CasePerformance

March Newsletter Part II

CasePerformance

“For Sport, For Life”

www.caseperformance.com

In Part II of this month's newsletter....

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Hello,

Glad to see that you’re tuning into Part II of our newsletter! I hope you enjoyed Part I which featured an interview with strength sport enthusiast, Greg Nuckols, who shared with us his training background and nutrition/supplement strategies as well as a little of his background. Following the interview, Alex Leaf shared with us, *The Humble Spud.* In it, Alex explained how this often maligned vegetable is one of the most underrated health foods out there.

In Part II of our newsletter, we take a quick peek at some article news here at CasePerformance. We then shift gears and towards the SuppVersity Corner Report before closing with our CP Performance Discussion, *The Right Fats for the Right Dining Occasion.*

Respectfully,

Sean Casey

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.

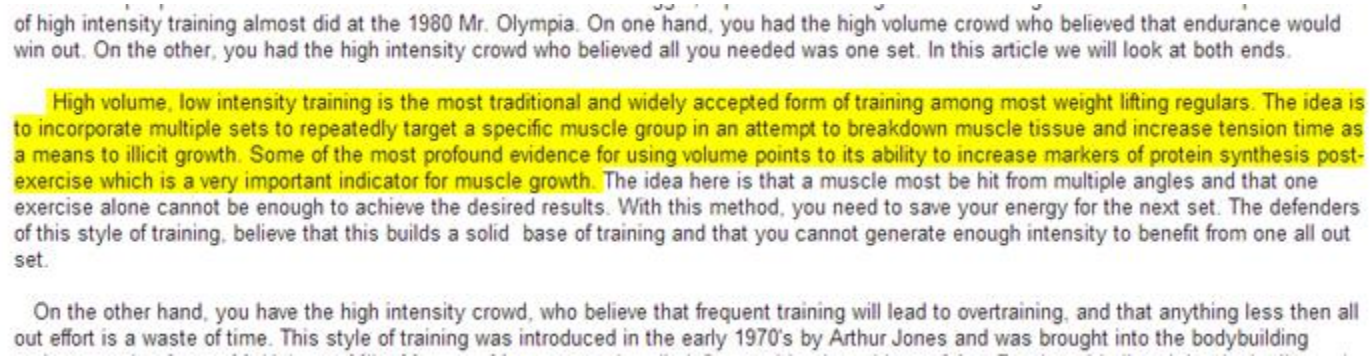
The Downside & What You Can Do To Help

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!

III. The Best Community Members!

I meant to include this in our Community Member focused Part I Newsletter but somehow I forgot. It's a post that I wrote on our CP Facebook page (← Click hyperlink to see 'live' post if so inclined; written on March 12, 2014). It covers a pretty important topic that I want to make sure everyone is aware of….



of high intensity training almost did at the 1980 Mr. Olympia. On one hand, you had the high volume crowd who believed that endurance would win out. On the other, you had the high intensity crowd who believed all you needed was one set. In this article we will look at both ends.

High volume, low intensity training is the most traditional and widely accepted form of training among most weight lifting regulars. The idea is to incorporate multiple sets to repeatedly target a specific muscle group in an attempt to breakdown muscle tissue and increase tension time as a means to illicit growth. Some of the most profound evidence for using volume points to its ability to increase markers of protein synthesis post-exercise which is a very important indicator for muscle growth. The idea here is that a muscle most be hit from multiple angles and that one exercise alone cannot be enough to achieve the desired results. With this method, you need to save your energy for the next set. The defenders of this style of training, believe that this builds a solid base of training and that you cannot generate enough intensity to benefit from one all out set.

On the other hand, you have the high intensity crowd, who believe that frequent training will lead to overtraining, and that anything less then all out effort is a waste of time. This style of training was introduced in the early 1970's by Arthur Jones and was brought into the bodybuilding

Figure 1. Image of work submitted to me flagged as plagiarized

The CasePerformance website is so much bigger than myself and to this, I'd like to say THANKS (!!!) to everyone who contributes to the site. This includes both our "Expert Interviews" as well as CP Community Member article & CP Member interview in Part I of each months newsletter. These contributions blow me away ... especially in light of the fact that these are basically all pro bono on their end.

That said, in light of a situation that developed yesterday, I want to make it sure that everyone knows that I run everything submitted to me through various search engines to check for plagiarism, etc. Until yesterday everything has always come back clean and properly referenced if quoting the work of another author. However, what was going to be the CP Community Member Discussion for Part I of our April Newsletter came up flagged (see picture above.

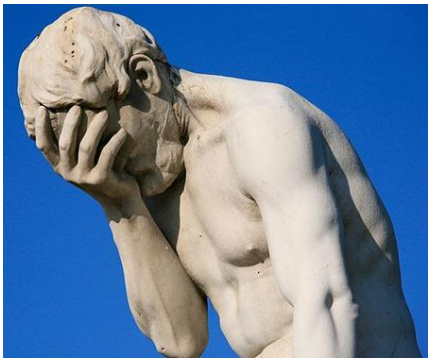
The CP website is built entirely on honesty and integrity in health, fitness and performance writing. It's not about making money (which is obvious being that it's all free, lacks advertisements and does not sell products), fame or expanding via popular/mass marketing techniques.

In closing, I just want to thank everyone who has contributed to CasePerformance in the past and/or plans to assist in the future via writings or simply by sharing the website with others. The situation that developed yesterday only goes to highlight the integrity of previous works that others have shared on CP as well as what will come in the future!

IV. Article News at CasePerformance

One new article was added to CasePerformance during the month of March…

Ugh – Facepalm! That was stupid… WTH was I thinking?



Nothing puts one in their place quite like having one of those, "Oh Crap… Please tell me I didn't really do that… WTH was I thinking?!" type of moments, or as they're depicted in the land of facebook and social media, "Ugh - Facepalm!" I'd like to say that I'm immune to these instances but I'm not as clearly shown by my track record. This CasePerformance article includes some of my ultimate "Ugh - Facepalm" moments including...

* Trying to impress ladies in the gym

* Running 2-3 Miles After Resistance Training to Build "4th Quarter Endurance"

* Salt & Water OVERLOADING to Combat Sweat Loss

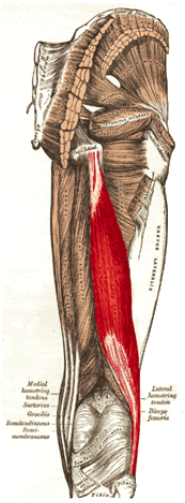
* Writing Dissertation-"esque" Articles... and thinking people actually would want to read them

* Writing leading researchers, such as Dr. Stuart Phillips, while in a sleep deprived state

* And More!

Top Read Article in March here at CasePerformance…

Rehabilitating Chronic Hamstring Strains



Originally written in 2009…

Hamstring strains are one of the most frustrating injuries for athletes to suffer. It seems that once a hamstring is injured, it's likely to be injured again within a couple of years. In a recent study, it was shown that even when pain-free, previously strained hamstrings lack strength/power during eccentric muscular contractions. In addition there range of motion is limited during hip flexion. Amongst other things, In order to combat this problem, I recommend including more Single Leg Romanian Dead Lifts (SLRDL) into your exercise program.

This article has been #1 on our list for 3 months in a row … Hopefully not because everyone who graces our website is experiencing hamstring strains when trying to implement some sort of crazy exercise routine!

V. 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 it…

Week of March 3rd –9th

1. Losing Weight Doesn't Have to Ruin Your Metabolism: No Unexpected Reduction in Energy Expenditure With Sane Weight Loss. Plus: 9 Simple Rules Every Dieter Must Follow

CP Quick Thoughts

If there is one thing that people take ridiculous measures to accomplish, its weight loss. With all the kamikaze crash and burn approaches out there, it's refreshing to read articles like this one. Looks like my buddy Adel uses many of the same approaches I use with respect to sensible weight loss… likely because he learned them all from me. Ok, maybe he didn't learn them all from me ;-).

If you're pressed for time, I encourage you to at *LEAST* read the "9 simple rules" section at the bottom of the page. I have a golden rule that I always tell people which is kind of a tag along to his rule of "…*use your diet, and only your diet to generate an energy deficit"*. I like to tell people:

If you want a change your weight, change your diet. If you want a change your body composition, change your exercise/physical activity routine.

Although one obviously affects the other to some degree, I think greatest changes in each factor (ie – bodyweight or composition) is affected by putting the primary focus on one variable vs. the other to achieve it…. And of course I recommend people do both to maximize health and performance!

Week of March 10-16th

We had a tie this week ...

1. Breakthrough HMB Research: Additional(!) 10% Reduction in Body Fat, 5% Higher Lean Mass + 2x Higher Strength Gains After 12W of Heavy Lifting in Trained Individuals

CP Quick Thoughts

(Ok - this is more of a long thought as I'm including some follow-up comments from one of study's researchers, Dr. Jacob Wilson! Also, since Adel's write-up contains the exact training routine, I follow up with my philosophy of using other's training programs.)

As discussed in Part II of my 2013 ISSN Report, Dr. Jacob Wilson presented a lot of interesting research in regards to ATP, Phosphatidic Acid & HMB Free Acid (Yes, there was so much acid going around, I thought maybe I took a wrong turn and ended up at a Woodstock remembrance festival!). At the time I wrote the ISSN review, I only had my personal chicken scratch notes and snapshot poster presentations to write off. Luckily, since then, many of the studies he referenced have been published. The most recent one was on the effects of HMB-FA in conjunction with a 12 week resistance training program. As you'll see in Adel's write-up, the results were quite impressive. I'm sure that like many, you're probably saying to yourself *"Wait a minute, these are pretty extreme results, surely they can't be right*?" It's only natural to be skeptical with findings such as these (Heck I'm skeptical with everything I read and have reservations until results repeated more than just 1x and ultimately like to "Me"-search with a little N=1 experiments).

With permission from Dr. Jacob Wilson, I'm going to repost some of his comments that he had in regards to those skeptical on the results....

[Dr. Wilson] I think the key thing to remember is that 1. Its lean mass, not muscle mass. That refers to everything that's not fat. Including glycogen and water. 2. Diet was controlled by a registered dietitian. 3. All of the sessions were supervised by an investigator to ensure full range of motion and proper execution of the lifts. 4. William Kraemer in 2009 in the journal of Medicine and Science in sports and exercise, the highest impact journal in our field found the group on HMB gained 9 kg or 19.8 lbs of LBM over 12 weeks time without an overreaching and taper cycle. 5. In addition Paul Cribbs data found over 5 kg or 11 lbs in 10 weeks in bodybuilders with just whey protein. 6. Our subjects were lifting up to 40, 000 lbs in a single workout, with up to 200, 000 lbs per week at points in the study. 6. We selected a a group of clear responders to training. In fact it took us a whole semester to select the type of population that could endure this type of extreme training stimulus. 7. UNLIKE most studies we TAPERED the individuals, which we know a 2 week taper in ncaa athletes can increase muscle fiber size by 16 % based on Costills data. Thus, the taper alone would have glycogen supercompensated subjects, increased intramuscular water, and driven up lean mass by at least a few lbs.

[Response] Jacob, I wanna pass on a comment from a friend [...] on the references you provided: Cribb's work is done on 13 people after 6 dropouts that aren't mentioned in the paper, the intervention group had significantly advantageous BMR, 250 extra kcal in the intervention group, Cribb works for ASN, there wasn't HPLC from whey and caseine, and how can someone believe such differences between proteins both found in milk? Cribb's work contradicts Tipton's FSR studies with casein that suggest similar anabolic response, and Boirye's,that suggest more absorption leu/phe with casein http://www.ncbi.nlm.nih.gov/pubmed/15570142 .About Kramer's work: they did not only take HMB, but arginine, taurine and glutamine, plus I dont see the BMR'S of the intervention and control groups in the paper.Control group was given non essential aminoacids (10 g of glycine, 11.5 g of alanine, 1.5 g of glutamic acid, and 1.5 g of serine). Randomize participants until there's a group with the right BMR's, calling water "lean mass", leave key data unpublished, give placebos as NEAAS... you get the point.

[Dr. Wilson] Paul Cribbs data disagrees with Boires data because Boire measured "whole body protein synthesis" of which muscle is only a small fraction. In other words whole body tells us very little and is for the most part not relevant. (2) Paul Cribbs data is consistent with several studies including Stu Phillips lab who found that whey stimulated far greater protein synthesis in whey vs. casein both at rest and during exercise. Tang, Jason E., et al. "Ingestion of whey hydrolysate, casein, or soy protein isolate: effects on mixed muscle protein synthesis at rest and following resistance exercise in young men." Journal of Applied Physiology 107.3 (2009): 987-992. (3) With Kraemers data, the addition of taurine and arginine have never been

demonstrated to be highly anabolic, making their addition a mute point. (4) As far as Kraemers methods of randomizing groups, considering he is the top publishing scientist in strength research I think he knows how to do that. In particular the bottom line is that there were no differences between groups at baseline in any relevant variable including age, weight, lean body mass, fat mass, or strength and diet was controlled. And regardless, the bottom line is one of the groups gained nearly 19.6 lbs of lean mass, which is greater than my study and demonstrates human potential for growth. (5) going back to my study. bottom line is if you take a group of high responders to resistance training , expose them to up to 200,000 lbs of total training volume weekly, periodize their weights, sets, reps, and exercises, and give them perfect nutrition and they are going to make huge gains. thats the bottom line, and our study clearly, clearly demonstrated that fact

Above is an unedited conversation that took place shortly after the study was published; FYI - don't get bent out of shape with a grammar or spelling typo here/there as it was a live facebook conversation ;-). As I mentioned in my ISSN write-up, Dr. Wilson is 1st class guy. Luckily for you, his classy demeanor and impressive intelligence will be on full display here at CasePerformance as he's agreed to do an 'Expert Interview' with us... So stay tuned!

Back to Adel's write-up..... As an added bonus, this article also includes the study's exact training routine. Taking into account differences in training history, physical limitations, etc, I NEVER recommend people to blindly follow a training program just because it worked for another individual. However, I think in looking at the programs of others, one can learn principles of effective program design … which long term will have a much greater impact on physical performance, health and longevity than any supplement can offer you.

Now before someone takes my statement above to the opposite extreme, grabbing ideas from a bunch of different training programs and combining them into one (ie - "I'm going to do Jim Wendler's 5/3/1 for core lifts and combine it with Ian King's arm specialization along with this HIIT program for cardio and finish it off with steady state inclined treadmill walking on my "off days".) be intelligent. This is opposite end approach is way more disastrous IMO then following a single one originally designed for someone else EXACTLY as it was written for the target population/individual!

2. Lack of Cortisol characteristic for young obesity patients. Plus: Self-Esteem Changes During Puberty Would Actually Increase Diurnal Cortisol Production

CP Quick Thoughts

People tend to think in absolute terms (ie - "this is good"/"this is bad"). Although that thinking works in some aspects of life, when it comes to physiology, it's much better to think in relative terms and/or with the "under certain conditions" clause in your mind. In this nice little article, Adel discusses an interesting study on the often maligned cortisol hormone... as you'll see, low (NOT high!) morning levels are associated with some negative outcomes.

Week of March 17th-23rd

Sprint & Strength Training - A Dynamic Duo For Synergistic Effects: Increased Fitness, Power & Endurance With HIIT + Heavy Lifting in Recreationally Active College Students

CP Quick Thoughts

Everyone likes a little good ol' synergism and this article examines some of the cool benefits of combined sprint and strength training in recreationally active males. One study group completed strength training only which consisted of 2x/wk (monday/thursday) training which included

> **"...**a general five-min warm-up on a cycle ergometer, before they did back squats, bench presses, leg extensions, leg curls, pull-downs, and shoulder presses in the four to six repetition range (i.e., 85 % 1RM) w/ 2 min rest intervals on two days of the week, only..."

The combined group did the same thing along with 2 extra days (Tues/Fri) of high intensity sprints that consisted of 4-6 bouts of all-out 20-s sprints.

The one cool thing about the study that wasn't directly pointed out in Adel's write-up is how little resistance training is actually needed to increase strength in this population. If you look at their above routine as well as the relative gains experienced by both groups (~12% in bench, ~30% in squat) over the course of 12 weeks, I'm sure you'd agree that it's pretty impressive. Keep this in mind if you're talking to someone hesitant to start exercising with weights. I've found that many people are misinformed thinking that they must complete an intensive training program 3-4x/week to see significant increases in strength levels. As a result they shy "away" from starting in the first place. Obviously this

is not the case; encourage them to start lifting 2x/week and if they develop a passion for it, add a day or two down the line.

Week of March 24th- 30th

Non-Fasted Cardio the True Key To Weight Loss? Study Shows Significant Increase in Total Energy Expenditure W/ Fed vs. Fasted Cardio - High Protein Adds to the Effect

CP Quick Thoughts

I always enjoy the fasted cardio debate. Here's a newest study showing that non-fasted cardio will provide the best bang for the buck for fat loss…. Or does it? To find out the answer to this question, check out the above article!

VI. CP Performance Discussion

I sometimes receive comments from people stating that they like the articles I write (or hate them – Eek!) but sometimes they get lost in the details of them. Thus for this month's CP Performance discussion, I share with you "just the facts", with references at the end if you want to follow up for details!

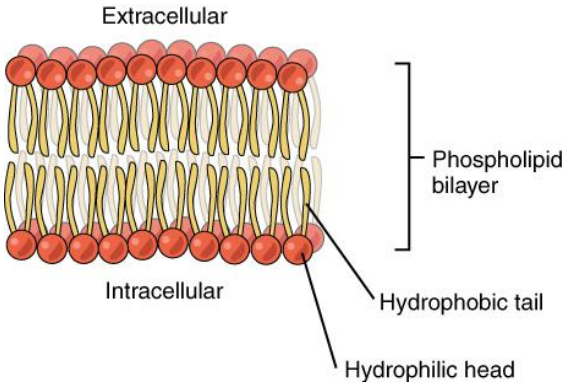
The Right Fats for the Right Dining Occasion

By Sean Casey

Figure 1. Clear bottles exposed to sunlight AND non-airtight lids. Ouch on the rancidity potential! Image Source[23]

Are you rancid? Eww…disgusting. I sure hope you're not. "*Wait… What's rancidity*?" you ask. In short it's when fats go bad (via the oxidation of their double bonds), causing many negative downstream effects. These fats are often, yet not always, distinguishable by their off taste and smell. Now before I give you the "just the facts" list of things that you need to remember, I'm going to share a brief primer on the health effects of rancid fats and what external environmental factors lead to their formation (I promise, super brief!)

Rancid Fats – What's the big deal?



Rancid fats absorbed from our diets and incorporated into the "tails" of phospholipid membranes that line our cells as well as the structures within them. This proves problematic as the modified fats compromise the function and stability of these cells, no different than how misshaped building materials compromise the structural integrity of a house.

Studies in animals have shown that the ingestion of rancid fats leads to the development of atherosclerosis. Although we can't complete randomized clinical control studies assessing the impact of ingesting rancid fats in humans (good luck getting an ethics board to pass that one!), we can look at various populations studies which show significantly greater risk of cardiovascular disease and all cause mortality when substituting fats prone to rancidity (polyunsaturated fats) in for fats virtually immune to rancidity (saturated fats).

What Causes Fats to become Rancid?

Type of Fatty Acid	# of Double Bonds	# Likelihood of suffering oxidative damage
Saturated (SFA)	0	least (dang near impossible)
Mono-Unsaturated (MUFA)	1	Medium
Poly-Unsaturated (PUFA)	$\geq$ 2	Greatest

Table 1. Influence of double bonds on likelihood of going rancid.

There are multiple things that cause fats to go rancid. As hinted to above, one of the reasons has to do with the presence of double bonds in the fat. If you look at any food label, you'll see that fat is usually broken down into saturated, mono-unsaturated and poly-unsaturated. The main difference between these fats is the presence of double bonds which serve as big ol' bullseyes for free radicals which can be thought of as the

"bullets" which cause the fats to go rancid.* Thus as shown in Table 1, the greater the number of double bonds, the higher likelihood that the fat will go rancid. I also refer you to the figure 2 which shows fatty acid distribution of various fats.

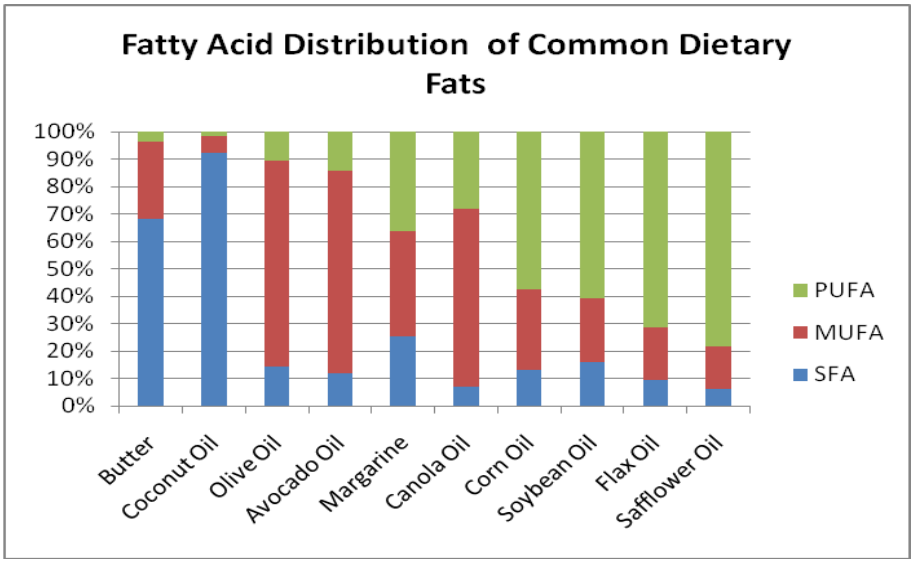


Figure 3. Distribution of various fatty acid types in common dietary fats Data obtained from USDA Nutrient Database. Image created by Sean Casey

There are a few other things that increase the likelihood of fats going rancid. Although I'm not going to go into detail on them, they include exposure to sunlight, oxygen and heat. With that being said, I share with you the golden rules to minimize your intake of rancid fats.

* Note – off topic but still relevant. Don't megadose antioxidants with the idea that completely eliminating them is your key to everlasting health and youth. They're needed for maximal health. A full conversation of this topic is beyond the scope of the article. I refer you to this nice discussion on the topic.

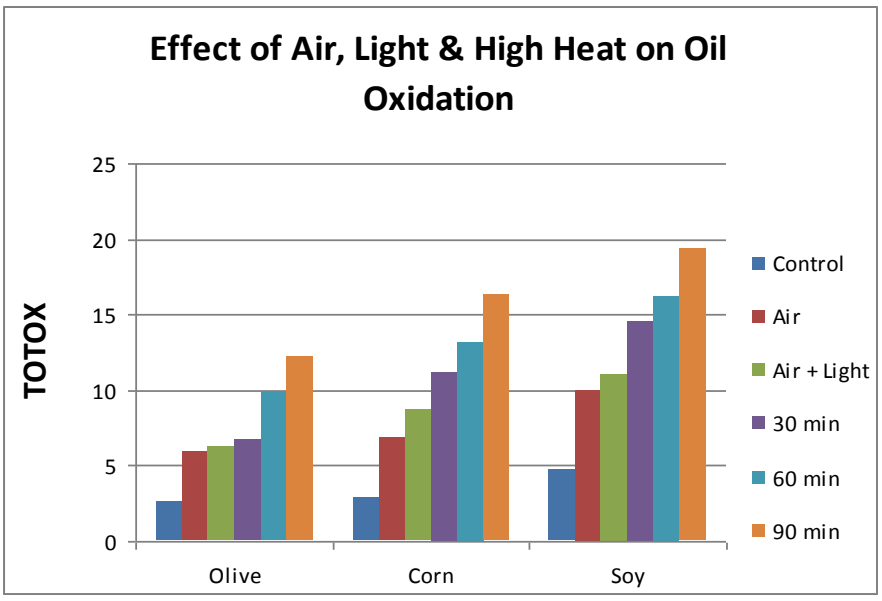


Figure 4. Distribution of various fatty acid types in common dietary fats. TOTOX = total oxidation (ie - amount of fats going rancid). Control values obtained immediately upon opening. Air & Air + Light exposure obtained after 30 days. Heat exposure (30, 60, 90 min) at 180ºC (356ºF). Air and A Data adapted from Naz et al. Image created by Sean Casey

The Golden Rules to Minimize Rancidity - "The 3 S's (Shop, Store, Select)"

Now that you have a little background on rancidity and factors that accelerate it, I share with you "just the facts" of what you really must know to ensure YOU don't go rancid!

Shop

***** Purchase oils with the higher degrees of saturation (vs. a high polyunsatated one

* Avoid purchasing oils that come in clear glass

* Avoid purchasing oils in large economy size containers; the quicker it's used, the less time it has to go rancid

Shop (cont.)

* Check the bottles for expiration dates. The fresher the oil, the farther out the expiration date will be

* If purchasing fish oil, go with capsular form which eliminates oxygen exposure.

Store

* Store in dark, cool settings; polyunsatured fats, (yes that includes fish oil), should be stored in a refrigerator.

> **Note** – Extra virgin olive oil is especially important to keep out of sunlight. The chlorophyll pigments that give it a green color also accelerate rancidity when exposed to sunlight; even more so than refined versions.

* Always make sure that the lid to the oil is screwed on tight and air proof. If you turn the container upside down and even the slightest amount of oil comes out, it's NOT airproof!

* Use quickly – don't let it sit around forever. The longer it's out, the longer it has to go rancid!

Select

* For salads – Oils with high monounsatured fat content (Olive, Avocado, etc)

* For baking – Saturated fats such as butter vs. margarine

*** Truth be told**, I'd really try to minimize frying as much as possible, but if you must remember those two rules!

> * For Pan frying – Saturated fats such as butter or coconut. (Do not go overboard though as cholesterol present within predominantly saturated fat based foods can still be oxidized. Read more in my SV Corner Report in the 2014 Feb Part II newsletter - Week of Feb 3rd-9th!)
>
> * For Deep Frying – Olive oil if temperatures <180 ºC (<356 ºF), Canola oil at higher temps.

Select (cont.)

* Diners/Pubs/Restaurants that routinely monitor and change their oils (and I'm not talking once every other day on a vat of oil that's continuously being heated – like in a fast food restaurant!)

Bottom Line

There you go, simple as that, the key points you got to remember in order to minimize your exposure to rancid fats! You see, it wasn't so bad was it?!

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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