The Primal Blueprint Podcast – Episode #18: Examining Performance Enhancing Drugs in Professional Sports with Mark Sisson

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Brad Kearns: Welcome to the Primal Blueprint podcast. This is host, Brad Kearns. Mark, how are you doing? Thanks for coming back.

Mark Sisson: I am doing great. It is a little windy out here today so I couldn't paddle so I am here indoors to answer some questions.

Brad Kearns:s Stuck in the studio. Well, we had an interesting talk last week. If you missed last week's podcast, go back and download it. We got in to various matters associated with human peak performance, athletic potential, and Dr. Timothy Noakes's Central Governor Theory, and so on and so forth. I thought we would pick up that topic on kind of a hot topic in today's athletic world. The effect of doping on peak performance, while doping. I thought I would chat with you about this. It is an interesting topic and you have a long history in the doping game.

Mark Sisson: [00:01:05] Actually my history is in the anti-doping game. Let's get that right. Based on my experience as an elite athlete in the 70s, and early 80s, and then as a coach of an elite team of triathletes, I was co-opted onto a committee to help write the first set of anti-doping rules for the sport of triathlon in '87 and '88 and based on my presentation of that set of rules at a board meeting of Tri-Fed, which is the national federation in the U.S. for the sport of triathlon, I got invited to be the Executive Director of the entire federation in Colorado Springs. From '89 to '91 I ran, what was know then as Tri-Fed USA, today it is called Triathlon USA. In that capacity, I then got, again, elected to serve on a small group to write anti-doping rules for the sport of triathlon world-wide. So, in conjunction with Craig Masback who was then head of USA Track and Field and who had been a long time buddy of my, he was a lawyer. We put together a set of anti-doping rules that became world-wide set of anti-doping rules for the sport of triathlon until the advent of World Anti-Doping Agency several years later. In that capacity, I was in charge of administering those rules so I had to oversee every hearing where there was a positive test, and get involved in adjudication of the outcomes of these. In some cases, enforcing the penalty. So I got a really good look at the world of sports performance, peak performance, the intention of athletes in terms of what they were trying to accomplish through performance enhancing drugs, and all it did was sort of open my eyes to how difficult it would be to actually write these rules, enforce them fairly, adjudicate them fairly, and what a gray area that sports doping became in those days and has become since. Because when we look at performance enhancing substances, Gatorade is a performance enhancing substance in some regards. The fact you could take sugar and salt in the middle of a race and replace what you have lost naturally enhances your performance. Caffeine, a cup of coffee, the morning of a race, or two cups of coffee before a cycling event has an ergogenic effect. It actually improves fatty acid mobilization, it has a central nervous stimulus effect. Some of these things you would consider harmless day to day food groups, or vitamin-mineral preparation, or substances or supplements actually have an ergogenic effect. The question then becomes,

"Where do you draw the line?" That was really the essence of the early days of anti-doping in the sport of, not just triathlon, but in track and field and everything else.

Brad Kearns: Unfortunately, in the public's perception, they are seeing a giant line that many, many athletes are crossing to the extent that we really don't know what is authentic and what is super human these days.

Mark Sisson: [00:04:26] Correct. You sort of have to take a step back and you go, "What does it mean to be an elite athlete?" Here you have the IOC with its Olympic games or you have the federation of the leagues, major league baseball, soccer federations, basketball, holding out this carrot to athletes who are genetically gifted in the first place, to say if you work very very hard...harder than anybody else, and you do really, really well, and we choose you, you have a chance to make millions of dollars one day. But what they don't tell you is there are going to be a 150,000 kids around the country or million kids around the world who have been given that same potential opportunity. And they are going to train really, really hard. Well, to be an elite athlete in a top sport, is not a healthy undertaking. In fact, it is antithetical to health. And particularly endurance athletics, like triathlon or marathoning, 10K, cycling, Tour de France cycling, and so forth, even swimming, to a certain extent, the more you train, the more you compromise your health. Here we are with this theory that these athletes are training really hard. They must be healthy. They are training to be Olympic athletes when, in fact, the more training they are doing, the less healthy they are becoming. They may be fit and they may be performing well, but their health may be declining. At some point, at the highest elite ranks, your immune system starts to shut down, you have all sorts of issues with inflammation, you may have some digestive issues, which is one of the things I had. There are a lot of things that can go wrong at the elite level because of the amount of high-intensity training that you are doing. So as an athlete, you are always looking for a recovery advantage because really training is about, not the work that you do to tear yourself down, but the recovery that happens as a result of the hard work you did, so you can build yourself back even stronger. Theoretically, over time, if you build yourself back strong enough, you could be in a position to win a gold medal, or a world championship or set a world record. So we have all these young people who get involved in athletic endeavors in an attempt to be the best in the world. We told them if you train as hard as humanly and, in some cases, inhumanly possible one or two of you might make the grade, but the other 150,000 or 2 million of you are not going to make it and then we can't help you. There is nothing we can do for you. So it is kind of one sided, lopsided perception on the part of the federations who want these super stars, who are encouraging these people to be super stars. On the other hand you have all of these people who are going, "Look, if I am going to compete, I've got to find an edge. I have to find a secret. I either have to find the right coach, or the right supplements, or I have to find the right way to recover from my sports performance." and that's where that issue of PEDs comes in to play.

[00:07:34] This whole gray area of what is a performance enhancing substance and what isn't starts to come in to play. It becomes difficult to draw where that line is in some cases. Now you might say people who are using growth hormone or steroids that's is absolutely unconscionable. They shouldn't be doing that. And the rule says that they should not. I helped write the rules and I agree with that. On the other hand you have got some guy who is trying to do the Tour de France and who is racing as hard as he can 140 miles a day for 20 days in a row. He is going to get up in the morning and have to do it again, the temptation to use whatever he can get his hands on to recover and to be able to get back in the saddle to do it again today is pretty compelling temptation. So it is not really a black and white issue and it gets really involved when you start looking at some of these other so called banned substances. I remember I had to take a kid who won a top event in the US. He was the Canadian national champion. He had a cold. The night before the race his father went to a US drug store and bought him some Sudafed so the kid could breathe. The next morning the kid won the race and then tested positive for p**seudoephedrine** and I had to ban him for 90 days and he almost didn't make it to the world championships because his federation had to honor that 90 day ban. You argue that here's a kid who had a cold, who couldn't sleep, couldn't breathe, went to the store and got an over-the-counter medication, tested positive for p**seudoephedrine** which is a mild stimulant and in and hour-and-a-half or two-hour race really doesn't have that great an effect, you could argue that he only, by virtue of being able to breathe a little bit that night and get up the next morning and race, he was maybe at a base line equal to everybody else but because of the rules, I had to disqualify

the event and ban him from the sport for 90 days. The number of times that happened was scary the number of times these sort of innocuous uses appeared. But we had no choice. It is a strict liability. Guilty until proven innocent.

Brad Kearns: [00:09:59] Yes. It is a touch battle to fight to try to keep the sport clean and I think you touched on a few things I want to reflect. Especially, when it comes to public perception of this problem. I think there is a ton of misconceptions and when you said it is not black and white, I think generally the average sports enthusiast sees this as extremely black and white issue when it is not. In particular, I think we look at these athletes and are exasperated when we find out that someone has been caught cheating and we forget the main deterrents are kind of flimsy. One of them is the morality of asking them to have a high moral standard. Of course they exhibit high moral standards in many ways, however, when you enter a dirty sport such as cycling, the morality question becomes very muddled because when it is clear that everyone is doing it and it is the only way to remain competitive it is a big challenge to stand on a high moral ground. The only thing you can do is quit which is not an attractive option.

Mark Sisson: Yeah, and that's the unfortunate story of pro cycling is that in order to be competitive you had to do what everyone else was doing. So Armstrong's biggest failing was just not admitting it earlier and just kind of continually taking people down with him. It wasn't so much, in my eyes, so much that he used, it was just the failure to admit that he did it when everyone else was doing it. The concept that the sport is somehow obligated to put forth a morality play for the rest of the world. The idea that these are supposed to be role models. I think that went out the window years ago. Sports, today, is theater, especially at the elite level. At the level of the NFL or major league baseball, or the Olympic games, this is about people watching television and buying the products that are advertised. This is about high level athletes being paid millions of dollars because they are entertainers, not because they are outstanding moralists or that they have some ethical story to unfold in front of the younger people. The papers are full of elite level, particularly professional athletes, who have completely gone off track with their place in society, getting in to fights and abusing whatever privilege they might have had. So to think that this is a morality play, is kind of ridiculous.

[00:12:27] This is really theater. If you recognize that it is theater and you recognize who is consuming this theater, is the person sitting at home watching the TV or buying the tickets to the game. They just want to see blood. They just want to see hitting. They want to see world records broken. And, again, not assessing good or bad judgement to any of this, I ask you if you think major league baseball would sell one fewer ticket this year if Barry Bonds was still playing? I think the public wants to see records set. They want to see more home runs hit. Athletes aren't doing this as a morality play. They are just doing to be able to stay in the game longer. Again, not suggesting that this is the way you ought to do it. If you are an NFL football player, and you've been beat up so many times, I would imagine the temptation to use the very same medicines that any poor schlub who walks in to an emergency room on a Monday morning and says, "I overdid it this weekend. What have you got for me to get me back to work?" It is a little hypocritical to think that we would deny those very same medicines to elite athletes who are punishing their bodies on a regular basis.

Brad Kearns: [00:13:47] Well, speaking of the fans buying tickets I think that it is important to reflect on because it's possible.....we have blood on our hands and we are contributing to this problem because it is true. We want to see home runs. We want to see world records. I sat in the stands during the 1984 Olympics and listened to 90,000 people boo Carl Lewis because he only took two long jumps and assured himself of a gold medal with an incredible 28 foot jump. But they wanted to see him jump more and more because they paid for their tickets, while they also wanted to see him win four gold medals. The athletes are in this impossible situation where, in the NFL example, we want to see blood. We want to see hard hits. We don't really care. We are starting to care a little bit about how their brains get mashed up during their careers. But the doping thing just goes hand and hand with the theater and with the continued escalation of the money involved for the actual athlete and also for the owner and for the fans buying tickets.

Mark Sisson: [00:14:53] The other interesting thing is the hypocrisy that a lawyer who is prosecuting a doping case will take Aderol to be able to argue the case with sufficient attention to detail and concentration and he will be arguing against the athlete for violating the anti-doping rules. That kind of hypocrisy goes beyond the pale. There are a lot of different levels to this. In the cycling world, EPO was a good example of a drug that was developed to increase red blood cells in patients with anemia or chemo patients, it got quickly subsumed into the endurance community, initially, of all things, in the orientation community. Cycling soon followed. It became a pretty compelling reason to use this stuff to increase the amount of red blood cells to carry oxygen to the muscles and to help you burn fat and do all the things that you could do. But that is unfair. You shouldn't be injecting this hormone that causes you to create more red blood cells. That doesn't seem to be the right thing to do and yet what was legal was to spend $20,000 on an altitude chamber so that you could train at sea level all day long and then sleep in a bedroom that had been acclimated to 14,000 feet altitude in which environment your body produces more EPO and hence more red blood cells. So the effect is the same. You are artificially increasing the number of red blood cells but now you are doing it through a loophole in the rules that says you can artificially raising the altitude of your sleeping habitat but you can't do it through injecting EPO. In the initial years of the abuse of EPO one of the things that UCI recognized was that there was a strong likelihood of death if the hematocrit rose above 55 or 60. Basically, your blood would become sludge and would clog and that would be the end of it. So they started testing athletes and they said if your hematocrit is above 51 percent today, you can't race. We aren't going to call you a bad guy. We are not going blame you for anything. We are not going to accuse you of anything. But you can't race. The Columbians who train at 14,000 feet in the Andes, some of the best climbers in the world, have a normal hematocrit of 51 percent so now here are some guys who came by hematocrit normally because of their genes and because of their training environment. They get pulled out of a race that they could have won because of some arbitrary level set that accounted for everybody's involvement at their EPO levels. So it became such a mishmash of rules and regulations. This worked, but that doesn't. Literally, there was a time there when 6 cups of coffee was okay, but 8 cups put you on the list of having abused the substance. We had one of our top triathletes who tested positive for opiates one day. Opiates were banned from competition, although there was no real reason to do that in an endurance competition because it certainly doesn't help you. We investigated further and found out she had three poppy seed muffins the morning of the race because she was carbohydrate loaded and poppy seeds are the source of opium. The metabolites showed up as opium in her blood stream. So the number of times we had to look at a case and say this guy tested positive for metabolites of nandrolone and the cut off was 3 nanograms and he tested at 4. If he had tested at 2.5, he would have been clean. But now because 2.5 billionths he was clean but at 4 billionths, he was dirty. That's a rounding error in the laboratory. I started to look at what happened to some of the tests in the laboratory. You'd think the guy tested positive, that must be a black or white case. No, these laboratory tests are literally, they are wavy lines on a sheet of graph paper that has to be interpreted by people with varying degrees of expertise. It is not like, oh, yes, it's a positive, or oh, no, it's a negative. It is based on where this mass spectrometer showed up, it looks like it should be a positive for this particular substance. It became very complex.

Brad Kearns: [00:20:11] I think for the average fitness enthusiast or athlete, it seems so ridiculous to even imagine putting some drug into your body just to go faster if you are not interested in elite performance and all of the conumdrums that you face as an elite. It should be also noted, and you mentioned this in football and cycling, this stuff is so unhealthy for you body to perform at the elite level, that actually taking the steroids as an NFL player or taking EPO to super-oxygenate your blood as a Tour de France cyclist could arguably be considered less destructive for your health rather than trying to perform clean.

Mark Sisson: That is the nature, particularly endurance events or NFL. John Madden had a comment one time a while back that stuck with me. He said, "You have no idea of the level of destruction that goes on in that field. You play one down in the NFL, you will never walk the same." That really hit home with me. If you watch these guys play, it is a brutal game and to think that you've got, as a team, you've $50 million invested in a player for the next several years. Are you not going to want to take advantage of every possible way, not only to get him up and functioning from one Sunday to the next, but to improve his longevity from maybe 3 years to 7 years by virtual, what we call, modern medicine. So, I don't want the audience to get the wrong idea. I am not for cheating at sports but I am in favor of what we are doing to

this athletes. I suggest that if this is a professional sport and they know what they are doing and they are working with a physician, and they are trying to preserve their health and improve their longevity in the sports, maybe it makes sense to revisit these things and set some level that would allow them to access some of the substances that modern medicine has determined actually can help improve recovery, rebuilding from injury and have a lot of these other beneficial effects in face of all the destruction that is going on.

[00:22:38] You what just came to mind? I am going to give you another example. The fact that Tiger Woods would have lasik surgery to improve his distance vision. Where does that fall in the spectrum of performance enhancement? You know, think about it. The fact that some guy could have some artificial ligament installed to make his throwing arm that much better. Where do you draw the line between what is allowed in modern science and what is perceived by, not so much the public, but by the press, as being ethically wrong, morally wrong, and salacious and worth writing about.

Brad Kearns: [00:23:18] Speaking of the press, I think lately everyone has done a good job spinning the concept that doping is being eradicated. Baseball was ridiculous for a while. They didn't even have any doping penalties prior to 2002 which was about 20 years too late from where we first saw the effects of doping first appear in the Olympics with the East Germans. But right now there is sort of a sense that things are slowing down and cleaning up. I am not sure if that is accurate. What do you think?

Mark Sisson: Well, one of the issues with doping in sports is that the tests for some of these new substances are always a year or two behind the actual invention of the substances themselves. So when the Balco scandal erupted....

Brad Kearns: That was when Barry Bonds and several other elite athletes in others sports were all traced back to this back woods laboratory in the Bay Area where this guy had come upon, with the help of inventors, a new steroids that were undetectable and mysterious in the doping testing protocol.

Mark Sisson: Correct. So these guys had invented a new steroid that the standard testing protocol couldn't identify. Well, unless you know or were aware of the existence of the substance, and then decided to create a test for it, it was undetected for a couple of years and it wasn't until somebody sent a syringe to my friend Don Catlin at the UCLA lab and said test this because it is a new substance. Somebody basically busted them by sending them a used syringe and then that was when the test was finally developed. So the bad guys were always going to stay one step ahead of the good guys. Athletes are always going to look for the edge. That is the nature of being an athlete. As an athlete with lots of money at stake and a lifetime of competition and adulation at stake, why would you not want to take advantage of every method? Now certainly all the legal methods....athletes are always looking for the next big thing in training and in diet and certainly always in supplementation. That's how I got in to supplements. As an athlete in the 70s and 80s, I was looking for ways to be able to come back from a 20-mile run one day and go and repeat it again the next day. I started looking at supplementation. I looked in those days it was 20 grams of vitamin C and vitamin E and there were not that many variations available. Over time there became drinks like Erg and some of the sports performance drinks that emerged. I helped develop a product called "Carbo Concentrate" in the mid 80s. It was a source of carbohydrate in long events like Ironman. We are always looking for that edge and in the endurance events, triathlon, it does come in the form of nutrition so most Ironman triathlons are won or lost based on one's particular attention to nutrition and if you don't use your nutrition right in that race, then somebody who did, is going to out perform in the last hour or two of that race and eventually beat you. This is what happened to Paula Newby Frasier. One of her more famous meltdowns happened because she missed an aid station late in the race. It was that simple. So here's an example of an ergogenic aid taking something that is made of carbohydrates or electrolytes on a race is enough to enhance your performance. That's the nature of where we are at with sports performance these days.

Brad Kearns; [00:27:06] Okay. It is a pretty complex issue as you have laid out nicely. Before we break on this topic....you actually, right there in your home in Malibu were witness to one of the most notorious

drug trials that we've seen. That was on disgraced Tour de France champion Floyd Landis, a former teammate of Lance Armstrong who went out and won the Tour in his own right after being Lance's protege for a while and then was subsequently found to have an elevated testosterone level in the middle of the race, which is kind of curious. What went down at the trial, Mark?

Mark Sisson: Well, it is called a hearing, not a trial. Typically, at that level, the court of arbitration, which an international court empowered by the IOC, has three panelists who will hear the case which is argued by lawyers for both sides. In this case it was an eight day hearing. Floyd had tested for an exogenous form of testosterone and it was really interesting to watch the hearing from a number of different vantage points. One of which was his defense attorney. I gave him his first three hearings. He was hired by me as sort of a prosecutor in triathlon hearings, that is Howard Jacobs. And then the chairman of the panel was a friend of mine with whom I worked a lot at triathlon and a lot of people who were participating in the hearing itself were from various labs and so on. One of the interesting things that came out of it was that the amount of testosterone that Floyd had in his system, wasn't particularly high. It was just the fact that he was using testosterone to literally recover from one day to the next. So when some of the initial headlines said he had more testosterone than had ever been seen in a person, or he had enough testosterone to take care of a whole harem, it was headlines that were salacious enough to make people read the article. The bottom line was his testosterone ratio was out of whack and it was a simple test that we had in those days that allowed a more expensive test to happen that would identify what we call exogenous testosterone. So it wasn't that his levels were really really high, they just had opened the door to examining the source of the testosterone that was in the sample that he gave that day. It appears that the source was exogenous, an outside source. It was done through the laboratory testing. There is a lot more going on in each of these tests than you read about in the headlines. There is no black or white. There is no real answer to this. It is an ongoing issue. Kind of a fight between what is it going to take to allow these athletes to participate at the highest level and to take care of them versus what does it take to give every athlete a level playing field and to be able to compete against each other knowing that there hasn't been a tremendously unfair advantage bestowed upon one athlete and not another.

Brad Kearns: That is a lot of fun talk about possibly an unpleasant subject of doping in sports and at one point you mentioned how society at large is possibly guilty of a lot of different abuse. The lawyer taking Aderol to prepare his case in the anti-doping commission. I think next week we should possibly pick up the discussion with some anti-aging strategies that are drug-free. The anti-aging scene is pretty polluted with a lot of drug regimens that are possibly unhealthy and counter-productive. There are a lot of things we can do, especially in the age group of let's say 40 to 60 that are noticing the effects of physical decline, physical aging, the weekend warrior who is beaten up and not recovering very well. There are a lot of tips that you can talk about to get that person on the right track and kind of slow down that decline that is associated with chronological aging.

Mark Sisson: Sure. Let's do it.

Brad Kearns: Thanks for today, Mark. That was a fun little diversion from our usual primal topics. You can search through the previous 16 or 17 shows to learn all you can about matters of primal living. Thank you so much for listening to the Primal Blueprint podcast with Mark Sisson. I am Brad Kearns until next week.