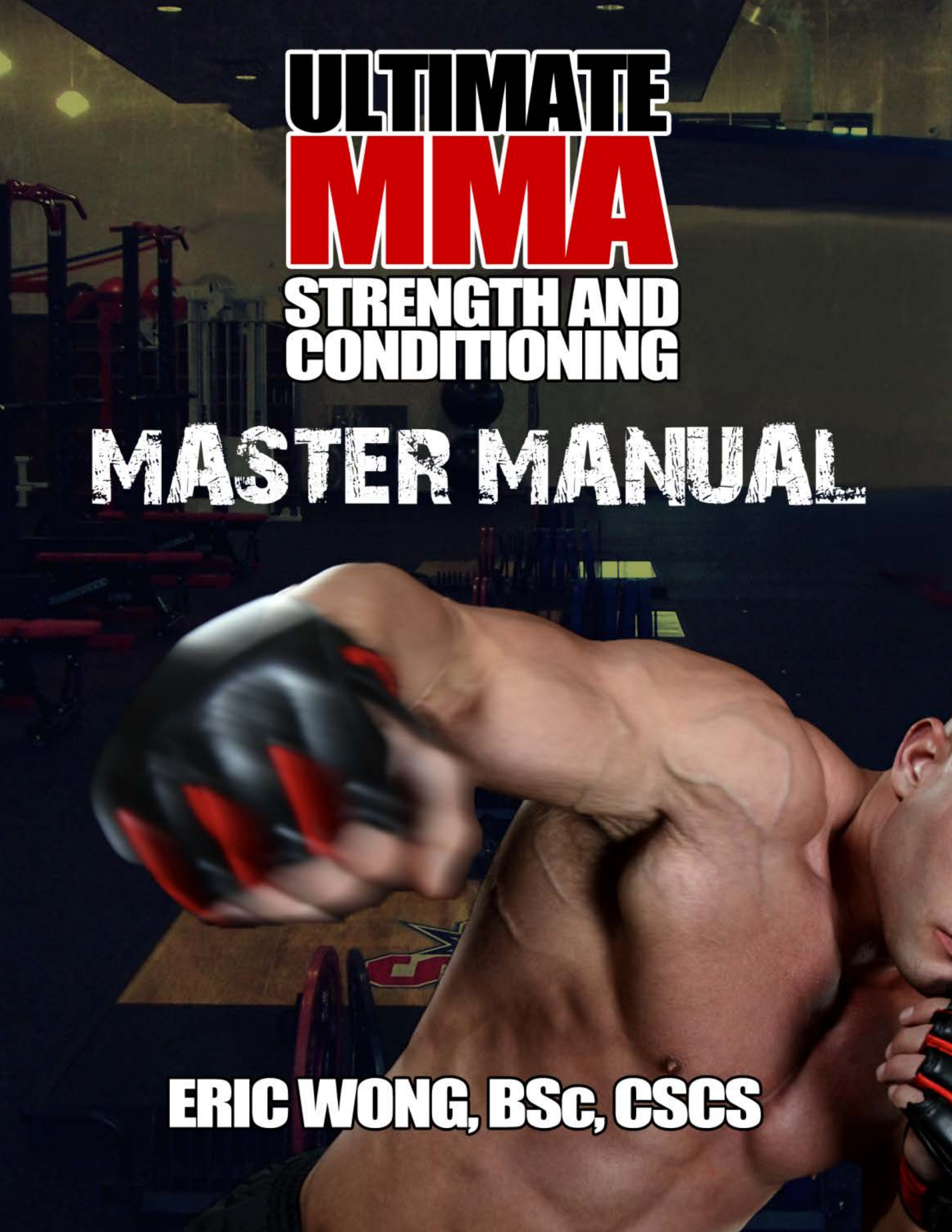


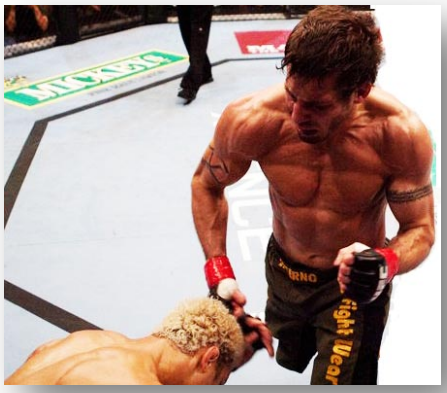
ULTIMATE MMA STRENGTH AND CONDITIONING MASTER MANUAL

ERIC WONG, BSc, CSCS

"Your best bet is to get good training and good trainers... You need to have someone who's actually vested in your improvement...
I have my strength and conditioning with Eric and he's a guy I can count on...

You want to improve your individual skills - don't rush into MMA and doing everything all together, learn all your skills like your jiu-jitsu, boxing, thai boxing, your conditioning, and from there you can step into the game."

Claude "The Prince" Patrick
UFC Welterweight
Toronto, Ontario, Canada



"I always say that Eric Wong is my 'Secret Weapon'. Before I started training with Eric I did some weight training and conditioning and made some gains and felt good…

But after I started training with Eric I wasn't as sore after workouts and could go to boxing and wrestling and perform much better than before.

Another thing was I felt stronger than ever – I could grapple, spar and train as long as I wanted and never feel fatigued."

Jeff "The Inferno" Joslin, Former UFC Fighter
Hamilton, Ontario, Canada

I followed your Ultimate MMA program for my debut MMA fight which I won by KO 49 seconds in the 1st round. I credit your program as the main reason why I was so prepared for my fight. I used to be overweight but I lost 13kg (29 pounds) over 3 months.

My cardio, strength and stamina were supreme and everybody at my gym compliments my increased level of fitness.

I personally don't know any trainers in my area that could have prepared me as much as your program has and I thank you for creating such an easy program to follow for guys like me who don't have access to professional trainers.

Mahu Powell, MMA Fighter
Brisbane, Australia

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PREFACE TO THE NEW EDITION

"Between two fighters of equal skill, the one with superior strength and conditioning will always be victorious."

Since 2006, I've been training mixed martial artists for competition, from UFC fighters to your local amateur show, as well as boxers, BJJ players and wrestlers.

Because I'm not affiliated with one specific club, I've trained guys from many different clubs and towns around my area. Jeff Joslin's gym in Hamilton, Elite Training Center in Mississauga run by Claude Patrick, All Canadian Martial Arts, Xtreme Couture, etc…

I've also trained different martial arts at many of these schools and have noticed one general theme over and over: lots of questions about strength and conditioning for combat sports and a whole lot of **CONFUSION**.

I'd just finished training Claude at his gym and James, one of his students asked if he could ask me some questions.

"Sure," I replied.

He then went on to rattle off about 6 or 7 questions mixed in with various statements like, "I don't know whether to lift light weight for high reps or heavy weights for low reps," and on and on.

Unfortunately, this experience isn't typical. I've noticed it become even more prevalent with the vast amount of information available on the internet, especially since much of it is contradictory.

Unless you've got a background in exercise science, it can be hard to decipher fact from fiction; truth from hype.

For example, a common approach to training is to mimic a martial arts skill with added resistance, like this exercise which you must avoid like the plague.

When you ask a coach why you're doing this, they'll respond with something like, "Adding resistance makes punching harder, so when you drop the resistance, punching will feel easier."

While this sounds logical, it's not as simple as that, as I outline in the article linked above.

And because MMA is such a rapidly growing sport, a lot of characters are trying to jump on the bandwagon to cash in and ride the wave. This device is a prime example and I breakdown exactly why it's B.S.

Not to mention the fact that a lot of coaches are stuck in "old-school" ways of thinking, such as, "You've got to train hard… and if you want to be in better shape, all you've got to do is train longer and *harder*."

Because of all of this, I constantly get bombarded by questions about training and nutrition, which makes this program even more relevant now than when I initially released it in 2008.

If you fight, my goal with the Ultimate MMA S&C Program (which I'll refer to as U-MMA from now on) is to clear the confusion and give you a program that's easy to follow and helps you understand the why behind the what. I want to give you the confidence that comes with knowing that you can not only go the distance if necessary, but also push the pace and impose your will.

So if you've got many questions left unanswered about strength and conditioning for MMA, this book and program may be the most important thing you read all year.

In this edition, I've added testimonials to help you stay motivated and stay on track. I've also added and updated most of the sections including the workouts with the new knowledge I've gained from my constant study of strength and conditioning to make this program more complete, more efficient and more effective than ever.

After you read through it all and especially after you follow it, please hit me up at support@ericwongmma.com with your results.

I'll be honest in saying that I won't reply to everyone personally (I get way too many emails everyday), but I will read all of your feedback and comments.

I wish you all the best success in your strength and conditioning training and MMA training, whether you're a fighter or you're just doing it for fun, because MMA is a hell of a lot of fun, even taking a good punch once in a while. :)

Train hard AND smart,


FIRST AND FOREMOST

TIMELINE

1995 – After a childhood playing every sport I could, being Canadian I focus on ice hockey and make my city's rep team. I soon realize that being a small, skinny Chinese kid makes me a target on the ice and get used to getting run over by opposing players. My coaches tell me to "toughen up". I wonder how to do that.

1997 – My older brother Tyrone (his name is a story for another day) buys me a York bench press set for Christmas. I immediately start a revolutionary 3 day/week exercise program consisting solely of bench press, bicep curls and skull crushers. I stick to it religiously, writing down all of my workouts, and enjoy the comments from girls at school about my arms. Confidence reaches an all-time high and my love affair with weight training begins.

1998 – Although I've gained size and strength by working out, I still don't feel it translate too much to hockey. I talk to my brother Tyrone, and he tells me about Squats, then helps me build a Squat rack out of wood. I do them for a month, notice being stronger on my skates when I play, and also appreciate the fact that my legs no longer look like they belong to a chicken. So there is more to lifting weights than chest and arms! Who knew?

June 1999 – My buddy tells me about this new martial art where it's super easy to knock people unconscious by grabbing their shirt collars and squeezing. Intrigued, we sign up for 3 months and my introduction to Brazilian Jiu-Jitsu begins. Jeff Joslin is the head instructor and he's got a blue belt. The summer was filled with drunken nights ending up in grappling matches with my buddies. Awesome stuff!

Sept 1999-April 2004 – I pack my stuff and move to the University of Waterloo where I've been accepted into the Kinesiology program. It's a 5 year program that includes 16 months of work placements. I finish on the Dean's List and earn my Honours Bachelor of Science degree and a whole new appreciation for the human body and how to train it.

Sept 2005 – After a summer of traveling and chilling out, I'm back at home and finally decide to put my degree to work. I walk into one of the big box gyms in town and get hired on the spot, feeling like the man. Little did I know these gyms will hire anyone as long as they have a weekend certification because they're into one thing and one thing only – making money.

Feb 2006 – Sick of the way the gym was run (shady salespeople), I quit and start my own business with a friend providing in-home personal training. I'm no longer working 12 hour days, so have more time to read, learn, and do fun stuff, so I go back to Joslin's, where I first learned BJJ in 1999. Jeff Joslin now has a brown belt in BJJ, and a couple of MMA fights under his belt.

April 2006 – One day after training at Joslin's, I talk to Jeff about strength and conditioning for MMA. I find out he's had a couple of trainers here and there, but has never really done anything too strict. Eager to put my knowledge to work, I set a time to assess him and my career as an MMA strength and conditioning coach begins.

Oct 2006 – After a couple of cancelled fights, Jeff arrives in Quebec to fight for the Apex World Welterweight Title. After a long night of fights, Jeff takes the ring against Nuri Shakir, who *was* riding an 11-fight win streak. After a few minutes of feeling each other out, Jeff lands a heavy straight right that drops Nuri, then pounces on him to finish the fight and win the belt. I proceed to go insane and we all go out to celebrate. A few days later Jeff gets the call from UFC matchmaker Joe Silva and agrees to face Josh Koscheck in 6 weeks. Training camp starts all over again.

Dec 2006 – Arrive in San Diego for my first ever live UFC where Jeff is fighting Koscheck on a US Marine base. Although Jeff is the 'enemy' facing an All-American wrestler, his reception isn't that bad. Funniest thing I heard yelled at Jeff, "Knock him out – he's got health care!" Although Jeff put up a hard battle and dominated the striking game, Koscheck's superior wrestling earned him the unanimous decision.

Summer 2007 – After Jeff's results training with me, my schedule is packed with up-and-coming fighters and I can't take any new guys on, so I decide to put on a 4 hour workshop called "The Ultimate MMA Strength and Conditioning Program". I spend quite a few late nights putting everything together and I had a full house of 12 athletes. This workshop formed the basis for the Ultimate MMA Strength and Conditioning Program which you're reading right now.

April 2008 – I begin taking my message of efficient strength and conditioning online through a blog, YouTube videos and email newsletters. Little did I know how big it would grow – at the time of writing this, there are over 12,000 subscribers to my email newsletter, over 3,600 subscribers to my YouTube channel and my blog is read by 15,000 + visitors each month.

Dec 2008 – After a lot of time off, I finally start training BJJ again and compete in the Joslin's 2008 Canadian Open. I enter the tournament after 3 months of solid

training and place a respectable 4th out of 56 competitors. I'm pretty happy with the result but not with the cellulitis I have to deal with afterwards.

Jan 2009 – I release version 1.0 of the Ultimate MMA Strength and Conditioning program to the world. I start to make a few sales because I've developed a small following already. Life is good.

July 2011 – After two and a half years being on the market, I decide to update the Ultimate MMA S&C Program based on all of the emails and feedback I've received from fighters and athletes around the world and to update it with all of the new knowledge I've gained to make it easier to follow and even more effective. The update takes a back seat as I get hitched at the end of July and my wife won't let me work on it on the honeymoon. :)

Apr 2012 – After various speed bumps and hiccups, version 2.0 is FINALLY complete and this is what you're reading right now.

WHY YOU NEED THIS PROGRAM

Having known Jeff Joslin for over 10 years now, I can still remember the first time I rolled with him.

It was 1999 and I was 18 or 19 and a buddy of mine heard about this new sport called Brazilian Jiu-Jitsu. This was before I'd ever seen MMA.

I'd heard of the UFC and seen some clips but never really got into it. But by that time the last UFC event was in 1995, so it'd been a while.

Anyway, my buddy and I looked into it and there was only one club in town that offered BJJ classes – Joslin's, which had been around since the 60's and was the most well-known club in Hamilton.

We showed up and watched a class and it seemed pretty cool, although I admit at first I thought it was a little gay, with all the hugging and mounting and stuff. Can you expect anything less from a teenager?

There was a guy I played hockey with who was in the class rolling and after he came up to me and was like, "This is awesome, you get a choke and the guy is out in 8 seconds!"

I guess that's kinda cool, but I was never interested in beating people up or choking people out to feel like the man – I just liked to try any and all sports, so we signed up.

I got the 3 month package because I was going away to University soon and couldn't commit to any longer.

I also bought my first martial arts uniform, which was a Tiger brand Judo gi with a matching white belt.

That gi was ugly, didn't fit right and left me open for all kinds of moves because the arm sleeves and legs were way too loose. It pretty much fit like the one on the kid to the right.

But I still have it as a memento even though I got my ass choked out hard with that thing hundreds of times!

Especially when I'd roll with Jeff…

He pretty much taught himself BJJ from books and videos (no DVDs back then) and was untouchable.

Jeff was a true mixed-martial artist – he started learning Karate at the family club under has dad when he was 3 or 4 and was a champion in Karate, Kickboxing and Weapons by the time he started training BJJ.

Don't tell Jeff I put this old picture of him in here – he'll kill me! :)

I remember feeling like a helpless 6 year old girl when I'd roll with him – and he'd always catch me in a different choke, arm or shoulder lock.

Just so you know - things haven't changed much – I still feel like a 6 year old girl when I roll with him, now that he's a BJJ Black Belt and Pan-Am Gold medalist, APEX welterweight champion mixed martial artist and UFC-vet.

But back to my story…

3 months of training later I went away to university to study Kinesiology with my confidence sky-high – I felt like I could take anybody on, no matter what their size!

I remember grappling and rolling with buddies at school, before we'd hit the bar and after a few drinks of course and tapping guys out left, right and centre.

It was awesome… and pretty funny, especially when I'd roll with bigger guys.

Fast forward a couple of months and one of my buddies from home called me up and told me to come back to check something out.

He was super pumped to show us this mixed martial arts tape so a bunch of us got together and checked it out. It sounded awesome – I couldn't wait.
It was a tape of the PRIDE Grand Prix from 2000.

I still remember how I felt watching that first match – I was in awe at these highly trained athletes who would step into the ring knowing full well that they were about to go toe-to-toe with virtually no rules and excited that I could actually watch this happen!

I don't remember who fought that first fight, just the feeling it gave me inside.

But the one fight I do remember was the finals between Royce Gracie and Kazushi Sakuraba.

This fight had no time limit and couldn't be stopped by the referee – so it was either tap, KO, or towel.

It ended mercifully when Royce's corner threw in the towel at the 90 minute mark.

Imagine that – 90 minutes of no-holds barred fighting!

This is what first got me thinking about the role that strength and conditioning plays in the success of a mixed martial artist and what's guided me down the path I'm on today.

After witnessing this amazing battle between these two extraordinary athletes, my classes in physiology, biomechanics and training took on a whole new meaning.

I started thinking about how these abstract concepts I was learning could be applied to training for MMA.

Learning about the energy systems was no longer a boring thing that I had to get through. I was now keenly interested in the role that the aerobic, anaerobic lactic and anaerobic alactic systems contributed and could be trained for peak MMA performance.

But before we get into the talk about high performance conditioning for MMA, let's get one thing straight – **your work in the weight room will not make you a champion.**

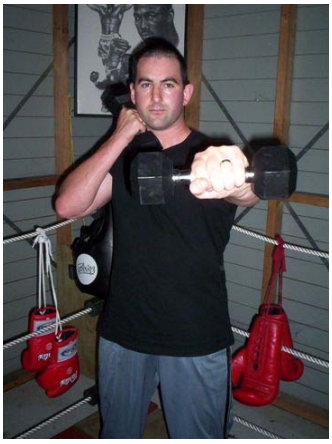
You can be the strongest fighter with the most power and stamina, but if you don't know how to box, escape the mount, pass the guard, defend takedowns or any of the other required skills for survival in the ring or octagon, you will undoubtedly have more bruises on your face compared to your opponent's face.

The game has changed, and now all fighters are required to know how to wrestle, box, kickbox, and grapple at the very *least.*

So don't make the mistake in thinking that you will rule with strength, power and conditioning alone. You've got to back these abilities up with some serious MMA skills.

On the flip side, if you've got a black belt in five different disciplines and you're not fit, sooner or later, you'll get taken to the 2nd or 3rd round where your skills will disappear, since you won't even have the energy to breathe, let alone escape a triangle choke.

What you should be taking away from all of this is that to be a champion and to compete at a high level in the sport of Mixed Martial Arts, you must not only be a master technician, but also a precision engineered machine.



Because of the complex situations an MMA fighter may find himself in during a bout, the conditioning program has to be equally complex and challenging. But the goal of strength and conditioning for an MMA fighter is not to mimic the exact skills that may be done in a fight (eg. punching with weights).

There are many different goals that must all be accounted for, periodized and improved from fight to fight.

Mixed martial arts is the most physically and mentally diverse and demanding sport right in the world. So for those of you who have the courage to step in against an opponent who wants to knock you out, choke you, or break your arm, kudos to you!

Here are just a few of the requirements of this great sport:

- ✓ You have to be extremely strong for your weight
- ✓ You need the power endurance to be able to last 3 x 5 minute rounds of battle
- ✓ You need the mobility and flexibility to get in and out of tight positions
- ✓ You need the ability to coordinate your muscles in complex patterns
- ✓ You need the power to be able to explode and surprise your opponent in a split-second
- ✓ You need to have a lightning-fast reaction time
- ✓ You need to be tough as nails to take punches, kicks, elbows, and knees
- ✓ You have to be able to conquer fear
- ✓ You need to be patient in learning details and in-depth techniques
- ✓ You need to be relaxed and calm under pressure
- ✓ You need to be committed and disciplined in months and years of training
- ✓ You need to feed your body with quality food on a daily basis to fuel your training

This is just a short list of the things a top mixed-martial artist requires. I could go on for pages.

But what I wanted to do was just give you a little insight into what's required and perhaps open up your eyes to some of the things missing in your game.

Fortunately, by following the program outlined in this manual, you'll be filling in a lot of the gaps.

This manual will teach you everything you need to know about strength and conditioning for MMA.

If you follow the program outlined, you'll build a super-solid foundation from which to hone your MMA specific skills and performance in the cage.

Contained within is a ton of information, so you may feel a bit overwhelmed - but not to worry. Just take it step-by-step and follow the program outlined and you'll elevate your strength and conditioning without sapping anything from your mixed-martial arts training. The key is to follow the program consistently.

Please make use of everything available to you, especially the tracking logs. I guarantee you'll make faster progress if you utilize the tracking logs for your training sessions than if you just go into the gym and 'wing it'.

In any sport, there is no single method that produces a top athlete. Individual differences exist in an athlete's body, movement patterns, strengths, weaknesses, likes, and dislikes, so coming up with one method that will work for all athlete's is impossible.

So many methods of training exist that can help make you last longer, stronger, faster, and more explosive, that you should be open to trying them all at some point in your career, if you're not happy with your current fitness level.

But what you don't want to do is jump from one system to the next (I call these people Program Floozies) before giving any system a chance to help you improve.

This program builds from workout-to-workout, week-to-week and month-to-month. So if you just do one phase of the system out of four, you're getting less than $1/4^{th}$ of the designed result, because each phase builds on top of the previous one and the total is greater than the sum of its parts.

What you have in front of you is a solid program based on tried-and-true principles and in the cage experience. Stick it out and I promise you won't be disappointed.

IMPORTANT POINT: When it comes to strength and conditioning, it's futile to try and look at any aspect in isolation. The type of strength training you're doing can prevent you from getting results with certain types of cardio training and vice versa.

For example, longer duration intervals where the work time is between 1-2 minutes will hamper results from power training, because they are using competing energy systems and your body will be like, "WTF? What do you want, lactic or alactic development. Make up your damn mind!"

So as you go through this program, you may come across info or read an article saying outlining the latest and greatest method of training but just remember that each and every exercise, rep, set, rest period and workout in the Ultimate MMA S&C Program works together synergistically and that anything you add, subtract or change may throw off the balance and the results are unpredictable.

But follow the program as outlined and like hundreds and even thousands of guys before you, your results are fairly predictable:

Your strength will skyrocket.

You'll feel like time bomb waiting to go off.

Endurance will never, ever be an issue again.

You now have a blueprint of exactly what to do and when to do it to make these things happen. Ready?

I thought so…

Then let's get it on!

FAQ AND BUSTING POPULAR MYTHS

Q: Can I really get in top shape training only 2 days per week?

This is one of the biggest areas of concern for guys who start this program and with good reason. We've been programmed to believe that "more is better" when the fact is that more is not better, more is simply more.

Better is getting the same results with less time and energy spent to get those results.

Even better than that is getting BETTER results with LESS time and energy spent.

Efficiency is what we're after, not compromise – and this program is efficient at getting the results you want – to be get in top shape while also training MMA.

Even the man that many consider to be the father of MMA, Bruce Lee, has this to say, "It is not daily increase but daily decrease. The height of cultivation always runs to simplicity."

Simple, while not sexy, is where it's at.

So the answer is YES, you can!

Just ask Matt, who emailed me with this:

"Put on some lean mass and got more ripped on your Ultimate S&C Program than I have for a while. Just doing 2 strength workouts per week was more than enough to keep muscle mass get ripped and even add some size. I do some commercial modeling so need to keep in shape and also some No-Gi BJJ so wanted to be strong and BJJ fit too. Your program filled both needs. Cheers dude. Matt."

As you read through this manual, you'll understand how and why this program is put together the way it is, but you'll only truly believe that this program works when you actually do it – so commit to completing this program and you'll experience the results and answer this question for yourself.

Q: I'm an old guy. Do I have to be in my 20's to get results with this program?

I've gotten this question more times than I care to remember. If you're getting on in years, you'll have to pay more attention to recovery and nutrition to ensure your body has everything it needs to repair itself from your workouts.

But because this program can be performed in only 2 sessions/week, guys who are used to 3-5 days/week in the gym will feel 10x better and your body will feel better than ever and you'll have more energy for your MMA training.

Plus, the program design ensures that you're not overloading any single movement pattern allowing muscles and joints to heal between workouts.

Here's what 40 year old mixed martial artist Garry had to say about following this program:

> "Eric,
>
> Been very happy with the results of your program. I am currently scheduled to fight in early August so have stopped the power phase and moved back to Base cond. phase and starting the 8 week fight schedule. What I like the best about your program is that it takes all the fluff out of workouts and gives you only what you need.
>
> At 40, I don't seem to recover as fast and so only 2 to 3 workouts a week is working great. I have to admit, at first, I mentally didn't think it was enough workouts but my body has told me different. Your workout has also allowed me to do more MMA classes and workouts without being too tired.
>
> Overall, I do feel like a better fighter because of it. My friends are Cross fit freaks and I match them in strength and stamina, and they are a lot younger.
>
> Thanks,
> Garry"

'Nuff said.

Q: Why do you use so much equipment? Can't you do the same with just bodyweight exercises? After all, that's all gymnasts ever do and they're in great shape!

Think of strength and conditioning just like you do MMA. In MMA, your goal is to be well-rounded, therefore you learn multiple disciplines. Otherwise you'll be too one-dimensional and your weaknesses will be easily exploited by a smart opponent.

In terms of strength and conditioning, all of the different tools – barbells, dumbbells, benches, balls, cables, kettlebells, sandbags, racks, etc – provide you with unique benefits.

For example, using dumbbells, you're working your stabilizer muscles more than with a barbell. But with a barbell, you can lift a heavier load, improving your strength more.

Which is better?

The answer – neither – they're both good for different purposes and used at the right time.

With respect to gymnasts being in great shape – they've also been training since they were kids and training at a VERY HIGH volume for years on end.

If you've got the time to spend 3 hours x 5 days per week training, bodyweight exercises can do a heck of a lot for your body.

But if your time is limited, then you've got to use the most efficient means possible – that means using equipment like barbells and dumbbells.

I have fun with lots of different equipment: tires, kettlebells, sleds, etc. but for this program, I've limited the gear you require to what you'll find in a typical gym: barbells, dumbbells, Swiss ball, cables, squat rack, chinup bar and a bench. Any decent home gym will have this stuff too.

If you're wondering how to adapt one of those crappy universal machines they have in hotels to this program, you're in the wrong place my friend.

The only thing I have in this program that I feel is vital to optimal results that some people lack is the ability to throw medicine balls. Many gyms won't let you throw them against the wall (pussies) so what I recommend is you get your own ball and find a school after hours or empty building to throw the ball against. Oh, and if it's cold out, tough luck. I've trained guys in the middle of winter here in Canada and if you want it bad enough, nothing will get in your way.

Q: I heard that MMA training is all you need for conditioning. Is that true?

If you've got this question then you must be quite the confused soul seeing as you purchased a program on strength and conditioning for MMA. ;)

But I've actually put this here just in case you hear someone tell you that you're wasting your time with extra strength and conditioning workouts, so you don't stray from the path and end up missing valuable time you could have spent building your physical fitness.

You can definitely get in good shape with MMA training alone. There's no question, especially if you're the type of guy who can push himself.

But adding specific strength and conditioning workouts will get you there much faster and take you much farther than you could ever go just training MMA.

There are a couple of unique benefits to strength and conditioning that you won't get from training MMA alone:

- → You can target specific movement patterns (not muscles, which you'll learn about soon) and make progress (add weight, reps, etc) in a structured way
- → You can push yourself to the maximum effort level without hurting a training partner or damaging your knuckles like you would with an MMA drill
- → The chance of injuring yourself (or someone else) is next to nothing with S&C workouts vs. MMA training, as long as you pay attention to using proper technique
- → You can build max strength in the weight room, which is a necessary step to developing power, but you can't really do it through MMA training
- → You can choose exercises (built into this program already) to balance out the stresses that MMA puts on your body so you don't create big muscle imbalances, which will eventually lead to injury

There are more but that list should be enough to be able to scoff at the naysayers and stick to your plan.

Q: Won't lifting weights make me slow?

If you train and perform your exercises slowly, you'll be slow, no question.

But other than the Base Conditioning phase where the goal is building the muscles, ligaments and tendons, most of the exercises are to be performed as explosively as possible.

Now the weights may not be moving fast, especially when you get to the Strength phase, but the intent to perform the exercises as fast as possible will key up your nervous system and ensure you don't slow down.

Most bodybuilding programs on the other hand require that you slow the tempo down to increase the time under tension of the working muscles. Doing so

generally leads to greater amounts of hypertrophy, but not as much functional strength and power, as I'll outline later on.

Think of sprinters – they Squat like crazy as part of their training programs, and they're still fast as heck. So you can be too, when performed properly, which you'll do in this program.

Q: Won't I bulk up if I lift weights?

If you train and eat like a bodybuilder, you'll bulk up like a bodybuilder. Unfortunately, this type of training is detrimental to a mixed-martial artist, as you want to maximize your relative strength by staying the same weight or getting lighter while increasing your strength.

But when you do this program, you will notice your strength going up and you will not put on any unnecessary bulk.

However that's not to say your body composition won't improve, because if you follow the program as outlined, including the conditioning and nutrition, you will increase your muscle mass while decreasing your body fat. But it will all be functional mass that you add and you'll move faster and more powerfully than ever.

Q: All I need to do is train hard to get in great shape.

One mistake that many MMA fighters currently make is in thinking "If the workout is hard, it's good."

This is an old school mentality and one that we must do away with for optimal results.

In the Ultimate MMA program, intensity is one variable to manipulate, not a fixed component of every exercise you do (ie. every exercise must be done *balls to the wall*).

Sometimes you'll feel like you can go again right away, or you're not working hard at all, but as you'll learn in this book and through the results you're going to get by following the program, sometimes 'easy' workouts produce astounding results.

What this old school mentality generally translates to is workouts where every exercise is done past the point of technical failure and you take short or no rest times at all so the workout feels like the hardest thing ever.

At worst, this kind of mentality will result in overtraining and eventually injury.

At best, the result of these workouts is heavy lactic energy system engagement, which you'll learn about in more detail in the section on energy systems, but has limited potential for development and can contribute to gassing out earlier than you should.

I'll leave the details for later, but for now, just think, "Work smart AND hard."

Q: What do you think about the Training Mask?

I've gotten this question enough times to dedicate a couple of blog posts to it. If you're considering dropping a hundred bucks on one of these things or you're interested in learning more about altitude training, I suggest you read these posts:

Altitude Training for MMA Part 1

Altitude Training for MMA Part 2

When I first started working with Mark Bocek, I talked to him about his training history, what kinds of things he'd done in the past and all that other stuff I talk about with guys I'm first starting to work with.

He told me he'd used the Training Mask religiously for one of his fights because the S&C coach at his camp recommended it. In that fight, Mark said he didn't feel as good as his previous fight, despite using the mask. Take it for what it is, but ultimately, it's your own decision to make.

Q: I keep hearing how CrossFit is the best for MMA fighters – what do you think?

I've heard this a lot too, usually from people who would consider themselves "die-hard" CrossFit fanatics. Although it's OK for general conditioning, it has a few downfalls that have me hesitant about recommending it to fighters for anything other than brief periods of time, far away from a fight.

Here's my view on CrossFit for MMA

EricWongMMA Principles of Strength & Conditioning

Wikipedia defines the word “principle” as:

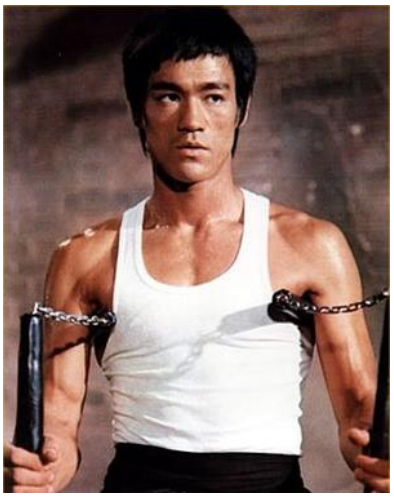
> … a law or rule that has to be, or usually is to be followed, or can be desirably followed, or is an inevitable consequence of something, such as the laws observed in nature or the way that a system is constructed. *The principles of such a system are understood by its users as the essential characteristics of the system, or reflecting system's designed purpose, and the effective operation or use of which would be impossible if any one of the principles was to be ignored.*

The principles I’m about to share with you here are the essential, underlying characteristics that lie behind the creation of the U-MMA workouts and overall program design. It may surprise you that many of them are not necessarily strength and conditioning principles, but instead, I’ve shared with you the ways of thinking that lead to this program.

NOTE: from here on out, PSC stands for “Principle of Strength and Conditioning”.

EricWongMMA PSC 1

Do the least amount of work to get the desired result



Bruce Lee said, “It is not a daily increase, but a daily decrease. Hack away at the inessentials.”

The Ultimate MMA S&C program has been designed over years of swapping more effective methods and exercises in for pieces of the puzzle that weren’t pulling their weight.

When getting this program, you may have been attracted by the promise of “2 days per week”.

I don’t blame you!

As a mixed martial artist, you’re likely training at least 3 days per week, but more likely 4-5.

This doesn’t leave a lot of time left over for S&C, especially if you’ve got other things to take care of, like school, a job, or a family.

That's where this principle comes in.

It's part of the whole "Work Smart" philosophy.

In this case, there's no point in training 4 days per week when you can get the same (or in this case, better) results in 2.

There's no special place reserved in heaven for you if you do more work than is necessary.

If by following this program you'll be doing less S&C workouts than before, you may feel like you're not doing enough.

But this mindset will change once you give it a shot and stick to it for a full cycle.

Better results happen in part because the program is intelligently designed, and also because your body has the chance to recover and adapt.

Overtraining, which we'll talk about in more depth later, doesn't always mean injury and feeling like total shit.

It can be a subtle thing where you simply feel "flat" or like you've got "no pop".

By doing the least amount of work necessary, you'll get your pop back and you'll get the results you've always wanted, while having more time to do other things you've got to do.

I'll leave what those things are up to you. :)

EricWongMMA PSC 2

What gets measured and tracked improves

I had this friend who worked out at the gym I first started working at in 2004. I would see him every month or so because he usually worked out when I wasn't there.

Whenever I bumped into him, I'd always ask him how his workouts were going.

One day, I saw him working the Bench press and put 185 up for 4 reps.

I remember this because he failed on the 5th attempt and made a really weird growling sound as his buddy lifted it up really slowly.

4 weeks later, I saw him and asked him how his Bench press was going.

He replied, “Pretty good.”

I asked him, “So how much can you Bench now?”

He said, “I dunno. 185 for a few reps I think. But I feel stronger than before.”

Whatever that means.

This is a prime example of what happens when you don’t keep track of your weights and reps.

You could hit a plateau and not even know it because you never have anything to compare where you were to where you are right now.

In this program, I’m going to teach you a simple way to track your workouts and give you the training logs I use when I train my fighters.

It's simple and powerful – but only if you put it to work for you. So be prepared to bring the logs and a pen whenever you hit the gym.

EricWongMMA PSC 28 3
PROPER TECHNIQUE IS CRUCIAL

I first learned this in the summer of 1995…

I was 14 years old and grew up as a super active kid playing every sport I was exposed to.

But then I had back surgery and long story short – I was on my back for the entire summer and when I got back to moving around, I was stiff, slow, weak and in pain.

Getting back to playing sports was no easy task and I became very aware of what impact various movements had on my back.

Scar leftover from my back surgery...

For years I'd suffered through seemingly random bouts of back pain because of this surgery, but after getting my degree and learning more, I'd finally overcome it and now I can do what I want, like BJJ or Deadlifting twice my bodyweight without fear of hurting my back.

A recent study in the National Strength and Conditioning Association's research journal showed how those who went through an intense session of exercise technique instruction improved their performance variables (strength, power, endurance) more than those who didn't get the technical instruction.

This goes to validate what I've taught from day one: technique COUNTS. Phooey to the CrossFit freaks who say, "You're not training hard unless your technique breaks down."

I think allowing and worse, encouraging technical breakdown is totally stupid and pointless – if you're going to train your jab, you train it in proper technique. Because if your technique falters, say, when you bring your hand back you drop it low, you'll get your ass knocked out in a fight. Not to mention the fact that you'll waste more energy doing it wrong than if you performed it properly.

I recently signed up at a new gym that is a 2 minute walk from my place and I was cringing at the sight of one of their Stock Trainers pushing his poor, clueless client through a death workout that looked to be something like 4 drop sets of Squats.

The Stock Trainer didn't offer one piece of exercise technique instruction, despite the fact that his client's lumbar spine was crying out in desperation for at least one helpful cue, but no, the trainer never moved from his crossed-arms position. But I would have trouble cueing my client too if I was chewing gum as rapidly as he was. I later saw the client climbing the stairs one at a time with a heavy reliance on the hand rail. I hope that the $60 session was worth it.

In exercise, training technique contributes to optimal intermuscular coordination, which means developing all of the muscles you're using in the best, most balanced way to perform whatever movement you're performing.

When your technique falters, your body goes towards your strengths; your stronger muscles get overworked even more and get even stronger while the weakest links don't get developed.

Ultimately, this will lead to a muscle imbalance injury and will leave you weaker than if you'd been able to train consistently, although in the short-term you may be able to move more weight with poor form. Short-term gain for long-term pain.

The other thing that happens when you train with good form is that your body becomes an efficient, power-packed machine, not some bulky disproportionate mass of uncoordinated muscle.

As an MMA S&C coach and a mixed-martial artist myself, relative strength and efficiency are keys to performance. The best way to optimize these things in the weight room is train with good form, then you'll be able to surprise your training partners and opponents with your strength and power for your size.

Over the past few years, I've continued to improve my strength while I've dropped 3-4 pounds of mass. I've either got a tapeworm I haven't found or I'm getting more efficient. Although with some of the places I've traveled to I wouldn't rule out #1, I'm betting on the latter.

EricWongMMA PSC 4
AVOID TRAINING DOGMA

I've spent time with 3 high level boxing trainers in my life: Jeff Joslin, his coach Vito Brancaccio, and another ex-Canadian Pro Heavyweight Champ.

I guess since Vito taught Jeff most of what he knows about boxing, they can be considered one.

With something as simple as the jab, I was taught two fundamentally different methods, with each claiming to be "the right way".

Now if you've only had one coach all your life, you wouldn't know any different.

But since I was exposed to these two methods, I had the opportunity to try them out in sparring to see how they worked.

The result: they both worked – at certain times.

Now if I'd adopted one method over the other I would've missed out on a valuable weapon in my arsenal.

But since I tried both methods out, I realized they both worked at the right time.

The lesson here is to keep your mind open and avoid dogma.

Again, we can learn from Bruce Lee, who said, "Adapt what is useful, reject what is useless, and add what is uniquely your own."

In the strength and conditioning world, there's a ton of dogma going on that you've got to be aware of.

For example, there's the bodyweight guys, the kettlebell guys, the TRX crew, the circuit freaks, the Powerlifting gang, the CrossFitters, the Olympic Lifters and on and on.

Each promotes their method as THE method to get results.

But the reality is that for the mixed martial artist whose goal is to be in top shape for MMA, you can take valuable methods from each and put them together to achieve peak results.

Just like how MMA has evolved from practitioners of single disciplines battling it out to see whose style is more powerful, to a sport where athletes are proficient in multiple disciplines, strength and conditioning can evolve beyond the "single approach" to a point where the best approach is used at the appropriate time.

As I mentioned before, in this program, you'll be using standard gym equipment because I've had to strike a balance between accessibility, applicability and confusion.

The more obstacles in the way ("I don't have a Kettlebell") and the more you've got to figure out ("What exercises can I substitute?"), the less likely you'll actually do what you need to do.

Strength and conditioning is a journey, not a destination, so you've got lots of time to play with all the bells and whistles.

But for now, you'll be dropping the Kettlebells, TRX, sandbags, tires and hammers and focusing on one thing only – getting results.

EricWongMMA PSC 5

HEALTH IS YOUR FOUNDATION FOR PEAK PERFORMANCE

Picture for a moment, what your body would look like if it were a model of good health.

.

.

I'm guessing you can see muscle definition, proportional muscle size and good posture.

Do you think this body is capable of achieving peak athletic performance?

Probably, as long as everything on the INSIDE is also a model of good health.

That's why I've also included a nutrition component to this program, and why I talk about concepts like muscle balance, stress, sleep and recovery.

I was at an Olympic Weightlifting course put on by the governing body that oversees all Olympic athletes in Canada.

One of the attendees walked in with a coffee the size of my thigh and bags under his eyes that could've held a week's worth of groceries.

During the first break, I talked to him and learned that he was an avid CrossFitter. He had an 8-month old daughter and he also told me that he trained clients at 6 am.

Sure, he could move some decent weights. I think he Snatched about 135 lbs or so, which was decent for a guy his size.

But from his appearance, the giant coffee he was drinking, and everything he told me, his body is going to break down very soon from too much stress and too little recovery.

Yes, he was fit, but he was not a good example of health. And without health, even if you do happen to get in top shape, you won't be able to sustain it for very long.

So if your goal is more than just 1 fight, but to be in top shape for that fight and to continue to build on everything you've achieved before that, make sure you always work at your health in addition to your fitness, and in the long run you'll be so much further ahead and you'll feel a hell of a lot better too.

EricWongMMA PSC 28 6
MANAGE YOUR "ADAPTATION ENERGY"

A common myth about training is that your fitness improves from your workout when in fact your fitness improves after you've recovered from your workout.

The workout is the stimulus for your body that makes it think, "Hey, something's going on here. I'd better adapt to be ready for when this comes the next time."

To recover, your body needs energy, which I call **"adaptation energy" (AE)**.

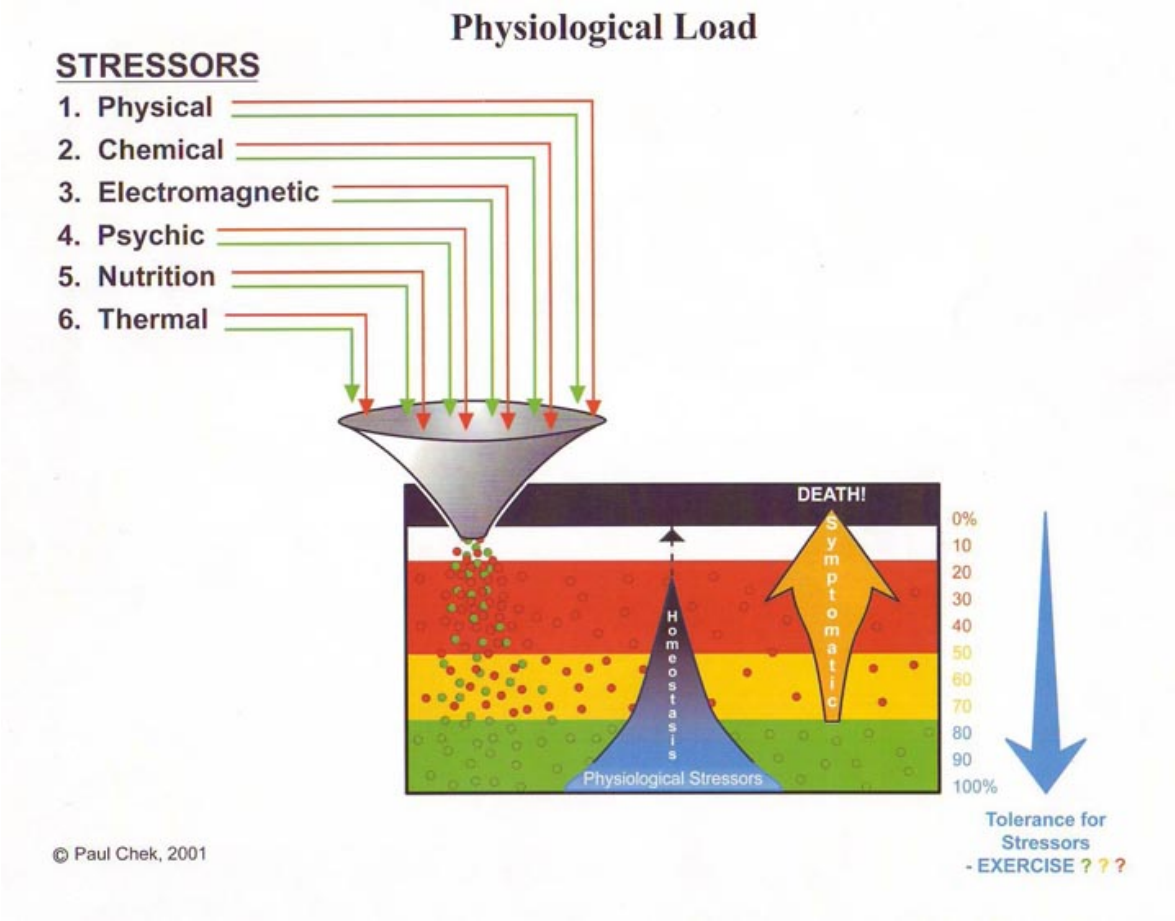
But AE is limited, that is, you can't completely drain yourself through the grueling workouts day in, day out, and expect to make constant progress.

Plus, AE goes to recover from each and every stressor that your body experiences, whether it be from:

- Physical: what you do with your body ie. working out

- Mental/Emotional: what thoughts you think ie. worrying about finances or fighting with your partner
- Nutritional: what foods you eat
- Environmental/Chemical: dealing with pollution or drugs

I first learned this from Paul Chek who calls these stressors your Physiological Load. He clearly illustrates the concept in the diagram below:



He uses slightly different terminology here and I've eliminated a couple that for our purposes aren't as important (electromagnetic, thermal - the likelihood that cell phone use leads to poor performance in a fight is pretty low, IMO).

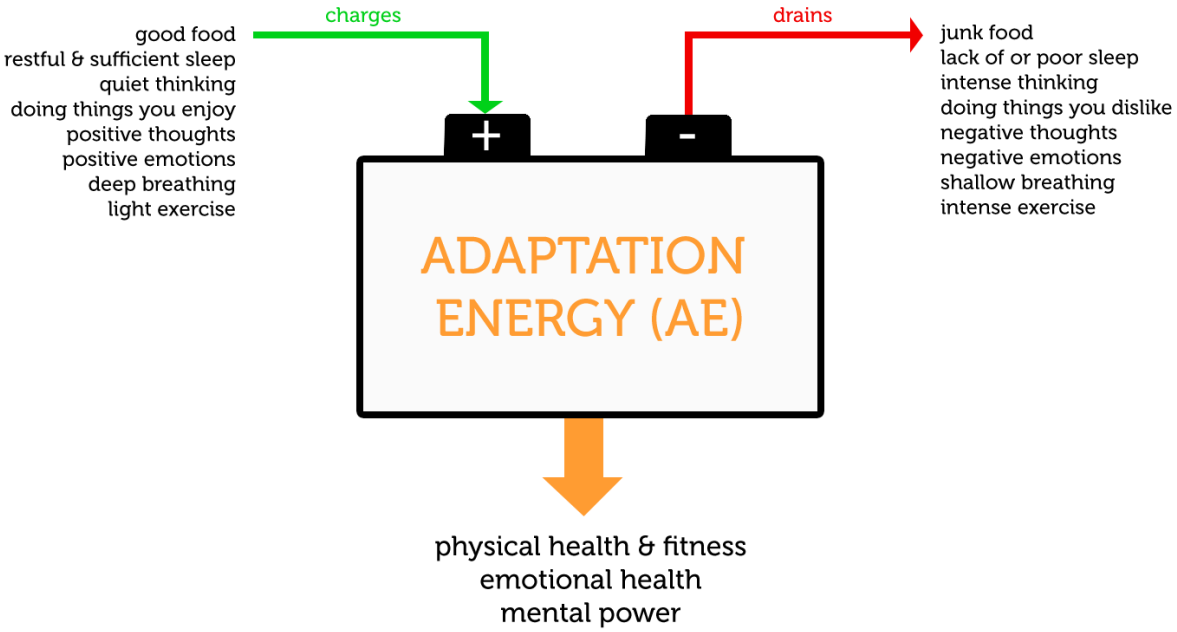
As you can see, all stress goes into the same 'bucket' and the amount of AE you have determines how your body deals with it and whether or not you exhibit symptoms.

You've probably experienced this for yourself… For example, you might've had a time in your life when you were under serious mental stress and because of this, you felt like you weren't recovering from your workouts as quickly as before.

This is the concept in action… For this example, if you can't change the mental stress, managing the stress in the other areas could allow you to continue working out and recovering properly, such as making sure your nutrition is perfect. It's all a fine balance that's based on your individual situation.

The key is knowing that this exists and being aware when you're out of balance. Then you can take the necessary actions to right the ship.

Here's a simple diagram I've created to help you understand what adds to your AE, what takes it away, and what your AE goes to:



So if you ever feel like you're not recovering from workouts, you lack "pop", you often get sick, revisit the two diagrams I just showed you to see where you can make changes to charge up your AE.

EricWongMMA PSC 7
SET GOALS AND WORK TOWARDS THEM

Goal setting is nothing new and it's been around forever.

But despite the fact that high performers in sport, business and life in general all talk about the power of goal setting, many people still fail to set goals at all.

When you set a goal properly, your mind zeroes in on your goal and looks for opportunities to help you get there. Your mind automatically filters out any crap that won't help you get you to where you want to be.

Without a goal, you're easily distracted and can find yourself way off track. It's like driving somewhere without knowing the directions and without a map (or GPS).

I'm going to simplify your goal for your physical fitness, since I'm pretty sure why you've come here to get in top fight shape. You've just got 3 things to do to achieve your goal:

1. Follow the advice in this book
2. Complete the workouts as outlined
3. Give the workouts your best effort

Do these 3 things and your goal of getting in the best fight shape of your life will happen. It's happened for many others before who have followed these 3 tips, and it'll happen for you too, just like it did for Brian:

> "I've made it through the cycle & getting ready to start the program again, this time hoping to increase the amount of weight.
>
> I started off the program weighing 197lbs, I'm 6'2, so I wasn't really looking to lose much weight, I wanted to continue to increase my endurance & power. Honestly 2 years ago, I wasn't a pretty picture and would not have been able to even do this program. Now my challenge was I felt too weak and skinny, I have done martial arts for 2 years & just started MMA in November 2011.
>
> There is no doubt my strength and power have increased. Recently while rolling with a BJJ Black Belt and Purple Belt, they commented how surprised they were at my strength (Now I'm 193lbs @ 6'2 I look like a bean pole, but it's deceptive because of my long legs) and those guys underestimated me. Just a few weeks ago at Muay Thai

practice, I was rocking guys with kicks, even with the pads they were flying backwards!

I'm feeling great! Use whatever is helpful.

Thanks Eric.

-Brian
Olympia, WA”

Let me share one more tip…

Before you do workout, look at your previous training logs and determine what weights you moved and try to beat it. Always set these “mini-goals” to keep pushing yourself forward. It doesn’t always have to be more weight lifted – it can be better technique, more sets, more reps, less rest – just some form of measurable progress that will keep your body adapting and improving.
And there we have the 7 EricWongMMA Principles of Strength and Conditioning.

These form the cornerstone of each and every program I create, including this one. In summary:

1. Do The LEAST Amount Of Work To Get The Desired Result
2. What Gets Measured and Tracked Improves
3. Proper Technique is Important
4. Avoid Training Dogma
5. Health Is Your Foundation For Peak Performance
6. Manage Your “Adaptation Energy”
7. Set Goals And Work Towards Them

Follow these principles and you’re on your way not only to peak performance, but also boundless energy and optimal health.


FUNCTIONAL
KINESIOLOGY

INTRO

kin-e-si-ol-o-gy – the study of human movement

In addition to my university studies, certification courses, workshops, books and DVDs, I've also studied various Eastern Bloc training methods in hard-to-find books by authors like Verkhoshansky, Zatsiorsky, Siff, Bondarchuk and others.

It's clear that they were very rigorous and scientific in developing their training methods.

But the biggest thing I've taken from the Eastern Bloc approach has nothing to do with reps, sets or exercises – it has to do with how they not only trained their athletes but also educated them about what they were doing at the same time.

They believed, and I share their belief, that an athlete that understands their body and what is going on inside and why they're doing certain exercises, reps, or why they're resting for 3 minutes when they feel like they can go again after 1 minute will get better results than an athlete who knows nothing of their body or the reasons behind their actions.

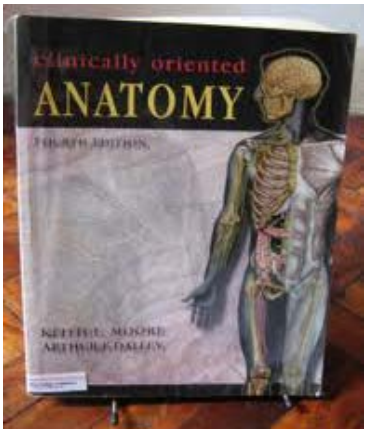
That's why I've included this section in the book. I've also named it 'Functional' Kinesiology instead of just Kinesiology because we're interested in how things work to create movement, not just how a body at rest functions. So everything I talk about will be in the context of human movement and applied to MMA.

You *could* skip this section completely, but you'd be missing out on the fundamentals that are required to understand exactly why this program works so well.

Skipping this section would be like skipping Grade 9 entirely. If you're really smart, you might be able to do it, but there are some things in Grade 10 that you just won't understand without that foundational knowledge.

I've done my best to keep it to the point, relevant and most importantly, understandable, because I know most of you reading it aren't science majors and that's why I've included analogies and comparisons as much as possible.

ANATOMY



Clinically Oriented Anatomy was the textbook I was assigned in my first year University anatomy course and is over 1100 pages long.

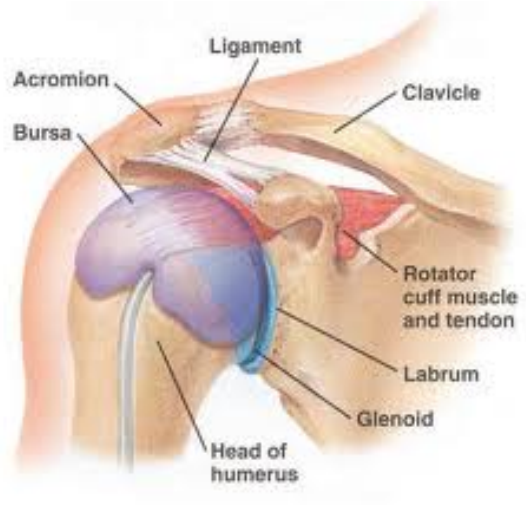
Part of my anatomy training included working with cadavers – dead bodies that people donated to the university.

The first time in the cadaver lab made my stomach turn a little, but I quickly got used to it. The prof teaching us in the lab was a bit of a weird-o – I guess you'd have to be to hang out in the basement with dead bodies all day!

Now I'm not going to try and give you a University level of understanding in anatomy here. What I do hope to do is give you a basic understanding and show you how it relates to movement and training, so you not only understand this program better, but any reading you may do in the future by myself or other writers better, too.

If you've got an understanding of basic anatomy, this section may help you put it into a more functional and training specific context. However, please understand that I'm assuming zero knowledge in anatomy, so as to make sure everyone who reads this book gets caught up to speed, so bear with me if you already know all this stuff.

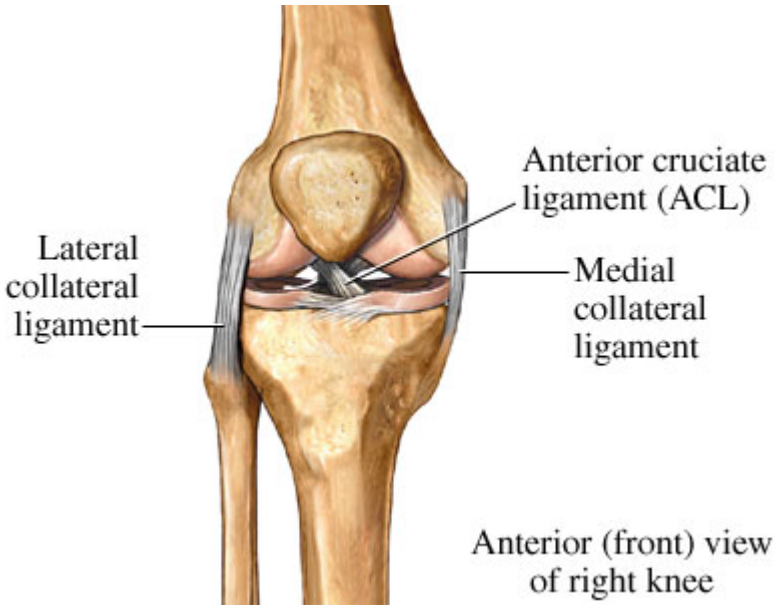
I feel the best way to start this discussion is of a single joint. Below is the shoulder:



Every joint is made up of bones, ligaments, tendons, muscles and other soft tissue structures. Let's look at the function of each:

Bones give you your structure and solid anchoring points for the soft tissue, just like the wooden beams give a house its structure. There aren't any practical training implications for bones. The most relevant info for you to know is that if bones get injured, they take a long time to heal. So if you get hurt, quickly determine if it's a bone injury and if it is, get it set in a brace ASAP so the bone can heal in the proper position, otherwise it can be permanently deformed. Hairline fractures left unchecked can lead to bigger breaks and a long time on the sidelines.

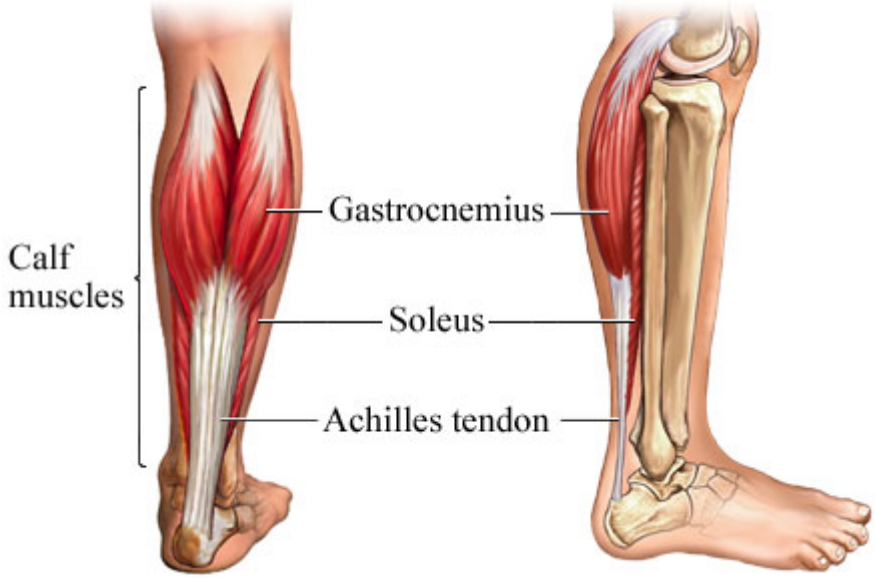
Ligaments are soft tissues that can basically be considered emergency stabilizers, like an airbag in a car. That means if a joint gets stretched to end range, if you don't have muscular control of that range, the ligament works to ensure joint stability and avoid dislocation, just like an airbag deploys to prevent you from smashing your head on the steering wheel. Here are 3 of the 4 major ligaments of the knee:



In terms of sporting movements and exercises, you want to avoid excessive overload of your ligaments. If they get damaged, they take a long time to heal and may even require surgery. Not good.

However, they do respond to training and loading by getting stronger, so you don't want to avoid loading them completely. That means in the weight room, exercises like Squats are done with full range of motion under control, which will strengthen ligaments. More explosive (ballistic) exercises like Squat Jumps are performed in a smaller range of motion to avoid potential ligament damage.

Tendons and fascia are connective tissue that connect muscles to bones (tendons) or "shrink-wrap" all of the muscles in your body.
Tendons are like a really strong rubber band – they have elastic quality and while they don't contract, they provide power when you perform a movement where you stretch the tendon then quickly reverse directions, like stretching a rubber band and letting it go to shoot your buddy in the neck. Below is the most well-known and powerful tendon – the Achilles:



The difference with the rubber band analogy and how tendons actually function is that when the stretch is held too long (1 second or more is too long), the tendon loses that elastic force. This is important to know when you start the Power phase and are working through exercises to develop power where the key is to quickly reverse the direction of movement to take advantage of this property of the tendon. This property is called the series elastic component (SEC) and contributes to the stretch shortening cycle (SSC), which we'll talk about more in the Power section.

Fascia is connective tissue that does more than just make sure your muscles keep their shape. In fact, fascia has more sensory neurons than muscles, so it provides your CNS with info as to what's going on in and around the muscle. Like tendons, fascia also contributes to the SEC and SSC to help you generate more power.

Muscles are what you use to create movement. They are controlled both consciously (ie flexing your biceps) and unconsciously (ie your heart beating) by your central nervous system, which we'll discuss in a minute.

For muscles to work, they need 2 things: to be activated by the nervous system and fuel (ATP – adenosine triphosphate) to contract. Think of your muscles as the engine of a car and ATP as the gas.

There are 3 main types of muscle fibers found in your body: Type I (slow twitch) and Type IIa (fast twitch, oxidative) and Type IIx (fast twitch, glycolytic).

There is a limited supply of gas in your car and when that supply runs down, you need to fuel up to continue driving. The cool thing is your body can make its own fuel, but it needs oxygen and/or glucose to do so. The 3 energy systems are how your body makes this fuel, which we'll discuss later. When you make this fuel via the energy systems, by-products (tailpipe emissions) are created that must be eliminated from the muscle, otherwise they'll build up in your engine and stop it from working. That's why your heart rate and breathing increase when you start working hard – to increase blood flow to the muscles (and other systems) to bring oxygen and glucose to the muscle and remove by-products.

Intervertebral discs, meniscus (menisci) and bursa are the other soft tissue structures found in certain joints that act as shock absorbers and lubricate your joints.

All you need to know about these is that if yours are worn down/damaged, you need to pay extra special attention to controlling all movement at that joint with surrounding muscles, otherwise bone rubs on bone and that can get nasty, fast, just like driving a car with no oil.

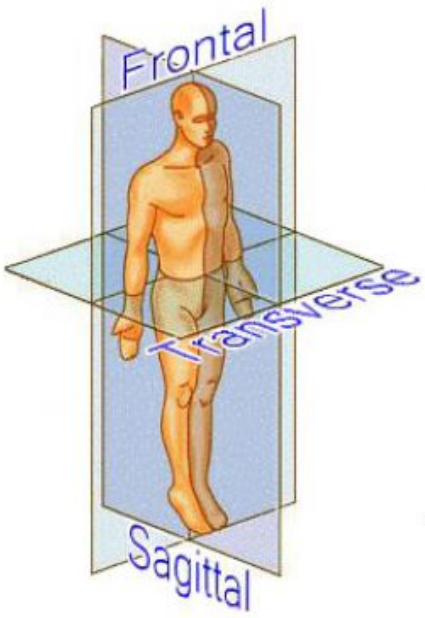
And that concludes your crash course in anatomy. I hope it wasn't too boring, was it?

I remember sleeping through a few anatomy courses myself, but that could've been more due to excessive partying and alcohol the night before, I'm not too sure. ;)

But if you did read through, I hope I've provided you with a basic understanding of the function of the various tissues that make up your body.

MOVEMENT

Human movement occurs in 3 dimensions called the 3 planes of motion: frontal, sagittal and transverse (rotational).



Let's do a few different movements so you know exactly which plane is which.

Swing one arm up and down like you're a soldier marching. This is a **sagittal plane** movement.

Now reach up over head with one arm. Now bend over to the side like you're stretching the side of your torso. This is a movement in the **frontal plane**.

Finally, rotate your body like you're throwing a straight cross. The rotation of your hips, shoulders and core occurs in the **transverse plane**.

Now if you go to the gym, what plane do almost all of the machines work?

If you guessed sagittal, you're right. 95% of machines work your body in the sagittal plane.

Even most barbell and dumbbell exercises train your body in the sagittal plane, with the frontal plane being a distant second and almost zero transverse plane training.

Now think of MMA – where is power generated?

That's right – being able to generate and/or transfer power in the transverse plane.

We know that rotation through the hips and core is crucial for powerful punches, roundhouse kicks are generally more powerful than straight kicks, and judo throws are some of the most explosive of the bunch because they occur in the transverse plane.

That's why programs that include standard exercises like Squats, Deadlifts and Bench Presses are not ideal for a mixed martial artist – they're missing an important piece to the power development puzzle.

An important note is that when we're talking about movement in the transverse plane, your core doesn't necessarily rotate a lot. Instead, it transfers rotational power that was generated from the ground or through your hips.

This is important because if you start trying to rotate through your lumbar spine, it results in an extremely high and potentially damaging load that can lead to serious and chronic back pain. A small bit of rotation is OK, but when performing exercises that work the transverse plane of motion like Woodchops, the lumbar spine is relatively neutral. As long as you watch the videos included with this program andfollow the technique cues I teach you, you'll be good to go.

[If you've already got low back problems, I suggest you check out my Bulletproof Back program to get it fixed up before getting into this program]

In MMA, most movements require a combination of movement and stability in all planes of motion, so exercises like Woodchops, unilateral exercises like 1-leg Stiff-leg Deadlifts and medicine ball exercises are where you're going to work in 3D in the Ultimate MMA S&C program, creating functional strength that will transfer over to performance in the cage.

Now that's not to say that fighters need to scrap all the sagittal and frontal plane training because that's how we develop the strength of our major movement patterns, which we'll discuss in a later section, but we're going to integrate a solid amount of transverse and frontal plane training to make sure you build a balanced body in all 3 planes of motion.

THE CENTRAL NERVOUS SYSTEM

Your nervous system is made up of your central nervous system (CNS) and your peripheral nervous system (PNS). Your brain and spinal cord make up your CNS, while the nerves branching off of the spinal cord make up your PNS.

You have conscious control of some things with your CNS, such as movement, while most functions of your body are unconscious, such as digestion. The autonomic nervous system (ANS) controls the unconscious functions. Some things, such as breathing, are under both your voluntary and involuntary control.

There are 2 branches of the ANS: the parasympathetic nervous system (PSNS) and the sympathetic nervous system (SNS).

When you're PSNS dominant, you're said to be in a parasympathetic or anabolic state, which is conducive to rest and recovery.

When you're SNS dominant, you're said to be in a sympathetic or catabolic state. When learning about this stuff at a course, the instructor, who was a tall, lean Aussie woman, referred to it as the 4 F's: fight, flight, forage and… fornicate.

These are the instincts of the SNS and this will become important for you to remember because I'll be talking more about it later.

The CNS is the master controller of all movement. It's basically like Windows or your Mac OS – it takes what you consciously want to do and tells your body how to execute it and co-ordinate all of the muscles so you can perform the movement how you want.

As I mentioned, we're not going to go into too much depth and only address the key points you need to understand the role of the CNS in training and that will help you get more out of your workouts.

One thing I haven't heard many coaches talk about is the fact that your CNS has a limited amount of energy for you to use to control movement and generate force. Just like your muscles, it can be trained, detrained and overtrained, so proper rest and recovery is necessary.

It can also be ramped up, which you'll learn as part of the warmup protocol I'll be teaching you in this program.

Focus and concentration can also heighten its power, so make sure your mind is in it with your body when you're training, otherwise you're missing out on maximizing the workout's potential.

There are 3 trainable components of the CNS:

NERVE CONDUCTION VELOCITY

Neuromuscular development starts in the brain. Your brain is the leader and directs and organizes how everything is going to work.

So the first step for any movement is for the brain to say, "Hey muscles, I want you to do this movement."

For beginners, the path the message travels is very inefficient – it's like taking a long, looping road home instead of a straight line. But with strength training, the brain quickly figures out the straightest line from Point A to Point B and creates these new neural pathways.

The speed at which this message travels is called your nerve conduction velocity.

For more advanced lifters this speed is pretty high, and requires advanced methods to further its development, namely reactive power training and starting power training.

Reactive power training involves quickly absorbing a force then generating force in the opposite direction. An example is a depth jump – you step off a box of about 2 feet, then imagine the ground is on fire and you want to spend as little time as possible on the ground before you spring back up, without touching your heels.

Any jumping exercises or explosive exercises like clap pushups where you spend minimal time on the ground between reps are reactive exercises.

Starting power is your ability to turn your muscles on from a dead start. Think of an Olympic lift like a Power clean. The bar is on the floor, and you must explode and pull it up as fast as possible to get it to your shoulders.

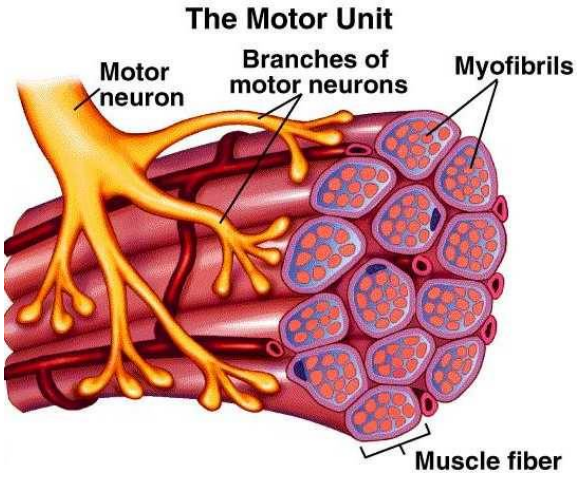
[NOTE: if you're not comfortable with the Olympic lifts but you want to utilize these mighty exercises, check out my Olympic Lifting Mastery course that will teach you how to master these highly technical exercises]

INTRAMUSCULAR COORDINATION

Once the message arrives at the muscle, it contains how much force is needed.

For maximum power, all of the muscle fibres are needed. But depending on your ability to fire all the fibres, you may or may not be achieving full power.

This is called your motor unit recruitment.



Your ability to recruit all of the muscle fibres improves with maximal strength training. Again, since you're on this program, this ability is already quite high, and working to improve it further won't provide you with a good return on your time and energy investment.

Now there are two more aspects of intramuscular co-ordination: rate coding and synchronization.

Rate coding is how fast the motor units (and muscle fibres) are fired. The faster they fire, the more powerful you'll be.

Think of rate coding as the RPM in your car – the higher the RPM, the faster you go.

To develop your rate coding ability, you want to employ high velocity training. That means explosive and fast exercises using your body weight or less than 30% of your 1RM will develop this component to maximize your power.

Synchronization is how well organized you fire your muscle fibres. If you can fire all your fibres at the same time, you're at full power. If you're out of sync, you lose power.

Think of a rowing team – if they're rowing out of sync, they won't go as fast.

Synchronization is developed through maximal strength training (1-3RM).

INTERMUSCULAR COORDINATION

Finally, we have intermuscular coordination. While INTRAmuscular coordination is how well you can fire all the individual muscle fibres within a single muscle, say, the biceps, INTERmuscular coordination is how well you can coordinate different muscle groups to perform a movement, for example, coordinating the pecs, shoulders, and triceps in a Bench press.

INTERmuscular co-ordination is how well your muscles work together. For example, when you squat, to maintain good posture you need to fire your back extensors to stay tall as well as your glutes, quads and hamstrings to control the movement up and down. Your hip flexors work as a stabilizer to assist in maintaining lumbar extension but not as a flexor of the hip. Muscles firing together like this in a co-ordinated (and sometimes not so co-ordinated) pattern to create movement is referred to as a motor program, movement pattern and/or motor engram. I'm going to call it a motor program from here on out.

It's an important concept to understand because through disuse or overuse, you can develop faulty motor programs that must be reprogrammed, usually through a combination of inhibition of overworking muscles and activation/strengthening of underworking muscles. Your CNS is very adaptable (neuroplasticity), however, it takes a lot more time to reprogram vs. creating a new motor program.

Research by Schmidt shows that it can take thousands of reps to reprogram a faulty motor program vs. hundreds to create a new one. That's why when you're learning exercises or skills, focus on technical perfection first, and only develop your strength and power after technical mastery. Don't rush it!

Obviously, most movements you perform in MMA require multiple muscle groups for proper execution.

So how do we go about developing excellent intermuscular coordination?

One is through maximal strength development in the basic lifts. Max strength training integrates high motor unit recruitment (INTRAmuscular) with proper sequencing and timing of muscle firing patterns (INTERmuscular).

The second is through the use of increasingly complex exercises, which are generally exercises that require movement in multiple planes of motion and/or exercises that are impossible to execute properly without the proper motor program. The latter point is another area where learning the Olympic lifts properly proves uniquely beneficial.

OK so that may have been a bit confusing and long-winded and I apologize for that.

So here's a quick summary of how we're going to develop your nervous system for to help you get in top fight shape:

1. Nerve conduction velocity – how fast the message travels from brain to muscle
    a. Reactive power training eg. Side-to-side hops, Plyo pushups
    b. Starting power training eg. Dead start pushups

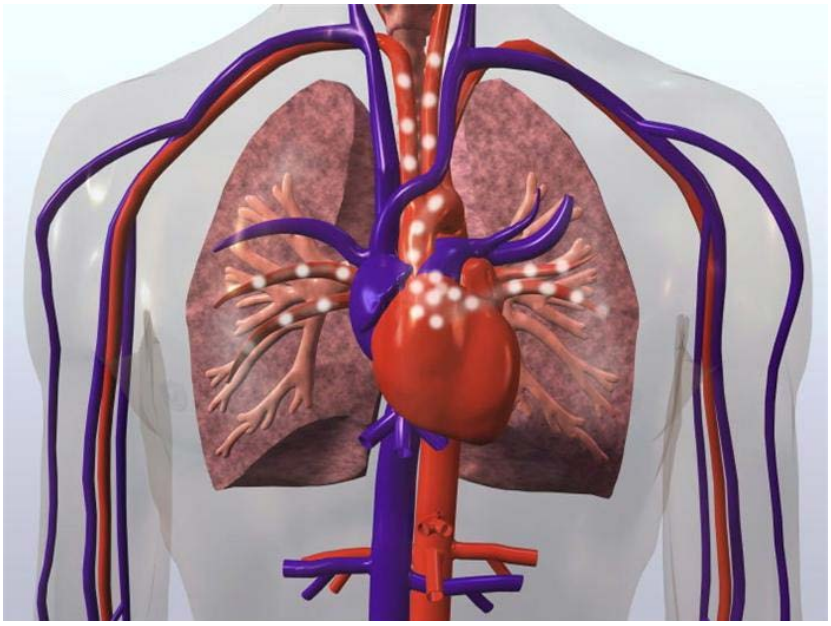
2. Intramuscular coordination
    a. Rate coding – how fast the muscle fibres fire
        i. High velocity training eg. Bodyweight jumps
    b. Synchronization – how well a muscle group uses its muscle fibres
        i. Maximal strength training

3. Intermuscular coordination
    a. Maximal strength training: eg. heavy Deadlifts for low reps
    b. Complex/multi-dimensional exercises: eg. Woodchops

Memorize this stuff, it's going to be on the final exam. ;)

THE CARDIOVASCULAR SYSTEM

The cardiovascular (CV) system is made up of your heart, lungs and blood vessels. The role of the CV system is to circulate blood, which brings oxygen and nutrients where they're needed and ensures by-products don't accumulate.



In terms of training, the focus is on the adaptations in the heart, while the lungs and blood vessels come along for the ride.

Unless you've got a pulmonary disease such as asthma, strength training of the lungs has not been shown to improve sport performance. But, I've found 2 things to be important to be aware of with respect to breathing properly:

1. **You must learn to use your diaphragm to breathe deeply.** Too many people only use their chest to breath, reducing the volume and power of their breathing. Check out this video for a tutorial: http://youtu.be/_TUZiiMy1iI (I love the guy's accent). If you have trouble with diaphragmatic deep breathing, practice this DAILY lying down, then when you've got it lying down, go sitting, then standing.

2. **You must learn to breathe as relaxed as possible when working hard.** Avoid short, choppy breaths. So when you're doing intervals, intense circuits, bag work, and sparring, make sure you're breathing smoothly and take deep breaths when possible.

If you're not breathing efficiently, you're limiting your cardiovascular fitness. The next time you roll, try holding your rolling while holding your breath and you'll see how important it is to breathe.

The blood vessels tend to improve along with improvements in the heart, so you don't have to think about specific blood vessel training. Blood vessels can change by getting bigger, allowing more blood to flow through. You can also increase the amount of the body's tiniest blood vessels, called capillaries, which connect the veins and arteries to tissues such as muscles and bones.

The heart is like your gas pedal. When you work hard it's like putting your foot down on the gas and the heart works with the lungs to get fuel to where it needs to go.

The fitness of your heart is measured by something called cardiac output (CO).

CO basically means how much blood your heart can pump in a given time, and is usually expressed as liters of blood per minute.

The equation to calculate CO is:

CO = Heart Rate (beats/minute) x Stroke Volume (liters/beat)

There's a ceiling on your max heart rate, so based on the equation the only way to improve CO is to increase stroke volume.

Training increases stroke volume in 2 ways:

1. Through stretching the heart, thus increasing its volume so with each beat it has the potential to pump out more blood

2. By strengthening the heart, so it can pump out more blood each beat.

Different styles of training cause either to happen. In general, low intensity, long duration training causes volume adaptations while high intensity training causes strength adaptations.

Does that mean you should be running 5 miles every day? Let's find out…

THE ENERGY SYSTEMS

The 3 energy systems are the Aerobic, Anaerobic Lactic (aka Glycolytic), and the Anaerobic Alactic (aka ATP-PC or High-energy phosphate).

All 3 energy systems work to provide your muscles with a substance called ATP (adenosine tri-phosphate) – a chemical that fuels your muscles and allows them to contract.

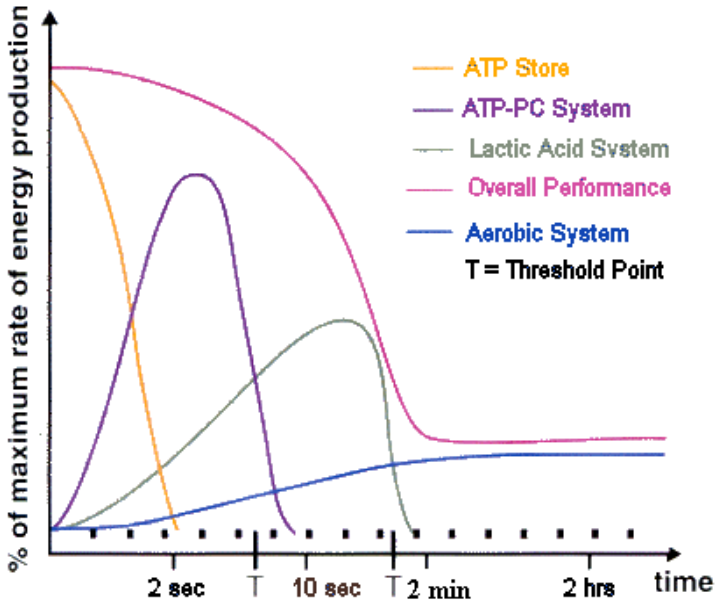
The **aerobic** energy system is so named because as long as there is oxygen present (ie you're breathing), it takes that oxygen and creates ATP. It can basically provide you with an unlimited amount of ATP. But the processes that must occur to convert oxygen to ATP are relatively slow, which is why at very high workloads, the other energy systems come in to play. Marathon runners rely predominantly on the aerobic energy system. The aerobic system also works to regenerate the other 2 systems when they've been taxed.

The **anaerobic lactic** energy system is the system that when taxed, results in a lot of fatigue and that 'burning' feeling in your muscles. If you're working at full anaerobic lactic output, it can give you up to about 60 sec of energy until it is completely wiped out and you can no longer contract your muscles with any appreciable force due to the acidosis of the muscle. A 400 m sprint relies heavily on the lactic system as will fighting for a submission for 1 minute when you've got someone's back.

[SCIENCE GEEK NOTE: contrary to popular belief, the burning sensation and muscle fatigue is not actually from lactic acid itself, but possibly due to another by-product of lactic metabolism such as the accumulation of NADH + H+ and/or increased net ATP dephosphorylation, both results of the processes the lactic system uses to generate ATP]

The **anaerobic alactic** system fuels your most explosive movements and generates ATP for your muscles at the fastest rate. This is because it uses the creatine phosphate stored in the muscles themselves and there is a simple chemical reaction to convert creatine phosphate into ATP. Think 100 m sprints or an explosive takedown when picturing the alactic system.

Now the typical graph you'll encounter when reading about the energy systems looks like this:



The graph shows the approximate capacity that each system has when under maximal demand and shows that energy is generated sequentially, starting with the alactic system, then the lactic system and finally the aerobic system gets into the mix.

However, more recent research shows that the energy systems all contribute at varying workloads from low to high intensity and the aerobic system especially contributes energy a lot sooner than previously thought.

In fact, a 2001 study by Spenser and Gastin showed that in a 400 m race, which lasts around 45 seconds, athletes derive 43% of their energy aerobically and in an 800 m race (around 1 min 45 sec), 66% of energy is produced aerobically. So the aerobic system is working a lot harder and sooner than previously thought. You can imagine in a 3 x 5 minute MMA fight how much energy comes from the aerobic system.

Now, we're not sprinters or track athletes, we're fighters. It's not as simple as breaking everything down according to the energy systems. There are neuromuscular factors, biomechanical factors, overall training load and a host of other things to consider when designing a program specifically for MMA.

With respect to the energy systems, for optimal performance in MMA, the general overview is this – you need an extremely well-trained aerobic system to fuel you in case the fight goes the distance, you need to maximize the power of your alactic system for the ability to explode, and you need to have experienced the effects of the lactic system for *emergencies*. Let's find out why…

Each energy system has 2 components that can be trained: power and endurance. While all 3 energy systems must be developed for peak performance, in MMA, your focus is on the aerobic and the alactic systems. This is because the lactic system has limited potential for development and when used, creates intense local muscular fatigue that will gas you out. Just ask Shane Carwin (vs Brock Lesnar) or Gray Maynard (vs Frankie Edgar).

While people think training the aerobic system is pointless, they're forgetting that it actually provides the majority of energy in an MMA fight.

KEY POINT #1: the better trained the aerobic system, the less you'll have to rely on the anaerobic systems, and the faster you'll recover when you do need to tap into the high-powered anaerobic systems.

Again, it needs to be said because of **a lot of training that overly stimulates the lactic system:** there are 2 reasons why you don't want to focus your training efforts there:

1. It has limited potential for development
2. When the lactic system runs maximally, intense fatigue is a result

That's why I say that you need to experience the lactic energy system for emergencies instead of training it to a high level – because you can't train it to a high level but at the same time, if you never feel it during training, it'll shock your body if it happens in a fight. So the key is to experience it and most of that will come from pushing through in hard sparring and MMA training, with a little bit from your S&C program.

Also, if you're doing workouts that stimulate the lactic system frequently, your body will default to using this energy system in the future, which makes it even easier for you to gas out, because it will produce a higher proportion of energy from the lactic system vs. the aerobic and alactic systems, thus resulting in greater fatigue.

Now the **anaerobic alactic system**, that's where you get your explosiveness from. It's how you generate max strength and max power. The key to training this system is relatively short sets (usually around 10 seconds) and long, complete rest times.

Incomplete rest times will have you getting in to more lactic training, which we just talked about. So full recovery, even beyond the point where you 'feel' recovered is generally recommended, but the specifics will all be laid out for you in the actual workouts.

Now here's a very general overview of the interaction between work and rest and the effects on the energy systems. **All caps means more <u>time</u> spent on that particular phase of an interval or exercise set.**

WORK:rest = Improved Endurance
WORK:REST = Improved Capacity
work:REST = Improved Power
work:rest = Improved Power-Endurance

When you want to improve your endurance, you work lots with little rest. This is what most CrossFit workouts are like and most interval training sessions – max out and take as little or sometimes even no rest!

To improve capacity of a system, work lots, and rest completely.

For explosive power, do a small amount of work with complete rest of the system before the next work interval.

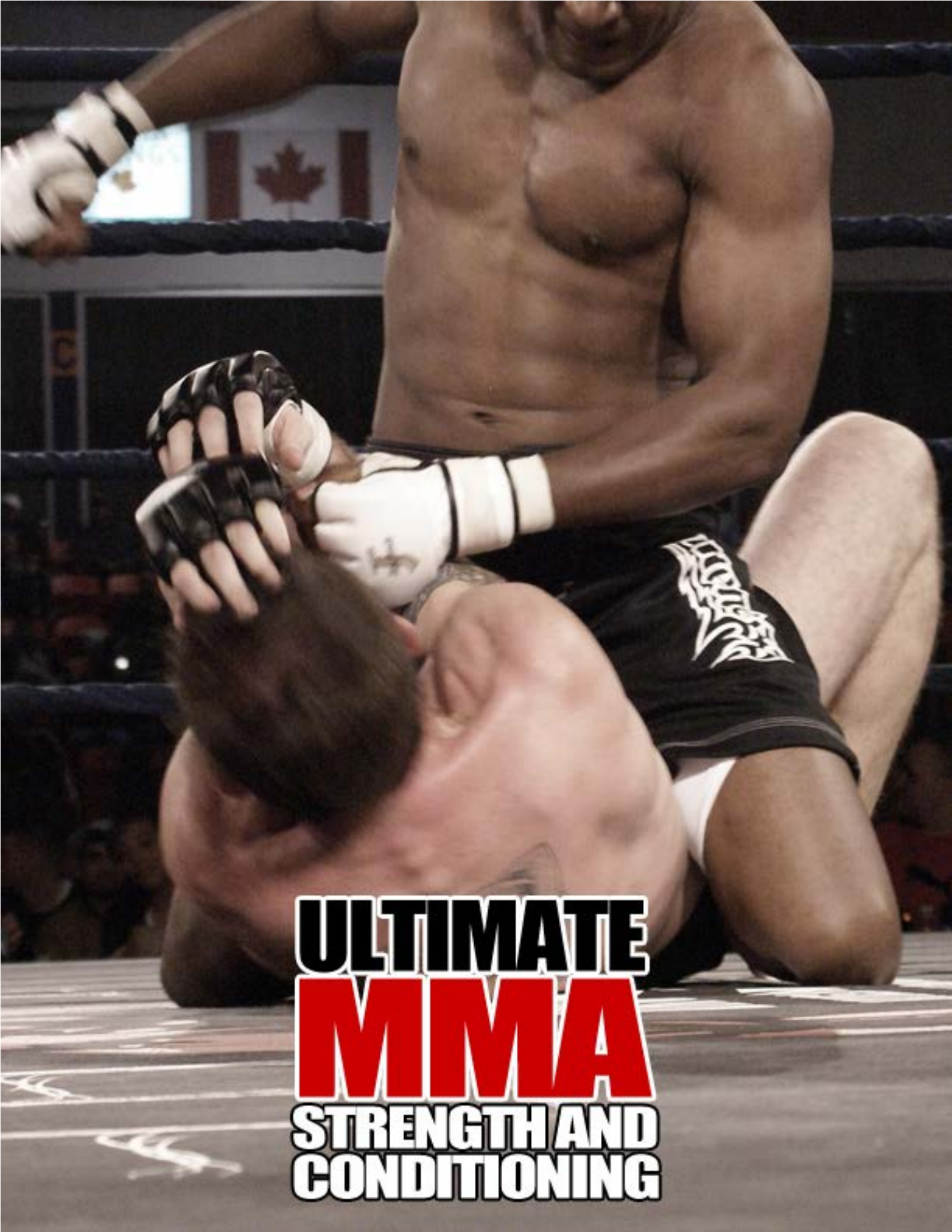
For improved power-endurance, perform short work intervals with short rest intervals.

Now this is just a VERY GENERAL overview to give you some basic understanding of what you'll be going through in the workouts and why certain reps, sets, work and rest periods are prescribed.

Good so far?

I know this may be a little more in-depth than you may have expected, but as I've mentioned before, any deeper understanding you get in how your body actually works definitely won't hurt and may help you understand and execute this whole training process better.

With that being said, as long as you can follow step-by-step instructions in performing the workouts, you'll be good, as I've made the actual program as easy to follow as possible. So don't be upset if you don't have a full grasp of everything in this manual. I'll be addressing how these concepts are integrated into the Ultimate MMA workouts in the next section.


ULTIMATE
MMA
STRENGTH AND
CONDITIONING

EQUIPMENT

Can you imagine a world where every movement was fixed and straight ahead or straight up and down? A world where we all moved like robots in exactly the same way as if we came off of an assembly line?

Welcome to the world of machine training. Sitting on a machine bench press that has only one possible path of movement and pushing is akin to training yourself to only move your arms in that same position. Doing hack squats trains your legs to lift without any stabilizer mechanisms from your core.

The result? A limited transfer of strength from the gym to the cage.

What does this mean to you? Free weights baby, free weights. Cable stacks are also considered free weights, since they are free to move in any direction and aren't fixed along a certain path. Oh and you'll be doing some bodyweight exercises and be using the Stability Ball as well.

Machines dictate how your body moves and isolates the muscle turning off the stabilizer muscles around a given joint. There are a ton of benefits to exercising using free weights over machines.

But don't worry, you won't be doing circus acts like this:

Exercises like this are not only useless, because in MMA you stand on solid ground, not an unstable surface, but also dangerous, bringing a high risk of injury for no potential reward.

ACTIVATION OF STABILIZER MUSCLES

When you use free weights, you're activating more muscles than when using machines because in order to create a smooth motion your stabilizer muscles are activated to correct errors in the movement. Once you train and practice using the stabilizer muscles, they adapt and become better at what they do and you begin to move fluidly.

When you're using machines, the stabilizers don't need to work since the machine is stable itself, not allowing you to deviate from the designed

movement pattern. Thus you are practicing a motor pattern that will actually leave you at a higher risk of injury, since a muscular imbalance will result as your prime movers get stronger while your stabilizer muscles stay the same (or atrophy due to disuse).

ERGONOMICS

The measurements used to design the machines are based on the average human body (called anthropometrics) or gym goer. But the human body is anything but average. Every body has slight individual differences that will make some machines uncomfortable and unusable: longer arms, longer legs, longer torsos, etc. It's impossible to design for adjustability for every different way that our bodies are unique.

With free weights, you design the measurements and path of movement, thus any body type can use them. When given the proper instruction from somebody who knows exactly how the body is supposed to move, you'll make maximal gains and achieve your goals faster.

TRANSFER OF SKILL

How often do you move the same way in everyday life that you move when you are exercising on a machine? Thus, when you incorporate free weights into your routine, you're teaching your body to move in an efficient manner that can be used in your normal daily routine.

Studies comparing people trained on leg extension and leg curl machines compared to doing free weight exercises (Squats) showed that the machine group had no improvement in their vertical jump, despite increased leg strength. The people who trained using barbell squats significantly improved their vertical jump. It's all about transfer of skill, which is why squatting on a stability ball doesn't help, nor do leg extension or leg curl machines.

PHYSICAL REQUIREMENTS OF MMA

The thing that attracted me most about mixed martial arts and training fighters was the fact that every biomotor ability needs to be developed.

There are 8 biomotor abilities and I've given a quick example of where each ability is needed in MMA:

1. **Strength** – pulling off a big slam a la Quinton Jackson vs. Ricardo Arona
2. **Power** – knocking a guy out
3. **Speed** – hitting a guy with a 4-5 strike combo
4. **Agility** – slipping and weaving punches
5. **Balance** – defending a takedown when your opponent has a leg
6. **Coordination** – putting together kicks and punches in a fluid combo
7. **Endurance** – having gas for a 3 round war
8. **Flexibility** – high kicks or working the rubber guard

An interesting comparison we can make to see where exactly you fall on the biomotor ability scale is to compare the requirements in MMA for each ability to athletes who exhibit the highest proficiency (10 out of 10) in that area. And if you feel like killing some time, watch the videos linked to the various athletes below.

Biomotor Ability	Top Athlete (10/10)	MMA Score (Out of 10)
Strength	Powerlifter	7
Power	Olympic Weightlifter	8
Speed	100 m sprinter	7
Agility	Badminton player	8
Balance	Gymnastics – Balance Beam	6
Coordination	Juggler	7
Endurance	Ultra Marathon Runner	6
Flexibility	Ballet Dancer	7

While the score I've given each biomotor ability for MMA is completely arbitrary and you could make a case to raise or lower all of them, you get the point – MMA requires each biomotor ability to a certain degree, on top of the wealth of specific skills and techniques, so it's a very demanding physical and mental sport.

When it comes to optimal performance in mixed martial arts, there are 3 general areas that we're going to track that will help turn you into a fighting machine:

1. Max Strength
2. Explosive Power
3. Cardiovascular Fitness

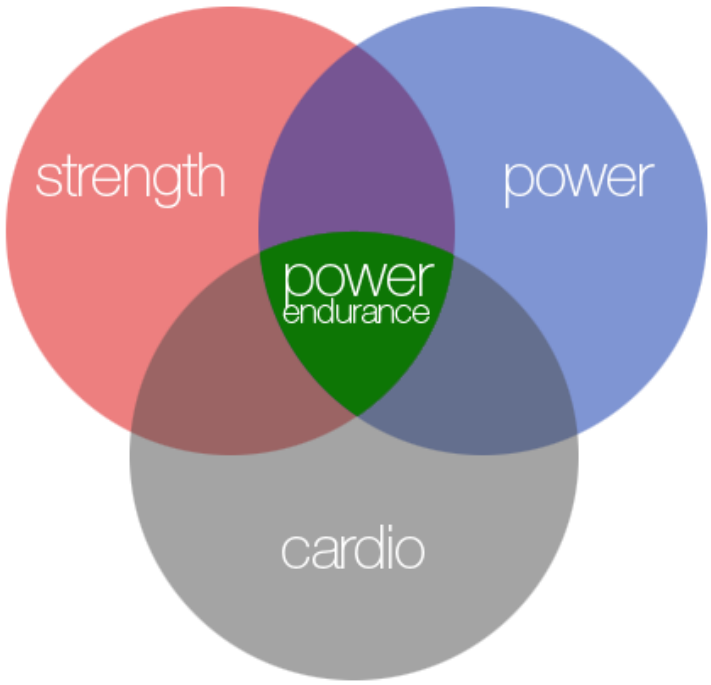
The main goal of this program is to get you in top fight shape, which is all about how you feel in the cage. But seeing these general qualities improve through this program show that the building blocks for improved performance in the cage are progressing. This will transform into performance in sparring, faster and more powerful punches, and dynamite takedowns.

In the training worksheets, I've included an assessment worksheet that you can fill out and keep track of as you go through this program.

Many guys have gone through this program multiple times and they've reported continued gains, like Dan:

> "So I'm just finishing up on the Strength phase of your Ultimate MMA S&C program… I've gone through the program THREE times and the 8 week explosive muscle building blueprint twice. I've gotta say, I haven't stopped improving. All the best!"

While we're going to delve into these areas in more depth later on, here's a visual for you to see how these qualities interact to get you in top fight shape >>>



Being in top fight shape means having power endurance.

Before you can be powerful, you have to be strong.

And it's the combination of power and cardio that is going to turn you into a beast…

FLEXIBILITY

When people think of flexibility training, the first thing that often comes to mind is if they can touch their toes or not. The sit-and-reach test is a popular measure of flexibility; unfortunately it doesn't really give you any insight into how flexible you actually are. Worse is the misconception that this is a good measure of hamstring flexibility, when it is not a valid measure by any means.

There's more to flexibility than just static stretching. And there's more to it than static stretch and dynamic mobility. Flexibility is actually a very complex topic.

In this program, I'm going to give you a general overview of flexibility and the the actual exercises to perform that perfectly complement the Ultimate MMA.

[If you've got specific flexibility problems you want to fix such as being unable to get the height and power for high kicks that you want, I suggest you invest in my 3D Flexibility course, which is an in-depth program aimed specifically at fixing flexibility issues like this]

The first concept I'd like to introduce to you here is the **active/passive flexibility deficit**.

Active flexibility is your ability to get in and out of a range of motion (ROM).

Passive flexibility is your ability to have joints moved to a certain ROM.

If you've got high passive flexibility but low active flexibility, that means you've got a big active/passive flexibility deficit. Studies show that this leaves you at a high risk of injury.

So when you're working to improve your flexibility, the key is to improve both active and passive flexibility and either maintain the difference between them, or decrease the deficit by improving your active flexibility more.

I'm telling you this because if you stretch and stretch and stretch all the time without developing your strength at the end ROM, you are leaving yourself ripe for injury.

Another concept that may be new to you is that there are a number of factors governing your flexibility:

- Joint Architecture
- Parallel Elastic Component (PEC) – the actual muscle fibers
- Series Elastic Component (SEC) – tendons and fascia
- Pain Threshold
- Neuromuscular Reflexes – myotatic stretch reflex
- Conscious Relaxation Ability
- Strength of agonists at end ROM
- Strength of antagonists at end ROM
- Stabilizer function at end ROM

As you can see, there's more to it than just stretching a muscle! The info you get in this program is designed to complement the Ultimate MMA workouts.

There are 3 types of flexibility exercises that you'll be using in this program: standard static stretching, contract-relax stretching and dynamic mobility exercises.

Actually, in reality, every exercise you perform in the gym can be considered a flexibility training exercise, as long as you're working it through a full ROM. So make sure you choose weights that allow you to work through a full ROM in good form!

Doing so can be hard especially when lifting heavy, so if you feel you weren't able to maintain full ROM on a particular exercise, do the same exercise with a very light weight for 8 reps through the full ROM at the end of your intense work sets. This will ensure you don't tighten up from your heavy work sets.

Now let's talk about the 3 types of flexibility exercises used in this program…

STATIC STRETCHING

Static stretching is what you probably know flexibility training to be. It involves prolonged holds of at least 30 seconds at the end ROM of a joint.

If you're a more visual learner, here's an example for you to make sure you know what I'm talking about:

Had to throw that in for you. ;)

The goals of static stretching are to lengthen the muscle fibers and/or PEC.

This lengthening process does take time, at least a month, but possibly anywhere from 2 to 6 months. It's slow to change, but once changed, the changes are generally long-lasting. You've got to know this because if you want to make permanent changes in the length of your PEC tissues, you must be consistent with your static stretching.

Static stretching is also useful for acutely inhibiting a muscle group that overworks. A muscle group that overworks is known as a tonic muscle. Tonic muscle often fire when they're not supposed to, leading to inefficient motor patterns and wasted energy.

A common tonic muscle group is the pecs or chest muscles. These muscles often shorten and become tonic because the classic boxing stance has you use your shoulders to hide your chin and make yourself a smaller target. Stretching the pecs right before a back exercise like 1-arm rows can help shut them off and help you use your lats and scapular retractors better.

Antonio Margarito is a perfect example of the toll the fighting stance takes on the body.

Also, when the pecs are shortened, they can cause rounding of your shoulders. This can lead to chronic shoulder and neck problems, headaches, nerve impingements, etc. To alleviate this, static stretching of the chest muscles will help to lengthen the muscles, allowing the shoulders to come back to normal good posture.

However, stretching alone will not keep the shoulders back. Strength training of the muscles responsible for pulling the shoulders back must simultaneously be implemented to keep the shoulder girdle pulled back. Exercises such as bent-over rows, seated rows and external rotations will assist in this case.

Here are a couple of pointers with respect to when to use static stretching:

- **In the morning** – after a warmup, static stretching followed by a few dynamic mobility exercises can help you feel loose and limber for your day ahead

- **After exercise** – can help maintain normal muscle length, but can also be difficult to relax into the stretches because you're all amped from your workout

- **At night** – when you stretch right before sleep, your body recovers and can recover your muscles in a lengthened position, but not as effective without a warmup and you probably don't want to warmup right before bed

- **Tonic muscles –** stretch the tonic muscle group right before exercising to inhibit it and allow the opposing muscle to work better

I've given you some options here and it's up to you to figure out what works best for you.

CONTRACT RELAX STRETCHING

Contract-relax (CR) stretches result in greater increases in flexibility in the short-term compared to static stretching and also help by increasing muscular strength at the end ROM.

The mechanics of CR stretching are as follows:

1. Slowly enter into a gentle stretch of a muscle
2. Slowly and gently contract the muscle being stretched for 5 seconds (25% contraction)
3. Slowly let go of the contraction and gently go deeper into the stretch and hold the deeper stretch for 5 seconds
4. Repeat Steps 2-3 for a total of 3 CR cycles

The keywords in the instructions above are 'slowly' and 'gently'. If you go into the stretch or contract the muscle too aggressively, your muscles will not relax fully due to the myotatic stretch reflex and/or the Golgi tendon organ reflex. But when you go slowly and gently, these reflexes do not activate and allow you to achieve the deepest stretch possible.

DYNAMIC MOBILITY EXERCISES

Dynamic mobility exercises are a movement-based form of flexibility training that is most useful for pre-event or pre-exercise warm-up. They involve active movements through full ranges of motion without holding positions for any length of time.

Another good time to perform some dynamic mobility exercises is as part of a flexibility specific session, before and after static stretching exercises. This ensures that you're building strength in the new end ROM that you achieve through static stretching, which will solidify any gains you make.

Dynamic mobility exercises are perfect for warm ups because they bring your heart rate and core temperature up, reduce viscosity in the joints and muscles and improve muscular strength throughout the full ROM. But they're just 1 component of an ULTIMATE warmup, which leads us to the next section…

THE ULTIMATE WARMUP

Just yesterday, I saw probably the most ineffective warmup routine ever.

I'd finished hitting the heavy bag and was sitting on the floor drinking water. A guy who looked to be about 28 dressed in pants and a UFC 100 t-shirt stepped into the Squat cage. He looked to be in decent shape. He gets under an empty bar and hits 8 reps. Unfortunately, the reps were horrible and it was almost as if I had x-ray vision and I could see discs in his back herniating before my eyes.

After walking around for a couple of minutes and talking to his buddy for a couple more minutes, he goes back to the cage. He then proceeds to load 2 plates on either side (185 lbs) and hits about 5 or 6 UGLY reps. I didn't want to wait around to witness any more training atrocities so I packed up and left.

This story illustrates a few points about the main character:

- He doesn't know about PSC #3 – Technique and is ignorant to the fact that his back will likely explode on him.

- He has no idea about warming up, and absolutely no clue about the components of a truly effective warmup that you're going to learn here.

- He rendered his initial set of 8 reps with the bar useless by waiting too long before doing his work set. He might as well have jumped in and done 185 lbs right off the bat.

Now, if you want a warmup, but not just any warmup, but an ULTIMATE Warmup, you need to include these critical components in this exact order:

1. Joint Mobilization
2. Overactive (tonic) Muscle Inhibition
3. Underactive Muscle Activation
4. Dynamic Mobility Exercises
5. CNS Activation

More to it than simple jogging on the treadmill for 5 minutes eh?

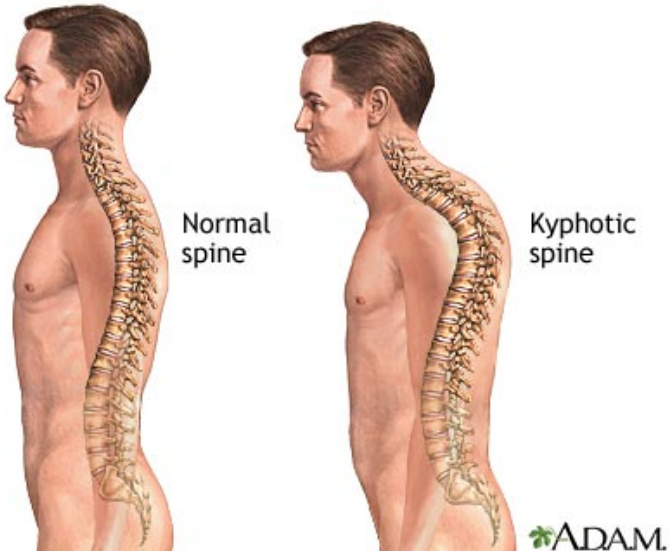
Best of all, because I've done the research and hacked away the nonessentials, so you can get all of this done in under 10 minutes, once you've learned the exercises and you no longer have to refer to the videos or instructions.

Let's talk about each of these 5 components of an ULTIMATE Warmup.

JOINT MOBILITY

The joint mobility exercises you'll be performing are targeted towards your thoracic spine (T spine). This area that often becomes stiff and immobile and can lead to shoulder and neck pain, nerve impingements, headaches and more down the road.

The T spine needs to be able to go into extension. But almost every movement and technique in MMA has you in a flexed position. If you don't address this, over time the joints can fuse in this position and this will cause the aforementioned problems.



OVERACTIVE MUSCLE INHIBITION

There are 3 muscle groups that tend to be overactive not only mixed martial artists but most people living a modern lifestyle, in order of priority: hip flexors, pecs and to a lesser degree, the hamstrings.

For the ULTIMATE Warmup, I've included static stretching for the hip flexors but not the other 2 groups. If you feel your pecs or hamstrings are overactive, include static stretches for them as well.

Now you may have heard that you should never do static stretching as a warmup because it will decrease power and could lead to injury. This happens because static stretching basically shuts muscles off.

The thing is, this effect only lasts for up to 10 minutes and can be negated through further dynamic exercises, which you will be doing.

And since we have muscles that overwork, like the 3 mentioned above, static stretching can help us shut these muscles off so we can better use the proper muscle groups.

You'll be performing these stretches immediately prior to the Underactive Muscle Activation exercises, because then, you'll get better activation since you've shut off the overactive muscles.

NOTE: avoid stretching the pecs before heavy Bench Presses and hamstrings before heavy Deadlifts, as you don't want to shut these muscles before they're needed for these heavy exercises.

UNDERACTIVE MUSCLE ACTIVATION

Again, there are 3 muscle groups that tend to be underactive in both mixed martial artists and most people in general: the glutes, deep core muscles and scapular retractors (particularly the lower and middle traps).

We'll be activating the glutes and deep core muscles through some very specific isolation exercises: the Prone hip extension, Standing hip flexion and Birddog.

Getting these muscles active in the warmup will allow you to lift more weight and lift it more safely as your joints will move in better alignment and your low back will be protected by your core muscles.

DYNAMIC MOBILITY EXERCISES

A wealth of Dynamic Mobility exercises are available for you to choose from, but what I've done is choose the best ones for you to perform to get your body ready to train and have an awesome workout.

The exercises I've chosen are in all positions you may find yourself: standing, lying on your stomach (prone) and on your back (supine). They work to activate your muscles in more complex patterns than you'll be experiencing in the workout, so the muscles are ready for what you're going to throw at them.

Some of the exercises, such as the Reverse lunge and reach and Hindu pushups ensure that not only your muscles are prepared, but your fascia is prepared as well. Fascia covers all of your muscles like saran wrap and are connected in

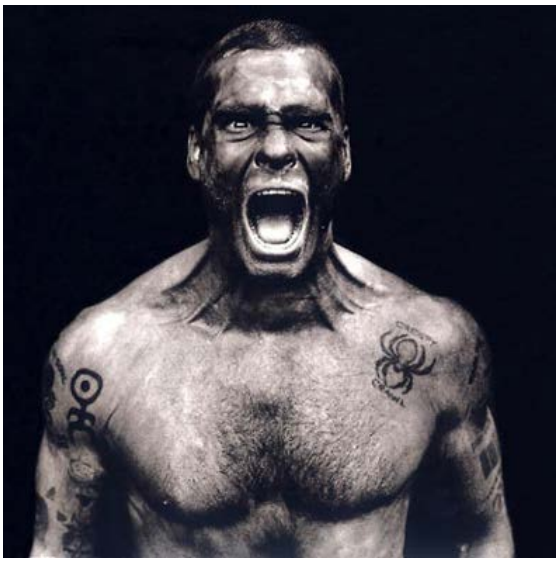
different patterns from head to toe, providing power, stability and sensory information about your movements.

An amazing book that is probably only readable if you've got an exercise science degree is Anatomy Trains by Tom Myers. In it he details these fascial connections in great depth.

But that is out of the scope of what you need to know and who this book is written for, so just know that the exercises I've chosen are the best of the best.

CNS ACTIVATION

The final component to the ULTIMATE Warmup is CNS Activation.



What these specific exercises, number of reps and tempo do is ramp up your nervous system and get it ready to fire at full power. It trains both your starting power and reactive power, which are 2 components of fitness directly related to CNS activation. *[We'll talk about these types of power in the next section]*

Getting yourself psyched up for a good workout will help prime your nervous system to activate more muscle fibers and help you lift more weight and be more explosive. Studies have proven this to be true.

This little CNS Activation Circuit is not meant to tire you out or generate any fatigue. Do not rush through it.

If your fitness level is below average, you may want to leave this out, as it will detract from your workout.

But if your fitness is average or above average, after you do this circuit, you'll feel wired and ready to burst out of the gates like Usain Bolt in a 100 m sprint.

STRENGTH 28 DAYS LATER FONT POWER AND SPEED

THE SPEED-STRENGTH CONTINUUM

SPEED

POWER

STRENGTH

When I refer to strength training, I'm referring to any kind of exercises that aim to develop your movement pattern strength, power and/or speed. These can include basic weightlifting exercises like Bench presses and Squats, bodyweight exercises like Pushups and Jumps, cable exercises, medicine ball exercises, etc.

What we're not talking about is cyclic exercises, like running, biking, sled pulling, etc which you'll be using to develop your cardiovascular system.

The first concept to understand about strength training for MMA is that unless you're a heavyweight, we're all about relative strength vs. absolute strength. MMA is a weight class sport after all so it's all about maintaining a certain weight while improving strength, power and endurance.

Relative strength is generally measured either by strength compared to bodyweight or using a bodyweight exercise like Pushups. A 170 pound welterweight who can bang out 70 pushups has higher relative strength-endurance than a 205 pound light-heavyweight who can bang out 65 pushups.

But if 170 pounder Squats 255 pounds (1.5 x bodyweight) and the 205 pounder 360 pounds (1.75 x bodyweight), in this case the 205 pounder has a higher relative strength.

So remember what I told you in the Body Composition section – the longer you keep your body close to the optimal weight and body composition the better you'll feel as you continue to build your relative strength.

If you don't have a fight within the next 4 months, it's a good idea to focus on achieving the optimal body composition then work on this fight-specific program

to peak your strength and conditioning from there as opposed to trying to peak for a fight while simultaneously gaining or losing fat and/or muscle.

Now there are a few different types of strength required in mixed-martial arts. Let's discuss them and how and when you're going to be building them in this program.

STRENGTH

Think of max strength as the foundation for strength and power development. It's is all about how much weight you can move, regardless of how fast you move it. As you saw in the diagram above, max strength is at the strength end of the strength-speed continuum.

Max strength is related to the guidelines I gave you for the Bench Press, Deadlift and Squat – the "big 3" powerlifting exercises.

When focusing on max strength, you generally lift heavy weights (90% of 1RM or more) for low reps (1-5) with lots of rest between sets (2-5 minutes) in the big 3 exercises. But you've got to support these efforts with training accessory and synergistic movement pattern exercises to ensure muscle balance and minimizing weak links.

Max strength isn't that important in a fight itself, because it will be very difficult to simply muscle a guy around. It's all about being able to explode and catch your opponent off guard.

That being said, training max strength in the gym improves your potential for developing your power, to a point.

That's why I've provided relative strength guidelines in the big 3 exercises – so you have targets to shoot for and you're not gung-ho on getting as strong as possible.

Lifting beyond these #'s in the big 3 won't help your MMA performance at all and may actually hinder it. Once you've hit these #'s, it's all about maintaining your strength while developing the next characteristic…

POWER

Developing peak power is all about being able to generate a lot of force, fast. It is expressed by the following equation:

power = force (weight) x velocity (speed)

The thing is, as the weight you are lifting goes up, the speed at which you can lift it at goes down. This is called an inverse relationship as one goes up, the other naturally has to go down. It's not physically possible to lift a weight at max weight at the same speed as you lift a weight that's 30% of your max.

While max strength training is all about the force or weight you're working with, power training is about finding the right balance of weight and speed of movement. The weight used to achieve 'optimal' power is different for different exercises.

Generally speaking, optimal power training focuses on fast reps using weights in the 30-60% of 1RM. Sets should last no longer than 15 seconds but more often 10 seconds or less and full rest is required between sets. Rest periods range from 1-3 minutes, depending on the exercise. A high # of sets is best, with up to 8 sets being performed in this program.

That being said, using a weight below or above that range will also contribute to power development, which you will also be doing in this program, but the 30-60% of 1RM range is where peak power is generated.

It's all about how the whole program is designed to work together synergistically – what exercises, rest periods, overall program design, cardio, etc – everything must be inline and work together as a whole, otherwise competing demands can limit your gains.

Now there are 2 distinct types of power to train: starting power and reactive power.

Starting power is your ability to quickly move a weight from a dead stop. This is important, as being able to quickly execute a move like a throw is a similar ability. If you're clinched up with your opponent and you're fast from being relaxed to launching him to the ground, you're much more likely to score your takedown/throw than if you are slower.

Specific exercises included in this program to train this ability include the good old Deadlift as well as the Starting Power Pushup and Box Jump.

Reactive power showcases your ability to rapidly reverse the direction of movement. A good example of this in MMA is if your opponent throws a punch at your head and you step back to avoid it then quickly explode forward with a big counter punch of your own. If you've got poor reactive power, you'll be too slow and he'll be able to avoid your punch but if you're well-trained in this area, you'll catch him and maybe even score a big KO because he'll be dazed.

Plyo pushups, Squat jumps, Lunge jumps, Bench presses, Chinups and most exercises will help you develop this ability. The key is to focus on changing directions as fast as possible.

For exercises where you're leaving the ground like Plyo pushups and jumps, the instruction I give my athletes is to think of the ground as hot coals and to spend as little time in contact with the ground as possible, or you're going to burn your feet. This gets the right image in mind and helps you maximize your reactive power.

SPEED

Speed is at the very left of the continuum and is shown when there is very little external resistance. In MMA, the execution of rapid punches are a good example of speed, as is your movement around the cage.

Speed development training is very similar to power training in that the exercises are performed at full speed for at most 15 seconds but more often 10 seconds or less and you take full recovery between sets, resting anywhere from 1-3 minutes. The main difference between speed and power training is that in speed training you use the minimal amount of resistance.

I've integrated some fast foot exercises to improve your agility and quickness. If speed and quickness is something you want to focus on, check out the blog posts below where I give you some drills you can add into your program:

→ Simple and Effective Quickness Drill

→ Outdoor Quickness Drills

→ 6 Components of Quickness

→ Quickness Program

MOVEMENT PATTERNS AND MUSCLES

When you read through the resistance training program, you may think, “Where is chest day?” or “When am I going to work on biceps?”

Thinking like this indicates that you have a bodybuilding mentality when it comes to training. Don’t worry – I had one too.

Unless you’re a bodybuilder who’s only goal is to develop big, symmetrical muscles regardless of how your body performs, focusing on training movement patterns is your priority.

But as an athlete, your main concern is with improving strength and power in exercises and movements that translate to improved sport performance as opposed to isolating individual muscle groups.

When I learned the concept of movement patterns from Paul Chek it really opened my eyes. I immediately saw the benefits of thinking like this when designing programs and I immediately reaped the benefits of training like this, both for myself and my athletes. Probably the biggest benefit to my fighters was that this simple switch immediately cut the # of exercises needed, thus making it possible to train 2 days/week vs. 3 or 4 if you’re thinking and training like a bodybuilder.

The major movement patterns are:

1. Squat
2. Bend (Deadlift)
3. Lunge
4. Twist / Rotate
5. Push – Horizontal and Vertical (eg. Bench press, Push press)
6. Pull – Horizontal and Vertical (eg. 1-arm row, Chin-up)
7. Gait (walking, running or in our case – shuffling around in your fighting stance)

Each phase includes every movement pattern, keying on those most important to mixed-martial artists, so your body will improve equally in all areas needed for general strength while maximizing sport specific performance.

However, as with most things, you don’t want to throw the baby out with the bath water. *[I’ve always wondered how that saying came about – did some dude actually throw a baby out? Poor guy and poor baby]*

We also need to think about and train individual muscles and isolated, single-joint movements for additional reasons:

- If you have muscles that are sleepy/inhibited, as most of us do. Glutes, deep abdominal stabilizers and shoulder stabilizers are often sleepy and benefit from pure muscle activation training, which is best performed before workouts as part of your warmup as I talked about previously.

- Because certain moves and techniques that are common in MMA can be improved through isolated training, such as improving your ability to defend and escape armbars through by doing bicep curls.

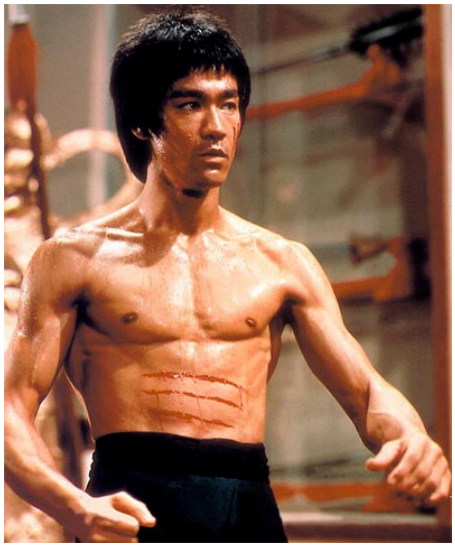
- Many of the techniques and positions in MMA overuse certain movement patterns, which require training the opposite movements to keep the body balanced. An example is throwing punches uses your push and internal shoulder rotators, which requires you to perform more pull and external shoulder rotation exercises.

Also, during certain major movement patterns, a focus on particular muscles can help you execute the movements better, such as squeezing and driving through the glutes from the bottom up while squatting.

You may be a little overwhelmed here but not to worry!

Everything I'm talking about here is built right into the Ultimate MMA Strength and Conditioning program. All of this info is simply me teaching you to fish. The workouts are me serving you the fish, cooked and spiced to perfection on a silver platter. :)

CORE TRAINING



Bruce Lee said that the core is your "centre of power".

All force has to eventually go through your core one way or another, so if your core isn't strong and stable, you won't be as powerful as you could be.

Think of your core as the ground.

If you're standing on solid ground, you can jump high.

If you're standing in sand or worse, on a canoe, you can't jump nearly as high, because you don't have a solid base from which to work.

It's all because of one of Newton's laws of physics: for every action there is an equal and opposite reaction.

Said in our terms, for every force you generate, there is an equal and opposite reaction force. When you push off the ground, the ground pushes back into you and that's what allows you to jump.

When you don't have a solid core, the forces you generate leak out so less than 100% of the force you generated goes into your technique, whether it be jumping as high as you can or throwing a knockout punch.

The goal of the exercises in this program are to patch up any of these 'power leaks' that you may have by making your core as strong and stable as possible.

There are 3 main categories of core stability training that you'll be going through: 3D training, dynamic training and challenge training.

3D CORE TRAINING

The first method to develop your core stability is 3D core training. It involves hitting the core with exercises that train each of the 3 dimensions of movement separately (see page 41) as well as different combinations of these planes of motion.

The most basic core stability exercise is a plank. This trains your core to be stable in one plane only – the sagittal plane.

An example of a 2D core stability exercise is a 1-arm plank.

Get into the normal plank position and without moving your body, put one arm behind your back.

When you're on one arm, it should look exactly the same as when you're on both arms in terms of your body position.

While the normal plank works the sagittal plane, the 1-arm version requires additional stabilization in the transverse plane, making it a 2D exercise.

An example of a 3D core stability exercise is a Woodchop, because now, you've got to stabilize in all 3 planes of motion at once. The cable wants to pull you up, twist you around, and bend you over sideways, which you've got to prevent for proper form.

Now don't make the mistake of thinking that 3D is better than 2D or 1D. When it comes to the core, you might be using any of these patterns in MMA and your body develops its strength and stability in whatever patterns you train, which is why you need to train all patterns. That's exactly what you'll be doing in this program.

DYNAMIC CORE STABILITY TRAINING

Simple stabilization exercises are great, especially when you add the 2D and 3D exercises into the mix.

But these exercises don't train the core to be able to stabilize while other parts of the body are moving.

Core stability during dynamic conditions is when you're doing something with your arms and/or legs and your core needs to be stable to perform the movement properly.

Every movement and free weight exercise you do requires this to some degree. When you do a Deadlift, you've got to maintain a neutral spine while hip hinging. The Woodchop exercise shown in the previous section is another example.

There are also specific exercises that I've included that require an even greater degree of core stability such as the Prone rollup, which requires you to maintain a neutral spine while executing a rollout and pressup on a stability ball.

You'll find out pretty quickly how stable your core is after performing this exercise.

CHALLENGE CORE STABILITY TRAINING

The final piece of the puzzle is challenge stability training. This is the type of training that separates the strong from the weak and will truly ensure your core is ready to perform.

Challenge Stability training is when you perform core stability exercises (either 1D, multi-dimensional, or dynamic) while you're breathing hard and your heart is pounding out of your chest.

Here's why you need this…

Generally, a fighter is only completely fresh in the first few minutes of a fight.

After that, they're breathing hard and their heart rates are anywhere in the 150-170 bpm range.

So they need to be able to access that core stability that they worked so hard for in training in the fight.

But if they always did their core exercises when they were fresh, the training may not translate over to the fight because now, the core stability is needed while having to breathe harder.

When you're breathing hard, your diaphragm, which is your primary breathing muscle, will be moving in and out and generally when this happens, it coincides with relaxed core muscles.

But, relaxed core muscles won't transfer any power into strikes or other moves, so we've got to train at elevated respiratory and heart rates so your body knows that it can be stable when breathing hard if necessary.

By integrating all 3 of these methods you'll finally have a strong, stable core from which you can build explosive KO power. And the best method of strength training for KO power development is…

MEDICINE BALL TRAINING

If you're looking to maximize your power (and you wouldn't be here if you aren't), then you definitely need to incorporate medicine ball training into your program.

Training with medicine balls allows you to do movements explosively, without the deceleration that occurs when doing weight training movements explosively.

You can put all of your force into your throws and train in different patterns than with weights, which trains your core in the exact patterns needed to deliver knockout kicks, punches, and bone-crushing takedowns.

Find a park, soccer field, baseball diamond, or other empty and flat area to do your work. If you have snowy winters, then tough it out, and train outdoors.

I remember working with Rory McDonnell (not the Waterboy) on a baseball diamond… in -15°C weather!

So you can still do it outdoors even in the middle of winter. But ideally, you'll find a facility or gymnasium that will allow you to throw med balls against a wall.

When doing medicine ball training for power, you need to remember that fatigue and exhaustion are not signs of a good training session. Take the rest periods outlined, even if it doesn't feel like you're training hard. You actually want it to feel like you're not working very hard muscularly. If you are, the ball is too heavy or you're not following instructions.

The goal of medicine ball training here is to enhance the neuromuscular system so that it can generate maximal force and velocity (remember, power = force x velocity) from your muscles in a short period of time.

Since you'll be exerting maximally for each repetition, the training sessions are fairly taxing on the neuromuscular system, thus you need to give it more rest in between sets. This will allow you to put everything into each rep of each set, resulting in a jump in your power and explosiveness. All tempos are EXPLOSIVE!

Learn proper form for the medicine ball exercises before you do the NRG System Medicine Ball complex and it'll be much more effective as you'll develop good technique and explosive power, which you can turn into explosive power endurance through the NRG System training.

If you're doing the Medicine Ball workouts in the same session as resistance training, do these exercises AFTER the Ultimate Warmup and before the resistance training.

You can also do the medicine ball program on separate days or with more rest.

The size of the medicine ball needed depends on your size and strength. Try out the following guidelines and adjust as you feel is necessary, but remember, technique and explosiveness are key, so if you feel like you are 'muscling' through some of the movements or not throwing the ball very hard, check your ego at the door and use a lighter ball. Velocity is king!

Weight class	**Size of Med Ball (lbs)**
Lightweight	6 – 10
Welterweight	8 – 12
Middleweight	10 – 15
Light Heavyweight	12 – 15
Heavyweight	15 +

CARDIO

Every UFC you watch, you'll hear Joe Rogan ~~talk~~ scream about one of the fighters having amazing cardio. BTW – I love Rogan and think he's not only a funny mofo but the most knowledgeable commentators in the biz. Sometimes he just gets excited a bit prematurely. :)

You've already learned that the cardiovascular system consists of the heart, lungs and blood vessels, with the heart being the point of focus for your training.

But when it comes to developing your cardio, other systems come into play as your body is a holistic system where everything interacts with and affects everything else.

For example, when training to improve your anaerobic threshold, you're not just training your cardiovascular system, you're also training the muscles involved in the movement as well as the liver, which plays a huge role in both providing energy and breaking down by-products of energy production.

The thing is, pretty much every type of exercise develops your cardio to a point – including regular strength training.

Now before we get to the specific methods you'll be using to develop your cardio in the Ultimate MMA S&C Program, there are a few general concepts to understand.

First is that anyone can gas out regardless of how good their cardio is.

Anyone who works the heavy bag knows that if you throw full power kicks and punches non-stop, after about 20 or 30 seconds, you'll start to fatigue and slow down. Even GSP or Dominic Cruz. But the thing is, you'd never see these fighters try to do this in a fight.

The idea of being able to go full out and throw punches and kicks and execute takedowns every second for a 3x5 minute fight simply goes against the laws of physiology. It's unrealistic from a physiological point of view which is why in terms of an actual fight, it's simply a poor strategy. Everyone no matter who they are has a limited amount of energy to use.

The point to understand is that improved fitness for MMA comes in 2 main forms: being able to generate more power in your techniques and being able to replenish the energy used to execute your techniques at a faster rate.

Strength and skill training take care of the former while cardio training aims to improve the latter.

Along the same lines, executing your techniques properly and efficiently goes a long way in improving your cardio.

Think about it this way – if you take the fastest 800 or 1500 m runner and throw him into a pool, if he never swam before what's gonna happen?

That's right, he'll flail around and eventually drown, regardless of his amazing cardio.

In a fight, if you haven't trained yourself to be able to execute your skills efficiently, you're going to waste energy and gas out.

Efficiency is one of my key principles and it applies to strength and conditioning, your MMA training and life in general. The less energy you waste in any area of your life the better.

Now, let's talk about how you're going to develop your cardio with the Ultimate MMA S&C Program…

You'll be using 2 methods: interval training and specifically designed circuit workouts.

But what about road work aka long slow distance (LSD) training?

While LSD training can be beneficial to your performance in MMA, there are a few reasons why it's not required in this program:

- Based on pure performance, interval training combined with a periodized strength program is more effective than LSD training and strength training for MMA.

- From a time perspective, LSD training requires a heck of a lot more time (2-3 hours per week) on separate days from your strength training. Contrast that with interval training, which will require under an hour each week and can be performed after strength workouts.

- Most typical MMA classes that include technique and conditioning give you some of the benefits of LSD training, unless all you do is spar at a high intensity, which I wouldn't recommend for keeping your brain healthy.

As I mentioned in our discussion on energy systems, steady state training at a low intensity can be useful. However, the time required to get the adaptations, the fact that many of your MMA training classes will give you the same benefits and the greater importance of the need for speed and power have me reserve recommending steady-state training only if MMA is your full-time job and then, only farther out from a fight (for blocks of 4-8 weeks, when you're 16 weeks out from a fight).

If you've got a job or school, trying to fit in 2-3 hours of low intensity steady state training is simply too much cost for the benefits you'll get.

So interval training it is. If you don't know what interval training is – basically it's when you alternate between periods of higher intensity (eg. sprinting) and lower intensity (walking).

When it comes to your interval training, I recommend it takes the following form in order of effectiveness:

1. Running / sprinting outdoors
2. Sled dragging or pushing a prowler
3. Treadmill running
4. Airdyne
5. Jacob's ladder
6. Stationary cycling on a spinning bike

Running and sprinting are by far the best for interval training because you'll not only get the cardiovascular benefits, when you run and sprint, you're also developing your ability to generate speed and force into the ground, maintain flexibility in your hips and integrate your arms and core to effectively generate the ground forces.

This last point of integration of arms and core is important because think about throwing a punch – force is generated either from the ground up or from the hips/core and ends in your fist flying forward, requiring good transfer of force through your core with a similar core recruitment pattern as in running.

However, if for some reason you can't run/sprint outdoors, you'll still be able to develop your cardio using the other methods, you just won't get the additional integrated neuromuscular development and functional speed training.

There are 4 variables to manipulate that change the adaptations that will happen in your body: work time, work intensity, rest time and number of reps.

Have you heard of Tabata's? They're the most popular interval training scheme around, specifying 8 reps of 20 s work at max intensity followed by 10 s rest.

Unfortunately, this popularity is not warranted, and yet it's been promoted by trainers and marketers as the absolute best way for developing your cardio for sport performance (regardless of the sport), fat loss, heart health, and probably other things that make no sense at all.

It's easy to see why so many have jumped on the bandwagon – it's a catchy name with some science behind it and a complete Tabata workout only takes 4 minutes to complete. But let's break it down, shall we?

The Tabata study (http://www.ncbi.nlm.nih.gov/pubmed/8897392) lasted for 6-weeks and was performed entirely on a stationary bike.

Before we get to an overview of the study, you need to know a couple of technical terms.

VO2 max is the maximal amount of oxygen your body can use during exercise.

It's often expressed as 50 mL/kg/min, which means your body can use 50 mL of oxygen per kilogram of bodyweight per minute of exercise.

You don't need to know what each exact number means, just that the higher this number, the more oxygen your body can use and the more powerful your aerobic system is in producing energy.

VO2 max is often used as a measure of aerobic fitness, but for MMA, it's not the definitive number, since many other conditioning factors come into play outside of VO2 max, such as strength, power, anaerobic threshold and anaerobic power, to name a few.

Now that you know the terminology involved, here's an overview of the famous Tabata study:

Group 1

- Performed 5 workouts per week of 1 hour each at about 70% VO2 max, increasing the intensity as required to maintain the work load at 70%

Group 2

- Performed 7-8 alternating sets of 20 seconds at 170% of VO2 max and 10 seconds of rest, 4 days per week
- When more than 9 sets could be completed, the resistance level was increased
- Also performed one workout of 30 minutes at 70% of VO2 max per week, with 4 sets of 'Tabata's' at the end

Results Summary

- Group 1 improved their VO2 max by about 5 ml/kg/min (52 to 57), but didn't improve their anaerobic capacity
- Group 1 made steady progress each week
- Group 2 improved their VO2 max by about 7 ml/kg/min (48 to 55) and also improved their anaerobic capacity (notice they started lower)
- Group 2 made most of their improvements in the first 3 weeks, then they hit a plateau

As you can see, Group 1 started at a higher VO2 max number versus Group 2 (52 vs. 48) and actually ended up with a higher number at the end (57 vs. 55).

So even though Group 2 (20/10 group) had a greater increase (7 ml/kg/min vs. 5), they also started at a lower level and based on the fact that anyone starting at a lower level of fitness has greater room for improvement, this isn't surprising.

Also notice that Group 2 made most of their improvements in the first 3 weeks before hitting a plateau, whereas Group 1 made steady improvement over all 6 weeks.

You can also see that the guidelines for this study are EXTREMELY precise, such as exact levels of intensity, shown as a % of VO2 max.

Takeaway Point #1 – There's No Magic to 20/10

When we have people taking this work and using it to say that their way of doing things is 'scientifically proven' to increase 'cardio' better than any other form of exercise when what they are doing (eg. 20 seconds of Burpees with 10 seconds of rest) has no resemblance at all to the original study is a mis-truth at best and a blatant and damaging lie at worst.

There are some fundamental differences between working at 170% of VO2 max (like in the Tabata study) compared to doing Burpees that make doing Burpees very ineffective as a choice of exercise for 20/10 intervals to improve cardiovascular fitness, such as:

- Relatively long periods of muscle relaxation vs. biking – when you bike at 170% VO2 max, your leg muscles are constantly contracting, whereas during Burpees, when you're in the air everything is relaxed, cutting the amount of true muscular work in half or more

- There is a greater skill component to performing Burpees that limits intensity of training vs. something simple as riding a bike

These are 2 of the differences that make it impossible to say that doing Burpees (or any other exercise for that matter) will give the same fitness results as the Tabata study.

Takeaway Point #2 – Perform Intervals for 3-4 Week Blocks at a Time

As shown in the study and as practiced by many of history's top track and field coaches, who you would think would be the biggest proponents of interval training since VO2 max plays a very important role in running events, **interval training must be used in blocks**, not constantly throughout the year.

Using intervals all the time will lead to plateaus because of central nervous system fatigue and overuse injuries.

In the study the participants hit a plateau after 3 weeks doing intervals, but they were performing them 4 days per week.

That's why I recommend up to 4 weeks of intervals at a time, because I recommend 2 sessions per week not 4, as you've got other things to train (eg. learning how to punch someone's chin really really hard).

Takeaway Point #3 – Follow a Progressive Program

One great thing they did in this study was adjust the intensity as the subjects got more fit, which is something that is missing in so many programs.

A progressive program will ensure you force your body to adapt and will help you make the fastest gains possible.

So what program should you follow?

That's where I can help. :)

Through the years, I've constantly searched for the most efficient methods for getting my athletes results.

The quicker we can get to the finish line the better – there are other qualities and skills to train and any wasted time or energy is unacceptable.

For interval training, I typically rely on the following three methods:

Name	Work Time	Recovery Time	Reps
Anaerobic Threshold Intervals	3 – 8 min	2 min	3 – 5
Aerobic Power Intervals	1 – 2 min	1 – 2 min	6 – 10
Short Burst Intervals	15 – 30 sec	15 – 45 sec	6 – 12

Now I'm going to describe these 3 powerful methods, show you when to use them and give you a progressive program for each one.

ANAEROBIC THRESHOLD INTERVALS

The anaerobic threshold is the intensity level at which you can maintain work before you start engaging the anaerobic energy system.

Because the aerobic energy system is virtually limitless, at or below this point, you can maintain this level of intensity. Once you go above this level of intensity, fatigue begins to accumulate and sooner or later, you'll have to slow down.

The anaerobic threshold occurs at a certain heart rate, which can be determined as follows:

1. (220 – age) x 0.9… eg. For someone 20 years old, 220-20 = 200 x 0.9 = 180, it'll generally be within 5 beats per minute of this number (so for the 20 year old, 175-185 bpm)

2. Run as far as you can in 5 minutes and take your AVERAGE heart rate (you need a heart rate monitor for this)

By working at this point, you're going to increase your anaerobic threshold, raising the power output you can maintain at your threshold. Power at the anaerobic threshold is the best predictor of performance in aerobic events and is more important than VO2 max.

I've found that for these intervals, treadmill running works best. because you can easily adjust the speed or incline to find the right level to work your heart rate at your anaerobic threshold.

AEROBIC POWER INTERVALS

Aerobic power intervals work specifically to develop 2 components of your aerobic system:

1. Lungs - increases lung strength and your ability to breathe deep and fast

2. Heart - increases heart strength which increases the amount of blood your heart can pump with each beat (for physiology types – increases stroke volume leading to increased cardiac output)

Think of Aerobic power intervals as max strength training – you want to increase your max strength in your bench press so pushing guys off of you feels easier – by the same token you want to increase the max strength of your aerobic system so it's easier to maintain lower levels of exertion and your aerobic system can work at a higher level if necessary.

I've found that running outside gives the most powerful stimulus to the heart and lungs, with the AirDyne stationary bike (fan resistance moving both arms and legs) a close second, because you can push hard without risk of falling off.

SHORT BURST INTERVALS

Short burst intervals engage your anaerobic energy systems (anaerobic lactic and anaerobic alactic). They're also a great method to work on mental toughness!

These are similar to Tabata's, except you'll be performing them in a progressive fashion.

By performing short bursts of work followed by progressively decreasing rest times, you're working on your ability to work at max intensity then quickly recover and do it again – power endurance.

Short-burst intervals can be used effectively with MMA specific drills like repeated combos on the heavy bag and takedown drills. Sprinting and the AirDyne are also good tools to use.

POWER ENDURANCE

The order that you train your body in to develop the physical qualities required to excel in MMA in is important. There's no point in trying to build power endurance if you haven't built up your power yet. And there's no point in training power, which is a combination of speed and strength, before training max strength, because max strength training will slow you down if you perform it after power training.

Power endurance is the last quality to train before you get into a fight. This is where you maximize your ability to be fast and explosive and to train your body to quickly recover from these short bursts of output.

It's the culmination of your separate strength and cardio work to bring together all of the base development work you've done to peak you for a fight, or just peak your fitness before you start all over again.

So if you're not fighting that's cool too because going through the periodization scheme (next section) will develop your body in the most efficient way possible. Go through the workouts as if you're peaking for a fight even if you have no plans on ever stepping into the cage.

To maximize your power endurance, I've created workouts that I call NRG System Complexes. These are *sick*.

They train all 3 energy systems, with a focus on the aerobic and anaerobic alactic systems. They train your body in all of the major movement patterns and movements specific to MMA. They focus on quickness, speed and power to ensure you're fast and explosive going into a fight. And they expose you to a physical worst-case scenario so when you get into a tough fight, you've already been there physically and your confidence is greater because you know you can push through it and not only survive but *thrive*.

Now there are a lot of workouts deemed 'MMA specific' that are a mish-mash of exercises performed in a 5 minute circuit. Most are based on the timed station model – spend 30 seconds on one exercise, then move on to the next until you've done 5 minutes worth.

The problem is that 30 seconds on one exercise gets you into the lactic energy system – which is OK – but if you want the ability to be explosive for a 5 minute round, you've got to tap into and train the alactic system, no the lactic.

The way the NRG System Complexes are organized allows you to train all 3 energy systems at once, whereas the traditional timed station circuits focus more on the lactic and aerobic energy systems, lacking the speed and explosive development you get from effective training of the anaerobic alactic system.

This is because the # of reps you perform keep you within the alactic system, and the exercise choices and order allow the alactic system to slightly recover on a local level, thus avoiding heavy lactic engagement.

For example, in my classic NRG System Bodyweight Complex, you superset between 8 Lunge jumps and 8 Explosive pushups. 8 reps of either take less than 10 seconds of work – so the alactic system is predominant.

While you're doing the pushups, the legs are resting, and vice versa, so the alactic system has a bit of time to recover.

You'd then perform the Lunge jumps again and the Pushups again, completing 2 sets of each before moving on to the next exercise. Doing 2 sets allows you to challenge alactic endurance, without totally fatiguing the system and forcing you into lactic dominance.

You might then move on to a core stability or quickness exercise giving the major upper and lower body muscles a chance to recover, while you're still working and doing an exercise specific to MMA.

This goes on for about 5 minutes, so as you proceed through the complex, the lactic and aerobic energy systems are engaged more, giving you complete energy system development, never-ending cardio AND explosive knockout power that will last you to the final bell – if you don't KO your opponent first!

The one downfall from these complexes is that they require a little more thinking because you're moving between exercises a lot quicker and there are more exercises to perform.

NRG System Complexes aren't as simple as doing 30 sec of one exercise then moving on, but they are the most scientific and effective workouts to peak your conditioning for MMA.

Follow these workouts as they're designed and you'll have the edge over your opponent – as long as they haven't found this program too. If they have, get ready for a battle. :)

PROGRAM DESIGN AND PERIODIZATION

I'm including a little section here because I want to make sure you understand the terminology associated with periodization.

Periodization is basically a fancy name for planning your workout. And planning is the key to success with any program. You know the old saying, "Fail to plan, plan to fail."

The benefits of periodization include minimizing your risk of injury by peaking at the right time, maximizing training intensity and results and decreased possibility of overtraining.

Consistency is the key to results, especially with this program where you'll be training only twice per week. So to be truly effective at getting your workouts in, you've got to think about times when you might be unable to train and schedule around them, things like holidays, vacations, Sundays after a night of heavy drinking, etc. and you'll be much better off than just assuming Tuesday and Friday are strength training days.

An important thing to remember is the scheduling of training sessions when you have two or more training sessions in one day. It is a good idea to leave 6 hours between training sessions and ensure you have good nutrition in between to make sure that you have enough energy to have an effective 2nd training session.

Some things from my experience that are very helpful are doing one of the two sessions at a smaller volume. For example, for a fighter who has to prioritize strength but is a great wrestler, if he lifts weights during the day and then has wrestling at night, he would be best served by lifting weights hard, then giving himself more time in between matches. So he could rest one match and only do two instead of all three. It all depends on what is most needed for the upcoming fight.

On the flipside, a fighter with good strength who lacks skill will want to put less energy into S&C training to save for skill development.

Applying this concept will ensure that you are not overtraining and that you are not compromising martial arts technique due to fatigue.

Here is a quick breakdown of the options to take advantage of:

- When you have an important sparring session in the PM and have a strength training session in the afternoon, lift at the same intensity but drop 1-2 sets from each exercise.

- When you have a normal sparring session in the PM and have a strength training session in the afternoon, strength train according to the program and take more rest in between sparring in the PM.

It is never a good idea to be completely fatigued when trying to learn new skills, as your technique will suffer and your nervous system will learn the improper way to execute the technique, thus making you a less efficient warrior.

Now, back to periodization…

There are 3 main phases of classical periodization: the macrocycle, mesocycle and microcycle.

Think of the macrocycle as your overall plan, so if you're getting ready for a fight, your overall training program for that fight.

The mesocycle is anywhere from 3-4 weeks, or how you setup a block of training where you're generally focusing on a specific quality.

The microcycle is how a week of training is setup.

I'll be giving you specific schedules based on if you have no fight planned or you find out you've got an upcoming fight in a certain amount of time, but here's how I'd setup a program if you knew you had a fight in 12 weeks:

Base Conditioning → Strength → Power → Power Endurance

You start off by building your base and ensuring your body is ready to handle higher intensities of work. Then you build max strength. Follow that up with transforming max strength into power and finally, build your power endurance.

Each phase logically builds upon the previous one to turn you into a fighting machine.

CORRECTIVE PHASE

The Corrective phase just may be the phase of training that sets the stage for you to get your best results ever.

The reason for this is because it is specifically designed to help your body recover and get ready for the intense training program to come, through the removal of heavy weight training, which takes a toll on your body.

It's also designed to address any muscular imbalances through specifically chosen unilateral exercises as well as core stability deficiencies you may have that have limited your gains in the past.

I can't tell you how many emails I've gotten from guys after they've gone through this phase telling me how surprised they were at the gains they've made, despite dropping a lot of heavy weight training and going back to basics.

> "Hey Eric,
>
> Glad you stay consistently in contact with your customers! Very rare indeed, I signed up for a sports club for personal training over here and they hardly even do that.
>
> I'm on the 4th week of the stabilization workouts and am looking forward to the next phase. Its been a great experience following somewhat of a plateau from six months of intensive training. Truthfully, I didn't even realize there was anything resembling a plateau happening until I tried your workout.
>
> All the best,
> Winston"

While at first glance the workouts and exercises in this phase may look easy, if you focus on perfect technique and following the workouts exactly as outlined, you just might see how tough it really is.

Spend at least 2 weeks (4 is recommended) in this phase every time you do the Ultimate MMA program – more if you've got bumps and bruises to heal.

You can perform these workouts 3 days/week if you're not training MMA too often, if you're doing this, just alternate between Day 1 and Day 2.

In terms of cardio training during this phase, you'll perform either traditional steady state training (road work) or Aerobic Threshold Intervals.

BASE CONDITIONING PHASE

Base conditioning is the next phase we're going to go through to turn you into a beast. Think of it as the final step in creating a strong foundation for a powerful and explosive body.

Base conditioning is an especially important phase for those who have not lifted weights before. The goals of the this phase include strengthening connective tissues such as ligaments and tendons to prevent injury, improving strength endurance of the muscles in each movement pattern, and stimulating some lean muscle mass growth.

The tempo prescription for most of the resistance training exercises is 'Control'. This basically means that you lift and lower the weight without using momentum, focusing on controlling the weight smoothly throughout the range of motion and maintaining perfect technique. But we'll go into these details in the Training Worksheets PDF.

During the weight training workouts, you'll be taxing your lactic energy system with the higher amount of reps and more controlled pace of exercises.

As I mentioned earlier, hitting the lactic energy system a little further out from the fight is what you want to do, as you want to experience it, but you don't want to default to it. The next few phases will ensure your body is aerobic-alactic, which is what power endurance is all about.

Depending on your schedule, you can train either two or three times a week, alternating between Day 1 and Day 2 each workout.

The cardio training that goes along with this phase is either an anaerobic lactic style circuit (like my Crazy 8's) or Aerobic Power Intervals. I'll guide you through which one to choose when we figure out what schedule you'll be following.

STRENGTH PHASE

The strength phase is where you start to build your power by developing the strength end of the strength-speed continuum.

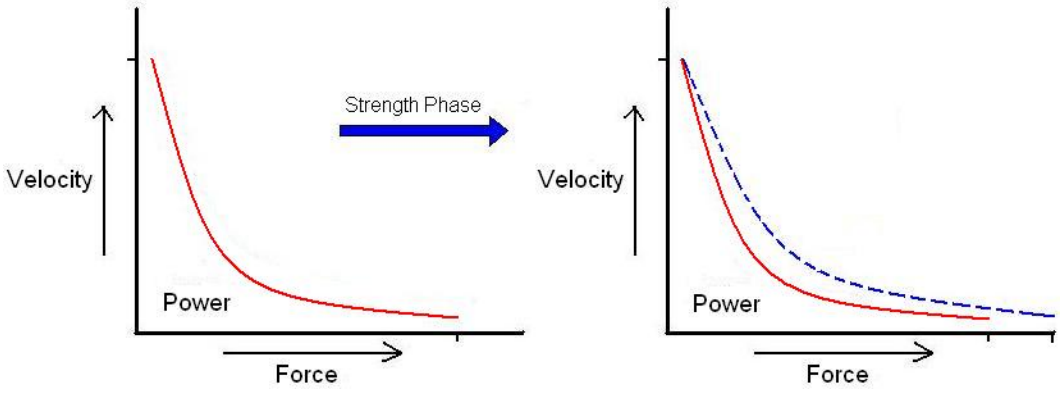
During each exercise where you're lifting heavier weights, focus on moving the weight as fast as possible, in perfect form. Zone in before the set, and give it all you've got.

When your intention is to lift the weights as fast as possible, even though they may not be moving quickly, your brain will recruit the maximal amount of muscle fibers as it can to execute the movement with speed. This will make each and every rep count, as opposed to just moving the weights for the first 3 reps, then really working for the last rep of a 4 rep set.

Once you've completed the strength phase, not only your strength increases, but your power also increases. The equation for power is: Power = Force x Velocity

So if either force or velocity goes up, your power goes up as well, as shown by the graphic below. Velocity is maximum when force (the weight used) is minimum. Force is maximum at a time when velocity is minimal. This is called an inverse relationship because if one goes up, the other goes down.

Power is equal to the area under the curve. The area in between the original curve and new curve shows the increase in power. Notice that just by improving strength, in the middle of the graph which is where peak power occurs, the velocity is higher. This can only occur if you perform each rep as if you were trying to move the weight as fast as possible, so lift hard and fast!



There are 3 choices you'll have with respect to additional training: medicine ball workouts for pure power, Short Burst Intervals, or both. It all depends on your schedule and goals and we'll figure it out when we design your program later.

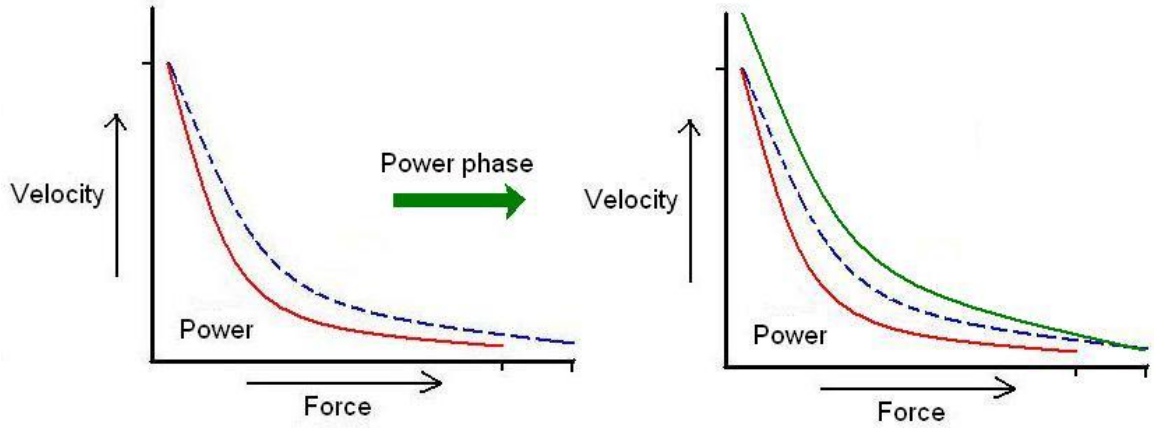
POWER PHASE

Now it's time to start to bring everything together by keying on the velocity aspect of resistance training.

During this phase, you're increasing your rate of force development using starting power exercises like the Jump from Box and Starting Power Pushup.

You're also going to be developing your Power Endurance with NRG system training, that you'll learn about later (and probably curse me for).

You'll also maintain the strength you built during the previous phase while simultaneously increasing your explosiveness. Notice how the force-velocity curve has changed now. We saw how increasing max strength caused an increase in submaximal velocity. Now, the inverse is true as the increase in velocity causes an increase in submaximal strength. By the end of this program you've hit the neuromuscular system from all angles, giving you major explosiveness and strength!



It's important to be fresh when you're in the power phase. You want to maximize each repetition, applying force as fast as possible during your lifts. Don't rush your rest times between sets. Be focused during your training sessions, ignore the people around you and you'll get the best results.

You'll also notice the addition of exercises like the 1-arm dumbbell press on the ball, the 1-arm bent-over row, 1-leg stiff-legged deadlift, among others. These exercises are included to solidify your hips and core so that you're just as strong and powerful on one leg as you are on two. Adding unilateral exercises also helps to balance your body to make sure that the extra strength and power you build don't contribute to a muscular imbalance and/or injury.

PEAKING PHASE

Utilizing the concept of tapering when leading into a fight is essential in peaking both physical and mental conditioning. When leading up to a fight, you want to do the following:

- Decrease exercise volume
- Increase exercise intensity
- Increase sport-specificity
- Maximize recovery
- Peak for competition

Use this phase for two weeks and you'll be super strong, explosive and have insane levels of power endurance, which will allow you to fully showcase all of the skills you've learned in mixed-martial arts since you'll feel fresh and ready to go whether you're in the 1st or 3rd rounds.

Near a fight you want to focus your energy on your mixed-martial arts skills with both high intensity and volume of training, so doing too much volume and intensity in the weight room could lead you to overtraining and injury.

After all, you're not trying to win a bench press competition, you're trying to knock another guy out, so it makes much more sense to focus on how to strike, wrestle, and grapple. You'll naturally do this through more sparring rounds and you might even dip into the shark tank once or twice.

The weight training you'll perform is meant to be short and sweet. It's at a lower intensity and volume so all of your adaptation energy can go towards your MMA workouts.

The NRG System Complexes are meant to push you to the brink as you'll be doing the max # of sets and short rest periods so that you feel what the absolute worst-case scenario is all about.

RECOVERY AND OVERTRAINING

Answer this question, what's more important, training or recovery?

If you answered training, you're wrong. If you answered recovery, you're wrong.

Sorry for the trick question, but you can't have 1 without the other, just like you can't have a fight without someone to fight with. It's yin and yang.

For example, if you train your ass off in the gym, but then you eat like crap, sleep 4 hours a night, and are continually in a state of stress, your body will not recover from the training and will not adapt or make any progress. You're also likely to get sick, which will throw things off even further.

Or, if you don't train with sufficient intensity to stimulate your body to adapt, you won't make any gains, regardless of your diet, sleep, or lifestyle patterns. You'll simply be spinning your wheels but going nowhere.

So the first step is to make sure you follow a properly designed training program. Because you're here with me right now, you're taken care of in that area.

A lot of programs are akin to being a white belt sparring with a black belt; you're going to get your ass handed to you. Same goes for training loads and intensities.

I remember when I first got a road bike. My roommate in university was a National level mountain biker and he used to ride 20-30 hours per week without fail.

I followed him out on what he told me was a small loop. It was January - cold, windy and nasty. We went out in this shitty weather because I'd just gotten the bike for my birthday, which is January 5th.

After about an hour of riding, I noticed we continued in one direction – away from our house. I asked him, "How much longer?"

He said there was another hour and a half or so left.I was in decent shape, so I thought I'd be fine.

But the final 30 minutes were absolute hell – I could barely move my legs, I couldn't think straight and I wanted to stop and ~~lie down~~ die in the snow on the side of the road.

When I got home, I quickly ate a bowl of oatmeal, pack of Mr. Noodles and then immediately passed out in my stinky riding clothes for a good 4-5 hours. I woke up at 8pm wondering where I was and why I smelled like wet hand wraps left in a sealed gym bag for a week.

The next week or so I spent hobbling around like an 80 year old man and was absolutely useless – I could barely walk, let alone ride or train and I was really tired.

This is a perfect example of doing too much, too soon – an acute bout of overtraining. Ideally, you want to avoid it at all costs, because in those 5 days where I could barely walk, if I'd trained more intelligently, I'd have been able to train at least another 2 or 3 times, which would've gone a lot farther in improving my fitness.

The other piece of the puzzle in avoiding overtraining is to ensure that you're recovering properly.

I've worked with enough athletes and clients to be able to see this with my own eyes – guys who lay it all out during training but don't get any results. The culprit is usually a combo of poor diet, insufficient and/or poor quality sleep and mental stress.

When you train, you're stimulating the sympathetic nervous system (SNS), which is catabolic in nature and allows your body to work hard, resulting in breakdown of tissues and energy stores.

If you over stimulate the system by training too hard too often (old school training), then you're over stimulating the SNS and not allowing your body to enter into a recovery state. To recover, your parasympathetic nervous system (PSNS) must be dominant, which is anabolic and promotes rebuilding, recovery and regeneration.

Remember – it's all about your adaptation energy (AE). Maximize the things that charge your AE and do the proper amount of things that drain your AE. That's the formula for peak fitness.

Another important point to consider is the volume and intensity of training sessions when you have two or more training sessions in one day.

If possible, leave 6 hours between training sessions and ensure you have good nutrition in between to make sure that you have enough energy to have an effective 2nd training session.

You'll have to figure this out on your own based on your MMA training schedule, but here are some general points to consider:

- Learn and develop technical skills when you're fresh. Fatigue will make you sloppy and create bad movement patterns.

- Maintaining intensity (weight lifted) while reducing volume will help you maintain strength without causing excess fatigue.

- Naps between training sessions are great but make sure they don't last longer than 30 minutes, otherwise you may wake up groggier than before.

- The most important S&C elements to work on when fresh are power then strength. Endurance/cardio training can be performed in a less than fresh state because it doesn't take as much nervous system drive compared to power or strength training.

- Sleep quantity is important (7-8 hours per night is ideal) but more important is sleep regularity – going to bed and waking up at the same time each night.

These are just guidelines to experiment with.

But the most important thing you can do is learn to listen to your body. Most guys are taught to push through pain and just keep going in the face of whatever comes your way.

While this mentality certainly has its place and helps us push past our comfort zones, when it's followed in spite of messages from your body telling you to slow down and relax, you'll run into trouble. Illness, injuries, fatigue and irritability are just some of the symptoms you might encounter when you stop listening to your body.

Be flexible and try it out once in a while and learn to develop this intuitive guide that you have within you and you'll master the art of recovery and never have to experience the ill effects of overtraining.

CONCLUSION

Thank you for taking the time to read and work through this manual. I've spent years studying, practicing, and evolving the techniques contained within, and I know that if you put the effort forth in applying the information as outlined, you'll feel stronger, faster, more powerful, and more confident in your conditioning than you ever have before.

Remember – the most important thing with training is consistency – be sure that you stick with the program as outlined, and you're guaranteed to get gains in strength, conditioning, power, and endurance, like the thousands of guys who've gone through this program before you. Don't be a "program floozy" and try this one out for a few weeks before jumping to the next.

And if you mix and match and throw stuff into the program at random, you might not get the gains you deserve. So stick with the program for at least complete run through before integrating other concepts.

Everything presented to you has been tested and proven to work for athletes just like you – the key is to follow it.

After going through the program, please leave me your feedback here:

==> Feedback for the Ultimate MMA S&C Program

You'll also receive new copies of this program every time I update the material it or add something new, so keep your feedback coming in and every new edition will get better and better. I'm constantly learning and studying, so you'll constantly benefit!

Train smart and THROWDOWN,

Eric Wong, BSc, CSCS
MMA Strength and Conditioning Coach