

The FITT Principle

Frequency

Intensity

Type

Time

FREQUENCY

Following any form of fitness training, the body goes through a process of rebuild and repair to replenish its energy reserves consumed by the exercise.

The frequency of exercise is a fine balance between providing just enough stress for the body to adapt to and allowing enough time for healing and adaptation to occur.

1. CardioRespiratory Training :

The guidelines for cardiorespiratory training (also called aerobic conditioning) is a minimum of three sessions per week and ideally five or six sessions per week.

Experts suggest that little or no benefit is attained over and above this amount. Of course athletes often fall outside the suggested guidelines but even elite performers must give themselves time to rest.

2. Resistance Training:

The frequency of resistance training is dependent upon the particular individual and format of the program. For example, a program that works every body part every session should be completed 3-4 days a week with a day's rest between sessions.

On the other hand, a program that focuses on just one or two body parts per session, in theory you could be completed as frequently as six days per week. Many bodybuilders follow such a routine.

Remember though, each time you complete a strenuous strength training session (regardless of the body part) you are taxing your body as a whole - including all the physiological systems and major organs.

INTENSITY

The second rule in the FITT principle relates to intensity. It defines the amount of effort that should be invested in a training program or any one session.

Like the first FITT principle - frequency - there must be a balance between finding enough intensity to overload the body (so it can adapt) but not so much that it causes overtraining.

Heart rate can be used to measure the intensity of cardiorespiratory training. Workload is used to define the intensity of resistance training.

1. Cardio Respiratory: Training Heart rate is the primary measure of intensity in aerobic endurance training. Ideally before you start an aerobic training program a target heart rate zone should

first be determined. The target heart rate zone is a function of both your fitness level and age. Here's a quick method for determining your target heart rate...

Heart Rate & Maximum Heart Rate Heart rate is measured as beats per minute (bpm). Heart rate can be monitored and measured by taking your pulse at the wrist, arm or neck. An approximation of maximum heart rate (MHR) can also be calculated as follows: $MHR = 220 - \text{age}$.

Target Heart Rate For Beginners: a target heart rate zone of 50-70 percent of their maximum of heart rate is a good place to start. So if, for example, you are 40 years old that gives you a predicted maximum heart rate of 180 ($220 - 40$). Multiply 180 by 50% and 70% and you reach a target zone of 90bpm - 126bpm.

For fitter, more advanced individuals, a target heart rate zone of 70-85 percent of their maximum of heart rate may be more appropriate. Staying with the example above, that 40 year old now has a heart rate zone of 126bpm - 153bpm.

There are limitations with heart rate and the heart rate reserve method, while no means flawless, may be a more accurate way to determine exercise intensity.

3. **Resistance Training:** For resistance training, workload is the primary measure of intensity. Workload can have three components:
 1. The amount of weight lifted during an exercise
 2. The number of repetitions completed for a particular exercise
 3. The length of time to complete all exercises in a set or total training session

So, you can increase workload by lifting heavier weights. Or you could increase the number of repetitions with the same weight. Finally, you could lift the same weight for the same number of repetitions but decrease the rest time between sets.

However, only increase the intensity using one of the above parameters. Do not increase weight and decrease rest time in the same session for example.

TYPE

The third component in the FITT principle dictates what type or kind of exercise you should choose to achieve the appropriate training response...

Cardio Respiratory Training Using the FITT principle, the best type of exercise to tax or improve the cardiovascular system should be continuous in nature and make use of large muscle groups. Examples include running, walking, swimming, dancing, cycling, aerobics classes, circuit training, cycling etc.

Resistance Training, the best form of exercise to stress the neuromuscular system is resistance training. But resistance training does not necessarily mean lifting weights. Resistance bands could be used as an alternative or perhaps a circuit training session that only incorporates bodyweight exercises.

TIME

The final component in the FITT principle of training is time - or how long you should be exercising for. Is longer better?

Cardio Respiratory Training: Individuals with lower fitness levels should aim to maintain their heart rate within the target heart rate zone for a minimum of 20-30 minutes. This can increase to as much as 45-60 minutes as fitness levels increase.

Beyond the 45-60 minute mark there are diminished returns. For all that extra effort, the associated benefits are minimal.

This also applies to many athletes. Beyond a certain point they run the risk of overtraining and injury. There are exceptions however - typically the ultra-long distance endurance athletes.

In terms of the duration of the program as a whole, research suggests a minimum of 6 weeks is required to see noticeable improvement and as much as a year or more before a peak in fitness is reached.

Resistance Training : The common consensus for the duration of resistance training session is no longer than 45-60 minutes. Again, intensity has a say and particularly grueling strength sessions may last as little as 20 - 30 minutes.

Perhaps the most important principle of training (that ironically doesn't have it's own letter in the FITT principle) is rest. Exercising too frequently and too intensely hinders the body's ability to recover and adapt. As a rule of thumb, the harder you train, the more recovery you should allow for

FITT Principles Chart

Fitness Component	Variables			
	F Frequency	I Intensity	T Time	T Type
Cardiovascular endurance (aerobic)	<ul style="list-style-type: none">• 3 to 5 times per week	<ul style="list-style-type: none">• moderate to vigorous intensity (60% to 85% of maximum HR.	<ul style="list-style-type: none">• minimum of 20 minutes	<ul style="list-style-type: none">• continuous motion of large muscle group[s] such as running, cycling.
Muscular strength	<ul style="list-style-type: none">• alternate days 3 times per week	<ul style="list-style-type: none">• high resistance (sets to maximum capability)	<ul style="list-style-type: none">• 1 to 3 sets of 8 to 12 repetitions	<ul style="list-style-type: none">• free weights• universal gym• tubes, bands• body weight
Muscular endurance	<ul style="list-style-type: none">• alternate days 3 times per week	<ul style="list-style-type: none">• low to moderate resistance	<ul style="list-style-type: none">• 3 sets of 10 to 20 repetitions	<ul style="list-style-type: none">• free weights• universal gym• tubes, bands• body weight
Flexibility	<ul style="list-style-type: none">• daily	<ul style="list-style-type: none">• slow and controlled movement	<ul style="list-style-type: none">• 20 to 30 seconds	<ul style="list-style-type: none">• Static stretching• Dynamic stretching