

## Section Two: Principles of Performance

### 2.1 The Discovery

A little over ten years ago, I stumbled upon a common problem for coaches and performance enhancement training professionals: individualizing training protocols within a group setting. I began experimenting. I took a group of eight football players to an eight-lane track for conditioning. I placed two stopwatches in each lane: one stopwatch to time the work and one stopwatch to track the rest.

On the first set, everyone started at the same time, but everyone finished at eight different times. With each athlete adhering to the age-old 3-to-1 work-to-rest ratio, every athlete started and finished at a different time. So here is the question: When training athletes in a group, how does everyone get the appropriate rest given everyone finishes at different times? The fastest athletes get more rest. The slower athletes do not get enough rest, and the athletes in the middle do not run hard enough to fall into either category.

With strength training, many programs do not address the needs of athletes to acquire strength as it relates to the development of energy systems. Energy systems govern all performance in sports. Many athlete-training goals do not transfer into their performance. Countless programs employ Eastern Bloc-esque training methods and bodybuilding protocols.

Despite deficient programs, many athletes succeed because they have so much talent. Unfortunately, most athletes do not fall into this category. Research on high-level

athlete training is very limited. The highest achieving professionals could never, or would never, commit to a study because they are too strapped for time.

### Section Three: Principles Of Strength

#### 3.1 Relative Strength Training Complex

Relative strength is an athlete's strength per unit of body weight. Another term for relative strength is positive power-to-weight ratio. The movements, loads, effort, and recovery intervals we use increase myofibril density. Myofibril density is the fibers that contract and strengthen the muscle, rather than merely increase sarcoplasma volume (fluid).

Maximum strength has limited relevance to a team-sport athlete. Relative strength is directly connected to the skills required for high school, collegiate, and professional sport success. The stabilization, strength, and power required to execute multiple squats on one leg transfers to skills on the field, court, or ice.

Athletes spend more time on one leg than they do in a static position. Training exclusively on both legs creates a bilateral deficit. A bilateral deficit occurs when one limb is stronger or more coordinated than the other. For the lower extremities, single-leg movements develop more balance and coordination than traditional weight room exercises.

In our program, we develop maximum sarcomere hypertrophy. Sarcomere hypertrophy is the growth of the contractile components of the muscle fibers (the actin-

myosin complex). Sarcomere hypertrophy significantly increases relative strength while minimizing aesthetic asymmetry.

Unlike, sarcoplasmic training methods, e.g., bodybuilding, commonly used in college and professional sports, our program focuses on developing strength and hypertrophy that supports performance. Many athletes develop size and strength that is not functional for improving sporting performance.

Our strength program meets the demands of performance days. Strength and performance training must be concurrent to achieve top athletic performance. Through our concurrent program, neither segment of training undermines the other.

Because strength is one of the nine components of fitness, a concurrent program includes attributes that support the metabolic needs of the athlete's sport. The vast majority of athletes play sports that include a metabolic component. The metabolic component represents intensity (maximal effort) coupled with a minimum recovery.

Traditional strength training does not incorporate the metabolic component. For instance, hockey's energy system requirements are 50% ATP, 20% LA-Glycolytic, and 30% O<sub>2</sub>. The need to develop strength, without sacrificing cardiorespiratory development, means that the exercise order, intensity (load), sets, and repetitions must satisfy hockey's energy system requirements.

Let's stay with hockey. Skating over develops attributes in a hockey player's lower extremity. Hockey players experience more groin injuries than athletes in any other

sport. The starting, stopping, and changing direction, plus the instability of the ice, trigger a neuromuscular nightmare.

How do you correct muscular imbalances such as those common to hockey players? Muscular imbalances can only be corrected using high volume on under-utilized exercises. Neither heavy weights nor weight training will remedy imbalances.

To correct and avoid muscular imbalances, our Relative Strength Training Complex prescribes corrective movement strategies. Corrective movement strategies remedy muscle imbalances created by sporting movements. Corrective movement strategies provide sufficient volume to teach new movement patterns and to correct faulty movement patterns.

Corrective movement strategies encourage connective tissue health via strengthening of the non-contractile elements of tendons, ligaments, and connective tissue. Corrective movement strategies also allow significant volume during periods when intensity must be reduced, but exercise technique must continue to develop. Lastly, corrective movement strategies develop exercise technique that cannot be executed with maximal loading protocols.

**Size matters, but bigger is not necessarily better nor is bigger always stronger.** Power-to-weight ratio is not only important, but it is necessary for athletes in all sports. For example, as a college freshman at Notre Dame, current Denver Broncos starting right tackle Ryan Harris was a mere 268 pounds. Having a



*Ryan Harris #68*

VO2MAX of 55 ml/kg/min meant that for his size, Ryan was exceptionally fit, more so than his larger and presumably stronger counterparts.

Even though Ryan could not bench or squat as much weight as his peers, his relative strength revealed that he was more neurologically efficient. Consequently, he could apply a higher percentage of his strength throughout an entire game. Neither Ryan Harris' size nor weight determined the one-rep-max or its potential. His neurological system could recruit a greater percentage of existing muscle.

By increasing the efficiency of the neurological pathways, athletes can generate incredible power without significantly increasing their size or strength. Ryan Harris earned several Freshman All-American honors after his first season at right tackle. This was the first time in 11 years a freshman won this award at Notre Dame. So much for bigger, stronger, and faster.

## Section Six: DNA Training

### 6.1 Technology

What is technology? What does it mean to the athlete? Here is the definition:

**Technology** *n.* 1. Human innovation in action that involves the generation of knowledge and processes to develop systems that solve problems and extend human capabilities; 2. The innovation, change, or modification of the natural environment to satisfy perceived human needs and wants.

In Section 1.2, we discussed the discovery that allows us to individualize protocols within group training. As I searched for a method to create what my gut told me, I saw technology for what it actually is: resources. In athlete training, technology measures strengths and identifies weaknesses. Technology minimizes guesswork and increases efficiency, so we allocate effort strategically. Technology also quantifies success and provides physiologic data, so we do not wrongly assume aesthetic gains equal performance gains.

#### 6.1a The Origins of DNA Training

Shortly after I incorporated Performance Athletics, I bought my first computer. It had all the bells and whistles, and more programs and software than I ever used. I had only one computer class in college, so I had limited knowledge of how to use software to analyze data. When I began applying athlete data to develop training programs, I created “tracking” sheets to organize data from each workout. I created sheets for strength training and performance training. I programmed the cells to quantify loads, extrapolate maximum lifts, and calculate rest intervals based on fatigue rates. I was pretty proud of myself.

I affectionately nicknamed my software “master training.” In hindsight, I really did not accomplish much, but it was the start of something that changed the way I did business, the way I trained, and the way athletes felt they trained with me. Most importantly, it changed the process of getting results.

Most programs are generic. As a matter of fact, most athletes say their schools or training centers post workouts on the wall, and when the athletes enter the gym or weight room, they must complete a said workout. Even though I did not realize it how profound it was, I individualized every part of each athlete's workout.

It was blatantly obvious to me that a basketball player should not train the same way as a football player. I also knew a female should not train the same way a male. Not only are there hormonal differences, but women also have entirely different drives and motivations for training than men. My next step was to determine what differentiated one sport from another sport, and the anatomical and physiological differences between men and women and how that relates to training.

As the development of master training advanced to the next level, I asked a professional for assistance. A certified genius and dear friend, Nathan Hartwig, reviewed my work and offered to help. Nathan interviewed me for days, and when we finished, I had "Master Training 1.0."

The platform cost me a few thousand dollars, but it was worth it. I had a program to track strength and performance in the same database. Master Training 1.0 also graphed the results and organized the information daily, weekly, monthly, and annually.

I also knew that if I were going to be the best at what I do—the best in the industry—I had to create a program that was second to none. I had to create a culture: an environment for development that could stand the test of time. I had to create a model that would transcend all positions and all sports. Most importantly, I had to create an

experience that would change athletes' lives forever. This intense, timely, and methodical effort led me to develop the program paramount to athletic success: DNA Training.

#### 6.1b DNA Training: What Are You Made Of?

What is DNA Training? DNA is the acronym for deoxyribonucleic acid: the hereditary material in humans and almost all other organisms. Nearly every cell in the body has the same DNA. If I stood on a street corner and asked people to define DNA, I would undoubtedly hear, "what a person is made of."

I settled on the name DNA Training for our program. I loved both the literal and figurative meaning of DNA: what are you made of. For me, the name DNA Training represented potential—potential for an athlete's training achievements and performance success through our program.

#### 8.8 MTV's True Life "I Want The Perfect Body"

##### 8.8d Segment Five

The last segment opens with Ryan packing his suitcases for Notre Dame. One of the most profound things I have ever heard in my life, Ryan says next, (Remember, this is shot on the fly. No retakes.) "Really the main thing I'm looking forward to is getting knocked down. I haven't really been knocked down in high school. I'm sure I'm going to get it handed to me the first couple of years I'm there [Notre Dame], but I will get back up."

The camera starts at Ryan's feet and pans up to display Ryan's last weigh-in before he leaves for Notre Dame. A caption reads, "Since the start of the summer, Ryan has 'only' gained eleven pounds." Then the footage shows Ryan in between sets of doing single leg squats, and he says, "There is no question I need to gain more weight, but I'm happy with the weight I gained. I'm faster than I was at the beginning of the summer. I'm bigger, and I feel more in shape."

I chime in, "Based on the amount of calories he needs to make gains, it [gaining weight] is an enormous task." The camera shows Ryan putting cream cheese on a bagel, and he says, "I have to eat another bagel. I did not get this big from eating just one of anything. I'll tell you that right now."

Then you hear me say, "A lot of football players that gain weight, do so at the expense of speed, agility, and quickness. He hasn't lost the speed at the expense of being larger because he has maintained a superior level of fitness to go along with his additional body mass. I look for him to really make a name for himself, and he's a guy we are going to be reading about for three, four, five years to come."

The segment closes with Ryan's famous last words. "Can't wait to put on THE Notre Dame uniform. Wear THE Notre Dame golden helmet. Come out of THE Notre Dame tunnel. It's going to be unbelievable. I'm living a dream. I'm going to keep trying, keep training, and keep eating. That's the only thing I know for sure."

For nearly four years, "I Want the Perfect Body" was the highest rated *True Life*, and nearly six years after the airing, it is still one of the most popular *True Life* episodes

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ever produced. Once or twice a month, it is on MTV, and I always get calls, emails, and texts every time it is on TV.

Why do you think the show has maintained its enormous popularity? Ryan Harris. Does anyone remember Kat or Ryan the bodybuilder? Please. Did it make me famous? Yes. I have been in South America, Tokyo, Thailand, all over the United States, and people have recognized me from that show. Ryan took so much crap from his coaches and teammates when he got to Notre Dame. The ridicule would have made a lesser person quit football and become a regular student on another continent.

Did we get paid? No, but money was not our motivation. Personally, I saw the show as an opportunity to let the world in on a little secret about my method for performance training and getting athletes to the next level. Most aspiring athletes and their parents and coaches completely underestimate the level of commitment it requires to be the best. Ryan Harris is the antithesis of what the powers that be, the industry, and the establishment says an athlete needs to do or to be in order to be successful. This was our chance to demonstrate the Performance Athletix way, which contradicts so many industry opinions but yet is highly successful.

*True Life* “I Want the Perfect Body” was the exclamation point on four years of Ryan and my work. It was an opportunity to (1) show the world how so many Performance Athletix athletes sacrificed to be the best, (2) to show young people how doing the right things can get you where you want to be, and (3) to show parents and coaches what hardworking, disciplined, articulate, and accomplished young people can

be when given the opportunity to operate outside of an adult's shadow. Neither one of us knew what *True Life* would bring, but it changed both of our lives forever, and when it was all said and done, *True Life* was one of my greatest experiences.

I told everyone and anyone who would listen: Ryan is going to be a star. It was just a matter of time. Three weeks into his first season at Notre Dame, a star was born against the Pittsburgh Panthers.

## Section Ten: Michael Floyd & Shady Salamon

### 10.10 Who The Hell Do These Kids Think They Are?

From the day athletes start training, I know they are going to leave. It was not as if Shady were leaving town. In actuality, he was moving closer to where I lived. We even planned that Shady would have dinner at my house once a week to get a break from the monotony of college life, but I would not see him day in and day out as I had during the past six months. I knew he would be great, and he was still close, but it was tough on me. I was anxious to see how he would do. I knew in my heart that college football was not ready for what it was going to see.

The week before Shady left for school, he still had a couple of tests to complete. On Shady's exit VO2MAX, he hit anaerobic threshold (AT) almost a full minute later than he did on his previous test, and he stayed there for nearly three minutes longer than he did on his previous test. Coupled with the fact that Shady put on almost 15 pounds, he

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was going to the University of Minnesota ready to shock the world, and that is exactly what he did.

From the day Shady arrived at summer workouts, he pissed off everybody. Shady beat all the veterans in conditioning every time. The strength coaches would make Shady lift with linemen twice his size (thinking they would be stronger than him). Shady outperformed the linemen in everything they did; so much so that the coaches would yelled at them and then the linemen would ask to switch lifting partners.

It got so bad, that coaches used Shady to inspire—or humiliate—the veteran players. The coaches made players run more for each and every time Shady beat them at something. When the Gophers tested the 300-m shuttle run, Shady ran it in 37 seconds. That is right! 37 seconds! Not only did Shady beat everybody; Shady **destroyed** everybody.

In just a few short weeks, Shady Salamon arrived and served notice—without ever saying a word—that he would be a Big Ten starting running back. It was only a matter of time. We just had to wait.

Mike would soon be turning heads, too. Before Mike left, we had three weeks to fine-tune him before he left for Notre Dame summer workouts. Mike's training feats quickly became legendary in and of themselves. Mike had a week where he burned 8000 kcals. I have never had an athlete come close to reproducing performance like that day in and day out, period.

After 65 consecutive sessions—missing only one day to attend Notre Dame’s spring game—we finished Mike’s testing. His development was astonishing. The day Mike took his first VO2MAX test and had his body fat measured via underwater weighing, I told him that he would leave for Notre Dame weighing 220 pounds.

At Mike’s exit VO2MAX test and underwater weighing, his VO2MAX increased 4 ml/kg/min. What was even more impressive was Mike went from 203 pounds to 220 pounds, and he lost nearly two percent of body fat. Dr. Dan Carey said, in 34 years of testing, he had never seen an athlete that physically dense.

There was nothing left to do but hug and say goodbye. I was just as sad to see Mike go, but with Shady already gone, it was a bit easier. I made plans to attend the Michigan game, so I would see Mike soon, but for now, it was time to say goodbye, but not without a few words of wisdom.

From day one, I told Mike that he would be the starter. Never think of yourself any other way. You know how much you sacrificed. You are more than ready. (I gave Shady a similar speech.) Everyone on defense is going to try to kill you literally and figuratively. Play beyond the whistle at all times. Many of your teammates, and especially your opponents, have one foot in jail and the other foot outside of it. Football is their ticket out of a life of poverty and crime. Ending your career would be just another star on their helmets. You are not there to make friends. After you earn the starting position, you can be friends with everyone, but until then, you are in competition with everyone.

I will never forget the first day Mike reported to summer training at Notre Dame. He called me with the details. The coaches' jaws hit the floor. Mike showed up looking like the reincarnation of Zeus. (Although at 220 pounds, Mike is skinny in my opinion.) His roommates were wide receivers. Mike kept his distance knowing he had everything to prove before he could bond with anyone. Mike was the biggest, fastest, and strongest receiver on the team, and he had not even practiced yet. Everyone on the team immediately noticed, and the competition began.

Much like the first day of workouts for Shady, similar events occurred in South Bend. Of all the freshmen who reported early, Mike made the other players look like fools. I remember our conversation before his conditioning test. Mike was nervous because it was something we had never done. I reassured Mike he would embarrass everyone. I told Mike to call me before he went to bed, so we could laugh.

Mike did indeed kill everyone. Coaches were irate with the other freshman and veteran players. Half of the athletes could not finish; the other half was throwing up all over the field. The early success Shady and Mike had at summer workouts was the precursor for a season filled with excitement, joy, pain, agony, defeat, and all the ups and downs expected as a freshman college football player.

Section Fourteen: Olivia Schultz

14.9 There Will Be Blood

Olivia is a mix of Hispanic and German heritage. As a matter of fact, her mother's maiden name is Riesgo, which loosely translated means warning or danger. I could not think of a better way to describe Olivia—dangerous.

In soccer, there are plays, or “set pieces” such as corner kicks or plays from the boundary. On a set piece, players attempt to establish position based on where they are in proximity to the goal and or what the parameters of a particular set piece requires. I developed a game in which the forward or offensive player must receive the ball, keep the defense from touching it, and return the ball to the passer without any bounce for ten consecutive times. There is no time limit, and at any time if the defense disrupts the rhythm, the offense loses.

This game is tough on both the offense and defense. Olivia was at a disadvantage because she had to compete against guys. One day I lost it. Neither the offense nor defense provided much of a challenge for each other, so I went on a tirade about how everyone needed each other to make themselves better.

I guaranteed no one could beat me on either side of the ball if they were up to taking me on, but no one took the bet. I am not a yeller or a screamer, but when I do lose my cool, I usually jump up and down or insert myself into a drill or game to demonstrate. On this occasion, I did a little bit of both, and I was extremely vocal at the same time.

Olivia and a young man named Spencer were up first. Olivia gave Spencer the business. She received and returned five perfect passes in the span of about two minutes.

Spencer was pretty upset with himself, so he up-ed his intensity. Olivia trumped his attempt and disposed of him within five minutes. Now she had to play defense.

Spencer was ticked. Olivia prevented him from completing any perfect passes. She played so hard that she sweat through her clothes, and the floor had puddles on it. Frustrated by his inability to receive and return the ball, Spencer knocked Olivia to the floor. She landed right on her face.

I hesitate to call it intentional—it was one of those plays where Spencer pushed harder than Olivia could resist—but she lost her footing. These are the situations I am training athletes for—their opponents do not care about them, either. Now they know on any one play it could all be over. From here on out, they are more than prepared.

Olivia hit the ground with a huge thud, rolled around on the court, grabbed her face, and started to cry. (This was another moments where I thought my career was over.) The scene was pretty scary.

Olivia's face started to swell. Her lip split open, but much to everyone's surprise (and relief), Olivia picked herself up with a determination in her eye. She wiped away the tears, licked the blood from her mouth, and growled, "Let's go."

The stopwatch I use to time the games was still running. It read 18 minutes. It seemed as if an eternity had passed since Olivia fell, but she was ready. Olivia won that game on the defensive side of the ball, too. For the remainder of the summer, she dominated all the boys in everything we did.

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From time to time when I wanted to motivate the group, I looked at Olivia and asked one simple question: What do you taste when you wake up every morning? In her best imitation of my raspy baritone voice, she would say, “I taste blood!” People would smile like *this dude is insane*, but something about the way we said it, people understood what it meant, and what it means to those who have enough guts to say it and back it up.