FOOD FOR HEALTHY SKIN

We all want smooth, healthy skin. There is a huge market for skincare products, but the best way to care for our largest organ is the same way we care for all of our organs—by following a healthy diet. The fact is, what we put on our plate—as well as what we don’t—can have a significant impact on our skin. "The things we take into our body play a role in collagen production, wound healing, and helping promote cell turnover," says dermatologist Farah Moustafa, MD. "Foods also provide antioxidants that help against photo-aging, wrinkles, and even skin cancer." Here’s a look at what foods and nutrients may—or may not—impact skin health:

**Fruits and Vegetables—GOOD**

"Good vitamin C intake promotes healthy skin," says Moustafa. "This vitamin is important for collagen (a key structural protein in the skin), helps mop up free radicals, and protects the skin against oxidative damage related to ultraviolet light exposure and pollution." Though vitamin C deficiency is uncommon, it can lead to fragile skin that bruises easily, slow wound healing, and bleeding gums. Common foods high in vitamin C include strawberries, kiwis, bell peppers, oranges, broccoli, and tomatoes.

**Fish—LIKELY GOOD**

Fish—especially cold-water fish like salmon, mackerel, tuna, and sardines—are rich in omega-3 fatty acids referred to as DHA and EPA. These unsaturated fatty acids play an anti-inflammatory role in the body, which can benefit the skin by helping with conditions such as psoriasis and eczema. The body doesn’t produce these fatty acids, so we need to get them from foods like fish, nuts and seeds (like flaxseed, chia seeds and walnuts), and plant oils (soybean and canola oils).

**Nuts and Seeds—GOOD**

Over the years, oxidative damage to proteins in the skin can lead to changes in skin structure, which we see as photodamage and wrinkling. Nuts and seeds are dietary sources of vitamin E, which, like vitamin C, is an antioxidant that helps prevent oxidative damage in the body, including the skin. As with vitamin C, Moustafa and other experts recommend nourishing the skin from the inside out, by getting vitamin E and other nutrients through foods. Swapping in nuts and seeds, plant oils, spinach and other leafy green vegetables, avocados, and whole grains will boost intake of vitamin E.

**Red Meat—LIKELY BAD**

Although scientific evidence is limited, it has been proposed that consumption of certain foods may promote inflammation in the body and worsen inflammatory skin disorders like acne, eczema, psoriasis, and rosacea. According to the National Psoriasis Foundation, foods that are associated with skin inflammation include fatty red meats. "Excessive intake of fatty cuts of red meat can lead to too much arachidonic acid, which has breakdown products that can trigger psoriasis," says Moustafa. Replacing some (or all) of the red meat in your diet with plant proteins (legumes, nuts, nut butters), seafood, and poultry has known heart-health benefits, and may help keep your skin clear as well.

While nutrients like vitamins C and E and essential fatty acids are widely used in skincare products and oral supplements, the best way to get these nutrients is through foods. "Topicals such as vitamin C serums have variable concentrations, stability, and efficacy," says Moustafa. "It is important to get adequate amounts of the necessary nutrients for skin health through a balanced diet. Oral supplementation is valuable for people who have an absorptive issue, medical condition, or some other reason for chronically low levels of key nutrients," she explains. To keep your skin supplied with plenty of antioxidants and support skin cells and collagen, aim for a dietary pattern rich in fruits, nuts and seeds, non-tropical plant oils, vegetables, whole grains, and cold-water fish, like a Mediterranean style eating pattern. To feel as good as you look, be sure to eat these foods in place of less nutritious choices, such as fatty cuts of meat and packaged foods high in refined grains, added sugars, and sodium.
BE A HEALTHY WEIGHT
Next to not smoking, maintaining a healthy weight is the most important thing you can do to reduce your risk of cancer. Aim to be at the lower end of the healthy Body Mass Index (BMI) range of 18.5 to 24.9.

LIMIT CONSUMPTION OF PROCESSED FOODS.
There is strong evidence that consuming processed foods including “fast food” and refined grain baked goods and snacks—are causes of weight gain, overweight, and obesity, which are linked to 12 cancers.

LIMIT CONSUMPTION OF RED AND PROCESSED MEAT.
Eat no more than 12 to 18 ounces (cooked) per week of red meat, such as beef, pork, and lamb. Eat little, if any, processed meat (like ham, bacon, salami, hot dogs, and sausages).

LIMIT ALCOHOL CONSUMPTION.
If you do choose to drink alcohol, however, limit your consumption to one drink for women and two for men per day. Do not binge drink.

LIMIT CONSUMPTION OF SUGAR SWEETENED BEVERAGES.
There is strong evidence that consuming sugar-sweetened beverages causes weight gain, leading to overweight and obesity. Drink mostly water and unsweetened beverages.

DO NOT USE SUPPLEMENTS FOR CANCER PREVENTION.
Aim to meet nutritional needs through diet alone. No dietary supplement has been independently shown to lower cancer risk.

BE PHYSICALLY ACTIVE.
Activity may help prevent some cancers, and it helps with weight control to reduce overall cancer risk. Aim for 150 minutes a week of moderate exercise. Any increase over your current activity level helps.

EAT A DIET RICH IN WHOLE GRAINS, VEGETABLES, FRUITS, AND BEANS.
When preparing a meal, fill at least two thirds of your plate with vegetables, fruits, whole grains, and beans.
GENES AND WEIGHT

In 1953, the same year Watson and Crick reported the discovery of DNA, Jean Mayer, former president of Tufts University and then a professor at Harvard School of Public Heath, published an article in which he predicted that a wide variety of genes are likely to contribute to the complex mechanisms involved in obesity. Since that time, researchers have identified hundreds of gene variants associated with body mass index (BMI), but we still cannot fully explain why some people become obese and others do not. Here’s what we do know:

**Genes do influence weight.**

“Even before we knew about genes, there was the perception that weight or obesity could be inherited,” says José Ordovás, PhD, a professor at Tufts' Friedman School of Nutrition Science and Policy and senior scientist and leader of the Nutrition and Genomics team at the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA). “Gene variants that influence our weight can be associated with anything from appetite to behavior to metabolism.” Regulation of hunger: food cravings; the tendency to store bodyfat; capacity to burn calories and to use dietary fats as fuel; even the desire to be sedentary or to use eating as a way to cope with stress could all have genetic components. “It’s important for people to realize that being overweight or obese is not entirely somebody’s fault,” says Ordovás. “They may have an ‘internal’ predisposition to gain weight. That said, genes are not destiny.”

**Environment can trump genes.**

Many societies around the world are experiencing an “obesity epidemic.” Genes do not change quickly enough to account for this dramatic rise in obesity...so there must be other factors at play.

The obesity epidemic is seen primarily in environments where levels of physical activity are low and total calorie intake is high. But not all people living in these environments will become obese. Additionally, not all people with obesity will have the same body fat distribution or suffer the same health problems as their equally overweight peers. These differences are a result of the interplay between genetics and environment:

**Genes impact our response to environment.** Someone who has a genetic tendency to store body fat, for example, or genes that trigger the manufacture of higher levels of hunger hormones, may gain more weight in an “obesogenic environment” than an individual without those traits.

**Epigenetics impacts the expression of our genes.** While genetic changes take generations, epigenetic changes happen throughout our lives as a result of environmental factors. These changes frequently occur through DNA methylation, where molecules called methyl groups are attached to the DNA. Methylation can change the activity of a DNA segment even though the genetic sequence remains the same. Numerous studies suggest epigenetic changes are associated with the tendency towards weight gain and the health impacts this excess weight has. One study that compared people who have never been obese with those who were obese but lost weight found significant methylation differences between the two groups on 248 genes. Epigenetics is a relatively new field of study. While it offers exciting possibilities, we do not yet know whether obesity and obesity-related health outcomes are caused by, or cause, specific epigenetic changes. Importantly, most of this research has been conducted in Caucasian populations, which limits the application of results. Although there are still many unknowns, it is clear that weight is determined by a complex interplay of genes and environment.
GENES AND WEIGHT

Many factors weigh in.

“Based on current knowledge, I suspect that about half of weight is related to genes, and half to other factors,” says Ordovás. “Activity levels and the food environment are external influencers of weight, of course, and other mechanisms—like epigenetics and the microbiome—have emerged as important players.”

**Diet:** Numerous studies suggest healthy dietary choices may help overcome a genetic predisposition to obesity. A study published recently in the American Journal of Clinical Nutrition examined whether diet modifies the influence genes have on BMI. The study analyzed dietary intake of 30,904 participants. The researchers found that a higher diet quality was associated with lower connection between calculated genetic risk for weight gain and actual BMI. In other words, the influence of genes on weight appeared to be weakened by consuming a higher quality diet. (Higher diet quality was defined as higher intake of fruits, vegetables, whole grains, long chain omega-3 fats, nuts, legumes, and polyunsaturated fatty acids, and lower intake of sugar-sweetened beverages, alcohol, red and processed meats, trans fat, and sodium.)

**Physical activity:** Regular physical activity has been associated with lower impact of genetic predisposition to obesity. A recent study calculated genetic risk scores for over 18,000 unrelated Han Chinese adults ages 30 to 70 years and compared those scores to reported physical activity and various measures of obesity. The study found that regular physical activity weakened the association between genes and obesity measures. The benefits of regular physical activity appeared to be even more impactful in subjects who had a higher genetic predisposition to obesity. The most significant effects of activity were seen in people who reported jogging regularly, but walking, dancing, mountain climbing, and long-term practice of yoga also attenuated genetic effects on BMI. It is possible that diet and physical activity change the individual genetic risk for developing obesity through epigenetics. A recent systematic review of studies found evidence that resistance exercise programs induced epigenetic changes in pathways associated with energy metabolism and insulin sensitivity. Endurance exercise programs also caused changes in DNA methylation.

**Microbiome:** The human gastrointestinal tract is populated by approximately 100 trillion microorganisms. Studies suggest these microbes play a role in how calories from diet are used and may also influence the genes that regulate energy expenditure and storage. Specific alterations in the composition and function of the human gut microbiome have been observed in obese individuals. The makeup of the gut microbiome is impacted by factors like age and antibiotic use, and also by diet, physical activity, and other lifestyle factors. Researchers are looking into whether manipulating the gut microbiota could help with weight loss or obesity prevention. Eating plenty of naturally high-fiber plant foods and probiotic-containing foods like yogurt with live cultures helps to nourish a healthy gut microbiome.
Despite the technology and knowledge available to us today, we have only scratched the surface of understanding how genes contribute to body weight," says Ordovás. In most cases, our understanding of the complex interactions between genes, environment, and weight are not yet at the point where genetic testing would be useful for guiding personal diet or physical activity plans. "We have been working on personalized or precision nutrition," says Ordovás. "First, we need to understand the genetic, epigenetic, and microbiome predisposition for each individual. Then, based on the mechanisms involved, we could provide the right advice to overcome that predisposition. Can we do it today? Not entirely, but we are making good progress."

Lifestyle choices can help you take control of your genes. First, aim for a high-quality diet that emphasizes fruits, vegetables, whole grains, nuts, legumes, plant oils, fish/seafood, and probiotic yogurt and limits intake of sugar-sweetened beverages, alcohol, red and processed meats, and sodium. Second, move more. "People with a genetic tendency to gain weight may need more willpower, more coaching, and soon more personalized advice, but obesity can be overcome," says Ordovás. "The benefits will not only be cosmetic but also will contribute to healthy aging and a more active life."

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PUMPKIN

Is anything more fall-like than a pumpkin? These famously orange winter squashes are chock-full of vitamin A and deliver 3 grams of fiber per 1/2-cup serving of cooked sugar pumpkin, plus potassium. Note that the pumpkins you carve into jack-o’-lanterns are not the same type of pumpkins you eat. Try pumpkin puree mixed into mac-and-cheese or with hummus for a seasonal spread. Looking for more options? Add pumpkin to pancake batter, oatmeal, smoothies or your kid’s favorite chili.

And don’t forget about roasting the seeds! Pumpkin seeds are a delicious and healthful snack and a source of several nutrients, including zinc, which is essential for many body processes including immune function.

To toast your pumpkin seeds, first rinse to remove pulp and strings. Spread seeds on a baking sheet that has been coated with cooking spray or drizzle a small amount of olive oil over seeds. Bake at 325°F for about 30 minutes or until lightly toasted. Stir occasionally during cooking. Take a look at your spice rack and try a seasoning on your toasted seeds such as garlic powder or Cajun seasoning.

APPLES

Apples pack a powerful nutrition punch and are a source of vitamin C and fiber — eat the skins for the full fiber benefits.

Sprinkle apple slices with ground cinnamon or pair with cheese or peanut butter for an easy snack. Don’t forget about dinner! Apples taste great when stewed and served with savory foods such as roasted pork.

OATS

Heart-healthy oats are loaded with fiber for slow-burning energy. The soluble fiber in oats also supports heart health.

Warm oatmeal is an affordable and filling breakfast. Top oatmeal with nuts such as walnuts or pecans, seeds such as ground flaxseed or pumpkin seeds and fruit such as pears or cranberries for even more fiber, vitamins and minerals.

BRUSSELS SPROUTS

They may be small, but Brussels sprouts are part of the powerhouse cruciferous veggie family. Each 1-cup serving of cooked Brussels sprouts provides 4 grams of fiber, is an excellent source of vitamins A, C, K and folate and a good source of iron. They even have some protein.

You can cut whole Brussels sprouts into kid-friendly quarters and toss with sea salt and olive oil and roast until crispy. If your kids are skeptical, serve the sprouts mixed with roasted sweet potato or butternut squash cubes. You also can shred them (or buy them pre-shredded) and sauté lightly in olive oil then toss with your kids’ favorite pasta or rice dish.

Fall Foods FOR YOUR FAMILY

For many, fall means new classes, new activities and sports, new schedules and a shift to colder weather foods. Regardless of age, having the right fuel is key to helping kids function at their best.

Summer’s bounty of tomatoes and peaches may be over, but harvest season has its own advantages such as an abundance of the following delicious fall foods. Here are some simple, kid-friendly ways to add them to your family’s meals.
UNDERSTANDING OSTEOPOROSIS

Osteoporosis is a disease that consists of weakened bones and increased fracture risk. It's sometimes called a "silent disease" with few, if any, noticeable changes to your health to indicate you have it. In fact, the first indication of osteoporosis often is when a bone breaks. Although it can strike at any age, osteoporosis mostly occurs in people over age 50. According to the National Osteoporosis Foundation, half of women and one in four men over the age of 50 will break a bone due to osteoporosis. Taking steps to build bone health while you are young can literally make or break what will happen to your bones as you age. However, at every age, a healthful diet and regular weight-bearing exercise are important, helping to ensure bone tissue continues to build.

Bone-Building Nutrients

Calcium, the major nutrient needed to form new bone cells, is vital for bone health. Bones store more than 99 percent of the calcium in your body. Some calcium-rich foods include milk, yogurt and cheese, and calcium-fortified soy milk and fruit juice. Other good sources include soybeans, dark green leafy vegetables and calcium-fortified tofu. Calcium needs change at different stages of life:

- Children ages 1 to 3 need at least 700 milligrams of calcium a day.
- Children ages 4 to 8 need at least 1,000 milligrams of calcium a day.
- Children ages 9 to 18 need at least 1,300 milligrams of calcium a day.
- Adults ages 19 to 50 need at least 1,000 milligrams of calcium a day.
- Women over age 50 and men over age 70 need at least 1,200 milligrams of calcium a day.

Calcium cannot build bones alone. It works with other nutrients including vitamin D, vitamin K, potassium and magnesium to increase bone density and strength.

Foods vs. Supplements

Supplements can't duplicate what foods offer naturally. If you are not able or prefer not to drink milk, make sure you’re eating plenty of non-dairy calcium-rich and calcium-fortified foods and beverages. Consult with your doctor about taking a calcium supplement with vitamin D, especially if you are a woman in menopause or post-menopause. A registered dietitian nutritionist can help you choose the best supplement for your bones and talk with your health care provider to determine if you may be at risk for osteoporosis.

Bone Health and Diet

Bones may seem dry and dull, but they are far from it. They are constantly under construction: certain cells break down bone tissue and other cells use the calcium and nutrients from foods you eat to build new bone. If you are not physically active or getting the nutrition you need, bones will suffer — becoming less dense, weaker and more likely to fracture.

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BENEFITS OF COFFEE

Wake up and smell the ... antioxidants?

If you think your morning cup of joe provides nothing more to your body than a jolt of caffeine, you might be pleasantly surprised to learn that your daily cup may provide some additional benefits as well. Drinking moderate amounts of coffee has been linked to lower risk of cardiovascular disease, Type 2 diabetes and Parkinson's disease.

And those antioxidants? Although researchers have yet to determine the exact mechanisms behind some of the disease-preventing effects, it is important to keep in mind that these compounds may be exerting other beneficial effects, such as acting as an anti-inflammatory. Coffee also contains small amounts of some nutrients, including potassium, niacin and magnesium.

Making your coffee a vehicle for fat-free or low-fat milk is one way to increase your daily calcium and vitamin D intake. If your diet does not include dairy, a fortified soy beverage is a calcium-rich alternative. Just be mindful if adding sweetener, since coffee drinks can be a source of added sugars.

So how much java is too much? Three to five 8-ounce cups of coffee provide about 400 milligrams of caffeine, which is the most that is recommended per day for healthy adults. Certain groups, such as people with hypertension and the elderly, may be at a higher risk for negative side effects of caffeine and so should consider limiting their intake. Pregnant and breastfeeding women will also want to limit caffeine and should discuss their intake with a health care provider. Due to coffee being a stimulant, it is not recommended for children and adolescents.