A THOUGHTFUL PURSUIT OF STRENGTH

JUGGERNAUT TRAINING

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ABOUT THE AUTHOR

Chad Wesley Smith is the owner/founder of Juggernaut Training Systems and one of the most accomplished strength athletes of recent years. With a background in track and field, Smith took his 2 collegiate national championships and continued his success in powerlifting and strongman. In powerlifting, Smith owns current PRs of 435kg/959# squat with wraps, 380kg/848# squat in sleeves, 257.5kg/567# bench press and 367.5kg/810# deadlift, as well as Top 10 totals all-time with wraps and without at 1050kg/2314# and 1010kg/2226# respectively. Smith also earned his professional status in Strongman by a landslide victory at the 2012 North American Strongman Championships. As a coach, Smith has helped over 50 athletes earn Division 1 athletic scholarships and worked with athletes in NFL, UFC, MLB and Olympics, as well as having numerous world-class powerlifters.

MY PURSUIT OF STRENGTH

Strength has always fascinated me, starting at a young age I always knew that I wanted to be strong. From the time that I answered a Sunday School teacher that I wanted to be Goliath instead of David or when I began training myself for youth football by bungee cording myself to a tree in the backyard to run resisted sprints at the age of 8, strength and training has been my passion.

From my background in the shot put, to more recently powerlifting and strongman, I've been fortunate to be able to compete at a high level and discuss strength with some of the World's best coaches and athletes and continually gain new insight into how to best develop strength, power and speed.

In this book, I want to share with you the lessons of the last 15 years of my training career and to not just give you sets and reps, that while effective would only last a few months, but to share with you the ideas that drive my program creation to help build stronger, faster and better athletes.

There are four encompassing ideas that I use to guide training for myself and my athletes regardless of sport. First, we must Understand the Goal. Second, that goal must be pursued with thoughtfulness, passion and diligence. Third, we must be honest with ourselves throughout the process and fourth, we have to plan for the long haul.

CHAPTER
01

UNDERSTANDING THE GOAL

Without a goal, we can't create a plan, as it is that goal that will give our plan context. That goal will create the framework for all the other decisions we make regarding how to best pursue it. We must ask ourselves with every decision, 'How Is This Going To Help Me Reach My Goal?' and if we can't simply answer that question, then we should reevaluate why we are doing it because it would lack specificity to our goal and it is specificity that is the most important of all training principles.

> Specificity means that training is directed towards developing the necessary systems of the sporting task.

Training the muscles and movements (direction, duration, velocity) related to success in a given sport is an important part of specific training.

PYRAMID OF STRENGTH

Consider a pyramid: broad at the base and narrow at the peak. This is the concept that you must understand when considering exercise selection.

The base of the pyramid is broad, it is occupied by the most athletes (beginners), and it can fit the most exercises. When an athlete first begins their training, there is a very large pool of exercises that can help them improve. Think back to your first months of training the squat and all the things that would cause your numbers to go up; squat, front squat, box squat, leg curls, back raises, lunges... and the list goes on. This is true in the narrow context of a single exercise or physical quality, as well as the broader sense of developing overall athleticism for the youth athlete. The young athletes - those at the base of the pyramid - need to be exposed to a wide variety of movement patterns so they can develop general abilities (GPP) before progressing to more specific means (SPP).

Let's take a moment to consider what is the actual goal of different sports:
Powerlifting: Achieve the Highest 1rm in the Squat, Bench and Deadlift within the context of competition.

Weightlifting: Achieve the Highest 1rm in the Snatch and Clean & Jerk within the context of competition.

Football: Be the best football player possible.

CrossFit: Be the best CrossFitter possible.

Strongman: Be the best Strongman possible.

You are probably reading those and thinking, “Of course, those are very simple,” but as simple as these goals seem to be, there are coaches and athletes constantly losing sight of these goals with their training. Let’s take powerlifting for example, to be the best powerlifter you must insure that all of your training is aimed towards increasing the size and strength of the pertinent muscles to performing your lifts, as well as maximizing technical prowess and the fitness-fatigue relationship on the specific competition date.

Ilya Ilyin, one of the greatest weightlifters of all-time, shared a story about his start in weightlifting at a seminar I was able to attend at Waxman’s Gym in December 2013. Ilya, through a translator, told us that he began training for weightlifting at 6 years old and that he ‘would run around the

gym and do all the exercises.' When Ilya was at the base of the pyramid, he performed a broad spectrum of exercises, all of which built his strength and laid the foundation for his eventual Olympic success. Ilya's broad pool of exercises allowed him to develop a wide scope of abilities. Developing a broad base is key for new athletes.

> Just because there are tons of exercises that can contribute to your success early in your lifting career, that doesn't mean you should just do them all.

While developing a well rounded skill set is key, doing too many exercises can become detrimental to technical development. Sport practice is still the most important thing in any athlete's success, and if your goal is to squat, bench, or deadlift more then you need to practice the squat, bench, and deadlift. I would suggest rotating your exercise variations while keeping the primary movement omnipresent. For example:

Week 1 — 6

- Squat, Front Squat, Wide Stance Squat
- Bench, Incline Bench, Floor Press
- Deadlift, Sumo Deadlift, Pause Deadlift

Week 7 — 12

- Squat, Olympic Squat, Box Squat
- Bench, Closegrip Bench, Reverse Grip Bench
- Deadlift, Deficit Deadlift, Trap Bar Deadlift

Week 13 — 18

- Squat, Pause Squat, Front Box Squat
- Bench, Widegrip Bench, Bench Paused Off Chest
- Deadlift, Block Pull, Medium Stance Sumo Deadlift

Rotating exercises in this fashion will allow you to develop your technique and specific strength in the competitive lift while also developing the general, well-rounded strength you'll need for long term success.

For the novice strength athlete, hypertrophy is almost always the most lacking quality that is limiting their success, as well as technical prowess, so these athletes will want to use a fairly small pool of exercises (but those athletes can have broad variation) and spend the majority of their time training at high enough volume to induce hypertrophy.

The tip of the pyramid is narrow and focused, occupied by the most elite athletes of their respective sports. Very few exercises can fit onto the top of the pyramid. In fact, the tip will only be occupied by the competitive exercise at varying intensities.

In powerlifting, Andrey Malanichev lives at the top of the pyramid; totaling 2469 pounds raw with wraps, Malanichev's training is devoid of variance- rather he squats, benches and deadlifts exclusively.

We discussed earlier how Ilya Ilyin, when he entered the training world at the age of 6 at the base of the pyramid, did an extremely broad and generalized program of 'running around the gym and doing all the exercises.' By the time he was 18, he 'had no relative weaknesses' and went to a Bulgarian System style of training, training multiple sessions per day with only the snatch, clean & jerk, and squat.

It is important to understand that you and I are not Ilya or Malanichev, and the degree of specificity that they use in their training isn't necessary for us. This is one problem that the internet has caused in training - access to what the absolute best in the World are doing. It is natural to be interested in what training the strongest athletes in the World are doing, but you need to be interested in what they did to get there; not what they are doing now, but rather what they did 5, 10 or 20 years ago.

If you were to train only the competitive lifts for 1 rep at all times, you may make very rapid progress but that progress would soon halt and you'd be limiting your ultimate potential because of a failure to utilize variation in the form of higher reps to build more muscle and other variations that will allow you to build a broader base and more well rounded strength on which to build a high pyramid of strength.

So if you aren't Andrey Malanichev and you aren't stepping into the gym for the first time ever, how do you know how qualified you are and how

much specificity you should be using? Well, within the context of this article it is very difficult for me to assess your qualifications, so I wont try to make a claim like “if you can lift X amount then you are at this level” or “if you have been lifting for X amount of years then you are at this level” because such statements simply aren’t universally true and they leave too much room for error.

I will just tell you to be honest with yourself, and wherever you think you fall in this pyramid, you’re probably a little bit lower than that.

Make sure to consider qualification within the context of the entire world of your sport, not just your gym or friends. You also must consider your own potential (which is admittedly difficult to analyze). Obviously not everybody has the genetics to become the greatest of all-time.

What makes one exercise more specific than another? Specificity is characterized by similarity in the direction, duration and velocity to the competitive exercise. More simply, the more it looks like the competitive exercise, the more specific it is. While this idea is simple to understand, its application is anything but obvious and straightforward, especially for sports. Take, for example, a football offensive lineman, for whom pushing a sled is clearly more similar to the sport than a bench press; this concept is a bit more difficult to see within such a context.

A cambered bar box squat and an Olympic squat are both squats and there are many similarities between them, but what makes one more specific to the competitive lift than the other? Both lifts change the leverage point of the lift and both likely change the depth you are

squatting to, but common sense and intuition tell us that the Olympic squat is more similar to the majority of raw lifters squatting style than a cambered bar box squat is.

> A simple rule of thumb is that if the variation requires something beyond your body, a straight bar and plates (ie. Specialty bar, box, bands, chains, boards) it is likely less specific to the competitive lift.

The most important and only irreplaceable component of training for any sport is practicing that specific sport. You can be a great football player without doing cleans or bench press, but you must practice football. You can be a great powerlifter without reverse hypers and good mornings but you must squat, bench and deadlift.

The competitive movements, to competitive standards (straight bar, straight weight, competition depth/commands, for 1rm) is the most specific training that you can do and will have the highest carryover to your success. It is however, certainly possible to do too specific of training and that seems to be a more and more common mistake that lifters are making.

TRAINING THE YOUTH ATHLETE

The long-term development of the athlete is a broad issue, but there are three primary factors to focus on to ensure you maximize your young athlete's long term potential.

1. Focusing on development of athletic traits in the absence of competition.
2. Developing a wide range of motor patterns and physical attributes.
3. Maximizing explosiveness and neural wiring.

DEVELOP ATHLETIC TRAITS IN THE ABSENCE OF COMPETITION

If you've ever watched an AYSO soccer game you'll understand how the idea that young athletes need to be removed from competitive situations was galvanized in me. Competition, and with it the fear of losing (which is usually much more of an issue for parents than kids), creates an environment that isn't conducive to technical development. What is the point of trying to be the best soccer player (or any other sport), when the components of the sport (sprinting, passing, etc) can not be properly executed? Placing an emphasis on winning at this point causes coaches to focus on developing strategy and pursuing short term success at the expense of long term skill acquisition, setting a lower ceiling on athlete's ultimate potential.

Zygmunt Smalcerz, head weightlifting coach at the Olympic Training Center, told us about a clever system that his home country of Poland employs to develop young lifters' technique. Polish lifters are allowed into traditional competition at the age of 14, but up until that point the lifters compete with standardized weights (50% of bodyweight in the snatch and 75% in the clean

& jerk) and the winner is determined by how proficiently the technique is executed, with scoring working similarly to gymnastics or diving.

Now of course, the idea of Americans abandoning formal competition for kids is probably unrealistic, but if you work with young athletes or you are the parent of one, I implore you to put competitive success on the back burner and focus on physical and technical development which, while such a focus may limit the number of wins you achieve in the pee wee division, will significantly impact competitive success as the athlete matures — when success actually matters.

DEVELOP A WIDE RANGE OF MOTOR PATTERNS & PHYSICAL ATTRIBUTES

One of the most significant issues facing the development of young athletes is early specialization, which robs them of general motor pattern development-limiting athletic potential and potentially leading to burnout.

The fundamental attributes which constitute athleticism are:

- -Mobility
- -Balance
- -Coordination
- -Kinesthetic Sense
- -Rhythm
- -Relaxation
- -Timing

Developing this broad sense of athleticism requires athletes to train in a variety of manners and for the young athlete (early school years), this will be best achieved through a combination of swimming, gymnastics, and track and field, while also recreationally playing various ball sports and typical playground games.

PUT COMPETITIVE SUCCESS ON THE BACK BURNER, FOCUS ON PHYSICAL & TECHNICAL DEVELOPMENT.

Gymnastics is unparalleled in its ability to develop athleticism and can be introduced shortly after a child gains the ability to walk. Gymnastics will create the greatest foundation for athlete's to build future skills on, regardless of their ultimate sport of choice.

Swimming is foundational because it can be introduced before walking and develops all of the above qualities due to the uniqueness of being able to smoothly and efficiently move through water.

Track and Field is the final piece to the trifecta of youth athletic success. Sprinting, jumping and throwing are foundations of athletic movement and that's what you do in track. So how can you go wrong? Personally, I know that starting track at age 8, as both a sprinter and shot putter, laid a foundation of success for me and helped me be a much more efficient sprinter than my offensive/defensive linemen counterparts in football.

Olympic Gold Medal Weightlifter Ilya Ilyin described the beginning of his weightlifting training at age 6 years old as "running around the gym and doing all the exercises." What this exactly means is up for debate, but I would venture to say that it meant he did a combination of weightlifting drills, gymnastics, swimming, track and field drills, bodyweight exercises and played games.

This very general training background laid the foundation for one of the most powerful and coordinated athletes of all time.

These three sports, along with other random play in ball sports and playground games, will build general movement qualities and coordination that will allow them to more quickly acquire athletic skills in whatever endeavor they choose. Early specialization may yield short term results and help your child become the best 11 year old baseball player in the county, but by only developing movement patterns specific to one sport you are ultimately capping their potential by limiting their coordination, kinesthetic sense and other athletic qualities.

MAXIMIZING EXPLOSIVENESS & NEURAL WIRING

The final step in setting up a young athlete for long-term athletic success is to ensure that you are maximizing their ability to develop maximal force and power, getting the most out of their nervous system and fast twitch fibers.

This is best achieved through avoiding extended duration, high-intensity work and focusing on high quality, high speed movement.

Long duration (>8 sec) high intensity efforts or incomplete recoveries between high intensity efforts (ie. Gassers, suicides, 300yd shuttles) will put the athlete into a highly lactic state, causing a set of highly specific adaptations that aren't highly beneficial for most sports. Rather than training the athlete to maximize force output at 100% intensity, it trains the athlete to be able to maintain relatively high intensity for long periods of time. This may be beneficial for an aspiring middle distance runner, but most sports simply don't rely heavily on this energy system.

If you watch elite athletes in almost any sport, you see short all-out bursts,

interspersed with longer periods of light jogging or standing around. The two extremes - very powerful bursts, and a general aerobic base - are much more important than the middle ground of training lactate clearance. Don't waste time that could be spent reinforcing maximal power development, by bastardizing it to instead train an energy system that's not terribly important for most sports.

Something to consider from the great Charlie Francis, is that when using track and field drills for the youth athlete is that what may be considered pure speed work for the adult (the 100m) would actually be more of a speed-endurance effort for the young athlete. The young athlete who excels in the 100m, is likely to grow up to be the best 400/800m runner, so when looking to develop speed in youth athletes focus on distances <30m.

Learning to move efficiently is the main target of training for the young athlete and this needs to be done in completely rested states at submaximal intensities. This will ensure that proper mechanics are achieved, setting the athlete up to intensify the correct movement patterns over time. Your athletes have years to add velocity and resistance to movements, the early stage of their training careers is the time to ensure proper mechanics are learned.

The proper training of youth athletes can set them up for a lifetime of success, while improper training in the formative years can cap their ultimate athletic potential. This article is just a brief introduction to some of the foundational concepts of setting athletes up for long term success.

I want to say a special thank you as well to **James Smith** whose training ideas and mentorship helped form much of my thinking about these topics. Thanks James.

EXERCISE SELECTION FOR SPORT PERFORMANCE

Exercise selection is a bit more conceptual idea than it is for strength sports, since there are no barbells on the field of play for basketball, football, etc essentially everything in the weightroom is GPP for the athlete but is still of tremendous importance.

Front squats are more functional. You never are below parallel on the field, so why do it in the weightroom? Closegrip bench transfers better to the field.

These and many more arguments are often put forth by strength coaches to justify their exercise selections with non-strength sport athletes. None of these reasons are wrong, none of them are necessarily right either, so I want to examine my criteria for exercise selection for athlete to help you make better informed decisions when creating programs for yourself and your athletes.

1. Can the athlete execute sound technique in the movement?
2. Can the athlete produce a significant output in the movement?
3. Does this exercise fit into the primary goal of the athlete's training program?

Before we discuss each of these points more in depth, let me touch on a problem I often see that relates to all of them. Be wary of coaches/trainers who are a 'Something Guy', someone who is dogmatically entrenched

in a specific training style or tool, an Olympic lifting guy, Westside guy, Kettlebell guy, powerlifting guy, strongman guy, CrossFit guy, whatever guy. None of these things are inherently bad or incorrect, but when the only tool you have is a hammer, every problem looks like a nail. A coach needs to equip themselves with multiple sound strategies and modalities to help their athletes. I'm particularly mindful of this issue as it would be simple for me to fall into being a powerlifting guy or strongman guy but doing so would be a disservice to my athletes as they do not compete in powerlifting or strongman and shouldn't be trained as such.

1. CAN THE ATHLETE EXECUTE SOUND TECHNIQUE IN THE MOVEMENT?

Whether it is due to mobility issues, unique leverages or relative weaknesses there are some exercises that certain athletes will not be able to safely perform and if this is the case, no matter how good or 'functional'

you believe that exercise to be, it is not a good choice for that athlete. I say 'functional' because that term is thrown around often but also misunderstood. A football players function is to play football, a sprinters is to sprint, a baseball players is to play baseball, none of these tasks involve a specific type of squat or bench as part of the sporting requirements, so do not come under the idea that an athlete MUST do a certain exercise to succeed.

If mobility or relative weakness issues are holding an athlete back from doing certain movements that will enhance their sporting success, of course you should be working to correct those problems but you must work on these things within the context of the entire program and during the process of this you will most likely need to utilize either different exercises or exercise variations that they can currently execute well. You also must balance the technical development of a lift and if taking time to learn the technique is a worthwhile endeavor for the athlete. This issue will most often arise with the Olympic lifts.

DO NOT COME UNDER THE IDEA THAT AN ATHLETE MUST DO A CERTAIN EXERCISE TO SUCCEED.

2. CAN THE ATHLETE PRODUCE A SIGNIFICANT OUTPUT IN THE MOVEMENT?

A significant output is needed to create stimulus for the training process. If an athlete can't produce a significant output aka they suck at the exercise, then it will not yield enough stimulus to warrant including in a training program.

Some exercises, good exercises, will not be good for certain athletes because they are just not good at them. Whatever the reason is doesn't really matter, if the athlete sucks at an exercise, it isn't worth doing. Something to consider when choosing your exercises, is that creating too large of an exercise pool will limit your athletes' ability to gain enough skill in any of the lifts to produce significant outputs. These athletes aren't competitive lifters and because of that are not highly skilled lifters (even though some of them may be very strong) and because of this will struggle to adapt to too many exercise variations, so choose wisely.

3. DOES THE EXERCISE FIT INTO THE PRIMARY GOAL OF THE ATHLETE'S TRAINING PROGRAM?

Football players play football, basketball players play basketball, MMA fighters fight and so on. Sport practice is king in the athlete's training program and nothing should interfere with this, only enhance it. Of course at different parts of the year, different things will take priority in the training plan but when sport practice is present, it must be the top priority. One very important thing to consider in this regard is the amount of stress an exercise imposes on the athlete vs its benefit to their development.

Squat, bench, deadlift and Olympic lifting variations are general exercises to the non-strength athlete, meaning that there degree of transfer is relatively low and the transfer differences between variations is also fairly negligible. Because of this, you want to choose low cost exercises that will not fill your athlete's "cup" without extra benefit to their performance. For me, this usually means the exclusion of deadlifts in my athlete's programs. Now of course the deadlift is a good exercise, but for most athletes (except those with a favorable build to it) it will be more taxing than the squat and its variations but will not yield any significant performance benefits for this extra energetic cost.

This is just a jumping off point when considering exercises to use in your athlete's plans. There isn't necessarily right or wrong exercises to use with your athletes, just make sure to always consider the real goal of their program, improved athletic performance. Bigger squat and bench numbers may yield that but just always be able to answer the question 'is this making my athletes better?' when creating programs for your athletes.

There are several ways that specificity is commonly violated in the creation of a training plan, most commonly that is happening through misapplied general training, training with incompatible modalities and failing to use specificity to create a framework for all the other principles to fit within.

What is GPP for the strength athlete? Some of that definition will be based upon the level of the lifter, as a beginner lifter's 'general work' will be 'more general' than that of an advanced lifters. The main objective of this general work for the strength athlete will be to increase the mass of the muscles most needed for success in the sport, so that during later, more specific phases of training those bigger muscles can be taught to produce more force.

All exercises for the athlete will lie on a spectrum of generality to specificity, so we want to be mindful to be selecting exercises closer to the specific side of things for your sport. Those specific variations will be derivatives of the competitive lifts and the more advanced you become the more specific of variations you should select during general phases of training. Modalities like kettlebell movements and sled pushes/pulls are commonly thought of as great 'general' work for strength but for the intermediate to advanced athletes they would be too general of choices as they are not specific enough to the movements and muscles used in powerlifting, nor are you able to stimulate the muscle with sufficient overload.

Specificity in general work is also violated by avoiding general work altogether. This is becoming a more and more common issue as more

beginner and intermediate lifters are exposed to the training done by advanced athletes. It is great to get insight into the training of advanced athletes but it is important to consider that you want to do the training they did to become advanced, not necessarily the exact training they're doing while they're advanced. Avoiding more general training, specifically higher volume training, will severely limit the athlete's ability to build the necessary muscle mass and work capacity to maximize their strength potential. We will cover this aspect of training more in-depth during the later parts of the text. Also, too specific of training year round will lead to staleness leading to reduced motivation and diminished training effects.

There is more and more of a trend towards wanting to compete in multiple disciplines and often those disciplines conflict with each other such as triathalon and powerlifting. Now of course, if you want to pursue these divergent goals, please do what makes you happy, but do it with the understanding that you are violating specificity and will not achieve maximal results in either endeavor.

From least to most compatible

-Strength and Endurance

-Strength and Flexibility

-Strength and Power

-Strength and Size

-General Strength and Specific Strength

CONDITIONING FOR STRENGTH ATHLETES

Another way that specificity is commonly violated is by using non-specific GPP work. I'm often asked about what type of aerobic conditioning is appropriate for strength athletes.

Two of my favorite ways for strength athletes (powerlifters, strongmen, weightlifters, highland games throwers) to 'condition' and improve both their performance and physique.

I say 'condition' in quotations, because as I've said many times before, conditioning is a big word that means lots of things. A well conditioned middle distance runner, well conditioned CrossFitter and well conditioned strength athlete are very different things; and while you may think the runner will also be better conditioned that the strongman, I think this is a matter of perspective.

> Conditioning must be specific, it must be, dare-I-say, functional. The athlete must be specifically conditioned to perform their function.

So while the middle distance runner's function is running at a moderate speed while turning left for minutes at a time, the strength athlete's function is to squat, bench and deadlift for 1 rep maxes (powerlifter), snatch and clean & jerk for 1 rep maxes (weightlifter), carry, load, push overhead and pull heavy weights for anywhere from the time a 1rm takes to as much as roughly 90 seconds (strongman); and finally to throw

objects of varying weights for maximal distances with complete rests (Highland games); and for all of the above, part of their function is to also train effectively for competition.

Now that we have established what the function and parameters of each athlete's endeavor is, lets look at this from an energetic standpoint. Powerlifting, weightlifting and Highland games are all purely alactic-anaerobic in competition, with the possible exception of a challenge farmers or stone carry in Highland games. Strongman presents a wider variety of tasks and with it a wider variety of energy systems from alactic-anaerobic events like a max log or deadlift, to highly lactic events like car deadlift and hussafel stone-with that being said, I'm of the opinion that you should spend as little time as possible training the lactic component of the sport as it interferes with maximal strength/power development.

So if most of these sports are just 1 all out effort every few minutes (alactic-anaerobic) why does conditioning even matter? Well for a few reasons, 1-Being fat and having to catch your breath after tying your shoes or walking up a flight of stairs is lame. 2-Improved aerobic capacity will enhance your training by increasing your special work capacity, which means you'll be able to do more high quality training. 3-Improve aerobic capacity will help you recover more effectively between intense training sessions. 4-An athlete with better aerobic capacity will perform better at the end of a day long meet.

Now that we've established the bioenergetics parameters of each sport, let's look at the best ways to condition for them and enhance your performance...

TEMPOS

Tempo based activity is a staple in my and all of my athletes' training, regardless of sport. Popularized by Charlie Francis, probably the greatest influence on my training philosophies, tempo activity is designed to develop the aerobic capacity of the athlete in an alactic state, while promoting recovery between intensive training sessions. Francis had his athlete's do their tempo work via running 100-300m because they were sprinters, but they are not limited to that.

Tempo activity is done at 60-75% of max intensity and while the durations will vary based upon the nature of the activity you're performing and your requisite fitness levels, 15-45 seconds of work is a good guideline. These work intervals are interspersed with low intensity calisthenics like pushups, ring rows/fatman pullups and abs, or can just be rest periods.

My favorite tempo activities for strength athletes are done either on a

bike, in a pool or with a light sled. These options will build the athlete's capacity without compounding stress on their joints.

Bike tempos are done on an exercise bike, usually in the 100-130rpm range, depending on your fitness levels. Pool tempos are high knees in waist deep water at around 90-120 foot contacts per minute pace. Sled tempos are done by pushing or pulling a light (I'm talking 0-50 pounds added) for 20-50yds at 75% speed, ie. A running, not sprinting or jogging pace.

It is critical when performing tempos that you remain in an alactic state and that is done by keeping your intensity in that 60-75% range and allowing adequate recovery between reps. This is best done with a heart rate monitor and keeping your heart rate in your aerobic development zone. Without access to a heart rate monitor, a good rule of thumb is that if the first rep is done at 110rpm and that feels like a 7RPE, then the final rep must be done at 110rpm and a 7RPE, if the RPE raises to 9 that would indicate your heart rate is too high or if the speed dropped to 90rpm you wouldn't be moving in the right pace. Setting a controlled active rest period, like 50yd walk is a good way to control your effort and rest, but just using the measuring stick of being able to speak in your normal voice (no longer breathing hard) is a fine tool.

Here is an example session of bike tempos

Set 1

1st Rep-30 seconds of riding of 110rpm followed by 10 pushups, rest until heart rate returns to bottom of aerobic development zone or you can speak normally.

2nd Rep-30 seconds of riding of 110rpm followed by 20-30 abs, rest until heart rate returns to bottom of aerobic development zone or you can speak normally.

3rd Rep-30 seconds of riding of 110rpm followed by 10 pushups, rest until heart rate returns to bottom of aerobic development zone or you can speak normally.

4th Rep-30 seconds of riding of 110rpm followed by 20-30 abs, rest until heart rate returns to bottom of aerobic development zone or you can speak normally.

5th Rep-30 seconds of riding of 110rpm followed by 10 pushups, rest until heart rate returns to bottom of aerobic development zone or you can speak normally.

6th Rep-30 seconds of riding of 110rpm followed by 20-30 abs, rest until heart rate returns to bottom of aerobic development zone or you can speak normally.

Rest for 3-5 minutes and begin Set 2.

Two sets of 6 is a good starting point and over a number of weeks build to 2 sets of 10 and maintain there.

Tempo work like this should be done 2-4x per week, I prefer to implement them on off days, or after upper body training sessions.

Tempo work isn't limited to what I've listed above either, you can do them

with running, rowing, biking, swimming, running in water, bodyweight or light exercises, versaclimber, etc all that matters is that you stay within the heart rate ranges for the proper durations.

CONTROLLED REST PERIOD TRAINING

The simplest and possibly most effective, certainly most specific, way to improve a strength athlete's conditioning is through training with controlled rest periods.

When I began competing in Strongman, I hadn't done any conditioning, or what is traditionally thought of as conditioning, in several years, yet I didn't struggle in medley or other endurance based events. This can most definitely be attributed to the style of training I did which often featured heavy lifting with short rest periods.

This training was introduced to me by my boy, Josh Bryant, who had me do AWFUL things like 10 sets of 4 deadlifts with 500 pounds with 1 minute rest between sets, or singles of 500 pound dead squats on 30 seconds rest. While it was awful doing this kind of thing, particularly the first time I was exposed to it, it made a huge difference in my strength, physique and conditioning.

I carried this idea over into the development of the Inverted Juggernaut Method. The first few weeks of the Inverted Juggernaut Method are a true test of an athlete's mental and intestinal fortitude because of the short rest periods.

Give this, the first week of the program, a try and see how you feel

10 sets of 5 squats or deadlifts at 60% of 1rm, with 45-60 seconds rest b/t sets.

Make sure you are moving the bar as explosively as possible in every rep. Now there are many different ways to approach controlled rest period training so I'll just go through and list some of my favorites for each sport...

POWERLIFTING

- Controlled rest periods on backdown sets. This could be range from 30 seconds to 2 minutes for sets of 2-5 reps at 60-80% of your 1rm. There are too many options to list here but you get the idea, get the stop watch out and monitor your rest.

- Density training. Set a time cap like 5 or 10 min and see how much work you can get done in that time. Put 70% on the bar and see how many triples you can do in 5 minutes, and the next week either try and beat that number of reps with the same weight, or match it with heavier weight.

STRONGMAN

- Controlled rest periods on event training. My online clients probably hate me for this but they'll love me on competition day. I love using this on Yoke and Farmers training. After working up to a heavy set for 50', I will back down to 60% of my top set and go as far as I can in 10 seconds, then add 30-50 pounds and go again, on 1 min rest. I'll continue adding weight and doing these type of sets until I fail to go 50' in the prescribed time.

  Controlled rest periods can also be done with things like Every Minute on the Minute training (or every , :30, :90 or 2 min). My favorite way to do this is either with Stone over Bar or Axle/Log Clean and Press, but you can do it with basically any event. Do this by doing 1-3 reps on the set interval, obviously the reps and rest will depend on the intensity. Try a 10 min EMOM of Medium/Heavy Stone Over a High Bar for doubles.

WEIGHTLIFTING

- Every Minute on the Minute Training, of Every Whatever Interval You Want, is a great option to improve special work capacity. My favorite progression here is the following...

- Week 1-Snatch 6x3 at 70% EMOM, Clean and Jerk 5x3+1 at 70%
  Every :90

- Week 2-Snatch 7x2 at 80% EMOM, Clean and Jerk 6x2+1 at 80%
  Every :90

- Week 3-Snatch 12x1 at 90% EMOM, Clean and Jerk 10x1 at 90%
  Every :90

- Density training is also a good option for weightlifters, but I would keep it to more of an off season period. Density training is just trying to do more work within a set period of time, like how many doubles you can do with 80% of your max in 10 minutes. This will also make you good at CrossFat (CrossFat is a registered trademark of CWS and is the Heavyweight division of CrossFit, just kidding, don't sue me CrossFit)

HIGHLAND GAMES/THROWING

- All of the options listed above can be applied for throwers in their weightroom training to improve conditioning.

- Density training with medball throws is a great way to enhace special work capacity. To do this perform a medball throw (overhead backwards, scoop, rotational, shot, etc) and then jog/walk to the ball and throw again, count the total number of throws you can do in 10 minutes and try to exceed that the next week.

Well there you have it, my thoughts on conditioning for strength athletes. Nothing complicated or revolutionary, just well planned, hard work that will make you stronger and fitter.

Specificity is the highest priority of all training principles and must create

an all-encompassing guide to select training modalities for your sporting goals.

When selecting any training method, modality or exercise you must ensure that it is directly addressing at least one of the following:

-Size

-Strength

-Peaking

-Technique

-Recovery

-Adaptation

-Injury

Within the context of powerlifting, if training is supposed to be directed towards size, the muscles being built and techniques being used must reflect powerlifting, so save the calf raises.

If I was writing this 3 years ago, basically all of the focus would have been on people doing too much variation, but it seems as if the pendulum has swung quite a bit. While too much variation is still certainly an issue for many, it also leads to a lack of technical excellence and selecting exercises with too low of transfer to the competitive movement.

As great as the Internet has been for sharing information, it has also given beginner lifters access to the training programs of elite lifters. Some beginners then emulate the current training of the top lifters, rather than

the training those elite lifters did to get to the top. Variation via different exercises and loading strategies is important to use during different parts of the training process, as that variation will lead to better general preparation, which you can build a high tower of strength atop. Remember, too, that variation can be achieved through small changes like stance width, grip width, bar placement, tempo, pauses, and rep schemes; you don't have to make drastic changes like specialty bars and accommodating resistance as variation.

Training with too much specificity year round presents a number of potential drawbacks for the lifters. Training with only the most specific training means will limit the lifter's abilities to overload specific musculature that may be holding back their progress. Also, if you're over applying the principle of specificity you'll miss out on the benefits of hypertrophy and general strength development.

CHAPTER
02

PURSUING STRENGTH WITH THOUGHTFULNESS, PASSION & DILIGENCE

You can create the most scientifically sound, specific and well thought out training plan of all-time but without the necessary effort put into executing it, success will continue to elude you.

The idea of training smarter, not harder is a lie, because training smart and training hard aren't mutually exclusive and even the smartest designed training is going to be incredibly hard.

The principle of Overload is what governs the idea of good, hard training. Overload means that training must have sufficient volume to build size and sufficient intensity to build strength and near the limits of your abilities to train technique and the skill of the 1rm. Also, to properly Overload, training must become more difficult over time. Not necessarily that each session is harder than the previous one, or even each week harder than the previous, but over the course of weeks, months and years you must continually elevate volume and intensities.

THE PRINCIPLE OF OVERLOAD IS WHAT GOVERNS THE IDEA OF GOOD, HARD TRAINING.

Performing the optimal amount of overload in your training can also be referred to as training at Maximum Recoverable Volume. Maximum Recoverable Volume is the maximum of training that an athlete can perform, recover from and benefit from.

ASSESSING MRV

How do you know what your MRV is? That is the magic question that doesn't have an easy answer. I wish that I had an equation or algorithm for you to use to determine yours but I'm not exactly sure what an algorithm actually is, so instead of just give you some practical advice. The best way to determine your unique MRV is to keep increasing your volume until your performance decreases, meaning you can't do a weight for a given number of reps you can normally perform. You can also evaluate MRV by being mindful of whether or not, the bar is feeling disproportionally heavy, your desire to train is low, you're having difficulty sleeping and/or appetite is decreased-if the answer to all of the above is no, then you can probably handle more volume, but let performance be the first indicator.

There are 3 main qualities that will greatly impact the success of most

strength athletes, size, strength and technical prowess. Different overloads are necessary to achieve each of these goals.

For improved size/hypertrophy, you must present the athlete with an overload of volume. The more volume that can be handled over 60% intensity, the more hypertrophy the athlete will achieve. Training that is too light will not create the necessary hormonal responses for hypertrophy and will likely be more beneficial towards strength endurance. Since volume is critical factor towards hypertrophy and more significant than intensity, we need to create an overload of volume over time; this can be achieved by:

- Doing more volume at the same intensity (Week 1-315x3x10, Week 2-315x4x10, Week 3-315x5x10)

- Doing higher intensity at an already high volume (Week 1-315x4x10, Week 2-325x4x10, Week 3-335x4x10)

- Slowing Increasing Intensity and Volume Together (Week 1-315x3x10, Week 2-320x4x10, Week 3-324x5x10)

Seven to twelve reps per set is optimal for hypertrophy gains. Athletes who are most fast twitch dominant are better suited toward the lower end of that range, while slower twitch athletes are better suited at the higher end. Less experienced athletes will also benefit from reps in the lower ranges because they're more likely to allow technique to degrade throughout a longer set.

The differences in benefit between these three approaches is negligible, so just pick one and work your ass off at it.

While hypertrophy gains are primarily driven by increased volume, improvements in strength are more dependent on increasing intensity. Volume doesn't need to be as high in strength training, as it will be heavier and thus relatively more fatiguing at similar volumes. Intensity needs to fall in the 70-85% (and up to 90% for females and less experienced males) intensity range and you'll be best served by sets of 3-6 reps.

Training for peaking is designed to accustom the body to producing maximal force and hone technique. Peaking training is best done at over 85% of the 1rm for sets of 1-3 reps. We will cover optimal peaking strategies during the later portion of the book.

There are a few ways that the Principle of Overload is commonly misapplied that you'll want to avoid to maximize the effectiveness of your program:

Insufficient Intensity and/or Volume: Basically you aren't training hard enough. You are too far below your MRV to maximize hypertrophy and/or training too light to build general strength.

Improper Assistance Work: The role of assistance work is simple, to build the competitive movements through increased size and strength of specific musculature. To do this most effectively, you must choose exercises that create sufficient homeostatic disruption and in descending order that means you'll be performing 1-Barbell Movements, 2-Dumbbell Movements, 3-Cable Movements, 4-Machine Movements. So if you want big, strong hamstrings, choose RDLs over Hamstring Curls. The only situation where you'd abandon this hierarchy is when the athlete is already very near their MRV and choosing a Barbell movement would cause them to exceed it, but they still need some work on a specific muscle group; in that situation then a choice like Machine Chest Presses over Widegrip Bench Presses, could be justified.

> The role of assistance work is simple, to build the competitive movements through increased size and strength of specific musculature.

Improper assistance work selection could also mean avoiding exercises that don't allow for sufficient overload. Unstable training via bosu balls or unstable bars (hanging KBs from bands or using a 'Tsunami Bar') should be avoided because while people will lead you to believe that you are recruiting more muscle fibers doing this, you are only recruiting slow twitch fibers because of the inability to produce sufficient force in this unstable environment, not the fast twitch fibers that you want to grow and train.

Poor Tracking of Training: If you don't know what your previous best effort is, then how can you know if you're overloading beyond it? This is most commonly a problem in people using conjugate methods with too large of an exercise pool. It is very difficult to know if you're getting stronger on a specific exercise and how that exercise is relating to your improvement as a powerlifter, if you're only doing that given exercise once every several months. Know what your best rep maxes are on the competitive movement, PRs with different levels of equipment (wrapless, beltless) and best results in specific variations are, so that you can ensure you are making progress. Don't just guess at lifts correlation to your competitive performance.

Training To Failure Too Often: Violating this component of overload is a great way to get a lot of likes on Instagram and a terrible way to be a great powerlifter (you know someone who actually lifts well in meets). I don't want to come across like I'm discouraging pushing yourself and training your ass off, but leaving 1-2 reps in the tank will ensure that you are making lifts, maintaining near optimal technique and not presenting unnecessary stress to your nervous and muscular systems. Training to true failure on compound barbell lifts is very taxing and you must understand

that training doesn't happen in a vacuum and that your training on Monday will affect you training on Tuesday and that if Monday was an all out set of deadlifts to failure, than your bench training on Tuesday may suffer.

Another important aspect of overload to address, is the use of mechanical overloading techniques. By this I mean strategies that allow you to use supramaximal weights in training. This is a powerful training stimulus and can certainly be advantageous to your strength and confidence but must also be used strategically since it is very stressful.

Common mechanical overloading techniques include, Reverse Bands, Slingshots, Shortened ROM lifts and Heavy Holds. All of these can be effective strategies to help a lifter accommodate to maximal loads and build confidence under heavy weights.

When choosing to use Mechanical Overloading techniques, I would encourage you to at most use them every 3-6 weeks for the Lower Body (Squat and Deadlift) and every 2-4 weeks for the Upper Body (Bench Press) and to cap your overload at 10% over your current max. A 10% overload should be sufficient to stimulate the adaptations you need, while not being so significant that they cause subsequent training sessions to suffer from the fatigue created by the overload. In my opinion, overloading beyond 10% doesn't offer benefits that outweigh the extra nervous system and joint stress.

When presenting the body with overload, you then must make sure you are properly managing fatigue and accounting for various SRA lengths.

Properly managing fatigue is what will allow us to make hard training sustainable in the long term.

There are 3 levels of fatigue which the athlete can experience, 1-Normal Training at or Below MRV, 2-Overreaching (Functional and Non-Functional) and 3-Overtraining. Training at or below MRV has already been discussed at length, so now lets look into an important concept, functional overreaching. Functional overreaching is an intentional pushing over your training past your MRV and then an intentional pulling back to reap the benefits of harder training.

Functional overreaching is an excellent concept to apply immediately prior to a planned deload, in fact, if you aren't functionally overreaching, you probably shouldn't have planned deloads-though if you are overreaching unintentionally, you will need an unplanned deload to avoid overtraining. Functional overreaching works because when you train more, you gain more, and fatigue is not harmful unless it lingers for too long. In fact, temporary hardship followed by later gains is termed Supercompensation, and some research shows that it doesn't just happen in the recovery between two training sessions, but can also occur over the course of several weeks, if a couple of those weeks are just beyond MRV and the next one or two are way below it.

Overtraining is a term that gets used and debated a lot but is not particularly well understood. Most people use overtrained when they actually mean overreached, as overtraining is a much more severe case of cumulative fatigue. Most strength athletes do not need to concern themselves with overtraining as when you are only needing to manage

weight training it is simple to avoid becoming overtrained unless you are exceptionally enthusiastic...or dumb.

Correct application of fatigue management will mean that you are strategically including light sessions and deloads into your training. These sessions and weeks though must be earned by first properly applying overload. Going into a deload week, you should feel run down like you are in need of a reduced workload and by the end of that week you should feel like you are chomping at the bit once again for hard training. I encourage athletes to reserve passive recovery means like ice baths and contrast showers which artificially reduce inflammation for deload weeks. Inflammation is an important adaption signal of the body and using them during normal overload training has been shown to actually dampen the training effect. During deload weeks though when the goal is restoration,

feel free to use them as liberally as you'd like to ensure that you are decaying fatigue as much as possible and feel prepared to begin your next block of overload training.

One of the most frustrating misapplications of fatigue management that I witness is lifters training with too high of volume close to a competition. It is not a badge of honor to be doing what effectively equates to general strength (if not hypertrophy) work, rather than peaking work when you are 2-3 weeks out from a meet. There is a time for high volume and high reps but that time is not in the few weeks before competition, so save the multiple sets of 8 or the working up to a 6rm for their appropriate time.

STIMULUS RECOVERY ADAPTATION (SRA)

The mindset you bring to training can have a huge impact on your long term success. If you are a competitive athlete, what is the purpose of training? To improve your competition result.

Training is not for showing off, it is not necessarily for PRs, and it isn't where your best performances should be happening. Training is the time to build your general and specific qualities that you will then test and express in competition. So with that in mind, the measure of a great training plan shouldn't be how many PRs you produce within the training process, but rather how well it helps you perform on the competition platform (or mat or field or court).

For me, the process of building my lifts in training and successfully testing them on the platform is based on four primary factors: 1) training in a

relatively fatigued state; 2) using exercise variations and accessory work correctly; 3) making lifts and building confidence; 4) approaching training with a calm and focused attitude.

BUILDING NOT TESTING

I am not concerned with setting all-time PRs in the course of training; I'm concerned with my training setting me up for all-time PRs in competition. Achieving this means that I'm performing relatively high workloads during the course of a week, workloads that will induce fatigue and, with proper recovery, will improve my fitness. It is this fitness-fatigue relationship that is critical to manage to maximize meet day performance. These levels of fitness and fatigue will vary throughout the course of the training cycle, but the important thing to understand is that you aren't always going to feel good for training. You aren't always going to be ready to set lifetime PRs, and having those feelings doesn't mean that you're overtraining – it just means you're working hard, which is what has to happen for improved performance.

I AM NOT CONCERNED WITH SETTING ALL-TIME PRS IN THE COURSE OF TRAINING.

USING EXERCISE VARIATIONS AND ACCESSORY WORK CORRECTLY

When you're selecting and performing exercise variations and accessory work, you need to constantly keep the question "How is this helping build my competitive lifts?" in your mind. If you can't come up with a good answer to that question, you need to re-examine why you're doing that exercise or why you're doing it in that manner.

Exercise variations and accessory work's role is to build the competitive lift. That means you need to strategically select them to build your specific weak points, and you need to perform the exercises in a manner to strengthen those areas without detracting from your energy to train for/ recover from your primary work. Strategically selecting the exercises will mean that you have a good understanding of where you're missing a lift, why you're missing it, and which exercises can best be used to address that area (but that's a topic for another article).

The manner in which you perform these lifts is critical, because striving for PRs in things beside the competitive lift can actually be a negative for a more qualified lifter. Within the context of a meet training cycle (8-12 weeks leading up to a meet), you need to prioritize your work more and more toward the competitive lifts and make sure you're using your other work to build them up. Doing this means that you'll use exercise variations for primarily submaximal work in sets of 2-8 reps to build the specific musculature needed to improve your technique in the competitive lifts; that accessory work will be done for sets of 6-15 to further build hypertrophy there. I would encourage you to always leave 1-2 reps in

the tank on exercise variations and accessory work, but the occasional burnout set on small exercises is fine.

> ... keep the question, "How is this helping build my competitive lifts?" in your mind.

MAKING LIFTS & BUILDING CONFIDENCE

Missing lifts doesn't build strength; making them does. If you go an entire training cycle and make every single lift, what are you thinking when you get under the bar? That you're going to make it, because that is all you know how to do.

It is imperative that you are smartly choosing your training weights so that you're making lifts, building strength, and – equally important – building confidence. True maximal lifts, 100%, 10 RPE are the most stressful lifts to your body and nervous system; they are also the most likely to cause technical breakdown and chance of injury. Once you are experienced enough to know what it truly feels like to push to 100% or 10RPE and succeed, it isn't something that you'll need to include very frequently in your training. Conversely, if you are less experienced and haven't felt this as much, you need to learn how to do it. This still won't be an every-session thing or an every-week kind of thing, but you'll need to do it every few weeks until you feel more comfortable with that strain.

Creating multiple ways to PR is a great way to build confidence as a lifter. You can PR by weight on the bar, number of reps, or quality of work being

done. I'm sure you have weight and rep PRs, but understanding that doing the same weight and reps for more powerful, technically sound reps is also a way to indicate progress.

I am an advocate of taking 10 pounds off the bar and racking a weight 1 rep early to help save the lifter's body and build confidence. If your PR is 380x3 in the squat, what is the difference in stimulus between doing 390x3 and 400x3? Probably pretty negligible, but the stress difference between doing 390x3 at a 9 RPE and 400x3 at a 10 RPE could be pretty significant as it relates to your recovery and performance in subsequent training sessions.

Training sessions do not exist within a vacuum, so your squats on Monday will have an impact on your bench training the next day and your deadlift training the day after (or however you organize your training). Having an understanding of this means that maybe going for absolute maximal effort and PRs every session isn't in your best interest, because for every high you have in your training (high arousal, high stress, high intensity), there is likely to be a low that follows it. So while having high stress training is important, you have to consider all your training within the context of a bigger plan. Racking the bar 1 rep early on a max-reps set or taking 10 pounds off the bar can allow you to still have great, quality training while slightly reducing the stress and impact one session has on the next.

Doing this also helps me build confidence. When I can walk away from a set telling myself I had 10 more pounds or 2 more reps, it is a great feeling. For example, I squatted what was at the time a huge beltless PR of 705x3. I know that day I was capable of doing that weight for at least 4,

probably 5 reps; but had I gone for a 4th rep, I could have found that I was only capable of 3 reps or that 4 was the absolute most I could have done. Walking away from that session telling myself that I'm good for 705x5 is a much more powerful, positive, confidence-boosting idea than knowing that 705x3 was the best I had, in the chance that I missed the 4th rep.

APPROACHING TRAINING WITH A CALM & FOCUSED ATTITUDE

Calm yourself down in training, and focus on the task at hand (not on putting on a show so people on YouTube think you're really hardcore and badass). For me, part of this means avoiding listening to "pump-up" music while I train or using stimulants during training. Often I lift in silence, usually just to whatever is on in the gym (I train on my own in the corner of a CrossFit gym), sometimes to music that I normally listen to (not tough guy music, sorry), and occasionally something to help me get fired up. People will often comment: "Man, if you had a better song on, you would have lifted 20 more pounds." No. The answer is no.

Music doesn't lift any weights, and if you're reliant on that, it will eventually not be there and you'll fail. As far as the stimulants (caffeine, pre-workouts) go, I used to adhere to this much more strictly; in fact, I'd never even had a cup of coffee before November 2013. I do drink coffee, and sometimes before a big session will add an extra espresso shot or two, but this is VERY RARE. However, I make sure to cut coffee for a few weeks before competition to re-sensitize myself to the effects of caffeine. Then on meet day, I will take in 1,000mg+ of caffeine. Doing this will heighten my senses even more at my meet and help improve meet-day performance more than someone who is reliant upon stimulants for every session.

CALM YOURSELF DOWN IN TRAINING, AND FOCUS ON THE TASK AT HAND.

Take a step back and critically think about what you're doing in training and why you're doing it. The best powerlifter, weightlifter, strongman, etc., is not the person with the coolest training videos and most likes; it is the person who performs the best in competition. Taking these four steps will help ensure you are building your lifts rather than constantly testing them without seeing results.

Maximizing your results extends beyond training, you must foster a strong competitive mindset to be able to realize your hard work when it matters most, on the platform.

All the great training in the world can be squandered on competition day if you don't have the mental fortitude to execute on the competition platform.

MAX EFFORT & TECHNICAL BREAKDOWN

Why do people always say things like, “Of course his technique broke down, it’s a max lift” or “nobody’s technique looks perfect on a 1rm”?

“Good” technique is good not because it looks nice, but because it is the technique that produces the best result. Keeping that in mind, a max lift with a technical breakdown is not truly a maximal lift; if more efficient (aka, better) technique was used, you would have lifted more. Now of course, these technical breakdowns will occur, but don’t excuse them as just what happens when you do a 1rm. Rather, understand that whatever broke down is a weakness that needs to be addressed through strategically selected exercise variations and assistance work.

Practicing in the ranges where these technical breakdowns occur will not correct them; rather, it will just further ingrain them. To correct them, you need to find the weights that break down your technique (and I’m talking about a true breakdown, not your knee caving in 1/8 of an inch), and then do volumes of work at 65-85% of that weight with your perfect technique. (I say “your perfect” because we are built differently, and there isn’t a universal best technique. If there was, we would all do it.) Build up the strength to express your perfect technique on heavier and heavier weights. Then compliment that training with the accessory work that is right for you.

The best technique is the best because it allows you to most efficiently express your strength. Don’t become complacent in allowing technical flaws to limit your potential.

One of the things I pride myself on is being able to exceed my training results in competition. While a big part of this is properly designed training and an effective peaking strategy, the other part is my mental approach to competition.

Here are three simple, but powerful ideas to help you maximize your competition results.

TRUST YOUR PREPARATION

Worry and doubt will enter your mind much more quickly if you do not feel confident and content in the way you prepared yourself for the meet. Success on the platform will start many weeks before the competition, so take care to create a well-thought out plan; once that plan is created, trust it and execute it with ferocity.

One place where people, even those who work hard within the context

of a great plan, tend to falter is in the final week before competition. People tend to panic, thinking that they haven't done enough or they need something special or extra for success. This leads them to introducing new and unknown stimuli on the body via a special exercise, food, or supplement; the days before a meet are the last time you want to do this. Believe in your program, trust your effort, and know that the meet is the time for your hard work to come to fruition.

CONTROL WHAT YOU CAN CONTROL & DON'T WORRY ABOUT WHAT YOU CAN'T

The only things about training and competition that you truly have control over are how good of a plan you create and how diligently you execute that plan. You don't get to pick what song is on, you may not like the bar they're using at the meet, the sun may be in your eyes, or your competitor may have done X, Y, or Z during his training. But your results are your results.

Things like equipment in competition and environment (music, weather, etc.) are largely out of your control, so you can do some things in training to help you avoid being negatively affected by them come meet day.

From an equipment standpoint, take yourself out of your comfort zone on occasion by using a whippy squat bar or a stiff deadlift bar, walk it out if you use a mono, make things less than ideal for yourself so that when you arrive at competition, nothing can phase you. From an environmental standpoint, don't let yourself get attached to always using the same rack, or facing the same way, or listening to your music; manipulate

these variables in training so that when you get in competition, you are unshakeable.

Also, remember that many factors like equipment and weather are affecting all the competitors, so when you think a bar is whippy or slick or it's hot out, save your complaints, because everyone is probably feeling that way. Only the weak-minded will acknowledge it.

THE WEIGHTS WEIGH THE SAME AT MEETS AS THEY DO IN TRAINING

So many people are intimidated by competition, but for sports like powerlifting and weightlifting, the elements of the lifts are unchanged from training to meets – there are just judges and spectators watching. The weights in competition don't weigh more than the weights in training, and they don't require any extra effort to lift.

Competing should be fun and bring some anxiousness with it, but that anxiousness is only going to help adrenaline flow and enhance your performance if you think about competition correctly. If you let it enter your mind that it is in a way more challenging than training or requires you to do something above and beyond what you've prepared for, that anxiousness will likely turn to nervousness and have a negative effect on your performance.

Meets are the fun culmination of many weeks of training; set the expectation of yourself that you will have your best performance when it matters, on the platform.

CHAPTER
03

HONESTLY EVALUATING THE PROCESS

One of the most common pitfalls I see derailing lifters progress, is an inability to honestly assess what they are doing. It is hard to admit to yourself that maybe you aren't as talented as you thought or maybe you don't work as hard as you think or that you need to spend more energy doing things you suck at.

This ability to take ownership of what you are doing, why you are doing it, how you are doing it and to understand that in strength sports your results, both positive or negative are your own responsibility is one of the most important things that will drive long term success.

From a training standpoint, the all-time great weightlifting champion, Vasiliy Alexeyev, said it best when asked about people being interested in his program. "Everyone always wants to do my program, but you can't do my program because then it wouldn't be your program." The internet has been a great tool to help lifters learn but in some ways it has done lifters a disservice by giving them access to information that they aren't ready for and in some ways they don't deserve. I say that they don't deserve it

because it hasn't been earned through their own trial and error and while it is great to learn from others mistakes, it is also invaluable to have those experiences yourself and understand what works for you and why. Plus struggling through plateaus and finding out those answers for yourself I think gives you a level of investment in your success that will make you more likely to persevere during the toughest times of training and competition.

There is constant debate about what program is best, Cube Method, Westside, Juggernaut Method, 5/3/1, the list goes on. All of these programs have their merit, all have their shortcomings, but there are undeniably successful lifters using a wide array of training styles and getting stronger all the time. So what does that mean? Does the program not matter? How can people get strong using such wildly different training styles?

4 PROGRAMMING KEYS

Of course the program does matter and there are sound and unsound programming principles but there are 4 things that can help you succeed regardless of what program you are using.

BELIEF

This point really got hammered home for me during a dinner at Sorinex Summer Strong 2014. Myself, Brandon Lilly and 2004 Olympic Gold

Medalist in the Shot Put, Adam Nelson, were out to dinner and we got on the topic of some of the crazy training we used to do when we were in high school. Both Brandon and Adam had done their far share of ultra high volume training (ie. 10x10 of multiple squat variations or squats and deads in the same session), while I went more for huge sprinting and jumping volumes stacked on top of lots of squats.

No coach or expert in programming would look at the programs we were doing and think they were a recipe for success, yet they laid the foundation for three very successful athletes.

Besides unsound programming we all had another thing in common, we all wholeheartedly believed in what we were doing. Believed in working unbelievably hard and with passion and believed that this tireless work was going to yield great results for us.

You need to believe in what you do, the way you train and why you're doing it. The power of belief in undeniable.

CONSISTENCY

In regards to programming mistakes, one of the most terrible and common offenders, is the program hopper. The program hopper is the antithesis of consistency, changing their plan/goals/efforts every few weeks and months and making it even worse, they even do it sometimes when things are going well. An absolute minimum of 3 months, but 6 is a better guideline, to be dedicated to a program before judging it's merits. Also if you are buying a program like The Cube Method or any other ebook program, you should run that program exactly as written at least one full time through before starting to make your own adjustments. The author wrote it that way for a reason and you bought it for a reason (probably because you think the author is smarter/stronger than you) so do it they way they say before putting your own twist on things.

Program hopping isn't the only offender when it comes to consistency, there are numerous ways to lack consistency in your training. Whether it's inconsistent effort in the gym or in the kitchen, failing to consistently show up, work hard and execute your plan will lead to diminished results. Anyone can come out of the gates hot and train hard or keep their diet on point for a week or even a month, but it is the ability to stack those months into years that will set apart the great from the average. You don't have to have a PR day everytime you step in the gym and of course you are going to have off days and make mistakes but the ability to consistently rise to your own expectations of yourself when it comes to effort is going to help you be successful in any endeavor.

CRITICALLY THINKING ABOUT WHAT YOU'RE DOING

Why are you doing what you're doing in your training? Because that's the way you've always done it? Because so and so told you to do it that way? Because it is what fits your unique needs as an athlete? One of those is a great answer. You need to keep in mind what YOU need to succeed, chances are it may not be the same things as I need or other top lifters or your training partners. You need to think about why you are doing certain exercises, what the rationale behind your diet is and if it is right for you.

Now with this point, there is certainly a danger of overanalyzing your training and getting stuck in a sort of paralysis-by-analysis scenario, so as you examine your training, be mindful of avoiding that. A simple way to do that can be hiring a coach, who will allow you to stay out of your own head, while he or she examines your training and the two of you work together to fine tune things for you and hopefully if they are a good coach, they can tell you to STFU when you are overly nitpicking your plan.

> Training isn't an overly complex thing and shouldn't be treated as such, but that doesn't mean you should be a mindless meathead in the gym just doing exercises cause they're going to look cool on YouTube.

Make sure what you are doing is going to be a benefit to you and once you have established that it will, then turn all your energy towards executing that plan with all you have.

HONESTY

It is tough to be honest, particularly with yourself because it isn't a fun realization that you aren't as strong as you thought, you aren't as dedicated as you thought and you don't work as hard as you thought. To be successful, honesty with yourself (and if possible surrounding yourself with a group that will give you honest feedback) is a must.

Be honest about what level you are at in your career, chances are you aren't nearly advanced enough to be trying to do the same program as Andrey Malanichev or Dmitry Klokov.

Be honest about what your weaknesses are. This will probably result in your having to do a bunch of exercises that you hate because you suck at them, meaning that you probably really need them.

Be honest about your level of dedication. Are you really training hard, are you sleeping enough, are you eating enough of the right stuff?
Be brave enough to say to yourself that you could be doing more, that you could be doing better and then to go out and work to become better.

There are a lot of great programs available with a few keystrokes but if one of them was really the best, everyone would be doing it. Regardless of the program you use, you can be successful by making sure that belief,

consistency, critical thinking and honesty are a part of your training process.

ADJUSTING FOR INDIVIDUAL DIFFERENCES

One of the main areas that people tend to fail in being honest with themselves, is the idea of individual differences in training. In the age of self-esteem and participation trophies, it seems like everyone wants to think that they are a special snowflake cause their mommy told them so. Hate to break it to you, but in the world of strength the role the individual differences play in dictating training differences is fairly insignificant.

There are 5 main categories that you want to consider basing any training plan changes on:

-MRV

-Fatigue and Fitness Decay Times

-Development Status and Goals

-Exercise Selection

-Exercise Technique

The categories can also be looked at as both inter-individual differences and intra-individual differences. Inter-individual differences are differences in how one person responds versus another person and these differences will likely be due to genetics, recovery means (food, sleep, drugs, passive recovery) and their training ages.

Intra-individual differences are differences in the same person at different times. Genetics are a constant but environmental factors like food, sleep, stress from work/relationships and drugs can all be altered at different times. The most significant intra-individual differences will be due to changes in the athlete's training age and abilities.

As the athlete becomes more and more advanced, different training practices will be necessary to become more advanced. It is these intra-individual differences that are particularly important to consider when examining the training of your favorite elite lifters, you'll probably be best served to think about they training that they did to become among the best lifters in the World, rather than they training they are doing as one of the best lifters in the World.

1. MAXIMUM RECOVERABLE VOLUME

Maximum Recoverable Volume or MRV as it will be referred to from now on is the most training that an athlete can effectively recover from and this could vary widely from lifter to lifter or for the same lifter at different times. Genetics, particularly muscle fiber type, will play a big role in MRV and somewhat counter-intuitively, the faster twitch athletes who are better suited for lifting, will tend to have lower MRVs because they will be able to cause more homeostatic disruption with a smaller amount of work.

As an athlete improves over their career and continually build special work capacity for their sport, their MRV should be continually rising.

Other things to consider when assessing MRV is the athlete's sport background (A CrossFitter will probably have a higher MRV then someone coming from Sprinting)

2. FATIGUE & FITNESS DECAY TIMES

The bigger, stronger and more experienced a lifter you are the more capable you are to impose huge stress on your system and since there is greater fatigue accumulated, it will take longer to dissipate. Also, the bigger, stronger and more experienced lifter will have the ability to retain their fitness for longer periods of time, meaning that they will need longer tapers into meets. Of course, genetics will play a great role in the differences here as some athletes will drop fatigue quickly and decay fitness slowly (best case scenario) while others may drop fatigue slowly and decay fitness quickly (worst case scenario) and it is these differences that must be considered when finding an optimal training frequency.

As a practical example, myself being a 6-1 360#, relatively fast twitch lifter with the 10th highest total of all-time employs a very long taper into a meet, as I have so much muscle mass it allows me to hold onto my fitness well and because the weights I lift are so heavy, it takes a relatively long time for fatigue to dissipate. My last 14 days leading into a meet are very light, the first 7 days are all a deload with usually 3 total sessions with nothing about 65% for 3 reps and then the week of competition, I will have a 'priming day' 5 days out which is a few singles in the 50-80% range (Bench is higher %s, Deadlift the lowest %s and Squats in between) and then a similar day 3 days out but about 10% lower.

3. DEVELOPMENT STATUS/GOALS

Beginners are going to train differently than intermediate lifters who are going to train differently than advanced lifters. These differences will mostly be based in the 2 differences discussed above as well as the lifters needs and the efficiency of their exercise technique.

Typically, beginner lifters (<3 years of experience) will lack muscle mass and need to devote a greater proportion of their energy towards hypertrophy work. Beginners want to train with relatively high frequency because they are incapable of creating significant disruption because they're not using heavy enough weights. Beginner lifters should also use a fairly broad pool of assistance work and exercise variations (while never going too long without performing the competitive movements so they can develop technical prowess) so that they can develop a well rounded physique and base to build upon throughout their career.

Intermediate lifters (3-6 years of experience) will also have the same

hypertrophy needs as beginners, but should now have the requisite muscle mass to benefit from longer strength cycles but will not need very significant time to peak for competition. Intermediate lifters should understand what drives their lifts and should work towards maximizing those strengths, while keeping their weaknesses in check.

Advanced lifters, assuming they aren't trying to move up a weight class, should have near the amount of muscle needed to succeed, so their focus must become on developing general strength and mastering the peaking process. Longer peaking phases will be necessary for the more advanced lifters because it will just take more time for them to get to the necessary weights (you can't just put 50# more on the bar every week after your strength block) and they need to maximize nervous system force production and technical prowess. Now as an advanced lifter, you strong points (Quads for a Quad Dominant Squatter) should be so well developed that there is little progress to be made in them and now you'll need to focus a bit more attention towards making sure that secondary movers and the muscles that allow your optimal technique to be maintained are developed to the necessary levels.

4. EXERCISE SELECTION

Exercise selection will become more and more focused over the course of a lifter's career. Beginners need a relatively wide range of movements to develop a well rounded based. Intermediates should begin to have an understanding of what drives their lifts and choose movements that push those primary movers. The advanced lifter will need to be very mindful to address their unique weaknesses to maximize their performance.

5. EXERCISE TECHNIQUE

Different people are built differently, their limbs are different lengths and their leverages in lifts will vary. There are a few universal technical cues for lifters to focus on, but many lifters can have 'good technique' and that technique will look very different from another. These different techniques will lead to different prime movers in the lifts and cause you to choose different movements to build the necessary muscles. Seek out a good coach who can help you find your best technique for your leverages and choose appropriate movements to maximize your strength.

I'm often asked questions like, "How many times per week should I squat?" but am always hesitant to answer with a specific because there are so many factors to consider and the right answer for one person may not be right for another and the right answer for you today may not be the right answer in a year or two. Training will need to change from person to person and over time to be optimal but the changes are relatively small in degree. Consider the above factors to help you make the best plan for you.

3 COMMON PITFALLS & HOW TO AVOID THEM

There are many different effective ways to train, but regardless of programming, there are a few common traps I see lifters falling into that they can simply correct.

1. TOO MUCH VOLUME/TOO MUCH INTENSITY

Striking a proper balance of volume and intensity throughout a training cycle is critical to success. There are three main ways I see this problem manifesting itself with lifters.

The too-much-volume group has the right idea, as increased volume is the most effective means for increasing strength, but the timing of this volume is key. Lifters who continue to train with very high total volume and/or high reps per set in the final month leading into a meet aren't able to reduce fatigue enough for an optimal meet performance. When you see someone still doing multiple sets of 6-8 reps a few weeks before a meet or doing high rep down sets after their primary work when they're 2 weeks out, know that they aren't properly managing the fitness-fatigue relationship. Even though they may be very big/strong, they could be performing better in meets.

The too-much-intensity crew tends to also be the YouTube/Instagram hero group, and they are leaving their best performances in the gym. People who perform too much high intensity work (ie., weekly maxes) are missing a key concept of effective programming known as phase potentiation. Phase potentiation, in a nutshell, is using one training phase to better setup the subsequent cycle, usually meaning doing higher volume work to set up later, higher intensity work. Performing too much high intensity work will not raise fitness as high as possible and is more likely to lead to nervous system fatigue while also making it harder to properly time an effective peak.

There is a third group who trains with both too high of volume and too

high of intensity. I usually see this happening in lifters utilizing Daily Undulating Periodization and often have less than 5 years of lifting experience. These athletes are lifting beyond their maximum recoverable volume and often will end up injured because they're loading less than perfect technique with high intensities, causing movement dysfunctions to become more deeply engrained.

2. TOO MUCH SPECIFICITY/TOO MUCH VARIATION

If I was writing this article 3 years ago, basically all of the focus would have been on people doing too much variation, but it seems as if the pendulum has swung quite a bit.

> While too much variation is still certainly an issue for many, it also leads to a lack of technical excellence and selecting exercises with too low of transfer to the competitive movement.

As great as the Internet has been for sharing information, it has also given beginner lifters access to the training programs of elite lifters. Some beginners then emulate the current training of the top lifters, rather than the training those elite lifters did to get to the top. Variation via different exercises and loading strategies is important to use during different parts of the training process, as that variation will lead to better general

preparation, which you can build a high tower of strength atop. Remember, too, that variation can be achieved through small changes like stance width, grip width, bar placement, tempo, pauses, and rep schemes; you don't have to make drastic changes like specialty bars and accommodating resistance as variation.

3. TOO MUCH OVERLOAD/TOO MUCH TECHNIQUE

Overload is a critical part of progressing and one of the most important principles in good programming, but too often overload is being overdone. Overload is being misapplied by either being done too frequently or overloading by too much. Overload in the sense of continually making your training more challenging by doing more reps or more weight is always necessary, but the type of overload that I see becoming problematic for lots of lifters is a mechanical overload achieved through the use of tools like reverse bands, supramaximal holds, very short ROM lifts, or assistive devices like the Slingshot/Ram/etc.

These type of dramatic overloads on the nervous system have the ability to prime the body for enhanced performance, but due to their potent effects, can also cause you to exceed recovery capabilities. When using overload techniques, I encourage people to at most use a 10% overload of their max and to not implement this more than every third week for the squat and deadlift, and every other week for the bench. You must understand the stress this type of overload places on your nervous system, muscles, and joints. Your training doesn't exist in a vacuum, meaning that the training you do on Monday affects what you're able to do on Wednesday and that what you do this week affects next week; don't get caught up in trying to load 150% of your max on the bar for a few extra

Instagram likes, but in the process, actually set your long-term training back.

Too much technique?! Of course, technique is important and I don't want to downplay its role in getting strong. Just as there are people who are too concerned with just putting more weight on the bar, there are also those who are so concerned with perfect form that they never push their limits and create an overload effect (the small overloads of more weight/more reps) in their training. Technique development is very important, but people who strip the bar back down to 135 anytime there is some breakdown are unlikely to ever push hard enough to reach their potential.

The too-much-technique problem also creates problems for lifters who end up creating a paralysis by analysis situation for themselves, as they're constantly trying to make technical adjustments and never allow themselves enough time to practice a given technique long enough to know how well it really works for them. So if there is the occasional inward movement of the knees in a squat or rounding of the back in the deadlift, understand that that is part of pushing your limits, so don't panic. Rather, understand that even though you may have made the lift, you need more work in the 60-80% range to build up your weakness to be able to make a PR with better technique.

Striking the right balance between these different training principles will help you keep making progress over the long term. Think critically about what you're doing in your training, how and why it is helping you (or why it isn't), and continue adding pounds on the bar, week after week, month after month, and year after year.

THINK CRITICALLY ABOUT WHAT YOU'RE DOING IN YOUR TRAINING, HOW AND WHY IT IS HELPING YOU.

Anyone who knows me knows that I'm not one for ra-ra, motivation and inspiration; it's just not my personality and I've never felt I needed somebody else to motivate me personally. So with that said, know that for me to write this means that I think it is REALLY important.

COURAGE TO BE GREAT

I had the opportunity to speak at Adonis Athletics in Sydney, Australia alongside Dr. Mike Israetel and Brandon Lilly. As we were wrapping up a long day of coaching, there was one young man sitting in the front row who had been exceptionally attentive and excited about everything throughout the whole day. He wasn't the strongest or most talented attendee that day, but it was clear he was truly passionate about learning and improving.

So we asked him, "What is your goal? Why do you do this?"

The question seemed to shock him, and he meekly responded after some silence that it was "because I want to be good at something," but it was clear that there was more to it than that.

After some goading from Brandon and Dr. Mike he told us his real aim: “I want to be great.”

The vocalization of this seemed jarring to him, getting him (and us) a little choked up, as he continued to tell us about his history and his future plans - he was getting ready to begin a PhD program.

Why was the idea of vocalizing the goal “I want to be great” such a difficult task for him? Why is it such a difficult idea for so many of us? Especially considering that it is something that so many of us truly and deeply want.

Setting goals opens us up to two possibilities: success and failure. Setting big goals, great goals, set us up for greater success and the possibility of greater failure.

THE FEAR OF FAILURE PARALYZES US FROM BECOMING TRULY GREAT.

You need to be courageous to overcome this fear and embrace the pursuit of greatness. When you vocalize a goal, something to aspire to, whether it is in sports, business or any other aspect of your life, there will be doubters, there will be people who tell you it can’t be done, that you aren’t capable of it, that you are wasting your time.

Those people are afraid.

They are afraid to take a risk themselves, they are afraid of your motivation, and they are afraid to admit that they want something greater for themselves.

There seems to be an epidemic of apathy in our current culture. It is perceived to be cool to not try hard, to not care. That is a road to mediocrity and discontent. The people who pretend who look down on you for your work ethic wish that they had your courage to pursue greatness. I have lofty goals in business and in lifting, and I know there are people who think that I'm foolish for pursuing them, that I'm not talented enough to achieve them, and that I will fail. I know that there is a chance that I may fall short of my goals and fail, but I know that if I do, it will never be because I didn't work hard enough. It doesn't take any special talent to work hard. I'll be the first to admit that failure is terrifying to me, but what is far more terrifying is the fear of mediocrity, the fear of never trying and the fear of living a life of regret.

As cliché as it may seem, the saying "a goal without a plan is just a wish" rings very true in this sense. You can set all the lofty goals you want but if you don't have the bravery to pursue them through a plan and a real all-out work ethic, then you'll be just like the rest of them, wishing you had something better and making half-hearted efforts to fool yourself and your friends into thinking you're really dedicated by making some BS Instagram post about how you're on #TeamNoDaysOff or some other nonsense.

THE ROLE OF ASSISTANCE WORK

Assistance work is not the competitive movement or variations of them, they are secondary and tertiary movements designed to build the competitive lifts.

I see these movements as Supplementary Work, which are compound movements that aren't a variation of the competitive movement, such as lunges for the squat, overhead press for the bench press or good mornings for the deadlift. I consider Accessory Work to be smaller movements such as machine exercises and what is more traditionally thought of as bodybuilding work or isolation work.

Assistance work's role is to build the competitive movements through enhancing the specific musculature needed to maintain technique. Technical breakdowns are often the result of specific weaknesses in a given muscle group that doesn't allow the athlete to hold the necessary postures to complete a lift.

Over time the role of assistance work will diminish in your training, this holds true for both the long term (athlete's career) and the short term (single training cycle). As an athlete becomes more advanced, assistance work will play less of a role in their training as more energy will need to be devoted to the competitive lifts and their variations. Also, throughout the course of a training cycle, the amount of assistance work you do close to a meet should diminish as assistance work is inherently less specific.
It is important to understand that you can't have multiple focuses and excel at them all simultaneously, so you must diminish the value of

assistance work as competition approaches so you can increase your energy towards the competitive lifts.

Setting PRs on assistance work is something that is for far away from competition. You need to dedicate enough energy to assistance work to build the competitive lifts but not so much that you detract from your energy to train and recover from the competitive lifts. This level of energy will vary from person to person and relates to your own Maximum Recoverable Volume. You can push these lifts hard but I'd highly suggest for you to keep them slightly submaximal so they don't occupy too much of your energy. Don't major in the minors.

CHAPTER
04

PLANNING FOR THE LONG HAUL

In powerlifting, there is so much attention paid to the meet preparation process. Often, the potential value of an off-season is lost on many. Now of course, the off-season is still directed at ultimately improving your strength for a meet, so you could consider it “meet prep,” but I think the objective of this time is unique enough that it is worth making the distinction.

The main objective of an off-season period is to apply the concept of phase potentiation, which means that you will develop qualities that will enhance your next phase of training. So for the off-season to enhance the quality of our next phase of training (meet preparation/peaking), our focus should be increased muscle mass (and improved body composition), enhanced work capacity, and use of greater variation to address specific weaknesses.

INCREASED MUSCLE MASS

Increasing muscle mass is the simplest way to increase your strength

potential. Doing this during the off-season is preferable because the higher rep sets and high total volume needed to best achieve this result, will introduce high fatigue levels and can compete with maximal strength development if they're done during the same training day/week.

To put on the kind of serious muscle mass you need to dominate on the platform, you'll likely need to do some hard and heavy sets of 10-20 reps. In the bigger picture of strength development, these can be great; but in the short term of the 2 months before a competition, they aren't the optimal choice, so save these for the off-season.

If you are a lifter like me, who competes at a higher bodyweight and has a lot of muscle (but also a good amount of fat), your off-season may be better spent trying to lean out some rather than trying to pack on muscle. You'll need to be in a caloric deficit to lose weight and in the vital weeks leading up to a meet, you don't want to feel hungry, so save the fat loss for the off-season.

ENHANCED WORK CAPACITY

Enhancing work capacity will go hand-in-hand with increasing muscle mass. Enhanced work capacity is going to be achieved through high volumes of submaximal training.

Work capacity is an often-used term, and it is important that we make the distinction between general work capacity (the ability to do a bunch of anything) and special work capacity (the ability to do a bunch of a certain task). General work capacity is great and will increase your special work

capacity to a degree. CrossFit is an excellent way to improve general work capacity but while running, rowing, jumping, lifting, sled dragging, and jumping rope are all excellent activities and will improve your fitness and your ability to train more for the squat, bench, and deadlift, they will not improve your special work capacity in as efficient a manner as doing more of the squat, bench, and deadlift and their variations. As you improve as a lifter, your training will need to become more and more specific, so for a while, you may derive great special work capacity benefits from very general training; but, it's important that you understand that that won't last forever.

Doing multiple sets of 4-10 reps in the 8 RPE range of squat, bench, and deadlift variations is going to be a great opportunity for you to improve your special work capacity, hone your technique, and build muscle.

Another simple but effective way to increase your special work capacity will be to train with controlled rest periods. There are too many possible rest period options based on relative intensity of the work you're doing and your current fitness levels for me to make a prescription here, so I would just say that you need to get out your stopwatch and keep yourself on consistent and challenging rest intervals.

GREATER VARIATION

Variation and specificity are two sides of the same coin, so greater variation = lower specificity and vice versa. The most specific exercises that powerlifters can perform are the squat, bench, and deadlift for 1rms in competition equipment to competition standards. Any change to that, like different technique (stance, grip, bar position, tempo changes,

etc), different equipment (no belt, no wraps, slingshot, etc), or different intensities (more reps) are all variations.

As you get closer and closer to a meet, you need to train with more and more specificity (aka, less variation). During the off-season, you want to utilize greater variation to build any weak points that may develop from performing just the competition lifts as well as to avoid becoming bored or stagnant in your training.

As I mentioned above in the "Work Capacity" section, the more accomplished you become as a lifter, the more specific your training will need to be, so the smaller degrees of variation you'll make to your movements during the off-season. (Including more bodybuilding movements in your training and making this a higher proportion of your total training in comparison to what you would do leading up to a meet.)

CONSOLIDATION OF STRESSORS

The concept of consolidation of stressors is a topic I've written about on several occasions before, but as I grow as an athlete and coach, my understanding of this and other ideas becomes more nuanced and complete.

Consolidation of stressors is a foundational concept to programming for athletic development in any endeavor, and while it may seem complicated, it is really based on two foundational concepts.

The first is a movement from relatively higher volumes/higher frequency and lower intensities to lower volumes/lower frequency and higher intensities. The second is an evolving of exercise selection from general to specific or less specific to more specific.

To clarify the above terms so we are all on the same page, volume is the total workload being done, frequency is how often you are training, and intensity is how near maximal output you are training at.

The ideas of general and specific training exist within a spectrum of how similar or dissimilar an exercise is from the competitive exercise and how well it transfers to success in the competitive exercise. I make the distinction of general to specific and less specific to more specific because this spectrum of specificity is very wide, and at different stages of the training process, different scales of the spectrum will be addressed.

Swimming is a very general exercise when compared to weightlifting, but it will have a place in the long-term training plan, while other exercises like "no-hands, no-feet" snatch are less specific than the competitive exercise itself and will also have their place.

Consolidation of stressors manifests itself in three ways during the training process: during the short term (training cycle), the medium term (annual plan or quadrennial), and long term (athletic career). While the same principles apply throughout all three phases, the scale is changing throughout.

First, let us examine the application of consolidation of stressors within the short term: a single training cycle. I'll use my own powerlifting training as the example for this. I prepare for meets using a 13-week training cycle comprised of three 4-week microcycles (three up, one down) plus one extra priming week leading into the meet.

During these three microcycles, I progress from relatively high frequency/high volume training with moderate intensity and less specific training toward lower frequency/lower volume training with high intensity and more specific training. Note that I use the terms "less" and "more specific" in regards to short-term training, because in the grand scheme of things, all of this training is fairly specific to the goals of raising the squat, bench press and deadlift; however, small changes in specificity still occur through exercise variation (and emphasis being placed on variations of the competitive movements), rep ranges, equipment worn and amount of accessory training done, as accessory work is more general in nature than variations of the competitive lifts.

Let's look microcycle by microcycle at how my training is adjusted and how you can apply these principles to create more effective training for yourself.

MICROCYCLE 1

During the first microcycle of meet preparation, I train with my relatively highest frequency, highest volume, lowest intensity, and lowest specificity of my entire training cycle.

Training frequency is at five primary sessions per week organized as follows:

Monday-Squat

Tuesday-Bench

Wednesday-Deadlift/Squat. This is a primarily deadlift day with secondary squat training

Thursday-Off/Recovery

Friday-Squat

Saturday-Bench

Sunday-Off

Volume is very high, with as many as 17 work sets of competitive lifts and their variations being performed in a single session. The higher frequency also contributes to the overall higher volume.

Intensity is fairly low during this time, with the majority of work being done between 55-75%, with possible jumps into the low 80s depending on feel. Squatting during this phase is also beltless, which limits possible intensity. The weights being used are relatively higher percentages of my beltless work (PR 765x2) than my belted work (PR 863x1), but when looking at consolidation of stressors, it is more important to consider ultimate output – weight on the bar for lifting, velocity of sprinting, height/distance of jumps/throws – than relative output of an exercise variation, as it is more stressful to the system. For example, take an athlete with a 350 lb. front squat and 500 lb. back squat: 300 lb. represents 85% of their maximum in the front squat, while 400 lb. represents only 80% of their maximum in the back squat; however, 400 lb. back squats will still be more stressful to the athlete than 350 lb. front squats, even though they are a lower percentage, because they are simply a greater load.

During this phase of training, specificity is relatively low, or we could say that I'm utilizing greater variation. Variation is being used for two strategic reasons: to avoid staleness, and more so to build up phase potentiated fitness adaptations (I learned that phrase from Dr. Mike), so basically variations that allow me to do more volume. Variation is conventionally thought of as exercise variation, and that is how I'm using it here, but we need to look at it from a much more micro scale than how it is typically thought of. The competitive exercise (1rm squat with belt and knee wraps) and any deviation from that is variation, and by varying degrees, is less specific. During this microcycle of training, specificity is reduced through training out of competition equipment (beltless), out of competition rep ranges (doing sets of 3-10 during this time), and dedicating a greater part of my energies toward exercise variations and assistance work. (This

doesn't mean that I'm doing less of the competitive exercises, but rather I'm just doing more total work.) All of this contributes to greater variation being implemented, the greatest variation of any time during my meet preparation.

MICROCYCLE 2

During Microcycle 2, we begin to move toward lower frequency, lower volume, higher intensity, and higher specificity (lower variation).

Primary training is now consolidated to four sessions with a fifth secondary session on this schedule:

Monday - Squat

Tuesday - Bench

Wednesday - Deadlift

Thursday - Off/Recovery

Friday - Squat

Saturday - Secondary Bench

Total volume is reduced during this phase: first by reducing frequency, which inherently reduces the workload, and second by just reducing the per session volume. Total worksets during this phase will range from 5 to 12 total sets of competitive lifts and their variations.

Intensity rises during this phase, with the majority of work being between

65-85%, with possible jumps toward 90% based on feel. A belt is introduced during this phase, allowing for increased output.

Variation is also reduced during this phase on several fronts:

1) Introduction of a belt to the squat;

2) Reduced rep ranges now approaching the competitive lifts;

3) Less proportion of energy being placed on exercise variations and assistance work (assistance work is usually dropped at this point in the squat).

Let me be clear that just because I am dropping assistance work in the squat at this point, that doesn't mean you should be dropping your assistance work. If you're within 5% of the All-Time World Record in your weight class, then you can probably feel free to do so, if you aren't, then you most likely need to keep it in.

MICROCYCLE 3

During the third and final microcycle, we move toward the most specific training of the training plan, training on the lowest frequency and highest intensity of my plan.

Primary training is consolidated to three primary sessions with an optional fourth secondary session based on feel.

Monday - Deadlift

Tuesday - Off/Recovery

Wednesday - Bench

Thursday - Off/Recovery

Friday - Squat

Saturday - Optional Secondary Bench

Sunday - Off

Volume is at its lowest of my training, doing 1-7 true work sets during the single session each week dedicated to the competitive lift.

Intensity is at its highest of my training, working between 70-100% of my training maxes, with possible overloads being introduced.

Variation is very low at this point of training. I'm doing as much work as possible in competitive equipment (belt and wraps), rep ranges are very low (1-3 reps), and very little – if any – energy is spent on exercise variations and assistance work.

Consolidation of stressors may seem like a daunting idea, but at its core is a fairly simple and intuitive manipulation of frequency, volume, intensity, and variation. Hopefully this article gave you some greater insight into this topic and will help you implement it properly into your and your clients' training.

1ST MEET TIPS

I sit here today on the 5 year anniversary of my first powerlifting meet, I remember very vividly and fondly that first competition day.

My first meet was the USPA Central California Open, it was the first ever USPA meet (Congrats to Steve Denison for growing it into such a great and respected federation) and held at San Luis Obispo High School, it was also the 1st powerlifting I'd ever been to. At that time I was a shot putter, an outsider to the powerlifting world and I remember going to get my 1st singlet from EFS and genuinely wondering why some of them were $50 and some of them were $250-because some of them were Single Ply Squat Suits and I didn't know what that was. I remember wondering if a Bench Shirt was a shirt you were required to wear during competition or if I could just wear a T-shirt. Needless to say I was a bit naive and as a whole the culture of powerlifting was much different, smaller and with far far less information readily available to lifters-particularly raw lifters.

Here are a few things that I would like to share with you to help before your first competition:

MAKE A LIST & CHECK IT TWICE

There are a lot of things you need to make sure to have with you for a meet, shoes, wraps, sleeves, socks, food, water and the list goes on. With all the nerves you may have before your first meet there is a great chance that you may forget something but there is no reason to let something like that cause you extra stress on competition day, so here are a few things you want to make sure to bring with you:

- Shoes. I wore Nike Frees for my first meet (OMG how did you not squat in your Romaleos and pull in your Chucks, Do you even lift bro?!?! I was too busy training hard to worry about my footwear, the 800 squat and 700 pull at that meet show that-but yea I supposed I had known a bit better then but shoes don't make the lifter). So whatever it is you wear, Weightlifting Shoes, Chucks, Power Shoes, Deadlift Slippers, make sure you've them all with you.
- Wraps and Sleeves. Raw w/ Wraps, Raw Modern and so on, whatever you compete in-go for it! Just make sure that you have your knee sleeves, wrist wraps, knee wraps, compression cuffs and whatever else you'll need to compete at your best with you. Mark Bell may even give you an Instagram shout out!
- Long Socks and 'Legless Briefs'. The socks are a must across the board, lots of feds wont check your chones but almost all of them have 'legless briefs' aka white tighties or a thong, in the rulebook so bring the proper stuff with you and be prepared.
- Water, Gatorade and Protein Shakes. I don't like to eat much during a meet but will take into a lot of liquid because 1-I'm really sweaty and 2-You need to stay hydrated and get carbs in. The powdered gatorade is the way to go so you can add extra scoops and get more carbs per fluid ounce. Protein won't really play a role in meet day performance but they help me feel satiated and nobody wants to get under a heavy weight while they feel hungry. I like to mix my shakes with 1/2 low-fat chocolate milk and 1/2 coconut water for more carbs and better hydration.
- Easily Digestable Simple Carb Foods with Low Fat. My favorites are rice krispie treats. I see lots of people eating peanut butter at meets, don't do that. Fats are not what you want during competition in strength/power sports. Eat foods that be easy on your stomach and provide you with simple, quick energy.

- Chalk and Baby Powder. Without fail I hear someone say that they think there is baby powder in the chalk bowl at a meet, I'm 99% sure that there never is but if you're worried about it, bring your own. Some baby powder on the legs may be the difference between a deadlift PR and a miss at lockout, so bring yours.

TALK TO PEOPLE WHO SEEM LIKE THEY KNOW WHAT THEY'RE DOING

If you have a question, ask. For the most part, powerlifters are friendly people and will be willing to help you out on meet day-though when the top flight lifters are warming up-don't bug them. As I was wrapping my knees for my first squat-I had only wrapped my knees 2x before this and there weren't really YouTube tutorials at the time to learn from-a coach came up to me and asked if I wanted help. I did and when asked if I had a preference about how he did the wraps, I replied 'Wrap them the way that's gonna make me squat the most' so let me say thank you to Alan Best-a great single ply lifter, for taking the time to help me out that day.

> There is a lot to be learned at meets by observing and talking to other lifters, be friendly and don't hesitate to ask questions-at the appropriate times-to the more experienced lifters there.

HAVE A PLAN FOR SUCCESS

Failure to plan is planning to fail. Cliche, sure. Helpful, definitely. Think about what your warmups will be-they should be very similar to what you do in training. Know how long those warmups take-time them in training and probably afford yourself an extra 5-10 minutes at the meet because there will be others at the rack with you and I'd rather have to slow down a warmup rather than rush. Pick conservative openers-These will be your most nerve wracking lifts so make them a number that you can hit under any circumstance, about 90-92% of your best CLEAN (deep, paused, full lockout, etc) lift in the gym during that training cycle is a good choice.

Good attempt selection guidelines for a first meet would be about:

Opener:	90-92%
2nd:	95-97%
3rd:	99-102%

Chances are you aren't gonna set the world on fire during your first meet, so know that if you can get out of there with a 7/9, 8/9 or 9/9 day and 1-3 PRs that you had a GREAT day!

Powerlifting meets are the culmination of months of hard training, take some of the stress out of them by taking care of small details beforehand. Hopefully these tips can help you have a fun and successful 1st meet and get your powerlifting career off to a good start!

There are four main factors that are manipulated during the planning of training and the consolidation of stressors concept.

Frequency: How often you are training and – more specifically – how often you are training your primary stressors.

Volume: Total workload of the training.

Intensity: What percentage of an exercise's maximal output it is being performed at.

Specificity (Variation): How similar to the competitive exercise the exercises being performed are and how well they transfer to sporting performance.

During the short term, the manipulation of these four factors are very small in degree. As we move to the medium and longer terms, the changes become more drastic.

CONSOLIDATION OF STRESSORS: MEDIUM TERM

The medium term of training, for the purposes of this article, will be defined as the annual plan; depending on the athlete, this could also be a quadrennial. For powerlifting, an annual plan is a tougher idea to create, as meet schedules aren't often known very far in advance or do not work

toward a true National/World Championship (with the exception of the IPF). Since the annual plan for strength athletes is harder to define, we will look at consolidation of stressors in the training of football players but make sure to understand that these concepts can be similarly applied across many fields with a little aptitude and critical thinking.

A valuable tool in organizing training is to identify and classify training sessions into high, medium, and low intensity days. Doing this will better allow you to manage and manipulate your training frequency and build more recovery into your training as intensity increases.

The primary stressors I manipulate for the training of my football players are

- Sprints (this includes all maximum speed movement drills)
- Jumps
- Throws
- Squat variations
- Bench variations

The secondary training includes

- Aerobic capacity training
- Assistance lifting

Our offseason periods of training are divided into three main blocks of training in which the training schedule is consolidated to varying degrees. Those periods are work capacity, alactic power, and alactic capacity. Over the course of these three periods, training moves from more frequent and lower intensity training of the primary stressors and less specific training toward less frequent and higher intensity training of the primary stressors and more specific exercise selections. Let's take a look block-by-block.

WORK CAPACITY

This first block of the off-season training process is focused on building work capacity through frequent, high volume, moderate intensity relatively general training means.

Frequency during this period is high, with six weekly training sessions all featuring a few of the primary training means. Because of the frequent nature of training at this point, total volume is inherently high.

With high frequency and high volume training, intensity must be kept down to avoid overtraining. There are several factors to consider with managing training intensity during this period of the year. First, the athletes are coming out of their season, so they are likely detrained to some degree in regards to strength, power, and speed; this will inherently reduce the intensity of their training. For example, if an athlete who previously ran a 4.6 40-yard dash, benched 315, and squatted 455 comes out of the season running a 4.75, benching 295, and squatting 405, then even his maximum output at the moment won't be as stressful because it is less than they have achieved before. Managing intensity of weightroom

movements is as simple as assigning percentages to the lifts. Most of the work in this period is done in the 55-75% range. Managing intensity for sprint training, jumps, and throws requires a bit more creativity though.

Explosive training like sprints, jumps, and throws need to be trained at at least 90% intensity to have the desired effect, but frequent training of maximal speed and power qualities is very stressful to the body and nervous systems. We can solve this problem by choosing exercises that allow the athlete to perform 90%+ intensity work but reduce the maximum output capabilities and save the athletes from over-stressing themselves. For example, during this period, we will utilize more sled resisted or hill sprints instead of flat land sprints, as these sprinting variations will reduce the athlete's velocity and chance for soft tissue injury (specifically hamstring pulls) but still have positive carryover to the athletes sprinting speed and special strength for running. Jumps are also often done uphill during this period as they reduce the force of gravity during the landing. Throwing intensity is tough to manipulate, so it is only kept down during this period through higher volumes of throws and the fatigue that comes with it.

Specificity during this time period is relatively low, as general speed training (running in a straight line or preset pattern cone drills) is primarily used, and we have yet to introduce special strength exercises like various sled drills.

I would classify all of the training days during this period as medium stress because, while there are primary stressors present on every day, their intensity is being controlled and kept moderate.

This block's training schedule is as follows

Monday - Sprints/Jumps/Bench Press/Upper Body Assistance Work

Tuesday - Throws/Aerobic Capacity Training/Squat/Lower Body Assistance Work

Wednesday - Sprints/Jumps/Bench Press/Upper Body Assistance Work

Thursday - Throws/Aerobic Capacity Training/Squat/Lower Body Assistance Work

Friday - Sprints/Jumps/Bench Press/Upper Body Assistance Work

Saturday - Throws/Aerobic Capacity Training/Squat/Lower Body Assistance Work

Sunday - Off

Using this type of schedule of pairing explosive lower body work and upper body weights together may seem counterintuitive, but it is done strategically to further control intensity. If you sprint on Monday, you can't squat as hard on Tuesday; and if you squat on Tuesday, you can't sprint as hard on Wednesday. This allows us to put more focus on technique and volume of work rather than only on intensity.

ALACTIC POWER

The alactic power phase of off-season is where the greatest gains in speed and strength will be made. To achieve this, higher intensity training must be implemented. This, of course, is more stressful to the body and

will require greater recovery, so we must consolidate our most intensive training to fewer days per week.

The training schedule during this period is as follows

Monday - Sprints/Jumps/Squat/Lower Body Assistance Work

Tuesday - Throws/Aerobic Capacity Training/Bench/Upper Body Assistance Work

Wednesday - Sprints/Multidirectional Speed/Jumps

Thursday - Aerobic Capacity Training/Restorative Work

Friday - Sprints/Jumps/Squat/Lower Body Assistance Work

Saturday - Throws/Aerobic Capacity Training/Bench/Upper Body Assistance Work

Sunday - Off

This schedule allows you to train at higher intensities while still being able to adequately recover between sessions. In terms of high, medium, and low stress, classifications are as follows:

Monday - High

Tuesday - Medium

Wednesday - Medium

Thursday - Low

Friday - High

Saturday - Medium

Sunday - Off

Some may think that Tuesday, Wednesday, and Saturday's training could be considered high intensity because of the throwing and bench press work, but unless you have an athlete who is an exceptionally strong bencher or talented thrower, they will have a very hard time having a high stress day with those exercises.

You can already see how frequency and volume are reduced using this schedule, but intensity and specificity are increased in multiple ways.

At this point in the off-season, your athletes are getting stronger and faster. They are capable of higher outputs that will be more stressful to their muscular and nervous systems. For them to continue to progress, they now need greater overload, so speed work has moved from primarily drills and hill/sled sprints to flat land work and some "flying work"(submaximal lead in to maximal speed section to allow for greater velocities to be achieved). Jumps are adding intensity through increased contacts per effort (2-4 successive bounds vs 1-2 in work capacity block) and moving to flat land from hills for increased distance. In the weightroom, percentages are increased and the athletes are getting stronger, so all weights are just higher/more stressful.

Specificity of training is gradually increasing at this point; the introduction of flat land speed work over hill/sled work is certainly more similar to running in a game. Also, we will use various sled drills for linemen like heavy sled pushes and sled pushes into sprints. All speed training during this phase is focused on developing alactic power and must be done with complete rests. The multi-directional speed training on Wednesdays also lends itself to increased specificity as football is rarely a game played in straight lines.

ALACTIC CAPACITY

The third and final block of the off-season is dedicated to alactic capacity or the ability to reproduce high-level efforts with incomplete rest periods (aka, conditioning for football is the most intense and stressful part of the off-season's training).

The schedule is as follows:

Monday - Sprint/Jump/Throw/Bench/Squat

Tuesday - Aerobic Capacity Training/Restorative Work

Wednesday - Sprint/Jump/Throw/Accessory Weights

Thursday - Aerobic Capacity Training/Restorative Work

Friday - Sprint/Jump/Throw/Squat/Bench

Saturday/Sunday - Off

There are two very high stress (Mon/Fri) days, one medium/high stress day (Wed) and two low days (Tues/Thurs), as well as two off days. It is necessary to build in this type of recovery to your training once you have consolidated your primary stressors to few super high intensity sessions.

Total volume is relatively low during this time due to the low frequency, though the speed training volumes of the Mon/Wed/Fri sessions are rather high, as running is what they must be most prepared for as they enter practice periods soon. (They are doing things more similar to their competitive exercise as they get closer to the competition period.)

Specificity is also further increased as more attention is given to special exercises like sled pushes, sled explosions, and sled push and sprint. Also for speed training, we often use competitive simulations like 1 on 1s and various tag drills based on position.

Intensity in the weightroom is high, but volume is very low because of the stress/stimulus the field work presents. We will also use some exercises like bounce press or reverse band press to allow for an overload and more specific pressing action.

Consolidation of stressors in the medium term is a manipulation of frequency, volume, intensity, and variation over time. Structuring your training with these principals in mind will allow you to build in more recovery to the structure of your plan. While strength and speed qualities increase, recovery comes at more of a premium, and you need to facilitate more time for your athletes to recover. Creating an annual plan with these principals in mind will help guide your athlete's development over the course of a long off-season.

PUTTING YOUR PR'S ON THE PLATFORM

One of the most common questions I receive in regards to powerlifting, is "How do you train with 600-800 pounds and then squat mid-900s in a meet?" This idea of training submaximally and achieving excellence on the platform is one of the things in my lifting that I'm most proud of and something I think that I do better than almost anyone else.

A look at my training PRs compared to my meet PRs over several meets of my career will show a clear trend:

	Training	**Meet**
Squat	863	959
Bench	520	551
Deadlift	804	804
Squat	815	937
Bench	515	540
Deadlift	735	771
Squat	825	870
Bench	465	512
Deadlift	725	788

And even though a shoulder injury derailed what should have been a Bench PR at my most recent meet, the squat peaking effect held true by brining a 915 Training Squat into the meet and making it into a 970 meet performance.

As you can see, there is about a 7.5% average increase in my total from training to competition, a carryover which I think can be attributed to a host of physical and psychological factors.

Here are some key principles you can apply to your meet preparation that will ensure you put your PRs where they matter – on the platform – rather than leaving them in the gym.

WORKING BACKWARD FROM YOUR MEET GOALS & STICKING TO YOUR PLAN

When I write programs in articles or for ebooks, I use percentages; when I train myself for a meet, I choose goals for a meet and work backward from the meet, choosing weights that I know I need to set me up for the subsequent weights. I definitely think that this type of intuitive training is superior to RPE or percentage based programming, but it also isn't something that everyone can do. It is a learned skill that can only come from training and taking ownership of what you are doing and why you are doing it. Because I'm choosing set weight and rep targets for the entire training cycle, there are some times when the weights feel very heavy and other times when they feel very light. In this situation, I almost always just stick to the plan. If you move the weights up on a day when things feel light, you increase the likelihood of having a day soon when the weights feel heavy. The only time I will make adjustments to this is early in the training plan, and these changes will then reverberate throughout the rest of the plan.

There are times when I'll go for big lifts in the gym, and as Brandon Lilly would say, "cook while the pan is hot," but for the most part I'm just sticking to my plan.

> Chasing PRs on strong days in the gym may give you temporary satisfaction and get you some more Instagram likes, but you have to consider it within the context of your entire training plan and think about how it is affecting your meet preparation.

I know the lifts I need to hit in the gym in order to make the numbers I want in the meet, and they are much lower than you'd think. In fact, they are usually lower than even my openers; a well-designed plan coupled with a strong mental approach to competition will have you far exceeding your gym numbers at meets. It can be challenging to put aside your ego and work for the greater good, but if you're a competitor, then your goal needs to be the highest meet total, not the most social media buzz.

CONSOLIDATION OF STRESSORS: LONG TERM

We have examined how to manipulate the relationships of frequency, volume, intensity, and specificity in the short term (one training cycle) and medium term (annual plan). As with these two time frames, the factors of the training that are manipulated do not change; only the degrees that they are manipulated do. Now because of the long-term nature of this discussion, changes in volume, frequency, and intensity aren't as clear cut as they are in shorter time frames, but we will rather look at these changes from a bit more of a conceptual standpoint.

The early training of an athlete needs to be focused on general training at relatively low intensities (a child isn't capable of high intensity training anyways) so that they can perfect movement patterns that can be intensified later. Ilya Ilyin, two-time Olympic Gold Medalist in weightlifting, illustrated this idea very well when he said that at the start of his training career at 6 years old, he would "run around the gym and do all the exercises." Now this certainly didn't mean that he had free reign of everything he was doing, but what it does mean is that he did a variety of training consisting of gymnastics, swimming, track and field-based drills (skipping, sprinting, jumping, throwing), calisthenics, and weightlifting drills: a broad and general pool of exercises that helped him become a great athlete and then a great weightlifter.

It is that idea that we must focus on for long-term development; it is about developing athletes who will then gravitate toward and excel in the sport they are best suited for, rather than trying to develop the best soccer player or baseball player from a young age and neglecting general

athletic development. This early specialization limits the athlete's ultimate potential.

David Epstein discusses the importance of developing general qualities in his book, The Sports Gene.

> "Rarely do elite performers log 10,000 hours of sport specific practice, often competing in a number of other sports and developing a range of athletic skills before focusing on one. The average sport specific practice hours to reach the international levels in basketball, field hockey, and wrestling are 4,000, 4,000, and 6,000 respectively."

A recent U.S. Olympic Committee study corroborated this idea and showed that Olympic athletes were involved in an average of three sports per year up until the age of 14.

VARIATION IN VOLUME & INTENSITY

Move Your Training from Higher Volume/Lower Intensity/Less Specific to Lower Volume/Higher Intensity/More Specific Over the Course of a Training Cycle.

This is a foundational periodization idea, and if you aren't doing it in your training, you're making a mistake. Creating a large pool of volume early in the training cycle gives you something to take away from and facilitates more recovery as you progress to heavier weights.

If you are training only singles on each lift once per week throughout a training cycle, where do you expect the peaking effect to come from? My training progresses from 5-6 sessions per week (three squat workouts) for moderate to high reps in minimal equipment, to 4-5 sessions per week (two squat workouts) for low to moderate reps in light equipment, to 3-4 sessions per week (one squat workout) in competition equipment over the course of a meet training cycle. Weights keep getting heavier as equipment increases, frequency decreases, and reps decrease. Single reps in my competition equipment (belt, knee wraps, wrist wraps) of the competition lift are the most specific exercises I can do. This also means that over the course of the training cycle, less energy can be given to supplementary movements so that more can be dedicated to the competitive exercises. This means that you shouldn't be trying to front squat a PR when you're three weeks out from a meet; that is something to be reserved for the off-season or very early in your meet preparation. This doesn't mean that you can do exercise variations leading up to a meet – you can and should – but just remember that their role is to compliment the competitive lift, not detract from the energy you have to train it.

MAKING YOUR TRAINING LIFTS & MAKING THEM LOOK EASY

Making lifts – not attempting and missing them – builds your strength and builds your confidence. Strategically selecting training weights that you can make – and make with confidence – is an important part of building momentum into a meet. Doing a weight, crushing it, racking it, and telling yourself that you could have done 10 more pounds or 2 more reps is a great feeling. It is also much more productive to your training than

having weights that are true 10 RPEs or missing weights. Of course, there can be value in grinding through a true max effort, but those shouldn't be the norm in your training. True maximal lifts are more demanding on the body and nervous system. Making the weights look easy also means approaching the bar with a calm confidence rather than an uncontrolled rage. Getting extremely psyched up for training lifts shouldn't happen, except for the rarest occasions. Very few people can go to that adrenaline level and maintain the necessary focus on their technique. When you get to a meet, if you're a real competitor, adrenaline will be there and your performance will be heightened. Training in this heightened state will further fatigue your CNS and will dampen the effect of your anxious energy/adrenaline in a meet setting. It's also critical to practice the lifts to competition standards; don't let yourself or your training partners slide with high squats, touch and go benches, and unlocked deadlifts. Those will come back to haunt you when it counts. Lift to a higher standard in training so that you can leave no doubt during competition about the quality of your lifts.

MAKING LIFTS – NOT ATTEMPTING AND MISSING THEM – BUILDS YOUR STRENGTH AND BUILDS YOUR CONFIDENCE.

Calm yourself down in training, focus on the task at hand – not on putting on a show so people on YouTube think you're really hardcore and badass. For me, part of this means avoiding listening to "pump-up" music while I train or using stimulants during training. Often I lift in silence, usually just to whatever is on in the gym (I train on my own in the corner of a CrossFit gym), sometimes to music that I normally listen to (not tough guy music, sorry), and occasionally something to help me get fired up. People will often comment, "man, if you had a better song on, you would have lifted 20 more pounds." No. The answer is no. Music doesn't lift any weights, and if you're reliant on that, it will eventually not be there and you'll fail. As far as the stimulants (caffeine, pre-workouts) go, I used to adhere to this much more strictly; in fact, I'd never even had a cup of coffee before November 2013. Now I do drink coffee, and sometimes before a big session will add an extra espresso shot or two, but this is VERY RARE.

However, I make sure to cut coffee for a few weeks before competition to re-sensitize myself to the effects of caffeine. Then on meet day, I will take in 1,000mg+ of caffeine. Doing this will heighten my senses even more at my meet and help improve meet day performance more than someone who is reliant upon stimulants for every session.

DON'T TRY NEW STUFF RIGHT BEFORE A MEET

Whether it's diet changes, training changes, or routine changes, people love to panic in the days leading up to a meet and try new stuff. DO NOT DO THIS. Trust your plan. Introducing unknowns to your training at this point is an amateur panic move. Eat the foods you know your body handles well, sleep on your regular schedule, and use your regular supplements.

The risk of trying to find some meet-week magic bullet far outweighs the reward. One of the most important pieces of advice I can share with you is to control what you can control and don't worry about what you can't. I hit my best total ever 5,000 miles away from home, on a 19-hour time difference, and on the biggest stage of my lifting career. While in Australia, I ate very similarly to how I do in California. I went to sleep and woke up the same times. I warmed up the same and stuck to my meet-day routine. I didn't let distractions that were beyond my control affect my mentality or cause me pointless stress. If you think you have to have this certain song on to lift well or this kind of bar or whatever it is that you can't guarantee will be happening at the meet, what are you gonna do when it's not there?!

Control what you can control, don't worry about what you can't. During the week of the meet, you don't want to be inactive and just lie around all the time. You can actually still lift at a fairly high intensity, just focus on speed and quality of movement while keeping volume very low.

My week prior to GPA Worlds was the following

- Tuesday: Squat – up to 250/280/310kg x1, Bench – up to 160/175/190kg x1, Deadlift – up to 140kg x3x1
- Wednesday: Off
- Thursday: Squat – empty bar and 60kg for several sets of 5-10 reps; I was just feeling very tight on this day and didn't have my squat shoes because I didn't know we were going to the gym at that time. Bench – empty bar and 60kg for several sets of 5-10 reps, 100kg for 3x1. Deadlift – 140kgx3x1.
- Friday: Warmup in room with pushups and bodyweight squats, plus some stretching.
- Saturday: Same as Friday
- Sunday: Compete

After this last meet I had, several people commented to me in person and via social media that they "never knew I was that strong." In some ways, I take that as a compliment because it means that I'm not necessarily posting PRs for 12 weeks during a meet training cycle. Rather, I am saving them all for one day when it actually counts. The process of exceeding your training lifts in competition isn't complex, but it does take great planning, discipline, and mental fortitude. Focus on quality in the gym

and building your lifts rather than testing them – save that for the platform. Take control of your mindset and emotions in training and during competition and your performance will increase. Good luck, trust your plan, and stay the course.

PEAKING: PROGRAMMING & MINDSET

Long-term youth athletic development illustrates how, over time, training is consolidated toward more specific and higher intensity work.

I think a very simple, yet effective model to follow for the development of young athletes is:

Age 6-9: Recreationally play four different sports (one per season), while practicing the sport skill two times per week and playing a competitive game one time per week. GPP training should be omnipresent throughout the year and done as frequently as possible focusing on swimming, gymnastics-based drills, track and field-based drills (sprinting, jumping, throwing), developing general movement patterns and a love for training and sport. Quality of movement is the highest priority and imposing highly lactic loads of training that impair movement speed/quality should be avoided.

Age 10-13: Recreationally play three different sports (one per season with one season off), while practicing the sport skill 3-4 times per week and playing a competitive game one time per week. GPP training should be omnipresent throughout the year and during the one off-season period should be particularly prioritized. GPP training will focus on the same modalities as before but with slightly increased intensities.

Age 14-18: Competitively play two different sports (one per season with two off-season periods), while practicing the sport skill 4-5 times per week and playing a competitive game 1-2 times per week. GPP training should be omnipresent throughout the year, and give particular priority during the off-season periods, while receiving less priority during competitive seasons. Training is gradually moving toward greater specificity throughout this period. A wide array of training modalities can and still should be implemented at different points in the year. External resistance on exercises can be introduced/increased, and general intensities will increase. Energy system training will become more specific to the athlete's particular sports.

Age 19+: Competitively play one sport while now falling into a more traditional annual planning model of off-season, pre-season, and in-season. GPP training should be omnipresent and reflect the amount of SPP training being done at that time. Training is growing increasingly specific at this time and intensities will vary throughout the year.

Over the course of these phases, you can see how you continually consolidate your focus toward more specificity. Volume over the course of the time isn't necessarily moving from higher to lower as it is during the short or medium terms, and it shouldn't; in fact, for a lot of this time, volume will be increasing because the athlete is continually improving their work capacity with age and hormonal development.

Absolute training intensity will also increase throughout this entire time, simply because an 18 year old is capable of much higher outputs than a 9 year old, but there will still be waving up and down of relative intensities over the course of this long-term plan.

Obviously, this a very brief overview of a much larger topic, and there are plenty of considerations to be made on a case-by-case basis, but hopefully this sheds some light on the idea of long-term athletic development, gets your wheels turning, and helps you better set up young athletes for a lifetime of success.

CHAPTER
05

WRAPPING THINGS UP

Your personal pursuit of strength can be a highly rewarding experience. It can also turn into an overly complicated and frustrating process if you fail to see the forest through the trees, in the sense of focusing on the minutia rather than creating a principal based system to organize your goals and the means by which you go about achieving them.

The 4 concepts which created the framework for this text and what I have learned for myself through pursuing strength for the last 15 years.

First, you must understand your goal, this is specificity. Your goal and the directed pursuit of it, specificity, will create an umbrella under which all your other decisions in regards to exercise selection, periodization, etc will fall. There will be lots of shiny things along the road to strength that may distract you, don't lose sight of your goal and always critically think about what you're doing and why you're are doing it. If you can't simply answer the question of how something is helping you reach your goal, reevaluate why you're doing it.

Next, once you have a clearly defined goal, you must pursue that goal with thoughtfulness, passion and diligence. Training smart is great, but truly smart training is also very hard, intelligently challenging, this is overload.

> Let the principles of overload and stimulus/recovery/adaptation (SRA) guide your hard and intelligent work and all the while foster a powerful mindset that will allow you to manifest all of your diligent work on the competition platform.

To succeed for the long term, you must be able to honest evaluate and assess what you are doing and sometimes it may be difficult to reconcile with yourself that you aren't training as hard as you had thought or that you may not truly be as dedicated as you envision yourself to be. Take ownership of what you are doing and make it be the best course of action for you. Don't fall into the trap of thinking that you are a special snowflake and that while these principles may work for others, they aren't working for you because the degree of individualization needed to optimize training is relatively small. Take the courageous leap to go all in for your passion and goals, whatever they may be, cast aside the doubts of outside naysayers and pursue your own greatness.

Your journey for strength isn't going to be a 12 or 16 week trip, it must be a lifetime and to make it work you must plan accordingly. Look at your goals through a long term lens and learn to love the process. One 6 week cycle of PRs is all well and good but planning for 1 training cycle to build upon the next for months and years is where true greatness will be found.

CHAPTER
06

THE SQUAT

The squat, as with all the competitive lifts, requires great strength throughout all the prime movers and great technique. Great squatters have tremendous strength from head to toe; the quads, hamstrings, glutes, hips, abs and entire back must be well developed for success. Total body strength and technique is best developed in concert with each other, so that your technique doesn't hold back your strength development, nor your strength not being enough to hold proper technical positions.

Key technical points in the squat are...

1. The closer you can put your hands to each other on the bar the easier it will be to have a tight setup. Make sure though that your elbows are inside your hands to maintain tightness. Using a thumbless grip often improves the comfort of a close hand position.

2. Squeeze your elbows towards the middle of your body to improve upper back tightness in the setup. Once you squeeze them toward your body as hard as possible, force them forward, under the bar. There will be very little movement of the elbow forward if you are doing a good job of squeezing them in.

3. Get air into your midsection by focusing on breathing into your low back, this will create 360 degrees of pressure, improving performance and helping your back stay healthy. Get air before you bring the bar out of the rack with your hips.

4. The walkout should be achieved in 3 steps maximum and can be achieved in 2. Step back with your off foot, set your dominant foot and then make any repositions of your off foot necessary to find your stance.

5. Once your feet are set, take more air into your midsection by breathing into your low back, while also flexing your glutes hard to neutral your spine and squeezing the bar hard in your hands.

6. Focus on maintaining 3 even points on contact in your feet throughout the lift, weight should be even through the big toe, little toe and heel. Do not focus on excessively sitting back onto your heels if you are a raw lifter, this is not advantageous because you don't have a suit to sit back into. There will be some forward movement on the knees in the lift and that is fine. A short movement of the hips backwards and then squat down from there. "Back, back, back" isn't for you, it is more "down, down, down".

7. Commit to the descent in the lift. Going down as fast as possible is critical to take advantage of the stretch reflex and avoid expending unnecessary energy on the way down. This doesn't mean you need to divebomb squat by any means. You need to descend as quickly as YOUR TECHNIQUE can hold up to. There are great squatters like Stan Efferding that descend very slowly because he has balance issues, so that is as fast as he can go down. However fast it is, practice it from an empty bar to your max and keep it consistent.

8. Keeping the knees in line with the toes or slightly outside is valuable to create torque in the hips. "Knees out" though is often not the proper cue to achieve this as it causes the lifter to shift the weight to the outside of their feet and lose 3 points of contact. Instead, try to "screw your feet into the ground" by externally rotating them throughout the lift.

9. The last thing to move during the descent is the lift, so it should be the first thing to move on the way up. Keep your chest up out of the hole by driving your head and shoulder back into the bar. Also drive

your elbows forward under the bar (again there may not be much actual movement of the elbows but the intent will help you avoid collapsing forward) as you initiate the drive out of the hole.

10. Focus on accelerating the bar throughout the concentric movement all the way to the top of the lift. The bar doesn't need to actually jump off your back (ala Eric Lilliebridge) but that intent should be there.

COMMON SQUAT PROBLEMS & EXERCISES TO HELP FIX THEM

The first step in fixing all of these is technique, once that is dealt with, work on these...

Folding Forward Out of the Hole -Front Squats

- Safety Squat Bar Squats
- Upper Back Work (Rows, Chinups/Pullups, Upright Rows)-My favorite variation is chest supported rows with a static hold at the end of each set

Getting Stuck In The Hole

- Pause Squats in the Bottom Position (2 to 10 second holds in the hole) -Pause Squats Just Above Parallel On the Way Down (2 to 5 count) this is effective for those who squat with a quicker descent in a more Olympic style. If you squat with a slower descent and wider stance and just break parallel on a normal squat, these will not help as they will really just be high squats. -Wide Stance Squats will help build hip power out of the hole

Getting Stuck Just Above Parallel

- Pause Squats in the Bottom Position, the more speed you can generate out of the hole, the better you will break through any sticking point on the way up. -Pause Squats Just Above Parall On the Way Up (2 to 5 count) these are extremely difficult as you will descend drive out of the hole and then hold right above parallel. It is the spot right where you don't want to stop, that you need to hold at.

- Dead Squats, set the bar on pins at 1-2" above parallel and start the movement from there at a dead stop. These are always done for singles.

JUMP TRAINING TO IMPROVE SQUAT POWER

Building explosive power is key to a big squat, as well as athletic performance. Jumps are the most effective and simplest way to build this power. In regards to improving the squat, my favorite exercises to build explosive power are the seated box jump and the depth jump.

The seated box jump starts by squatting to a box or bench, holding static on that bench for a moment and then jumping from there onto another higher box. Avoid rocking back on the box and using your momentum to go back into the jump, this defeats the purpose of squatting onto the box in the first place. Don't let box jumps turn into an exercise of how well you can pull your knees to your ears, rather focus on vertically displacing hips as much as possible and landing softly in an above parallel squat. Try using 8 weeks of these jumps, as the first 8 weeks of a meet training cycle to enhance explosiveness.

Week 1 - 6 sets of 3 jumps at 75% intensity wearing a medium/ heavyweight vest

Week 2 - 5 sets of 2 jumps at 85% intensity wearing a medium/ heavyweight vest

Week 3 - 4 sets of 1 jump up to a max wearing a medium/heavyweight vest

Week 4 - 3 sets of 3 jumps at 70% intensity

Week 5 - 6 sets of 3 jumps at 75% intensity wearing a medium/ lightweight vest

Week 6 - 5 sets of 2 jumps at 85% intensity wearing a medium/ lightweight vest

Week 7 - 4 sets of 1 jump up to a max wearing a medium/lightweight vest

Week 8 - 3 sets of 3 jumps at 70% intensity

After this 8 week phase you'll want to move to depth jumps. Depth jumps are a powerful but very taxing tool, because you're overcoming so much inertia and for this reason they must be used sparingly. To perform a depth jump drop from one box (12-36", higher box for relatively stronger and lighter athletes) and immediately upon landing jump as high as possible, either into the air or on to a second box. This depth jump cycle will peak you for maximum explosiveness going into a meex.

Week 9 - 2 sets of 5 jumps from relatively low box

Week 10 - 2 sets of 4 jumps from relatively moderate box Week 11-2 sets of 3 jumps from relatively high box Week 12-No jumps

CHAPTER

07

THE BENCH

Building massive pressing power requires a combination of strength through the pecs, triceps, shoulders, biceps, forearms, lats, rear delts, rhomboids and traps, as well as technique and confidence. It is important to understand that as with all the lifts, much of the information you have been presented with in the past via articles/videos, was written with geared lifters in mind and that while they are strong, the techniques and exercises (max width grip, reduced range of motion lifts, accommodating resistance) they use to improve won't necessarily translate to your success.

Key Technical Points In the Bench Are

1. Grip width will be individual based upon limb length. Set your hands at a width that allows the bar to be right over your wrist and wrist right over your elbow when it is on your chest. Keeping these three things in line is critical to maximizing power.

2. A tight setup is critical to a big press. In your setup, your knees need to be aligned below your hips to ensure that your butt stays down on the bench through the movement. Think about squeezing your shoulder blades together as tight as possible make sure your chest is as high as possible.

3. Whether you are using a thumbless or full thumb grip, you need

to squeeze the bar as hard as possible. This will send a tightness response through the body.

4. Tuck the elbows as you bring the bar to your chest. Whether you want to think about bending the bar or any other cue, it is key to engage the lats. Thinking about loading your lats, like you are loading a spring.

5. There are two styles that are widely used in the bench, a more dynamic style (Dan Green style) in which you lower the bar quickly letting it sink into your chest before the press command- which allows for great leg drive but is a more high risk-high reward technique. A more strict style (Brandon Lilly style) where you pause the bar on your chest by touching it as lightly as possible, maintaining as much tightness as possible through the whole body before getting the press command. One isn't necessarily better than the other, you just need to see what works best for you.

6. Regardless of style you use, leg drive is critical. Your leg drive should drive you down the bench towards your head, but since your shoulder blades are dug into the bench you won't move, instead the highpoint of your chest will rise. Your feet should be pressed into the ground (heel up or down depending on federation and comfort) and you should think about doing an explosive leg extension action but instead of you leg extending, you will drive your body towards your head.

7. The bench press is a violent movement. As you loaded the spring with the descent of the bar, now you must violently uncoil it in the press. As your elbows tuck on the way down, they should flare on the way up.

8. Practice a strong lockout by fully locking out every rep, rather than cutting them short as 'bodybuilder reps' and hold the final rep of each set at lockout for a 3-5 count before racking it.

COMMON BENCH PROBLEMS & EXERCISES TO HELP FIX THEM

The first step in fixing all of these is technique, once that is dealt with, work on these...

Weak Off the Chest

- Paused Reps, training a longer pause than you will be required to do in competition is the simplest way to build strength off of the chest. Pauses of 3- 10 seconds will work best.

- Deep Stretch DB Press, letting the dumbbells sink deep and stretch your chest will build strength off the chest. Reps in the 6-12 range

will work best. -Cambered Bar Bench Presses, if you have access to a cambered bar that will increase your range of motion by 1-2″ this will be very beneficial in improving bottom end strength.

- Back Strength, stronger lats and upper back will not only increase the thickness of the back and shorten the range of motion it will also improve drive from the chest.

Weak In The Midrange

- Spoto Press, pause the weight 1″ off your chest, try to quickly drop the weight to that point and stop it with the tension in your lats. The bar never touches the chest in this variation.

- Dead Bench, set the bar on pins 1″ above your chest. Press up from this dead position. These are done only for singles.

Weak At Lockout

- Closegrip Bench, your grip doesn't need to be excessively close 1-2″ inside your competition grip will suffice

- Dips, these worked for Pat Casey, Kaz, Al Davis and plenty of other all time greats. Take them through a full range of motion, load them up and work them hard in the 5 to 12 rep range.

- Slingshot Bench, overload the top end of the movement by 3-10% with this great tool from Mark Bell. An overload more than 10% is overkill and won't carryover. My favorite way to use the slingshot is to work up raw, then take an over set with slingshot for a heavy set of 1-3, then drop 10% from that set and do max reps with the slingshot on, all paused.

DEVELOPING EXPLOSIVE PRESSING POWER

Pushups and throws are a tremendous tool to build explosive strength in the bench press. Improve explosive strength will enhance off the chest and help you generate more force to carry you through any subsequent sticking points. Developing explosive strength is about high quality efforts, so very short work periods are necessary. Two to 5 reps in a set for 3 to 8 sets, is enough to build the power you need. Any of these drills can be intensified by adding a weight vest or increasing the height of the boxes.

Listed here are a series of drills to develop explosive power, listed in order from least to most advanced.

- Explosive Pushups, a regular pushup done so your hands leave the ground.

- Clapping Pushups, these can be done with a single clap in front of the body, multiple claps or add difficulty by clapping behind your head or back.

- Pushups onto Boxes, situate yourself between two boxes and in an explosive pushup, jump your body up to the boxes landing one hand on each. As with box jumps, don't let this turn into an exercise in how well you can pull your hands up as this will defeat the purpose of the drill and stress the shoulders, so focus on landing with your arm in an above parallel angle and landing as softly as possible. Walk your hands back down to the ground to begin the next rep.

- Drop Pushups, starting with one hand on top of each box, jump off the boxes and land between them. Quickly decelerate yourself upon landing and stop yourself halfway down into a pushup. Walk your hands back to the top of the boxes to begin the next reps.

- Paused Pushups onto Boxes, starting between two boxes, lower yourself into a pushup position, so your chest is a few inches off the ground, pause in this position for a 1-3 count, then explosively pushup and launch yourself to the top of the boxes. Walk your hands down to ground to begin the next rep.

- Rebound Pushups, a combination of drop pushups and pushups onto boxes. Start on top of boxes, jump off, land between the boxes and immediately jump back up. You should land softly on both boxes and smoothly decelerate yourself and rebound yourself back onto the boxes. This is the equivalent of a depth jump.

- MB Bench Throws, laying on a bench, lower a medicine ball from arms length to your chest and explosively throw it into the air. Have a partner catch the ball and hand it back to you to begin the next rep. A heavier ball (ie. A weight you can throw 2-4' out of your hands) will be best to develop strength for the bench while a lighter ball (a weight you can throw 5'+ out of your hands) will be better for athletic development for people like football linemen who have to develop an explosive double hand punch.

- MB Drops, lay on the ground and have a training partner drop the ball to you from their shoulder height and you'll quickly absorb the force, stopping the ball before it hits your chest.

- MB Rebound Throws, have a partner drop you a ball (like MB Drops), quickly absorb the force and then rapidly reverse that energy and throw the ball as high as possible.

CHAPTER

08

THE DEADLIFT

The deadlift in some ways is the simplest exercise, just pick the bar up off the floor and in other ways, the most complex, as it is the most taxing to the CNS and the technique varies the greatest from athlete to athlete based upon individual leverages.

Key Technical Points In the Conventional Deadlift Are...

1. Stance width will vary from athlete to athlete based upon individual body types, limb proportions and strengths/weaknesses but a good starting point is where the athlete would do a vertical jump from.

2. Bar placement in relation to the shin will also be pretty individual based upon the athlete's size but a good rule of thumb is to have the bar covering the knot in your shoelaces (or where that knot would be if you're barefoot). Bigger lifters may move the bar a bit farther away from themselves, while smaller lifters may have it a bit closer. Rolling the bar in during the setup is a popular move (ala Benedikt Magnusson), especially among larger lifters and for thicker waisted lifters it may be necessary to get into a good starting position. Just understand with this type of dynamic move is another thing to think about/screw up in your technique, so weigh the risk/reward for yourself.

3. Grip width is a bit individual as well, you want it set just outside your legs so that your hands don't scrape up your legs during the

pull. Larger athletes may need to set their hands a bit wider, this will also force you to get your hips down a bit more. Improve your grip strength by giving the bar an indian burn, this will dig the bar into your hands and lessen the chance of dropping a heavy dead.

4. Hip height/shin angle is yet another individual characteristic of the deadlift start, controlled by limb length and ankle mobility. Your shins may not be quite vertical at the start of the pull due to mobility limitations, but you should strive for that position with your shoulders slightly over the bar. This position will put everyone's hip in a different place.

5. Creating tension in the start position is critical to a big pull. Think about externally rotating your feet into the ground (screw your feet into the ground), flexing the glutes and hamstrings as you pull yourself down into position. Pack your neck, flex your triceps, pull slack out of the bar and engage your lats (protect your armpits). Draw big air into your core (breathe into your low back). Now you're ready to pull.

6. Iniate the pull from the floor by driving your shoulders up and back as if you are driving them into the bar during a squat. This plus an aggressive driving of the feet into the floor as if you're trying to trying to jump up and backwards will generate speed from the floor.

7. Avoiding bar drift throughout the lift, but particularly with the bar at the knees is critical. Make sure to flex your lats hard and think about pull the bar up and back into the body.

8. As the bar pass the knees and you approach lockout, many people want to throw their head back. Avoid this for two reasons, 1-this will lengthen the distance to lockout and 2-it will shut off your glutes which are the prime muscles needed for lockout. Keep your head neutral or even tuck your chin down as you lockout.

9. Toe position can influence starting strength and lockout ability. Straighter toes improve the lockout, while a more toe-out position

will improve power from the floor but reduces it at lockout as it is harder to fully engage the glutes in a toe-out position.

Key Technical Points in the Sumo Deadlift are...

1. Sumo deadlift stance width, like conventional, will vary from athlete to athlete. The ultra wide stance, when it looks like the athlete is going to drop the weight on their toes, it better suited to an athlete with great groin/hip strength. The modified sumo, ala Ed Coan, is best suited to athletes with great quad (squatting) strength. Choose accordingly based on your own strengths.

2. Bar placement in relation to the shin will also be pretty individual based upon the athlete's size but a good rule of thumb is to have the bar covering the knot in your shoelaces (or where that knot would be if you're barefoot). Bigger lifters may move the bar a bit farther away from themselves, while smaller lifters may have it a bit closer. Rolling the bar in during the setup is a popular move (ala Benedikt Magnusson), especially among larger lifters and for thicker waisted lifters it may be necessary to get into a good starting position. Just understand with this type of dynamic move is another thing to think about/screw up in your technique, so weigh the risk/reward for yourself.

3. Grip width in the sumo pull will be at shoulder width so the arms fall in plumb lines down from the shoulders.

4. Hip height in the sumo start is a bit misunderstood, as often people want to start with their hips too low so they can seemingly squat the weight up, but for most (Andrey Malanichev excepted) an above parallel position will be best. Once the bar is in it's starting place over the foot, stretch your hamstrings by raising your hips until your legs are straight. From here, lower your hips while maintaining tension in the hamstrings. Externally rotate the feet (screw the feet into the ground) and arch up at the t-spine until your shins are

touching the bar. The pull will start from this position.

5. Creating tension in the start position is critical to a big pull. Think about externally rotating your feet into the ground (screw your feet into the ground), flexing the glutes and hamstrings as you pull yourself down into position. Pack your neck, flex your triceps, pull slack out of the bar and engage your lats (protect your armpits). Draw big air into your core (breathe into your low back). Now you're ready to pull.

6. Iniate the pull from the floor by driving your shoulders up and back as if you are driving them into the bar during a squat. This plus an aggressive driving of the feet into the floor as if you're trying to trying to jump up and backwards will generate speed from the floor.

7. Avoiding bar drift throughout the lift, but particularly with the bar at the knees is critical. Make sure to flex your lats hard and think about pull the bar up and back into the body.

8. As the bar pass the knees and you approach lockout, many people want to throw their head back. Avoid this for two reasons, 1-this will lengthen the distance to lockout and 2-it will shut off your glutes which are the prime muscles needed for lockout. Keep your head neutral or even tuck your chin down as you lockout.

9. Timing and sequencing of the lockout is critical, the power of the legs must drive the lockout. The legs should lockout slightly before the hips. Finish the leg drive violently so the back/hips can finish it the last few inches once the legs are fully extended.

COMMON DEADLIFT PROBLEMS AND EXERCISES TO HELP FIX THEM

The first step in fixing all of these is technique, once that is dealt with, work on these...

Weak Off the Floor Both Styles

- If you are weak from the floor but are training your deadlifts, touch-and-go you are missing out on the simplest way to improve strength from the floor. Train your reps dead stop.

Conventional

- Front Squats or Safety Squat Bar Squats, these will improve quad strength. Paused variations of both of these will be even better. Do them in the 3-8 rep range.

- Deficit Deads, don't make the deficit excessively high as this will put you in an unrealistic starting position. Longer/leaner athletes can use a 3-5" deficit, while heavier athletes should stick to a 1-3" deficit.

- Depth Jumps, a powerful tool that must be used carefully since it is very stressful to the body.

Sumo

- Dead Squats, doing these with a stance that mimics your start position is key.

- Deficit KB Swings, heavy KB swings while you stand on two blocks so the KB can swing lower (at or slightly below the level of you feet) will help enhance mobility and strength in this position.

- Weighted Squat Jumps, let the weight (DB or KB) hang between your legs as you go from a half squat into a powerful jump. 3-5 sets of 2-5 jump will be best.

Weak at the Knees Both Styles

- Bentover Rows, lat strength and engagement is key to keep the bar close to the body during a heavy pull.

- Paused Deadlifts, deadlifts can be paused for a 1-5 count at any point during the lift to address a specific weakpoint. Pause either where you are sticking or an inch below it.

Weak at Lockout Both

- BB Glute Bridges/Hip Thrusts, weight is certainly important here but do not sacrifice full hip extension. Train them hard in the 5-12 rep range. Conventional

- Sumo Deads, training the opposite style will strengthen other muscles that aren't as developed from conventional pulls, particularly the glutes and hips. -Snatch Grip Deadlifts, either done from the floor or from blocks. Wear straps for these and train them in a higher rep range like 6-15 reps.

Sumo

- Block Pulls, pulls from 3-6" blocks, following the same prescription as with deficit pulls will allow you to overload the top portion of the lift. Mostly focus on pulls for reps in the 2-8 rep range, while very occasionally working up to a heavy single. Straps are acceptable here as well.

BUILDING EXPLOSIVE PULLING POWER

Improved explosive qualities will lead to enhanced speed off the floor. As with any of the lifts, improving force at the start of the concentric phase will improve your ability to overcome sticking points throughout the rest of the lift. Deadlifts do not have the benefit of an eccentric phase to load the stretch reflex, so you will benefit from training your explosive work from paused/dead stop positions.

My go to movements to build explosive power from the floor in the deadlift are weighted jumps and throws.

For throws, either an overhead backward or rocket (underhand throw for height) from a static starting position will be great. Six to 10 total reps done with a complete recovery will suffice.

Paused squat jumps holding a kettlebell or dumbbell between your legs will be the best way to build power in the starting position. Squat down so you are a few inches above parallel, hold in that position for a 2 to 5 count and jump powerfully from there. Three to 6 sets of 1 to 3 jumps will be sufficient.

CHAPTER
09

BACK REHABILITATION

WITH DR. JASON REYNOLDS

Low back pain is the number 1 cause of doctor visits in the U.S. aside from the common cold. Low back pain is an epidemic and it will affect 85% of us at some stage of our life and to varying degrees. Low back pain however, is a garbage can term; it is both ambiguous and useless if we do not define the specific pathophysiology that would manifest the label of "back pain." Now one thing that needs clarification is that the chronicity of low back pain seen in the average American, is often different than the acutely episodic low back pain an athlete may encounter. Some of the same anatomical, physiological and biomechanical principals are true of all lumbopelvic injuries or "back pain," still it remains that the etiology and prognosis will vary from your athlete to your, relatively speaking, unfit individual.

> Low back pain is an epidemic and it will affect 85% of us at some stage of our life and to varying degrees.

A perfect working example of this is the recently injured yet fast healing patient and colleague, Chad Smith the Juggernaut. This serves as a journey and case study into the cause, management and prognosis of “back pain,” the often elusive, multifaceted, number 1 cause of disability in the US. Hopefully we can unravel some truths about the causation, progression and appropriate therapies in dealing with such a menace to our society.

The text came through on June 6th, about 1 week prior to the initial incident, and it was at that moment that I decided an MRI was necessary because the symptoms had worsened over a weeks time. Also, my pull of the trigger to order imaging was greatly influenced by seeing Chad at his wits end with something. Complaining and inability are not 2 things common to this man, so we needed to see what I inevitably knew would be present on the MRI: Multi level herniations both central and foramenal. The largest was 7mm and it served as conclusive evidence to support the neurologic and orthopedic exams (performed serially over the last 7 days). Now we had our diagnosis! We know what is causing the “back pain” or do we? Here are some concepts that often need explaining to many of my patients that have back pain, or any pain for that matter.

Most times the CAUSE of the pain is not the CAUSE of the pain. No typo there. Let me explain. When our body afferently transmits pain signals to our brain, in this case from Chad’s L5/S1 posterolateral disc tissue and nerve root sheath, we call this the pain generator, there is a pathophysiologic change to the tissue either structurally or chemically and now our body is alerted in hopes of protecting itself from further damage and degradation. Than we have the cause of the pain. All injuries whether chronic or acute have some type of biomechanical, anatomical

or physiological dysfunction (not directly the pain generator), the only exception is external force trauma, example: Joe Theismann's Tibia/fibula fracture. So what CAUSED this bout of disc tissue failure, there was not much I can think of especially from a guy who for the 4 years I have known him has been lifting, pushing and pulling ungodly amount of weight. If over 900 pounds sitting on your back as you squat your ass past your knees isn't enough to make tissues fail, I don't know what is.

In studies searching for the proverbial holy grail of back pain causation, there are many indicators that functional integrity is at the root cause of most of the chronic or non-traumatic acute incidences. This functional integrity is more of an epidemic than overt morbidities such as neoplasms (cancers), autoimmune disorders (RA), and the normal degenerative process of spinal arthritis. Surely in a case like Chad's, functional integrity is the only factor of his low back pathology. The question still begs, how does a person of herculean strength suddenly have an injury that absolutely floors them. 3 words, General Physical Preparedness. This is a word often used in the training and sporting arenas. You wouldn't typically hear a doctor speak of it and surely not attribute it to the cause of lumbar disc pathology with radiculopathy. Just a few weeks prior to this injury, Chad had begun doing an exercise called an Ox deadlift. Nevertheless this exercise is an absolute genius strategy to train portions of ones deadlift and all at the same time a nightmare come true for the lumbopelvic region of the body. Once I actually saw a video of this exercise being performed I knew immediately that this was a big piece of the problem Chad was experiencing. The exercise itself is not one that I would recommend however the manner in which the exercise was being done was the straw that broke the camels (or Juggernauts) back. We have all heard that old

adage, and possibly experienced something similar, a paralyzing sensation that floors you into spasms and all you were attempting to do was pick up something off the floor, or maybe it was getting out of bed, or doing a seemingly routine tempo type training session. Whatever the "straw," it was probably not the force or activity you thought would put you in the ER or into an MR machine. The same with Chad, how did this "straw" of an exercise do him in? It's quite simple; his body was not prepared for the repetition with such a foreign exercise.

As I began to explain, Functional integrity is a major underlying cause for lumbar spine pathology. What does that even mean you ask? I do not entirely like the use of the word functional because it is a very ambiguous term and can be used out of context, however it is the best way I can describe what happened or does happen to an individual's spine when it fails. The best example of a this is to imagine what would happen to a rubber band if you continued to stretch it to its submaximal limit over and over again over days and months and years, or a paperclip bent in half and then again in half the other way and so forth. Our tissues will respond the same way to stresses. Some stresses we can adapt to and get stronger and more resilient from, some our body cannot adapt to and failure occurs. This is functional integrity; it is a specific tissues physiologic resiliency to stress. It is made up of both anatomic considerations and neurologic considerations. Take a lumbar disc for example in this scenario with Chad; clearly the anatomic structural resiliency to heavy loads with both high frequency and volume was not a question. What Chad was missing and what most pathologic failures of lumbar tissue are missing is the neurologic component. Proprioception and mechanoreception, the ability of a muscle, tendon, joint and fascia to know where it is relative to gravity,

an external load and the adjacent tissue/joint. Too many times we allow our bodies to do an activity or movement that it is not ready to do, or has not trained to do. This happens all the time with athletes who experience overuse injuries early in a season, too much too soon and no general physical preparation before beginning the meat and potatoes of the training. The truth of the matter is that if we had taken an MRI of Chad's Lumbar Spine just a few hours before he started to have his symptoms we would have likely seen bone marrow changes, potential herniations, and other structural abnormalities that were not pathologic enough to manifest pain or dysfunction. However, the introduction of a new exercise, activity (Ox deadlifts) or even the repetition of an action that is detrimental to specific tissue (bending from the lumbar spine instead of utilizing a hip hinge), will eventually wear down perfectly normal tissue to failure and mainly due to neurologically inept tissue.

There are many diagnoses that can elicit the label of "back pain," the etiology of the pain is usually a no brainer if you are given imaging and a solid orthopedic and neurologic work up is done. The challenge is to know if what those symptoms and diagnosis portray is the issue you address or is it simply the pain generator that has an even deeper causation. The answer is almost always yes, there is another causative factor. Functional integrity and general physical preparedness are cornerstone pieces for the formulation of how to correctly diagnose an injury and more importantly how to treat and manage the injury so that optimal recovery can ensue.

What is the first thing you think of when you hear the words "herniated disc?" How about we spare the negatives and just say what you don't think of: being back to pre-injury status in eight weeks. I may be embellishing a bit, and quite honestly, I am inflating that statement by about 3-4 weeks, but let me explain. When Chad sustained his MRI-confirmed multilevel herniation with clinically correlated findings (meaning what we saw on the MRI matched what my orthopedic and neurologic testing presumed and confirmed symptomatically what you would have expected symptomatically), we knew this would set him back from his record-setting squatting, pushing, and pulling. The structural severity of Chad's injury would have had spinal orthopedists licking their chops and prepping for operation day. For reasons more than Chad's stubborn, hard-working, alpha male mentality, we decided that surgery was a last resort and even a consult would have to wait. This was a tough decision, but I had a feeling of optimism and assuredness that conservative care was the best option.

Back to the four/eight-week pre-injury status comment: this is an embellished statement because of the human being we are talking about.

Remember, Chad has squatted 905. It would take 16 weeks of solid programming for a healthy Chad to achieve that feat again, let alone coming off an injury that has put many people onto surgeon's tables and others onto disability for life. Chad is doing things that any normal human could not be doing at eight weeks post-injury, and even at four weeks post-injury, Chad was doing much more than the average patient. He was marching through his rehab, and while much of his success is due to his dedication to the rehab plan, I am confidant a big chunk can be credited to the passive care he was receiving.

Passive care is defined as a treatment or modality used to correct, alleviate, or act as a support to the body's normal healing and recovery processes, where the body is not acting or performing to assist the recovery. Good examples are chiropractic manipulation, soft tissue mobilization, pain medication, laser therapy, ultrasound, electric stimulation, kinesiological tape, massage, ice packs, heat packs, spinal decompression, acupuncture, etc. Anything where the patient does nothing and someone or something is facilitating the care. If you are reading this and are just now finding out that I am a chiropractor, I suggest you connect with me via the links below so you can see that not all doctors are created equal and that a provider should be defined by what they know and how they manage care, not the alphabet soup behind their name.

Nonetheless, I am a chiropractor and due to that I have certain philosophical beliefs, but those beliefs do not preclude me from being a responsible healthcare provider. I like to make mention of this professional affiliation because I occasionally still get the ignorant patient, fellow

chiropractor, physical therapist, medical doctor, or orthopedist who learns that I am a chiropractor and has some preconceived idea of what I do or should be doing. Lest I start a civil war with my chiropractic and orthopedic colleagues, any other comments regarding my philosophical belief and my simultaneous trust in medicine will be left to your imaginative, ambiguous thoughts.

The passive care plan for Chad's herniations was simple: use all methods that had any supportive research. Time and money were not an issue for this patient; the issue was getting our Juggernaut back to being unstoppable. In no way am I directly stating that these passive care protocols, techniques, machines, and tools are exclusive to the type of care Chad received, nor am I endorsing any one of them. They are the preferred method for me as a practitioner and I encourage you to seek out these therapies and other therapies associated with the treatment of lumbar spine pathology. In the acute phase of care (in this instance 2-3 weeks), we focused on spinal decompression therapy and class IV laser therapy. The theory behind implementing these two modalities early was to unload the discs with the decompression machine, allowing for better inflammatory cell exchange through improved circulation of water and blood, and structurally permit the herniated material to be resorbed into the disc and off of Chad's nerves and nerve sheath, which is prolonged when a constant axial load is present. The laser served as a cellular metabolism accelerator. The process of cellular exchange from healthy cell to inflammatory cell can be sped up with laser therapy. After the first two weeks with plateauing effects we moved to mostly manual therapy procedures. These consisted of chiropractic manipulation, myofascial mobilization techniques like Active Release Therapy (ART), instrument-

assisted soft tissue therapies like Graston Technique (GT), muscle energy techniques like Post-Isometric Relaxation (PIR), proprioceptive neuromuscular facilitation stretches (PNF), and lastly joint mobilizations with and without movement. These are the bread and butter of a passive care plan. We also utilized ice and electrical stimulation concurrently with the manual therapy but the manual therapy is my trump card in the passive care approach that I take. All therapies listed can be effectively executed in a 10-20 minute session. When dealing with tissue change and receptivity, frequency is key. Another important note is that just because we took a holistic approach to his lumbar spine injury, that doesn't mean we needed to look at Chad's diet, social health, and mental state (although, yes, that is encompassed in holistic).

The term "holistic" here means from a biomechanical standpoint, think

"comprehensive." The holistic approach with this manual therapy in the sub-acute phase (weeks 3-8), was to steer our focus away from the lumbosacral region and explore other dysfunctions up and down the chain. This included lower extremities, thoracic spine, and even the shoulder girdle. I do not want to be laborious in my treatments from day to day, but below is a sample treatment Chad may have received, complete with the corresponding functional and biomechanical reasoning.

Manipulation of the thoracic spine: Attempt to restore any lost range of motion that could lead to a propensity for increased activation of the erector spine musculature, which act as posterior shear forces on the lumbar spine.

ART and Graston of bilateral latissimus dorsi (both lats), lumbopelvic fascia, and lumbar spine erector musculature: The linkage between the lats, the fascia in the lumbar spine, and the pelvis has been shown to relate directly to each other's dysfunction. Tissue immobility, tightness, or irregularity in the normal function of these regions can cause imbalance at the lumbopelvic region.

ART and PIR of the Illiopsoas (hip flexors): A mentor of mine once said that if he could treat only one muscle in the human body it would be the psoas, because of the impact they play on the lumbar spine. The psoas muscles attach to the spine and stretch past your hip and onto your upper leg. They are responsible for flexing your hip, but more importantly for stabilizing your lumbar spine through heavy torque and loads. Overly shortened psoas can cause undue compression on the lumbar spine and undue shearing forces.

Mobilization with movement, bilateral femoral acetabular joints (both hips): These joint mobilizations aim to provide a stretch in the capsule of our joints. Many stretching and soft tissue procedures will not address the capsular tissue and capsular ligaments of a joint. A mob (pronounced MŌB), as it is called, allows you to gain increases in range of motion that other passive modalities cannot. When addressing low back injuries, often the lack of hip range of motion causes compensatory motion in the lumbar spine, which can lead to increased shear and load to the soft tissue in the spine.

Ice and stim of the lumbar spine (electrical stimulation): A big part of me is attached to the novelty of this training room classic. Heck, I grew up with one of these practically attached to my hamstring throughout the end of high school and into my college career. Stim and static stretching were the main passive care modalities used to treat injuries. In all fairness, I do use it for a pain modulating effect and the ice helps to quickly rush out the increased inflammation that I caused earlier in the session with all the ART and Graston.

That is a general visit in the manual therapy protocol for disc herniation. I would like you to keep in mind that the aim of passive care is to holistically restore any compensatory patterns that were developed during the acute phase as Chad's body was trying to operate but stay away from pain. Concurrently, Chad had homework: there were active care procedures that were being done to preserve his neurologic mapping of what a squat pattern is, breathing under load, or what it feels like to have the hamstring activate - and not from a nerve root-provoked radicular shock type of activation. It is a holistic, comprehensive plan that you can see has brought us to the light at the end of the tunnel.

We cannot say we are victorious until Chad steps onto that stage again and tries for another American or world record, but I would like to claim a victory for Chad, conservative care, and myself. Although Chad still has 2-3 months before most would claim pre-injury status, he was squatting his body weight for high volume by week eight and yoke carrying 125% of his body weight, all asymptomatically. We took what could have been a surgical case and turned it into a success by any normal man's measure: No surgery, back to normal daily activities in four weeks, and back to intense exercise at eight weeks. So for most of us, I wasn't embellishing at all. Eight weeks to pre injury status after a severe back injury? Sure it's possible.

The biggest disservice that any healthcare practitioner could provide is an allopathic approach to disease and dysfunction. In its most denotative sense, allopathy relates to the treatment of symptoms rather then the cause of the symptoms; the connotation of allopathy is usually associated with mainstream medicine (drugs and surgery). As more and more people are looking to other non-allopathic means of healing or treating their disease and dysfunction, the practice of allopathy is leaking into the ranks of conservative, holistic and alternative care practitioners. The best example of this is a Chiropractor only manipulating the spine, or a Physical Therapist using only active care exercises. I know this is very black and white but I am not suggesting that every practitioner provide every treatment modality possible, but a tunnel vision approach is a formidable path and fact remains that "allopathic" conservative care is just as chronic a problem as allopathic medicine. Active care is typically the most important and the most lacking component of a therapy plan for neuromusculoskeletal injuries and dysfunctions. We explored the idea of General Physical Preparation (GPP) in my Part one article, and how a

body needs to be prepared for whatever demand you will be imposing on it. In the unfortunate event that the integrity of your body's tissues is compromised by its inability to withstand imposed demand, there is a need to both evaluate the GPP state of the body and devise rehab that returns the body back to a pre-injury state. Here is where a holistic approach to rehabilitation is a determining point in how effectively the body bounces back to a state of normalcy.

Active care is defined simply as exercise. From a clinical perspective it is in broad sense rehabilitation. Active care has its place in all types of healthcare environments. It has its definitive place in more systemically based dysfunctions such as cerebral pathologies or cardiopulmonary pathologies but most of the healthcare worlds active care is performed in the orthopedic world. So if you have tendonitis, or a ligament sprain, arthritis, or back pain chances are some type of active care is being performed. The undermining of active care in a treatment plan has varied degrees, since we will be reviewing the active care plan that was utilized for Juggernaut Chad Smith's lumbar disc herniation lets look at some of the plans that could have been presented to Chad on his road to getting back to pre-injury status. Let me preface this critique by stating that all of these approaches are correct assuming they are part of a plan and progression not the stand-alone active care approach. In order of least effective to most: First of all a plan without active care and only passive care like the plan discussed in **Lumbar Spine Rehab-Part 2,** would be insufficient on its own. The next tier could have been a stretching regimen, the old advice of just stretch and rest. I'll even give the benefit of the doubt that this theoretical stretching advice includes adjacent areas, so for the example of lumbar spine rehab, we will include the hip complex, beneficial but not close to optimal.

The next tier would be a specific stretch such as Williams's flexion protocol or McKenzie's extension protocol. These are two very effective active care approaches that are specific to different types of disc pathology, but with these alone, a palliative affect is the best result and functional deficits will remain. Strengthening would be the next approach and yes its true the more adaptive to external stresses the more resilient a tissue becomes to pathologic change, the garbage can notion of "strengthen your core" is a great adage but lets be honest what is your core and how do you effectively strengthen it? Then comes the last tier of what I consider an "allopathic" approach to rehabilitation and that is functional training. Although in its denotative meaning yes absolutely this is what we need to accomplish but from the overwhelming connotative sense in the healthcare industry functional training means gizmos and gadgets, and skill challenging exercises rather then, well, function for that individual. As I stated, all these "tiers" of rehab are potential components of a well-rounded holistic approach to rehab. If you have a comprehensive plan the only thing between your patient/client and optimal health is their compliance.

Constructing a rehab plan for any individual starts with the diagnosis or if you are not a doctor, the assessment, as described in **Lumbar Spine Rehab-Part 1.**

Now we do not need to go into depth on diagnosis and assessment but it is fair to reiterate that knowing exactly what the injury, dysfunction and pain generating factors are, half of the battle can be won. I want to begin by trying to change the paradigm on what rehabilitation really is. This is something I compulsively try to convey to patients in my clinic and clients that do performance training with me. It is also what I based all of my

teaching on when I taught active care and rehabilitation at the Southern California University of Health Sciences. Hopefully I am preaching to the choir with this statement but rehabilitation is an event that is training the body's neurology PERIOD. If at any stage you start talking about strength, or explosiveness, or flexibility you have just crossed out of the rehabilitative world and into the performance world. PERIOD. If we take a look back at the idea of preparedness or GPP, these building blocks are a series of neurologic events coordinated through efferent execution (you telling your body to produce a movement or action) and afferent feedback (the body telling you all systems go) to produce a movement, or activation or relaxation etc. A perfect example of this neurologic phenomenon is the ability to diaphragmatically breathe and maintain an active, relatively neutral lumbopelvic spine (and a major part of Chad's rehab).

As you read this now I want you to try this (this is a diagnostic assessment clinically used). Place one hand on your chest and one on your stomach. Tighten your core (however you see fit to do that) now take a deep breathe. Chances are your superior hand on your chest travelled vertically more so then your inferior hand on your stomach travelled horizontally. This is pathologic breathing and you too would benefit from breathing rehab. Ventilation should be completed through the diaphragm being contracted and flattened through the ventilation phase all while you are maintaining a protected, relative neutral lumbar spine. Below I will take you through an abbreviated approach to the beginning acute phase weeks of conservatively rehabilitate a lumbar disc herniation. I will attempt to describe the exercise and its conceptual and theoretical reasoning to how it fit into the plan for Chad, and his functional needs.

LUMBOPELVIC CONTROL

There is not a whole lot of movement that occurs between the sacroiliac joints and the 1st lumbar vertebrae, (your core) or if there is a lot of movement then you're probably suffering from an injury or setting yourself up for one. One of the first things to address in lumbar spine or sacroiliac dysfunction is that although motion is good, I agree, it is not the desired attribute for this particular area of the body, as a matter of fact the sacroiliac joints have been shown in studies to have only 2-5 degrees of motion, max! The approach here is to teach pelvic control through a rudimentary stepwise process. Here is the first 3 steps to the motor learning of pelvic control:

Rehabilitation Progression Series

Level I – Motor Learning

Series 1A

Core Bracing Stage I (Three component coordination)

Goal:

- The coordination of the three main components of core stability:
  1. *Pelvic floor / keigel*
  2. *Abdoninal wall bracing*
  3. *Normal free breathing*

Starting Position:

- Patient unloaded supine
- Pelvic neutral
- Lower extremity hip and knees comfortably flexed, hip width apart
- Attention to upper body posture and C/S neutral

Movement:

- 10 second co-contraction of the pelvic floor through a keigel, the abdominal wall musculature through bracing (provide patient queuing by driving thumbs into abdominal wall just above the iliac crests bilaterally. Patient should resist against this inward driving of the thumbs). The patient will also focus on normal relaxed breathing during this 10 second keigel and abdominal hold. Make sure to keep the face, neck, and shoulders relaxed.

Key Notes/Common Faults:

- No pain/discomfort/straining of any kind
- Faulty breathing pattern
- Non-pelvic neutral position
- Other body region compromise

Beginning Position:

Movement Position:

Rehabilitation Progression Series

Level I – Motor Learning

Series 1B

Core Bracing Stage II (Firing Pattern Integration - *Heel Lift*)

Goal:

- The integration of core stability as learned in Core Bracing Stage I, in to a basic and fundamental motor firing pattern.

Starting Position:

- Patient unloaded supine
- Pelvic neutral
- Lower extremity flexed, with feet hip width apart
- Attention to upper body posture and C/S neutral

Movement:

- The patient will turn on and off the core in accordance with extremity movement.
- Activate core stability "on" by way of Core Bracing I, lift one heel (just a couple inches is fine), lower heel back down, then relax core stability "off."
- Repeat with opposite side heel.

Key Notes/Common Faults:

- No pain/discomfort/straining of any kind
- Faulty breathing pattern
- Loss of pelvic neutral position seen as rotational disconnect and/or tilting and or hiking
- Other body region compromise

Beginning Position:

Movement Position:

Rehabilitation Progression Series
Level I – Motor Learning

Series 1C
Core Bracing Stage III (Firing Pattern Integration - *Heel Drive*)

Goal:
- The integration of core stability as learned in Core Bracing Stage I, in to a basic and fundamental motor firing pattern.

Starting Position:
- Patient unloaded supine
- Pelvic neutral
- Lower extremity flexed, hip width apart
- Attention to upper body posture and C/S neutral

Movement:
- The patient will turn on and off the core in accordance with extremity movement.
- Activate core stability "on" by way of Core Bracing I, drive one heel in to ground (just activate, well below maximal effort strength), then relax heel drive, then relax core stability "off."
- Repeat with opposite side heel.

Key Notes/Common Faults:
- No pain/discomfort/straining of any kind
- Faulty breathing pattern
- Loss of pelvic neutral position seen as rotational disconnect and/or tilting and or hiking
- Other body region compromise

Beginning Position:

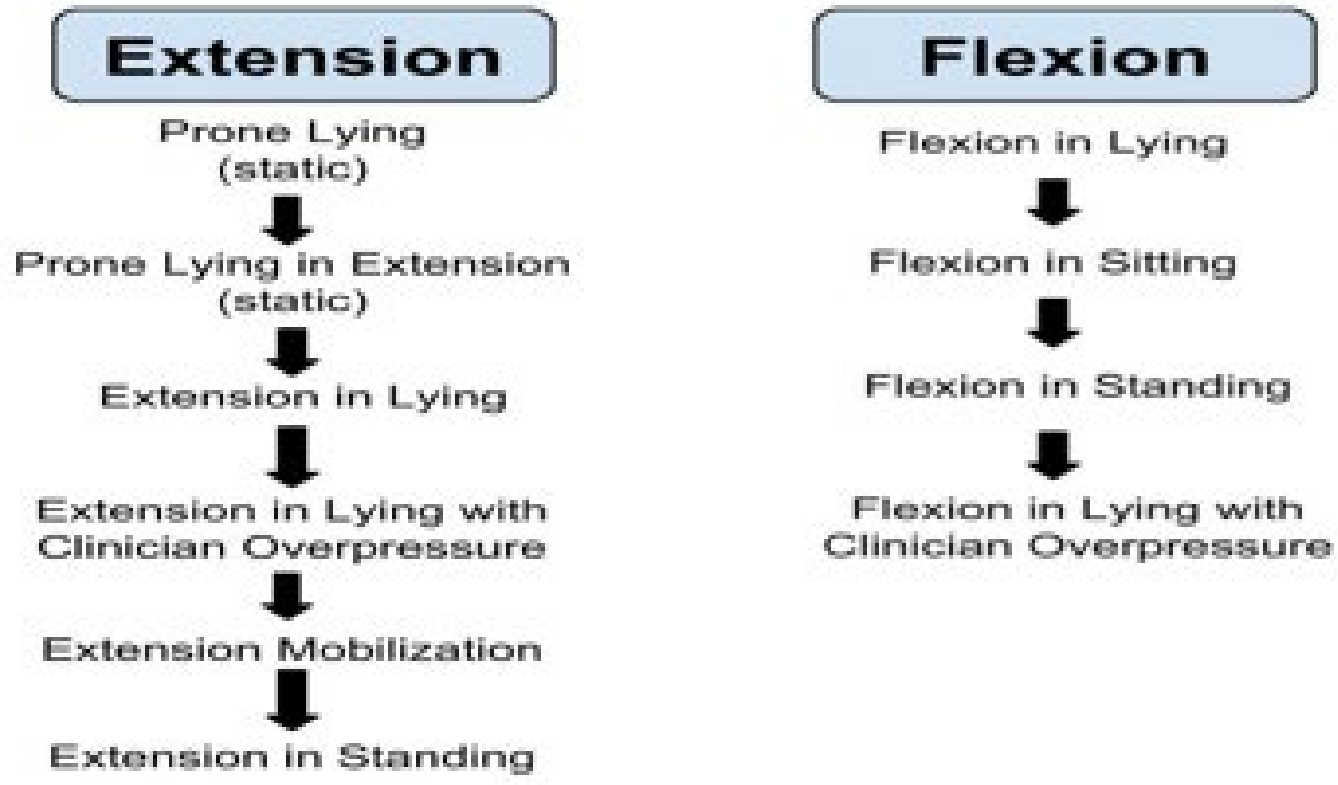
Movement Position:

LUMBOPELVIC ACTIVATION

The activation of the lumbopelvic region is a transitional and progressive portion to the control portion we just highlighted above in the first 3 stages of lumbopelvic motor control. If you cannot control the core then you should not be attempting to activate it through peripheral movements. I may be remiss to assume that when I mention core activation the image in your head is not someone hammering away at sit-ups, leg lifts, and other lumbar spine insensitive movements that cause compression and shearing that is detrimental to low back health. Here are a two of Chads staple activation exercise progressions, Bird Dog and Dead Bug variations. These sample activation exercises must be utilized in the early acute phase of injuries and can be incorporated into any movement preparation warm-up.

MCKENZIE'S PROTOCOL

The Mckenzie protocol we used with Chad was the extension protocol. All disc injuries have position intolerances and the non-technical way to address it using these protocol systems is to utilize which of the positions is more favorable. In a clinical setting I do not use all of the philosophy that the McKenzie method teaches but I do use it as a piece in my holistic approach. The simple way I incorporate at home therapy using this school of thought is to put the patient into the 2 positions in the McKenzie protocol; static prone position (lumbar passive, patient resting on elbows), or child's pose (hands in front with legs tucked under and glutes sitting on heels). Whatever position the patient would prefer to stay in all day is what I will have them perform at home. This picture depicts the progression through the extension protocol Chad performed, minus the clinician-assisted steps.



HIP/ANKLE MOBILIZATION

Creating a mobile lower extremity hip and ankle complex is a necessary task when dealing with any lumbopelvic condition, the hip more directly and for the activity specific requirements for Chad and his mechanism of injury the ankle is an important area. As I mentioned previously there are certain areas of the body that need to be mobile and areas that need to be stable. Almost every lumbar spine injury that is not related to some acute traumatic accident, you will find a discrepancy in the stable vs. mobile relationships. Typically what will present is the hip and ankle complex is not mobile enough and the lumbopelvic region is too mobile. The hip complex is made up of a number of different soft tissue structures and a full divulgence into a comprehensive approach to hip mobility will be for another time. For this instance a sample of Chad's mobility exercises are mostly band-assisted movements and self-administered manual therapy (i.e. foam rolling). The Mulligan Concept is the foundation for the banded

mobilizations that I teach my patients. Keep in mind that much of the tissue quality change is being made with the manual therapy procedures that I wrote about in my part 2 passive care article.

This is a snippet into a longer 6-9 month time frame for rehabilitating the lumbar spine. At just 4 weeks however Chad was able to do some scaled down training progressions as we progressed forward with the rehabilitation plan above. The key to a successful speedily recovery is a multifaceted approach or a holistic approach if you will. The aspects of mental readiness and nutritional fortitude are part of this holistic approach but commentary on that is for another time. From Diagnosis, to Treatment plan and rounding it all off with rehabilitation that is movement preparation and GPP based will get you, your patients or clients back to your sport or lifestyle activity quick.

CHAPTER
10

PROGRAMING SECTION

JUGGERNAUT METHOD

10S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	60%x5x10	5th set can be taken past 10 reps, but stay 1-2 shy of failure
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	60%x5x10	5th set can be taken past 10 reps, but stay 1–2 shy of failure
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	

FRIDAY	1. Deadlift	60%x5x10	5th set can be taken past 10 reps, but stay 1–2 shy of failure
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	60%x5x10	5th set can be taken past 10 reps, but stay 1–2 shy of failure
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

10S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	67.5%x3x10	3rd set can be taken past 10 reps, but stay 1-2 shy of failure
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	67.5%x5x10	3rd set can be taken past 10 reps, but stay 1-2 shy of failure
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	67.5%x5x10	3rd set can be taken past 10 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	67.5%x3x10	3rd set can be taken past 10 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

10S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x2, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x2, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x2, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 10 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 10 Reps) x 2.5 Pounds and add that number to your Working Max

8S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	65%x5x8	5th set can be taken past 8 reps, but stay 1-2 shy of failure
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	65%x5x8	5th set can be taken past 8 reps, but stay 1–2 shy of failure
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	65%x5x8	5th set can be taken past 8 reps, but stay 1–2 shy of failure
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	65%x5x8	5th set can be taken past 8 reps, but stay 1–2 shy of failure
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

8S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	72.5%x3x8	3rd set can be taken past 8 reps, but stay 1-2 shy of failure
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	72.5%x3x8	3rd set can be taken past 8 reps, but stay 1-2 shy of failure
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	72.5%x3x8	3rd set can be taken past 8 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	72.5%x3x8	3rd set can be taken past 8 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

8S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 8 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 8 Reps) x 2.5 Pounds and add that number to your Working Max

5S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

5S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

5S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set -5 Reps) x 2.5 Pounds and add that number to your Working Max

3S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

3S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

3S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 2.5 Pounds and add that number to your Working Max

INVERTED JUGGERNAUT METHOD

10S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	60%x10x5	60-90 sec Rest b/t Sets
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	60%x10x5	60-90 sec Rest b/t Sets
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	60%x10x5	60-90 sec Rest b/t Sets
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	60%x10x5	60-90 sec Rest b/t Sets
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

10S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	67.5%x10x3	90-105 Sec Rest b/t Sets
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	67.5%x10x3	90-105 Sec Rest b/t Sets
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	67.5%x10x3	90-105 Sec Rest b/t Sets
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	67.5%x10x3	90-105 Sec Rest b/t Sets
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

10S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x2, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x2, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x2, 70%x2, 75%xAMRAP	AMRAP set is capped at 20 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 10 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 10 Reps) x 2.5 Pounds and add that number to your Working Max.

8S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	65%x8x5	75-90 Sec Rest b/t Sets
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	65%x8x5	75-90 Sec Rest b/t Sets
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	65%x8x5	75-90 Sec Rest b/t Sets
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	65%x8x5	75-90 Sec Rest b/t Sets
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

8S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	72.5%x8x3	105-120 Sec Rest b/t Sets
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	72.5%x8x3	105-120 Sec Rest b/t Sets
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	72.5%x8x3	105-120 Sec Rest b/t Sets
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	72.5%x8x3	105-120 Sec Rest b/t Sets
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

8S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x3, 70%x2, 75%x1, 80%xAMRAP	AMRAP set is capped at 18 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 8 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 8 Reps) x 2.5 Pounds and add that number to your Working Max.

5S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	70%x6x5	6th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

5S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	77.5%x4x5	4th set can be taken past 5 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

5S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%xAMAP	AMRAP set is capped at 15 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 2.5 Pounds and add that number to your Working Max.

3S WAVE-ACCUMULATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. RDLs	3x12	
	3. Walking Lunges	3x20 Steps	
	4. Plank	3x30 Sec	
WEDNESDAY	1. Bench	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. DB Rows	4x12 each hand	
	3a.DB Lateral Raise	3x15	
	3b. DB Skullcrushers	3x15	
	3c. DB Alt Curls	3x15	
FRIDAY	1. Deadlift	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x12	
	3. Step Ups	3x10 Each Leg	
	4. Plank	3x30 Sec	
SATURDAY	1. Military Press	75%x7x3	7th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x12	
	3a. DB Front Raise	3x15	
	3b. Tri Pushdowns	3x15	
	3c. DB Hammer Curls	3x15	

3S WAVE-INTENSIFICATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. RDLs	3x10	
	3. Walking Lunges	3x16 Steps	
	4. Plank	3x45 Sec	
WEDNESDAY	1. Bench	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. DB Rows	4x10 each hand	
	3a.DB Lateral Raise	3x12	
	3b. DB Skullcrushers	3x12	
	3c. DB Alt Curls	3x12	
FRIDAY	1. Deadlift	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Good Mornings	3x10	
	3. Step Ups	3x8 Each Leg	
	4. Plank	3x45 Sec	
SATURDAY	1. Military Press	82.5%x5x3	5th set can be taken past 3 reps, but stay 1-2 shy of failure
	2. Lat Pulldowns	4x10	
	3a. DB Front Raise	3x12	
	3b. Tri Pushdowns	3x12	
	3c. DB Hammer Curls	3x12	

3S WAVE-REALIZATION

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. RDLs	3x8	
	3. Walking Lunges	3x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. DB Rows	4x8 each hand	
	3a.DB Lateral Raise	3x10	
	3b. DB Skullcrushers	3x10	
	3c. DB Alt Curls	3x10	
FRIDAY	1. Deadlift	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. Good Mornings	3x8	
	3. Step Ups	3x6 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	50%x5, 60%x3, 70%x2, 75%x1, 80%x1, 85%x1, 90%xAMAP	AMRAP set is capped at 13 reps. Finish on a made rep
	2. Lat Pulldowns	4x8	
	3a. DB Front Raise	3x10	
	3b. Tri Pushdowns	3x10	
	3c. DB Hammer Curls	3x10	

DELOAD WEEK

DAY	EXERCISE	%/SETS/REPS	NOTES
MONDAY	1. Squat	3x3-5 at 60%	
	2. RDLs	2x10	
	3. Walking Lunges	2x12 Steps	
	4. Plank	3x60 Sec	
WEDNESDAY	1. Bench	3x3-5 at 60%	
	2. DB Rows	3x10 each hand	
	3a.DB Lateral Raise	2x10	
	3b. DB Skullcrushers	2x10	
	3c. DB Alt Curls	2x10	
FRIDAY	1. Deadlift	3x3-5 at 60%	
	2. Good Mornings	2x10	
	3. Step Ups	2x10 Each Leg	
	4. Plank	3x60 Sec	
SATURDAY	1. Military Press	3x3-5 at 60%	
	2. Lat Pulldowns	3x10	
	3a. DB Front Raise	2x10	
	3b. Tri Pushdowns	2x10	
	3c. DB Hammer Curls	2x10	

Before starting the next Wave, you need to reset your working maxes based on your Realization Week results.

For the Squat and Deadlift, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 5 Pounds and add that number to your Working Max. For the Bench and Military, take (The Number of Reps Peformed on Your AMAP Set - 5 Reps) x 2.5 Pounds and add that number to your Working Max.

COWBOY METHOD

PHASE 1

MONDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Squat	10x5 at 60%-1 min rest	10x4 at 67.5%-90 sec rest	10x3 at 75%-120 sec rest	3x3 at 60%
2. Pendlay row	5x12-15	5x10-12	5x8-10	3x10
3. Weighted plank	5x30 sec	5x45 sec	5x60 sec	3x60 sec
TUESDAY				
1. Bench	3x6-8 at 75%	5x2 at 80%	8x3 at 65%	3x5 at 60%
2. Closegrip Bench	3x4-6 at 80%	2-3x2-4 at 85%	2-3x3-5 at 75%	2x3 at 65%
3. Spoto Press	3x8-10 at 70%	2-3x6-8 at 75%	2-3x4-6 at 70%	2x8 at 55%
4. DB Chest Supported Row	5x12-15	5x10-12	5x8-10	5x10
5a. DB Front Raises	3x15	3x12	3x10	2x10
5b. DB Skullcrushers	3x15	3x12	3x10	2x10
6. Bike Tempos	2x6x40 sec	2x8x40 sec	2x10x40 sec	2x6x40 sec
WEDNESDAY				
1. Front Squat	55/60/65/70/75%x5	60/65/70/75/80%x3	65x5, 70x4, 75x3, 80x2, 85%x1	3x3 at 60%
2. Deadlifts	15x1 at 60%-10 sec rest	12x1 at 65%-10 sec rest	9x1 at 70%-10 sec rest	3x3 at 60%
3. Pullups	5x6-8	5x7-9	5x8-10	3x10
4. Single Leg Lowering	5x10 each leg	5x12 each leg	5x15 each leg	3x10 each leg

THURSDAY				
1. Bike Tempos	2x6x40 sec	2x8x40 sec	2x10x40 sec	2x6x40 sec
FRIDAY				
1. Squat	Up to 10rm	Up to 8rm	Up to 5rm	3x3 at 60%
2. Pause Squat	2-3x6-8 at 65%	2-3x5-7 at 70%	2-3x4-6 at 75%	None
3. Chinups	5x7-9	5x8-10	5x9-11	3x10
SATURDAY				
1. Military Press	3x6-8	3x5-7	3x4-6	3x5 at 60%
2. Pullups	5x6-8	5x7-9	5x8-10	3x10

PHASE 2

MONDAY	WEEK 5	WEEK 6	WEEK 7	WEEK 8 (DELOAD)
1. Squat	8x5 at 65%-75 to 90 sec rest	8x4 at 72.5%-105-120 sec rest	8x3 at 80%-135-150 sec rest	3x3 at 60%
2. Pendlay row	4x10	4x8	4x6	3x10
3. Weighted plank	5x60 sec	5x60 sec	5x60 sec	3x60 sec
TUESDAY				
1. Bench	3x4-6 at 80%	4x2 at 87.5%	6x3 at 70%	3x5 at 60%
2. Closegrip Bench	2-3x2-4 at 85%	2-3x1-2 at 90-95%	2-3x2-4 at 80%	2x3 at 65%
3. Bench-Paused 1" Off Chest	2-3x6-8 at 75%	2-3x4-5 at 80%	2-3x3-5 at 75%	2x8 at 55%

4. DB Chest Supported Row	5x12-15	5x10-12	5x8-10	5x10
5a. DB Front Raises	3x15	3x12	3x10	2x10
5b. DB Skullcrushers	3x15	3x12	3x10	2x10
6. Bike Tempos	2x10x40 sec	2x10x40 sec	2x10x40 sec	2x6x40 sec
WEDNESDAY				
1. Front Squat	60/67.5/75/82.5%x4	65/72.5/80/87.5%x2	70x4, 77.5x3, 85x2, 92.5%x1+	3x3 at 60%
2. Deadlifts	12x1 at 65%-10 sec rest	3x2 at 85%	8x1 at 75%-10 sec rest	3x3 at 60%
3. Pullups	5x7-9	5x8-10	5x10-12	3x10
4. Single Leg Lowering	5x15 each leg	5x15 each leg	5x15 each leg	3x10 each leg
THURSDAY				
1. Bike Tempos	2x10x40 sec	2x10x40 sec	2x10x40 sec	2x6x40 sec
FRIDAY				
1. Squat	Up to 8rm	Up to 5rm	Up to 3rm	3x3 at 60%
2. Pause Squat	2-3x5-7 at 70%	2-3x4-6 at 75%	2-3x3-5 at 80%	None
3. Chinups	5x8-10	5x9-11	5x10-12	3x10
SATURDAY				
1. Military Press	3x5-7	3x4-6	3x3-5	3x5 at 60%
2. Pullups	5x5-7	5x6-8	5x5-7	3x10
3. Whatever Bodybuilding Stuff You Need				

PHASE 3

MONDAY	WEEK 9	WEEK 10	WEEK 11
1. Squat	6x5 at 70%-90 sec rest	6x4 at 77.5%-120 sec rest	6x3 at 85%-150 sec rest
2. Pendlay row	3x10	3x8	3x6
3. Weighted plank	5x60 sec	5x60 sec	5x60 sec
TUESDAY			
1. Bench	3x3-5 at 85%	90%x2, 95%x1, 101%x1	5x2 at 85%
2. Closegrip Bench	2-3x1-3 at 90%	2-3x1-2 at 95%	2-3x1-3 at 90%
3. Bench-Paused 1" Off Chest	2-3x4-6 at 80%	2-3x2-4 at 85%	2x5-6 at 80%
4. DB Chest Supported Row	5x12-15	5x10-12	5x8-10
5a. DB Front Raises	3x15	3x12	3x10
5b. DB Skullcrushers	3x15	3x12	3x10
6. Bike Tempos	2x10x40 sec	2x10x40 sec	2x10x40 sec
WEDNESDAY			
1. Front Squat	65/75/85%x3	70/80/90%x2	75x4, 85x2, 95%x1+
2. Deadlifts	9x1 at 70%-10 sec rest	3x6-8 at 80% from 3" Blocks	Up to 1rm
3. Pullups	5x8-10	5x10-12	5x11-13
4. Single Leg Lowering	5x15 each leg	5x15 each leg	5x15 each leg
THURSDAY			
1. Bike Tempos	2x10x40 sec	2x10x40 sec	2x10x40 sec

FRIDAY			
1. Squat	Up to 5rm	Up to 3rm	Up to 1rm
2. Pause Squat	2-3x6-8 at 75%	2-3x4-6 at 80%	2-3x3-5 at 85%
3. Chinups	5x9-11	5x10-12	5x11-13
SATURDAY			
1. Military Press	3x4-6	3x3-5	3x2-4
2. Pullups	5x6-8	5x7-9	5x8-10
3. Whatever Bodybuilding Stuff You Need			

JUGGERCUBE

PHASE 1

MONDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Squat	55%x12x3-1 Min Rest	70%x6x3	65%x4x8-12	60%x3x3
2. Olympic Squat	60%x3x6	75%x2x3-5	70%x3x6-8	60%x1x3
3. Pause Squat	50%x3x8-10	65%x3-5-7	60%x3x8-10	60%x1x3
4. Weighted plank	3x30 sec	3x45 sec	3x60 sec	3x30 sec
TUESDAY				
1. Bench	65%x3-4x8-12	60%x10x3-45 sec rest	80%x5x2 or Up to 2rm	60%x3x5
2. Closegrip Bench	70%x2x8-10	70%x2x5	85%x2x1-3	60%x1x5
3. Spoto Press	60%x2-3x12-15	60%x2-3x8	75%x2x4-6	60%x1x5
4. DB Chest Supported Rows	5x15	5x12	5x10	3x10
5a. DB Front Raises	2x15	2x12	2x10	None
5b. DB Skullcrushers	2x15	2x12	2x10	None
WEDNESDAY				
1. Deadlift	80%x5x2 or Up to 2rm	65%x12x1-10 sec rest	70%x2-3x8-12	60%x3x3
2. 3" Block Pulls	855x2x1-3	70%x2x5	75%x2x6-8	60%x1x3
3. Front Squat	55-75%x5x5	60-80%x5x3	65-85%x5x1-5	60%x3x3
4. Weighted Plank	3x30 sec	3x45 sec	3x60 sec	3x30 sec

THURSDAY				
Off				
FRIDAY				
1. Squat	60%x5x8-12	60%x10x3-1 min rest	75%x5x3	60%x3x3
2. Olympic Squat	65%x3x8-10	65%x3x5	80%x2x2-4	60%x1x3
3. Pause Squat	55%x3x10-12	55%x3x6-8	70%x3x4-6	60%x1x3
4. Weighted Plank	3x30 sec	3x45 sec	3x60 sec	3x30 sec
SATURDAY				
1. Bench	75%x5x3 or Up to 3rm	70%x2-3x8-12	65%x8x3-60 sec rest	60%x3x5
2. Widegrip Bench	80%x2x2-4	75%x2x6-8	75%x2x4-5	60%x1x5
3. Spoto Press	70%x2x5-8	65%x2-3x10-12	65%x2-3x6-8	60%x1x5
4. Lat Pulldowns	5x15	5x12	5x10	3x10
5a. DB Front Raises	2x15	2x12	2x10	None
5b. DB Skullcrushers	2x15	2x12	2x10	None

PHASE 2

MONDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Squat	65%x8x3-1 min rest	80%x5x2 or Up to 2rm	75%x3x6-10	60%x3x3
2. Olympic Squat	70%x3x3-4	85%x2x1-3	80%x3x6-8	60%x1x3
3. Pause Squat	60%x3x5-7	75%x3x3-5	70%x3x8-10	60%x1x3
4. Weighted plank	3x30 sec	3x45 sec	3x60 sec	3x30 sec

TUESDAY				
1. Bench	75%x2-3x6-10	70%x6x3-75 sec rest	85/90/95%x1	60%x3x5
2. Closegrip Bench	75-80%x2x5-8	75-80%x2x4-5	90-95%x2x1-2	60%x1x5
3. Bench w/ Pause 1" Off Chest	70%x2-3x8-12	65-70%x2-3x5-8	80-85%x2x2-4	60%x1x5
4. DB Chest Supported Rows	4x12	4x10	4x8	3x10
5a. DB Front Raises	2x15	2x12	2x10	None
5b. DB Skullcrushers	2x15	2x12	2x10	None
WEDNESDAY				
1. Deadlift	85%x3x2 or Up to 2rm	70%x9x1-20 sec rest	75%x2-3x5-8	60%x3x3
2. 3" Block Pulls	90-95%x2x1-2	75%x2x4	80%x2x4-6	60%x1x3
3. Bentover Rows	5x8	5x6	5x5	3x5
4. Weighted Plank	3x30 sec	3x45 sec	3x60 sec	3x30 sec
THURSDAY				
Off				
FRIDAY				
1. Squat	70%x3x8-12	70%x6x3-75 sec rest	85%x3x2 or Up to 2rm	60%x3x3
2. Olympic Squat	75%x3x8-10	75%x3x3	90%x2x1-2	60%x1x3
3. Pause Squat	65%x3x10-12	65%x3x4-6	80%x3x2-4	60%x1x3
4. Weighted Plank	3x30 sec	3x45 sec	3x60 sec	3x30 sec

SATURDAY				
1. Bench	85%x3x2 or Up to 2rm	75-80%x2-3x5-8	75%x5x3-90 sec rest	60%x3x5
2. Widegrip Bench	85-90%x2x1-3	80-85%x2x4-6	80%x2x3-5	60%x1x5
3. Lat Pulldowns	4x12	4x10	4x8	3x10
4a. DB Lateral Raises	2x15	2x12	2x10	None
4b. DB Shrugs	2x15	2x12	2x10	None
4c. DB Curls	2x15	2x12	2x10	None

PHASE 3

MONDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (TAPER)
1. Squat	75%x5x2-90 sec rest	80%x4x2-4	90%x2, 95%x1, 100%x1	Squat 3x1 at 60-70%
2. Walkout and Hold	105%x10 seconds	None	110%x10 sec	Bench 3x1 at 70-80%
3. Olympic Squat	80%x2x2-3	85%x3x2-4	90%x2x1-2	Dead 3x1 at 50-60%
4. Pause Squat	60%x3x4-6	75%x3x3-5	80%x2x2-3	
5. Weighted Plank	3x30 sec	3x45 sec	3x60 sec	
TUESDAY				
Off				
WEDNESDAY				
1. Bench	80%x2-3x3-5	90%x2, 95%x1, 100%x1	3x2 at 75%	Squat 3x1 at 50-60%
2. Closegrip Bench	80-85%x2x2-4	95%x2x1-2	2x3 at 75%	Bench 3x1 at 60-70%
3. Spoto Press	75%x2-3x3-5	85%x2x2-4	None	Dead 3x1 at 40-50%

4. DB Chest Supported Rows	3x10	3x8	3x6	
5a. DB Front Raises	2x12	2x10	2x8	
5b. DB Skullcrushers	2x12	2x10	2x8	
THURSDAY				
Off				
FRIDAY				
1. Deadlift	90%x2, 95%x1, 100%x1	75%x6x1-30 sec rest	80-85%x3-4x1-2	None
2. 3" Block Pulls	95-105%x2x1-2	80%x2x3	85-90%x2x1-2	
3. Bentover Rows	4x8	4x6	4x5	
4. Weighted Plank	3x30 sec	3x45 sec	3x60 sec	
SATURDAY				
1. Bench	3x3 at 70%	85%x2-3x2-4	90%x3x1	Compete/Test 1rm
2. Widegrip Bench	2x4 at 70%	85-90%x2x1-3	90-95%x2x1-2	
3. Lat Pulldowns	3x10	3x8	3x6	

OFF-SEASON PROGRAM

MONDAY	WEEK 1	WEEK 2	WEEK 3
1. Pause Squat	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest
2. Competition Bench	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest
3. 1" Deficit Pull	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest
	WEEK 4	**WEEK 5**	**WEEK 6**
1. Pause Squat	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest
2. Competition Bench	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest
3. 1" Deficit Pull	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest

TUESDAY	WEEK 1	WEEK 2	WEEK 3
1. Tempo Circuit of	2x6 Rounds	2x8 Rounds	2x10 Rounds
Steady State Aerobic Work	20 min	25 min	30 min
	WEEK 4	**WEEK 5**	**WEEK 6**
1. Tempo Circuit of	2x10 Rounds	2x10 Rounds	2x10 Rounds
Steady State Aerobic Work	30 min	30 min	30 min

WEDNESDAY	WEEK 1	WEEK 2	WEEK 3
1. Competition Squat	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest
2. Widegrip Bench	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest
3. Bentover Rows	5x12	5x12	5x12
4a. DB Flies	3x15	3x15	3x15
4b. Skullcrushers	3x15	3x15	3x15
4c. GHRs	3x15	3x15	3x15
	WEEK 4	**WEEK 5**	**WEEK 6**
1. Competition Squat	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm
2. Widegrip Bench	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm
3. Bentover Rows	5x10	5x8	4x8
4a. DB Flies	3x12	3x10	3x8
4b. Skullcrushers	3x12	3x10	3x8
4c. GHRs	3x12	3x10	3x8

THURSDAY	WEEK 1	WEEK 2	WEEK 3
1. Tempo Circuit of	2x6 Rounds	2x8 Rounds	2x10 Rounds
Steady State Aerobic Work	20 min	25 min	30 min
	WEEK 4	**WEEK 5**	**WEEK 6**
1. Tempo Circuit of	2x10 Rounds	2x10 Rounds	2x10 Rounds
Steady State Aerobic Work	30 min	30 min	30 min

FRIDAY	WEEK 1	WEEK 2	WEEK 3
1. Closegrip Bench	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest
2. Sumo 2" Block Pull	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest
3a. GHRs	3x10	3x12	3x15
3b. Skullcrushers	3x10	3x12	3x15
3c. BB Curls	3x10	3x12	3x15
	WEEK 4	**WEEK 5**	**WEEK 6**
1. Closegrip Bench	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest
2. Sumo 2" Block Pull	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest
3a. GHRs	3x12	3x10	3x8
3b. Skullcrushers	3x12	3x10	3x8
3c. BB Curls	3x12	3x10	3x8

SATURDAY	WEEK 1	WEEK 2	WEEK 3
1. Olympic Squat	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest
2. Spoto Press	55%x30 Reps, 3-6 Reps/Set, 60 Sec Rests	70%x24 Reps, 3-6 Reps/Set, 90 Sec Rests	60%x24 Reps, 3-6 Reps/Set, 60 Sec Rest
3. Lat Pulldowns	5x12	5x12	5x12
4a. DB Flies	3x15	3x15	3x15
4b. DB Front or Lateral Raises	3x15	3x15	3x15
	WEEK 4	**WEEK 5**	**WEEK 6**
1. Olympic Squat	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm
2. Spoto Press	75%x18 Reps, 3-6 Reps/Set, 105 Sec Rest	65%x18 Reps, 3-6 Reps/Set, 90 Sec Rest	80%x12 Reps, 3-6 Reps/Set, 120 Sec Rest OR Up to 1-3rm
3. Lat Pulldowns	5x10	5x8	4x8
4a. DB Flies	3x12	3x10	3x8
4b. DB Front or Lateral Raises	3x12	3x10	3x8

CHAMPIONSHIP PROGRAM

HYPERTROPHY

WEEK 1		WEEK 2	
MONDAY (LOW)		**MONDAY (HIGH)**	
1. Hi Bar Squat	4x10-12 at 60-65%	1. Hi Bar Squat	3x6-8 at 70-75% or 6rm
2. Leg Press	3x10-12 at 8 RPE	2. Pause Squat	3x6-8 at 70-75%
3. GHR/Ham Curl	3x10	3. GHR/Ham Curl	3x10
TUESDAY (MED)		**TUESDAY (LOW)**	
1. Widegrip Bench	3x8-10 at 65-70%	1. Widegrip Bench	3x10-12 at 60-65%
2. Closegrip Bench	3x8-10 at 65-70%	2. Spoto Press	3x10-12 at 60-65%
3. Rows/Pulldowns	4x10	3. Rows/Pulldowns	4x10
4. Front Raises	3x10	4. Lateral Raises	3x10
5. DB Skullcrushers	3x10	5. Pushdowns	3x10
		6. Curls	3x10
WEDNESDAY (HIGH)		**WEDNESDAY (LOW)**	
1. Sumo Dead	3x6-8 at 70-75% or 6rm	1. Sumo Block Pull	3x10-12 at 60-65%
2. Box Deadlift	3x6-8 at 70-75%	2. Conv Pause Dead	3x10-12 at 60-65%
3. Back Raises	3x10	3. Back Raises	3x12
THURSDAY		**THURSDAY**	
Off		Off	
FRIDAY (MED)		**FRIDAY (LOW)**	
1. Hi Bar Squat	4x8-10 at 65-70%	1. Hi Bar Squat	4x10-12 at 60-65%
2. Front Squat	3x8-10 at 65-70%	2. Leg Press	4x10-12 at 8 RPE
3. GHR/Ham Curl	3x10	3. GHR/Ham Curl	3x12

SATURDAY (HIGH)		SATURDAY (MED)	
1. Bench	3x6-8 at 70-75% or 6rm	1. Widegrip Bench	4x8-10 at 65-70%
2. Slingshot Bench	2x6-8 at 70-75%	2. Closegrip Bench	3x8-10 at 65-70%
3. Rows/Pulldowns	4x10	3. Rows/Pulldowns	4x12
4. Flies	3x10	4. Front Raises	3x12
5. DB Shrugs	3x10	5. DB Skullcrushers	3x12
		6. DB Front Raises	3x12

WEEK 3		WEEK 4	
MONDAY (MED)		**MONDAY (MED)**	
1. Hi Bar Squat	4x8-10 at 65-70%	1. Hi Bar Squat	4x4-5 at 55-60%
2. Front Squat	4x8-10 at 65-70%	2. Front Squat	4x4-5 at 55-60%
3. GHR/Ham Curl	3x12	3. GHR/Ham Curl	2x10
TUESDAY (HIGH)		**TUESDAY (HIGH)**	
1. Bench	3x6-8 at 70-75% or 6rm	1. Bench	3x3-4 at 60-65%
2. Slingshot Bench	3x6-8 at 70-75%	2. Closegrip Bench	2x3-4 at 60-65%
3. Rows/Pulldowns	4x12	3. Rows/Pulldowns	3x10
4. Flies	3x12	4. Flies	2x10
5. DB Shrugs	3x12	5. DB Shrugs	2x10
WEDNESDAY (MED)		**WEDNESDAY (MED)**	
1. Conv Dead	3x8-10 at 65-70%	1. Deadlift	3x4-5 at 55-60%
2. Snatch Grip Block Pull	3x8-10 at 65-70%	2. Box Dead	2x4-5 at 55-60%
3. Back Raises	3x15	3. Back Raises	2x10
THURSDAY		**THURSDAY**	
Off		Off	

FRIDAY (HIGH)		FRIDAY (HIGH)	
1. Hi Bar Squat	4x6-8 at 70-75% or 6rm	1. Hi Bar Squat	3x3-4 at 60-65%
2. Pause Squat	3x6-8 at 70-75%	2. Leg Press	2x10 at 7 RPE
3. GHR/Ham Curl	3x10	3. GHR/Ham Curl	2x10
SATURDAY (LOW)		**SATURDAY (LOW)**	
1. Widegrip Bench	4x10-12 at 60-65%	1. Widegrip Bench	4x5-6 at 50-55%
2. Spoto Press	3x10-12 at 60-65%	2. Spoto Press	3x5-6 at 50-55%
3. Rows/Pulldowns	4x10	3. Rows/Pulldowns	3x10
4. Lateral Raises	3x10	4. Lateral Raises	2x10
5. Pushdowns	3x10	5. Pushdowns	2x10
6. Curls	3x10	6. Curls	2x10

STRENGTH

WEEK 1		WEEK 2	
MONDAY		**MONDAY**	
1. Olympic Squat	4x6 at 70-75%	1. Comp Squat	3x4 at 80-85% or 3-4rm
2. Front Squat	3x6 at 70-75%	2. Hi Pause Squat	2x4 at 80-85%
3. GHR	3x10	3. GHR	3x10
TUESDAY		**TUESDAY**	
1. Comp Bench	4x5 at 75-80%	1. Widegrip Bench	4x6 at 70-75%
2. Closegrip Bench	3x5 at 75-80%	2. Spoto Press	3x6 at 70-75%
3. Rows/Pulldowns	3x10	3. Rows/Pulldowns	3x10
4. DB Skullcrushers	2x10	4. DB Flies	2x10
5. DB Front Raises	2x10	5. DB Shrugs	2x10
WEDNESDAY		**WEDNESDAY**	
1. Deadlift	3x4 at 80-85% or 3-4rm	1. Box Deadlift	4x6 at 70-75%
2. Block Pulls	2x4 at 80-85%	2. Pause Deadlift	3x6 at 70-75%
3. GHR	3x10	3. GHR	3x8
THURSDAY		**THURSDAY**	
Off		Off	
FRIDAY		**FRIDAY**	
1. Olympic Squat	4x5 at 75-80%	1. Olympic Squat	4x6 at 70-75%
2. Low Pause Squat	3x5 at 75-80%	2. Front Squat	3x6 at 70-75%
3. GHR	3x10	3. GHR	3x8

SATURDAY		SATURDAY	
1. Comp Bench	3x4 at 80-85% or 3-4rm	1. Comp Bench	4x5 at 75-80%
2. Slingshot	2x4 at 80-85%	2. Closegrip Bench	3x5 at 75-80%
3. Rows/Pulldowns	3x10	3. Rows/Pulldowns	3x8
4. DB Laterals	2x10	4. DB Skullcrushers	2x8
5. DB Curls	2x10	5. DB Front Raises	2x8

WEEK 3		WEEK 4 (DELOAD)	
MONDAY		**MONDAY**	
1. Olympic Squat	4x5 at 75-80%	1. Olympic Squat	3x4 at 65%
2. Low Pause Squat	3x5 at 75-80%	2. Low Pause Squat	2x4 at 65%
3. BB Hip Thrusts	3x8	3. GHR	2x8
TUESDAY		**TUESDAY**	
1. Comp Bench	3x4 at 80-85% or 3-4rm	1. Bench	2x4 at 65%
2. Slingshot	2x4 at 80-85%	2. Closegrip Bench	2x4 at 65%
3. Rows/Pulldowns	3x8	3. Rows/Pulldowns	2x8
4. DB Laterals	2x8	4. Flies	1x8
5. DB Curls	2x8	5. DB Shrugs	1x8
WEDNESDAY		**WEDNESDAY**	
1. Deadlift	4x5 at 75-80%	1. Deadlift	2x4 at 65%
2. Deficit Pull	3x5 at 75-80%	2. Block Pulls	2x4 at 65%
3. GHR	3x6	3. GHR	2x8
THURSDAY		**THURSDAY**	
Off		Off	

FRIDAY		FRIDAY	
1. Comp Squat	3x4 at 80-85% or 3-4rm	1. Olympic Squat	2x4 at 55%
2. Hi Pause Squat	2x4 at 80-85%	2. Front Squat	2x4 at 55%
3. GHR	3x10	3. GHR	2x8
SATURDAY		**SATURDAY**	
1. Widegrip Bench	4x6 at 70-75%	1. Widegrip Bench	2x4 at 55%
2. Spoto Press	3x6 at 70-75%	2. Spoto Press	2x4 at 55%
3. Rows/Pulldowns	3x10	3. Rows/Pulldowns	2x8
4. DB Flies	2x10	4. DB Front Raises	1x8
5. DB Shrugs	2x10	5. DB Shrugs	1x8

PEAKING

WEEK 1		WEEK 2	
MONDAY		**MONDAY**	
1. Deadlift	90%x2x2, 95%x1, 97.5%x1	1. Deadlift	9x1 at 70%-EMOM
2. Block Pulls	90%x2, 95%x2, 100%x2	2. Pause Deadlift	6x1 at 70%-EMOM
3. Squat	3x1 at 50%	3. Squat	3x1 at 55%
TUESDAY		**TUESDAY**	
Off		Off	
WEDNESDAY		**WEDNESDAY**	
1. Comp Bench	2x3 at 85%, 90%x2x2	1. Comp Bench	90%x2x2, 95%x1, 97.5%x1
2. Closegrip Bench	3x3 at 85%	2. Slingshot Bench	95%x1, 100%x1
3. Rows/Pullups	3x8	3. Rows/Pullups	3x8
THURSDAY		**THURSDAY**	
Off		Off	
FRIDAY		**FRIDAY**	
1. Comp Squat	3x3 at 85%	1. Comp Squat	90%x2x2, 95%x1, 97.5%x1
2. Hi Pause Squat	2x3 at 85%	2. Walkout and Hold	110% x10 seconds
3. Deadlift	3x1 at 50%	3. Deadlift	3x1 at 55%
SATURDAY		**SATURDAY**	
1. Comp Bench	3x3 at 85%	1. Comp Bench	85%x3, 90%x2, 92.5%x2
2. Widegrip Bench	2x3 at 85%	2. Closegrip Bench	3x3 at 85%
3. Rows/Pullups	3x8	3. Rows/Pullups	3x6

WEEK 3		WEEK 4	
MONDAY		**MONDAY**	
1. Deadlift	2x2 at 85%, 90%x2x1	1. Comp Squat	60%x1, 65%x1, 70%x1
2. Squat	3x1 at 60%	2. Comp Bench	70%x1, 75%x1, 80%x1
		3. Deadlift	50%x1, 55%x1, 60%x1
TUESDAY		**TUESDAY**	
Off		Off	
WEDNESDAY		**WEDNESDAY**	
1. Comp Bench	2x3 at 85%	1. Comp Squat	50%x1, 55%x1, 60%x1
2. Widegrip Bench	1x3 at 85%	2. Comp Bench	60%x1, 65%x1, 70%x1
3. Rows/Pullups	3x6	3. Deadlift	40%x1, 45%x1, 50%x1
THURSDAY		**THURSDAY**	
Off		Off/Warmup Only	
FRIDAY		**FRIDAY**	
1. Comp Squat	85%x2x2, 90%x2x1	Off/Warmup Only	
2. Deadlift	3x1 at 60%		
SATURDAY		**SATURDAY**	
1. Comp Bench	92.5%x2, 97.5%x1, 100%x1	MEET	
2. Slingshot Bench	97.5%x1, 105%x1		
3. Rows/Pullups	3x6		

STRONGMAN + POWERLIFTING

MONDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Log Clean and Press	4x5 at 70%, 70%xAMRAP in 1 Min-Clean Every Rep	8x3 at 60%-Clean Every Rep-EMOM	Up to 3rm-Clean Once	3-5x3 at 60%-Clean Once
2. Closegrip Bench	55%x5, 65%x5, 75%x5+	60%x3, 70%x3, 80%x3+	65%x5, 75%x3, 85%x1+	2x5 at 60%
3. Lat Pulldowns	5x12	5x10	5x8	3x10
4a. DB Front Raises	3x15	3x12	3x10	2x10
4b. DB Skullcrushers	3x15	3x12	3x10	2x10
4c. DB Curls	3x15	3x12	3x10	2x10
TUESDAY	**WEEK 1**	**WEEK 2**	**WEEK 3**	**WEEK 4 (DELOAD)**
1. Tempo Circuit OR	2x6 Rounds	2x8 Rounds	2x10 Rounds	2x6 Rounds
Steady State Cardio	20 min	25 min	30 min	20 min
WEDNESDAY	**WEEK 1**	**WEEK 2**	**WEEK 3**	**WEEK 4 (DELOAD)**
1. Deadlift	12x2 at 60%-30 sec rest periods b/t sets	Up to 3rm, 2x4 at 85% of 3rm	3-4x6-10 at 60-75%	3-5x3 at 60%
2. Squat	8x3 at 60%-1 min rest periods b/t sets	4x4-6 at 75-85%	2-3x8-12 at 60-75%	3-5x3 at 60%
3. GHR	3x15	3x12	3x10	2x10

THURSDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Tempo Circuit OR	2x6 Rounds	2x8 Rounds	2x10 Rounds	2x6 Rounds
Steady State Cardio	20 min	25 min	30 min	20 min

FRIDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Bench Press	4Up to 3rm, 2x4 at 90% of 3rm	3-4x8-12 at 60-75%	8x3 at 60%-EMOM	3-5x3 at 60% Once
2. Spoto Press	3x2-4 at 80%	2-3x8-12 at 60-75%	5x3 at 60%-EMOM	2-3x3 at 60%
3. DB Chest Supported Rows	5x12	5x10	5x8	3x10
4a. DB Lateral Raises	3x15	3x12	3x10	2x10
4b. Pushdowns	3x15	3x12	3x10	2x10
4c. DB Shrugs	3x15	3x12	3x10	2x10

SATURDAY	WEEK 1	WEEK 2	WEEK 3	WEEK 4 (DELOAD)
1. Yoke	Up to 80% of Contest Weight x3x50′	10 Sec Runs. Start at 50%, Add 5% Until You Fail To Go 50′ in 10 Sec	1x Max Distance in 1 min at 60%	None
2. Farmers Walk	10 Sec Runs. Start at 50%, Add 5% Until You Fail To Go 50′ in 10 Sec	1xMax Distance in 1 min at 60%	Up to 80% of Contest Weight x3x50′	None
3. Atlas Stones	Light Stone Over Bar. Max Reps in 2 Min	Up to Heaviest Triple Possible over Chin Height Bar	10x2 over Chin Height Bar-30 Sec rest	None

MONDAY	WEEK 5	WEEK 6	WEEK 7	WEEK 8 (DELOAD)
1. Log Clean and Press	3x4 at 80%, 80%xAMRAP in 1 Min-Clean Every Rep	6x3 at 65%-Clean Every Rep-EMOM	Up to 2rm-Clean Once	3-5x3 at 60%-Clean Once
2. Closegrip Bench	60%x5, 70%x5, 80%x5+	65%x3, 75%x3, 85%x3+	70%x5, 80%x3, 90%x1+	2x5 at 60%
3. Lat Pulldowns	4x12	4x10	4x8	3x10
4a. DB Front Raises	2x15	2x12	2x10	2x10
4b. DB Skullcrushers	2x15	2x12	2x10	2x10
4c. DB Curls	2x15	2x12	2x10	2x10

TUESDAY	WEEK 5	WEEK 6	WEEK 7	WEEK 8 (DELOAD)
1. Tempo Circuit OR	2x10 Rounds	2x10 Rounds	2x10 Rounds	2x6 Rounds
Steady State Cardio	30 min	30 min	30 min	20 min

WEDNESDAY	WEEK 5	WEEK 6	WEEK 7	WEEK 8 (DELOAD)
1. Deadlift	10x2 at 65%-30 sec rest periods b/t sets	Up to 2rm, 2x3 at 90% of 2rm	3-4x6-10 at 65-80%	3-5x3 at 60%
2. Squat	6x3 at 65%-1 min rest periods b/t sets	3x3-5 at 75-90%	2-3x8-12 at 65-80%	3-5x3 at 60%
3. GHR	3x12	3x10	3x8	2x10

THURSDAY	WEEK 5	WEEK 6	WEEK 7	WEEK 8 (DELOAD)
1. Tempo Circuit OR	2x10 Rounds	2x10 Rounds	2x10 Rounds	2x6 Rounds
Steady State Cardio	30 min	30 min	30 min	20 min
FRIDAY	**WEEK 5**	**WEEK 6**	**WEEK 7**	**WEEK 8 (DELOAD)**
1. Bench Press	Up to 2rm, 2x3 at 95% of 2rm	3-4x8-12 at 65-80%	6x3 at 65%-EMOM	3-5x3 at 60%
2. Spoto Press	3x1-3 at 85%	2-3x8-12 at 65-80%	4x3 at 65%-EMOM	2-3x3 at 60%
3. DB Chest Supported Rows	4x12	4x10	4x8	3x10
4a. DB Lateral Raises	2x15	2x12	2x10	2x10
4b. Pushdowns	2x15	2x12	2x10	2x10
4c. DB Shrugs	2x15	2x12	2x10	2x10
SATURDAY	**WEEK 5**	**WEEK 6**	**WEEK 7**	**WEEK 8 (DELOAD)**
1. Yoke	Up to 87.5% of Contest Weight x2x50'	10 Sec Runs. Start at 60%, Add 5% Until You Fail To Go 50' in 10 Sec	1x Max Distance in 1 min at 70%	None
2. Farmers Walk	10 Sec Runs. Start at 60%, Add 5% Until You Fail To Go 50' in 10 Sec	1xMax Distance in 1 min at 70%	Up to 87.5% of Contest Weight x2x50'	None
3. Atlas Stones	Light Stone Over Bar. Max Reps in 90 sec	Up to Heaviest Double Possible over Chin Height Bar	10x3 over Chin Height Bar-30 Sec rest	None

MONDAY	WEEK 9	WEEK 10	WEEK 11	WEEK 12 (TAPER)
1. Log Clean and Press	2x3 at 85%, 85%xAMRAP in 1 Min-Clean Every Rep	6x2 at 70%-Clean Every Rep-EMOM	Up to 1rm-Clean Once	Off
2. Closegrip Bench	65%x5, 75%x5, 85%x5+	70%x3, 80%x3, 90%x3+	75%x5, 85%x3, 95%x1+	
3. Lat Pulldowns	3x12	3x10	3x8	
4a. DB Front Raises	1x15	1x12	1x10	
4b. DB Skullcrushers	1x15	1x12	1x10	
4c. DB Curls	1x15	1x12	1x10	

TUESDAY	WEEK 9	WEEK 10	WEEK 11	WEEK 12 (TAPER)
1. Tempo Circuit	2x10 Rounds	2x10 Rounds	2x10 Rounds	Light Overhead
OR	30 min	30 min	30 min	Light Deadlift
Steady State Cardio				Light Work on Worst Event

WEDNESDAY	WEEK 9	WEEK 10	WEEK 11	WEEK 12 (TAPER)
1. Deadlift	8x1 at 70%-30 sec rest periods b/t sets	Up to 1rm, 2x2 at 95% of 1rm	3-4x6-10 at 70-85%	Off
2. Squat	6x2 at 70%-1 min rest periods b/t sets	3x2-4 at 80-95%	2-3x8-12 at 70-85%	
3. GHR	2x10	2x8	2x6	

THURSDAY	WEEK 9	WEEK 10	WEEK 11	WEEK 12 (TAPER)
1. Tempo Circuit OR	2x10 Rounds	2x10 Rounds	2x10 Rounds	2x6 Rounds
Steady State Cardio	30 min	30 min	30 min	20 min

FRIDAY	WEEK 9	WEEK 10	WEEK 11	WEEK 12 (TAPER)
1. Bench Press	Up to 1rm, 2x2 at 95% of 1rm	3-4x8-12 at 70-85%	6x2 at 70%-EMOM	Off
2. Spoto Press	2x1-2 at 90%	2-3x8-12 at 70-85%	3x3 at 70%-EMOM	
3. DB Chest Supported Rows	3x12	3x10	3x8	
4a. DB Lateral Raises	1x15	1x12	1x10	
4b. Pushdowns	1x15	1x12	1x10	
4c. DB Shrugs	1x15	1x12	1x10	

SATURDAY	WEEK 9	WEEK 10	WEEK 11	WEEK 12 (TAPER)
1. Yoke	Up to 95% of Contest Weight x1x50'	10 Sec Runs. Start at 70%, Add 5% Until You Fail To Go 50' in 10 Sec	1x Max Distance in 1 min at 80%	COMPETE
2. Farmers Walk	10 Sec Runs. Start at 70%, Add 5% Until You Fail To Go 50' in 10 Sec	1xMax Distance in 1 min at 80%	Up to 95% of Contest Weight x1x50'	
3. Atlas Stones	Light Stone Over Bar. Max Reps in 1 min	Up to Heaviest Single Possible over Chin Height Bar	10x4 over Chin Height Bar-30 Sec rest	

A THOUGHTFUL PURSUIT OF STRENGTH

JUGGERNAUT TRAINING

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