

## MMA

### Background

Mixed martial arts, commonly known as MMA, has grown to be one of the most popular full contact combat sports of today. While the popularity of MMA has grown exponentially in the past few years, its roots can be traced back to 648 B.C., when the Greeks introduced the sport of pankration. The word pankration is a combination of two Greek words, pan, meaning “all”, and kratos, meaning “powers”. When it originated, the sport only had two rules: no biting and no eye gouging. For some, including the Spartans, no rules were applied to the sport, and any technique was acceptable. The fights during Greek times usually lasted hours, and sometimes ended with the death of one, or even both competitors. The sport soon grew to be the most popular event in the Olympic Games, and across the Hellenic world. Winners of the fights became heroes, and are still recognized today as such in numerous myths and legends.

Various mixed martial arts styles have developed throughout history due to mixed style contests popular throughout Europe, Japan, and the Pacific Rim. The combat sport of Vale Tudo had its beginnings in Brazil in the 1920's and was brought to the United States in 1993, which launched the founding of the Ultimate Fighting Championship. After being introduced in the U.S., the sport

gained international exposure and widespread publicity after Brazilian Jiu-Jitsu fighter, Royce Gracie, won the first UFC tournament. In 1999, the world's first MMA sanctioning body was created, The International Sport Combat Federation, which ushered in a new era of MMA, making the sport even more recognized worldwide.

The effectiveness of the sport was recognized by the United States Army in 2005, when the first annual Army Combatives Championships were held by the US Army Combatives School. Today, MMA fights have grown to be some of the highest grossing Pay-Per-View events in history. It is also currently the fastest growing sport in the United States. Mixed martial arts events and training centers are springing up all over the country, and the money made from the events, along with its immense popularity continues to grow at an exponential rate.

What exactly is MMA?

Mixed Martial Arts or MMA is a genre of martial arts that has evolved from various traditional disciplines predominantly as an all-encompassing form of competition that measures the collective technique and versatility of its competitors. MMA in truth is not a style in itself but rather a loosely defined set

of practical fighting skills composed of any and all of the existing martial art forms.

Although MMA is not a true style by strict definition, as would be distinctly established arts like Tae Kwon Do, many schools of practice having recently evolved on the basis of a mixed martial arts philosophy have begun to preach a number of common techniques – many of which have since become synonymous with the sport. Notable examples include striking with the elbows and knees and defensive ground techniques such as the guard. Armbars, guillotines and other now popularized submission techniques and their variants were once little known and date back in existence well before the advent of mainstream MMA. Techniques such as these are quickly forming a basis of knowledge for what can be used practically and effectively, and are beginning to redefine altogether the term MMA.

Modern MMA competitors come from a variety of practice backgrounds. They include a multitude of different art forms that specialize in one or a combination of categories such as boxing, kickboxing, wrestling, and others. In the UFC, MMA's top spectrum, it is now commonplace, if not mandatory, for fighters to have adequate ability both standing and on the ground. Competitive success is rarely based on physical dominance alone. The outcome of a fight is often attributed more so to a competitor's experience and knowledge of technique, practical application aptitude, and execution in all aspects of the

game. Hand to hand combat experts will attest that a disadvantage in physical size or strength can be compensated for and is often of little importance when measured against a superior understanding of how to manipulate the body. Many of today's top fighters possess a well balanced set of skills in addition to their favored strategy. In other words, an aspiring mixed martial artist who is a former Olympic wrestler may be an excellent ground fighter who possesses unrivaled submission skills. It would nonetheless be in his or her best interest before competing to gain as much exposure as possible to boxing and other striking based forms – as there is never any guarantee a fight will make it to the ground.

The growth of Mixed Martial Arts as a sport has also gained its arsenal of infamous MMA style submissions a recognized value beyond the televised market. It has created many refined approaches to previously held notions on personal self-defense. It has more or less redefined what is widely considered to be practical and effective in a modern real world predicament. The same principles that quickly became unwritten laws in the octagon have begun to find their way into many mainstream self-defense classes, law enforcement agencies, and a variety of military circles.

What does Mixed Martial Arts training have to offer?

## MMA for the non-competitor

MMA provides a multitude of benefits for anyone. Even if you never intend to step foot in an octagon, training like those who do has a variety of physical and mental payoffs guaranteed to reward anyone who puts in the time and effort and the dedication to see it through.

### Cardiovascular and general fitness

First and foremost you will find that MMA training is nothing like riding the stationary bike or running on a treadmill. MMA presents a demanding full body aerobic workout that will quickly condition the body far better than more traditional aerobic training methods that target a single muscle system. The intensity of an aerobic exercise, with regards to its cardiovascular benefits, is defined by the amount of oxygen required to sustain the body in the process. Any muscle involved requires a certain amount of oxygen supplied to it in order to continue to function under any aerobic condition. The more muscles that become involved, the higher the demand for oxygen becomes. An activity that works a limited set of muscles, such as biking which places nearly all of its significant aerobic demand solely on the leg muscles, requires oxygen at a rate that does not exceed the consumption needed to sustain that particular muscle group, and thus the overall aerobic demand is lower than what it would be if the arms were also actively involved such as in running. The degree to which a sport like MMA places both aerobic and anaerobic demand on all of the body's

muscle systems is nearly impossible to exceed as are the benefits of such exercise.

Jogging and biking are great ways to stay fit and healthy but they are comparatively limited in scope in terms of what can be simultaneously accomplished. For example, jogging will foster good cardiovascular health, and slight muscular development in the legs as well as a reduced overall body fat percentage. An MMA style training regimen will develop equal, if not superior, cardiovascular health. Furthermore this type training will develop muscle mass in all of the body's muscle systems – and to a much greater degree. Not only does MMA place stress on the muscles of the legs, it also targets all of the major muscle systems in the upper body with tremendous emphasis on the abdominals. Developing a leaner physique almost goes without saying. An additional key benefit of MMA training is that it can be very exciting and engaging. Distance running and activities of similar nature are loved their many hardcore enthusiasts and athletes, however, the fact is that many people simply looking to get back into shape or to further their current fitness levels find them to be mentally arduous and sometimes repetitive and un-stimulating. MMA training is a perfect choice for someone seeking an alternative challenging form of exercise.

This is other stuff that gets more in depth with the science of things, I'm thinking maybe finish it make it a separate document for fitness subjects and stuff:

Jogging over any prolonged period places a slight anaerobic demand on the muscles in the lower body. Once the body has reached its capacity to fuel the leg muscles through purely anaerobic means, it begins to rely on its aerobic energy pathways to continue to fuel the muscles in demand. The key difference at this point is the switch from glycolysis as the chief metabolic pathway to the body's oxidative system as the main fuel source, although bioenergetics is not this cut and dry technically speaking. Any time the oxidative system assumes the majority of the load when supplying energy, this is said to be an aerobic activity. Glycolysis is the process by which the body uses energy it has immediately available in the form of adenosine tri-phosphate (ATP) which is harvested from carbohydrate reserves stored in the muscles known as glycogen. Glycolysis is the body's on demand source of energy, it is the fastest and most efficient system there is for muscular function. It can fuel a movement requiring muscle fiber recruitment and force output at maximum capacity. The downside to glycolysis is that it is short lived compared to other pathways. On average it can only sustain maximal output levels for a period of 30 seconds or

less at best. The ATP energy cycle process simply cannot fire and recover fast enough to satisfy a constant demand, nor do the skeletal muscles store adequate glycogen reserve for this process to recur for any sustained duration were it possible. This being the case, the body activates the oxidative energy system soon after the onset of any activity that will be ongoing. The oxidative system relies mostly on the body's stored adipose tissue (fat), but also in conjunction with available glycogen depending on the intensity of muscular output and the duration over which it occurs. The degree to which glycogen is metabolized during the oxidative process occurs over a basic spectrum which is closely linked to the lactic threshold in many respects, but that's another discussion in itself. The degree of intensity that the activity requires (walking would be relatively low, sprinting: high) is positively and very directly correlated to what percentage of the energy production is coming from carbohydrates as opposed to adipose tissue.