

Webinar 2 Handout:

FATS

I've had clients who won't touch an avocado, for fear that it is full of fat. Fat can be a scary macronutrient for the health conscious eater, but fat doesn't make you fat. You may also encounter the other type of client: the one who's smothering all her food in fats. Like carbohydrates and protein, there are healthy fats and there are some that are downright damaging. We need a good amount of healthful fat to function best and to maintain a healthy body weight but it's easy to go overboard. I recommend about 30% of daily calories come from this marvelous macronutrient. Teaching your clients the basics of eating fat is essential to maximizing wellness.

Fat plays many crucial roles, it:

- Allows for the absorption of vitamins A, D, E, and K (AKA the fat-soluble vitamins)
- Enables hormones to work properly
- Helps burn fat
- Insulates the body from the cold
- Protects organs
- Provides energy

You'll know a fat-phobe the minute you look at his/her food journal. She's eating only egg whites in her omelets, only vinegar on her salads, pretzels instead of nuts and gummy bears as her go-to treat. If you have fat-phobic clients, dare them to add a little avocado to their salads, a splash of whole milk in their coffees or a dozen almonds to their afternoon snacks. Give it two weeks. They'll be astonished that they have not gained weight (in fact they may have lost) and find their food to be more satisfying. There is strong research that tells us people who eat nuts (which are rich in healthy fats) are thinner than their non nut eating counterparts. People who eat fat free cookies are heavier than their full fat cookie eating buddies -- they eat more of 'em! People who eat chocolate tend to have lower BMIs. This is because fat promotes satiety. Healthful fats are linked to strong immunity, improved cardiovascular functioning, reduced inflammation and improved brain functioning. Fat is not the enemy! Quite the contrary, fat is your friend! Choosing the right fat, however, is critical, and because fat has 9 calories per gram (carbs and protein have 4 calories per gram) it only takes a little to meet your needs.

It is important to keep in mind that not all fats are created equal. Choose fats that promote cardiovascular health. They include , **monounsaturated fats**, **polyunsaturated fats** and **essential fatty acids** (think omega-3s). **Saturated fats** can be bad for health, but there is a place for some in a healthful diet (think of them as an in-between fat). **Trans fats** (or hydrogenated fat) should be avoided completely.

Here's what your clients should be focusing on:

Healthy Fats	Food Sources*	Cardiovascular Benefits
Monounsaturated fats	Olive oil, peanut oil, canola oil**, sunflower oil, nuts (almonds, cashews, peanuts, pecans), avocado	Help increase “good” (HDL) cholesterol and decrease “bad” (LDL) cholesterol.
Polyunsaturated fats	Corn oil, safflower oil, sunflower oil, sesame oil, soybean oil, cottonseed oil, flaxseed oil, seeds, walnuts, grains	Help reduce total cholesterol. May also increase “good” (HDL) cholesterol.
Essential fatty acids <i>Note that essential fatty acids are a type of polyunsaturated fats</i>	Fatty fish: Salmon, albacore tuna, mackerel, sardines, herring Walnuts, flax, chia, hemp, canola oil**, soybean oil, corn oil, safflower oil, and sunflower oil	Reduce risk of developing blood clots, arthritis, cancer, heart disease, and high blood pressure.

**Most foods have a mix of fats. We have listed where the majority of the fat comes from.*

*** Canola oil has a healthful fatty acid profile and is rich in monounsaturated fat. It comes from canola seeds, which are a variation of the rapeseed plant developed through traditional plant breeding practices. Rapeseed is naturally toxic to humans due to a compound called erucic acid, but the canola seed is modified to grow without this compound and the canola oil extracted is free of toxins. Many argue that even when the process of growing canola is GMO free, it is certainly not natural. Keep in mind that the majority of canola (upwards of 80%) is grown with GMO practices, biotech and herbicides.*

A note about vegetable oils: it is misleading to assume all vegetable oils are safe and should get the green light. Overly processed oils, such as sunflower, vegetable, cottonseed and safflower, that are subjected to heat and processing can be damaging because the quality and proportion of fatty acids is degraded. There is also concern about the amount of omega-6 fatty acids found in many of these oils because most Americans eat way more omega-6 than omega-3 fatty acids. A very high omega-6/omega-3 ratio contributes to inflammation, cell damage, cardiovascular disease and a host of other issues. When looking for a vegetable oil, choose high quality oils that are not blends of oils and look for organic cold pressed oils that have not been subjected to high heat. In general, if you are eating a diet of mostly whole foods, avoiding most packaged and overly processed foods and including sources of omega-3 fatty acids in your diet, it's okay to include small amounts of high quality vegetable oils when it is appropriate for cooking. Different oils serve different purposes in the kitchen. Avocado oil has a high smoke point, good for baking, sauteing and stir frying. Grapeseed has a medium smoke point, good for baking and light sauteing, and flaxseed and walnut oils are good sources of polyunsaturated fats when no heat is used, such as added cold to a bean salad. Since they can go bad quickly, keep only two or three oils in the pantry at one time.

Omega-3 fatty acids are a special type of polyunsaturated fat and you'll probably get questions about them. We need them to make cell membranes and hormones and to regulate genetic expression. They've been linked to reducing inflammation, boosting heart health, decreasing risk of depression and sharpening cognition and memory. Since we cannot make them in our bodies, we rely on foods to get them in. There are two categories of omega-3s: the alpha-linolenic acid (ALA) variety, found in plants, and eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) varieties, found in fatty fish. One caveat for plant-eaters: ALA needs to be converted to EPA and DHA to use it, and that process is incredibly inefficient. However, researchers from Penn State concluded there are plenty of benefits for ALA in reducing risk of stroke and promoting heart health after reviewing all of the current evidence. I'm a true believer in the benefits of omega-3s and they're one of the few supplements I recommend regularly.

Easy ways to incorporate these heart healthy fats into the diet:

- Snack on a handful of almonds or other nuts instead of chips or other packaged fried foods.
- Substitute olive oil and other oil based dressings for packaged creamy salad dressings.
- Eat at least two servings of fish per week, recommended by the American Heart Association.
- Use avocado in place of mayo or other creamy condiments.
- Sprinkle ground chia, hemp or flax seeds over yogurt, oatmeal or salads.
- Choose a vegetarian meal with whole soy foods, such as tofu and edamame, a couple times per week. (Avoid soy "products" and soy protein isolates, as they are not health promoting.)

While increasing your intake of the “good” fats, you should focus on lowering your intake of saturated fats and trans fats. However, we are learning that saturated fat isn’t as bad as we once thought. One of the major reasons saturated fats have such a bad reputation is because they have been shown to increase levels of LDL cholesterol, which is linked to heart disease. However, not all LDL cholesterol is the same. Though we often use “bad” as a shorthand for LDL, there are four basic forms of LDL and they actually aren’t all bad. There is large, medium, small, and very small LDL, all increasing in density. Saturated fat mainly increases the amount of large LDL particles, which do not raise the risk for heart disease. The smaller, more dense forms of LDL are the dangerous ones, and these have been linked to diets high in sugars and carbohydrates. Unfortunately, blood tests don’t distinguish between the types of LDL, and there is a lot more research needed in this area. You do need a little saturated fat in your diet because it is important to have some for cardiovascular, bone, liver, immune system and neurological functioning, but you do not usually need to go out of your way to put it in your client’s diet, as they will get a little in through other foods, such as fatty fish, coconut, nuts, chocolate and dairy. The saturated fats that are associated with benefits include: lauric acid, myristic acid, palmitic acid, and stearic acid found in foods such as butter, coconut oil and cheese. Coconut oil and certain dairy products are getting the most attention for their connections to health. We’ll cover those in the Unconventional Fats handout.

What about trans fats? Time for a history lesson. Most trans fats in the US come from a process called hydrogenation, which is the addition of hydrogen molecules to liquid oils. As these molecules are added, the liquid oil becomes more stable by changing the molecular structure and trans fats are formed. The texture may transform from liquid to semi solid (think spreadable margarine). Hydrogenation expands the shelf life of fats and improves mouthfeel for things like pastries and fried foods. Most foods that contain the word partially hydrogenated in their ingredient list contain trans fats. However, when liquid vegetable oil is fully hydrogenated -- by continuing to add those hydrogen atoms -- the oil becomes solid and almost no trans fats remain. Full hydrogenation further changes the fat profile and the amount of saturated fat increases. Hydrogenated foods, whether partially or fully hydrogenated, are damaging. Trans fats and the types of saturated fats formed through this process are linked to poor health outcomes.

Thankfully, we’ve seen the light that trans fats are seriously bad for health, and in June of 2015, the FDA deemed trans fats as no longer generally recognized as safe (GRAS). Now all food businesses are removing trans fats from their ingredient lists and artificial trans fats will be eliminated from our food supply by 2018. Until then, remember that according to the FDA, a product claiming to have zero trans fat can actually contain up to a half gram per serving (yes, that is still too much!). So you

still want to scan the ingredient list and avoid foods that have "partially hydrogenated vegetable oil" and vegetable shortening. In general, we recommend as few packaged and processed foods as possible. Note that natural trans fats can be found in animal foods like butter and beef, but these don't seem to have the same detrimental effects as the hydrogenated, man-made kind.

Hard Fats	Food Sources	Damaging Effects
Saturated fats	Butter*, fatty cuts of meat, coconut oil**, palm kernel oil, baked goods	Increase risk of heart attack and stroke. Increase buildup of plaque in arteries. Increase LDL cholesterol and decrease HDL cholesterol.
Trans fats/Hydrogenated fats	Margarine, frosting, vegetable shortening, doughnuts, packaged foods such as cookies, crackers, chips, chocolate, regular peanut butter, french fries, processed foods	Increase risk of heart disease. Increase "bad" cholesterol and decrease "good" cholesterol. Associated with development of Type 2 Diabetes (DM2).

**I am a big fan of grass fed butter which is higher in vitamin K2 (critical to both bone and cardiovascular health), butyrate (a short chain fatty acid that can help fight inflammation), and conjugated linoleic acid (linked to protection against cardiovascular diseases and cancer). I recommend cooking with grass fed butter in small amounts.*

***Yes, coconut oil is high in saturated fat but it is on my favorite fats list. That's because the primary fatty acid is lauric acid, which has been shown to help boost HDL cholesterol more than other types of saturated fat. Plus, coconut oil comes with antioxidants and has been linked to other health benefits (see Unconventional Fats handout). As with any fat (and any food!), portion size is key.*

Some favorite sources of fat include:

Fat

Almond butter
Almonds
Avocado
Brazil nuts
Cashew nuts
Cheese
Chia seeds
Coconut oil
Flax meal
Flaxseed oil
Grapeseed oil
Guacamole
Hazelnuts
Hemp seeds
Hummus
Olive oil
Olives
Peanut butter
Peanuts
Pistachio nuts
Pumpkin seeds
Safflower oil
Salad dressing -- olive oil based
Soy nuts
Sunflower oil
Sunflower seeds
Walnut oil
Walnuts

Why I love it

Satisfying, creamy
Crunchy, easy to pack
Creamy, feels indulgent
Crunchy, easy to pack
Crunchy and buttery
Little goes a long way
Portable, not overly filling
Amazing flavor and aroma
Easy to add to anything
Great alternative to other oils
High smoke point
Creamy, indulgent
Crunchy, portable
Easy to add to anything
Lots of variety, creamy
Favorite kitchen staple
Indulgent, lots of varieties
Satisfying, creamy or crunchy
Crunchy, portable, inexpensive
Crunchy, portable
Crunchy, portable
Great flavor, good in stir-fry
Adds satiety without volume
Crunchy, portable, inexpensive
Great flavor
Crunchy, portable
Great flavor, pairs well with veggies
Crunchy, portable

Some favorite sources of omega-3s include:

Caviar (hey, it's a delicacy but it is a good source!)

Chia seeds

Cod liver oil

Flaxseeds and flaxseed oil

Fortified eggs

Halibut

Hemp seeds

Hemp milk

Mackerel (*the list of safe fish changes often. To date, N. Atlantic and Chub Mackerel have very low mercury levels. Stay away from King Mackerel and Spanish Gulf Mackerel. Double check with seafoodwatch.org before making your best recommendations.*)

Olive oil

Perilla Oil

Purslane

Salmon

Sardines

Seaweed

Sesame seeds

Tahini

Trout (freshwater)

Tuna

Walnuts

There are also small amounts of omega 3's in avocado and dark leafy green vegetables like spinach and kale.

Nutritious Life Tip: Teaching your clients that eating fat won't make them fat or unhealthy may take some convincing. Decide what is least scary to them (nuts, avocado and flax meal may be less overwhelming than olive oil, coconut and egg yolks) and begin by adding a little into their meal plans a bit at a time. They'll see that they are not gaining weight and may even notice their hair or skin looking better. Build up the healthful fats from there! There should be a small portion of fat with every meal or snack to help boost satiety and keep your body running smoothly. Remember that fats are the most calorically dense of all of the macronutrients, so they do require portion control, and opt for the best types of fat like monos, polys, omega-3s and coconut.