

#144 – Charlie Kimball, Huffines Discussion Scholar 2013

[music]

- S1 00:18 So every once in a while, you get an elite athlete that comes into your lab for some routine testing and you realize that this person is really incredibly bright, very interested in what's going on, and really takes what you talk about and uses it to their benefit. So, I am really pleased and proud to introduce to you a name you may not know much now but you will know a lot more in the future - Mr. Charlie Kimball from the IndyCar Racing Series.
- [applause]
- S2 00:43 Thank you, Dr. Lightfoot. I was talking to a friend of mine who was actually one of Dr. Lightfoot's doctorate students. I said, "Look, I've been asked to come speak at the Huffine discussion, and I'm the only guy who doesn't have letters before and after my name. In fact, with all the letters before and after the other speakers' names, you could probably write a novel." Well his advice was, "Open with 'howdy' and close with 'thanks giggum' and you'll be fine." So, howdy!
- S? 01:16 Howdy!
- S2 01:19 Here's my office.
- S4 01:28 Charlie Kimball. How much confidence he has and how aggressive he is on the racetrack. This is a great day for Charlie Kimball. He's at about a ten, twelve car lengths lead. Wow! He's checking out. That number 83 car has been so aggressive. He found just enough room on the low side to get them both! Charlie Kimball looking at a career best-- a great move by Charlie Kimball! This is as aggressive as we have ever seen the California driver. Very aggressive. Easily, his best day-- great run today for Charlie Kimball [applause]
- S2 02:01 That's where I go to work. I don't wear a suit and tie unless I have to. I don't wear scrubs. My racing story actually started in go carts. I started racing go-karts when I was nine years old. I grew up watching racing. My dad's an engineer and designed race cars, so I was always around it. When I was 16, I got into cars. And then when I graduated high school, I got accepted to Stanford for their Mechanical Engineering program. I wanted to either design cars or drive them for a living. I promptly turned them down and moved on my own to Europe to race cars - the age of 18 [chuckles]. My parents are still not convinced that's the right choice. I spent a few years racing over there first in Formula 4, and then climbing up the ranks in Formula 3. I was the first American in 13 years to win a British Formula 3 race. I was doing pretty well.
- S2 02:54 I don't know if there are any formula one fans in the audience, but the photo of me on the top step of the podium, I appreciate, because the dour looking German to my right is actually racing just up the road in Austin this weekend, is current reigning Formula One world champion Sebastian Vettel. So every time

he wins a race, I pull this photo out to make myself feel better about life.

S2 03:15

In 2007, I was racing in the World Series by Renault, and the World Series is a fairly quick car - sees a top speed of about a 180, 185 miles an hour. I got to race through the streets of Monte Carlo at the Grand Prix in Monaco, but I was finding that as we went through the late summer, into early fall, things went off-track, so to speak. I was making a lot of mistakes. I was crashing, spinning off a lot. Felt like I was running as fast as I could, but I was stuck in the mud.

S2 03:44

October rolled around, and Team USA and the A1 GP Championship called and asked me to come practice their car in the Czech Republic. I was living in England at the time, so I flew out there and did an hour practice, and I was pretty quick. I think I was fifth quickest out of about ten or 15 guys. But I remember getting out of the car and thinking, I'm exhausted, I got to get back to the gym. Well, when I got back to England after the race weekend, I went in to see my doctor because I had this skin rash on my arm, and he said, "Here's some cream for that, is there anything else going on in your health you want to ask me about?" I said, "No, I'm 22!" Like being 22 meant I was healthy - nothing could go wrong. And then I said, "Well, I don't know if you're the guy to talk to or I need to talk to a nutritionist, but I've been kind of thirsty lately." He looked at me and said, "Okay, how thirsty is kind of thirsty?" "Well, I'm going through eight, ten bottles of water a night; have to go to the bathroom all the time." He pulled out a scale and said, "Well, have you lost any weight?" I said, "Well, I was weighed five days ago, so I know what I should weigh." And I jumped on the scales and I looked at him and I said, "Doc, your scale's broken, because there's no way I've lost 25 pounds in five days."

S2 04:59

As an athlete, I didn't have 25 pounds to lose. And then he said, "Okay, I want to do some more tests, but I think you have diabetes." And I'm like, "Great! What's that?" I'd be the first to put my hand up, I had very limited knowledge to what diabetes was - what it meant. I didn't have any family history. I didn't really have any friends growing up that had diabetes. In fact, my second comment - one I'm not particularly proud of; still embarrassed by to this day was, "Wait, wait, diabetes. Don't old people get that?" And then he explained the differences between type one and type two, and what it would mean, and sent me to the endocrinologist. And when I was at the endocrinologist's office, I looked him square in the eye and said, "Doc, I'm a professional racing driver. Am I ever going to get back behind the wheel?"

S2 05:46

Now, coach Johnson, I'm a baseball fan myself. And when I asked that question, it seemed like it was the super slow mo replay of the diving catch in the outfield, bottom of the ninth, game seven of the world series for the third out. It seemed my life had hit pause. I didn't know what he was going to say. When he looked at me square in the eye and said, "I don't see any reason why not, why you shouldn't get back in a race car. There are incredible people doing amazing things with diabetes all over the world. You may have make to some adjustments, but it shouldn't slow you down." Well, as a racing driver, not slowing down was something I could get behind. So, I worked with a team of doctors over the winter. I was diagnosed October 16th, 2007, and I spent that winter getting healthy, and figuring out what diabetes meant for me as a person, me as an athlete, and me as a racing driver.

S2 06:49

On my first race back with diabetes, six months after I was diagnosed, I stood on the podium. And I remember standing up there, finishing second, thinking I can

still do this. In fact, I think I'm a better driver because of my diabetes rather than despite it. I have a better understanding of my body - better prepared nutritionally. Plus, each corner, each lap, each race means more to me now than it ever had before because there was that time I thought I'd have to hang up my helmet.

S2 07:25

In 2010, December 16th, actually three years, two months to the day after I was diagnosed, a company called Novo Nordisk and Chip Ganassi Racing announced a partnership to field the number 83 car for me in the IZOD IndyCar Series. Now, Novo Nordisk is more than just a sponsor to me. They're a partner. Since the day I was diagnosed, I've been using their insulin and their insulin delivery devices - the FlexPen and NovoLog - to manage my blood sugar well enough to stay healthy enough to get in a race car. And it would mean that on May 29th of 2011, in the 100th anniversary of the first Indianapolis 500, I made history as the first licensed driver with diabetes to qualify for - at an average speed of 224 and a half miles an hour - race in and finish the Indianapolis 500.

S2 08:16

And to me, it was important that we ran the number 83. Because 1983 was my team owner Chip Ganassi's best finish as a driver in the Indianapolis 500. He's driving a car my dad designed. So the year I made history in 2011, it was important that I recognize both my dad's history as an engineer, and Chip's history as a driver. When I'm in a race car, especially doing 200, 225 miles an hour, life makes sense. Maybe it's because there's not enough time for it to not make sense, but there's no place I'd rather be than behind the wheel.

S2 08:55

Now, as a driver with diabetes and the first driver with diabetes, I had to come up with a few tools to be able to compete. Most of it comes down to my preparation before I get in a car. As far as checking my blood sugars, managing my insulin doses, my nutrition, my hydration - all of those things. When I'm in the race car, my indie car's a little different than everyone else is. I wear a continuous glucose monitor, so I have a sensor on my body that transmits to a display that I plug into the car's data system. I used to say "Pager-like display" and then I had to explain what a pager was to a group of kids the other day, and so I'm updating my vocabulary a little bit. With that being integrated with the car's data system, on my steering wheel, on my dash, I have speed, lap time, oil pressure, blood glucose, water temperature, gear - I have car and body data right there together. Just like I make sure the car is running right, I make sure my body's running right as well.

S2 09:50

This is my traditional, normal diabetes management on an average day when I'm in the office, in the gym: testing my blood sugar, basal injection in the morning, bolus for meals, snacks, especially after training, time in the gym, mid-morning, mid-afternoon. An average testing time and blood sugar management routine. Now on race day, I got to manage all the things that a normal racing driver does - building towards the green flag - but I also have to work my diabetes management, my health in there as well. So about three hours before the green flag, I've got the drivers meeting; inevitably I'm testing my blood sugar. Two hours before, final race strategy meeting with the team, and at that time, I usually eat my pre-race meal - consists of plain grilled chicken breast, a little plain pasta, some salad, some fruit, some bread if I need it for my blood sugars. Going over the strategy with the team as far as tires, fuel mileage, how many pit stops we're going to make, who we're racing.

- S2 10:55 An hour and a half before, it's my last opportunity to really interact with the fans, thank them for coming out, sponsor meet and greets. I'll test my blood sugar to see how I'm starting to react from that meal. And as a reminder, I'm still wearing this continuous glucose monitor, but I'm double-checking the system all the way along.
- S2 11:14 An hour before, it's time to start getting game face on, get into my fire suit, any snack or bolus adjustment is needed. I'm injecting the insulin to get my sugars where I want them after testing my blood sugar.
- S2 11:26 Half an hour before, it's driver introductions. Go out to the stage. Introduce to the fans. Meet all the dignitaries and people that have come out for the race. I usually take my meter with me and test right before I'm introduced - before we go up on stage. 15 minutes before, typically after the National Anthem - usually after the fly-over that you saw in the video - earpiece is in, balaclava on, helmet on. Before I put my fireproof gloves on, I'll test my blood sugar just to make sure I know where I am. And then I get to go have some fun, where I spend all day getting ready for the green flag.
- S2 12:03 This year, 2013, I once again made history as the first driver with diabetes to win an IndyCar race at the mid-Ohio sports car course in Ohio at the Honda Indy 200. And for me, it was important because it wasn't just my first win, but it was a win for the whole diabetes community. One of the things that getting diagnosed has done for my racing program is that it's given me balance. I know that if I finish first on the race track or 21st, if my engine blows up or I win, the fact that I'm out competing is a victory for so many people with diabetes. It is such a great community of individuals. In fact, my endocrinologist once said, "The thing about people who work in diabetes is it's not dramatic. We aren't ER heart surgeons. We don't come in at the last second, crack chests, start hearts, save lives. We fight this thing every meal, every moment of every day. And if we're successful, if we're winning against diabetes, there's nothing to show for it, except a long, happy, healthy, successful life."
- S2 13:18 So it's not particularly dramatic, and I enjoy the fact that when I'm on the racetrack-- I'll warn you, the puns here don't get any better, so if you laugh, I move on more quickly. When I'm on the race track, diabetes is along for the ride. It's not behind the wheel. Thank you. That's a good audience. I like this. Getting diagnosed was a bit of a speed bump, for sure, [laughter] but not a roadblock. [laughter] And to be fair, diabetes hasn't slowed me down. I'm still out there competing.
- S2 13:53 At 225 miles an hour, you cover the length of a football field - think about Kyle Field, 100 yards - every second. So when you're going that fast, you'd better be thinking a lot further ahead than just what's coming up, because before you can think about it, you're already there. The physicality of driving an Indy car, you have 650 horses under your right foot in a car that weighs 1400 pounds, that will do 0 to 60 miles an hour in less than three seconds. And at 200 miles an hour, has enough down force to theoretically - and I'll trust the engineers on this - hold two of them on the ceiling. Driving for 500 miles with 32 other crazy guys out there at the same time - great guys and girls - at over 220 miles an hour, without power steering and without power brakes.
- S2 14:50 That's how I got from racing a go-kart in California to the greatest spectacle in motor sports - the Indianapolis 500 - which I got a top ten this year, and my plan

next year is to be the first driver with diabetes to win the Indy 500. So, thank you very much for having me, that's my diabetes in the fast lane story.

[applause]

S1 15:15 Great job, Charlie. We got some questions for you, as you might guess.

S2 15:18 Uh-oh.

S1 15:19 From Robert M. Do you feel your body data instruments give you an advantage in the race?

S2 15:26 I think my biggest advantage is the fact that I deal with it. Yes, understanding where my blood sugars are helps because it helps me better prepare but I have to be willing to put that effort in. I got the question about what's my connection to Texas A&M. Why am I here? Well, I've come down and done a little bit of work with Dr. Lightfoot and his students at the Huffines Institute, and I think I'm a better athlete for that because if I didn't have diabetes, I probably wouldn't have taken that initiative. So having that instrumentation helps, but it also allows me. It's one of the only reasons the IndyCar series will give me a license to go compete.

S1 16:12 Cool. This is from Amanda G. who says that she also has Type 1 diabetes. Have you ever considered using an insulin pump or is there a certain reason you stick to insulin shots?

S2 16:23 I use the pens for a few good reasons, in fact. I answered this question - my endocrinologist was in the audience once and she stood up and corrected me - so I want to make sure I get it right because she is one of about three people in the world I'm very - I hate to use the word afraid - but afraid of. Conscientious of - let's put it that way. She said, the first thing is, she, as my doctor and my healthcare provider, is very happy with my care on the pens. She's happy with my hemoglobin A1C level. She's happy with my limited amount of hypoglycemic events. She's happy with how it works in my lifestyle. Secondly, she's worried about the temperature of the insulin under my fire suit. The three-layer fire suit, long sleeve fireproof underwear top and bottom, it's not uncommon, especially during a hot 500, to lose between 10 and 15 pounds in body weight just through sweat. So, she was worried about the insulin denaturing.

S2 17:17 The other thing is, I know some pump companies recommend that people who wear them take them off when they're on a roller coaster. Well I drive a roller coaster. We see G loads of three to four Gs every lap, so I don't know what that would do to a pump. So, as she said, "If it ain't broke, don't fix it."

S1 17:38 That's a great answer and great reasoning. This is from Shriase. I do not have diabetes, but I have much family history amongst the females that have diabetes, especially type two. I will be different from everyone else, and ask you, how does it feel to have to manage two cars, your race car and your body? It all seems tough. Congratulations on the wins by the way.

S2 17:59 Thank you. As I said, having diabetes was - and is - every day a challenge. But for me, it adds an element of balance that I never had before. Racing - I think it's made me a better driver because of what it's forced me to do. My nutrition maybe wasn't the best. My mental and physical preparation wasn't as good as it could be, but having diabetes really forced me to face those and work through them and understand my body. And I think I listen to my body better now than I

have ever before, and having that in the race car means that I'm prepared. When I get in to compete, I love it that little bit more, but it's also that little bit sweeter when I do go out and get that podium, or get that win. It means that little bit more.

S1 18:55 I'm going to take the prerogative and answer a question for me. You've told me a story in the past, and talk about perceptions of race car drivers when their car - how quickly they respond to things. You told a story once about how you knew it was raining on one part of the track and not on the other.

S2 19:11 Well, I think one of the things that makes racing drivers unique as people, as athletes, is their ability to process information. It's a little bit like drinking from a fire hose. You have to take in all of these sensory inputs, and understand what's important and what's not, and what you could use now, or what you can use later. For me, it was a road course race, and I noticed-- we'd sort of been wary of rain coming in. We knew it was in the area, and we went-- I went through a corner and down a straight, and as I was coming up to the braking zone, I noticed that all the fans in the grandstands had put ponchos on and put umbrellas up even though halfway down the straight, it wasn't raining. So when I saw that, I instinctively - because at that speed, you can't consciously think of things - instinctively, I brought my braking point back so that I would slow down a little bit. Sure enough, halfway through the break zone, drove into, essentially, a wall of water. Well, I managed to gather the car up and make it around the corner where two guys ahead of me and four guys behind me didn't.

S2 20:25 And so I think for me, understanding what that meant, when those fans put their umbrellas up was that I was driving into a rainstorm - is something that sets elite IndyCar drivers or even top level drivers - be it IndyCar, Nascar, Formula 1, dragsters, rally, whatever it is - is that ability to process information and understand what's important and what is less important at that moment, but could be beneficial later down the line.

S1 20:54 I don't know about you all, but I'd have been so freaked out at driving 185 miles an hour, I don't think I would have noticed ponchos.

[laughter]

S1 21:01 Charlie, thank you so much for being here.

S2 21:03 Thank you, Doctor Light.

S1 21:03 I appreciate it.

[applause]

[music]