

CasePerformance

May Newsletter Part I



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Hello,

I hope that the month of March has treated everyone well. I'm confident that you're a step or two closer towards achieving one of your short/long term goals. Things are active here for the CasePerformance team members.

Our [strength](#), [running](#) and [nutrition](#) consultations are going well. If you're interested in finding out about our group discounts please send us an [email](#).

I. A Look at This Month's Newsletter

With May coming to an end, the start of summer has been signaled (at least for those in the northern hemisphere)! Time to head outside, hit the beaches and show off that body you've worked so hard on during the past year. It's got me pumped –that's for sure (at least minus the fact that my Irish skins burns like a bright red tomato if out too long!). Enough random talk, here's what you paid the big bucks for – The CP Newsletter...

We kick this month's newsletter off with our CP Community Member of the Month interview with Thomas Hosang who shares with us his background, including how he got involved with physical training (Hint – Setting records on a pull-up bar played a large role), as well as training, nutrition and supplement strategies. Additionally, Thomas touches on his research interest in motor learning and neurocognition!

Following our interview, we get to our CP Community Member Discussion where Korey Van Wyk, shares with us *Reflections of a 1st Year Collegiate Physical Preparation Coach*. In it, Korey discusses challenges he experienced during his 1st year training multiple sports teams at Northwestern College.

Needless to say, I think you'll enjoy Part I of our newsletter!

Respectfully,

Sean Casey

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III. Community Member of the Month...



Thomas Hosang – Training Enthusiast

This month's CasePerformance Community member of the month, Thomas Hosang, comes to us from Cologne, Germany where he is earning his master's degree in exercise science & coaching from The German Sport University. This is in addition to his undergraduate degree in sport psychology, specializing in neurocognition and movement. His interest in training was a result of a bit of judo, skating, basketball and chasing after pull-up records as a youth. With that being said, let's get straight to the interview!

First off, I want to thank you for taking the time out of your training, work and social commitment schedule to join us today. We are honored to have you here.

Hey Sean, I really have to thank you for choosing me as the CasePerformance Community member of the month.

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Tell us a little about your background... How did you get involved with exercise in general? Did you participate in any sports while growing up?

As a young kid I had some back problems. My parents consulted a physician and he recommended that they enroll me in a Judo club. At the time, I was four years old. I continued doing Judo for about 7 years but I never really liked it that much. Around the age of 7, I started doing inline skating which I continued for about 8 years; I thoroughly enjoyed all sorts of skate parks and street skating.

At around age 14, I started to get interested in basketball. I wasn't really pleased by the formal club system in Germany (The German sport system is a bit different from yours in the USA. Here, we typically participate in a club which normally has no affiliation with the educational system). Thus, I started to play and practice on my own, mostly playing streetball on a court called "Rollschuhbahn" in my hometown of Braunschweig. Interesting/funny anecdote: This is the court where Dennis Schröder of the Atlanta Hawks also started to play basketball.

“This was the period of my life where my strength training consisted of obsessively doing pull-ups...”

During that period, a friend of my parents installed a pull-up bar in my room. It was a funny installment as the bar was connected to the ceiling via two chains. You always had to balance out the movement of the bar while doing pull-ups. At the time, my father told me that he could do 28 pull-ups as a teenager. This challenged me and I spent the next year doing pull ups to try and break his record. This was the period of my life where my strength training consisted of obsessively doing pull-ups (and really just pull-ups) every day. At that time I had absolutely no knowledge about exercise science.

I don't know why, but my training regimen consisted of three all out sets spread all day; typically one after waking up, one at noon, and the last one in the evening. . Somehow the training worked and I was able to break my dad's record by doing 30 pull-ups. A little later my grandfather told me that he could do 34 pull-ups as a teenager. It made me a bit angry as I thought I had finally reached my goal. So the journey continued and, after a while, I was able to do a set of 35.

In 2005, I started up with kickboxing. Practicing that type of sport on your own isn't really realistic so I decided to join a local club. In addition to the kickboxing facilities, the owner had an old school bodybuilding gym in his club. So I decided to do some additional strength training. This was the first time I trained with machines and free weights. As

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during my pull-up phase, I still didn't know anything about strength and conditioning training. This led me to do a split bodybuilding routine in addition to my kickboxing.

Three years later, I joined the army. At the time, it was mandatory for German males to join the army or do some sort of alternative civil service. I was based in Berlin and stayed there for the next 9 months. The army was pretty exhausting and forced me to give up my kickboxing.

After the army, I went to Bielefeld to study sport psychology. I did a lot of strength training and played a little bit of basketball. In between, there was a period where I was totally into endurance training. Before I had never tried to work on my endurance capacity before so I experimented a little bit. I got to the point where I felt too skinny and lost too much strength. Therefore I decided to restart my strength training and started doing power lifting. It went very well for 6 months up until the point where I seriously injured my left shoulder.

Do you still stay pretty active today from a training standpoint?

I try to. I never really recovered completely from my shoulder injury. Even today I am not able to do serious strength training. Upper body movements are particularly challenging. I try to do all the movements that are pain-free but this can be very frustrating. The limited strength training led me start doing some bicycle racing. But even on the bike my shoulder is a limiting factor, especially during longer sessions. I had surgery on it this past March and look forward to being able to get back active soon.

As mentioned in the intro, you're currently earning your masters in sport science and coaching. Can you discuss with us some of your current (and past) research interests?

I will first start with my past research. While earning my bachelor in sport psychology I worked as an assistant in the electroencephalography (EEG) lab of the neurocognition

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and action group of Prof. Dr. Thomas Schack. I owe most of my scientific education and background to my mentors Dr. Dirk Koester and Dr. Iris Güldenpenning. For those not familiar with EEG, it is a way to measure the brains electrical activity.



Fosbury Flop. [Image Source](#)

In my bachelor thesis I used EEG to investigate the neurophysiological correlates of the perception of a complex human movement as it has been hypothesized that visual as well as motor experience influence the perception of human movements. The underlying mechanisms remain unclear and most studies have been conducted on relatively simple movements (e.g. finger tipping).

To better study this, we had a group of subjects ($n=34$) without any previous motor experience regarding high jump categorize different parts of a high jump, such as the Fosbury Flop portion (see image to the left), during a pre and post-testing. Between the testing they underwent a visual training (watching videos of high jump sequences). I used high-jump for the experiment because it is a pretty complex motion sequence. The results were further

compared to the data of skilled athletes. The idea behind it is that isolated visual experience (visually trained group) can be compared to visual-motor experience (skilled athletes acquire both visual and motor experience during their career).

“... This suggests that visual as well as motor experience modulates the perception of complex human movements...”

In doing so, I found that two sessions (2 x 25 min) of simply watching sport specific material were sufficient to lead to neurophysiological changes as reflected by the ERP data. I was also able to show shortened reaction times for the behavioral data. Both findings are quite impressive (especially the EEG data) considering the short intervention time. By comparing the two groups I could further identify different neurophysiological processes between both groups. This suggests that visual as well as motor experience modulates the perception of complex human movements and that they probably do so by different mechanisms.

When I came to the German sport university in Cologne I had to reorient myself. This decision illustrates a permanent internal conflict. I have always loved psychological research as much exercise science. As it relates to my academic career, this makes it very difficult to choose between the two. My master's program is focused on exercise science and so I had to totally change my direction. This can be very challenging. You have to start from scratch, research the literature, read a lot and then read even more. At first, I started studying the fasting metabolism and ketogenic diets. I was looking for

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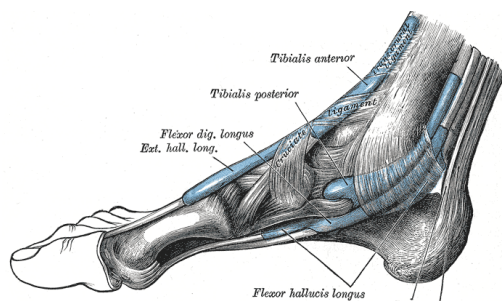
potential applications to enhance athletes' performance. I was only doing literature research, but I didn't conduct any experiments in this field. This period was between late 2013 and 2014.

Last summer, I returned to neuroscience by investigating the blood flow of the human brain during water immersion. We used near infrared spectroscopy underwater and at that point we were probably the first to do it. Water immersion is a technique commonly used to mimic the physiological effects of micro gravity. The German Sport University is collaborating with the German Aerospace Center so some research is being done to understand the human physiology during weightlessness. Hopefully we will submit the results by the end of this year.

“...Elite sprinters from all over the world will soon start coming here...”

Recently I was involved in an interesting biomechanical experiment. In a lot of sports we mainly focus on big joints like the hip or the knee. But we often tend to forget that the last link between the body and the ground is the metatarsal phalangeal joint and its toe flexor muscles (this could be of particular interest during sprinting). Dr. Jan-Peter Goldmann has specialized in this field. He is one of the most inspiring scientists I have ever met and his group is building-up a worldwide state-of-the-art in sprint diagnostic system at the German sport university. Elite sprinters from all

over the world will soon start coming here to analyze their biomechanics. So if your national team is interested in optimizing their technique feel free to contact him.



Toe Flexor Muscles. [Image Source](#)

In the mentioned experiment we investigated the influence of a strength training intervention of the toe flexor muscles on the deformation of the longitudinal arch. We presented the data a few weeks ago at a conference.

Right now I am preparing my master's thesis. I will probably get back to my neurocognitive roots and use EEG. I am really interested in nutritional neuroscience and therefore I will investigate some

neurocognitive effects of carbohydrates. I have almost finished the design of the study and will hopefully start with the data collection this summer. According to my literature research nobody has previously examined what I am about to do so stay tuned.

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Interesting about your research on the metatarsal phalangeal joint and the toe flexor muscles. Could you share with us the study design and what your research team found?

“The aim of the study was to quantify and describe the deformation of the arch during a long jump and to further test if an isometric strength training would have an impact on the deformation...”

The study was randomized and controlled and had a pre-posttest design. The aim of the study was to quantify and describe the deformation of the arch during a long jump and to further test if an isometric strength training would have an impact on the deformation. The deformation was measured with the help of 8 infrared cameras recording at 200 frames per second (VICON Motion Systems).

The experimental group (18 male students) trained 4 times a week for seven consecutive weeks at 90 % of their maximal voluntary isometric force (MVIC). A training session consisted of 4 sets of 5 reps (3 sec contraction and 3 sec relaxation). Former studies from our biomechanics institute have shown that these high intensities are necessary to trigger certain adaptations like e.g. increased tendon-aponeurosis stiffness (see Albracht & Arampatzis 2013 Eur J Appl Physiol). The MVIC of each participant was tested at the beginning of every week to adjust the force output during the training.

We were able to show that during the standing long jump there is a mean deformation of 28°, which is quite interesting. However the intervention had no impact on the deformation. We have some ideas why the deformation kept unchanged but I have to clarify that these are just assumptions. Some experiments indicate that the passive structures of the arch can store and release energy while running while reducing energetic costs. It is possible that a similar mechanism is being used by the body during the long jump and that a reduced deformation could be hindering. A more methodological critique could be that the isometric intervention inhibited a transfer into the dynamic movement.

Nevertheless Dr. Goldmann has previously published impressive results concerning the strength improvements and the athlete's performance after the intervention. Although we failed to show some changes in deformation, he was able to show that the toe flexor muscles responded highly to the intervention by an increase of 60-70% in MVIC. He was further able to show an increase in standing long jump performance. This is amazing considering that you just have to train your toe flexor muscles (see [Goldmann et al. 2013 J Sports Sci](#)).

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Following graduation from the German Sport University, what would you like to do?

I am planning to do a PhD. I really love doing research and I would love to finally choose one direction and commit my research to that 100%. As you can see, I have a lot of research interests. This makes it really difficult to choose between different fields. I am leaning towards nutritional neuroscience and hopefully I will find a place to go with that. I almost went for a second master's degree in neuroscience but it would have taken too much money and time. I recently got my German Sports University personal trainer certification and will work as a personal trainer to be financially independent. Besides this I am planning to do the CISSN certificate and I would love to go to the US for an internship.



A topic I always get questions about is nutrition and supplements. Have you found any nutrition strategies to be particularly effective for you? Ditto for supplements?

I am a very curious person and I tend to try a lot of different things on myself. I really love to be my own test subject. It is like I am my own never-ending single case study. [Editor's Note – I have the same philosophy and encourage those in the CP Community to do the same!] I tried a lot of things like being vegetarian, vegan, low-carb, keto, intermittent fasting, 7-day fasting, low fat, IIFYM and some other stuff.

“... the thing that works best for me is sticking to the absolute basics ”

To be honest, the thing that works best for me is sticking to the absolute basics like controlling the overall energetic intake and the macronutrient distribution. I was dieting before my shoulder surgery to see how low I could go with my body fat percentage. One day before surgery I went on to do a DXA scan and the results showed that I was at 4.8% body fat (**Editor's Note** - see image on next page; this is a picture of Thomas on his way towards 4.7% bodyfat). There wasn't anything magic about my diet, just calorie tracking, adjustment of the training, the macros and the deficit. It worked for me because I could stick to it long-term. It was just as simple as that.

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I tried a low-carb protocol combined with carbo-loading in 2013 and it worked pretty well but, to be honest, it was the first time I systematically tried to control all the variables like caloric intake, protein intake etc. (Yeah I know it's a shame). Could have worked as well or better on a different regime, like low fat high carb.

In 2014, I experimented a lot with some high volume training, high intensity interval training and nutrition regimes. The worst thing I did was a HIIT shock microcycle (10 days, 12 sessions; 4x4x3 protocol, 90-95% heart rate) on an almost no-carb diet. This was absolutely crazy,

exhausting and stupid but I couldn't find any literature where this had been done. So I had to give it a try.

In terms of supplements, I keep things pretty basic. I like to take creatine from time to time and I use whey protein.

I know you're a pretty busy guy. One of the things I hear quite often from people in the CP community is that they have trouble preparing healthy, nutritious, meals when time is limited. Do you have any personal favorite quick recipes ?

I am really not an inspiring cook so I don't think that any of my recipes would be of special interest for you. But I can describe you the procedure to my everyday nutrition.

“...I have developed certain routines that help me to quickly prepare my meals...”

My first nutritional goal is to ensure that I hit my total calories and my macronutrients during the day. To achieve that I have developed certain routines that help me to quickly prepare my meals in the morning or during the day.

For instance, I always make sure that the most time consuming parts of my diet are prepared the day before. On a higher carb diet this would be mainly my carb sources like brown rice or potatoes. On the next day I choose my protein sources and some fresh or deep-frozen vegetables (deep-frozen veggies save even more time). I always add my fats at the end.

I adopted this strategy during my last diet, as I had to pedantically control my total calories. This routine works pretty well for me; especially since I like to use a variety of spices like herbs, salt, pepper, curry etc. I also use a lot of tomato paste and red curry paste. Things are only lasting for me if they are quick and easy. To date this strategy has worked pretty well.

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I agree with you on that Thomas – preparing meals, etc in advance can go a long way towards creating a healthy diet for someone with a busy schedule. Any other final thoughts/advice you're willing to share with us at CasePerformance?

As I said before, the thing that helps me the most is sticking to the basics. Control the things that matter most before worrying about things that will give you only a few percent improvement. Also try to be patient with your training. Don't go too fast for your goals like I did or you will increase the likelihood of getting injured. Take your time and give your body the time it needs. It sounds simple but I wasn't patient enough.

Always fact check. If possible take a look at the primary research, especially when something sounds too good to be true or when it contradicts the general consensus. If you have no an academical background or find it difficult to read scientific publications I highly recommend you to follow evidence-based guys like e.g. you, Adel Moussa, Alan Aragon or Brad Schoenfeld. These guys have an academic background, have a lot of experience and know how to read studies. Beware of self-claimed gurus out there trying to sell their own philosophy and further trying to prove it by cherry-picking and misinterpreting data.

Great advice there! Once again I want to thank you for joining us here today. Keep up the great work!

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III. Community Member Performance Discussion

This month's CP Community Member of the Month is Korey Van Wyk, a name that may sound familiar to longtime CP Newsletter subscribers; We interviewed him in our [November '13 issue](#). Korey recently completed his first year at Northwestern College (Iowa) where he served as a physical preparation coach for the football, wrestling, men's/women's soccer teams, dance and cheer teams as well as taught various classes in their kinesiology department. Below, Korey shares with us a few of his reflections from his first year....

Reflections of a 1st Year Collegiate Physical Preparation Coach

By Korey Van Wyk



Figure 1. Korey Van Wyk. Collegiate Physical Preparation Coach

In any profession there is a lot of learning that takes place on the job. At no other time is that more true than in the first year. Below are three main lessons that I learned during my first year as a collegiate physical preparation coach.

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The athlete must be clued in on the process

At the beginning of the school year, I expected athletes to do what I asked of them simply because I am their coach and they should listen to me. Not only did I expect them to do it, but I expected a high amount of effort and attention to detail.

Needless to say, this approach did not last long. From my perspective athletes didn't need to know the “why” for everything we did, nor did I think they cared. Coming off a short stint as a personal trainer, I had experienced many eyes glaze over if I tried to explain the “why” of the exercises or protocols we were performing. It turns out that I was partially wrong about this aspect for athletes.

“... even a short explanation causes athletes to be more receptive...”

Will their eyes glaze over if I give a lengthy physiological or biomechanical explanation? Absolutely. But they should at least have a basic idea why I'm so particular about the way they perform a bird dog (or insert some other seemingly simple warm-up/torso exercise). They should have an idea why there are certain times of the year when I am intentionally breaking them down (or, conversely, NOT intentionally breaking them down). In my experience even a short explanation causes athletes to be more receptive to something that is asked of them, especially if it is new, strange, or something they can't “feel”.



Figure 2. The Northwestern Weight Room

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Everything is a work in progress

After I earned my undergrad degree in strength and conditioning, I decided to pursue a master's degree in nutrition. While I worked alongside and talked shop with strength coaches during that time, my internship and all my studying was devoted to learning nutrition. Once my master's was completed I pursued more coursework and became a research assistant at Iowa State University. I was still doing some of my own learning on the side (primarily focused on bodybuilding), but this experience was far removed from the field of athletic performance. We're talking every day spent in a lab, pipetting miniscule amounts of various chemicals, and spending way too much time with rodents.

Why am I mentioning all of this? When I accepted my position at Northwestern College just over a year ago, I had essentially been out of the field for over 3 years. That is an eternity! Needless to say my knowledge base had fallen behind on many aspects of being an effective physical preparation coach. However, I couldn't just put my job on hold while trying to study. I still had to write programs knowing I may be behind on new developments in torso training, prehabilitation exercises, speed development, etc. I've had to bring myself up to speed in these areas while still doing my job. Of course, I have certainly learned a lot during the past year, but I still have a long way to go.

Admittedly, this has been very tough for me. I don't like knowing that I have holes in my knowledge. It feels like I'm turning out an incomplete product for my athletes. This holds true not only for the art and science of program design, but also the skill of being an effective coach and leader. Basically, I've had to accept that everything is a work in progress.

It's going to take a significant amount time before I feel comfortable as a coach in multiple areas. My continuing education in some areas might need to take a back seat to others for a while. Even then, I will always have strengths and weaknesses. But that is the job, and it's not necessarily a bad thing.

“Knowing your weaknesses can be a driving force for learning...”

Knowing your weaknesses can be a driving force for learning. That's also why it's important to network and build good relationships with other coaches and colleagues. They can be invaluable in the process to becoming a more complete coach. As uncomfortable as it is, I will (and probably should) feel this way through the duration of my career. It likely means I'm constantly learning and evaluating what I do.

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Logistics dictate programming

This will not apply to every reader as this is primarily a small school or facility issue. I’ve definitely had to adjust the way I write training sessions due to logistical issues. I will be the first to admit that our situation could certainly be worse and it has improved greatly due to some clever adjustments by our head coach. But equipment availability still plays a large role in how my workouts are set up. For example, we have three places in our weight room to do pull-ups. Two of them are in squat racks (not on the outside). So if we want to do pull-ups, we cannot squat or do any movement that requires the use of the squat rack. It may work with a very small team, but most of our groups are between 30 and 45 athletes. As a result, we have to primarily train vertical pulling via lat pulldowns. As a coach, I would like to exclusively do pull-ups, but logistics have forced me to do something else.



Figure 3. It's easy to get jammed up with athletes if you don't think about logistics

Obviously, one way to handle a high amount of athletes in limited space is to add exercises. That is a great strategy, but one aspect of being in a college setting is that you have to be respectful of the student-athlete’s time (as well as the coach’s since I have a 75% faculty teaching load). So I can’t necessarily just keep adding exercises for the sake of it and end up with a 90 minute session each day.

One thing that has helped is putting mobility or prehab exercises in between sets of core exercises. This has improved workout efficiency, kept the athletes more spread out so there aren’t “log jams” for equipment, and prevented the addition of unnecessary volume

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that would impact recovery. A side-benefit is that this strategy has forced me to learn more about an area that I don't particularly find fun (see #2).

Lastly, logistical issues have changed the way I look at workouts from other programs or coaches. If many of you were to look at my workouts without knowing our situation you might think, “This is totally random and doesn't make any sense.” I have looked at other programs and thought the same thing. However, I didn't necessarily know their situation. Maybe it seemed random on the surface, but if I had dug a little deeper I might have discovered a reason for their set-up. Every coach has an ideal way they want to write workouts, but the reality is that few can. It doesn't mean the program is bad or won't work. It just means that we might have to expand our thinking as a coach.

Wrapping things up

This past year has been a great challenge, but it has also been a great blessing. For every frustration or obstacle there were rewarding moments and opportunities to grow as a coach. I'm very lucky to be doing what I'm doing, and to be surrounded by great people. While I realize that I have so much more yet to learn I'm also excited for the journey ahead. Please feel free to contact me via Facebook or e-mail (korey.vanwyk@nwciowa.edu), and follow me on Twitter (@KoreyVanWyk) or Instagram ([korey.vanwyk](https://www.instagram.com/korey.vanwyk)). I would love to connect, talk shop, and hear what you've learned in your time as a coach!

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IV. Meets/Events/Clinics

Strength Sport Events

UPA Detroit Barbell Summer Bash

What: Equipped & Raw: Full Power, Ironman, and Squat, Bench & DL only. CrossFit (Raw Rules apply)

Where: Northville, MI (USA)

When: June 27th, 2015

Sign-up forms for all UPA Events can be found on the left hand side of the [UPA Website](http://www.upa.com)

Wings of Strength – UPA Ironman Challenge

What: Ironman, Bench Only, Deadlift Only

Where: Tinley Park, IL (USA)

When: July 4th, 2015

Sign-up forms for all UPA Events can be found on the left hand side of the [UPA Website](http://www.upa.com)

Wings of Strength – UPA Ironman Challenge

What: UPA Iron Battle on the Mississippi

Where: Dubuque, IA (USA)

When: Aug 1st & 2nd, 2015

Sign-up forms for all UPA Events can be found on the left hand side of the [UPA Website](http://www.upa.com)

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Endurance Sport Events

Color Dash 5K Run

What: A fun, relaxed 5k for those looking to just have a good time

Where: Throughout the USA

When: Dates scattered throughout the next few months (follow link below)

For more information [CLICK HERE](#)

General Listing of Running Events

For a going on in your area, [CLICK HERE](#)!

*** Please know that CasePerformance does **NOT** receive any financial or other incentives if you choose to participate in any of the above events.

That wraps up Part I of this CasePerformance newsletter. Hope you enjoyed it. Stay tuned for Part II of the Newsletter where we share news of note at the CasePerformance & partner websites before touching on the CP Performance Discussion, “*Oats – King of the Grains.*”

Until then... Train smart, train hard and leave the excuses to someone else!

Respectfully,

[The CasePerformance Team](#)