-sore knuckles, it may keep them from returning.
- Make sure all members have gloves.

Warmup

- Take the class through the standard FightFit Warm-Up (you'll find the video in the Trainer Videos section of the website).
- Take extra time with newbies with particular focus on striking basics.
- Music can be on in the background but at a lower volume.

Workout

- Explain the Workout of the Day, each exercise, and its variations and modifications.
- Demonstrate the moves of each exercise. You will be demonstrating the movements again when each exercise is faced for the first time.

- Be sure to call out and demonstrate each exercise and its Key Performance Elements. Then as the class progresses, ensure that members are performing the exercises correctly.
- Be an active instructor. Keep the class on pace. Move around the studio encouraging members and watching for proper form, especially on injury-prone movements like boxing, overhead weights, squats, and lunges.
- Music is a key component of the FightFit experience. Choose upbeat music. Don't just select music you like but consider your audience. If you have a mixed demographic, pop hits are usually best. With an older crowd, you can mix in some 70s/80s music. You can also promote themed workouts like hits of the 80s on Wednesday mornings. Have fun with it and keep it varied. Many spin studios, for example, require their instructors to have new playlists for every workout.

Cool-down

- It's important to end on a positive and pleasing note. Do not short-change the cool-down.
- The last experience is the one your members will remember most. You want them leaving the studio with a smile on their face and looking forward to returning for their next class.
- Walk members through the standard FightFit Cool-Down (you'll find the video in the Trainer Videos section of the website).
- Talk about upcoming classes, weight loss challenges and any other studio-specific events.

Injuries

- Have a clearly defined process for handling and documenting injuries.
- For your convenience, we provide a document that may be used for these situations but please check with your medical and legal counsel for guidance in handling injuries.

FITNESS ASSESSMENT - PS2 (PUSHUP / SQUAT / SITUP)

Name:_____

- Push-Ups for 30 sec* (Chest to Ground, Hands Off Ground)
- Squats for 30 sec* (Butt to Box at 16" height)
- Super Sit-Ups for 30 sec* (Back of Hand to Ground, Fingers to Toes)
- Reassess every 6 months
  * Fitter members should do the above for 45 seconds each

Date	Push-Ups	Squats	Sit-Ups

BODY MEASUREMENTS

Date	Weight	Body Fat %

FITNESS ASSESSMENT - HR2 (HEART RATE RECOVERY TEST)

Name:_____

ALWAYS ENSURE THAT INDIVIDUALS ARE MEDICALLY CLEARED TO CONDUCT THIS TYPE OF TEST. THIS TEST MAY BE TOO DIFFICULT FOR THOSE WITH PARTICULAR MEDICAL CONDITIONS OR WITH POOR FITNESS LEVELS.

Resting Heart Rate (while sitting down, measure for 10 sec then multiply the result by 6)
Step Up/Step Down for 3 min on 16" box: Metronome (96 BPM - use a smartphone app)
Heart Rate Immediately After Exercise (while sitting down, measure for 60 sec)

Date	Resting HR	Recovery HR

Use a metronome app on your smartphone to measure the beats per minute while conducting this test, set at 96 beats per minute

As members improve their aerobic capacity...

- Resting heart rate should decline (as the heart works more efficiently)
- Recovery heart rate should decline (as the heart recovers more quickly)

INCIDENT REPORT

Date: ____/____/____

Time of incident: _____

Participant Name: _____

Incident description: _____
_____
_____

Was EMS notified? _____

If EMS was notified, describe who made this decision:
_____

Did the participant rejoin class after the incident? _____

Was a family member/care provider notified of the incident? _____

If yes, who? _____

Mode of transportation home: Self_____ Other_____

Name_____

Name of person completing this report: _____

Relationship to participant: _____

Phone number: _____

Signature: _____

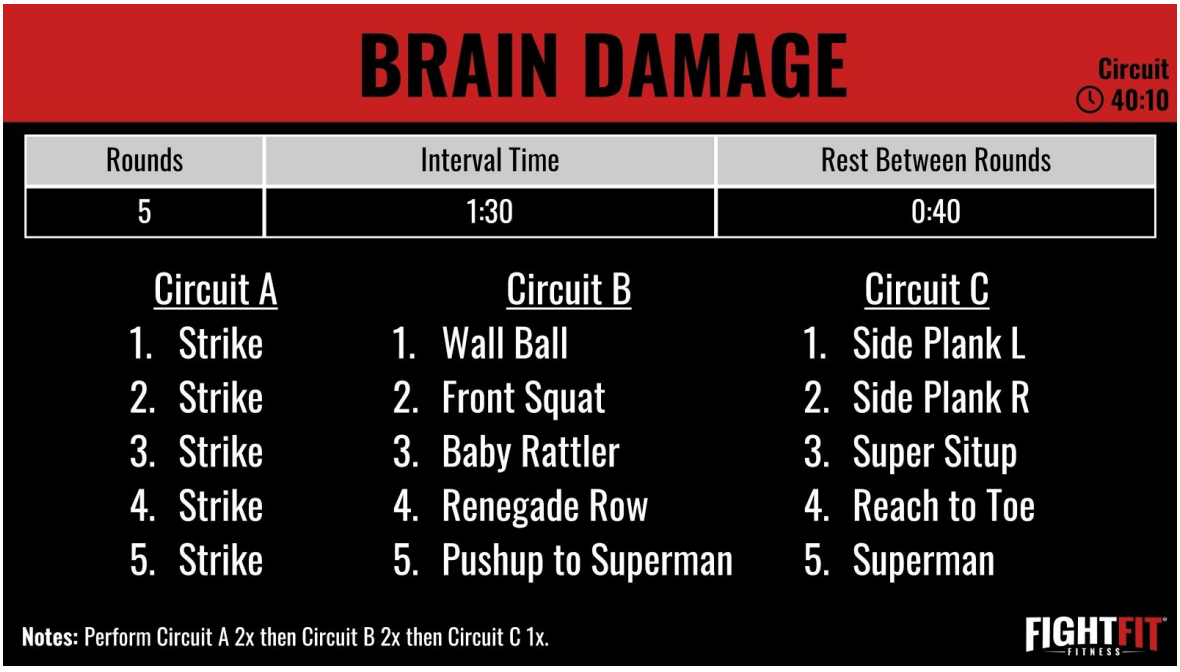
FIGHTFIT WORKOUTS & EXERCISES

A Workout Walkthrough

This workout, **Brain Damage**, is composed of 3 circuits, each with 5 intervals or exercises. The workout has 5 total rounds. With FightFit, a round is defined by a set of intervals followed by a rest. The rest indicates the end of the round. This workout is 40 minutes and 10 seconds long (40:10).

The member would first perform exercises #1-5 of Circuit A for 1:30 each. After the 5th interval/exercise, there would be a 0:40 rest. The member would then perform Circuit again in the same fashion. After the 2nd 0:40 rest, the member would move on to Circuit B and perform that circuit for 2 rounds and then finally move to Circuit B for one round to complete the workout.

If you have split the class with some members starting on the bag and others off the bag, the members would still perform each circuit for the indicated number of rounds, i.e. Circuits A & B twice and Circuit C one time.

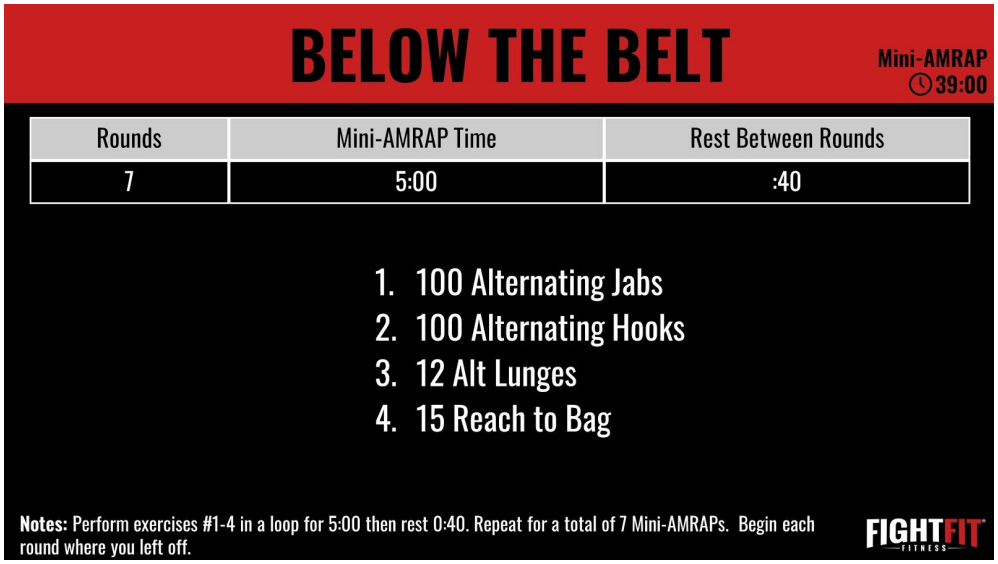


Workout Types

The workouts are categorized in the following ways:

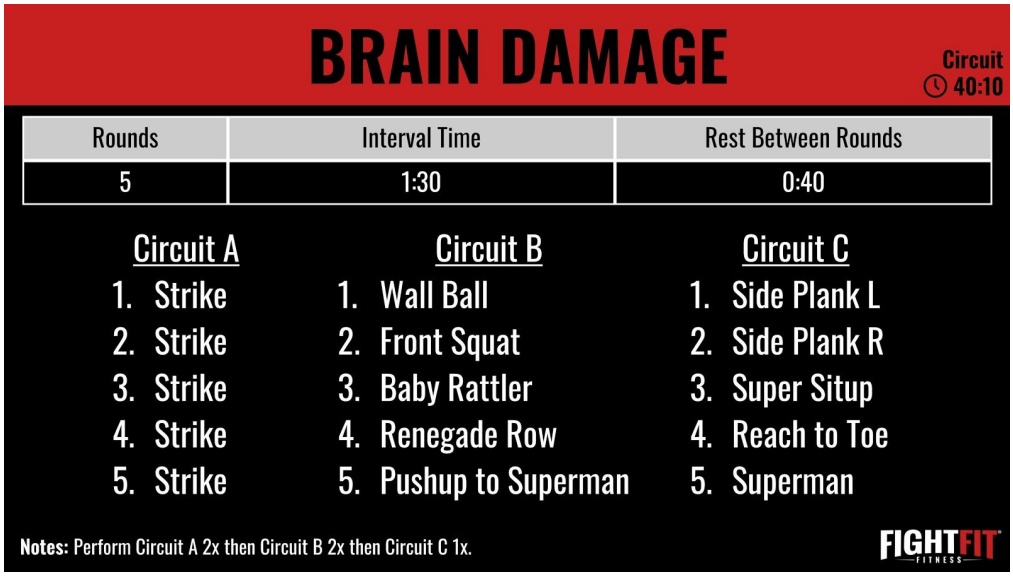
AMRAP or As Many Rounds As Possible: This is a series of exercises to be performed as quickly as possible, with proper form, wherein the member counts how many times she has completed the set of exercises.

Mini-AMRAP: Same as above except that the workout will be broken out into more than one time period. So, instead of a typical AMRAP lasting 30 minutes, a mini-AMRAP may be composed of 2 – 6 minute AMRAPs with a rest in between.

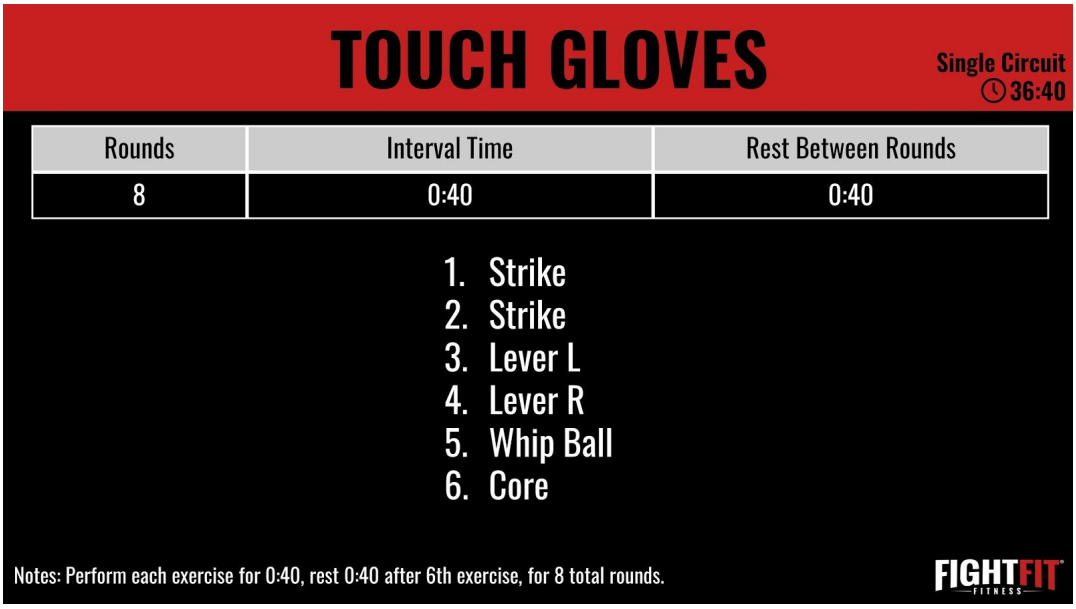


For Time: This type of workout has the member performing a specified number of repetitions for each exercise, instead of each exercise/interval lasting a specified period of time. The member seeks to complete the specified repetitions of each exercise as quickly as possible, "for the best time."

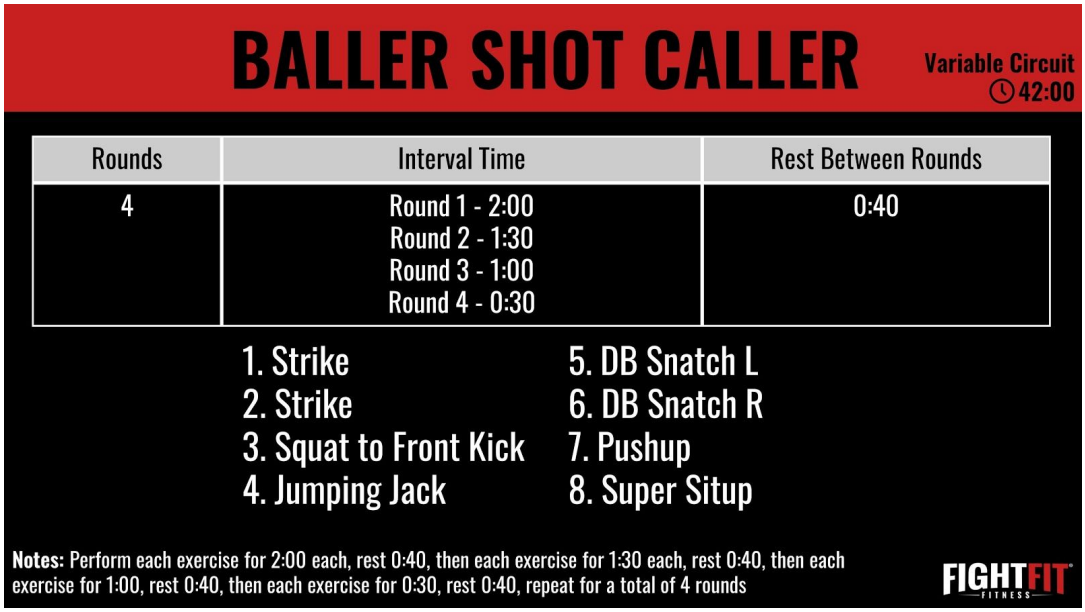
Circuit: Circuit workouts will be composed of multiple circuits. A circuit is simply a group or set of exercises. Each exercise is typically performed for a stated period of time. There is usually a rest period at the end of the circuit. In FightFit workouts, a rest period indicates the end of a round. Circuits are typically repeated a set number of times as indicated in the workout notes, or the members are alternating between the circuits once the series of exercises and rest are completed.



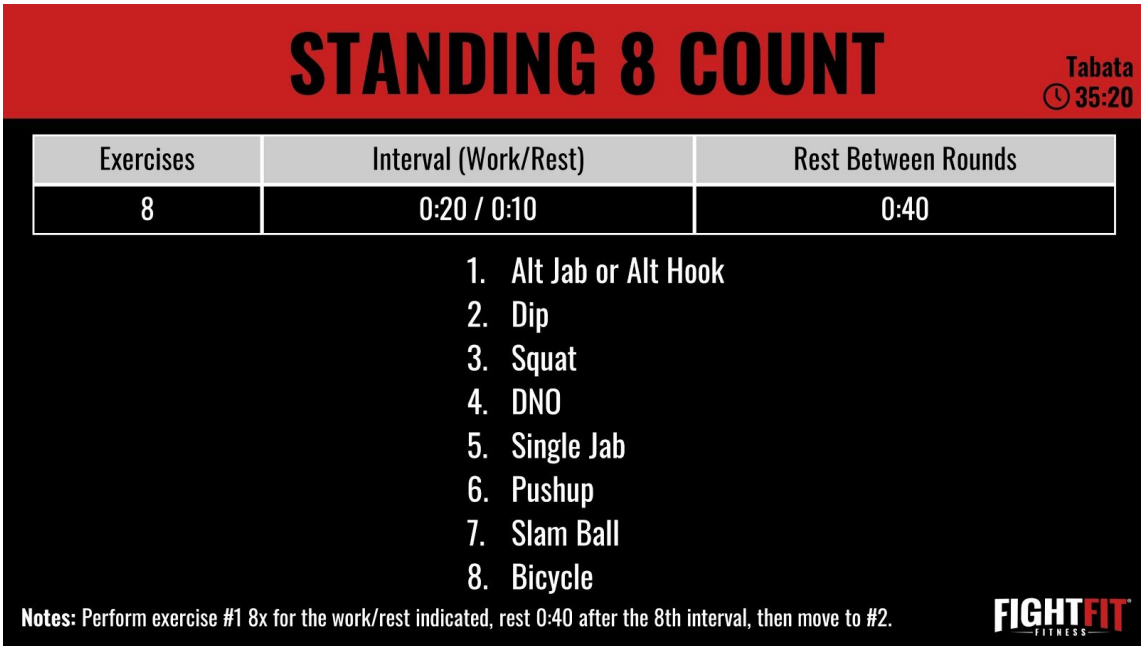
Single Circuit: As the name suggests, this is a single set of exercises. The single circuit will be repeated the stated number of times, with each exercise within the circuit performed for the length of time indicated.



Variable Circuit: This workout will have members perform exercises of variable duration and may also have variable rest periods. Each interval may have a different duration for each exercise or each round may indicate a different duration for all of the exercises within that round.



Tabata: A Tabata workout is the original form of High Intensity Interval Training. In a Tabata, the member does 20 seconds of work as hard and fast as she can and then rests for 10 seconds.



STANDING 8 COUNT

Tabata
35:20

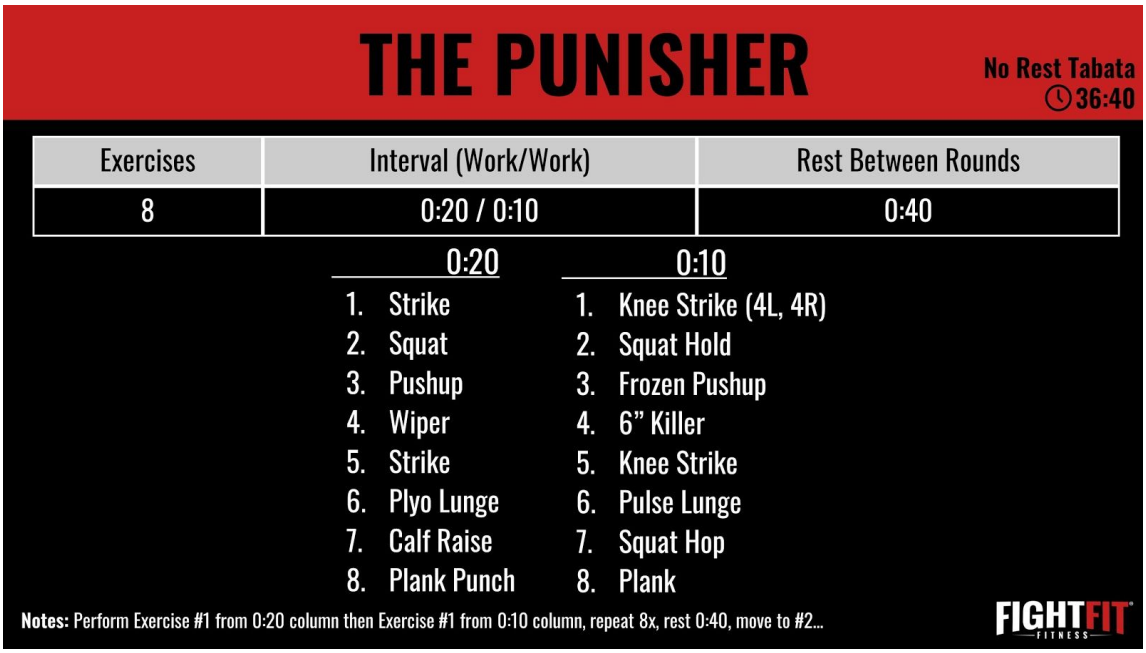
Exercises	Interval (Work/Rest)	Rest Between Rounds
8	0:20 / 0:10	0:40

1. Alt Jab or Alt Hook
2. Dip
3. Squat
4. DNO
5. Single Jab
6. Pushup
7. Slam Ball
8. Bicycle

Notes: Perform exercise #1 8x for the work/rest indicated, rest 0:40 after the 8th interval, then move to #2.

FIGHTFIT FITNESS

No Rest Tabata: This Tabata workout has the member performing an exercise as hard and as fast as she can for 20 seconds and then performs a 2nd exercise in the same fashion for 10 seconds.



THE PUNISHER

No Rest Tabata
36:40

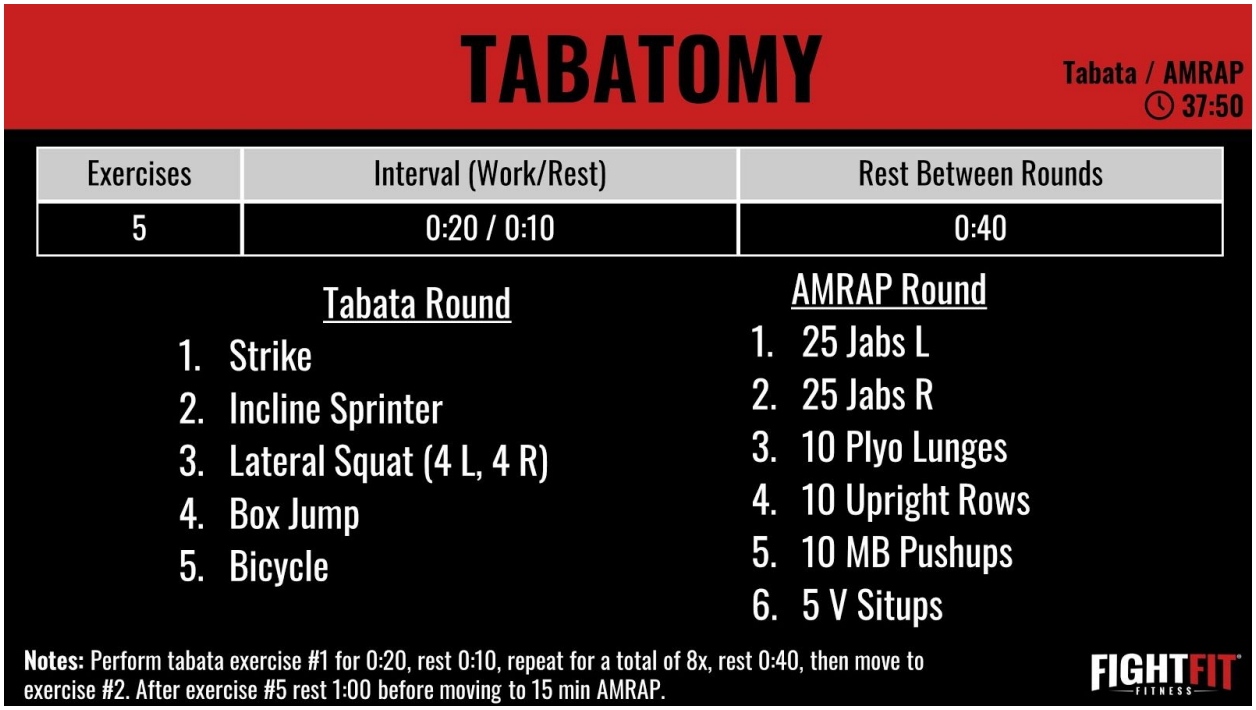
Exercises	Interval (Work/Work)	Rest Between Rounds
8	0:20 / 0:10	0:40

0:20	0:10
1. Strike	1. Knee Strike (4L, 4R)
2. Squat	2. Squat Hold
3. Pushup	3. Frozen Pushup
4. Wiper	4. 6" Killer
5. Strike	5. Knee Strike
6. Plyo Lunge	6. Pulse Lunge
7. Calf Raise	7. Squat Hop
8. Plank Punch	8. Plank

Notes: Perform Exercise #1 from 0:20 column then Exercise #1 from 0:10 column, repeat 8x, rest 0:40, move to #2...

FIGHTFIT FITNESS

Tabata/AMRAP: This is simply a combination workout which includes a Tabata portion and an AMRAP portion



Workout / Station Setup

Setting up a FightFit workout with efficient flow between equipment stations is one of the most important factors in running a successful workout. As most intervals are timed, you should strive to minimize time between intervals, e.g. moving from one piece of equipment to another or moving from a lying position to a standing position.

For striking exercises, make sure members have plenty of room to strike effectively and safely and can easily move around their station between different pieces of equipment. This will keep members from feeling cramped and will promote safe training.

With few exceptions, all FightFit workouts accommodate a 2:1 ratio between members and sets of equipment (2 members per 1 set of equipment).

If you have more members than bags, then members will have to share bags and take turns while kicking or punching during more powerful combinations.

When you do not have enough equipment to accommodate one set of equipment for each member, you should split the class with half of the members starting on a bag exercise while the other half is assigned to another piece/set of equipment. You can also accommodate more members by having them start at different positions in the workout. Be prepared by having a "flow" plan for each workout well prior to the beginning of the class.

Many of the workouts will only require 1 set of each dumbbell per station, i.e. 10 lb for women and 15 lb for men. Also take note as to whether a single dumbbell or a set of dumbbells are required. A "curl" would require a set of dumbbells per weight category whereas a "DB Snatch" would require a single dumbbell per weight category.

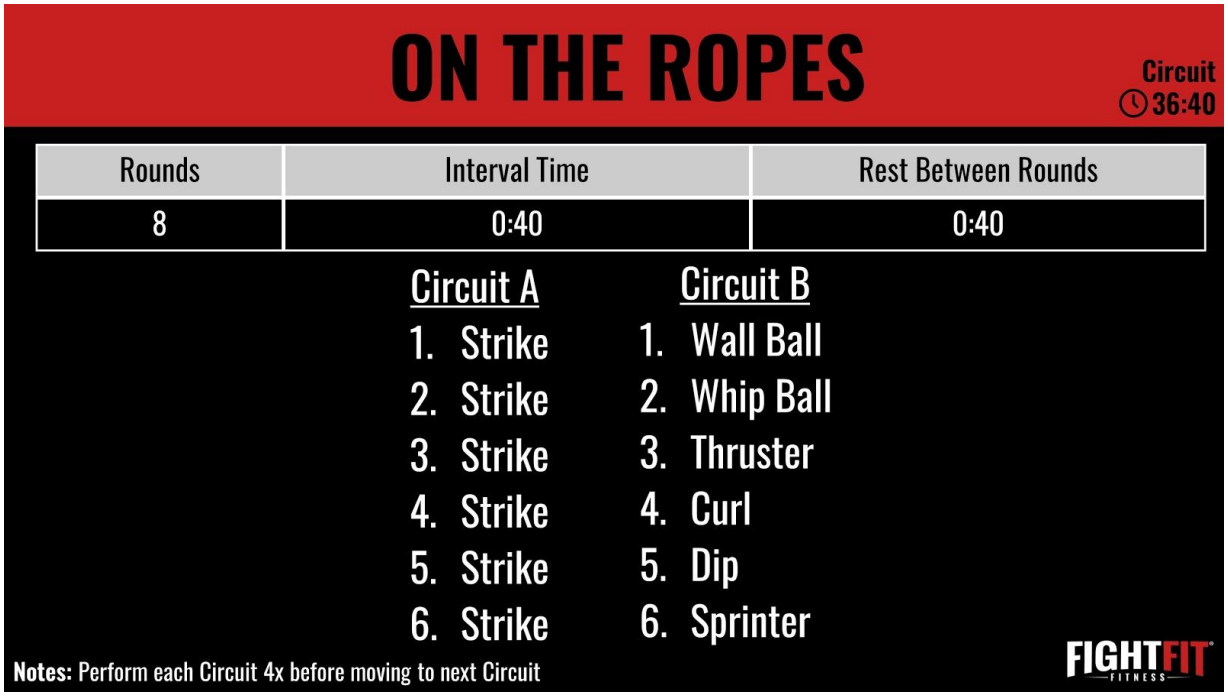
Per our suggested equipment documentation, each facility should be equipped with at least 4 sets of equipment to comfortably accommodate up to 8 members per class.

The recommended sets include 4 heavy bags, 4 plyo box, 4 sets of dumbbells (pairs of 5 lb, 10 lb and 15 lb), 2-sets of 25 lb dumbbells, 2-10 lb slam balls and 2-15 lb slam balls. As your program grows you can add equipment incrementally with additional sets of the original equipment or by adding kettlebells and BOSU balls. This type of model allows you to get started with minimal financial investment.

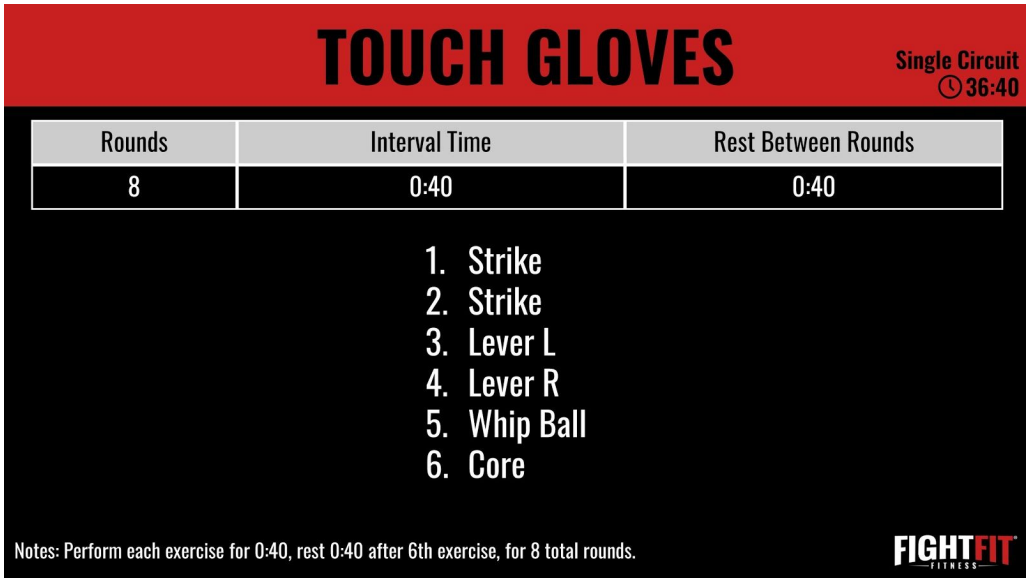
Station Setup Examples

In this workout, **On The Ropes**, we will use heavy bags, plyo boxes, med balls and dumbbells. For this type of workout and a class of 8 members, you would start 4 members on a bag (Circuit A) and 4 members off the bag (Circuit B). After the members complete the 4th round they would switch places.

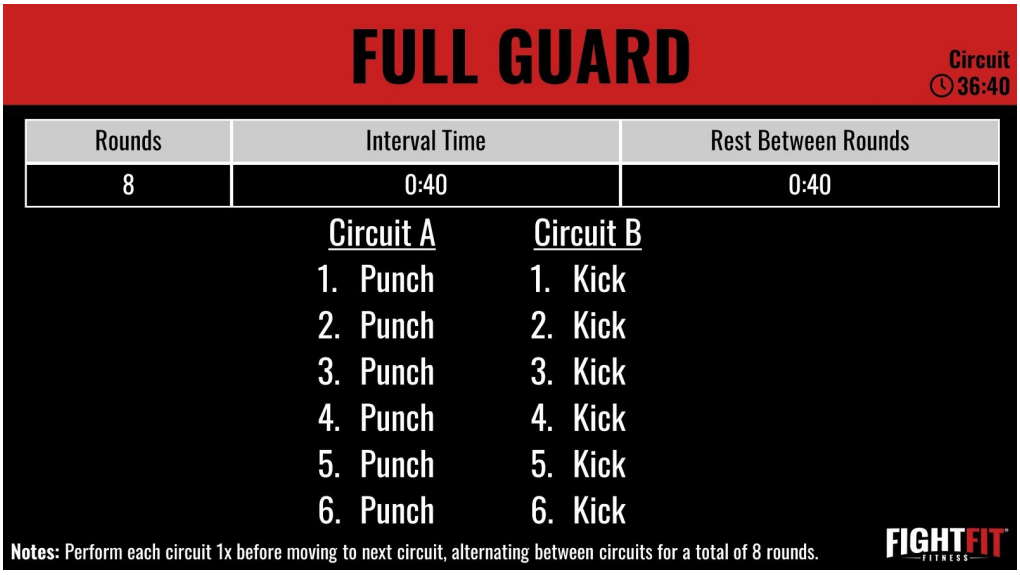
The stations would be set up where the equipment – boxes, med balls and dumbbells – would be grouped together but sufficiently distanced from the bags so members on the bags would not interfere with the members on the equipment.



For **Touch Gloves,** you would set up the equipment and have the members start at different positions in the workout, i.e. some members start on the bags, some begin with dumbbells and the remaining with medicine balls. Then, members move consecutively through the list of exercises. With this type of set up and workout, you could accommodate up to 12 members with 4 bags, 4 sets of dumbbells and 4 med balls.



For workouts that only require striking such as **Full Guard**, members will have to share bags. You should have members alternate turns after each strike when they are kicking or throwing more powerful combinations like the 1:2:3.



Trainer's Choice Intervals/Exercises

You will note in our workouts that we sometimes list "Strike, Punch, Kick or Core" as the chosen exercise. We look at these as "Trainer's Choice." The Strike, Punch, Kick and Core is a generic term for a set of exercises. In this situation, we want to provide the trainer with the freedom to choose the exercise of their choice within that category. You may stick to easier punches for a mostly beginner group or choose advanced punch combinations or kicks for a more advanced group.

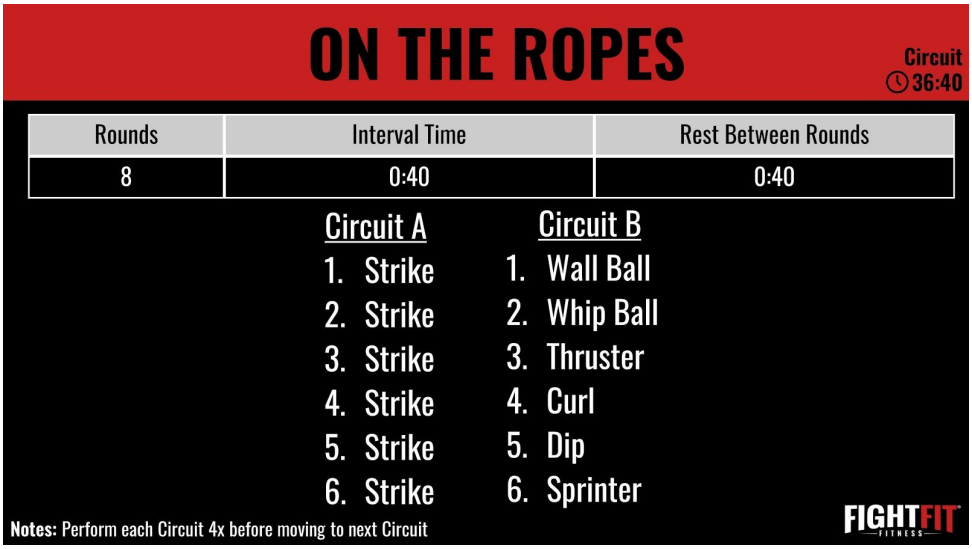
When there are multiple trainer's choice intervals within a circuit, you will want to mix up the exercise for each interval. When there are just a few trainer's choice intervals, you will want to change up the exercise after each round.

When it comes to "core" exercises, you should consider the area of the core that each exercise is working. Consider mixing lower abs, upper abs, planks and back exercises as the intervals allow.

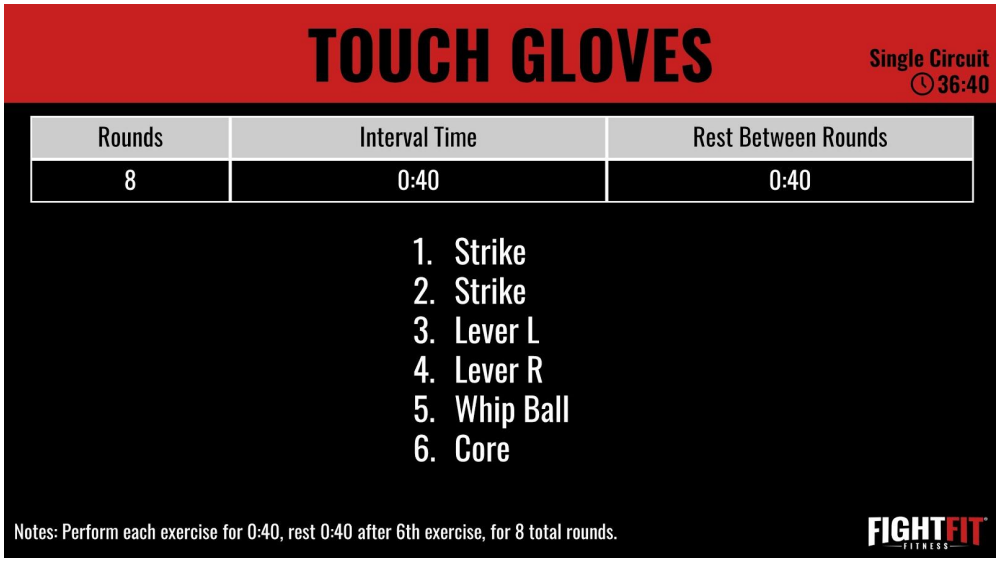
As you create your own FightFit Fitness workouts, you may also want to use this shorthand to give yourself the freedom to use the same workout template but vary the group of exercises each time you lead your class through the workout. However, if you follow this approach, make sure you know the specific series of exercises you want to use prior to the workout.

Trainer's Choice Examples

For **On The Ropes**, there are 6 Strike intervals. The trainer should provide a mix of punches and kicks across the 6 intervals and repeat those same exercises for each of the 4 rounds OR mix up the strikes by round, so round 1 might be simple punches, round 2 would be kicks, round 3 would be punch combinations and round 4 would be a mix of 3 punch intervals and 3 kick intervals.

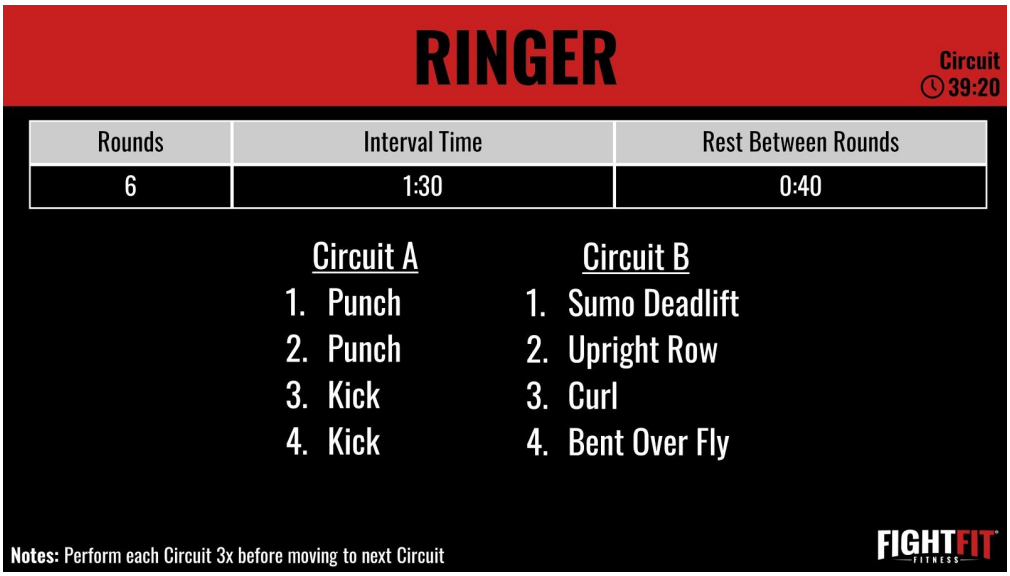


For **Touch Gloves,** the Trainer would want to change the strikes for each of the 8 rounds. So, the 1st round might be left jab and right jab for the two striking intervals, the 2nd round left cross and right cross, the 3rd round a 1:2:3 combination, the 4th round front kicks, etc.



For the **Ringer**, there are only 2 “punch” combinations per round. We suggest that the trainer changes the combination each round. This also applies to single circuit workouts where there are only 1 or 2 “strike” intervals.

We recommend starting off with the alternating jabs and alternating hooks. Trainers should also “keep in mind” the number of striking intervals to make sure when working a combination that is “one-sided” ie. 1:2 combo, they are able to work both left and right sides. This is particularly important for workouts with an odd number of striking intervals.



Strikes: A Deep Dive

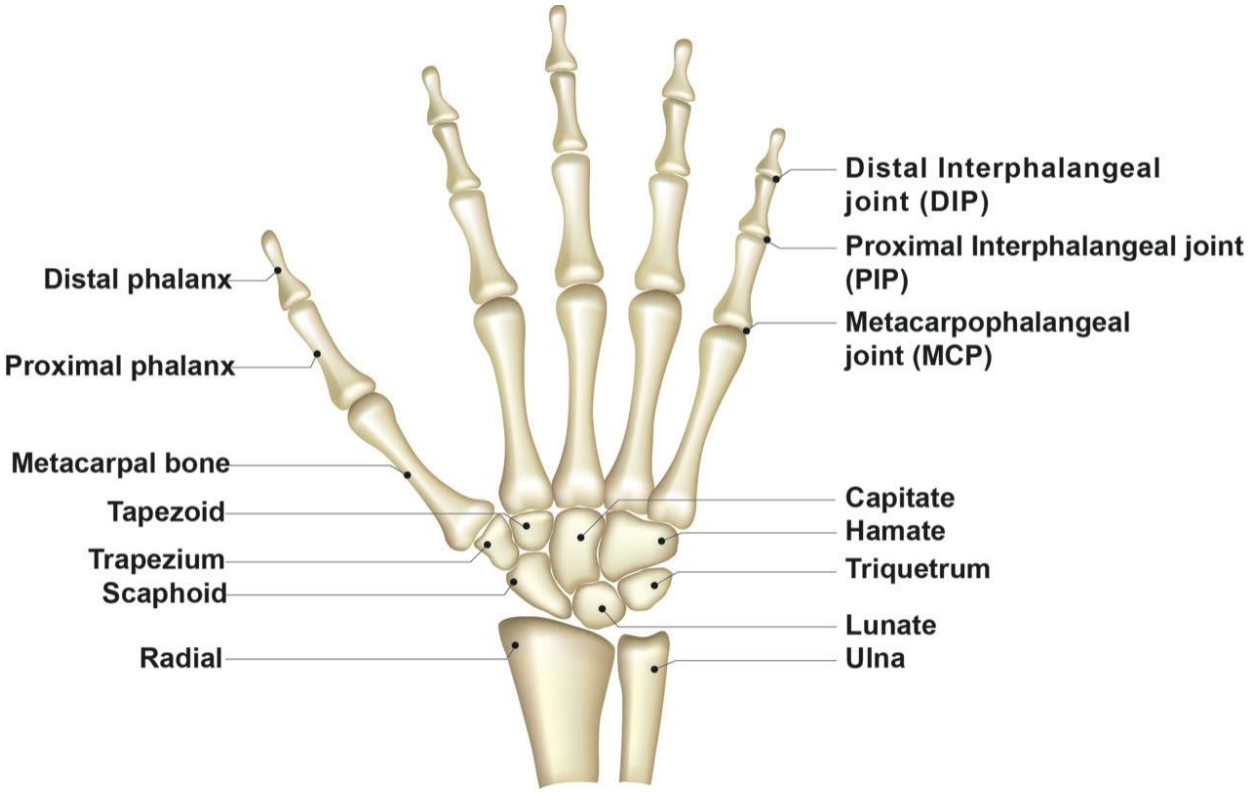
Strikes: The combination of bag work (striking) and resistance training sets us apart from other fitness brands. MMA fighters and boxers are among the fittest people on the planet, competing in some of the world's toughest sports.

Punching a heavy bag can be intimidating for new members but will quickly become one of their favorite aspects of the workout. However, weighted strikes, using light dumbbells, and shadow boxing/kickboxing provide a similar challenge. Be sure to walk new members through the basics of proper striking and let them know to "take it slow."

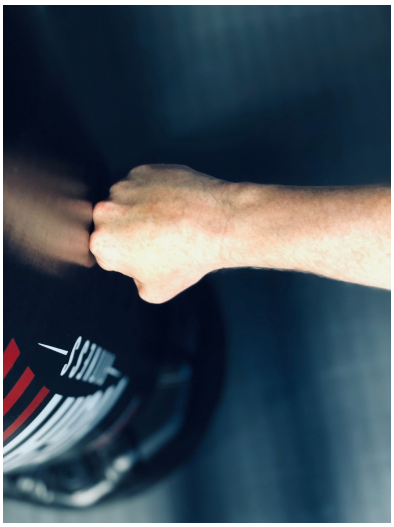
Proper **punching** technique includes the following:

- Keep wrist straight
- Keep fist tight with the thumb outside fist, covering the small knuckles near fingernails
- Make contact with the two biggest knuckles on top of the hand (index and middle fingers)
- Keep hands above the heart near the chin in the guarding / fighting position
- Hands should move in a straight line "on a rope" from the chest to the target and back
- Do not lock out the striking / punching arm
- Keep the arm that is not striking (the cover arm) next to the chin with the elbow tight to the body
- Make sure as you extend the striking arm toward the bag you are also twisting the torso to follow, this adds power to the punch (no "rock-em-sock-em" punches -where the member throws alternating jabs with the arms only and fails to twist the torso)
- Maintain a fighting stance when throwing the "numbered combinations"
- Keep the weight on the ball of the feet, don't get "stuck in the mud"
- When throwing "the hook" punch, keep the forearm parallel to the ground. Be sure to lift the front heel and rotate front foot and hips.

During a punch the proximal phalanges of the index and middle fingers should be the main force of impact on the bag. New members may have a tendency to impact the bag with their ring and pinky fingers and on the metacarpophalangeal joint (see below).



Hand Impact Position

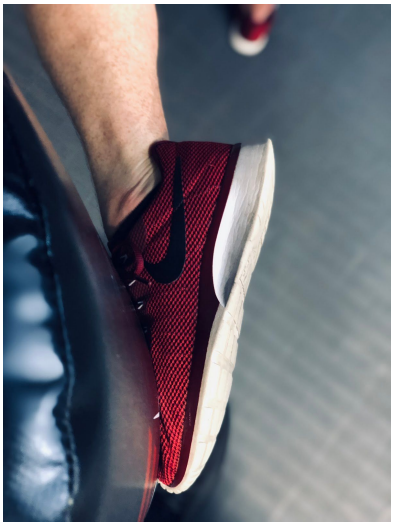
Jab/Cross (top view)	Hook (side view)	Uppercut (top view)
		

The boxer's non-punching hand should be guarding chin/face, while throwing a punch, as depicted here:

Proper **kicking** technique includes the following:

- Kicking a heavy bag requires great focus on the standing leg so as to avoid injury
- Make sure members don't lock out the kicking leg and maintain a slight bend on the standing leg with the quadriceps engaged
- The foot on the standing leg should always be pointed in the direction of the hips. This keeps the knee in a safe neutral position
- When performing a knee strike the weight should be on the standing leg and on the striking side the foot should just barely touch the ground. The heels should not touch the ground on the striking foot.
- When throwing a side kick the member should make sure the bottom foot is pointed in the direction of the hips on either the set up or when stepping up into position
- Extra attention should be paid to the round kick and we feel that it's imperative you remind the members every time about standing leg rotation. Be sure to remind the members to rotate the bottom foot with the direction of the hips to avoid injury. Standing foot should rotate at least 90° during a round kick.

Foot Impact Position

Front Kick (side view)	Side/Back Kick (top view)	Round Kick (top view)
		

Striking Fundamentals

Fighter's Stance

One foot back
Body angled 45°
Weight centered
Hands up in guard position (Hands above heart, Elbows close to ribs)

Neutral Stance

Feet parallel to bag
Chest facing bag
Weight centered

Hands up in guard position

Strikes

Jab (1)


Fighter's Stance
Hands move in a straight line from chest to the bag and back, palm faces ground at end of movement
This punch is thrown with the hand on the same side as the front foot.

Cross (2)


Fighter's Stance
Hands move in a straight line from chest to the bag and back
This punch is thrown with the hand on the same side as the rear foot
Hip rotates while back heel pivots

Hook (3)


Fighter's Stance
Lift heel and pivot front foot while rotating torso
Arm at 90° and parallel to ground
Palm faces chest at impact

Alternating Jab


Neutral Stance
Hands move in a straight line from chest to the bag and back, palm faces ground at end of movement
Alternate between left and right hands

Alternating Double Jab


See Jab definition
Deliver 2 quick jabs with same hand, brief pause, then 2 quick jabs with other hand

Alternating Hook


Neutral Stance
Lift heel and pivot punching side foot while rotating torso
Arm at 90° and parallel to ground
Palm faces chest at impact
Alternate between left and right hands

Alternating Double Hook

See Hook definition

Deliver 2 quick hooks with same hand, brief pause, then 2 quick hooks with other hand

1:2 Combo

Fighter's Stance

Throw Jab then Cross

1:2:3 Combo

Fighter's Stance

Throw Jab then Cross then Hook

Boxer Combo

(Jab)

(Jab:Cross)

(Job: Cross: Hook)

Fighter's Stance
Throw Jab then pause
Throw Jab, Cross then pause
Throw Jab, Cross, Hook

1:3 Combo

Fighter's Stance
Throw Jab then Hook

High Low Jab

Fighter's Stance
Throw Jab

Squat, throw Jab at low position

Uppercut (4)


Fighter's Stance
Punch delivered with hand on same side as rear foot
Hand lowers to ribs
Hip rotates while back heel pivots
Hand impacts bag with forearm perpendicular to target with palm facing up

Elbow (5)


Fighter's Stance
Strike is thrown from same side as rear foot
Elbow comes up and around to head level while hand moves down toward center of chest
Strike bag just below elbow

Knee Strike

Fighter's Stance
Hands on bag
Weight on the front foot
Strike bag with the rear knee
Foot gently touches the ground

Front Kick

Fighter's Stance
Chamber rear knee and strike the bag with the bottom of the foot
Maintain strong standing leg with knee slightly bent

Side Kick


Fighter's Stance
Turn chest and rear leg away from bag
Chamber front knee
Strike bag with the bottom of the foot

Round Kick


Fighter's Stance
Chamber the rear knee while rotating torso and front foot
Turn foot 180°
Make contact with shin and instep

Back Kick

Fighter's Stance
Lift front heel and pivot foot and torso away from target
Chamber kicking leg
Kick back in straight line toward target

Striking Quick Reference Guide

Punches

- Alternating Jabs
- Alternating Hooks
- Jab (1)
- Cross (2)
- Hook (3)
- Uppercut (4)
- Elbow
- Fast Jab
- High/Low Jab
- 1:2 Combo
- 1:2:3 Combo
- 1:3 Combo
- 1:1:2 Combo
- Boxer Combo (1:1:2:1:2:3)

Kicks

- Knee Strike
- Front Kick
- Side Kick
- Round Kick
- Back Kick

Foundational Exercises

There are a handful of exercises that appear fairly often in our FightFit workouts. We call these “foundational exercises.” They consist of strikes (as detailed above), core, squats, lunges and pushups and the related variations and modification of each of these exercises.

Core: In FightFit parlance, the core consists of lower/middle/upper abs, lower/middle back and obliques (sides of the torso). Exercises such as leg raises will work the lower abs while standard crunches place more emphasis on the middle and upper abs. Supermans work the low/middle back. However, the core should be engaged in many exercises to avoid injury. An engaged core helps alleviate strain on the lower back. This should be emphasized when guiding members through various exercises such as pushups, deadlifts, swings, etc.

Squats: Squats are one of the best exercises for strengthening the legs and hips and are the foundation for many compound movements such as thrusters, slam ball, and swings.

Proper **squat** technique includes the following:

- Shoulder-width stance
- Maintain lumbar curve
- Weight on heels
- Feet slightly splayed
- Hips lower to at least knee height
- Knees remain inside toe line

Lunges: Like squats, lunges work the legs and hips. Lunges require a little more coordination to perform but are great at placing extra emphasis on individual legs.

Lunges can also be done by stepping forward but care should be taken to not allow the front knee to move past the toes. This is common due to the forward motion of the movement.

Proper **lunge** technique includes the following:

- Standing position
- Step one leg forward or back
- Hips move vertically as knee drops to ground
- Front knee stays inside toe line, weight on heel
- Chest up

Pushups: Pushups mainly target the chest, shoulders and arms (triceps) but proper technique also engages the core, hence they are a great mid and upper body exercise.

Proper **pushup** technique includes the following:

- Hands just below shoulder level throughout movement
- Straight line head to heels throughout movement
- Head aligned with spine
- Core is engaged

- It is important to keep the forearms perpendicular to the ground to alleviate strain on the outside of the wrist.

A Note On Head Position: For most exercises, the head should be aligned with the spine. You may see fitness experts doing swings on Youtube, for example, with their head up. Most people can safely do exercises without worrying about head position but for the safest approach to performing our exercises, it is ideal to emphasize the head staying in alignment with the spine. This is otherwise known as a neutral position.

Core Quick Reference Guide

Superman	Low Back	Side Plank
Sit-up Punch	Core	Plank Reach Thru
Cross-Leg Crunch	Core	Plank Punch
Single Leg Crunch	Core	Reach to Bag
Flying Squirrel	Core	Standard Crunch
Russian Twist	Core	Super Sit-up
Seated Knee Tuck w/ Twist	Core	Elevated Crunch
Reach to Toe	Hip Flexor, Upper Abs	V Sit-up
Single Leg Reach to Toe	Hip Flexor, Upper Abs	Hollow Rock
Bad Dog	Hip Flexor, Upper Abs	XO Sit-up
Bad Dog Flutters	Hip Flexor, Upper Abs	Straight Arm Plank
6” Killer	Low Abs	Forearm Plank
Flutter Kicks	Low Abs	Star Plank
Leg Raise	Low Abs	Plank Press to Push Up
Leg Scissor	Low Abs	Bosu Jack
Leg Cross	Low Abs	Mountain Climber
Seated Knee Tuck w/ Twist	Low Abs	Incline Mountain Climber
Wiper	Low Abs	Sprinter
Hanging Oblique Crunch	Obliques	Compression Crunch
Overhead Obliques Crunch	Obliques	Plank Jack
Torso Rotations	Obliques	Liberty Sit-up
Bicycle	Obliques	Up/Down Plank

* Encourage members to add resistance (med ball or dumbbells) to the core exercises when possible, especially when the preceding exercise calls for weight.

EXERCISE VARIATIONS & MODIFICATIONS

Helping your members meet their fitness goals while maintaining a safe and engaging environment is crucial. We encourage all trainers to be familiar with the exercises, variations and modifications to allow advanced members to get the most out of their workout and beginner members to participate in each workout without feeling intimidated or overwhelmed.

Exercise Variations

Exercise variations involve performing an exercise with or without weights. The type of weight can also vary.

For example, the “Squat” can be performed without weights, with dumbbells held in the rack position, with dumbbells held in the hanging position, with a medicine ball or kettlebell held in front of the chest, etc.

Encourage members to safely push themselves with weight or additional weight when you see they have effectively “conquered” the exercise.

With most exercises, weight held in front of the chest, just below the chin, will engage the core to a greater extent and requires more adept balance.

For more advanced members, they may want to try the lunge with the rear foot elevated split squat may bring less stress to the knee while also providing a more challenging exercise. With the back leg elevated on a box and the front shin perpendicular to the ground, the member would perform the squat in the range of motion that is comfortable for them.

Exercise Modifications

For new members, members that have not regularly engaged in physical activity and for their members dealing with physical limitations or injuries, it is important to identify those individuals prior to class and have a modification plan in mind for each exercise in the day’s workout.

For example, members suffering from shoulder / front deltoid injuries or pain may have trouble with pushups. You can have these members move to a chest press. This modification still works the chest and arms while reducing stress on the shoulder and deltoid areas.

Shoulder Modifications

Most people don't move perfectly symmetrically so using a single weight may force one shoulder to move into a position that is uncomfortable but fine for the other shoulder. In this situation, use dumbbells versus a medicine ball, to allow each shoulder the freedom of movement each can handle. Have members stop the movement short, a few inches short of where they may experience pain.

Elbow pointing diagonally away from the body versus elbows flared wide, should keep the shoulders from impinging. A neutral grip, with palms facing each other and elbows held tight to the torso, should also be easier on the shoulders.

Move one arm at a time to focus on the range of motion that is acceptable and free of pain for each shoulder.

Change the angle - pressing weight overhead may be an issue while pressing weight in front of the body may not cause pain.

Keep the shoulders away from the ears. Encourage members to relax the shoulders and not have them hike up during the exercise movement.

Front raises and side raises can place a lot of stress on a compromised shoulder. Some members may be able to perform these exercises with palms in neutral position or palms up.

Behind the head shoulder presses can be problematic. Have the member use less weight while keeping the weight over or in front of the head. Otherwise, a bent over tricep extension may be easier to perform.

Dips may also cause pain. If this is the case, encourage the member to try different hand positions on the box, like holding the sides of a box and using bent knees instead of extended legs.

Lateral Elbow / Tennis Elbow Modifications

Encourage these members to keep weight (dumbbells, medicine balls) close to the body and to do lifting movements with the palms facing up. Neutral grip may also work but, in general, palm facing up is the safest modification.

Elbows that flare will cause more stress to be placed on the compromised elbow. Ensure that the member is immediately stopping the movement if pain is experienced as even micro tears on these tendons will extend the healing process.

Knee Modifications

The lunge. Our standard lunge is a “reverse” lunge. This lunge places less stress and weight on the knee than during a forward lunge. So, typically, this reverse lunge will not be painful to those with knee issues. However, if the member is experiencing pain, then have the member do a static lunge without the step back. Members can also limit the range of motion so at the bottom of the movement, the back knee stops further away from the ground.

Stepping versus jumping. Encourage members to step when an exercise suggests/requires a jumping movement.

The squat. Though the squat is an excellent exercise, if the member is experiencing knee pain during the movement, have them try the stability ball squat. With a stability ball placed between the wall and the back of the member, with the members shins perpendicular to the ground, the squat movement should provide less stress on the knee.

PROGRAMMING A FIGHTFIT WORKOUT

Assumptions

The standard FightFit Fitness workout template is targeted to group fitness classes. That template is what will be detailed here. You may want to adjust the workout structure if you are doing one-on-one personal training and want to target particular strengths, weaknesses or goals of your client.

We assume classes will be comprised of a mix of male and female adults of various ages and at all levels of fitness. You should provide modification and variation options to accommodate the needs, skill and fitness levels of the participants.

We assume that, on average, members will do a FightFit workout 3x per week, typically every other day.

Workout Variables

You have several variables you can manipulate to maintain member interest and keep them continuously challenged: Workout Type, Equipment, Exercise Variety, Number and Length of Intervals, Number and Length of Rests and Number of Sets.

Workout Types

As previously noted, the type of workout can vary from AMRAPs, Mini-AMRAPs, For Time, Circuit, Single Circuit, Variable Circuit, Tabata, No Rest Tabata or a mix of types like Tabata/AMRAP.

We vary the workout types to avoid boredom and improve members adaptability. The mix also provides a balance of aerobic and anaerobic training.

Around 80% of workouts are a form of circuit training (Single, Variable or Standard Circuits), which have prescribed intervals for activity and rest. Circuits are our bread and butter. The remainder of our workouts are a combination of AMRAPs, For Times and Tabatas (Tabatas are similar to circuits but with shorter, more intense, prescribed activity intervals). We recommend programming one or two non-circuit

workouts each week. You should also rotate the days in which you program the non-circuit workout(s) so that it does not always land on the same day of the week. This breaks up the routine of standard circuit/interval training and allows members, no matter which day they choose to exercise, to occasionally experience a non-circuit training day.

For example, here is a current 21 day workout type rotation we use:

Day 1	Circuit	Single Circuit	Circuit
Day 2	Single Circuit	Mini-AMRAP	Single Circuit
Day 3	Tabata	SingleCircuit	Circuit
Day 4	Single Circuit	Circuit	Circuit
Day 5	Circuit	Circuit	For Time
Day 6	Circuit	No Rest Tabata	Circuit
Day 7	Circuit	Single Circuit	Single Circuit

Workout Type Breakdown

50% of our workouts are standard circuit workouts, consisting of more than one group of exercises (circuit) and where interval times remain constant, e.g. 6 exercises with 60 seconds of work and 20 seconds of rest at the end of the circuit/round. These workouts are easier for members to track and follow and their bodies adapt to produce more work during the activity interval.

20% of our workouts are single circuits that also have constant work and rest times. Single circuits have a single group of exercises that members rotate through. This is contrast to our standard circuit workouts which have members rotate through multiple groups of exercises.

10% are variable circuits, where we program variable interval times, some rounds might consist of 60 seconds of work and other rounds 30 seconds work. This allows members to push themselves harder in the shorter periods and/or increase weight

resistance. These are dynamic workouts where trainers need to make sure members remain aware of the changing interval durations.

The remaining 20% of our workouts are a mix of AMRAPs, For Times and Tabatas. So, about one of every five workouts should be non-circuit. Be aware that some members dislike AMRAPs and For Times as they don't want to track, or lost track, of their rep and set counts. It is helpful to have members bring a notebook or provide them with pen and paper or a small whiteboard or chalkboard to track their workout.

Workout Type	# of Workouts	Percentage
Circuit	50	48%
Single Circuit	25	24%
AMRAP	10	10%
Variable Circuit	8	8%
Tabata	6	6%
For Time	4	4%

Intervals, Circuits and Rounds

Intervals

The number of Intervals, Circuits and Rounds has a significant impact on the flow of the workout. Just like Workout Type, it is important to vary these to keep the workouts interesting and dynamic.

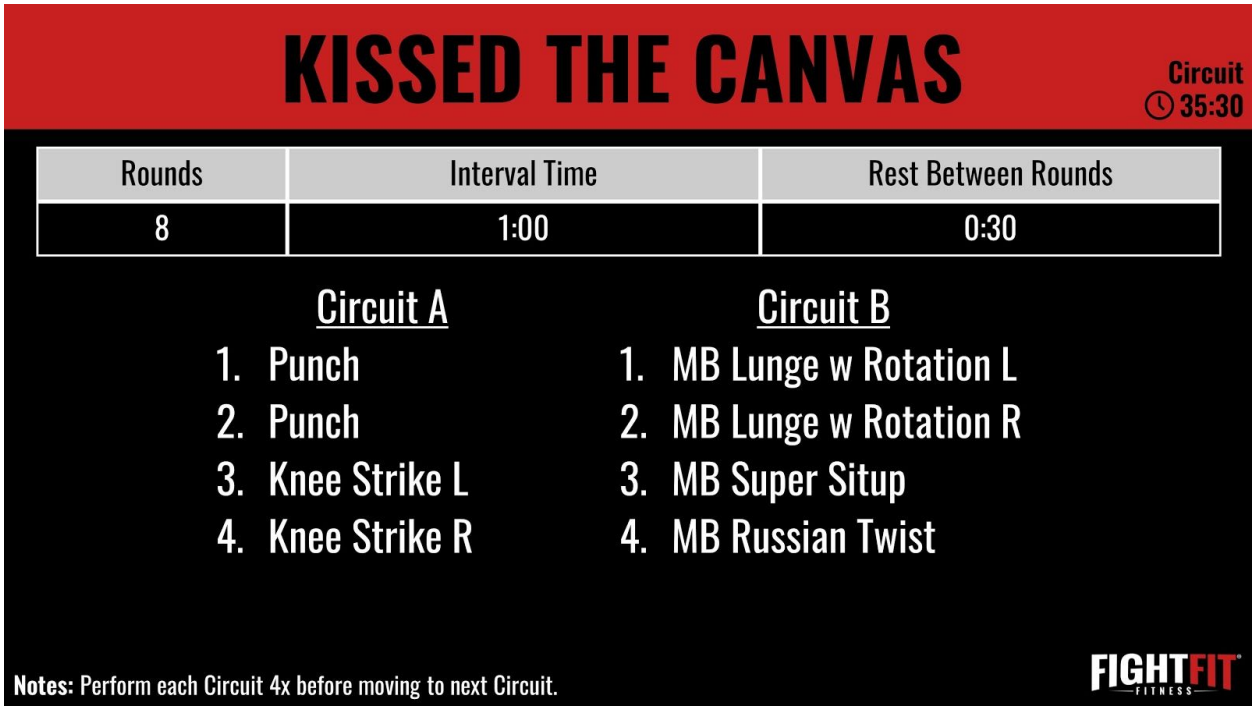
Intervals represents the length of time that a member will be performing an exercise. These range from 20 seconds to 3 minutes. We recommend longer intervals for more aerobic training, like a 3 minute interval of bag work. In contrast, you could program an upper body fatigue circuit with 2 minutes of overhead presses followed by 2 minutes of dips. More typically though, the intervals would be programmed in 30-60 seconds of work.

Here is the interval breakdown of our current 105 workouts. Note that almost half of our workouts have 40 or 60 second intervals and 1 out of 8 workouts are AMRAPs or For Time:

Interval	# of Workouts	Percentage
0:20	8	8%
0:30	5	5%
0:40	24	23%
0:45	9	9%
1:00	22	21%
1:30	11	10%
2:00	4	4%
3:00	2	2%
Variable Intervals	7	7%
N/A (AMRAPs, For Time)	13	12%

Circuit

A Circuit is composed of a series of exercises with each exercise being one interval. You will consider the number of exercises within a circuit and the number of circuits. When programming circuits, consider the station setup and equipment needed to perform the exercises. If you are limited on the amount of equipment you have or space limitations, you will want to program the circuits accordingly. For example, one circuit could be all bag work, having half the class on a bag or doing shadow boxing while the other circuit, and the other half of the class, may be doing a mix of bodyweight and medicine ball exercises, as in this example:



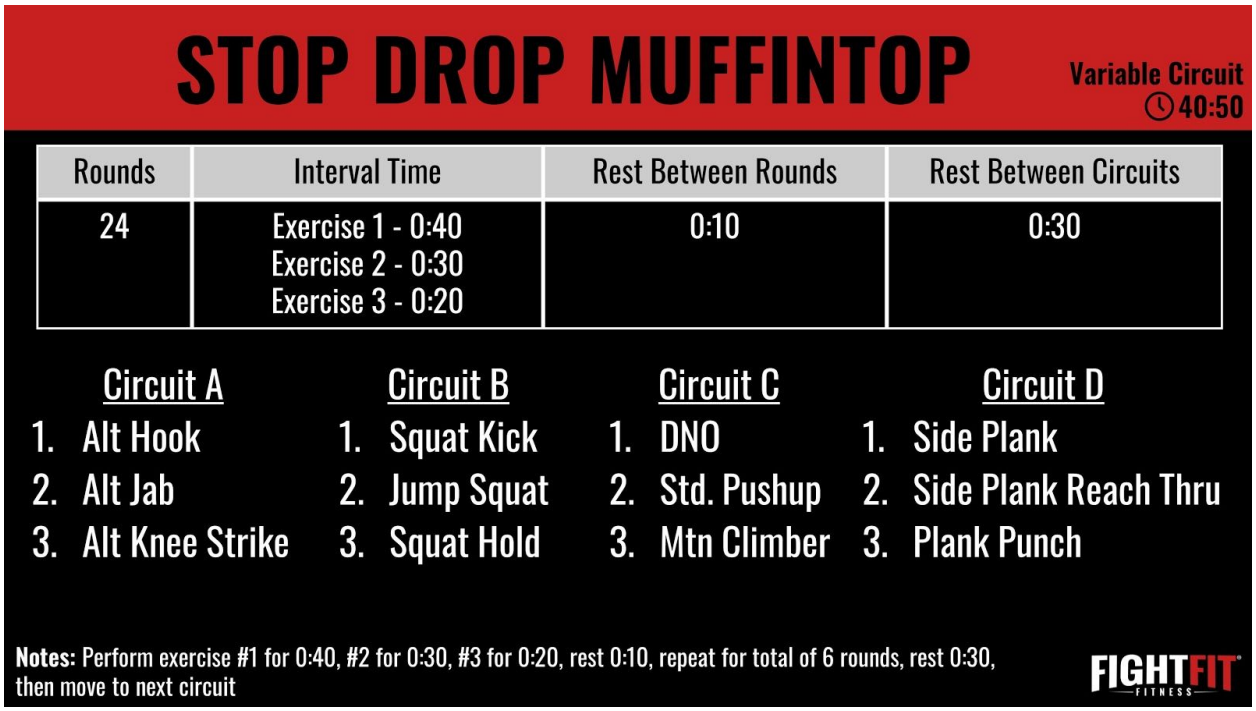
Here is a breakdown of the number of circuits found in our workouts. Note that AMRAPs and For Times are always single circuit workouts but because of their uniqueness, we do not include them in the single circuit count below:

# of Circuits	# of Workouts	Percentage
1	32	30%
2	39	37%
3	7	7%
4	11	10%
5	2	2%
AMRAP, For Time	14	13%

Round

A Round is the completion of a single circuit. Typically, the member will rest at the end of the round. You will program the number of rounds based on the number of

intervals, interval time and number of circuits. In general, you will program for more rounds when the interval times are shorter. Here is an example of a workout with a high number of rounds, 24, because the interval times are relatively short as is the rest between rounds:



STOP DROP MUFFINTOP

Variable Circuit
40:50

Rounds	Interval Time	Rest Between Rounds	Rest Between Circuits
24	Exercise 1 - 0:40 Exercise 2 - 0:30 Exercise 3 - 0:20	0:10	0:30

Circuit A	Circuit B	Circuit C	Circuit D
1. Alt Hook	1. Squat Kick	1. DNO	1. Side Plank
2. Alt Jab	2. Jump Squat	2. Std. Pushup	2. Side Plank Reach Thru
3. Alt Knee Strike	3. Squat Hold	3. Mtn Climber	3. Plank Punch

Notes: Perform exercise #1 for 0:40, #2 for 0:30, #3 for 0:20, rest 0:10, repeat for total of 6 rounds, rest 0:30, then move to next circuit

FIGHTFIT FITNESS

Exercises

We assume that the average member works out 3x per week. To that end, we not only follow a particular pattern for Workout Types but we also consider the muscle groups targeted by the workout. A typical week will vary the muscle groups every other day. For example, Mondays may be punch strikes on the bag along with upper body and core exercises. Wednesday would be kick strikes on the bag along with lower body, compound and core exercises. Friday would hit the upper body again and core and may be a mix of punches and kicks.

That is a typical week. However, every few weeks, we may have a week of heavy upper body, lower body or cardio where Monday, Wednesday and Friday may target the upper body each time. We wouldn't target it exclusively each day, but we would program about 75% of the workout to target the upper body.

Across our pre-programmed workouts, we focus on the upper body 27% of the time, lower body 20%, compound 22% and core movements 29%. The compound

exercises tend to be more lower body dominant, which is why the percentage of lower body exercises is slightly lower than the percentage of upper body exercises.

Upper Body	Lower Body	Compound	Core
27%	20%	22%	29%

Timing

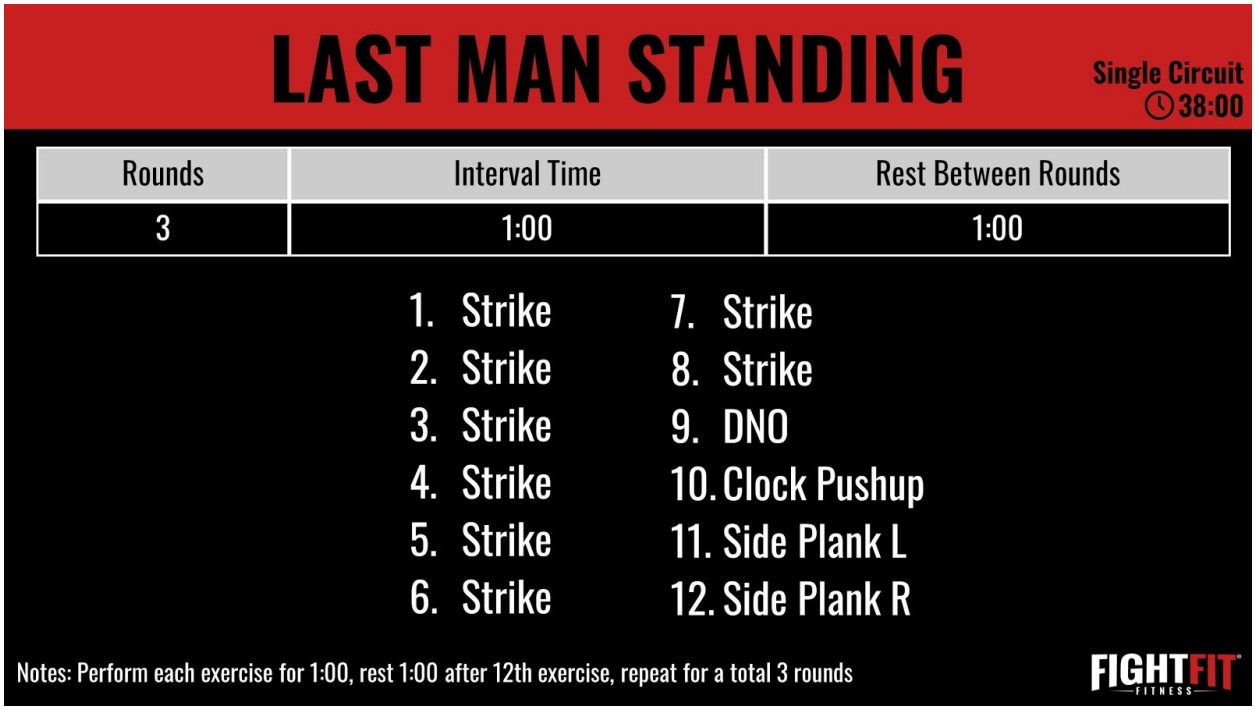
You need to consider the following timing variables: Overall workout length (including warm-up and cool-down), round duration, interval duration, rest time between intervals and rest time between rounds. Rest time should complement interval duration and round duration, i.e. longer rests for longer intervals and longer rounds.

Our average workout time is 37 minutes, which includes 33 minutes of work and 4 minutes of rest. This excludes the warm-up and cool down segments. Our AMRAPs are 30 minutes. AMRAPs are the shortest workouts as they do not have any rest periods.

Across our 100+ workouts, the work to rest ratio averages 9:1. That is, 90% of the workout is active and 10% is rest. Again, this excludes the warm-up and cool down segments.

There is a rest period when a Circuit is completed. So, the length of the interval and the number of intervals within the circuit determine the amount of work a member is performing before a rest period. In general, the longer the work effort, the longer the rest period should be.

You will notice in this example, that there is a one minute rest period, higher than our typical 30-40 sec rest, because there are 12 straight minutes of work in a single circuit:



However, the amount of rest is also dependent on the exercise. For example, a 3 minute pushup interval will generally be more taxing and require more recovery than a 3 minute jumping jack interval. The former may have a 1 minute rest while the latter a 30 second rest.