

CasePerformance

December Newsletter Part I



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Here is the news that we'll cover in Part I of this month's newsletter....

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Hello,

I hope that the month of December has treated everyone well and that you find yourself 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. Changes in the CasePerformance newsletter format

As discussed in our November newsletter, I'm exploring the option of going with a two part newsletter vs. a single newsletter. My decision to keep the new format (vs. going back to 1 monthly newsletter) will be based directly off your feedback. Part I will be focused on what is happening in the lives of the CasePerformance community members. Part II will be focused on what is happening on the CasePerformance website.

I need you to please drop us a note on [FACEBOOK](#) to let us know your thoughts (good, bad or indifferent) on these changes in format. THANKS! I have a post pinned to the top of the facebook page for you to share your thoughts. If you don't have facebook, you can also drop us an [email](#).

I thank you in advance for sharing your thoughts!

Respectfully,

Sean Casey

PS. Don't forget about dropping us a note on [FACEBOOK](#) to let us know your thoughts (good, bad, indifferent) on going with a two part newsletter. THANKS! If you don't have facebook, you can also drop us an [email](#).

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II. Community Member of the Month...



This month's CasePerformance Community member of the month is Dr. Josh Cotter who comes to us from Newport Beach, California, USA. Dr. Cotter earned his PhD in Health & Exercise Science – Biomechanics from Ohio State University. Currently he's completing postdoctoral research at the University of California-Irvine along with working as an adjunct professor in the Department of Kinesiology and Health Promotion at Cal Poly Pomona. However, Dr. Cotter is not just some science nerd locked up in a lab all day. He's also a fan "of the iron" (ie – resistance training) and healthy living. But enough of me talking here; let's start picking the mind of Dr. Josh Cotter.

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First off, I want to thank you for taking the time out of your busy schedule to share your knowledge with the CasePerformance Community.

Sean, let me first thank you for inviting me as a guest to take part in your newsletter. You provide a wealth of information on your website and are a huge asset to the health and fitness community.

To start off, tell us a little about your background... How did you get involved with resistance training and exercise in general? Did you participate in any sports while growing up?

Just like you, resistance training and exercise in general make up a huge part of my life. So how did it become such a big part of my life you ask?

I can vividly remember being active at nearly all times during my younger years. I think part of this stemmed from the fact that I was a very rambunctious and energetic child so it just felt natural for me to expel that energy through sports and physical activity. Just about every evening you would find me riding my bike, creating obstacle courses with my neighborhood friends, playing backyard games, etc. I really didn't care what it was as long as I could run, jump, and move around. I do though distinctly remember sometime around 6th grade when I actually became interested in fitness and lifting weights. I came across a few television shows that caught my interest: 1) Gilad's Bodies in Motion, 2) BodyShaping and 3) Kiana Tom's Flex Appeal. Alright, you got me, yes I probably watched Flex Appeal just to watch Kiana Tom but the others were all about getting me excited about fitness and lifting weights.

Almost as if it was planned, in 7th grade I met my first girlfriend whose father just so happened to have a small gym on the side of his VCR repair shop. This was an amazing upgrade from the small bench and dumbbells I had in my basement. It was here, where I was able to be around others who were passionate about lifting, where I really caught the bug for resistance training. Of course shortly after this passage into the world of lifting I went on my first bulking cycle where I remember going from a scrawny 110 lbs. up to around 125 lbs. Not so bad for a 7th grader.

Ever since getting into the iron game in 7th grade, I haven't looked back. During high school I was involved in a few other sports. In track & field I was a long jumper and 100/200m sprinter and believe it or not, I was an avid bowler. Don't laugh. I was actually pretty good and received a small scholarship for college - Every little bit counts! My other passion outside of lifting weights was martial arts. I started out learning Tae Kwon Do and then later switched to Wushu which I absolutely (deleted a few extra words also) fell in love with. Additionally, now that I'm in an area where there is nearly year round

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fantastic weather and I have a beach a few miles away, I love playing beach volleyball.

Do you have any short and/or long term goals that you're currently directing your training towards?

Boy, you sure did hit me at a bad time with this question! As anyone who has done any graduate or post-graduate work, you know that you have periods of time where you are just crazy busy. I know, who doesn't think they are crazy busy? But at this moment I'm researching full time at UCI and teaching a full load at Cal Poly. It's a rough schedule for me. With that being said, I always make sure I'm hitting the gym and finding time to be active. So my goal right now is to just maintain strength, keep my weight where it is (I lose body weight very easily if I'm not careful), and use the weight room and workout time as my time to escape my responsibilities. Don't get me wrong. I still bring the intensity! I don't feel right taking the time to go to the gym if I don't push myself.

As for long term goals, typical for most of my life, I have goals of getting my weight up. Most people are surprised to find out I only weight 165 lbs. One hundred and sixty five lbs. though on a 5'7" frame doesn't look too bad. Score for being short! I'm sure some of the 6' and above behemoths are scoffing at my weight but being 200+ lbs. is neither aesthetically pleasing for my own goals nor feasible for permitting me to do the activities I currently enjoy doing. I've always struggled with gaining weight, along with many other people, and my experience has shown that I have to make it a priority to gain weight or it won't happen. Each time in my life where I can remember gaining significant weight was when I was keeping track of and prioritizing my eating. Go figure!

In order to achieve the goals mentioned above (at least short term ones) what does your current training look like?

I always want to first start off with a disclaimer when answering these types of questions. I've been lifting weights for nearly 20 years which, if I hit the gym on average 3 times a week, I've had approximately 22,000 training sessions. By now I would hope that I know quite a bit about what works and what doesn't work for my own body. I've always found it interesting that when someone reads about a training program, they are immediately inclined to change what they are currently doing to try something new. I know I'm preaching to the choir here since I know all of your readers are very informed but I think it's something everyone should consider. What works for me may not work for you. Everyone has different experiences, limitations (physical, mental, time, etc.) and goals which make analyzing the individual an important part in determining what program someone needs to employ.

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Alright, now that the disclaimer is out of the way, here's what I'm currently doing. I've been hitting, bare minimum, 3x/wk in the gym. I mainly rotate three training sessions: 1) legs, 2) chest/triceps and 3) back/biceps. I generally have strong shoulders so there are some weeks where I don't directly train them but if I get an extra session I'll generally train them during my fourth session. I typically utilize a higher intensity compound movement for lower reps following by a compound movement for higher reps. I'll finish out with a single joint movement or two for the particular body parts I'm working on. Pretty simple.

Of great importance, especially since I've had to work around injuries, focusing on the quality of movements has become critical in allowing me to progress. Although I've traded in some of the heavier weights, the quality of movement has more than made up for the decrease in weights that I've had to use. This "quality of movement" is a very important issue that is overlooked by many lifters in their single-minded journey to lift big weights. This concept becomes more and more apparent as an individual starts to age and gets experience under their belt. Both big weights and quality of movement are needed for long-term strength and mass increases while maintaining healthy physiological function.

Anyone who has seen pictures of you, knows that you're pretty dang chiseled. Are there any particular dietary strategies that you follow?

Chiseled huh? There must be some photoshopped pictures out there of me floating around. I wouldn't say I'm chiseled but I'm happy holding the amount of fat and fat free mass that I have right now. As I've stated above, putting on weight is definitely a challenge for me and anytime that I have successfully put on weight has been when I keep fairly good track of my diet. In other words, I do have times where I'll do a full diet log keeping track of calories and macronutrients. Keeping a diet log is something I recommend everyone do at least once and preferably every once in awhile. As good as we like to think we are in regards to knowing what we eat, it would be safe to say that generally we are at least a little off track. Especially when distinct goals are in place, keeping a diet log allows for assessment and reassessment of progress so that dietary changes can be made. I do not though feel that a diet log needs to be recorded indefinitely. Keeping a diet log brings awareness and once that awareness is set, an individual is more prepared to keep consistent with their diet.

As for now, I've adopted a bit of an intermittent fasting approach where I try to eat 3-4 decent sized meals versus 6-7 smaller meals a day. I've done this out of almost a necessity rather than through planning as my schedule does not always allow me the flexibility to eat many meals throughout the day. I've actually been fairly happy with the

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way my body has responded to this type of eating in regards to both allowing for an optimal work schedule and maintenance of body composition.

My specific meal planning is pretty simple. For breakfast I generally have a meal centered around eggs (i.e. scrambled eggs, omelet, egg sandwich, steak and eggs) that includes some sort of vegetable. If I feel like I need a boost in my calories I'll make a power shake that generally consists of whole milk, spinach, peanut butter, olive oil, coconut oil, flax seed, acai berry, blackberries/blueberries/raspberries, avocado, some unsweetened cocoa and/or protein powder and a little stevia for sweetness. For those that don't tolerate dairy, I've used a coconut/almond milk blend that I like and it tastes really good. Lunch generally involves a salad with chicken and lots of vegetables, and dinner typically involves a meat with vegetables and sometimes a grain like rice or couscous. On the weekends I'm generally a little more open and will enjoy what some may call “cheat” meals.

Building off the last question, are there certain supplements that you use to help fuel your training and recovery?

I generally use a bulk of my supplementation for health maintenance as good health is pivotal for not only leading a happy and productive life, but also so that we can continue training at a high level. We can't optimally train if we are sick or injured. With that in mind, here is a list of what I currently take on a daily basis:

- Freeze-dried fruit and vegetable supplement just to cover all of my bases
- 1000 mg of 98% trans-resveratrol with piperine (Johnson 2011) for its anti-inflammatory, anti-cancer, antioxidant and improved cardiovascular and metabolic effects (Aluyen 2012; Chung 2012; Li 2012; Nakata 2012)
- 1,160 mg of turmeric extract (curcumin) standardized to 95% curcuminoids with piperine (Berginc 2012) for its anti-inflammatory, anti-cancer, antioxidant and neuroprotective effects (Banji 2012; Basnet 2011; Hutchins-Wolfbrandt 2011; Mythri 2012)
- 10,000 IU vitamin D 3-5 times a week depending on sun exposure for musculoskeletal, cardiovascular, and metabolic health (Bischoff-Ferrari 2010; Rosin 2012; Wimalawansa 2012)

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- 4-8g of fish oil for its anti-inflammatory and insulin-sensitizing effects (Calder 2010; 2012; Miles 2012; Siriwardhana 2012; Wall 2010)

- 30mg of zinc for neuronal health, iron-inhibiting effects (*Note: I have high iron), and immune function (Chasapis 2012; Levenson 2011; Olivares 2012; Wong 2012)

For supplements that I take in relation to training, I utilize either branch chain amino acids (BCAAs) or whey protein around and shortly after my training sessions with creatine phosphate. Occasionally I will use a pre-workout supplement for a little extra kick but I do so sparingly.

Switching gears a little bit, I'd like to discuss your research a little bit as I know those in the CasePerformance community will find your microgravity research quite interesting. Could you please expound on it for us ...

My research regarding microgravity is just a small area of research that I'm interested. In general, I'm interested in the overarching theme of skeletal muscle regulation. Microgravity is a term describing an environment in which the effects of gravity are minimal or very small. For my research, we are interested in understanding the musculoskeletal changes that occur with spaceflight or while orbiting the Earth on the International Space Station (ISS). You too may have experienced microgravity while riding a roller coaster or one of the free-fall rides at an amusement park. By utilizing a microgravity environment, we are able to understand the function of muscle and the adaptive processes that it endures.

Gravity is something that we take for granted here on Earth. If we didn't have gravity then we would find it pretty hard to utilize our typical methods of training. You would no longer be able to run, jump, swim, or lift weights. Every gravity-defying activity you take part in elicits a response from your musculoskeletal system. And since we experience gravity 24/7, our musculoskeletal system responds to this stimulus. When we take away the effects of gravity, something interesting occurs. We notice that muscles atrophy (shrink in size) and we lose bone mass at a very fast rate. On top of these changes, aerobic capacity also decreases. Many of these changes still occur with exercise! Skeletal muscle is an extremely interesting tissue because it is what we call "plastic". It has an ability to adapt to stimuli that we give it, such as weight training, and it will also readily adapt when we remove stimuli such as with microgravity or when we stop training.

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My research deals with how can we optimally exercise muscle in a microgravity environment in such a way to maintain, or even improve, skeletal muscle mass, strength, and endurance. This is very challenging because we need to come up with creative ways to exercise muscle since we can't use our typical Earthly ways of exercising up in Space. On top of that difficulty, the typical stimulation of gravity is removed thereby requiring exercise to make up for that lost stimulus.

Initially, you may not think that studying exercise in Space will benefit us here on Earth but space-related research has been pivotal in advancing our understanding of skeletal muscle function.

How can one take the lessons from your research and apply it to their training?

There are several lessons that we can learn from space related research. One lesson is that when we remove the effects of gravity and/or become detrained (i.e. ceasing training, injury, unloading such as being bedridden or when on crutches), skeletal muscle atrophy and strength losses can happen rather quickly in certain muscle. Most often the muscle that typically allows us to remain upright during gravity, muscles that we call anti-gravity muscles, are the muscles that respond most quickly.

Secondly, we have come to know that the muscles that plantar flex the ankle (ie - point your foot away from your leg such as when you stand on tip-toes), specifically the soleus muscle, respond vigorously to unloading and are rather resistant to the effects of training. Thus, a big part of our research is understanding how to prevent the loss of mass and strength with unloading as well as finding ways to stimulate growth with the calf muscles. I think any of the readers who have tried to grow the size of their calf muscles have experienced that they are very difficult to hypertrophy. In addition to the soleus being composed largely slow twitch type I muscle fibers, it has been shown that the soleus muscle has a reduced protein synthetic response (Trappe 2004). This is a multifactorial problem as we know that muscle mass can be influenced by factors such as diet, supplementation, and of course, exercise. We are delving this year into the possibility of blood flow restriction exercise as being a potential mode of exercise to stimulate increased mass and strength of the calf musculature.

As of now, based off our research findings, I would have to recommend a slower tempo, higher rep type of training method with frequent training to stimulate the calf musculature based on its muscular makeup. Would utilizing blood flow restriction help? I'll have to get back to you on that one.

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Do you have any thoughts or advice that you can share with us here at CasePerformance?

As much of a science geek that I am, I would have to say that often times many people over analyze their situation in regards to diet and fitness. I see people all the time spending lots of time arguing whether 8 grams of this is optimal for strength gains or is it 10 grams? Will performing 4 sets of 10 be better than 5 sets of 8? I am totally for using science and research to help us make educated decisions but what most people need to do is to just pick a basic training program, stick with it, and monitor results. Tweak from there and then rinse and repeat. I know how easy it can be to jump from one idea to the next but consistency and sticking with the basics goes a long way in reaching many of the goals we set for ourselves. Be persistent. Be smart. And always strive for improvement. Don't get tangled up in the small intricacies of training and nutrition that will have a small impact on your results. Keep most of your attention on what is going to have the largest impact and that will help you achieve the greatest results.

That is some great advice there. I couldn't have said it better and some great take away messages for those in the CasePerformance community. On behalf of the CasePerformance community, I would like to thank you for joining us here today. I realize it takes time to answer these questions. Keep up the great work!

Thanks again Sean for inviting me as a guest for your newsletter.

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III. Community Member Performance Tip

This month's performance tip is focused on Iron.... Nope, I'm not referring to lifting weights; Rather I'm talking about dietary iron which is present in food as heme iron (meat) or non-heme forms (pretty much all other sources). Of the two, heme iron is the source best absorbed (15-30% vs. 2-20%). Although it serves many functions in the body, the physiological role that is most often associated with iron is the formation of healthy red blood cells. These cells are responsible for carrying oxygen throughout the body.... and who doesn't like a little oxygen - especially while exercising!

The main group of individuals who are at risk of iron deficiency are women between the ages of ~14-50 for a couple of reasons. The primary reason is related to blood loss during their menstrual cycle. Remember, iron is present in all those healthy red blood cells and attached to other proteins that are lost with each cycle. A secondary reason is often related to a lack of heme-iron in their diet. I recommend having blood levels checked on a routine basis, especially if you fall within this "at risk" population, in order to make sure your body is "finely tuned" and fully prepared to tackle your training goals!

In part II of this newsletter, we'll look at the opposite side of the spectrum... when we have TOO MUCH iron in our system!

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IV. Meets/Event

There are 2 meets/events coming up in January that have been shared with me by members of the CasePerformance community.

1. Strength Guild Powerlifting Meet For Charity

When: Jan 12, 2013; Must arrive by 12:00pm (noon)

Cost: \$20

For more information contact Phil Stevens at:

Strength Guild
3532 SE 2nd St., Topeka KS 66607
Phil@Lift4hope.org
707.373.7566

For Strength Guild on Facebook, [CLICK HERE](#)

*** Proceeds from this event will be donated to the families of police officers who have fallen in the line of duty while serving the Topeka, Kansas, USA area.

2. Kolkata Kettlebell Meet 2013 (KKM 2013)

When: Jan 19, 2013

Where: Kolkata India

Cost: Free

For more information contact [Arnav Sarkar](#) and/or check the meet details out on the [KKM 2013 Facebook page](#).

*** Attend what is believed to be the first kettlebell meet in all of India!

For other races, potentially closer to where you live, [CLICK HERE!](#)

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That wraps up this CasePerformance newsletter. Thanks for being a part of the team and **DON'T FORGET TO DROP US A NOTE ON [FACEBOOK](#) TO LET US KNOW ABOUT YOUR THOUGHTS ON HAVING A TWO-PART NEWSLETTER!** If you don't have facebook, you can also drop us an [email](#).

And as always... Train smart, train hard and leave the excuses to someone else!

Sincerely,

The CasePerformance Team