The BODY BOOK

The Law of Hunger, the Science of Strength, and Other Ways to Love Your Amazing Body

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THE PAST CENTURY IN AMERICAN EATING

A hundred years ago, the United States was not a place where you could expect to find tacos and Chinese food and pizza in every town (the first pizzeria in New York City opened around 1905). In fact, you probably wouldn't have been able to find any of them. What you would have found were a few small restaurants owned by locals, offering foods prepared in local ways with local ingredients. No fast-food chains, no food courts, no thirty-minute pizza delivery.

It was also just a century ago that technology allowed companies to begin to mass-manufacture foods. Around 1910, advertisers began to encourage housewives to stop baking their own bread and save time with store-bought loaves. In the 1930s, the modern kitchen, which let people store food for longer and cook food without as much hassle, made convenience even more of an option. That same decade, Kraft introduced instant, ready-mix mac and cheese, and Nescafé came out with instant coffee. In the '50s, TV dinners replaced family meals around the table, and in the '60s, the same decade that put fondue on the map also introduced Pop-Tarts, Weight Watchers, and diet shakes. See how that works? More convenience foods, less wholesome food, and suddenly everybody needs to go on a diet.

Over the next decades, Americans started eating more and more processed foods and fad-dieting like crazy. Sound familiar? Thankfully, over the past few years, there have been some wise voices rising up to tell us the truth about how processed foods worsen our health, and why whole foods are essential for our health.

1900s:

The first affordable car. The first speed limits. Shorter skirts. Karo Corn Syrup. Tuna in cans. Electricity in urban areas. Tea bags. Hershey's Kisses. New York gets its first pizzeria. Cornflakes. MSG.

1910s:

Cocktail parties. Suffragettes. Fleischmann Co. launches a national advertising campaign for bakery bread. Campbell's promotes its soups as recipe ingredients. Oreos. Marshmallow Fluff. Hostess cupcakes.

1920s:

Prohibition. Flappers. The "cigarette" diet. Kool-Aid. Good Humor ice cream. Girl Scout cookies. Popsicles. Wheaties. Velveeta cheese. Birds Eye frozen foods. Mike and Ike. Pez. Gerber canned baby food. Twizzlers.

1930s:

The Depression. The modern kitchen, including refrigerator and stove, is introduced to American housewives. Wonder Bread (sliced). Hostess Twinkies. Skippy peanut butter. Nestlé Toll House Chocolate Chip Cookies. Carvel ice cream. Kraft mac and cheese. Nescafé. Spam.

1940s:

Rationing. Victory gardens. M&M's. Cheerios. Seedless watermelon. Kraft grated Parmesan cheese. Pillsbury pie-crust mix. Frozen french fries. French's instant potatoes. Reddi-Wip. Minute Rice. Kraft sliced American cheese.

1950s:

Rosa Parks. The Cold War. Barbie dolls. Barbecues. TV dinners. Ranch dressing. Instant ramen. Pizza Hut. Duncan Hines cake mixes. Sweet'N Low. Cabbage-soup diet. Grapefruit diet. The first diet soft drink: No-Cal ginger ale.

1960s:

Gloria Steinem. Martin Luther King. Sit-ins. Bell bottoms. Julia Child. Fondue. Casseroles. Single-serving ketchup packets. Tang. Carnation instant breakfast. Pop-Tarts. High-fructose corn syrup. Weight Watchers. Knudsen Diet 25, the original diet shake.

1970s:

Rubik's Cube. Station wagons. Hamburger Helper. Snapple. Egg McMuffins. Alice Waters opens Chez Panisse. Starbucks. Pop Rocks. Perrier water. Recyclable soda bottles. Ben & Jerry's homemade ice cream. Cookie Crisp. Cookie diet. Beauty diet. Scarsdale diet.

1980s:

Fluorescent jeans. Acid-wash jeans. Portobello mushrooms. Gardenburgers. Red Bull. Pop Secret microwave popcorn. Jell-O Pudding Pops. Beverly Hills diet. Oat bran. The Olive Garden. Fruit Roll-Ups. Healthy Choice frozen dinners.

1990s:

Light-up sneakers. *Beverly Hills, 90210*. McDonald's McLean Deluxe. Lay's baked potato crisps. Fat-free Pringles. Fat-free ice cream. Snackwell's. Slow food. Whole Foods goes national. Artisan breads. Stuffed-crust pizza. Deep-fried Mars bars.

2000s:

Heinz Funky Purple EZ Squirt (colored ketchup in a tube). McDonald's premium salads. Philadelphia to-go bagel and cream cheese. Farmer's markets. Michael Pollan. Milk-and-cereal bars. Pinkberry. Turkey Spam. South Beach diet. Low-carb diets. Grass-fed beef, free-range chicken, and organic produce.

2010s:

Kale. Quinoa. Greek yogurt. Food trucks. Vitamin Water Zero. Salads that contain more than a thousand calories served at Applebee's, T.G.I. Friday's, and California Pizza Kitchen. Trop50 reduced-calorie orange juice. Bacon chocolate. Cake pops. Mini-cupcakes. Posting calories in food chains. Gluten-free diets. Veganism. Juicing.

HOW SUNLIGHT BECOMES ENERGY

Have you ever wondered where carbs come from? Carbohydrates, the basic energy in plant food, are a combination of carbon dioxide, water, and sunlight. As you may know, here on planet Earth, the air is a pleasant, life-supporting mix of nitrogen (four fifths), oxygen (one fifth), a bit of carbon dioxide, and a few other gases. In order to make energy for themselves, plants use their leaves to absorb carbon dioxide (CO_2) from the air and their roots to absorb water (H_2O) from the soil. When those carbon dioxide and water molecules reach the surfaces of leaves and flowers, they are exposed to the light of the sun. That sun exposure causes a chemical reaction that breaks CO_2 and H_2O down to their most basic parts and reassembles them as carbohydrates, beginning with the simple sugar known as glucose.

CARBOHYDRATES offer **4 CALORIES** per gram

PROTEINS offer **4 CALORIES** per gram

FATS offer **9 CALORIES** per gram

SAY NO TO LOW

Over the past few decades of diet and weight-loss crazes, each of the macronutrients has been subjected to smear campaigns. First, in the 1980s, people turned against fat, claiming that it was causing disease and weight gain. Do you remember all of those fat-free snacks on the market? Cookies, ice cream, crackers, even fat-free cheese, for goodness' sake. Well, nothing's for free, baby.

When they took out the fat, they replaced it with sugar, which just made people fat. Not to mention that fats (whole-food, healthy fats) are actually *good for you*. Then carbs took it on the chin, and everyone went on a low-carb diet (which, ironically, tended to be a high-fat diet), forgetting that complex carbs and whole grains like brown rice or quinoa are not the same carbs you'll find in chips or pizza. Most recently there's been a trend toward cutting out all animal protein, which again, is healthy in moderate amounts (and a nice piece of wild salmon is a very different source of protein than my old drive-thru standbys).

These trends have been confusing, and they've also been dangerous for our bodies and minds. By the age of thirty, most of us have absorbed enough misinformation that we're not sure what to believe anymore. Let's face it: if diet trends were effective, we'd all be eating fat-free, low-carb cookies in our bikinis instead of throwing money away on one diet program after another. It's time to relearn our basic biology.

VEG-FRIENDLY NUTRITION

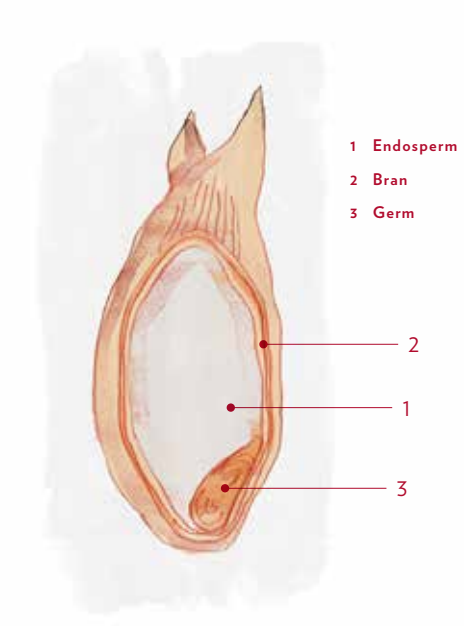
Vegetarians get their energy from plants only. There are many reasons why people might opt for a veg diet, whether they love cows too much to eat them or just really, really love the taste of vegetables. They may believe it's better for their health, better for their souls, better for the planet, or better for their wallets.

Within the meatless kingdom, there is more than one eating style.

- Some people eat dairy and eggs along with their fruit and vegetables (lacto-ovo-vegetarians).
- Some eat dairy, not eggs (lacto-vegetarians).
- Some eat eggs, but no dairy (ovo-vegetarians).
- Some eat plants, abstaining from any product that has been derived from an animal, including eggs, dairy, and honey (vegans).

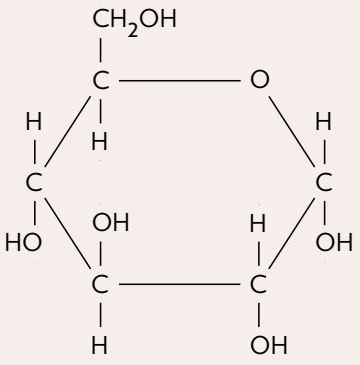
I definitely advise befriending a vegetarian. Seriously, some vegetarians have developed a real knack for turning garden-fresh produce into delectable, satisfying, I'd-have-thirds-if-I-wasn't-already-so-full kind of meals. As a chicken and meat eater who loves my vegetables, I find that my vegetarian friends often introduce me to new varieties of veggies and show me amazing ways to cook and prepare them.

In the end, whether you are dabbling in vegetarianism or you've been eating that way for decades, you still face the same challenges as everybody else: making sure you consume a variety of whole foods to provide your body with the nutrients it needs.

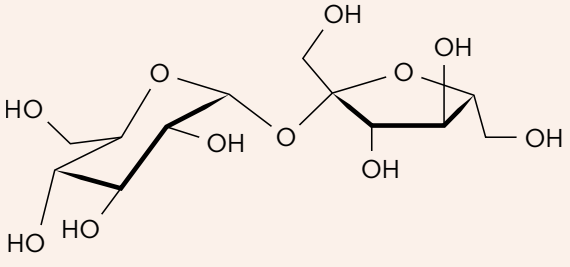


Simple carbs are made of one or two sugar molecules.
Complex carbs are linked chains of three or more.

SIMPLE CARB



COMPLEX CARB



THESE ARE A FEW OF MY FAVORITE CARBS . . .

There are so many delicious complex-carb choices out there. Here's a short list of the ones that you can always find in my kitchen and on my plate!

FRUIT	VEGETABLES	GRAINS	BEANS	PASTA
grapefruit	kale	quinoa	chickpeas	brown rice pasta
tomatoes	spinach	brown rice	black beans	couscous
apples	sweet potatoes	steel-cut oatmeal	lentils	quinoa pasta
			pinto beans	

UNHAPPY MEALS

The texture of frozen food is better preserved if there isn't much fiber in the food. Fast-food manufacturers make sure their frozen fries, patties, buns, everything—are low in fiber so that their unhappy meals taste exactly the same, every time.

ENZYMES are proteins that help your body build molecules and break down molecules. Enzymes are used for processes like digestion—and, according to *Gulp* by Mary Roach, can also be found in laundry detergents, because they "digest" food stains to remove them!

THE TWO TYPES OF FIBER

INSOLUBLE FIBER

- **Also known as:** cellulose, hemicellulose.
- **Where it's found:** whole grains, like oats and barley and wheat; seeds and nuts; vegetables, like zucchini and celery; fruit, like grapes and raisins.
- **What it does:** Because insoluble fiber cannot be digested by the body, it helps move food and waste through your digestive system (like a loofah for your insides). I remember hearing once that broccoli was nature's broom. This always makes me chuckle, because it's true! As your body processes food down into nutrients, it can use the fibrous broccoli tops that aren't digested to sweep out the rest of the waste in your colon. Kind of awesome!

SOLUBLE FIBER

- **Also known as:** pectin, "gums," mucilage, psyllium, and lignins.
- **Where it's found:** grains, like oats; legumes, like lentils and beans; fruits, like apples and oranges; vegetables, like cucumbers and carrots.
- **What it does:** Soluble fiber is absorbed in your body and slows digestion for maximum nutrient absorption. If and when you get bloated or gassy after eating a high-fiber meal, it's because the bacteria in your system are turning the soluble fiber into gas.

TO GLUTEN OR NOT TO GLUTEN

That basket of warm, fluffy bread on the table has become a hot dinner-party topic these days. Many people are passing on it not because of a fear of carbs, but because of concerns about gluten. So what is gluten, exactly?

Gluten is Latin for "glue," and it's a protein found in wheat and other grains that gives bread its chewy texture. According to the Whole Grains Council, all wheat contains gluten, including spelt, kamut, faro, durum, bulgur, and semolina, as well as barley, rye, and triticale. Grains that don't contain gluten include amaranth, buckwheat, corn, millet, oats, quinoa, and rice.

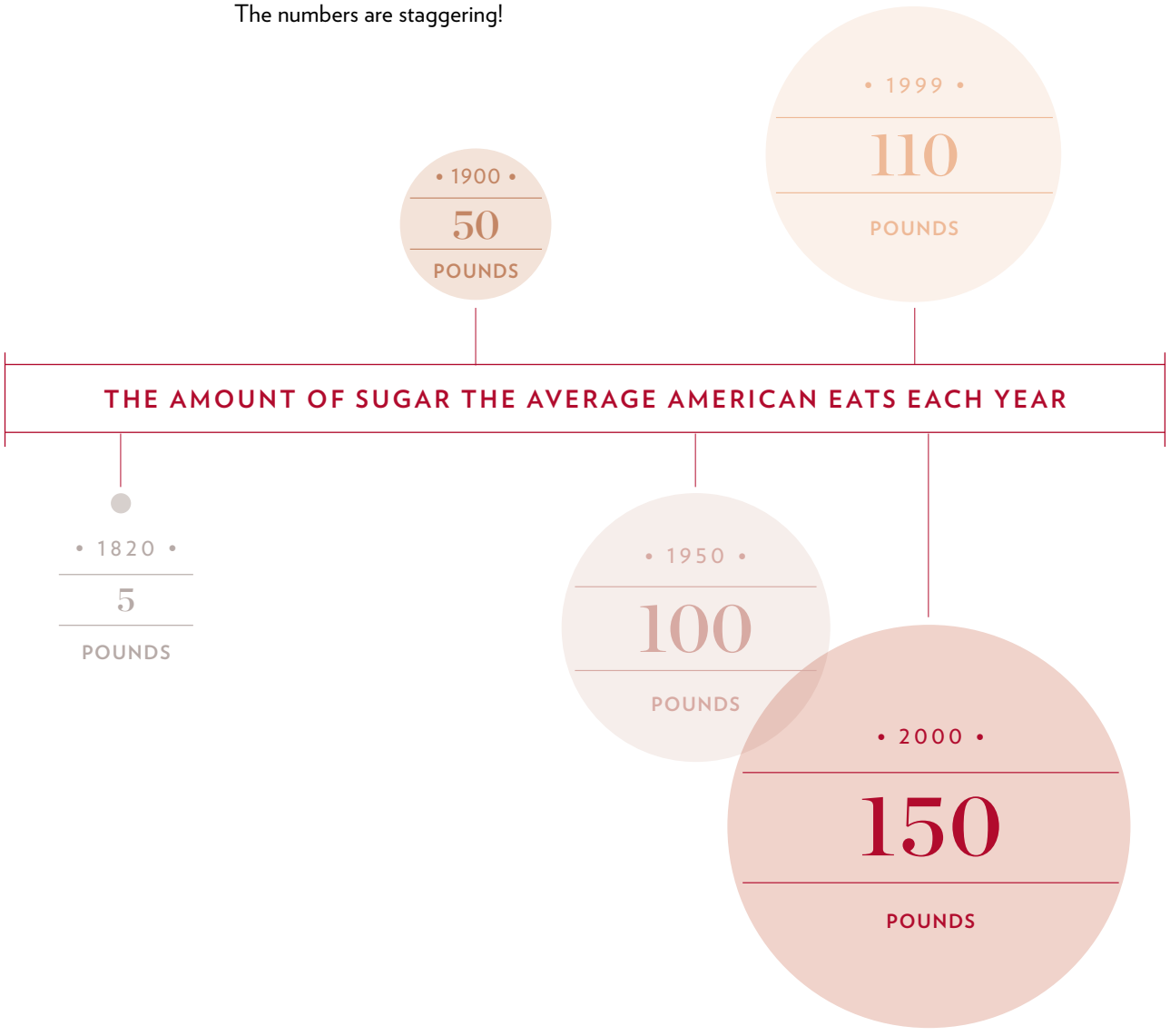
Some people avoid gluten because of its link to chronic inflammation (see page 52), while others skip it due to gluten sensitivities or an intolerance called celiac disease. A gluten allergy can cause anything from indigestion to rashes, depression, and joint pain. The National Foundation for Celiac Awareness says that while 3 million Americans have the disease, only 5 percent are diagnosed. If you think you may have a sensitivity, talk to your physician.

THE RELATIONSHIP BETWEEN INSULIN AND SUGAR

Insulin is a hormone that helps deliver glucose to your cells. As sugar enters your bloodstream from the food you eat, your pancreas secretes insulin, which regulates your blood sugar by transporting the glucose out of your blood and into your cells. When you eat a lot of sugar, your pancreas is forced to go into overdrive, producing high levels of insulin to compensate. If you regularly eat a lot of sugar, this elevated level of insulin over time can lead to a condition known as *insulin resistance*. When you become insulin resistant, your cells are less responsive to the presence of insulin; as a result, they need more insulin to absorb glucose from your blood. So your pancreas pumps out even *more* insulin, again and again. Insulin resistance has been linked to the development of heart disease and is a precursor of type 2 diabetes.

Over the past two hundred years, Americans have fallen hard for sugar. And the results are killing us. Eating added sugars makes you gain weight. It triggers your body to store fat in your belly. It bypasses your natural hormonal "I'm full" system and prompts you to overeat. It tricks your brain into thinking you are hungry for MORE. And it leads to obesity, heart disease, and diabetes.

The numbers are staggering!



HOW SWEET IT ISN'T

We've all seen the brightly colored packets of not-sugar near actual sugar at the coffee shop. If you're getting rid of your sugar habit, don't add another habit by swapping sugar for these nonnutritive (meaning, *no nutrition*) sweeteners. Just don't go there. Nonnutritive sweeteners, artificial sweeteners, and low-calorie sweeteners are often added to foods like diet soda, light yogurt, sugar-free pudding, and sugar-free candy to increase the sweetness without adding calories.

I say, don't eat them. Training your taste buds to appreciate the delicate sweet flavors of natural fruits is the way to keep your body healthy and enjoy your food. And besides, those sweeteners admit what they really are: ARTIFICIAL sweeteners. They're faking it. Because they contain a bunch of chemicals that may have originated in nature long ago but are no longer being used in the way nature intended. If you really need to have something sweet and fruit just won't satisfy, I'd rather see you use plain refined sugar than those man-made fakes.

THE DANGERS OF INFLAMMATION

Perhaps you've heard people talking about inflammation and how dangerous it is for your long-term health. Well, there are two kinds of inflammation—one that is helpful to your body, and one that is damaging and dangerous. Acute inflammation pops up when you cut yourself or get a sore throat—the resulting swelling is an example of inflammation, the lifesaving response your immune system triggers to protect you. Your immune system is like your body's security force. When it senses the presence of an intruder, it sends an army of white blood cells to a specific area to protect you from harm. That protective inflammatory response ensures that your little paper cut doesn't become an infected wound.

The other kind of inflammation is chronic inflammation, and some doctors believe that it creates an environment in which diseases—from the obesity, diabetes, and heart-disease gang we keep talking about to illnesses like depression and cancer—can thrive. Chronic inflammation is linked to eating processed foods, added sugars, and not getting enough exercise.

Regular physical activity of moderate intensity can strengthen your immune system, protecting you against colds and other infections. Intense physical activity can sometimes stimulate an immune response, which can contribute to chronic inflammation (we'll talk more about this in Chapter 20). How can you protect yourself against chronic inflammation?

- **Get off the couch.** Being sedentary—especially for women—has been found to increase biomarkers (molecules whose presence indicates the likelihood of developing various diseases) for inflammation.
- **Increase your consumption of fruits and veggies,** especially those rich in vitamin C and beta-carotene. These antioxidant-rich nutrients may help your body minimize the stress response.
- **Increase your consumption of omega-3 fatty acids.** Include fish in your diet a couple of times a week. Add some walnuts to your oatmeal at breakfast. Put a few slices of avocado on a salad at lunchtime.
- **Get enough sleep.** Lack of sleep may be associated with more inflammation. Aim for seven to nine hours per night.
- **Avoid excess body weight, especially around your abdomen.** Tummy fat is linked more closely with excess inflammation than other kinds of body fat.
- **Revise your workouts during stressful times.** High-intensity workouts of long duration may be counterproductive and result in overtraining, characterized by lots of inflammation. Moderate-intensity workouts, such as riding your bike for an hour, may be better and actually help control inflammation.
- **Maintain a positive outlook!** Reducing stress levels is also an important part of preventing inflammation.

Be aware that food manufacturers often try to conceal just how much sugar you're eating by using many different kinds of sugars so that it's less obvious that the main ingredient is actually SUGAR.

Here are a few variations to look out for:

agave nectar
brown sugar
cane crystals
cane sugar
corn sweetener
corn syrup
crystalline fructose
dextrose
evaporated cane juice
fructose
fruit juice concentrates
glucose
high-fructose corn syrup
honey
invert sugar
lactose
maltose
malt syrup
molasses
raw sugar
sucrose
syrup

HOW ADDED SUGAR ADDS UP

It's typically a good idea to choose healthful-sounding foods like salads, fruit, and yogurt. But you've also got to make sure that these foods don't just *sound* healthy. Added sugars can turn something that is wholesome into something that isn't. For instance, plain yogurt naturally has seventeen grams of sugar, which is okay, because that sugar comes from lactose, which is a naturally occurring sugar. But when you get the fruit-added yogurt, which almost always means sugar added, you can get up to forty-seven grams of sugar—which is thirty grams of ADDED sugar. If you have plain yogurt with a handful of blueberries, you get your yogurt, your fruit, your sweet treat with no added sugar—and everybody is happy. Here are a few more examples of how added sugar adds up.

TYPE OF FOOD	WHOLE FOOD VERSION	WITH ADDED SUGAR
Salad dressing (1 tbsp)	Oil and vinegar 0.5 g	Thousand Island 2.5 g
Yogurt (1 cup)	Plain 17 g	Fruit on the bottom 47 g
Liquid refreshment (1 cup)	Plain water 0 g	Gatorade 13 g
Instant oatmeal (1 packet)	Plain 0.5 g	Raisin & Spice 15 g
Peanut butter (2 tbsp)	Natural 2 g	Skippy super chunk 4 g

PROTEIN FOR PLANTS

Plants need protein too. Plant protein requires nitrogen, which plants must absorb from the soil. (Even though four fifths of the air on this planet is nitrogen, plants can't absorb nitrogen from the air.) And protein is very important for plants, in part because it helps give their stems structural support so they can lean toward the sunlight and can get their glucose fix!

THE SKINNY ON SUPPLEMENTS

Protein supplements may be trendy with athletes who are looking to build and repair muscle quickly, but most healthy individuals—even vegetarians!—don't need to supplement with protein. Kathleen Woolf, a professor at NYU's Steinhardt School of Nutrition, advises women to eat protein steadily throughout the day. "If you're eating a variety of protein- rich foods, it is not likely that you'll need an additional supplement," she says.

IF YOU ARE LIGHTLY ACTIVE

If your fitness habit includes two half-hour runs every week, plus an hour of yoga and half an hour of weights, for a total of two and a half hours over the course of the week, you can consider yourself to be lightly active. Whether you do five thirty-minute sessions or three fifty-minute sessions, lightly active means that you work out for around two and a half hours over the course of a week.

YOUR WEIGHT	YOUR DAILY PROTEIN REQUIREMENT
100 lb	36 g
115 lb	42 g
130 lb	47 g
145 lb	53 g
160 lb	58 g
175 lb	64 g

IF YOU ARE VERY ACTIVE

Very active means that you train for around five hours over the course of a week. That can be five one-hour sessions or six fifty-minute sessions, but remember: the harder you train, the more strength training you do, the more protein you will need to include in your meals.

That's why the numbers below aren't hard and fast. If you are doing serious training, talk with your coach and your doctor about what your body needs.

YOUR WEIGHT	YOUR PROTEIN REQUIREMENT
100 lb	55–77 g
115 lb	63–89 g
130 lb	71–100 g
145 lb	79–112 g
160 lb	87–124 g
175 lb	95–135 g

FOOD	SERVING SIZE	PROTEIN
turkey breast	3 ounces	26 g
salmon	3 ounces	22 g
chicken, without the skin	3 ounces	21 g
ground beef	3 ounces	21 g
tuna	3 ounces	20 g
cottage cheese, low fat	½ cup	13 g
edamame, frozen	1 cup	12 g
Greek yogurt	⅔ cup	11 g
meatless burger, vegetable- or soy-based	1 patty (70 g)	11 g
tofu	½ cup	10 g
lentils, cooked	½ cup	9 g
raw almonds	¼ cup	7 g
low-fat (1%) milk	1 cup	8 g
peanut butter	2 tablespoons	8 g
cheese (Cheddar, Colby, Brie, blue, Monterey Jack, and Swiss)	1 ounce	7 g
pasta, cooked	1 cup	7 g
black beans, cooked	½ cup	7 g
egg	1 large	6 g
frankfurter, beef	1	6 g
quinoa, cooked	½ cup	4 g
broccoli, cooked	½ cup	3 g
rice, white or brown, cooked	½ cup	3 g
couscous, cooked	½ cup	3 g
whole-grain bread	1 slice (1 ounce)	3 g
oatmeal, cooked	½ cup	3 g

AN INTERNATIONAL AMINO BUFFET

Cultures throughout the United States and around the globe have been pairing up delicious combinations of plant-based proteins and grains for centuries. Call it nutritional intuition . . . but these simple combinations are a great way to maximize the benefits of plant-based proteins.

- **Tacos:** Mexican food combines corn tortillas with beans
- **Succotash:** Native Americans paired corn with beans
- **Sushi:** The Japanese pair rice with soy
- **Peanut stew:** West African cuisine incorporates rice and peanuts
- **Cajun red beans and rice:** The official Monday dish in New Orleans restaurants
- **Dal:** Indian lentils served over rice
- **Chana masala:** Indian chickpea dish eaten with rice
- **Mujadara:** Syrian lentil and rice stew
- **Gallo pinto:** rice and beans breakfast dish eaten in Costa Rica

THE INCREDIBLE EDIBLE PROTEIN

Personally, eggs are one of my favorite sources of protein.

A lot of people are nervous about eating too many eggs because they've been told that eggs are high in cholesterol. Well, here's a fact: The egg **white** is pure protein. The egg yolk contains fat (and some cholesterol) as well as all of the nutrition. I mean, think about it: if that yolk became a baby chick, nutrition is what helps it grow from a cell into a chicken. As long as your doctor hasn't advised you to cut back on eggs because you have high cholesterol, don't fear this inexpensive and easy-to-prepare protein! If you're already an egg eater, just be sure to mix in some egg whites so you're not eating too many yolks.

When I'm craving an omelet, for every three eggs, I use one yolk. That way, I get the flavor and nutrition from the yolk and an extra dose of protein. Add a little kale and Parmesan, with a side of quinoa . . . yum. The perfect protein-packed lunch or dinner!

A SPOONFUL OF FAT HELPS THE VITAMINS GO DOWN

When we eat vitamins from plants and animals, our bodies have different ways of absorbing and using them. Some vitamins are **water soluble**, which means that they dissolve in water, and the body doesn't hold on to them for very long. B-complex vitamins and C vitamins are examples of water-soluble vitamins.

Other vitamins are **fat soluble**, which means that they can be dissolved and absorbed by the body only in the presence of fat. Think olive oil on arugula or fresh mozzarella with tomatoes. Fat-soluble vitamins can be stored for weeks or months. Vitamins A, D, E, and K are fat soluble.

OMEGA-3s FOR VEGETARIANS

Omega-3s comprise 3 kinds of fatty acids: ALA (alphalinoleic acid), EPA (eicosapentaenoic acid), and DHA (docosahexaenoic acid).

- Fatty fish and fish-oil products provide EPA and DHA, but these sources may not be appropriate for a vegan or an ovo-lacto vegetarian.
- Ground flaxseed, walnuts, soybeans, soy oil, canola oil, and marine algae are all examples of plant-based sources of omega-3s.

As with essential amino acids, our bodies cannot produce these essential fatty acids and we cannot live without them, so we must get them from our food sources.

WHAT YOU HAVE IN COMMON WITH PLANTS

Just like our bodies store sugar as carbs and fats, plants store extra glucose as starches and fats. Think of sweet vegetables, like carrots and beets—that sweetness comes from the stored sugar. On the other side of the spectrum, there are creamy avocados and coconuts—examples of plants storing extra energy as fats.

SURPRISING SOURCES OF CALCIUM

When people think of getting enough calcium, they usually turn to dairy foods. But dark green leafy vegetables (broccoli, kale, bok choy, turnip and collard greens) and other nondairy foods also offer a nice dose of calcium as well. So instead of a glass of milk, how about . . .

- soy milk, one cup: 300 mg (as much calcium as cow's milk!)
- soybeans, one cup, cooked: 261 mg
- broccoli, one cup, cooked: 180 mg
- white beans, ½ cup, cooked: 100 mg
- kale, one cup, raw: 90 mg
- almonds, one ounce: 80 mg

THE BONE BUILDERS

NUTRIENT	WHAT IT DOES . . .	THE MAGIC NUMBER [a,b,c,d]	WHAT DEFICIENCY LOOKS LIKE	WHERE YOU GET IT
CALCIUM PHOSPHORUS	Bone structure Muscle contraction Blood clotting Nerve impulse transmission Secretion of hormones	1000 mg/day but not more than 2500 mg/day	Stunted growth (childhood); reduced bone mass (adults); osteoporosis (in advanced age)	Milk and milk products, green vegetables, legumes, tofu, fish (with bones)
MAGNESIUM	Structure of bone and teeth pH balance in the body Energy reactions Helps form cell membranes and genetic material	700 mg/day but not more than 4000 mg/day	Muscle weakness, bone pain; rarely occurs from poor diet; can occur with alcohol abuse and medications that bind phosphorus	Meat, fish, poultry, eggs, milk and milk products
VITAMIN D	Structure of bone and teeth Helps the body make proteins Muscle contraction Blood clotting	310 mg/day but not more than 350 mg/day[e]	Muscle weakness, confusion, stunted growth in children	Green leafy vegetables, whole grains, nuts, seeds, seafood, beans, chocolate, cocoa
	Healthy bones Regulates blood calcium levels Serotonin production	15 µg/day but not more than 100 µg /day	Rickets in children (weak bones, bowed legs), osteomalacia in adults (soft, brittle bones)	Fortified milk, eggs, butter, fatty fish (salmon, sardines, herring), synthesized in the body after exposure to sunlight

[a] Dietary Reference Intakes for women 19–30 years.

[b] RDA = Recommended Dietary Allowances (the average daily intake level sufficient to meet requirements in the body).

[c] AI = Adequate Intake (provided instead of an RDA when scientific evidence is not available).

[d] UL = Tolerable Upper Intake Level (the maximum daily intake level unlikely to cause adverse health effects).

[e] The UL for magnesium applies only to intake from dietary supplements or pharmacological supplements and does not include intake from food and water.

VITAMIN HAPPY

Moods are sometimes related to micronutrients. For instance, vitamin D plays a role in the production of serotonin, a hormone that promotes positive feelings in our brains. A deficiency of D is associated with lousy moods and lack of energy, which means that not getting enough vitamin D means not getting enough happy.

Lucky humans, we can eat our vitamin D—or get it from the sunshine. While we can't get our energy directly from the sun's glittering rays, we can get our daily dose of D, because our bodies can make vitamin D from sunlight. A quick jog outside in the morning, and I've not only recharged and gotten to sweat, I've gotten some vitamin D, too!

The same way that plants use light to create their fuel via photosynthesis, your skin uses the light of the sun to photosynthesize vitamin D. At midday in the summertime, it takes only twenty minutes of sun exposure for the body to make 20,000 IU (international units) of vitamin D . . . and when you consider that the recommended daily allowance for people under the age of fifty is 200 IU, it's clear that the sun is an effective supplier (as long as it's not raining).

You can eat your vitamin D too, of course, just in case you're trapped in a monsoon. Foods like fortified milk, eggs, butter, and fatty fish are all great sources of vitamin D. If you suspect you're not getting enough D, your doctor can give you a simple test. And if you have trouble fitting in enough time in the sun or D-centric foods, you can also take a supplement.

But remember, once you've soaked up your dose of D, you've got to protect your skin. Be sure to apply sunscreen on all exposed parts of your body if you plan to be in the sun longer than twenty minutes.

VEGETARIANS: PUMPING IRON

If you are a vegetarian, you should be consuming almost double the recommended daily intake of iron to prevent a deficiency. The best plant sources of iron include legumes; soybeans; tofu; nuts; dried fruit, like apricots; dark green leafy vegetables, like spinach, collard greens, kale, and turnip greens; and fortified cereals. But veggie lovers have to take extra precautions. The body isn't that great at absorbing iron from plant sources, but vitamin C helps with that process. So squeeze some lemon juice on your steamed kale, make a beautiful salad with spinach and strawberries, or top your tofu with stewed tomatoes. Always try to pair your iron with a vitamin C–rich food for maximum nutritional benefit.

Getting enough B_{12} can also be a struggle for vegetarians, because it is found only in animal products. Vitamin B_{12} is responsible for some very important functions, like maintaining your nerve tissue; if you go without it for too long, you can ultimately damage your nervous system. Vegetarians should look for B_{12}-fortified products, like cereals and nutritional yeast, and may want to consider supplementation as well. Your doctor can also give you a B_{12} shot.

THE BLOOD FORMERS

NUTRIENT	WHAT IT DOES . . .	THE MAGIC NUMBER [a,b,c,d]	WHERE YOU GET IT	WHAT DEFICIENCY LOOKS LIKE
FOLATE	DNA and red blood cells Amino acid metabolism	400 µg/day but not more than 1000 µg /day[e]	Leafy green vegetables, citrus fruits/juices, organ meats, legumes, seeds, fortified cereals and grains	Anemia, weakness, fatigue, headache, difficulty concentrating, sores in mouth and on the tongue, increased risk of giving birth to an infant with a neural tube defect
VITAMIN B_{12}	Helps you use folate properly Fat and amino acid breakdown Helps maintain nerve tissue	2.4 µg/day	Meat, fish, poultry, milk, fortified cereals and grains; found only in animal products	Anemia, fatigue, impaired short-term memory, nerve damage leading to paralysis
IRON	Forms hemoglobin, the oxygen-carrying protein of the red blood cells Forms myoglobin, the oxygen-carrying protein of muscle	18 mg/day but not more than 45 mg/day	Meat, fish, poultry, whole grains, eggs, legumes, dried fruits, fortified cereals and grains	Anemia, weakness, fatigue, headache, pale skin, poor resistance to cold temperatures, decreased ability to exercise, poor cognitive function
COPPER	Helps your body use iron Defends the body from unstable molecules	900 µg/day but not more than 10,000 µg /day	Organ meats, seafood, nuts, seeds, whole grains	Anemia, bone abnormalities

[a] Dietary Reference Intakes for women 19–50 years.

[b] RDA = Recommended Dietary Allowances (the average daily intake level sufficient to meet requirements in the body).

[c] AI = Adequate Intake (provided instead of an RDA when scientific evidence is not available).

[d] UL = Tolerable Upper Intake Level (the maximum daily intake level unlikely to cause adverse health effects).

[e] The UL for folate applies only to synthetic forms obtained from vitamin supplements and fortified foods.

THE ANTIOXIDANT ARMY

NUTRIENT	WHAT IT DOES . . .	THE MAGIC NUMBER [a,b,c,d]	WHERE YOU GET IT	WHAT DEFICIENCY LOOKS LIKE
VITAMIN C	Helps make collagen Immune system support Helps you absorb iron	75 mg/day but not more than 2000 mg/day	Citrus fruits, dark green vegetables, potatoes, cantaloupe, strawberries, tomatoes	Scurvy (bleeding gums, pinpoint bleeding, abnormal bone growth, bone pain), poor wound healing, anemia, depression
VITAMIN E	Immune system booster Protects vitamin A and polyunsaturated fatty acids from oxidation	15 mg/day but not more than 1000 mg/day[e]	Vegetable oils, salad dressing, margarine, nuts, seeds, green leafy vegetables	Red blood cell breakage, anemia, nerve damage, muscle weakness, muscle degeneration, fibrocystic breast disease
SELENIUM	Protects cell membranes Immune system support Regulates thyroid function	55 µg/day but not more than 400 µg/day	Organ meats, seafood, whole grains, meat, vegetables	Keshan disease (a form of heart disease), Kashin-Beck disease (a form of arthritis), impaired immunity
VITAMIN A	Helps your eyes adjust to changes in light Reproduction Bone growth	700 µg/day[f] but not more than 3000 µg/day	Fortified milk, cheese, cream, butter, eggs, liver	Night blindness, impaired immune function, degeneration of cornea leading to blindness, hair loss
BETA-CAROTENE	Protects cell membranes Protects eyes Immune system support	No RDA for beta-carotene has been established	Spinach and other leafy greens, broccoli, carrots, apricots, cantaloupe, sweet potatoes, pumpkin	Not known

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[e] The UL for vitamin E (as α-tocopherol) applies only to synthetic forms obtained from dietary supplements, fortified foods, or a combination of both.

[f] As retinol activity equivalents (RAEs). 1 RAE = 1 µg retinol, 12 µg ß-carotene, 24 µg α-carotene, or 24 µg ß-cryptoxanthin.

THE ENERGY VITAMINS

NUTRIENT	WHAT IT DOES . . .	THE MAGIC NUMBER [a,b,c,d]	WHERE YOU GET IT	WHAT DEFICIENCY LOOKS LIKE
THIAMIN	Helps you get energy from carbs and proteins Helps your nerves send messages	1.1 mg/day	Whole-grain products, pork, ham, liver, dark green vegetables, nuts	Apathy, less short-term memory, confusion, irritability, muscle weakness, damage to heart tissue
RIBOFLAVIN	Helps you metabolize energy from food Helps you metabolize other vitamins (folate, vitamin B_6, niacin)	1.1 mg/day	Milk and dairy products, whole-grain products, organ meats	Inflammation of the mouth, skin, and eyes, sore throat, magenta tongue, cracks at the corner of the mouth
NIACIN	Helps turn carbs, fat, and alcohol into energy	14 mg/day but not more than 35 mg[e]	Brewer's yeast, meat, fish, poultry, mushrooms, nuts, legumes, whole grains	Pellagra: diarrhea, vomiting, depression, fatigue, rash on areas exposed to sunlight
VITAMIN B_6	Helps metabolize amino acids Helps your body break down glycogen	1.3 mg/day but not more than 100 mg	Animal foods, such as meats, fish, and poultry, fortified cereals and grains, noncitrus fruits, vegetables	Dermatitis, small-cell anemia, depression, confusion, convulsions

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[e] The UL for niacin applies only to synthetic forms obtained from vitamin supplements and fortified foods.

HOLD THE SODIUM

Seventy-seven percent of the average person's sodium intake comes from processed or restaurant foods.

THE HYDRATING ELECTROLYTES

NUTRIENT	WHAT IT DOES . . .	THE MAGIC NUMBER [a,b,c,d]	WHERE YOU GET IT	WHAT DEFICIENCY LOOKS LIKE
SODIUM	Keeps fluids in balance outside cells Helps nerves transmit information Muscle contraction	1500 mg/day but not more than 2300 mg/day	Table salt, soy sauce	Muscle cramps, headache, dizziness, fatigue, loss of appetite, mental apathy
POTASSIUM	Keeps fluids in balance inside cells Helps nerves transmit information Muscle contraction Good for blood pressure	4700 mg/day	Fruits, vegetables, meats, grains, legumes	Muscle weakness, confusion, loss of appetite
CHLORIDE	Plays a role in fluid balance Helps form stomach acid	2300 mg/day but not more than 3600 mg/ day	Table salt, soy sauce, meats, milks, eggs	Does not typically occur

[a] Dietary Reference Intakes for women 19–50 years.

[b] RDA = Recommended Dietary Allowances (the average daily intake level sufficient to meet requirements in the body).

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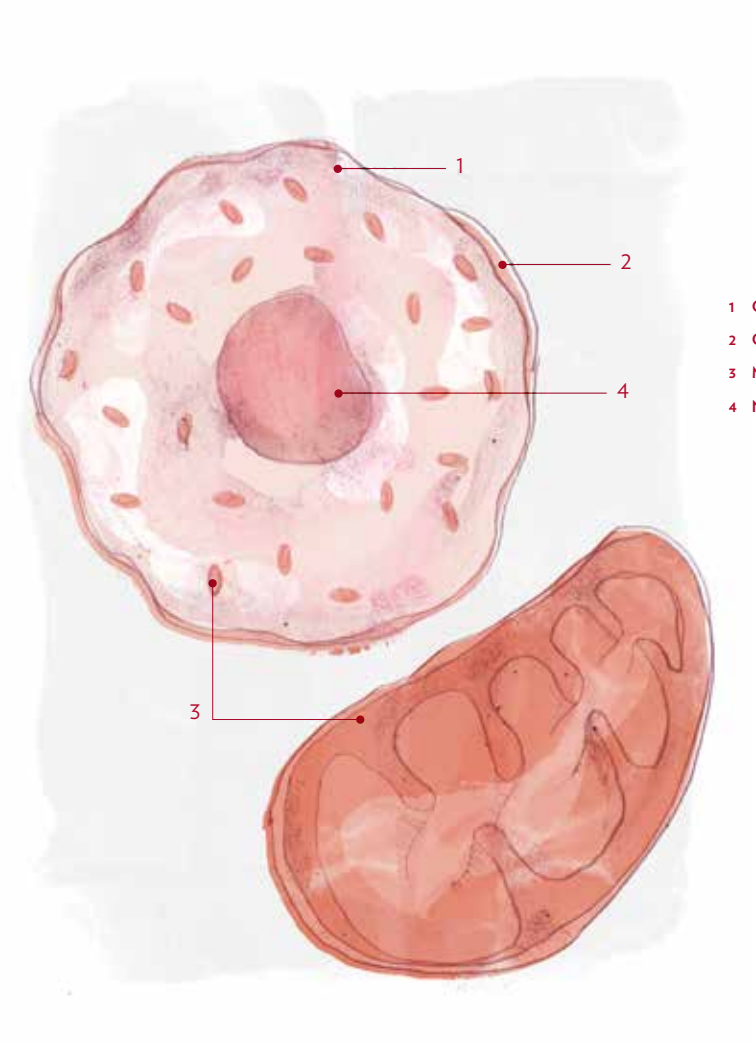
The following list is a handy cheat-sheet of foods that are high in vitamins, minerals, and phytochemicals. As a rule of thumb, the more colorful your plate, the bigger the range of nutrients

VEGETABLES		FRUIT	BEANS	NUTS AND SEEDS	WHOLE GRAINS
arugula	eggplant	apples	split peas	sunflower seeds	brown rice
asparagus	kale	blackberries	soybeans	walnuts	steel-cut oats
bok choy	mushrooms	blueberries	black beans	flaxseed	quinoa
broccoli	parsley	raspberries			
brussels sprouts	peppers	red grapefruit			
cauliflower	spinach	red grapes			
celery	squash	strawberries			
chili peppers	tomatoes	watermelon			
collard greens	watercress				
dandelion	zucchini				

MONITOR YOUR HYDRATION

- **Check your thirst:** Feeling thirsty doesn't just mean that you need water. It means you've needed it for a while. Thirst is your body's way of saying that it's been toooo long.
- **Check your pee:** What color is your pee when you wake up and throughout the day? Generally speaking, a pale yellow color means that you are well-hydrated. A dark yellow color and infrequent urination suggest dehydration.



1 Cell
2 Cell membrane
3 Mitochondrion
4 Nucleus

Humans fart an average of twenty- two times a day. Yes, even you.

THE COLOR TEST

The food you eat determines the size, color, consistency, and amount of your poop. Want proof? Eat a helping of beets and then pay attention the next few times you have a seat on the throne. Beets turn bowel movements a dark pink or red tone, so it's easy to see how long it takes for food to pass through your system.

COWS ON PENICILLIN

For the past few decades, many livestock producers have been giving low-grade doses of antibiotics to their cattle, because it prevents them from getting sick, but it also has the curious side effect of helping them to grow and gain weight faster. Now, scientists are researching why that happens—and how antibiotics and human obesity are related.

THE EVOLUTION OF TECHNOLOGY (OR, HOW WE STOPPED MOVING)

1950s:

American homes are fully electric now; many families have refrigerators, washing machines, coffee-makers, and vacuum cleaners. The Lazy Bones is invented—the world's first television remote control.

1960s:

Why go to a concert when you can listen to music with brand-new audiocassettes? Why play softball when computer games were just invented?

1970s:

Food prep gets easier with food processors. Movie watching gets easier with VCRs—instead of going to a theater, just hit play.

1980s:

Computers for everyone! IBM PC. Apple Macintosh. The first 3-D video game. High-definition television was invented.

1990s:

No need to ever go to a library again with the emergence of the World Wide Web. No need to go out to make new friends. And staying in to watch a movie gets even easier with DVDs and Web TV.

2000s:

Finally, everything we need without leaving the couch! Your iPod holds all your music. YouTube gives you access to videos. Robots vacuum the floor for you. The Web makes it possible to order all your meals, groceries, drugstore products, and clothing, without having to walk across a room. Instead of visiting friends, you can keep up with their every move via social media.

THE BENEFITS OF EXERTION

As little as thirty minutes of cardio three to five days a week can add years to your life. So if exertion is not a regular part of your life, you need to add it to your schedule. Just try it! If you don't have thirty minutes in the morning, aim for fifteen, and then move again for fifteen minutes in the evening. Or break it up into three bouts of ten. According to fitness and nutrition expert Kathleen Woolf, a professor at NYU's Steinhardt School of Nutrition, the benefits start immediately, and they keep on coming. . . .

WITHIN SECONDS OF EXERTING YOURSELF . . .

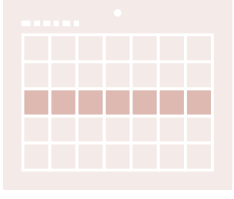
- Your heart rate increases.
- Blood is delivered to your muscles.
- You start burning carbs and fat for fuel.
- You get an almost immediate mood boost.
- You breathe faster and deeper, making more oxygen available to your working muscles.

AN HOUR LATER . . .

- You've strengthened your immune system.
- Your mood is still boosted.
- Your body continues to burn energy at a higher rate (your metabolism is increased).

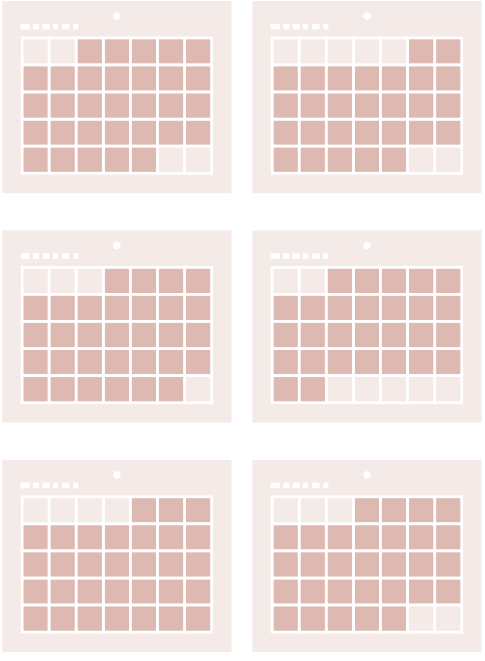
THAT EVENING . . .

- Your muscles are recovering and rebuilding.
- Your blood lipid (cholesterol, triglycerides) profile will improve.
- Your body will clear glucose more rapidly from the blood, which prevents heart disease and diabetes.
- You feel alert and focused.
- Your sleep quality will improve.



A WEEK LATER . . .

- You have improved your endurance and aerobic fitness (you can go longer and harder than before).
- Your body is benefiting from a stronger immune system, a better mood, and lower blood pressure.



THREE TO SIX MONTHS LATER . . .

- You've improved the fitness of your heart and lungs.
- Your heart rate is lower at rest and recovers more quickly after exercise.
- You have improved the size and strength of your muscles.
- You've decreased your body fat.
- You've reduced your risk of diabetes, heart disease, cancer, and osteoporosis.
- You've reduced your risk for depression, anxiety, and stress.
- You've improved your overall quality of life.

BREAK IT UP

We sit in the car, at our desks, and on our couches—it's unavoidable. The key factors to think about are: for how often and for how long? Recently, researchers looked at how breaking up sitting time with short bouts of light- or moderate-intensity exercise affects health. Over a five-hour period, volunteers were asked to do one of three things:

- Just sit there;
- Sit, but take a two-minute light-intensity activity break every twenty minutes; or
- Sit, but take a two-minute moderate-intensity break every twenty minutes.

Well, guess what they found? Just a single day of uninterrupted time sitting can be hazardous to your health. At the end of the five hours, the people who had been sitting the whole time had higher blood glucose and insulin concentrations after eating compared with those who took the activity breaks. That means that just one long bout of sitting increased risk factors for diabetes.

So try to sit less. And anytime you're in a situation where you have to sit, break it up! Regular movement may be just as important to your health as increasing your physical activity. So get up and move! Take a break from the computer every twenty or thirty minutes. Get up and walk around while you're talking on the phone. Get off the couch during a TV commercial and climb up and down the stairs or dance around.

EVERYBODY HAS TEN MINUTES

Recent research has demonstrated that about 150 minutes a week of moderate-intensity physical activity is associated with lower rates of heart disease and premature death. That's thirty minutes a day, five days a week—and those thirty minutes can be split up if you prefer. Research indicates that even short bouts of exercise, just ten minutes each, three times a day, benefit health and reduce risk for chronic diseases.

YOUR HORMONAL BODY

Hormones are related to your moods, your sleeping patterns, your sexuality, and your appetite . . . not to mention your metabolism, your weight, and where fat is stored on your body. Some of the key chemical messengers that help determine body weight and composition are:

GHRELIN: THE APPETITE-STIMULATION HORMONE

Ghrelin, made by the stomach, is the hormone that stimulates appetite. Blood concentrations of ghrelin are high right before a meal and then drop after a meal. When a body is losing weight, the stomach is triggered to make more ghrelin, in turn triggering the desire to eat, which can make it difficult to keep weight off. Obese individuals tend to have higher concentrations of this hungry-making hormone.

LEPTIN: THE APPETITE-REDUCTION HORMONE

Leptin, made by fat cells, makes its way to the brain with a message to reduce appetite and stimulate energy expenditure. The more fat on the body, the more leptin found circulating in the blood. In theory, this extra leptin should result in weight loss. Unfortunately, overweight and obese individuals aren't as sensitive to the effects of leptin. And further complicating the scenario—when a body loses weight, leptin concentrations fall, making it harder to maintain a lower body weight.

ESTROGEN: THE SEX HORMONE

Estrogen is made by the ovaries, and plays a role in body-fat distribution. Estrogen ensures that women of childbearing age store more fat in the lower body ("pear-shaped"). During menopause, estrogen concentrations drop and body-fat distribution changes, with more fat being stored in the abdomen area ("apple-shaped").

CORTISOL: THE STRESS HORMONE

Cortisol is produced by the adrenal gland in response to stress. Cortisol helps the body release fuels (e.g., glucose, amino acids, and fatty acids) to counteract stressors (e.g., illness, injury). But emotional or mental stress typically doesn't require the use of extra fuel. High cortisol concentrations also increase abdominal fat, the type of fat more closely linked to diseases such as diabetes and heart disease.

Calories are just a way to measure energy. You can measure any kind of energy with calories, even the energy of a motorcycle going at top speed.

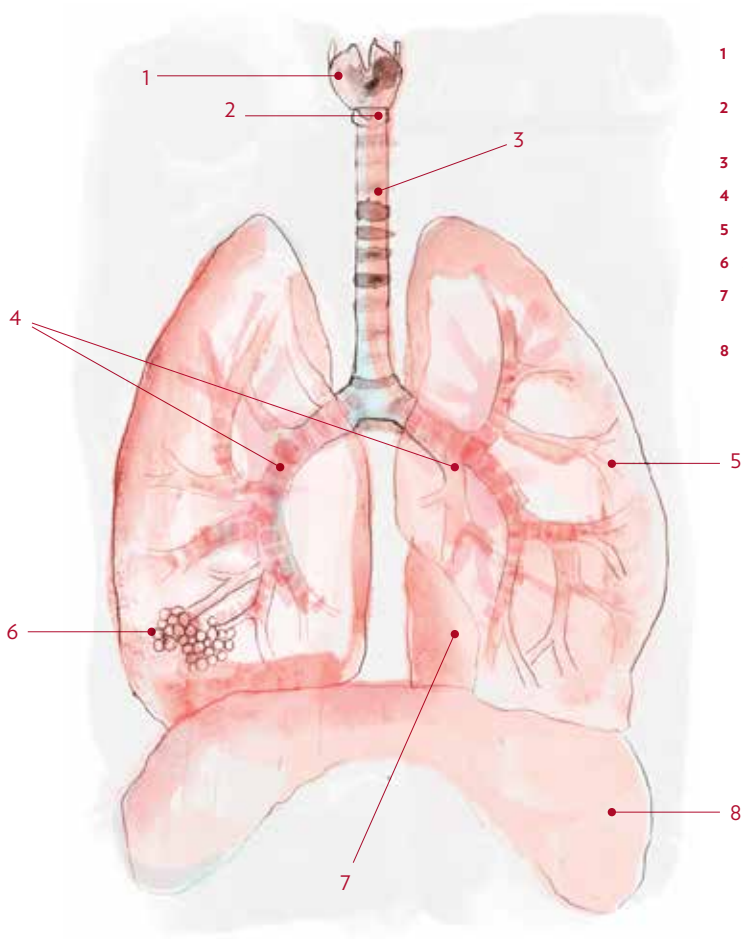
BALANCING ENERGY

energy in = energy out . . . weight is maintained
energy in > energy out . . . weight gain
energy in < energy out . . . weight loss

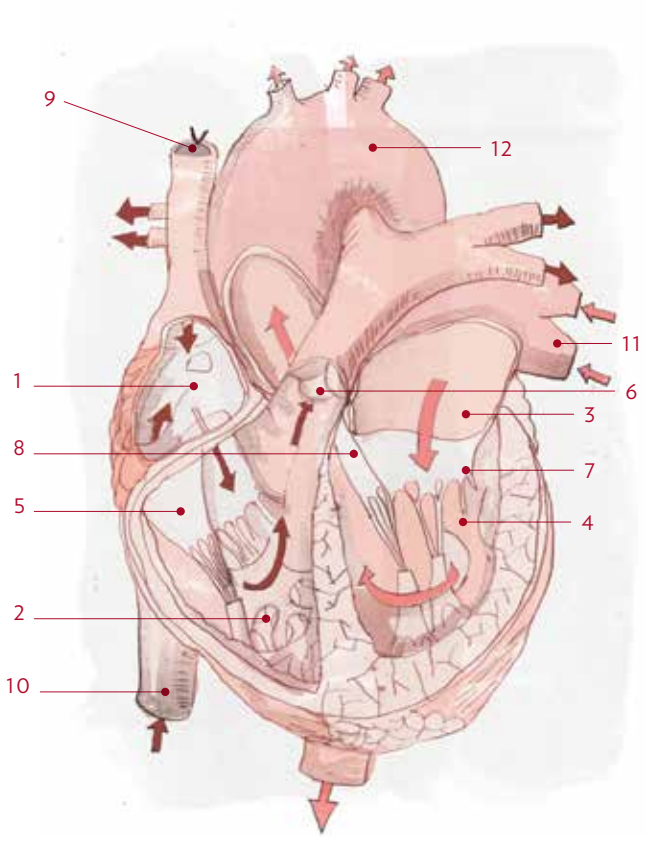
MOVE YOUR BODY

Movement can be done all of the time, and it should be. Here are a few ideas:

- Do butt squeezes while you're brushing your teeth.
- Do lunges while you're waiting for the coffee to brew.
- Do calf raises while you're waiting for the train.
- Run up the stairs. Run down the stairs.
- Stretch your calves on the stairs.
- Walk to the next bus stop. Or the next.
- Do sit-ups while dinner is in the oven.
- Stretch during the commercial breaks.

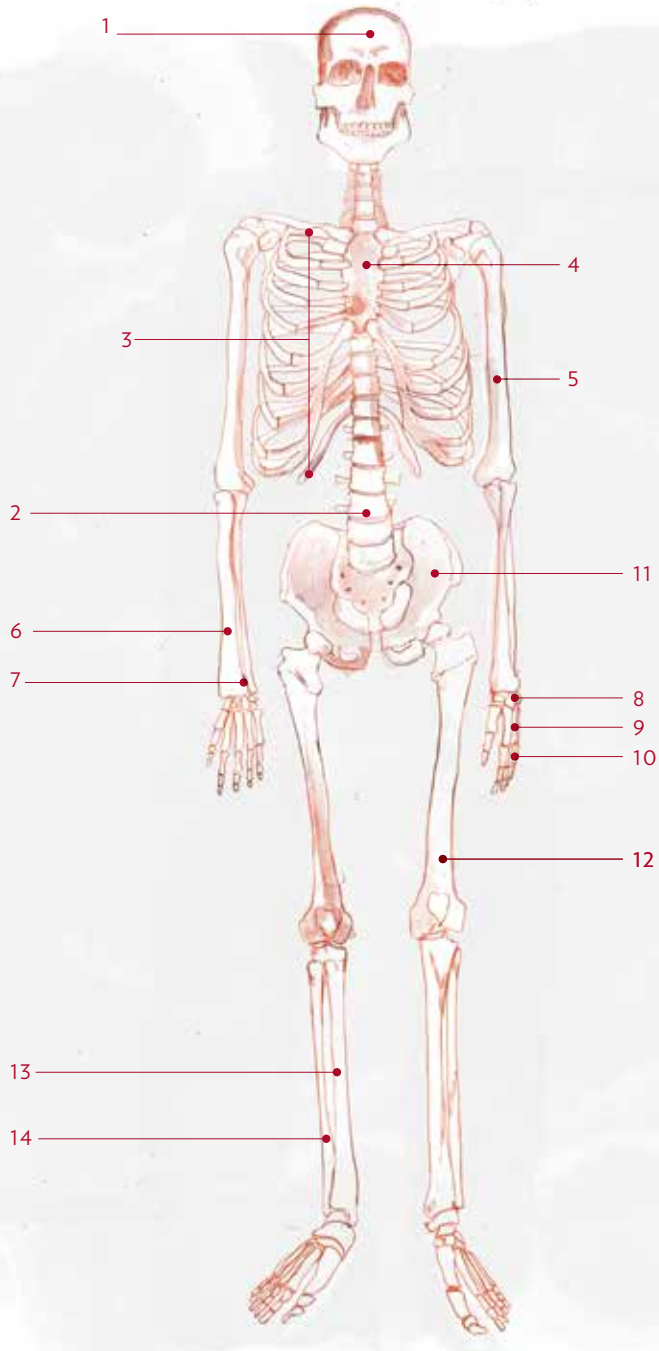


1 Thyroid cartilage
2 Cricold cartilage
3 Trachea
4 Bronchi
5 Bronchioles
6 Alveoli
7 Cardiac impression
8 Diaphram



1 Right atrium
2 Right ventricle
3 Left atrium
4 Left ventricle
5 Tricuspid valve
6 Pulmonary valve
7 Mitral valve
8 Aortic valve
9 Superior vena cava
10 Inferior vena cava
11 Pulmonary veins
12 Aorta

The human body is always changing. Every day, your body loses billions of cells (we lose about a million skin cells a day alone!) and makes new cells to replace them. Some cells divide and renew, while others quietly die. It's all part of an incredible balancing act that is constantly taking place within your nerves, your muscles, your bones, and your organs.



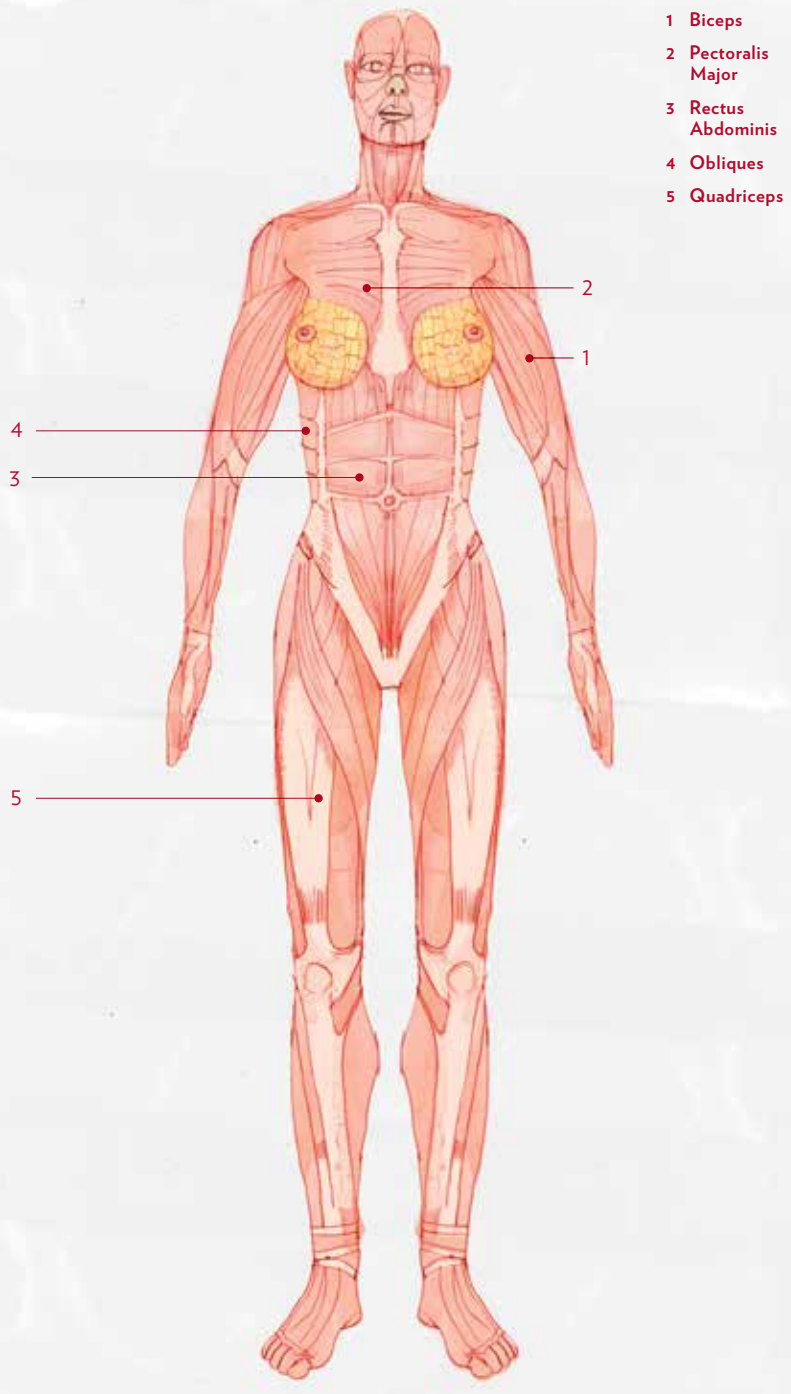
1 Skull
2 Spine
3 Rib cage
4 Sternum
5 Humerus
6 Radius
7 Ulna
8 Carpal bones
9 Metacarpal bones
10 Phalanges
11 Pelvis
12 Femur
13 Tibia
14 Fibula

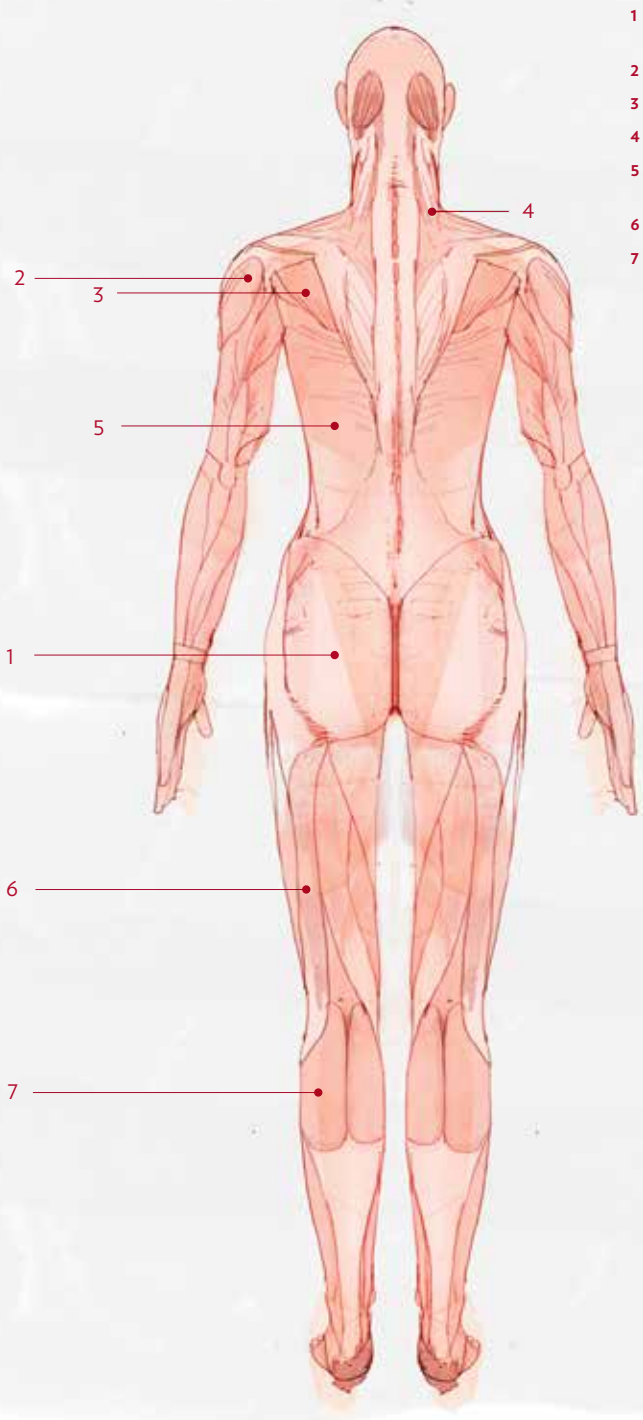
TWO TYPES OF BONE TISSUE

There are two distinct types of bone tissue. **Cortical bone** is very dense and makes up about 80 percent of your bone; it can be found within your long arm and leg bones, as well as on the outer surface of all your bones. **Trabecular bone**, the remaining 20 percent of your bone mass, is much more porous and looks like a honeycomb. Trabecular bone is found inside the ends of the long bones, the spine, and the pelvis. Most bone fractures commonly occur in trabecular bone.

Your more flexible trabecular bone has a much faster turnover rate than cortical bone, making it more sensitive to changes in nutrition and hormone fluctuations. (That's why calcium is in our list of minerals in Chapter 10: because it's literally what your bones are made of, and eating calcium-rich foods replenishes your calcium.)

The best way to prevent bone problems later in life is to embrace good eating habits, engage in weight- bearing physical activity, and stay aware of the regularity of your menstrual cycle, which is a sign that your hormones are functioning normally.


1 Biceps
2 Pectoralis Major
3 Rectus Abdominis
4 Obliques
5 Quadriceps
2
1
4
3
5



1 Gluteus Maximus
2 Deltoids
3 Rotator Cuff
4 Trapezius
5 Latissimus Dorsi
6 Hamstrings
7 The Calf

THE RIGHT TRAINING PROGRAM FOR YOU IS . . .

- At your level
- In your neighborhood
- One that excites you
- One that will make you sweat
- One you will stick to

BASIC TRAINING

I like to change up my workouts, finding my physical activity in a variety of different places and activities so that I engage my body fully. It keeps me agile and responsive, as well as strong, fit, and happy.

Although I like variety, I aim to do some abdominal work in every session because your core is the center of your strength! It supports your spine, helping to carry the burden of your bodyweight. And when you lift weights, engaging your core strength will help keep you steady and balanced so that you can maintain proper form.

When thinking about working out, there are a couple of different approaches—you can concentrate on exercising muscle groups or isolating specific muscles. You might strengthen multiple muscle groups by doing exercises that engage several muscle groups and joints at once. This would include movements that target the major muscle groups of the chest, trunk, back, shoulders, arms, hips, and legs. Or you can do exercises that isolate muscles, such as the abdominals, lower back muscles, hamstrings, quadriceps, biceps, and calves.

Either way, it's always a good idea to train the opposing muscle groups (the antagonists) in order to prevent muscle imbalances. Abs and back, hamstrings and quads—those are examples of opposing muscle groups that should be trained simultaneously.

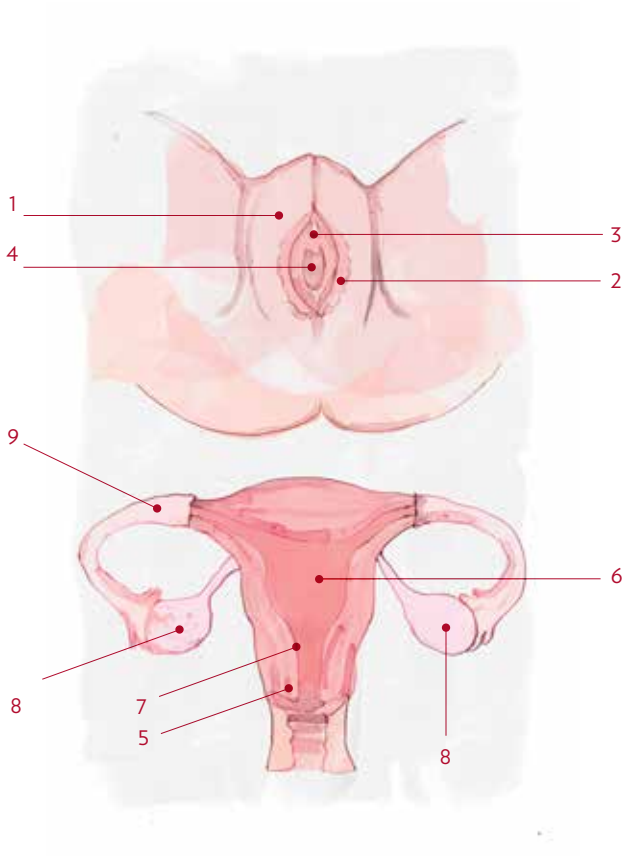
A+ FOR FORM

When you take a group fitness class such as yoga or spin, make sure you let the instructor know that form is important to you. Tell him or her that you welcome any corrections, and you'll likely get a little more one-on-one attention. If you work with a trainer, make sure that you ask her to concentrate on your form and correct you as often as necessary until you get it right.

STRETCHING TIPS

Hold the stretch for ten to thirty seconds at the point of tightness. Relax into the stretch; don't push into it. Breathe and release.

Remember that we all have our own level of flexibility. Stretching is not about imitating the girl in your yoga class who can fold in sixths like an origami crane. Stretching is about feeling your way to the places where your muscles have sensation without causing injury.



1 Labia major
2 Labia minora
3 Clitoris
4 Vagina
5 Cervix
6 Uterus
7 Endometrium
8 Ovaries
9 Fallopian tubes

Did you know that all of the eggs that you will ever ovulate, or prepare for fertilization, are already in your ovaries? Every egg that you have or have ever had has been in your body since you were a fetus developing in your mother's body.

If you don't already see a gynecologist once a year for an exam that may include a Pap test and a breast exam, start now. I have a friend who makes an appointment every year around the time of her birthday so she doesn't forget. And really, how perfect is that—she's giving herself the gift of health and possibly helping to save her own life as the years go by.

HOW TO DO A KEGEL

Kegel exercises were developed for strengthening pelvic-floor muscles as well as strengthening the muscles that support the bladder, uterus, and bowel.

Here's how to do a Kegel:

1. Identify the muscles in play. You can do this by lying down, inserting a finger into your vagina, and then squeezing. If you feel a tightening around your finger, then you have identified the muscles. (You can also find them while you are peeing: just try to clench and stop the flow in midstream.)
2. Once you have identified the muscles, practice with an empty bladder. Just:
    - Tighten the pelvic muscles and hold for ten seconds.
    - Then, relax your muscles completely for ten seconds.

You can do ten sets, three times a day, and you can do your Kegels while you are standing, sitting, or lying down. But don't go overboard! Kegeling more than is recommended won't give you a vagina of steel, but it may cause muscle fatigue, which can make any underlying issues worse.

MIRROR, MIRROR

When I say to have a look in the mirror at night and give yourself a "You go girl!" the point is not self-adulation: it's self-discovery. It can be about having a relationship with yourself that makes you accountable for the things you do and the person you are. A way of connecting to our interior selves as well as our exterior selves. Sometimes we imagine ourselves to be something that we're not—perhaps someone that we wish we were—but when we look into the mirror, we are faced with who we really are. And looking in the mirror doesn't have to be about vanity. Let the mirror be a friend instead of a judgment. So often we look in the mirror and loathe what we see, but we should remember that the most important thing is to love what you are and be honest about who you are. Make time to stand in front of the mirror and identify all the different beautiful parts of your body that you love. Don't be shy! It's just you in the mirror, and you can love your body however you want to love it, without anybody else's validation or approval. The more you love your body and give it attention, the more connected you will be with it.

A little appreciation goes a long way. A lot of appreciation goes a really long way.

CONNECTION EXERCISE

Here's a little exercise that you can do to start connecting to your body. It's a subtle and quiet way to tune in to your body one-on-one. You can do it as a part of your morning or evening ritual or whenever you can fit it into your day.

STEP 1: MAKE SPACE.
Pick a time when you can relax. Find a spot where you can lie down and spread out. Maybe it's on your bed or on your couch or on your living room or bedroom floor.

STEP 2: RELAX.
Lie down on your back, and let your body sprawl. Maybe your body wants you to spread your arms and legs like a snow angel, or maybe you want to fold your hands across your chest with your legs bent.

Pay attention to how your body feels. Is it comfortable? What does it want you to do? Whatever it is, do it. If you can't quite get comfortable, take note of that, too.

STEP 3: BREATHE.
Once you're in a comfortable position, bring your attention to your breath. You might take a deep breath in through your nose and blow it out through your mouth, really pushing it out at first, then start to relax into your breathing naturally.

STEP 4: MOVE.
As you relax into breathing, move your body. Turn your legs side to side, twisting at your waist. What does that feel like in your hips, your waist, your legs? Now move your arms, maybe to support your movement of your lower body, or maybe they feel nice resting across your forehead. Then stop thinking about telling your body how to move and start just letting it move on its own. As you take each breath allow your body to find its movement. Nothing it does is wrong!

STEP 5: LISTEN.
If you keep breathing and moving at the same time you will find that your body is speaking a language of movement to you. It is telling you how it needs to move, whether that means sitting up to touch your toes or crawling onto all fours and arching your back.

The more you get used to listening to how your body feels, the more you'll find that every movement you make throughout the day is an opportunity to connect with your body. You'll connect to hamstrings in the back of your legs and your glutes every time you step up onto a stair. You'll start to see how your stomach tightens up when you go to pick up your purse and how your biceps curls it up onto your shoulder or forearm.

Move mindfully instead of mindlessly, and you will open a continuous dialogue with your body.

SIDELINING TEMPTATION

It's tough not to be tempted when you're surrounded by piles of junk food, or staring down a menu that lists your favorite dishes and all you have to do is tell the waiter what and how many and he will bring them to you in minutes. So what do we do when food availability threatens the careful stockpile of willpower we have worked so hard to develop?

We develop techniques to AVOID temptation.

- **At home:** Get that food out of the house! Stop buying it. Stop storing it. A pantry full of whole grains and ingredients encourages us to cook a healthful dinner. A pantry full of junk encourages us to stuff our faces full of junk.
- **At restaurants:** If you know you're going to a restaurant, come prepared. Decide what you want to eat at home, before reading the menu, because the descriptions and variety of dishes can be a very alluring siren's call. Do you want fish or chicken or beef or something vegetarian? Walk in knowing. Then read the menu just as much as needed to find the item closest to what you've already chosen, and order that. Or read the menu online, if possible, and scan for healthy options. Or if the chef is amenable and they aren't very busy, when the server asks you what you'd like to eat, you can ask if they can grill you up some fish, with some roasted, grilled, sautéed, or steamed vegetables.
- **At someone else's home:** Don't show up starving! Have a little snack an hour or so before you arrive at your dinner party so that you don't eat the whole bread basket when you sit down to the table. And do your best to choose healthy options without being swayed by the sights and smells once you're there.

FRESH, FROZEN, OR CANNED?

Fresh veg are the tops. In the summers, fresh vegetables are everywhere—at farm stands in the country, at market stands in the city—but depending on where you live, fresh may not always be accessible. The fresher the better, but if you get to the market and the vegetables are looking a little wilted, don't sweat it. Frozen vegetables are the next best thing.

Some frozen vegetables actually contain more nutrients than fresh vegetables, because they're picked at their peak and flash-frozen, which preserves their nutrient value. Oftentimes fresh fruits and vegetables are picked before they're ripe because they have to travel so far to get to you. Not only does this mean less nutrient value in the plant, but the traveling process also exposes them to heat and light that degrade them more quickly. So don't shy away from frozen; just make sure that when you prep them, you steam or sauté instead of boiling, because boiling can drain them of the water-soluble nutrients that they have been retaining for you while frozen.

Canned vegetables should be your last choice, because canned food loses a great deal of its nutrient value during processing, and often salt, sugar, or other preservatives are added. Try to avoid canned foods if you can. (Pun intended!)

SUPPLEMENTARY READING LIST

Want to know more? Me too. You might want to check out:

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www.foodtimeline.org.