



**CERTIFIED  
MIXED MARTIAL ARTS  
CONDITIONING COACH**

# INTRODUCTION

## Origins of MMA

Cultures throughout history have developed systematic fighting techniques to train for combat. These martial arts have arisen from man's common need to defend himself from others due to warfare, interpersonal conflict and crime. Mixed Martial Arts (MMA) is the latest evolution of the martial arts. As its name implies, rather than stressing one martial art, MMA is a mixture of various martial arts traditions and techniques used in full contact competitions.

Full contact fighting has been used as sport throughout history. One of the more notable examples is the Pankration (Greek for "all powerful") which was featured at the 33rd Olympiad in 648 BC. While not new, no holds barred sport fighting has had a rebirth with the first modern MMA event.

## The First Modern MMA Event

The first Mixed Martial Arts event was held in the United States in 1993. It was known as the first Ultimate Fighting Championship (UFC). The UFC was originally styled after the *Vale Tudo* (Portuguese for "anything goes") matches in Brazil. Originally the concept was to bring martial artists from various styles together (ex: karate, jujitsu, judo, boxing, kickboxing, wrestling, etc.) to see who would be victorious in a simulated "reality" fighting tournament. The first UFC event was no holds barred with no time limits, no weight classes and few rules.

## Growth (and Changes) of MMA

Since the original UFC event, there have been multiple attempts to ban the sport by legislators and the medical community. Nonetheless, MMA has become one of the fastest growing sports in America and is now an internationally sanctioned sport.

There have been many changes as well. In 2001, the Nevada State Athletic Commission and the New Jersey State Athletic Control Board sanctioned MMA events after requiring a series of rule changes. Fighters are now forbidden to headbutt, stomp or knee an opponent on the ground, strike the throat, spine or back of the head. In addition, fighters now fight in weight classes, rounds have been implemented (typically 5 minutes long) and fighters are limited to one fight per night.

The mandatory grappling gloves used in MMA are between 4

to 8 oz. (as opposed to boxing gloves which weight between 8 to 10 oz.) and have the fingers exposed to allow the fighters to grasp his opponent.

## What this Program is NOT

To be clear, this program is not preparing you to be a martial arts instructor. Most likely, if you decided to purchase this course you are a martial artist. Furthermore, this program does not advocate one particular martial art "style" over another. By definition, this program educates you how to **physically** prepare athletes to become better "Mixed" Martial Artists.

## Your Job as a MMA Conditioning Coach

First, your ultimate goal is to be a successful coach for any MMA athlete you train. This is both a broad statement and goal. Concurrent with this goal is the personal goals of the MMA Coach, to provide excellence while honing your craft - being a skilled MMA Conditioning Coach. Understanding what is required of you, the MMA Coach is best summarized by understanding the following:

You do not need to be a Martial Arts expert to train an MMA athlete. Quite to the contrary. The training principles applied to the MMA athlete are the same principles that are used in pursuit of health, fitness or any sport specific mode of training.

At the time of this writing, there is a vast need for experienced, skilled and scientific MMA Conditioning Coaches in this exciting sport. Your decision to become a certified MMA Conditioning Coach helps to give this sport validity and credibility, as you apply scientific principles taught during the certification process.

An indicator of success is the performance of the athlete you train. Therefore it is vital to understand the MMA athlete/client. This will require that you understand appropriate levels of training, and this will be expressed in your program design. You are the one in charge of knowing the science of how the athlete will progress and you will also need to understand that most MMA athletes will want to take their training to the highest level of intensity.

Your job as an MMA Coach will require some skills that we hope you will learn as you become certified. When you have

finished this process, you will know all that is required to complete a full assessment on your athlete. All success for your athlete is rooted in doing a proper assessment, and in a cascading manner, you will use the information in your assessments to complement your training in the program design component of your training plans. Again, the MMA Conditioning Coach will need strong assessment skills to train the athlete appropriately.

You will also learn the protocols for applying both progression and regression elements within your athlete's program design. Sometimes the MMA athlete you train will need to be coached through improper movement sequences. A well trained, skilled MMA Conditioning Coach would use a comprehensive dynamic movement screen assessment to assess any corrective exercise needs among your athletes. A professional MMA Conditioning Coach must have the skills to manage all of the variables required to successfully train an MMA athlete. This also includes the projection of a professional demeanor while being a positive role model and leader.

Another part of our mission is to instruct you on how to access our full exercise video library for "plug and play" use into templates for various MMA styles of training as well their corresponding appropriate warm ups . In this way, the MMA certification addresses the sport-specific needs of a variety of athletes.

The psychological factors involved in being an MMA athlete also follow general sporting behaviors and when paired with the interaction of a coach, the relationship must be understood for all of its potential. There may also be the need for the MMA Coach to intervene with an athlete relative to their performance to either influence change or to enhance the positive experience of the sporting environment for the MMA athlete. MMA is unique in that it is an individual sport but is often trained in team settings. Your approach will be specific to the situation and you will need to be aware of the differences applied to influence group dynamics and individual successes.



Again, the goal is simple: Help your athletes reach their goals the most **efficient**, **effective** and **safest** way possible. What is the common goal of a mixed martial artist? To win. Successful mixed martial artists need **extraordinary** strength and conditioning levels.

This means designing programs which include training without wasted effort. Such programs minimize injury and maximize the benefits of improved performance. This cannot be accomplished without taking the time to understand the principles of exercise science and taking into account the individual limitations and needs of each athlete. There is no perfect program for every mixed martial artist. The job of the professional MMA Conditioning Coach is to custom design the training program to the individual athlete's needs (never the other way around).

Whether you're training someone for a championship MMA match, their first cage match, or they just want to "train like a mixed martial artist", the goal is the same - to **maximize performance** while **preventing injury**.

## Preventing Injuries

Injuries are common in MMA matches. In a 10 year review of MMA fights,  $16.5 \pm 2.9\%$  of the matches were stopped because of musculoskeletal stress. In other words, the match was most likely stopped due to a joint lock. How will you strategize your training and program design to prevent injury here? By creating strength training programs that are well-balanced and which strengthen those sites which are common to joint locks.

Common Sites of Joint Locks in MMA
ankle
knee
hip
spine
shoulder
elbow
wrist

Other sites of injury which stopped matches were head trauma ( $28.3 \pm 3.4\%$ ) and "miscellaneous" trauma ( $27.0 \pm 3.4\%$ ). While MMA inherently will lead to trauma, athlete's with high muscle mass in their weight class will give them more physical "armor" in order to withstand attacks.

Furthermore, injuries can occur outside of the cage as well. The MMA conditioning coach must not only design the proper program for his athlete, but also make sure it is implemented using proper biomechanics. To prepare an athlete for a match only to withdraw due to an injury in the weight room may suggest that the conditioning needs of the

MMA athletes have not been met and this is the last thing a MMA Conditioning Coach wants.

## Maximizing Performance

While most mixed martial artists will appreciate that the MMA Conditioning Coach helps strengthen common sites of injury, that's most likely not why they are there. They want the competitive edge in the cage. They want to be strong, fast, powerful, quick, agile and flexible. And they need to have the right endurance to be able to last the whole match.

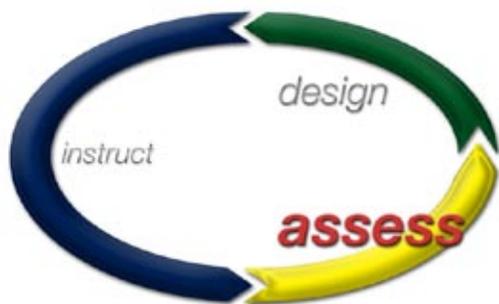
Successful coaches discover their athlete's weaknesses and improve them while maintaining their strengths. Coaches must understand how to properly address an athlete's weaknesses, how to motivate to get the most out of each workout, and when to realize enough is enough - not pushing to a point of overtraining.

## How Do You Maximize Performance?

You must first **assess** your athlete, then **design** the program based around your assessments, and **instruct** your athlete based upon this well-designed program. This is simple, but not easy. Because the training needs of the MMA athlete are so unique, there will be an entire chapter presented on the practical application of assessments, but let's begin with an overview of how to proceed:

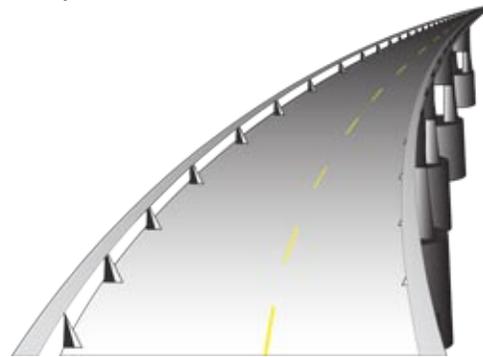
### Assess

Why assess? What does it mean to assess?



Another way to look at your job as a MMA Conditioning Coach is to get your athletes from point A (their current state of health/fitness and athletic conditioning) to point B (optimum MMA performance). In order to "bridge the gap" between now and your athletes' goals you must first find out where your athletes are now (A) AND at what level they wish to compete (B).

Competitive Mixed Martial Artist **B**



**A** Current health & fitness level

Know your athletes. They may be with you for a long time. Even the best athletes need an objective outside observer as a guide. That is what you are. Individual athlete assessments may actually clarify current goals and create new ones as your athletes obtain a greater view of their current abilities and limitations. Nothing serves as a better motivator and greater personal recognition for the work that lies ahead like a thorough assessment. As the MMA Conditioning Coach, the assessments will provide you with specific knowledge of athlete needs through your close observations during the physical (health) and fitness (strength, endurance, etc.) assessments. An initial assessment will provide recognition of baseline fitness levels, help to identify risk factors, and serve as an effective motivational tool. The results should be used to develop goals through detailed dialogue with your athletes and to serve as an ongoing basis for the design of an effective (accomplishes objectives) and efficient (no wasted effort) training program.

### What do you assess?

#### Point A - Begin with the athlete's current health and fitness level

You must begin the first session/assessment by completing a thorough health history, exercise history, and any physical (such as blood pressure, body composition, etc.) and fitness assessments (such as cardiovascular, flexibility, strength endurance tests, etc.) to establish a baseline for later self-comparison. Assessments are more valuable as a self-comparison over time, rather than to a norm, unless norm-comparisons are motivators for your athletes. Although an MMA Conditioning Coach will want to be mindful of external influences, it is your job to improve your athletes' individual skills and abilities, not solely seek to meet the guidelines of a societal or group norm.

Proper health screening also serves as a check to determine the possible need for your athlete/client to be seen by a physician. This should always be done before proceeding with a new training regimen, as is always the case for any exerciser within the general population. If you are uncertain of how to progress at any time or unqualified to work with a

particular injury or dysfunction, you must refer your athletes to professionals who can. This is your responsibility as a professional, taking care of your athletes.

You can not design a program if you haven't looked at all of your options and needs.

As a MMA Conditioning Coach, you may choose from a wide range of cardiopulmonary, metabolic, or musculoskeletal assessments. These must be standardized assessments (whenever possible) with a specific protocol to ensure consistency and validity. Periodically reassessing at either 4-8 week intervals or some other predetermined time period (based on your athlete's needs or event schedule) is essential to monitor and evaluate progress and encourage proactive dialogue between you and your athletes. Assessments are vital in establishing your professionalism.

Performing in-depth assessment protocols (with a precise and detailed plan) will show your athletes that you *care* enough to learn more about them and that you are *professional* enough to be extremely thorough before proceeding with any program. Also important is how this information influences your program design. There can be no exceptions. You cannot train what you do not understand.

### Point B – The needs and wants (goals) of the athlete

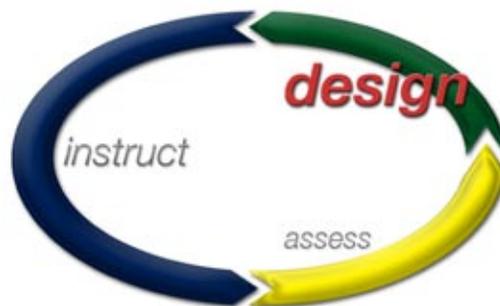
Identifying athlete goals can be the difference between success and failure, and maintaining or losing athletes. You must have a clear idea exactly what your athletes want to accomplish before you can guide them. Showing your athletes that you care enough to be thorough by investing time in determining their explicit (what they say) and implicit (what you observe or determine) goals is not only crucial in gaining new athletes, but in retaining long term, satisfied customers. Your athletes will be walking billboards that either serve as testaments to your abilities or reminders of your shortcomings as a coach. Their successes also lead to future business for you through what they will tell others and the progress others will see in them over time. Winning events or developing champion athletes looks great in your portfolio, as it proves your value and demonstrates effectiveness for achieving results.

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## Design

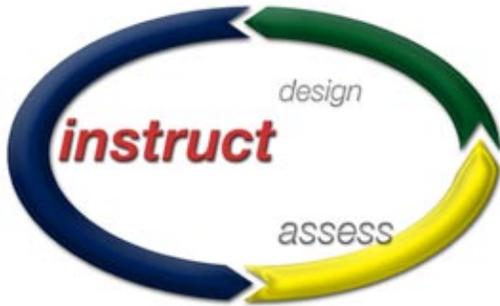
How does a MMA Conditioning Coach begin to design an exercise program?



Once you have gathered all the necessary information from your assessments (all performed within one training session; this creates an urgent need to be efficient but thorough), the principles of proper program design and progression (discussed later in great detail) must be implemented to properly customize your athletes' workouts. The principles of program design are based on the fundamental sciences (such as anatomy, exercise physiology, nutrition, etc.), and will be covered explicitly in later chapters.

# Instruct

What is the basis for proper instruction?



All instruction and guidance you provide must be based upon the principles of proper biomechanics. With the knowledge of biomechanics, you will be able to teach proper exercise technique and make appropriate movement modifications. You must advise your athletes based on scientifically proven principles of training while using your effective coaching skills (acquired over time with much effort, not just experience). This will help influence the athlete into taking action and ultimately move them closer to the results they desire. If your athletes are reluctant to buy into your program methodology, you may either be not presenting it well, you may not be communicating yourself properly, or they are not the right fit for you. You must assume the responsibility of your athletes' successes while instilling the need to become precise in form and technique.

# Re-assess

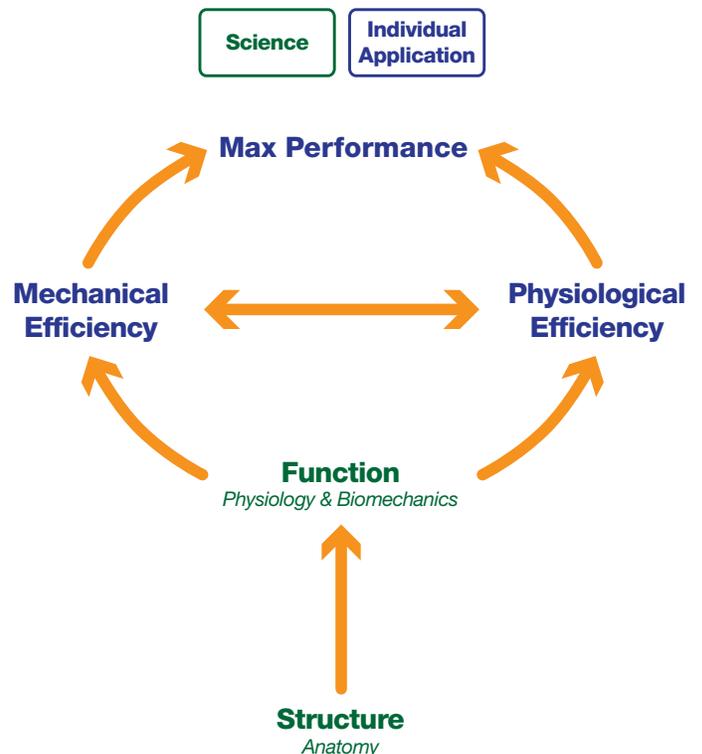
What specifically must the MMA Conditioning Coach re-assess?

The MMA Conditioning Coach will continually assess athlete progress on both a micro level and intermittently assess on a macro level. *Macro* and *micro* are two words tied to scientific training planning and periodization. Much more detail of this concept will be covered in the program design section of this program. A micro assessment is close monitoring of every exercise repetition, every running stride, every swim stroke, and every cycle revolution. If form breaks down, you should be able to identify the cause (as much as possible, as this can be very challenging and complex) before you can expect to design the appropriate exercises that results in marked improvement. A particular point of pain or weakness does not necessarily equate with the place the problem began. You must identify and enhance strengths and minimize weaknesses. A macro assessment is very formalized, consistently performed every 4-8 weeks, and is implemented with the same program each time, or progress cannot efficiently be measured. In the first few weeks of training a new athlete, you must focus on minimizing or alleviating imbalances or deficiencies and improving form and function.

Greater form and function do not necessarily make a better athlete, but injuries will be reduced, overtraining avoided, and long-term progress virtually ensured. Weaknesses must be isolated and alleviated (as much as possible for each athlete) before strengths can be truly harnessed. An MMA Conditioning Coach could view this as working on the "other side" (subconscious or natural abilities) of your athletes strengths by improving their weaknesses.

The MMA Conditioning Coach should perform both *macro* and *micro* assessments. Macro assessments are the 1-2 month follow-up to the assessments which were completed in the first session (equating to at least 6 formal assessment sessions each year per athlete). The information and feedback provided in the re-assessments evaluate how well you designed the programmed workouts and/or whether your instruction and coaching has been beneficial in producing the desired athlete results! If athlete results are not acceptable (or exceptional), changes in the program design must be made by redesigning or making the necessary program changes and reestablishing new goals). Review the athletes goals and determine whether results are sufficient or not. This is something that must be discussed and agreed upon between the coach and athlete on an ongoing basis. This task becomes easier with experience as you commit to listening to your athletes, become more observant and aware, and as you apply their assessment information toward bridging the gap between personal needs and wants and their individual and ever-changing goals. Revisit goals and expectations as often as necessary and again following each formal assessment session.

## What Do You Need to Know In Order to Maximize Performance?



Maximum performance is performing efficiently both physiologically and mechanically. In order for this to happen, you must first understand the basic **sciences** of the structure (anatomy) and function (physiology and biomechanics) of the human body. Only then can you understand the proper **applications of** the sciences to ensure both physiological and mechanical efficiency for your athletes.

The structure of this program requires that you prepare to be a coach just like your athletes are preparing for their fight. Before mixed martial artist enter the cage they must first prepare themselves physically and mentally for the challenge to come. You must also prepare yourself by learning and understanding the basic sciences before you can understand the applications of safe and efficient mixed martial arts coaching.



Once your athletes enter the cage they will apply their knowledge and skills obtained in training to compete. In a similar way, after you master the fundamental sciences and prepare for your “match” by preparing as a coach. You are then ready to “fight” by being a successful mixed martial arts conditioning coach. For a first-time athlete, the training is long and arduous. Your learning must be the same. The most successful coaches are lifelong students of the structure and function of the human body and how to optimize it for MMA.

This course will follow the flow chart displaying the path from knowledge of structure to maximum performance. You will first focus on the basic sciences and then you will be able to utilize the tools you have learned by applying the sciences with your athletes through the ongoing process of assess-design-instruct. It is not enough to simply have the tools to be a great coach, you must know how to apply the tools better than other coaches and better than your athletes can do alone.

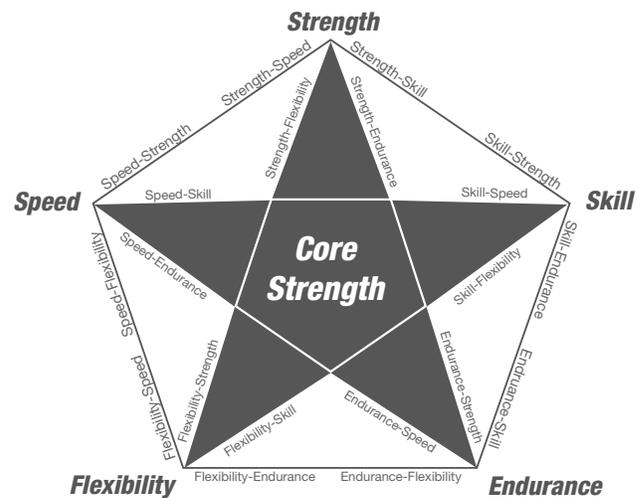
### The Needs of an MMA Athlete

One book that is recommended for every MMA Conditioning Coach is *Designing Resistance Training Programs* by Steven J. Fleck and William J. Kraemer. While not MMA

specific, it is considered the “gold standard” or definitive source of strength training program design. In it the authors recommend conducting a needs analysis of the sport and athlete that answers five questions:

- What muscles groups should be trained?
- What basic energy sources (e.g. anaerobic, aerobic) should be trained?
- What are the type of muscle action(s) (e.g. isometric, eccentric) should be trained?
- What are the primary sites of injury for the particular sport or activity, and what is the prior injury history of the individual?
- What are the specific needs for muscle strength, hypertrophy, endurance, power, speed, agility, flexibility, body composition, balance and coordination?

While some of these terms may be foreign to you right now, you will be able to answer all of these questions by the end of this program. These questions are at the core of proper MMA conditioning program design. For now, just take a moment to realize the needs of a mixed martial artist are varied and you will need to address multiple components of strength (especially in their weight class) for them to be successful.



\*Adapted from the Inter-relationship of Fitness Characteristics (Stone, Stone, & Sands, 2006)

### Progression

Successful MMA Conditioning Coaches realize that elite mixed martial artists do not appear overnight. It takes time for the MMA Conditioning Coach to develop athletes toward the end goal of maximum performance. Their skills and strength will progress overtime, so shall their program.

Furthermore, in order to bring your athletes to their peak potential we will find that one must first and foremost develop a strong foundation of proper motor control, structural integrity, basic strength and muscular hypertrophy. Only

after this foundation is created can we develop the sport specific skills needed by every mixed martial artist.

## Characteristics of a MMA Conditioning Coach

Every coach will have and should have his or her own personal philosophy, but all great coaches have several common traits and points of focus. However, each athlete is different and needs a unique training plan. It is the job of the MMA Conditioning Coach to carefully create each individual plan.

### To become a great coach:

#### Get to know your athlete's:

- Abilities and limitations (age, novice vs professional, movement efficiency, endurance strength, etc.)
- Professional career (obligations, duties, and time commitments)
- Personal life (family obligations, vacations, hobbies, etc.)
- Medical history (illnesses, injuries, medications, etc.)
- Athletic or fitness history (workout frequency, intensity, and duration); current fitness level and metrics
- Goals (short and long term, recreational or professional, etc.)

Getting to know your athletes will help you understand that each of your athletes is unique and needs a specific, individualized program. This will then allow you to find a starting place which the athletes can work from and to determine training and competitive priorities. As a MMA Conditioning Coach, you can then plan a schedule that makes accommodations for your athletes to lead a balanced lifestyle. Whether your athletes are professionals or novices you must dedicate your efforts to meet the needs of each athlete. You will likely face beginners who have never stepped into a martial arts class who want to step into the Octagon before they are truly prepared. It will be your job to be realistic and fair in taking the goals and desires of your athletes and athletes and coming up with a plan that takes their health and competitive goals into account.

#### Be knowledgeable in your expertise

- Be able to apply both your knowledge as well as anecdotal (personal) experience through practice
- Continually seek to learn from other elite athletes, experts, former champions, and other coaches (not to mention your own athletes)
- Keep up-to-date with current research in physiology and sports science AND current trends through popular newsstand publications and books (so you can better comprehend your athletes' points of view and understand the information made available to them)

### Always create a written plan

- Include several drills/activities for each area of focus
- Create a schedule that focuses upon the main problem area event or goal
- Set short term AND long term goals and deadlines
- Implement proper nutrition into the fitness/training plan (training and fight fuelling)
- Take into account their traditional martial arts training when designing the program to avoid overtraining
- Assign meaningful activities (experienced coaches do not use time fillers without a specific purpose to the training plan)

### Develop mental strategies and focus points

- Go over Disaster Strategies (think up ways to solve bad scenarios during the match so your athlete can relax when such scenarios come up)
- Know when and how to push (during an event, beyond comfort zones) by reading your athletes' moods and evaluating energy levels (this requires a great deal of attentiveness and time)
- Know when to stop whether the athlete wants to or not (progress in moderation to avoid overtraining, illness, and injury)

### Be supportive

- Provide a cooperative learning environment (you're the coach, but the athlete has the greatest stake in the relationship)
- Keep training and competition enjoyable (winning is great, but not everyone wins)
- Provide criticism when necessary, but be constructive and time sensitive
- Be enthusiastic and dedicated to helping others, not merely furthering your coaching career
- Teach by example and be consistent in teaching to maintain credibility and establish strong bonds with your athletes
- Be empathetic (put yourself in your athlete's place to understand what they are thinking, feeling, and perceiving) to allow open and effective communication

Becoming comfortable with your athletes will enable them to become comfortable with you. This will allow them to be honest with you and not be afraid to make mistakes. Constructive criticism rather than ego-driven criticism will obtain the greatest improvement in your athletes. Regardless of the event goal, the training will be demanding and respect should be given, not earned.

The great MMA Conditioning Coach will map out a unique plan that meets each athlete's realistic goals while juggling training, nutrition, mental activities, and still leaving room for a personal and/or professional balance. This is no easy task

and your athletes must be made aware of the road ahead

.Many martial artists endure months or years of trial-and-error in training before understanding how to train properly. The intimidation factor is great. It is the job of a MMA Conditioning Coach to remove as much fear of training and competing, and remove as much chance for error as possible, by applying the science of training to the individuals whom you, as the coach, will train.

## **What is MMACA?**

The Mixed Martial Arts Conditioning Association is the MMA certification division of NESTA (National Exercise & Sports Trainers Association), an international fitness association, established in 1992, and holding the prestigious NCCA National Accreditation for its Personal Fitness Trainer Certification.

The MMACA and its staff of educators, exercise physiologists, dietitians, biomechanists, strength coaches, kinesiologists and business professionals have joined with the world's top boxers, wrestlers, BJJ fighters, Muay Thai fighters, kickboxers, MMA fighters and coaches to bring you the most comprehensive MMA conditioning program ever conceived.

## **What is NESTA**

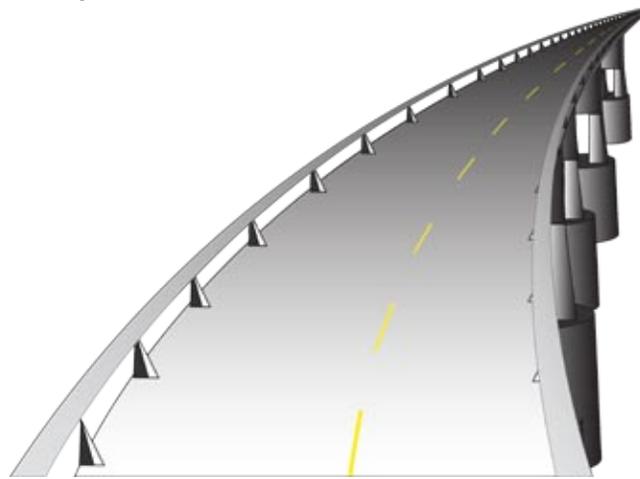
The NESTA (National Exercise & Sports Trainers Association) has been a leader in innovative education solutions for fitness professionals since 1992. The NESTA provides complete solutions for health, fitness, & sports training professionals. Comprehensive educational programs combine science with practical, real-world experience to ensure you have a well-rounded understanding of how to guide your clients and athletes to their goals safely and effectively.

NESTA provides the education for this program.

# THE BIG REVIEW

## 1. QUESTION: What's your job?

*Competitive Mixed Martial Artist* **B**



**A** *Current health & fitness level*

**ANSWER:** Get your athletes to their goals efficiently, effectively and safely. You must be able to prevent injuries and maximize performance.

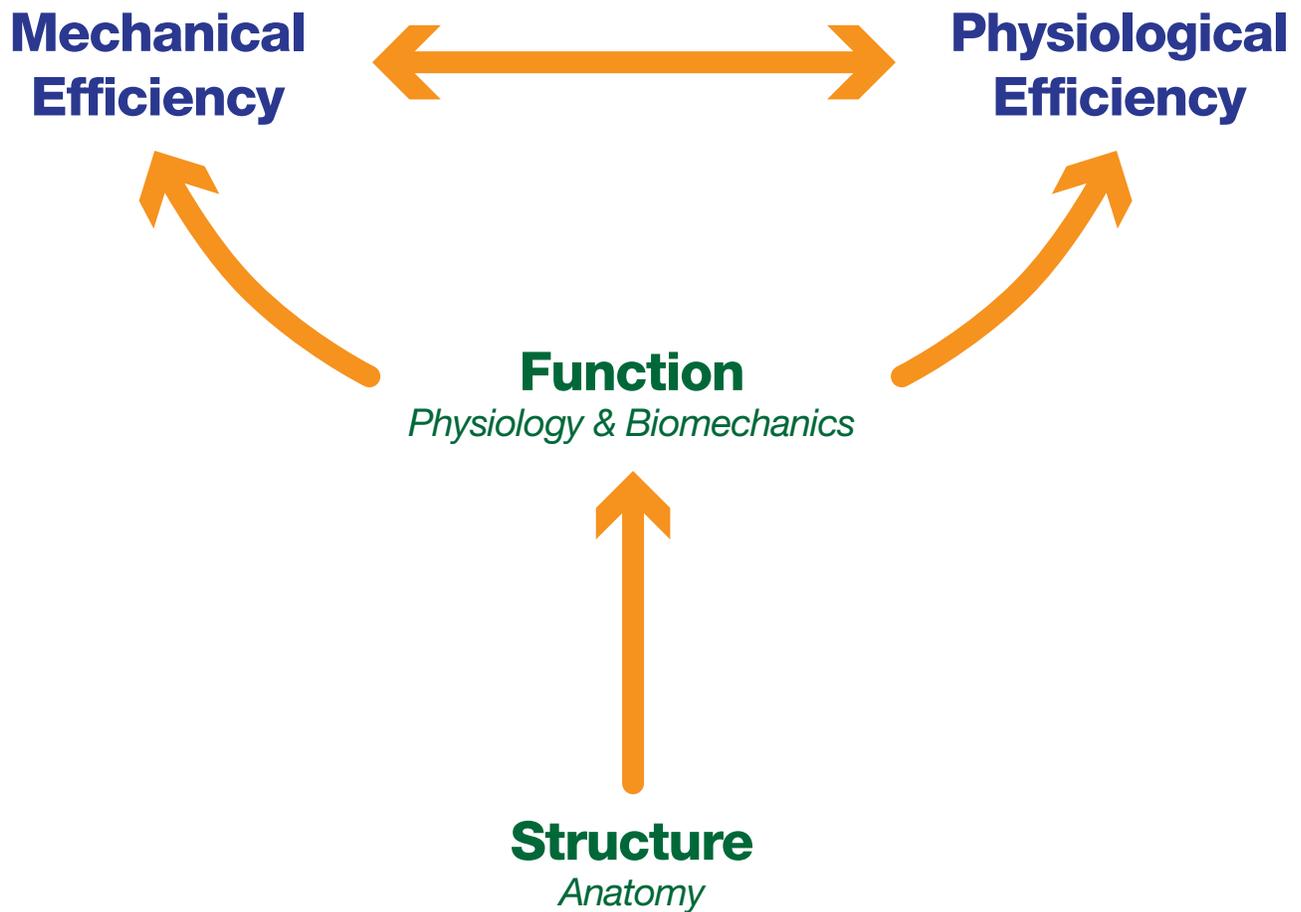
## 2. QUESTION: How do you maximize performance?



**ANSWER: By achieving mechanical and physiological efficiency**

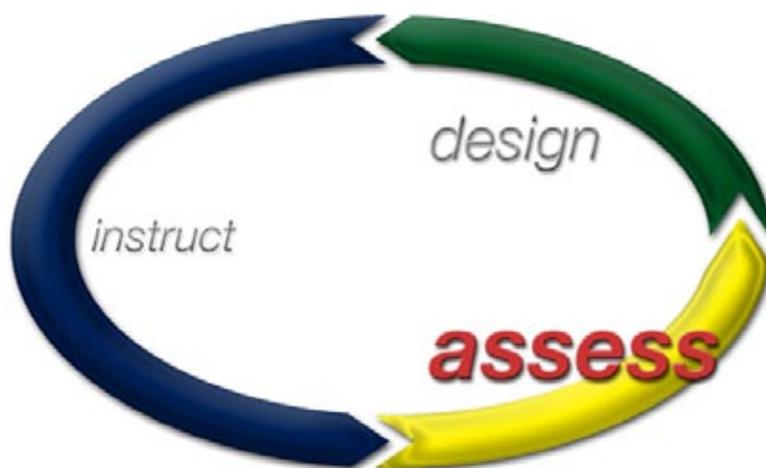


### 3. QUESTION: What do you need to know to achieve mechanical and physiological efficiency?



**ANSWER:** The basic sciences of the structure (anatomy) and function (physiology and biomechanics) of the human body

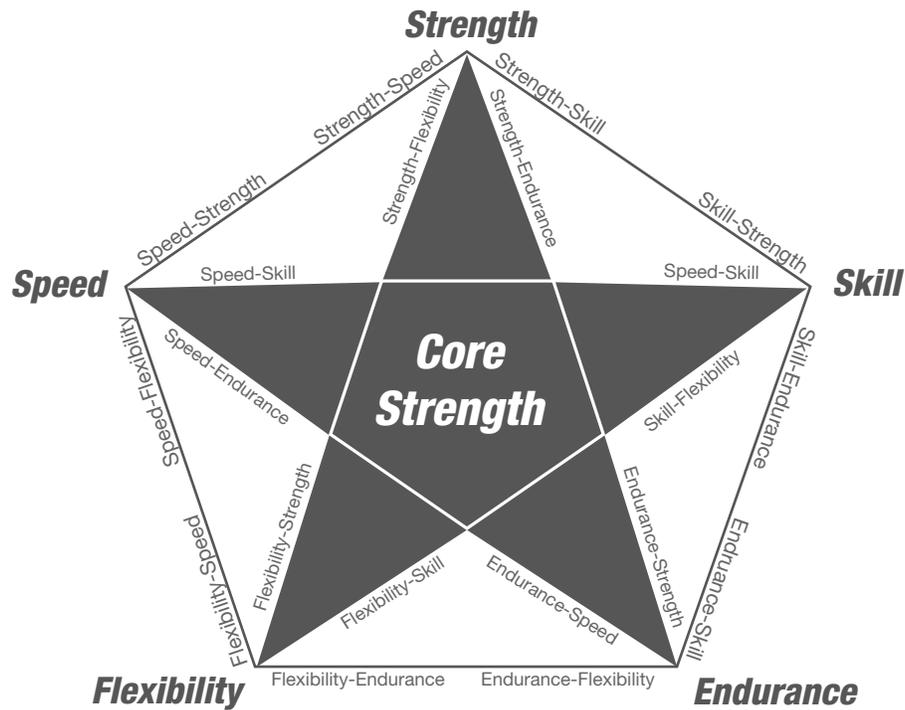
## 4. QUESTION: How do you apply the science for an individual athlete?



**ANSWER:** By properly implementing the assess-design-instruct model



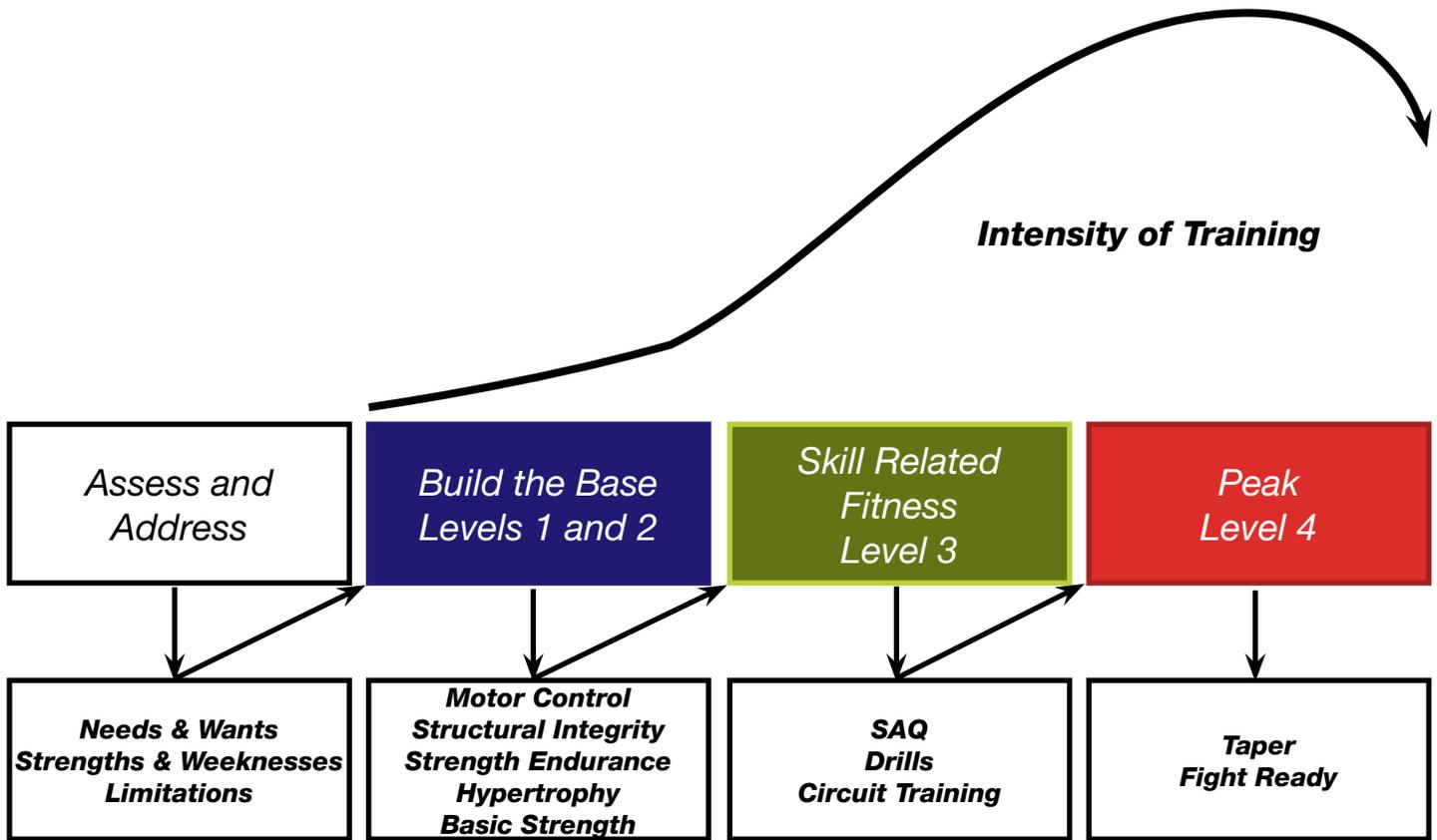
## 5. QUESTION: What does every mixed martial artist need to be successful?



\*Adapted from the Inter-relationship of Fitness Characteristics (Stone, Stone, & Sands, 2006)

**ANSWER: Well-rounded strength for their weight class**

# 6. QUESTION: How does a mma conditioning coach properly progress their athletes?





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**THE ELITE!**



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