The Function of Fat (In Humans...)

Your Nutritional Moment of Zen

We have a love / hate relationship with fat:

Nobody wants to be fat, so we try to avoid foods with lots of fat for that reason, while at the same time we crave foods that have lots of fat in them (ice cream, eggs, butter, cheese, steak, birthday cake, French Fries – the list goes on...and on). What's up with that? Is Mother Nature playing a cruel trick on us, or did she just "mess up" on this one?

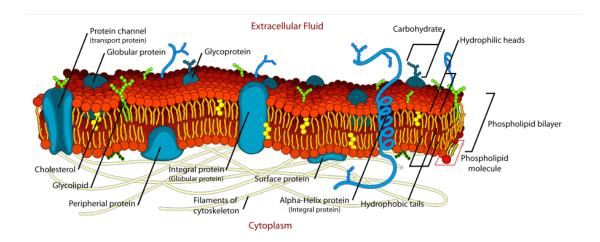
Well, it is "kind of big deal":

Yes, just like Will Ferrell's Ron Burgundy in "Anchorman", indeed it is, but for much of our existence, maybe say 99.9% of it, no human ever got too much – There just wasn't enough around for that to happen. We are hard-wired (really hard) to desire fat because when it was around, we darn well needed to consume it...with a passion. Failure to seize the moment and the fat were a quick path to an early demise. You can take Mother Nature out of the doghouse now. Not her fault.

So, what is it good for - The Functions of Fat:

- Energy Storage: We are incredibly efficient at storing fat as a source of energy for when we are starving. A good thing when we were actually starving often, not so good when we haven't starved, I mean really starved, in, well...ever. We are so good at it, as a matter of fact, we hardly waste time and energy digesting it. That's why if one chose to "sample our fat" they could readily tell what the actual source, or sources were.
- Hormone Production: Several hormones rely on cholesterol (actually also a type of fat called a lipid) as precursors for production. I would say important hormones, but they are all important. Vitamin D is included in the group. (Many of you may recall from an earlier N. Zen Vitamin D is a hormone, and not a vitamin at all.)
- An Organic Solvent: We all know from high school chemistry, or even the last time you tried to get an oil and vinegar dressing to "properly" mix, despite vigorous shaking the two just don't want to play nicely. If it were not for fat, a lot of fat-only soluble substances would not be able to get to where they are needed. The above-mentioned fat, cholesterol, is one of those, as we will see next.

- Escorting cholesterol to our cells: Our liver produces cholesterol (ALL we need!!!). It has to get from the "factory to the field" and without phospholipids (lipids with a phosphate group head) that could not happen. (Drawing below.)
- Speaking of our cells We are nothing without fat: Yep, 'tis true, everyone one of our cells has fat in it, ideally just the right amount, though often not. Here's a snapshot:



Notice the phospholipid bilayer and the cholesterol. Without them we would be not much more than a "pile of mush", being as unlike plants, we don't have cellulose in our cell walls to give us structure and rigidity. (Interesting Sidebar: Plants don't need to move much, so a stiff, strong cell wall is just the ticket. Animals, in this case, us, need to move so fat in our cell membranes provides just the right amount of form and fluidity.)

- Fat "thinks": While fat is not brain food (that's glucose), 60% of our brains by weight are made of fat, so maybe being called a "fathead" is not that derogatory after all.
- Essential Fatty Acids (EFA's) in Heart Disease Risk Reduction: John McDougall, M.D. sites research where EFA's, especially Omega-3's, can help reduce the likelihood of heart attack and stroke (though note, you can kiss this benefit good-bye if the rest of your diet is not much a diet).

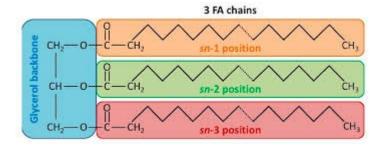
But don't reach for that double Frappuccino just yet...

Ah, a good place to stop for now. To be continued-

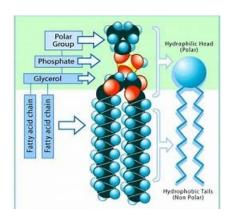
Don

"Nutritional Zen Master In-Training"
The Wellness Forum Institute

Here's what your basic triglycerol fat looks like:



And here's a phospholipid (mentioned above):



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