



FOUNDATIONS OF

STRENGTH & CONDITIONING



INTRODUCTION

Thank you for downloading this ebook. We know that it will be an extremely useful tool to help you learn and grow towards your goals.

Empowering you to reach your goals is our mission. Whether you're a coach, a beginner athlete, chasing World Records or anything in between, we are committed to your pursuit of progress.

Learning about training can be overwhelming, there is SO much information available from SO many different sources, it is hard to know where to begin.

This guide is aimed at making things a bit less overwhelming while satisfying our mission of delivering the highest quality principle based coaching and education materials to help athletes & coaches reach their goals.

In the following pages, you'll find dozens of our most valuable videos. This content was created over several years and the information presented in them was acquired over several decades of combined experience. It is all organized in a way to help you take a deep dive into whatever topic you are interested in learning more about. I joke at seminars that my goal is whenever someone asks a question, that I will have a video to refer them to for an in-depth answer and I think we are getting pretty close to that goal.

Struggling with the mobility needed for the squat? Just click that in the Table of Contents and it will take you right to that section. Snatch technique need some work? Click and you're there. Wondering how to design a program for sport performance? You guessed it, click and you're there.

Enjoy this book, challenge yourself to gain a deep understanding of the principles that it discusses and understand the 'why' behind the 'what', 'when' and 'how' to the questions you have.

In Strength,
CWS

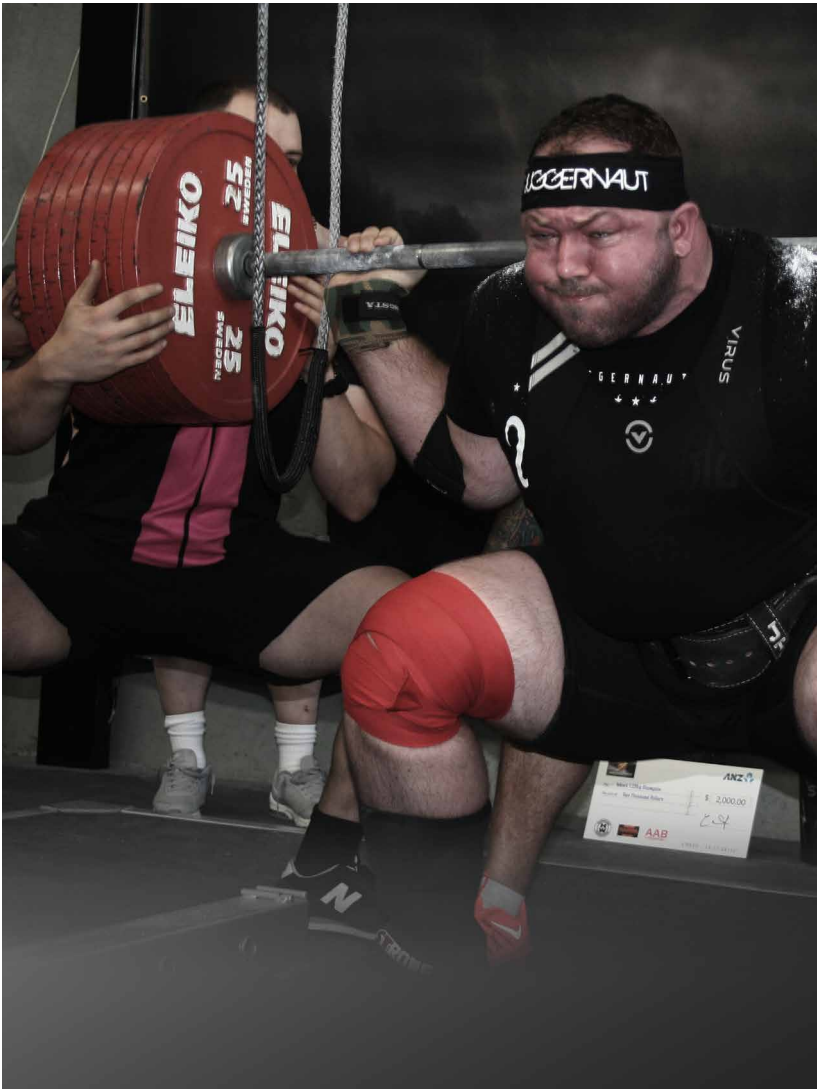
TABLE OF CONTENTS

POWERLIFTING	5
Squat	5
<i>Technique</i>	6
<i>Mobility</i>	16
<i>Training Considerations</i>	19
Bench	23
<i>Technique</i>	24
<i>Training Considerations</i>	27
Deadlift	30
<i>Technique</i>	31
<i>Mobility</i>	38
<i>Training Considerations</i>	38
<i>Training and Competition Highlights</i>	41
<i>Program Design Concepts</i>	52
WEIGHTLIFTING	64
Snatch	65
<i>Technique</i>	66
<i>Mobility</i>	70
Clean & Jerk	71
<i>Technique</i>	71
<i>Mobility</i>	79
Training and Competition Highlights	80
Weightlifting Technique Development	87
Program Design Concepts	96
SUPERTOTAL	108
MOBILITY	111
BUILDING MUSCLE	116
SPORT PERFORMANCE	124
NUTRITION & RECOVERY	129



POWERLIFTING: SQUAT

The squat has always been one of our favorite topics and we have created valuable videos for every aspect of it from technique, to mobility and programming. Here are some of our favorites.



TECHNIQUE

Great squatting has got to start with great technique, so get started with our very popular Squat Pillars series which systematically addresses technique for the squat over the course of 5 videos.

[Click the Video Thumbnail To Watch](#)

The first installment of the Squat Pillar series deals with upper back positioning and creating a tight setup:



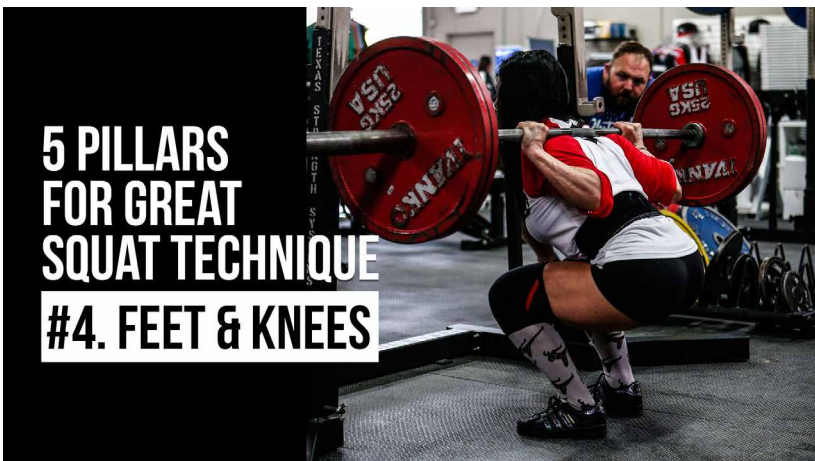
Part Two of our Squat Pillar series will show you how to breathe during the lift to ensure a solid braced position to help you lift maximal weight and keep your back healthy:



In Part Three of our Squat Pillar series, Chad and Marisa discuss the mindset you must have during heavy squats and nuances of the tempo and rhythm of the lift:



Part Four of this series covers the foot pressure and knee movement through the lift:

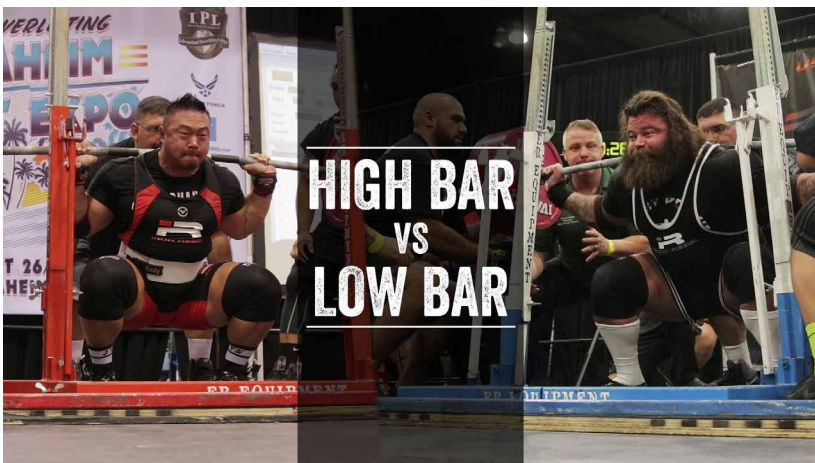


Finally, Part Five of the Squat Pillars series addresses head position and discusses how to utilize your upper back effectively during the lift:





A very typical question we get regarding the Squat, its technique and implementation in training, is about the difference between High Bar and Low Bar Squats. In this video, Chad and Max dive into the technique differences, as well as best applications of each style to your training:



A seemingly small part of the lift that can derail your performance before you even get going is a poor walkout. IPF World Champion and one of the biggest squatters in the World, Blaine Sumner joins us to help you Master the Walkout:





The Front Squat can also be a powerful tool for improving leg strength and bringing up your squat, so we have put together a Front Squat Pillars series to help you hone your technique in this lift.

In the first of our Front Squat Pillars, Max Aita discusses the front rack position. This is a bit specific to Weightlifting, so if you're using the front squat for Powerlifting or general strength, feel free to use a crossed hands front rack:



PS. If you're struggling with your mobility for the Front Rack, [click here](#).

Our second Front Squat Pillar focuses on your breathing and bracing pattern during the lift which presents some unique demands with the weight weighing down heavily on your chest:



The next Front Squat Pillar deals with the set-up, getting your feet in the right position to maximize the effectiveness of the lift:



Part Four of the Front Squat Pillar series deals with the descent of the lift, how the weight should be balanced through your feet and how your knees should move during the lift:



Finally, in the ultimate installment of our Front Squat Pillar series, Max discusses the ascent of the lift and how to best position your hips for maximum strength:





If you've watched videos of top lifters training or competing, you've likely heard their coaches and training partners yelling different cues at them throughout the lift and may have been confused about their meaning or purpose. In this video, Chad shares some of his favorite cues to use with his athletes, their meaning and when to implement them:



MOBILITY

Of the 3 Powerlifts, the Squat typically places the greatest demand on the athlete's mobility and movement quality. We are fortunate enough to partner with Dr. Quinn Henoch of ClinicalAthlete.com to help our athletes move better and stay healthy. Here are some very helpful videos from Dr. Quinn to help deal with some of the most common and frustrating Squat mobility issues.



[Click the Video Thumbnail To Watch](#)

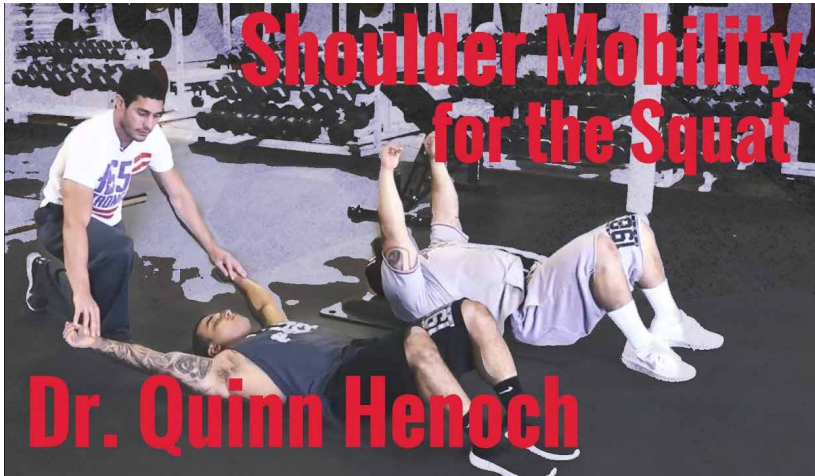
First and foremost in regards to mobility for the Squat, we must understand that not everyone's body is the same and there isn't one universal best technique for all. In this video, Quinn explains how to assess an athlete's hip structure and the implications this has on their Squat technique:



Shifting to one side or the other during the squat can lead to a number of issues in the hips, knees, ankles and back. Quinn uses Chad as a case study in this video to demonstrate causes and solutions to unilateral hip shift:



Getting into a tight setup, particularly in the Low Bar Squat, requires significant shoulder mobility and hard and heavy training in this lift can cause pain in the shoulders, elbows and wrists. Check out these drills from Dr. Quinn to help improve your Shoulder Mobility for the Squat:



As much as we would like to avoid them, injury is a nearly inevitable reality over the course of a long career of hard training and if you're in preparation for competition, just taking time off isn't a realistic option. Here are some of Quinn and Chad's favorite ways to Train Around Injuries:



TRAINING CONSIDERATIONS FOR THE SQUAT

Building a big squat is about creating a synergistic effort of the entire body, particularly the legs and back, through efficient technique to lift the most weight. Due to each person's unique proportions and their muscles different responses to training, varying weak points in your lift will likely arise with time. Here is some of our best advice on how you can assess and address these weak points for the Squat.



[Click the Video Thumbnail To Watch](#)

The balance between leg and back strength in the squat will play an important role in understanding where you need to focus your training. In this video, Chad and Max explain how to effectively evaluate relative strength and weakness between these two key areas:



A typical problem in the Squat is the upper back rounding over during a maximal lift. Here is how to fix it:



If you are struggling missing Squats in the very bottom position of the lift, this video will help:



Building on our earlier discussion of relative discrepancies in leg and back strength, these next two videos will give you more solutions to fix each problem.





The Juggernaut Squat Manual takes a comprehensive look at developing a strong and efficient squat. This manual focuses on all aspects of squat training from equipment, to mobility, technique and program design derived from author Chad Wesley Smith's experience coaching 1000s of athletes around the world, including some of the strongest squatters of all-time.





BENCH PRESS

The Bench Press is likely the most popular exercise in the World and certainly the most universally recognized measure of strength. Great bench pressing requires excellent technique and sound training to build muscle, increase force production and hone that technique at the right time. Here is a collection of our most useful content regarding the Bench Press.





[Click the Video Thumbnail To Watch](#)

TECHNIQUE

As with the squat, we have broken our systematic approach to Bench Press technique into our 5-part series, Bench Press Pillars.

The first Bench Press Pillar addresses your foot placement. A great Bench Press is a full body lift and proper Foot Placement and Pressure is the foundation of that:



Securing a tight and stable upper back position is the focus of our second Bench Press Pillar and will not only maximize your pressing strength, it is also critical to keeping your shoulders healthy:



As with most of our technical recommendations, we try to avoid blanket suggestions because we know that there are different body types and strength profiles. The Bench Press grip is no different, the third Bench Press Pillar will explain how to find your best grip:



The penultimate video in our Bench Press Pillars series deals with how to breathe during the lift and where the bar should touch your chest:



Finally, the fifth and final installment of Bench Press Pillars covers how to create leg drive during the lift and the ideal bar path:



The Bench Press is a much more technical lift than it would appear and the right cues from your coach, or to your athletes from you, can be the difference between PRs and missed lifts. Here are some of our favorite cues to improve Bench Press technique, what they mean and when to utilize them:



TRAINING CONSIDERATIONS FOR THE BENCH

Developing the Bench Press can be a particularly vexing endeavor for the female lifter as new PRs can be very hard to come by. There are some special considerations to make for female lifters which Marisa and Chad discuss here:



Each portion of the Bench Press utilizes your muscles in different ways and if you are struggling in a certain area, we have some potential solutions for you.

If you are weak off the chest, check this out:



Struggling through the middle of the lift? This is the video for you:



Having trouble at lockout? Watch this:



DEADLIFT

The Deadlift, both Conventional and Sumo, test the most muscle of the Powerlifts and require strength, stability/mobility and great technique, because of the high fatigue levels that Deadlift training can generate, it may require some special considerations when programming it within the context of your plan. Here is some of our best content to help you improve all aspects of your Deadlift training.





[Click the Video Thumbnail To Watch](#)

TECHNIQUE

We have created Pillars series to systematically approach training for both the Conventional and Sumo Deadlift, watch listen and learn to improve your technique for increased results and more safety.

The first Pillar to understand about Conventional Deadlift technique is that it is a hip hinge movement pattern, not a squat. Improve your hip hinging pattern to generate more tension through your posterior chain with this video from Chad and Marisa:



The theme of generating tension continues in the second Deadlift Pillar, as we discuss how to best engage the lats during the lift:



We continue the very important concept of building tension throughout the body in the Deadlift with our third video, focused on Breathing and Bracing to help you lift the most weight possible and keep your lower back healthy while doing it:



Now that we have gotten into a great start position with tension throughout the body, the fourth Pillar focuses on initiating the lift from the floor with proper sequencing of the muscles:



Finally, we focus on the lockout of the Conventional Deadlift in our fifth in the Pillar series:



The Sumo Deadlift, despite what many anonymous internet commenters would have you believe, isn't cheating but rather is a great expression of technique, mobility and strength.



The first Pillar in effective Sumo Deadlift technique is finding the right stance for your proportions and mobility:



In our next Sumo Deadlift Pillar, Max and Kristen focus on how to set-up your body into the optimal pulling position:



As with the Conventional Deadlift, generating tightness throughout the body, particularly in the start position is of great importance in the Sumo Deadlift:



One of the critical components of successful Sumo Deadlifting is maintaining excellent position during the start of the lift, even if it means moving very slowly, to ensure that you are in the right position to lockout the weight:



Proper sequencing of the legs, hips and back during the lockout of the Sumo Deadlift is the final Pillar:



One of the best deadlifters in the World, Ben Pollack, joins us to share some of his favorite tips for better Deadlift training:



Cues can either help an athlete improve their performance or confuse them during its execution. We share some of our favorite cues for the Deadlift along with when and why to use them:



MOBILITY

Improving your mobility, particularly in your ankles, hips and lats will ensure that you are able to move through the best positions possible during your Deadlift. Also, practicing good breathing and bracing patterns during your warmup will help ensure that you continue these good habits under heavier loads. Dr. Quinn Henoch breaks down some ways to Maximize Your Deadlift Warmup in this video:



TRAINING CONSIDERATIONS FOR THE DEADLIFT

Each portion of the Deadlift relies more heavily on different musculature. While one lifter may struggle to get the bar moving but lock it out easily, other lifters will be very fast off the floor but find the last few inches of a lift extremely challenging. Our Addressing Weak Point series is aimed at helping you understand why you may struggle with a specific portion of the lift and create a strategy to correct the issue.

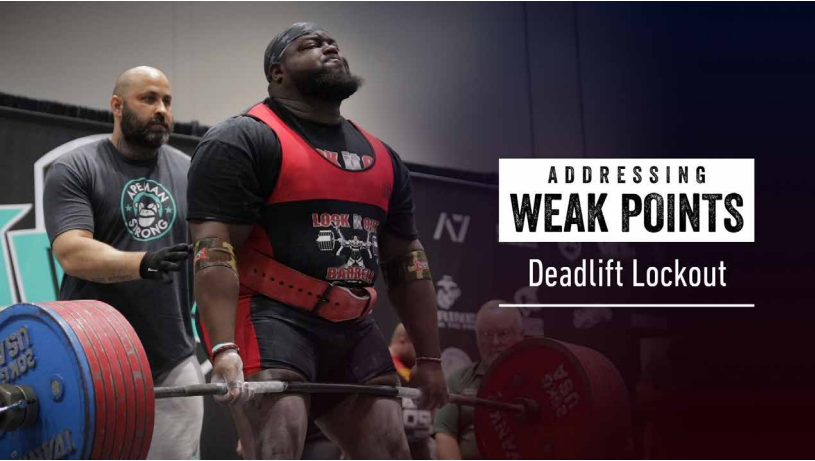
Struggling from the Floor? Watch this:



Missing lifts slightly below or above your knees? This will help:



Having trouble at lockout? Here you go:



[**Click the Video Thumbnail To Watch**](#)

TRAINING AND COMPETITION HIGHLIGHTS

The Juggernaut Training Systems YouTube began in 2007 as just Chad's personal channel (CWSmith52) to showcase his own training for his collegiate Shot Put career, as well as highlighting his work with his high school alma mater's Football team. Since then, it has seen the founding of Juggernaut in 2009 and been able to showcase some of the strongest training and competing in the Powerlifting world. Here are some of our favorite moments from training and competition for Powerlifting with our athletes.

Interested in competing yourself but not sure where to start? Check out our Guide to Your 1st Powerlifting Meet:



Chad started his Powerlifting career off with a bang, totalling 1962# wearing Nike Frees in October 2010:



One of Chad's most popular feats of strength was this 500x22 Squat during an exhibition at a local CrossFit competition:



Chad first broke the 2300# total barrier with this
1050kg/2314# Total in Sydney, Australia:



Chad put on a show for the Arnold Sports Festival crowd
with these pyramid sets in the Squat and Deadlift up to
700# back to back:



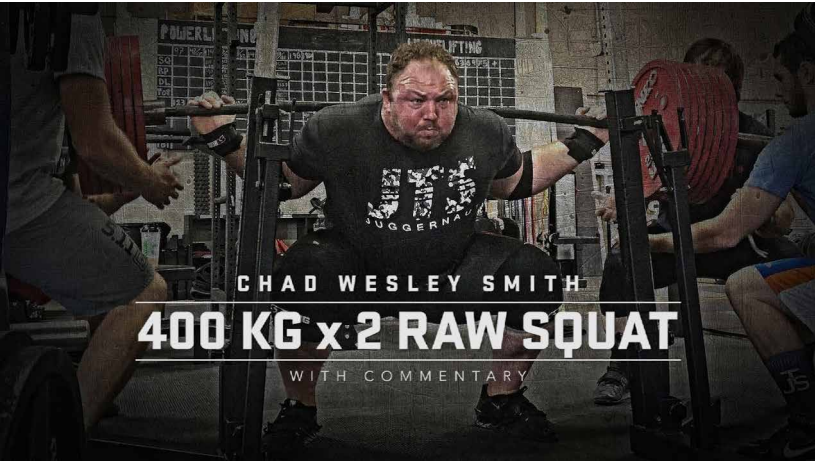
Chad continued his strength exhibition with this 2000# total in just 37 seconds during a charity event at Metroflex-Long Beach:



Kristen Dunsmore breaks the American Record in the Squat at her first meet after a nearly two year layoff due to a back injury:



Chad goes into rare territory, squatting 400kg/881# for 2 reps in sleeves:



Athletes from Barbell Brigade including Steve Gentili, Tee Popoola and Adam Rodriguez train hard under the watchful eye of their coach, Chad Wesley Smith PLUS one of the greatest video intros of all-time:



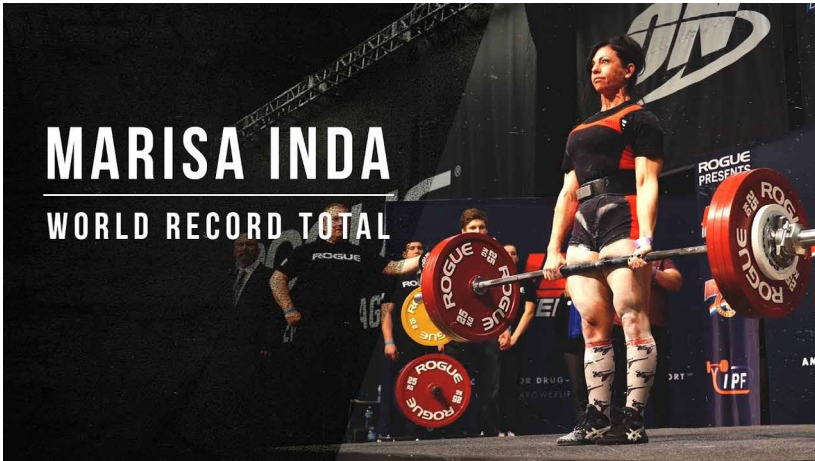
Chad sets his PR of 1055kg/2325# while competing at Pro Raw in Melbourne, Australia:



Four of Chad's lifters, Brandon Allen, Andy Huang, Steve Gentili and Tee Popoola smash their PRs at the 2017 LA Fit Expo:



Marisa had her greatest performance to date at the 2017 Arnold where she went 9/9 setting a new All-Time Total World Record in the 52kg/114# class:



Chad coaches Andy Huang and Mason Cervantes through a heavy squat training session:



Marisa secures the IPF World Championship while competing in Minsk, Belarus in an incredible come from behind victory:



Marisa and Kristen go through a heavy squat training session with Coach Chad as they prepare for USAPL Nationals:



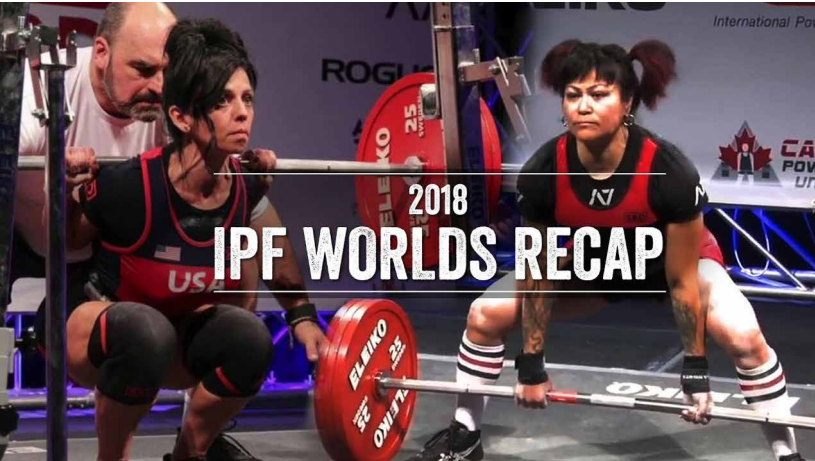
Team Juggernaut's lifters have a great performance at 2017 USAPL Raw Nationals:



Team Juggernaut puts up great numbers at the 2018 Arnold in the Grand Prix, Pro American and Raw Challenge:



Marisa Inda and Jo Ann Aita compete at 2018 IPF Worlds in Calgary, Canada:



Team Juggernaut athletes Marisa Inda, Meghan Scanlon, Maddy Forberg, Jo Ann Aita and Kristen Dunsmore go through a heavy squat training session with their coaches Chad Wesley Smith and Max Aita:



Team Juggernaut dominates at 2018 USAPL Raw Nationals, winning 3 Open Class Championships:



PROGRAM DESIGN

One of our primary focuses when creating content is to equip our viewers with the tools they need to take control of their own training. We want you to understand the principles that govern effective training so that you can create this type of training for yourself and your athletes, now and for decades to come. We aim to be descriptive, rather than prescriptive, when explaining training and want to look at programs through an objective lens to understand what is useful and what can be discarded.

When aiming to understand what all effective programs have in common, we suggest you start with our Scientific Principles of Strength Training series. This series is when our channel really began to create its reputation for top notch content and as you can see through the evolution of the series, where our production value began to really take off as well.

The Principle of Specificity creates a framework in which all other training decisions are made, you must understand what implications this has to your training plan's design:



[Click the Video Thumbnail To Watch](#)

The Principle of Overload dictates that training must be stimulating enough to drive adaptation and become more challenging over time. Chad explains the implications of this here:



With hard training comes fatigue and our video on The Principle of Fatigue Management will help you understand how to assess this fatigue and strategic ways to deal with it to keep your training on course:



The Principle of Stimulus Recovery Adaptation is key to understanding how to structure your training with optimal frequency and how different physical qualities interact with each other:



While Specificity is king, strategic use of The Principle of Variation will help you train harder and injury free for longer:



The Principle of Phase Potentiation will help you strategically sequence your training for maximum results on meet day and over the course of your career:



Finally, the Principle of Individual Differences will help you understand that while satisfying the former principles is most important, the magnitude of the implementation will depend on a number of individualized factors:



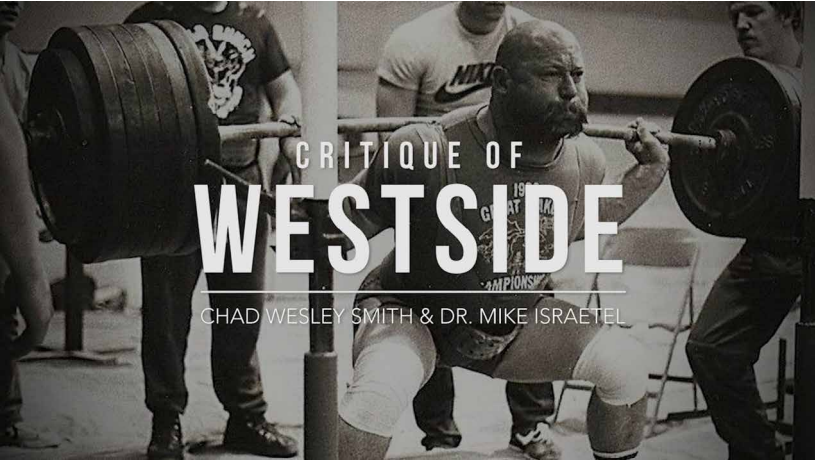


Checking in at nearly 400 pages, *Scientific Principles* is co-authored by Dr. Mike Israetel (author of *The Renaissance Diet*), Dr. James Hoffmann (Exercise Science Professor at Temple University) and Chad Wesley Smith (Top 10 Raw Powerlifter of All-Time). This trio of authors has given *Scientific Principles* a unique combination of scientific and practical knowledge, not found in any other text.

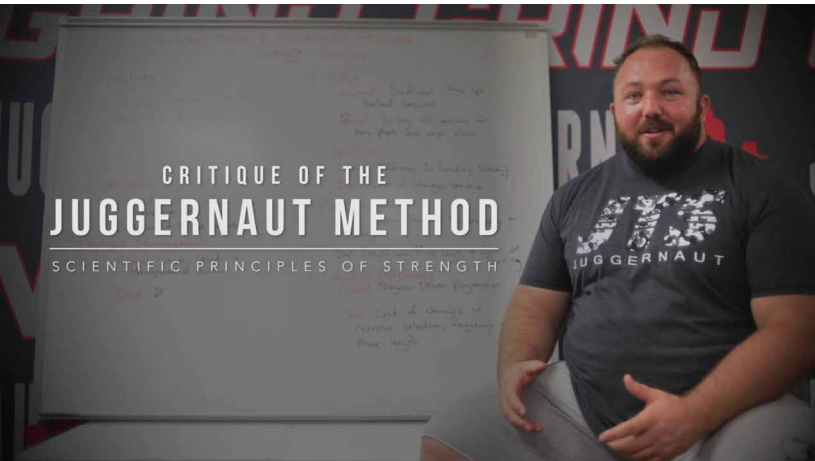


Being able to assess programming based on The Scientific Principles of Strength Training will help you better understand why something is working well for you or where something may be falling short of helping you reach your goals.

In our most popular programming critique video, Chad and Dr. Mike Israetel go principle by principle through a review of the infamous Westside Barbell Methods:



In an effort to be as transparent as possible, Chad turns the mirror on himself and evaluates The Juggernaut Method:



Max Aita had the unique opportunity to train under legendary Russian coach, Boris Sheiko, he reflects on the good and bad of this training here:



MAX AITA'S EXPERIENCE WITH SHEIKO

One of the primary tenets of our programming recommendations is to establish and follow certain Volume Landmarks, most notably is Maximum Recoverable Volume (MRV). In this video, Chad shows you a systematic process to assess any athlete's MRV:



FINDING YOUR MRV CHAD WESLEY SMITH

Knowing how much volume you should perform in your training is very important, once you've established this, you need to decide how to split that volume up over the course of a microcycle. Chad helps you with this process in Finding Your Frequency:

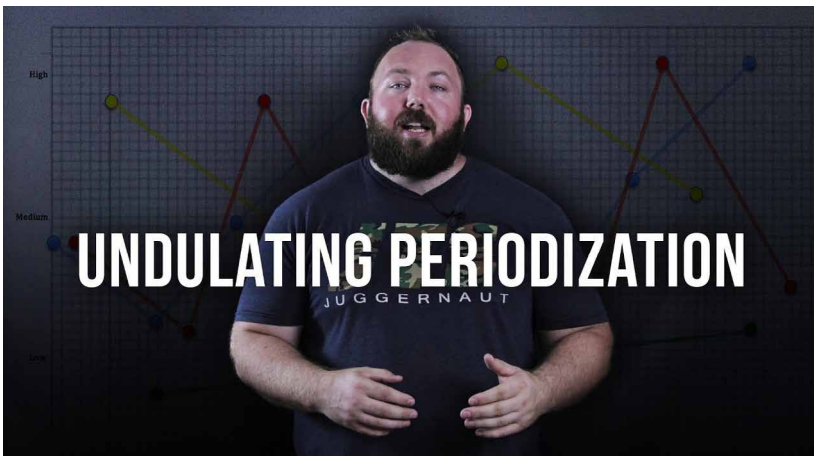


Finally, armed with the knowledge of how much training to do and when to do it, we must decide how much energy each athlete should dedicate towards different goals, namely Hypertrophy, Strength and Peaking:





As athletes become stronger and more capable of generating fatigue through their training, more creativity may be needed to manage fatigue. Chad describes two ways he likes to do this with his athletes by using Undulating Periodization Strategies:



Two critical components of training to understand for long term success are Directed Adaptation and Adaptive Resistance, these concepts work with and against each other. Chad describes what they are and how to manage them here:



One of the keys to both short and long term success is strategic selection and progression of your weights during training. Chad and Max give some tips to help you pick weights to keep driving your progress without burning you out:

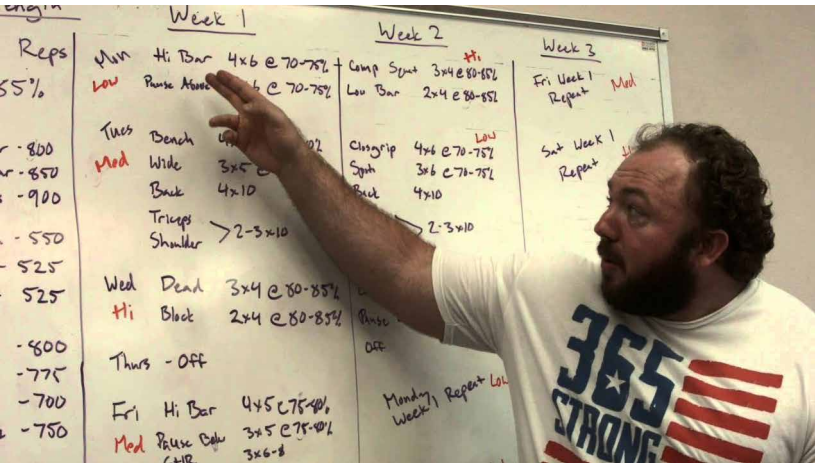


So much of the information presented online for lifters, is the training of advanced athletes but most of the consumers of this information are beginners. Chad describes how to Adjust Training from Beginner to Advanced here:



All this theory about training program design is great, but I'm sure you want to see some examples of effective set and rep schemes. Get on the whiteboard with Chad as he breaks down set by set, rep by rep and week by week...

HOW TO CREATE A STRENGTH BLOCK:



DESIGNING A PEAKING BLOCK:



MARISA INDA'S WORLD RECORD PROGRAM:



WEIGHTLIFTING

Juggernaut was created as a Sport Performance training entity and from there grew in the Powerlifting arena as Chad began competing. Eventually we knew realized that the Weightlifting community also needed access to better information and added Max Aita to our staff in 2016. Since Max has become Head Weightlifting Coach of Team Juggernaut he has produced 1 World Team Member, 3 American Record Holders, 3 National Champions, 13 National Medalists, 7 American Open Champions, 16 American Open Medalists, 4 Masters World Games Champions and 8 Masters National Champions. Max has also helped us provide valuable content for the Weightlifting community regarding technique and strength development. Enjoy some of our favorite Weightlifting content.



SNATCH

The Snatch is regarded as one of the most technical and explosive movements in all of sports. Mastering it is a combination of technique, mobility, strength, speed and coordination. Here are some of our most useful videos in regards to its development.



[Click the Video Thumbnail To Watch](#)

TECHNIQUE

If you are totally new to the Snatch, we suggest you start with this Beginner's Guide to the Snatch before moving on to some of our more in-depth content:



If you have some experience with the lift and are needing to refine things more precisely, our Snatch Pillars series will break down the technique into five key components.

In the first Snatch Pillar, Max Aita explains how to find the right start position for your body:



The first pull of the Snatch or the pull to the hip is a critical component of technique, a mistake here will doom your lift almost before it has begun:



When the bar meets the hip, the athlete's ability to explode upward and impart vertical force on the bar is critical. Max Aita and Alyssa Ritchey show you how we do it:



Turning the bar over quickly, in the right trajectory is critical to making heavy snatches:



Max Aita and Alyssa Ritchey conclude our Pillars of Snatch Technique series with #5 The Catch:



A particularly critical but misunderstood aspect of technique in the Snatch, is the concept of Staying Over the Bar. Max takes a deeper dive into this concept, what it is, why its important and how to achieve it:



The right cues can help a technical concept click for your athletes but the wrong cue or the wrong application can have them thinking too much when they need to be doing. Max shares some of his favorite cues for the Snatch and when/why to use them:



[Click the Video Thumbnail To Watch](#)

MOBILITY

The Overhead Squat position demands mobility, strength and stability throughout the entire body. Without the ability to achieve a good position here, a good Snatch will be nearly impossible. Dr. Quinn Henoch shares some strategies to improve your Overhead Squat Movement:



CLEAN & JERK

The Clean & Jerk combines tremendous strength and power, along with precise technique and balance in the jerk. Here is some of our most valuable content to improve this exercise.



[Click the Video Thumbnail To Watch](#)

TECHNIQUE

New to the Clean & Jerk? Start with this Beginner's Guide to make sure you've got the basic concepts down:



Once you've got the basics of the Clean down, you're ready to move onto our Clean Pillars series.

The first step to a successful Clean is the right start position:



The initial pull of the Clean requires great strength, technique and patience:



The explosion from the hips is critical to impart height to the bar while keeping it close to your body for a successful lift:



Turning the bar over with quick elbows and tension throughout the body is critical to a successful clean. The Turnover is the focus of this Clean Pillar with Max Aita and Alyssa Ritchey:

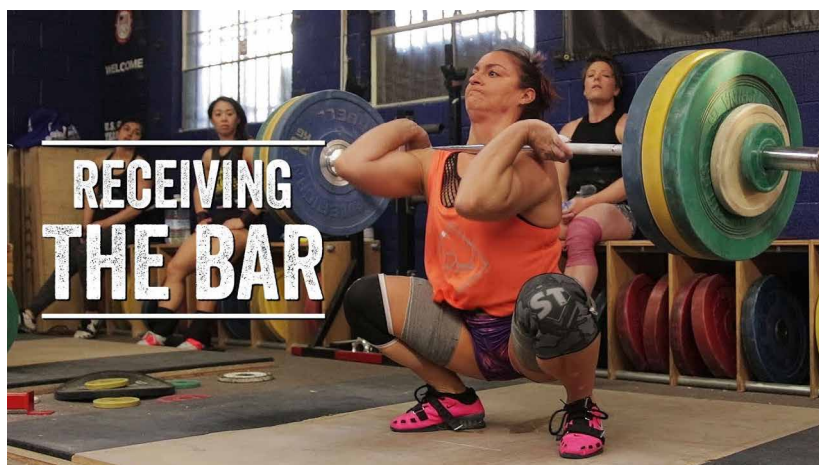


Catching the bar in the right place in your front rack is key to a made lift and the ability to stand the bar up confidently to prepare you for a big jerk:



Of course, a key aspect of the Clean is the ability to stand up with a heavy weight, if you're struggling with that, refer back to our Front Squat Pillars series ([CLICK HERE](#))

A common problem that can make it much harder to stand with heavy weight is allowing the bar to crash on you during the catch. To correct this, check out Max's in-depth look at Receiving the Bar:



Where should you contact the bar in the clean, the hip or the thigh? Max Aita discusses the differences in each and why one may work better for you.



The right cue from a coach can help make your technique click. Max shares some of his favorite cues for the Clean and when you want to use them:



The Jerk is the most missed lift in Weightlifting requiring strength, speed, balance and precise technique.

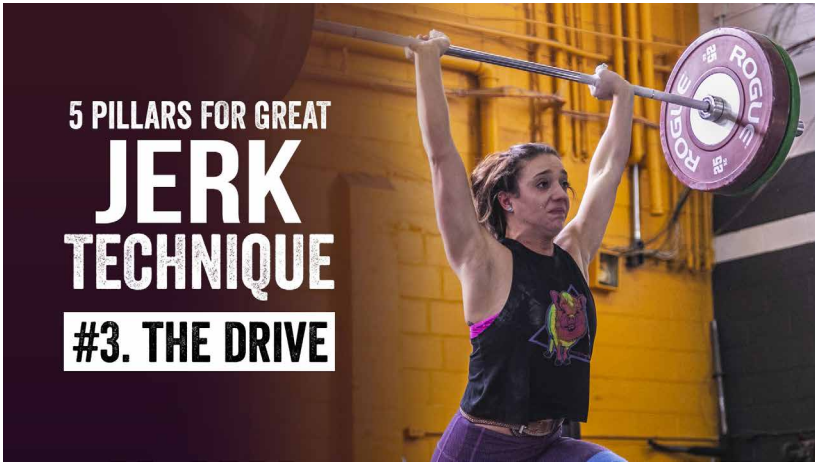
The right start position is a must if you want to make a heavy Jerk:



Finding the right balance in your foot during the Dip phase of The Jerk is critical to keeping the proper body angle and being able to drive the bar overhead for a successful lift:



Drive the bar high and straight with these tips from Max Aita:



Find a stable and consistent split position to receive your Jerk:



Max concludes the Jerk Pillars series with a tutorial on the Catch and Recovery portions of the lift:



Still struggling with your Jerk technique? One of Max's favorite coaching cues could be just what you need to help a technical concept make sense:



[Click the Video Thumbnail To Watch](#)

MOBILITY

The ability to achieve a good Front Rack position is a must if you are going to make heavy Clean & Jerks. Dr. Quinn Henoch and Masters National Champion/American Record Holder Kristi Brewer join us to show you a simple but effective way to improve this key position:





[**Click the Video Thumbnail To Watch**](#)

TRAINING HIGHLIGHTS AND COMPETITIONS

Team Juggernaut has some of the most successful Weightlifters in the country. Our lifters are spread across the US, all remotely coached by Max Aita. It takes an athlete with special motivation and discipline to succeed in this situation. Here are some highlights from our Team Training Camps, National level and International Competitions.

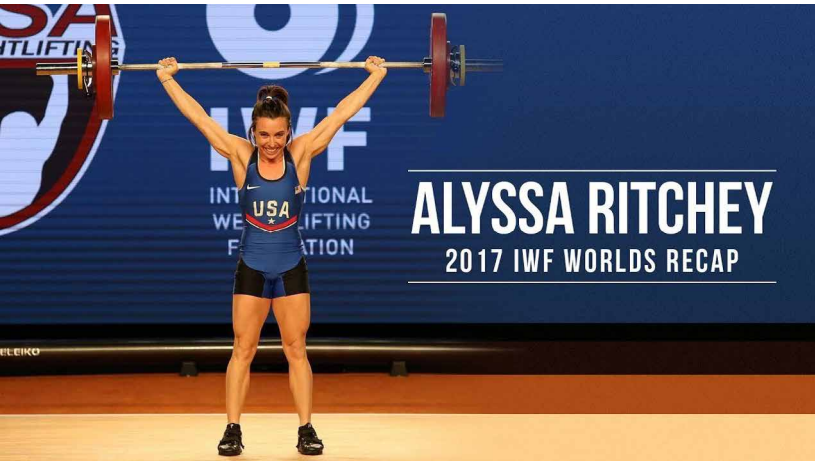
Our team had a great time training for a week in Park City/ Salt Lake City, UT. Check out some big lifts and fun times:



One of the highlights of the 2017 American Open was Quiana Welch breaking the American Record in the Snatch in the 75kg class:



Alyssa Ritchey competed at her first World Championships in Anaheim in 2017:



Join Alexandra LaChance and Quiana Welch for a heavy training session at Black Iron Gym:



The team had a great performance at the 2018 Arnold with 3 athletes competing in the Pan-Am Qualifier session:



In April 2018, our team converged on the Bay Area for a training camp at various gyms, including the awesome University of California Human Performance Center:



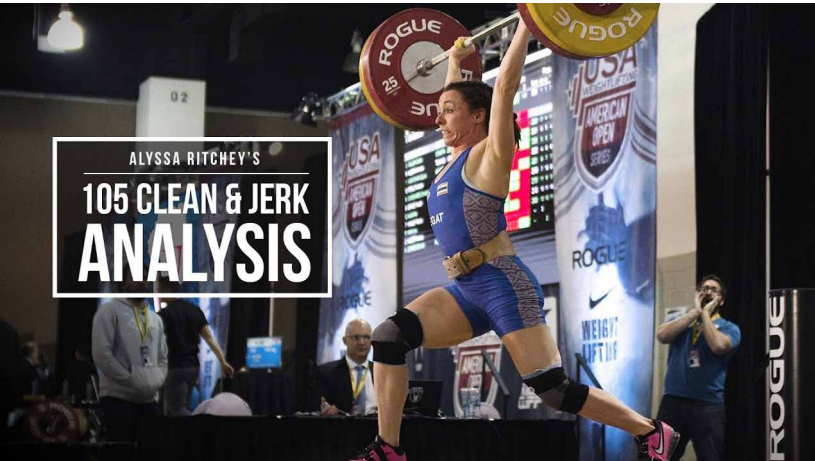
Take a raw look at a heavy training session for the team at Max's Gym:



Alyssa Ritchey, Quiana Welch and Kristi Brewer training hard together in Oakland, CA:



Alyssa had an outstanding performance at the 2018 American Open Championships where she made this huge 105kg Clean & Jerk in the 49kg class:



Alyssa continued her march toward the 2020 Olympics with a record setting performance in winning the 2019 Pan Am Championship, setting multiple American and Pan Am Records in the process:



Are you interested in competing in Weightlifting but not sure where to start? Check out our Guide to Your 1st Weightlifting Meet:



Check out our recap of Team Juggernaut winning the Team Championship at the 2019 American Open Finals in Salt Lake City, UT.



TECHNICAL DEVELOPMENT

Great Weightlifting Technique is a beautiful expression of strength, speed, timing, coordination and mobility. There are many different schools of thought about technique for the lifts that inspire heated debates from athletes and coaches. Max has developed an incredible and objective way to assess technical efficiency in the lifts and from that, better understand where an athlete is lacking and how to systematically address their shortcomings. Learn about The Weightlifting Technique Triad...

[**Click the Video Thumbnail To Watch**](#)

Get an overview of the concept of the Weightlifting Technique Triad:



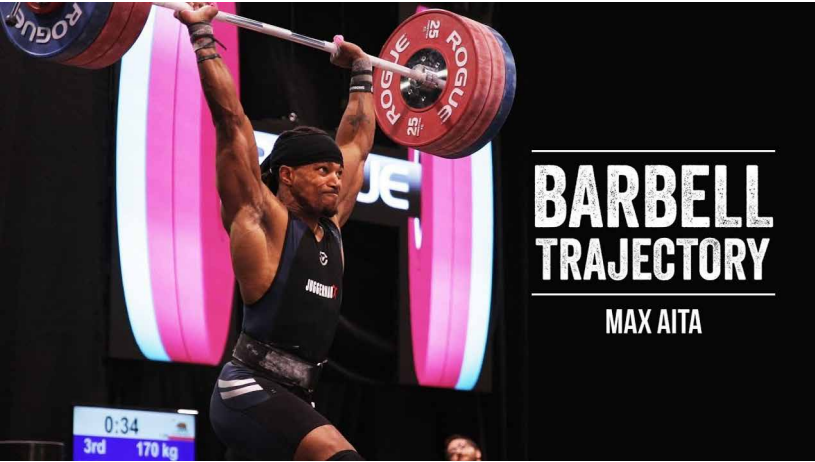
Developing Bar Height is one third of efficient technique in the Weightlifting Technique Triad:



Time to Fixation or the speed and timing you get under the bar with is the next key component to Weightlifting Technique:



Finally, Barbell Trajectory is the third component of the Triad that will lead to successful lifts:



There are many areas in which problems can arise in a lifters technique, in our Weightlifting Troubleshooting series, Max looks at some of the most common issues through the lens of The Weightlifting Technique Triad and prescribes strategies to fix each problem.

Are you able to do more in the Power variations of the Snatch and Clean than you can in the full lifts? Max Aita shows you the cause of this issue and how to solve it:



Is the bar crashing down on your shoulders in the clean, making it very hard to stand up and prepare for the jerk? Max Aita has some solutions for you:



Is the bar hitting or dragging up your shins during your lifts? Max Aita helps you fix that problem:



Are you pushing your jerks out in front of you and having to chase them to the front of the platform? This will help:



Struggling with soft elbows or elbow re-bend in your lockouts? Max Aita is here to show you why it's happening and how to fix it:



If your legs are strong but you are failing to accelerate the bar from your hip, check this out:



Elbows contacting the knees during the catch of a clean can be very dangerous to a lifter, as well as being illegal. Here is how to fix this problem:



If your hips rise too fast compared to your shoulders in the Snatch and Clean you will struggle with a host of technique issues:



A very common issue seen amongst lifters is jumping forward during the Snatch or Clean. Learn why it happens and how to fix it here:



If you have a very strong squat but are lacking the ability to accelerate the bar in the squat, here is how to fix it:



Should you use a static start or dynamic start in Weightlifting? There are great lifters who do both, so Max Aita breaks down the pros and cons to each.



Can you power snatch more than you can full snatch? If you struggle with this relatively common problem, Max Aita is here to help.

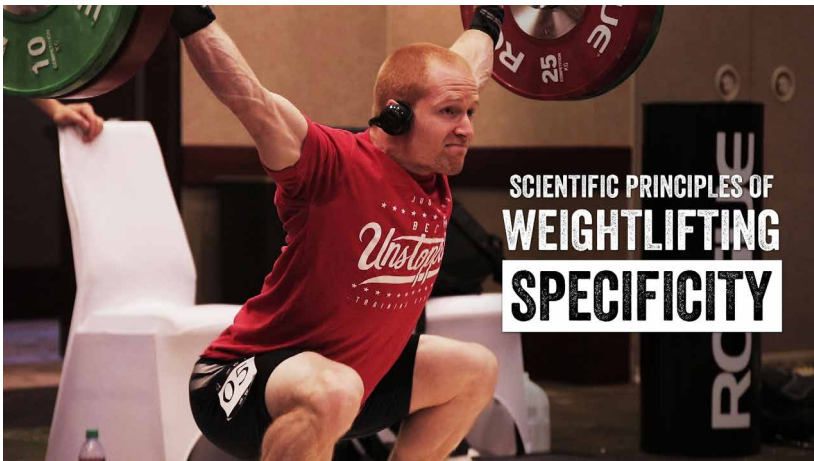


[Click the Video Thumbnail To Watch](#)

PROGRAM DESIGN CONSIDERATIONS

Designing an effective Weightlifting program is a unique challenge as you must strike a fine balance between developing Strength, Speed and Technique. Max Aita has helped us create tons of valuable content to understand how to create better Weightlifting programs. Understand the principles that guide effective programming and see more practical examples of what that programming can look like.

The Principle of Specificity explains what the underlying systems of success in Weightlifting are and creates a framework to guide your program design:



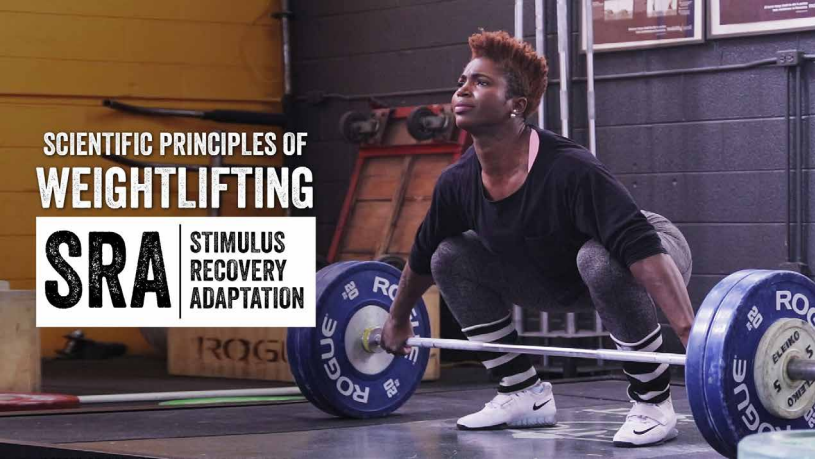
How heavy should you train? How much volume do you need? Max Aita covers that and more in his discussion of the Principle of Overload, as it applies to Weightlifting:



Training hard is important but being able to effectively recover from that training is equally important. Max Aita discusses the Principle of Fatigue Management:



The Principle of Stimulus, Recovery, Adaptation (SRA) will help inform you how to find your optimal training frequency:



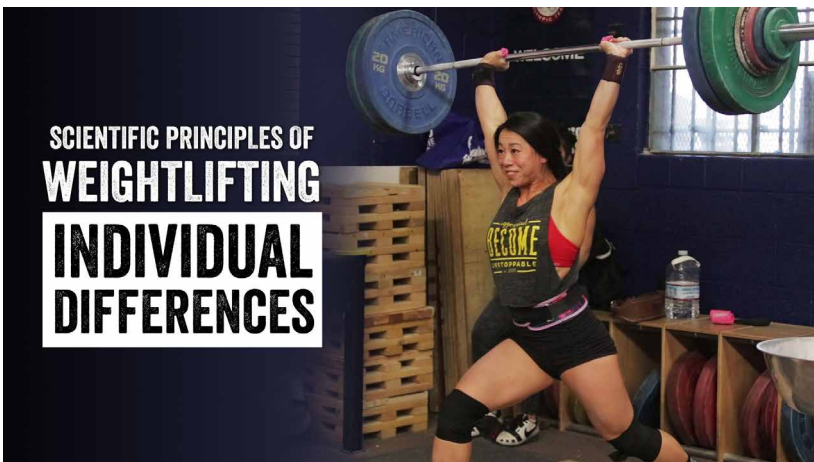
The Principle of Variation, when properly applied, will help an athlete avoid staleness, adaptive resistance and injury, without interfering with directed adaptation:



Properly applied Phase Potentiation increases an athlete's long term abilities through strategic sequencing of training which allows subsequent phases to take advantage of the previously trained qualities:



Max Aita concludes out Scientific Principles of Weightlifting series focusing on Individual Differences and how to adjust the magnitudes of the principles based on each lifters unique needs:



Understanding the principles and theory behind a well organized training plan is important but we know you want to see more practical examples as well.

Max Aita takes a deep dive into his process of organizing training for the Team Juggernaut Weightlifters.

This installment focuses on planning the athletes training over the long term and establishing a phasic structure for sustained success:



Max Aita continues his discussion of the process of organizing training for the Team Juggernaut Weightlifters. This is Part 2 in the series and focuses on how exercises are selected and sequenced based on a lifter's needs:



Max Aita concludes his discussion of the process of organizing training for the Team Juggernaut Weightlifters. This is Part 3 in the series and discusses how intensity and volume are assigned and managed for different lifters:



A big squat is coveted by Weightlifters across the World but succeed in the classic lifts requires leg strength that goes beyond just a strong squat:



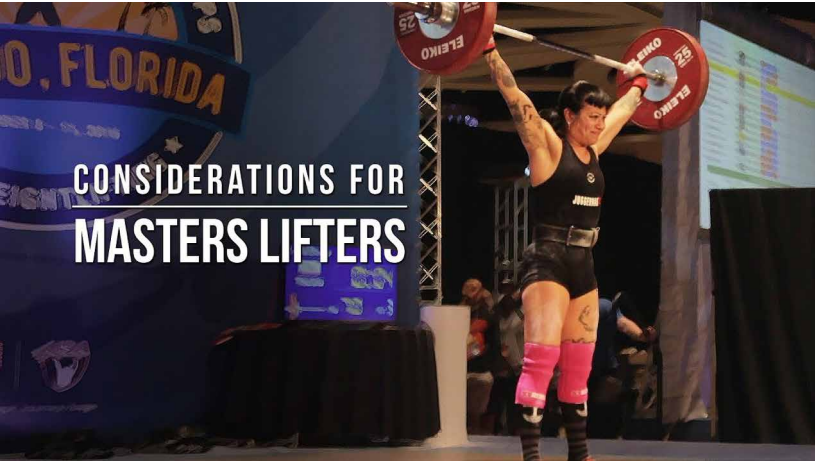
Max continues his discussion of Developing Leg Strength for Weightlifting with a look at his favorite methods and means:



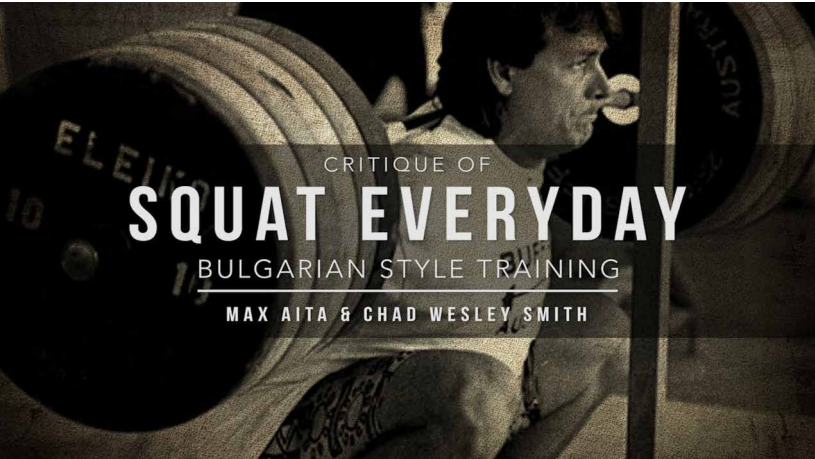
Much attention is given to the specific training of the Snatch and Clean & Jerk, as well as Squats but General Training is also an important facet of long term success:



Juggernaut has been particularly successful in helping the ever growing demographic of Masters Weightlifters. Max and multiple time Masters National Champion Jo Ann Aita discuss some specific considerations for older athletes:



Max had the unique opportunity to train under the most notorious Weightlifting coach of all-time in Ivan Abadjiev. He and Chad take a Principle by Principle look at the utility of the Bulgarian/Squat Everyday type of training:



Everybody, even the best lifters in the World, miss lifts, how you respond to those misses is what will dictate who is successful and who is not. Max Aita discusses how Team Juggernaut adjusts to missed lifts in training.



The Scientific Principles of Strength Training are universal but each lifter's unique characteristics, their Training DNA, changes how they are expressed in the athlete's program. Max Aita discusses this concept for Team Juggernaut's weightlifters.



How should you train right after a meet?

Max Aita discusses the value of Transitional Phases and how to implement them into training.



Designing an effective taper is a balancing act between decaying fatigue and maintaining fitness to ensure that you can put forth your best performance on the platform, where it counts. Max Aita discusses the considerations he makes when tapering Team Juggernaut athletes.



Effective weight cutting can make or break your meet performance. Max discusses how Team Juggernaut approaches their weight cutting and meet day nutrition protocols.



You've trained hard, you cut weight and now you're in the backroom ready to get on the empty bar. Max Aita gives you his strategies to warm up and make sure you're timing properly relative to when you'll take your opener.



Picking the right attempts can be the difference between winning a meet and losing, Max Aita weighs in with Team Juggernaut's attempt selection strategy.



SUPERTOTAL

The SuperTotal is a combination of all three Powerlifts (Squat, Bench and Deadlift) along with the two Olympic Weightlifting movements (Snatch and Clean & Jerk). Training for simultaneous success in all of these movements requires a program that is cleverly constructed to allow for strength development while also building speed, mobility and technique. Juggernaut's Max Aita is uniquely qualified to prepare athletes in both of these sports, as he is the only coach in history to develop both USAPL and USAW National Champions, as well as American Record holders in both Powerlifting and Weightlifting, plus Senior World Team competitors in both sports. Here is some of our best content on the topic of developing the SuperTotal.

To begin to understand what will go into a great SuperTotal, you must first understand the similarities and differences in Powerlifting and Weightlifting:



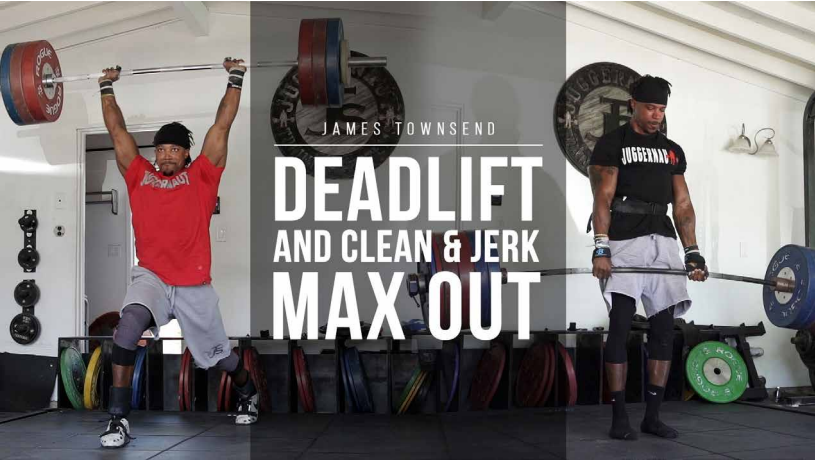
Take an in-depth dive into all things SuperTotal Training:



At the 2019 Arnold Sports Festival, USAPL National Champion and American Record holding powerlifter Meg Scanlon competed one day in Weightlifting where she qualified for USAW Nationals and another day she set PRs across the board in Powerlifting:



SuperTotal King James Townsend goes heavy in the Clean & Jerk and Deadlift, hitting some huge numbers.



Max Aita explains how Powerlifters looking to begin SuperTotal Training (Powerlifting & Weightlifting combined) should structure their training.





[**Click the Video Thumbnail To Watch**](#)

MOBILITY

Whether you are a Powerlifter, Weightlifter, Strongman, any other kind of athlete or just trying to look and feel your best, improving your movement will benefit you. Dr. Quinn Henoch of ClinicalAthlete.com has been a long time contributor to Juggernaut and has helped so many of our athletes rehab from injuries and improve their performance. Check out some of our best content regarding Mobility and Movement.

Let's lead things off with a behind the scenes look at a session Dr. Quinn lead our Weightlifters through to help them better understand the relationship between Mobility and Stability:



So much attention is placed on Mobility, while Stability doesn't quite get as much attention but in this 2 part series, Dr. Quinn answers the important question...

WHAT IS TIGHTNESS?



AND EXPLAINS WHY STRETCHING ISN'T THE ANSWER:



There are many methods and modalities that are popular in the training world to improve mobility but many of them aren't backed by research. Dr. Quinn's Mobility Myths series aims to show you what the reality is behind some of these issues:

MOBILITY MYTHS BUTT WINK:



MOBILITY MYTHS SCAPULAR WINGING:



MOBILITY MYTHS FOAM ROLLING:



MOBILITY MYTHS STATIC STRETCHING:

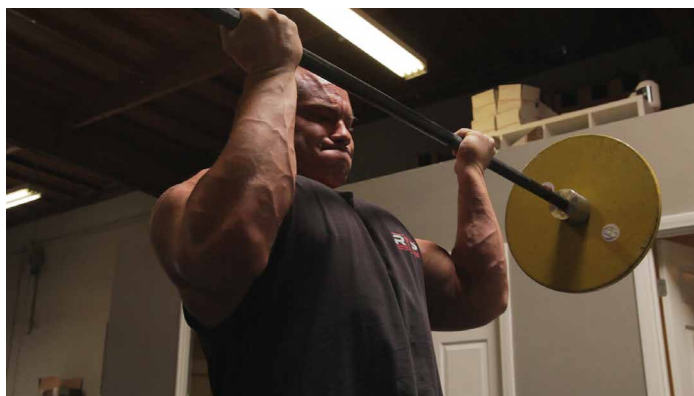


Sciatica can be a debilitating issue that derails your training and general quality of life. Marisa Inda dealt with Sciatica after winning the 2017 IPF World Championship and in this video, she and Dr. Quinn explain what can cause this issue and how to deal with it:



Quinn has been a guest several times on The JuggLife Podcast, here is one of our favorite episodes with him:





[Click the Video Thumbnail To Watch](#)

BUILDING MUSCLE

Most people's first reason for lifting weights is to build muscle. Whether you saw an Arnold Schwarzenegger movie and got inspired or just wanted to be bigger and stronger, building muscle is the goal for many. Dr. Mike Israetel has created tons of great content for Juggernaut and here are some of his greatest hits in regards to Building Muscle.

Let's set the stage with a great episode of The JuggLife Podcast in which Mike joins Chad and Max to discuss Scientific Muscle Building:



There is a lot of information around the internet regarding how to best build muscle, some good information and some myths. In the following series, Dr. Mike debunks some of the most persistent myths regarding muscle building.

MYTH OF BRO SPLITS:



MYTH OF PARTIAL ROM:



MYTH MAGIC EXERCISES:

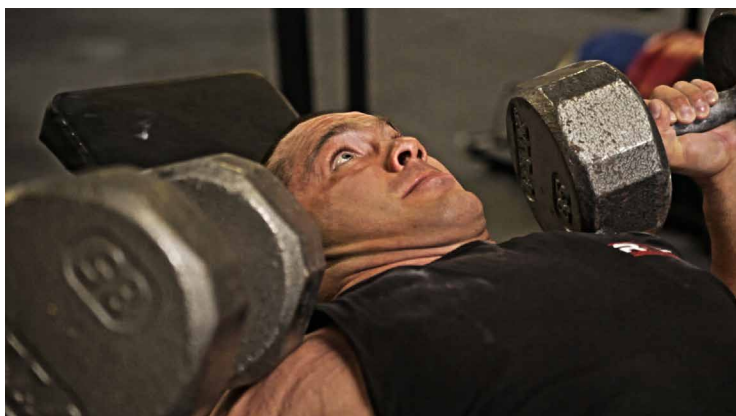


MYTH OF CHEAT REPS:

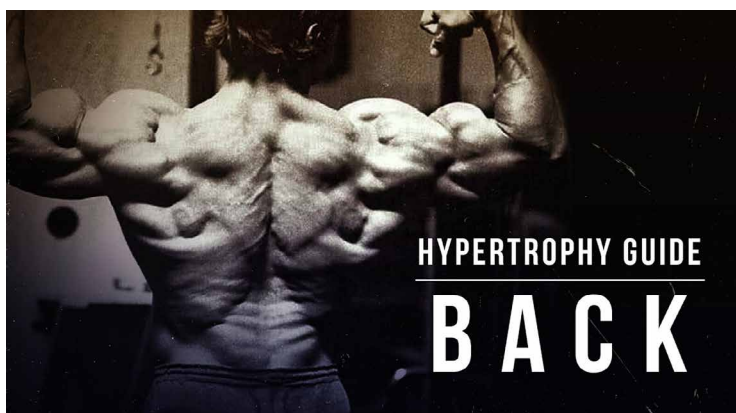


Dr. Mike has helped popularize the concept of Volume Landmarks such as Minimum Effective Volume and Maximum Recoverable Volume into the training lexicon. In our Hypertrophy Guide series he goes bodypart by bodypart to help you understand best practices of volume, intensity, periodization and exercise selection in regards to building muscle.

HYPERTROPHY GUIDES CHEST:



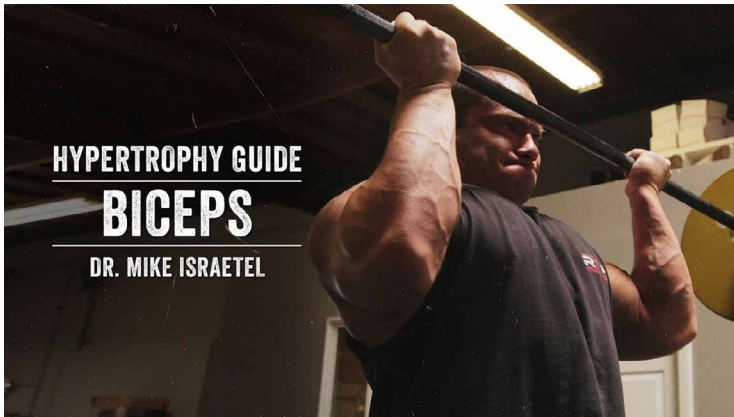
HYPERTROPHY GUIDE BACK:



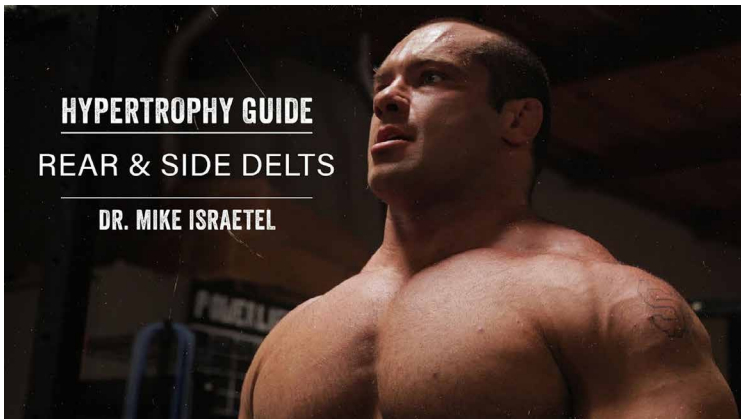
HYPERTROPHY GUIDE TRICEPS:



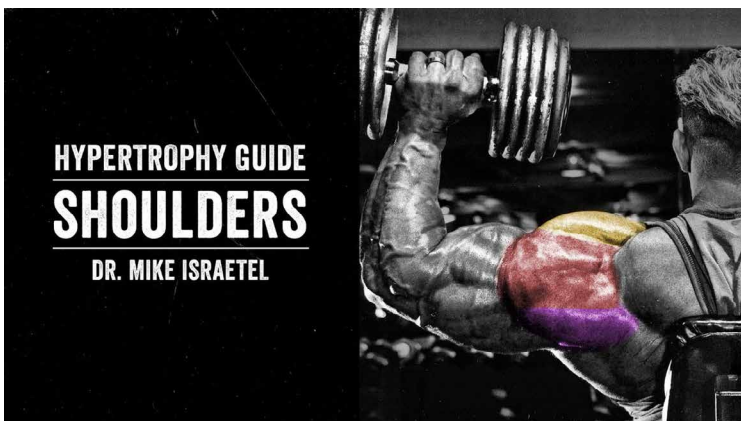
HYPERTROPHY GUIDE BICEPS:



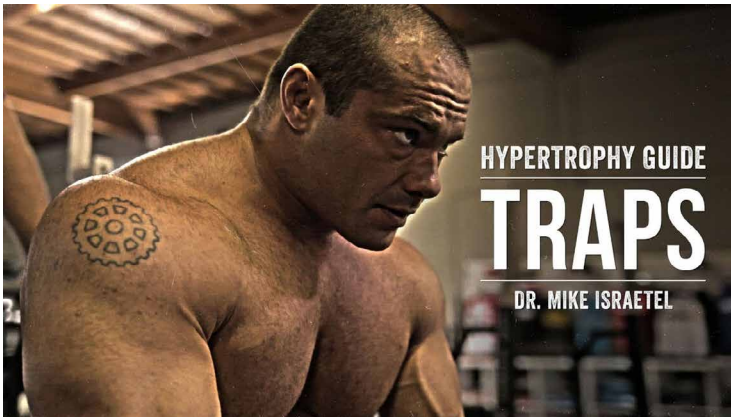
HYPERTROPHY GUIDE REAR DELTS:



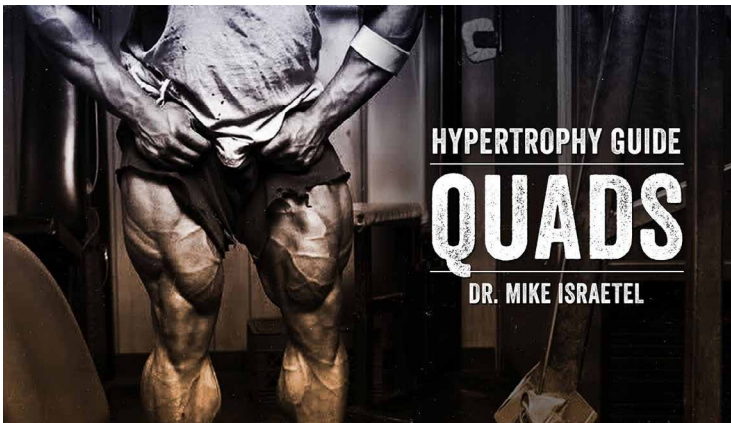
HYPERTROPHY GUIDE FRONT DELTS:



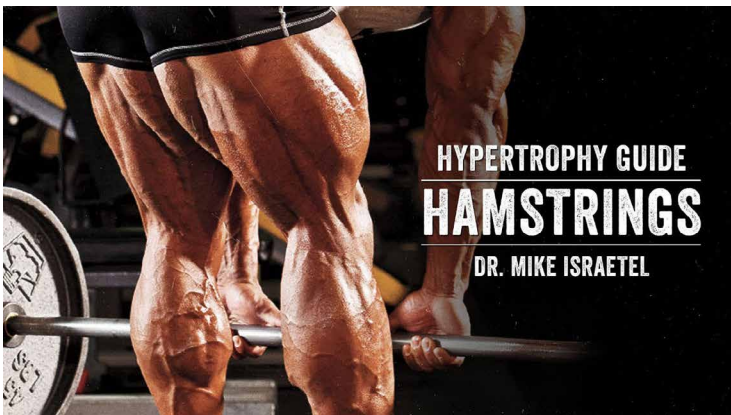
HYPERTROPHY GUIDE TRAPS:



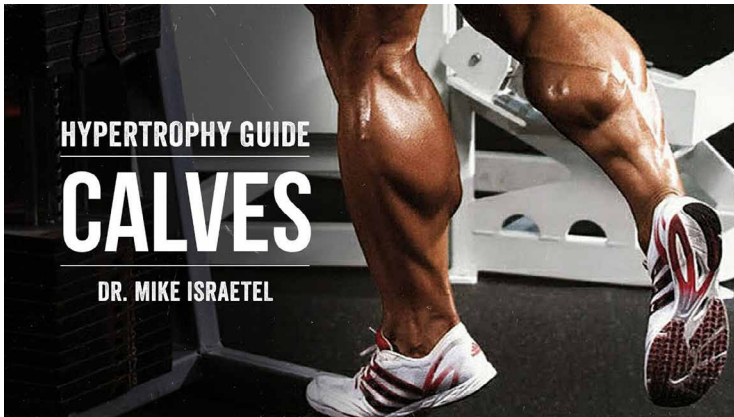
HYPERTROPHY GUIDE QUADS:



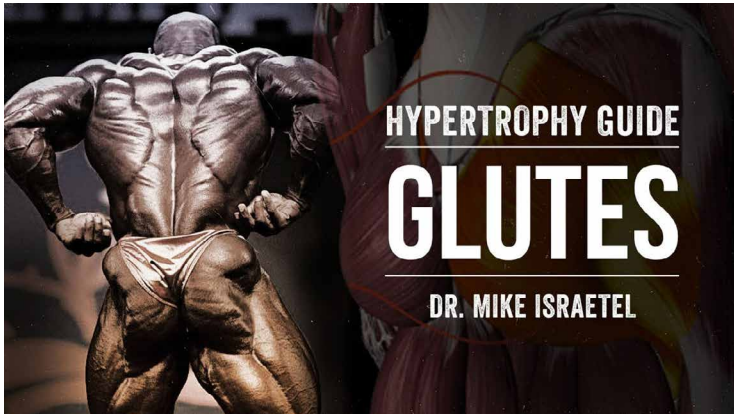
HYPERTROPHY GUIDE HAMSTRINGS:



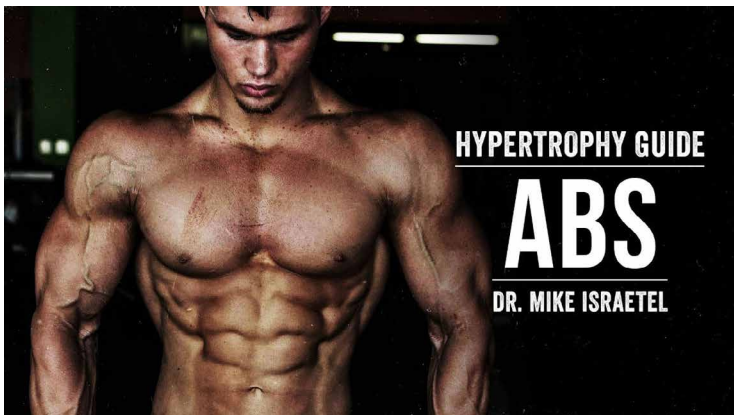
HYPERTROPHY GUIDE CALVES:



HYPERTROPHY GUIDE GLUTES:



HYPERTROPHY GUIDE ABS:





Looking to pack on muscle, sculpting an aesthetic physique with strength to match? Juggernaut's revolutionary A.I. Coaching system now has a Powerbuilding plan to compliment our popular Powerlifting training. Juggernaut A.I. Powerbuilding powered by SkyNet (patent pending) will develop strength in the Squat, Bench and Deadlift while also emphasizing adding muscle and building a balanced and powerful physique.



[Click the Video Thumbnail To Watch](#)

SPORT PERFORMANCE

Improving your performance in a specific sport requires understanding the unique demands of that sport and being able to construct a training plan that balances sometimes opposing demands against each other. Sport skill, strength, speed, power and conditioning qualities are all needed to maximize sport success and with our best Sport Performance content, you will better learn how to develop them all.

What do athletes need to focus on to succeed?

Understanding the movement and energetic demands of different sports and different players within those sports is critical to maximizing the effectiveness of their training:



Speed and Power qualities are likely the most important abilities for an athlete to develop for sporting success:



Which exercises are best to improve sport performance?
Understand how to classify and select exercises specific to your sporting goals:



Develop the right energy systems in the most efficient ways to help your athletes improve their performance:



To conclude our Sport Performance Pillars series we talk about how to structure these different training modalities within a training week, mesocycle and annual plan:



Many coaches work with Youth Athletes and when you are given the opportunity to influence a young athletes career, doing so the right way is extremely important.

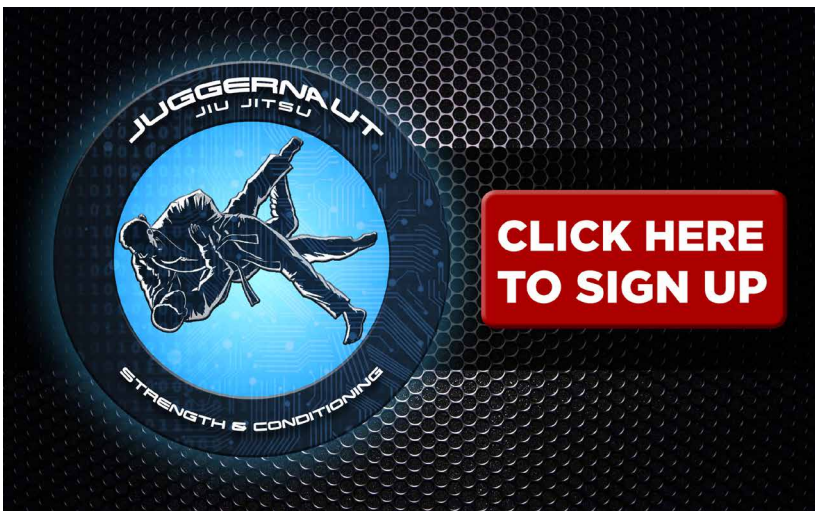
Dr. Mike Israetel discusses the issues with Early Specialization for young athletes:



In this episode of The JuggLife Podcast, Chad and Max discuss strategies to help athletes maximize their long term training success:



Interested in Becoming A College Strength Coach?
University of California Director of Strength & Conditioning
Mike Blasquez shares some advice:



[Click the Video Thumbnail To Watch](#)

NUTRITION AND RECOVERY

Training hard in a well structured plan is very important but if you aren't fueling your body properly and paying attention to your recovery, getting the results you're after will be nearly impossible. We've put together some of our best content regarding Nutrition and Recovery to help you reach your goals.

Some recovery methods are better than others, some are more well suited for different situations. Dr. James Hoffmann outlines all the important concepts to understand regarding Recovery Adaptive Strategies:



In regards to Nutrition to fuel performance, Calories should be your #1 Priority:



There is much debate about Protein, how much do you need and what kinds are best:



The hardest training requires the right fuel, Carbs The Training Fuel:



Supplements get a lot of attention in regards to nutrition but What Supplements Work?



The Keto Diet has become wildly popular in the last few years, but is it right for athletic performance?



The best designed training plans will have different phases dedicated to different goals, and so should the diets to compliment them:



While it may be tempting to cut a lot of weight, it can present problems if you try Losing All Your Weight At Once:



How bad is sugar for you really? Dr. Mike Israetel and Nick Shaw of Renaissance Periodization tell us:



Dr. Mike Israetel of Renaissance Periodization breaks down the foundational concepts of how to design a mesocycle aimed at improving Hypertrophy. Look for the Scientific Principles of Hypertrophy book coming later in 2020.



Dr. Mike Israetel of Renaissance Periodization breaks down some strategies of how to provide overload stimulus over the course of a mesocycle as you pursue Hypertrophy.



Dr. Mike Israetel of Renaissance Periodization breaks down the relationship between maximizing stimulus and minimizing fatigue and how reps in reserve can guide this.



Dr. Mike Israetel of Renaissance Periodization discusses how to optimize Nutrient Timing to maximize Hypertrophy gains.



Dr. James Hoffmann of Renaissance Periodization discusses the role of Hypertrophy in training for Sport Performance.



Dr. Mike Israetel of Renaissance Periodization discusses the relationship between muscle damage and muscle growth when training for hypertrophy.



Dr. Mike Israetel of Renaissance Periodization discusses how to evaluate your rest periods when training for maximum muscle growth.



Dr. James Hoffmann of Renaissance Periodization discusses some specific considerations for recovery when your goal is Hypertrophy.



We hope you enjoyed this and were able to learn some new information to help your training. If you're looking for coaching, we have several options to help you out.





Take a deeper look into our best training information with our most popular books.



