

CasePerformance

July Newsletter Part II



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I. Leading Off...

Hello,

Glad to see that you're tuning into Part II of our newsletter! I hope you enjoyed [Part I](#) which featured an exclusive interview with tennis coach and registered dietitian Jeff Rothschild. In it, Jeff shared with us his background, training for tennis, nutrition and supplement strategies. After our interview we got straight to our CP Community member discussion, *Ramadan and the Athlete: A Practical Approach*, by Khaled Dabbagh. In it, Khaled discussed the sun up to sun down fasting protocols of Ramadan and how those practicing it can maximize their physical performance during this time period!

Shifting gears a bit, we're proud to bring you Part II of our July '14 newsletter. We kick things off by taking a quick peek at some article news here at CasePerformance & partner sites. We then move on to our CP Performance Discussion, *True or False – Cooking Meat Destroys the Creatine Naturally Found in It*. Finally we conclude with our SuppVersity Corner Report. Enjoy!

Respectfully,

Sean Casey

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II. Donations for CasePerformance Are Welcomed

As you've probably noticed while surfing around the CasePerformance website, we **DO NOT** litter our pages with advertisements or have "Members Only" sections that require a paid subscription.

Why do we do this?

My goal is to reach as many individuals as possible. If an individual truly wishes to improve their health and performance, I want them to succeed. This holds true regardless if they are a multi-millionaire or those pinching pennies.

The Downside & What You Can Do To Help

The cost of running a website in conjunction with paying for full access to the various sport science and nutrition research journals I use is extremely expensive. Also, all of the authors at CasePerformance put considerable time into writing the articles for this site. If you enjoy the free information provided on this site, we humbly ask you to show your support by making a small donation. Thanks for your support!

[CLICK HERE](#) to make a donation. Please know that **ANY AMOUNT** is greatly appreciated!

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III. Article News at CasePerformance

One New Article was Added to CasePerformance during the month of July...

[2014 ISSN Conference Review - Part 1](#)



The International Society of Sports Nutrition held their annual conference earlier this summer. In case you missed it, we've covered some of the highlights in Part I of our CasePerformance Review...

- * Juan Carlos Santana: Weight Cutting Strategies for Elite MMA Fighters,
- * Dr. Krista Varady: Alternate Day Fasting – Effects on Health & Body Composition
- * Dr. Darryn Willoughby: Ursolic Acid Supplementation
- * Dr. Mark Tarnopolsky: Creatine – Not Just for Sport
- * Steven Orris: Strength Training and Sports Nutrition for the College Athletes).
- * CISSN & More!

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Top Article at CasePerformance during the month of July...

[2013 ISSN Conference Part II: Research Presentations](#)



A blast from the past here with our 2013 ISSN Conference Review ... Specific presentations we highlighted include...

- * Dr. Jacob Wilson, PhD, CSCS - HMB, Oral ATP, Phosphatidic Acid
- * Chris Lockwood, PhD & Mike Roberts, PhD - Comparison of WPH vs. Other Whey Protein Forms: What the Science Tells Us
- * Hector Lopez, MD - Omega 3 Fish Oil: A Keystone Nutritional Prescription for Athletes
- * Frank W. Booth, PhD - Basic Science Research in Exercise Science and Sports Nutrition: Where We've Been, Where We Are and Where We're Headed
- * Jason Beam, PhD, CSCS - The effect of post-exercise caffeine and chlorogenic acid supplementation on blood glucose disposal and insulin sensitivity."

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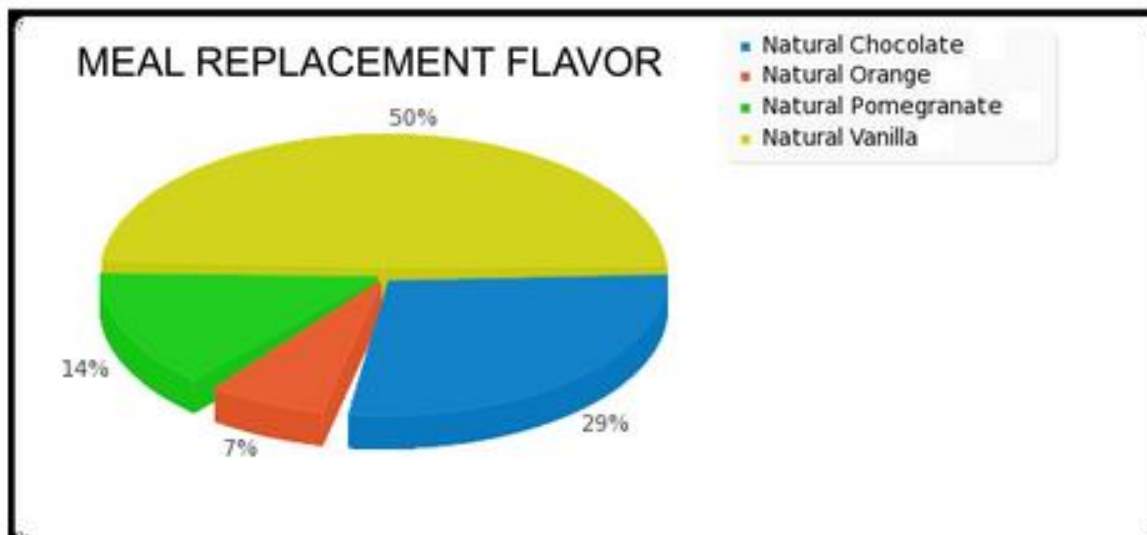
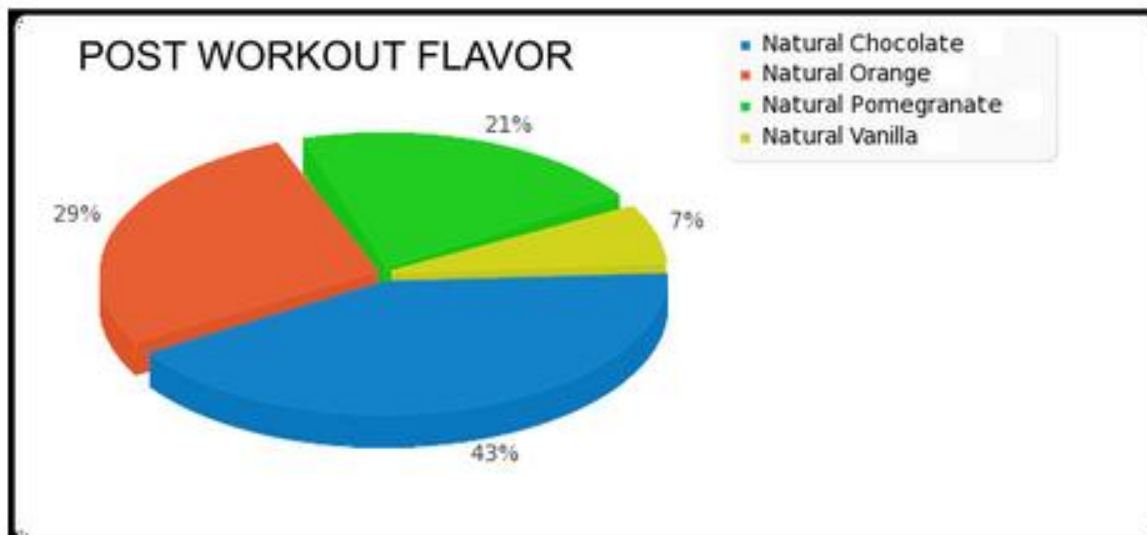
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CasePerformance Community Preferred Protein Flavor ...

This past month we ran a poll on our [facebook page](#) to find out the preferred protein shake flavor of those within the CasePerformance community. Below are the results. While it is clear that vanilla and chocolate are the winners, it is interesting to see that sweeter and more “desert” flavors like orange, pomegranate, and chocolate take the cake for post-workout. What, you think you earned that treat? ;-)

Thanks to everyone who voted!



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IV. Article’s on Partner Websites

During the past month, I (Sean Casey) have contributed one article to the following website:

[Nucleo: Nutrition Research & Exercise Physiology Blog](#)

* This is a great site for those looking for "quick hit" articles. During the past month I contributed the following one "quick hit" article to this website:

[Intermittent Fasting – Hype, Hope or Something In-between?](#)



Intermittent fasting (IF)... over the past few years, outside of maybe the paleo/ancestral and low carb diet (both of which could still be IF), has there been an eating strategy that has caused greater discussion amongst those hanging out at the post workout smoothie bar? I’m sure I’m not the only one who has heard comments ranging from “*Hey, if you really want to get shredded quickly, this IF stuff works great...My cuts have never been better... I only add “lean mass” now when bulking*” to “*Everyone knows your metabolism will crash if you don’t eat every 3-4 hours... Stroke that metabolic fire! Small, frequent meals for the win baby!*”

With such a wide variety of opinions, who is right? Check out this article to read my full thoughts on this topic!

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Strength Guild Premium Content

CasePerformance contributor Phil Stevens is hosting “[Strength Guild Premium Content Interviews](#)” over at his personal website, Strength Guild. In these Premium Content Episodes he sits down with the best coaches & athletes in the world and asks them question everyone wants to know... How’s/why’s/what’s from the top in the field. Along with the one hour audio file you will also receive a PDF of a program, tips, tricks, or advice you can implement as a coach or athlete. Each “Premium Content” episode is available for < \$1 and **NO I DO NOT RECEIVE ANY FINANCIAL KICKBACK** if you decide to order.

During the past month this [premium content episodes](#) were released:

* Steve Cotter & Ken Blackburn

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VI. CP Performance Discussion

True or False – Cooking Meat Eliminates the Creatine Naturally Found in it.

By Sean Casey



Figure 1. Meat – it’s a natural source of creatine, right? Image Source.¹

As seen in Table 1 on page 10, various amounts of creatine are present in raw beef, pork and fish. Interestingly, I recall attending a State Level Dietetic Conference and having a presenter state that we could get *all* the creatine we needed for sports performance from our diets. Is it true? Can someone who eats a fair amount of meat get all the creatine they need to maximize performance from their diet? Of course not; aside from the fact that you would have to eat a kilogram of meat daily to reach supplemental dosages ([Surge Nubret anyone?](#)), most of us also cook our steak. We all know that cooking meat virtually destroys all the creatine present within it ... or does it?

Want to know the answer to this question? Read on to find out!

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Table 1. Creatine content of raw meat, fish, milk & cranberries.²

Meat	Creatine Content (g/kg)	Creatine Content (g/lb)
Pork	5	2.3
Beef	4.5	2
Fish/Seafood		
Herring	6.5-10	3-4.5
Salmon	4.5	2
Tuna	4	1.8
Cod	3	1.4
Shrimp	trace	Trace
Other Foods		
Milk	.02	.01
Cranberries	0.1	.05

Table 2. Creatine content of cooked meat.³

Meat	Creatine Content (g/kg)	Creatine Content (g/lb)
Cooked Ham	2.8 (Range: 2.31 -3.26)	1.3
Frankfurters	1.4 (Range: 0.85 – 2.64)	0.63
Wieners	1.8 (Range: 1.31- 2.34)	0.82
Chopped	2.1 (Range: 1.46 – 2.48)	0.95
Mortadella	1.5 (Range: 0.99 – 2.42)	0.68

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Unfortunately, there has been little research that has directly looked at this question. Research by Campo et al. looked at the amount of creatine in already “cooked” meat products that were purchased at a local market. Thus, although we don't know the original creatine content of each product, we can compare the creatine content they found in cooked meat, with that presented in table 1, to make some educated guesses.

For instance, if we compare the creatine content of raw pork from Table 1 and that of the cooked ham (Table 2) we see that the former has 5g/kg whereas the latter has 2.8 g/kg.... If we go 2.8g/5g, we see that the cooked ham only retained 56% of its original creatine content. Again, this is a bit crude since we don't have initial starting levels, but it goes to show that cooking meat (along with the curing process) does decrease the creatine content of food.

There have been a few direct comparisons of pre vs. post cooking on meats... Looking at the effect of heat on creatine levels in beef, Laser et al, found that when cooking beef to an internal temperature of 161°F (72° C), the creatine content of raw beef decreased by ~ 50% (at least the crust of the meat) when cooked at 473°F (245 ° C) and 20% loss when cooked at 239 °F (115 ° C).⁴ Note - this was the outer crust of the meat, more than likely the deepest layers of the tissue would have experienced less loss due to reduced heat exposure.

A final study of interest for our conversation was that conducted by Mora et al. In their study, the research team examined the creatine content of pork loin and ham pre/post being cooked via a water bath at 185°F (85 °C) until they reached an internal temperature of 161°F (72°C). With respect to the pork loin, very little losses were seen. Even in the outermost layer, 96% of its original creatine content was preserved. On the flip side, the ham had significant creatine losses. The innermost layers only retained 69% of their original creatine content; the surface layers were at 60%. For comparison purposes, keep in mind that the temperature at which this meat was cooked, 185°F (85 °C), is significantly less intense than that commonly done on a grill/oven/frying pan.

Bottom Line

TRUE ... Cooking meat DOES destroy the creatine content naturally found within it. The hotter the cooking method, the greater the breakdown of creatine. However, even if you eat your meat in the raw stage, it still takes significant amount to reach the 3-5g/d dose recommended by most individuals. That, combined with the fact that creatine monohydrate is dirt cheap, I think it's a pretty easy call as to what is the best source of dietary creatine.

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References

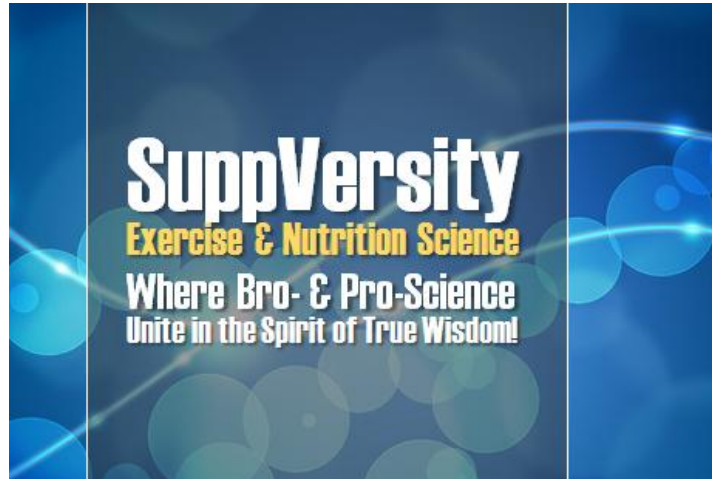
1. J¹ Frettie. Grilled steaks turned by grill tongs in Czech Republic. This file is licensed under the Creative Commons Attribution 3.0 Unported license. Image accessed on June 5, 2013 from:
http://commons.wikimedia.org/wiki/File:Grilled_steaks_turned_by_grill_tongs_in_Czech_Republic.jpg
2. Balsom PD1, Söderlund K, Ekblom B. Creatine in humans with special reference to creatine supplementation. *Sports Med.* 1994 Oct;18(4):268-80.
3. Gloria del Campo, Beatriz Gallego, Iñaki Berregi, J. Alfonso Casado. Creatinine, creatine and protein in cooked meat products. Volume 63, Issue 2, October 1998, Pages 187–190
4. Laser Reuterswärd A1, Skog K, Jägerstad M. Effects of creatine and creatinine content on the mutagenic activity of meat extracts, bouillons and gravies from different sources. *Food Chem Toxicol.* 1987 Oct;25(10):747-54.
5. Mora L1, Sentandreu MA, Toldrá F. Effect of cooking conditions on creatinine formation in cooked ham. *J Agric Food Chem.* 2008 Dec 10;56(23):11279-84.

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IV. SuppVersity Corner Report!



[SuppVersity](#) is one of my favorite sites. It's run by my friend [Adel Moussa](#). One of the things we do on the CasePerformance [FACEBOOK](#) page is highlight one of their excellent posts each week. In case you missed any of them...

Week of June 30th – July 6th

[True or False: \$\alpha\$ -Hydroxy-Isocaproic Acid aka HICA is a Potent Anti-Catabolic, Just Like the Shiny Ads Say](#)

CP Quick Thoughts

Although HMB gets all the hype as Leucine's offspring, there is another sibling in the family - HICA. Is this a supplement you should add to your ergogenic arsenal? Find out the answer in this SuppVersity article!

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Week of July 7th-13th

[Weight Loss Myth Confirmed: Drinking 1.5L Extra-Water a Day Helps Young Women Shed Body Fat - 2.8lbs in 8 Weeks!](#)

CP Quick Thoughts

As boring as it may be, water is still my preferred beverage of choice. Even while exercising, I still prefer water over a sports drink 80% of the time. This article examines the weight loss benefits in a group of 50 ladies when given an extra 1.5L of water - 2.8 lbs in 8 weeks!

Week of June 14 -20th

[750kcal/day Deficit Approach to "Cutting" Beats Cautious 300kcal/day Deficit: Almost 2kg Fat in 4 Weeks + No Decline in Testosterone or Muscle Loss in Lean Athletes](#)

CP Quick Thoughts

Two things I'd like to add that will likely be missed by most reading this...

1) As Adel notes, "*It's more likely that the 27.1kcal/kg of body weight, the subjects in the 700kcal/day diet consumed were still more than enough to cover the basic energy requirements.*"

^ In other words it's not a crash/bare bones diet!!!

2) It was over a shorter time period (4 weeks). I'm not for sure what type of training was going on but, more than likely, the 750 kcal deficit was not going on at the same time as the most intense training of the year. Intense kcal restrictions with high volume training will likely lead to subpar performance.

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Week of June 21- 27th

["True or False: Older Men Have a Much Harder Time Building Strength, Building Muscle Borders the Impossible!"](#)

CP Quick Thoughts

I think it's important to incorporate resistance training into one's daily life, ESPECIALLY as you age... Once you're no longer strong enough to get out of the chair and perform daily activities of life, you are on your way to a nursing home. A place I'm guessing that not to many in the CasePerformance want to be staying at for ANY duration.

That wraps up this CasePerformance newsletter. Thanks for being a part of the team. We look forward to hearing your feedback on anything and everything so drop us a note on [FACEBOOK](#).

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

Sincerely,

[The CasePerformance Team](#)