A Document In Which I Learn About Omega-3s

We bought a carton of strawberry-kiwi juice the other day. While I was putting it away, I recognized some prominent labelling on it that I apparently hadn't before - it was advertised as an impressive source of omega-3. Now, I read my nutrition facts more than anyone else in my family; but I actually am not very smart. I look at them out of curiosity, but I don't truly know much about what the different nutrients' effects are, nor how much you ought to maintain having in a day. This carton of juice, though, piked that curiosity. In *extremely* light text on the front label, it stated the omega-3 quantity - a tenth of a gram. That seemed suspicious to me; writing what looks to be a rather small amount next to your big, bold nutrient name smelled somewhat of bad advertising. So it warranted investigation.

I searched the first thing that came to mind - how much omega-3 fats should you have in a day? Well, what would you know - *omega-3s don't exist...* Just kidding. But it's more complicated than that. So, as you'd see on a nutrition facts table, omega-3s are part of a category of fats described as *polyunsaturated*. (This is in contrast to monounsaturated and saturated fats.) They're distinguished in the same category from omega-6 fats. All this division would make you *think* that omega-3s are, perhaps, simply a Basic Thing; but, to my horror (albeit interest), I came upon the phrase "types of omega-3 fatty acids", and realized that such is not the case. So, down the rabbit hole I went; I'd come back to the question of how much later...

There are actually 11 different types of omega-3 fatty acids, and they each have various biological effects on humans; luckily, only three of them are really relevant. The rest are all considered non-essential. (Wait, what? Essential? This is a pretty fundamental term, so you probably already *at least* have a notion of it, but here's a primer just in case - "essential" means that a nutrient is one that your body needs to function or develop properly, but that it can't produce in great enough quantity, or at all.) The three types we're interested in have such long names I'm going to save this paragraph by writing in a list below:

- DHA: Docosahexanoic Acid.
- EPA: Eicosapentaenoic Acid.
- ALA: Alpha-Linolenic Acid.

DHA is vital in the brain development of children, and it's important for the function and health of adult brains as well. EPA helps reduce inflammation

(which is linked to common diseases) and depression (which DHA helps with too, but - according to some studies - less so than EPA). Typically, you get DHA and EPA by eating fatty fishes and other seafood; they're the reason that fatty fish is considered so healthy.

Okay, so, what about ALA, right? As it would turn out, DHA and EPA really are the main types of omega-3 you should focus on consuming. ALA is very, very prominent in plant-based foods like flaxseeds and walnuts; a tablespoon of flax oil contains around 7200 mg of ALA omega-3 fats, which is quite impressive compared to the ~3000mg EPA/DHA of the same amount of fish oil. The trouble is that ALA isn't near as useful as DHA and EPA - the human body can't take advantage of it like the other types of omega-3. To make up for that, it attempts to convert ALA into DHA and EPA before using it... but this has almost negligible effect, since only about 1% of ALA is converted. ALA does still count as a fat, though, so any extra will be used for energy production in your body. But as you'd guess, it's better to prioritize sources of DHA and EPA instead.

Now that we've got a grasp on the different kinds of omega-3 fatty acids, we can get back to the world of fruit juice... But maybe read that again. Sound peculiar? Closer inspection of the strawberry kiwi carton revealed that this is an enriched beverage - the 0.05g of EPA/DHA omega-3 comes from fish oil added into the drink. (I'm honestly curious about how exactly they blended it into the juice... I've never had fish oil myself, so I couldn't guess its taste, but I'd think it somewhat difficult to hide in a juice. The responsible ingredient is called encapsulated fish oil and is a combination of various fish oils alongside the good ol' Gelatin™. I guess it's not significant enough for your tace buds to notice; according to the numbers we've gathered, it only takes a quarter milliliter of fish oil to gather the 0.05g per 250 mL serving.)

Let's avoid digging ourselves deeper - how much omega-3 (of the EPA and DHA types) should a person have in a day, on average? Well, maybe it's not surprising that there's no straight answer here.. scientists aren't conclusive on the amount you should aim for. In general, 250mg per day is a good lower bar, but lots of people could benefit from more. EPA and DHA are both great for lowering triglyceride levels to normal; if you have high triglyceride levels (which is tied to increased heart disease risk), it's suggested you have around 2000-4000mg daily. Another organization suggested 500mg per day for general cardiovascular health. You could gather that there's quite a big range here.

If you compare the 50mg of EPA/DHA in a cup of our enriched fruit juice, you'd find we're looking at five cups of juice to match the minimum suggested omega-3 intake, on average, in a single day. Perhaps this is no surprise - strawberry kiwi fish oil juice just isn't enough to get you the omega-3 you ought to be having. This part-way confirms my suspicion; if you got the idea that it was plenty omega-3 from the labelling, you'd be mistaken. That's not to say it wouldn't help at all, and there's some other health benefits in the juice. But it's worth considering that those same benefits could come from, say, eating a meal of fatty fish twice a week (or a more concentrated supplement) and whole fruits on a

daily basis.

While reading this, there's probably been one thing that's jumped out to you: I am bad at writing essays and very slow to get to my point. I won't even try to argue either statement, but I'd like to shed light on why I wrote this (besides, you know, for its own sake... and school). While I was researching omega-3s, I learned a lot about the numbers I read on nutrition fact tables every day - there was a lot more to the topic than I'd initially guessed. I think delving deep into researching topics like this can actually be quite enjoyable. On the surface, it's difficult for me to cite why having a remarkable habit of reading nutrition facts tables (and badgering questions to everyone trivia-style) could possibly be important or even useful; but, besides leading to awareness of the nutrient contents in many different foods, I think it helps (ahem) Breed Curiosity®. There's likely a lot more detail behind every one of the nutrients you see often (or not) on these tables, and exploring those would likely be as interesting as exploring omega-3s. (Which, perhaps to you, is not interesting at all. But still! And I didn't even go THAT deep into omega-3s here; what about the other 8 types, or the chemical makeups, or omega-6s..? Et cetera!) The same goes for just about anything in life; there's much more detail in everything than I think is often recognized, and if you were to take interest, a lot of those details can be learned. And with the internet at hand (plus, *cough*, books), it's easier than ever - so let your curiosity lead you to explore!