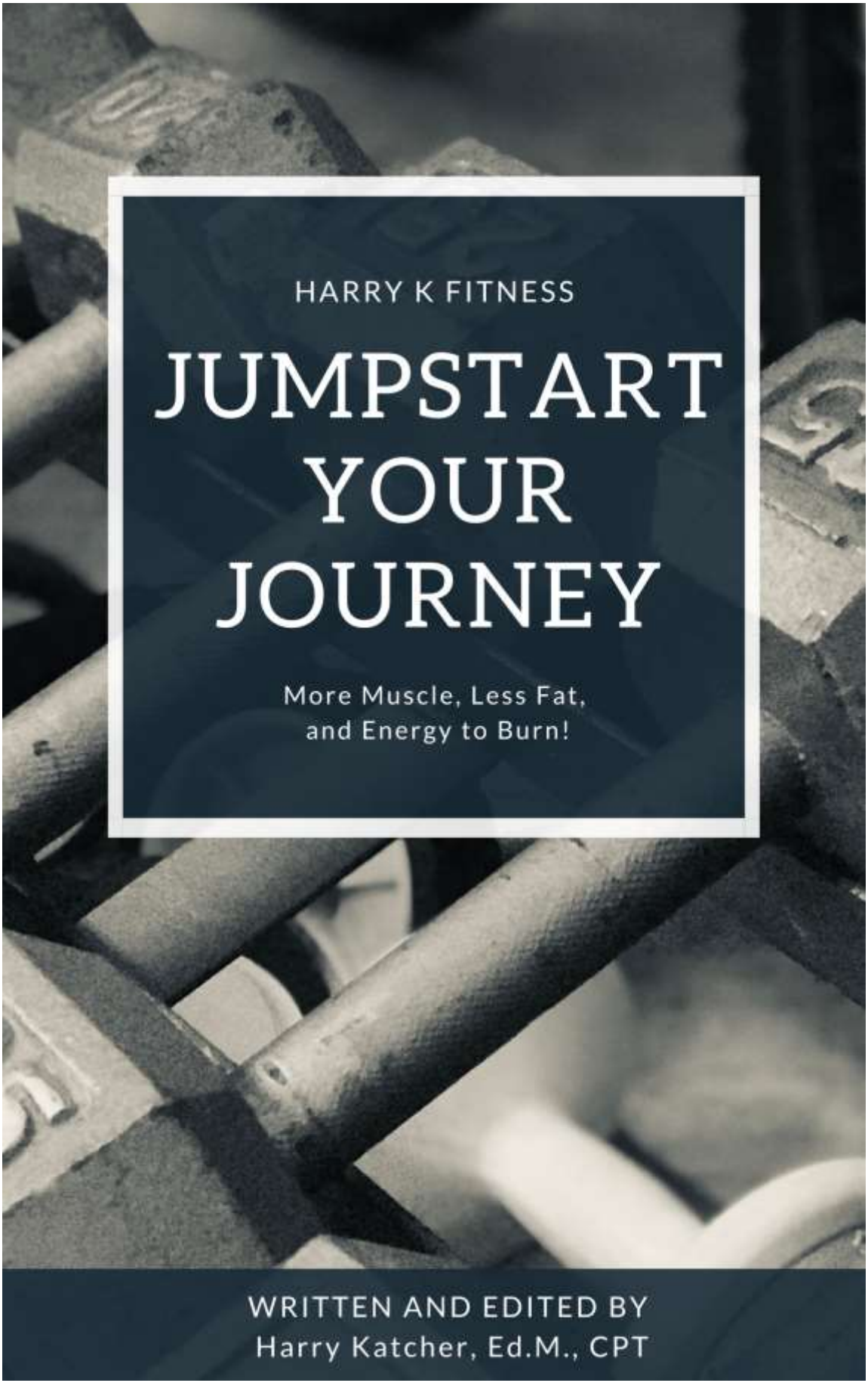

HARRY K FITNESS
JUMPSTART YOUR JOURNEY
More Muscle, Less Fat,
and Energy to Burn!
WRITTEN AND EDITED BY
Harry Katcher, Ed.M., CPT

Jumpstart Your Journey
An Introduction to the Basics Needed to Start Your Fitness Journey
Toward More Muscle, Less Fat and Energy to Burn!

Like a 3-legged stool that cannot wobble, an effective health and fitness program consists of three legs: Lifestyle, Nutrition, and Exercise – each is necessary to prevent you from wobbling. 😊

- Harry Katcher

Lifestyle

Lifestyle at-a-glance: ***Good****: Sleep, Sex.* ***Bad****: Alcohol, Smoking, Drugs, Sitting, Stress.*

Isn't it always the case… all the good stuff is bad for you?! (Well, almost all the good stuff). In this case, quantity and frequency also play a big part. When your diet, exercise and lifestyle are mostly positive, you can enjoy sweets or alcohol on occasion – with minimal negative effects!

Let's look at the "bad" stuff first.

Alcohol: Alcohol has a number of effects on health. Short-term effects of alcohol consumption include intoxication and dehydration. Long-term effects of alcohol consumption include changes in the metabolism of the liver and brain and alcoholism. According to the CDC, "Excessive alcohol use has immediate effects that increase the risk of many harmful health conditions. These are most often the result of binge drinking and include the following:

- Injuries, such as motor vehicle crashes, falls, drownings, and burns
- Violence, including homicide, suicide, sexual assault, and intimate partner violence
- Alcohol poisoning, a medical emergency that results from high blood alcohol levels
- Risky sexual behaviors, including unprotected sex or sex with multiple partners These behaviors can result in unintended pregnancy or sexually transmitted diseases, including HIV
- Miscarriage and stillbirth or fetal alcohol spectrum disorders (FASDs) among pregnant women

Over time, excessive alcohol use can lead to the development of chronic diseases and other serious problems including:

- High blood pressure, heart disease, stroke, liver disease, and digestive problems
- Cancer of the breast, mouth, throat, esophagus, liver, and colon
- Weakening of the immune system, increasing the chances of getting sick
- Learning and memory problems, including dementia and poor school performance
- Mental health problems, including depression and anxiety
- Social problems, including lost productivity, family problems, and unemployment
- Alcohol dependence, or alcoholism"

Smoking: According to the Centers for Disease Control (CDC), smoking harms nearly every organ of the body, causing many diseases and affecting the health of smokers in general. Quitting smoking has *immediate,* as well as *long-term,* benefits for you and your loved ones. More than 16 million Americans are living with a disease caused by smoking. For every person who dies because of smoking, at least 30 people live with a serious smoking-related illness. Smoking causes cancer, heart disease, stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Smoking also increases risk for tuberculosis, certain eye diseases, and problems of the immune system, including rheumatoid arthritis.

E-cigarettes: The e-cigarette aerosol that users breathe from the device and exhale can contain harmful, and potentially harmful, substances, including:

- Nicotine
- Ultrafine particles that can be inhaled deep into the lungs
- Flavoring such as diacetyl, a chemical linked to a serious lung disease
- Volatile organic compounds
- Cancer-causing chemicals
- Heavy metals such as nickel, tin, and lead

It is difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine.

Drugs: Illicit drugs and abuse of prescription drugs are never a good idea. Their effects on the body are damaging and potentially widespread. Because of the sheer number of illicit drugs, I invite you to search online for any drug you are taking or considering.

Sitting: Yup, sitting is bad for you – when you do it all the time. If your job has you sitting a lot, consider taking regular standing breaks (walking around is even better). If you are able to use a stand-up desk (one that lifts and lowers) that would allow you to stand and continue your work. According to the Mayo Clinic, when you sit, you use less energy than you do when you stand or move. Research has linked sitting for long periods of time with a number of health concerns. They include obesity and a cluster of conditions — increased blood pressure, high blood sugar, excess body fat around the waist and abnormal cholesterol levels — that make up metabolic syndrome. Too much sitting overall and prolonged periods of sitting also seem to increase the risk of death from cardiovascular disease and cancer.

Any extended sitting — such as at a desk, behind a wheel or in front of a screen — can be harmful. An analysis of 13 studies of sitting time and activity levels found that those

who sat for more than eight hours a day with no physical activity had a risk of dying similar to the risks of dying posed by obesity and smoking. However, unlike some other studies, this analysis of data from more than 1 million people found that 60 to 75 minutes of moderately intense physical activity a day countered the effects of too much sitting. Another study found that sitting time contributed little to mortality for people who were most active.

More study is needed on the effects of sitting and physical activity on health. However, it seems clear that less sitting and more moving overall contribute to better health. You might start by simply standing rather than sitting when you have the chance or finding ways to walk while you work. For example:

- Take a break from sitting every 30 minutes.
- Stand while talking on the phone or watching television.
- If you work at a desk, try a standing desk — or improvise with a high table or counter.
- Walk with your colleagues for meetings rather than sitting in a conference room.
- Position your work surface above a treadmill — with a computer screen and keyboard on a stand or a specialized treadmill-ready vertical desk — so that you can be in motion throughout the day.

The impact of movement — even leisurely movement — can be profound. For starters, you'll burn more calories. This might lead to weight loss and increased energy. Also, physical activity helps maintain muscle tone, your ability to move and your mental well-being, especially as you age.

Stress: I think we all know stress is… well, stressful. It's detrimental to your health – both physical and mental. The first step you can do is identify when you are feeling stressed and what you usually do in response. Do you internalize it? Do you lash out? Once you are aware of what your response is, you can make an effort to modify your behavior to better deal with it. This can include taking a break, breathing deep, or counting to 10. Some people take up meditation. The options are too numerous to list here, but are easily available for free online.

According to the National institute of Mental Health, "stress is how the brain and body respond to any demand. Any type of challenge—such as performance at work or school, a significant life change, or a traumatic event—can be stressful.

Stress can affect your health. It is important to pay attention to how you deal with minor and major stressors, so you know when to seek help."

Here are five things you should know about stress:

1. **Stress affects everyone**. Everyone experiences stress from time to time. There are different types of stress—all of which carry physical and mental health risks. A stressor may be a one-time or short-term occurrence, or it can happen repeatedly over a long time. Some people may cope with stress more effectively and recover from stressful events more quickly than others.

2. **Not all stress is bad**. In a dangerous situation, stress signals the body to prepare to face a threat or flee to safety. In these situations, your pulse quickens, you breathe faster, your muscles tense, and your brain uses more oxygen and increases activity—all functions aimed at survival and in response to stress. In non-life-threatening situations, stress can motivate people, such as when they need to take a test or interview for a new job.

3. **Long-term stress can harm your health**. Coping with the impact of chronic stress can be challenging. Because the source of long-term stress is more constant than acute stress, the body never receives a clear signal to return to normal functioning. With chronic stress, those same lifesaving reactions in the body can disturb the immune, digestive, cardiovascular, sleep, and reproductive systems. Some people may experience mainly digestive symptoms, while others may have headaches, sleeplessness, sadness, anger, or irritability.

4. **There are ways to manage stress**. If you take practical steps to manage your stress, you may reduce the risk of negative health effects. Here are some tips that may help you to cope with stress:

    - **Be observant.** Recognize the signs of your body's response to stress, such as difficulty sleeping, increased alcohol and other substance use, being easily angered, feeling depressed, and having low energy.

    - **Talk to your health care provider or a health professional.** Don't wait for your health care provider to ask about your stress. Start the conversation and get proper health care for existing or new health problems. Effective treatments can help if your stress is affecting your relationships or ability to work. Don't know where to start? Search online for "Tips for Talking with Your Health Care Provider."

    - **Get regular exercise.** Just 30 minutes per day of walking can help boost your mood and improve your health.

- **Try a relaxing activity.** Explore relaxation or wellness programs, which may incorporate meditation, muscle relaxation, or breathing exercises. Schedule regular times for these and other healthy and relaxing activities.

- **Set goals and priorities.** Decide what must get done now and what can wait. Learn to say "no" to new tasks if you start to feel like you're taking on too much. Try to be mindful of what you have accomplished at the end of the day, not what you have been unable to do.

- **Stay connected.** You are not alone. Keep in touch with people who can provide emotional support and practical help. To reduce stress, ask for help from friends, family, and community or religious organizations.

Over time, continued strain on your body from stress may contribute to serious health problems, such as heart disease, high blood pressure, diabetes, and other illnesses, including mental disorders such as depression or anxiety.

5. **If you're overwhelmed by stress, ask for help**. You should seek help right away if you have suicidal thoughts, are overwhelmed, feel you cannot cope, or are using drugs or alcohol more frequently as a result of stress.

And now the "good" stuff.

Sleep: According to the US Department of Health and Human Services, "most adults need 7 to 8 hours of good quality sleep on a regular schedule each night. Getting enough sleep isn't only about total hours of sleep. It's also important to get good quality sleep on a regular schedule so you feel rested when you wake up. Getting enough sleep has many benefits. It can help you:

- Get sick less often
- Stay at a healthy weight
- Lower your risk for serious health problems, like diabetes and heart disease
- Reduce stress and improve your mood
- Think more clearly and do better in school and at work
- Get along better with people
- Make good decisions and avoid injuries – for example, sleepy drivers cause thousands of car accidents every year"

Enough said? Let's move on.

Sex: Please see the flyer below from the American Council on Exercise. The takeaway? Sex is good.

Fit Facts™

FROM THE AMERICAN COUNCIL ON EXERCISE®

Studies Show Exercise Can Improve Your Sex Life

EXERCISE IS NOT ONLY A WELL-DOCUMENTED means of maintaining muscle and losing fat, recent studies propose that it can also revitalize your sex life. In a February 1999 issue of the Journal of the American Medical Association, scientists found that sexual dysfunction is more likely among those with poor physical and emotional health, and plays a major role with negative experiences in sexual relationships and with overall well-being.

Studying Sex and Exercise

Sexual function is affected by general health, and the more you can do to improve your health by taking good care of yourself, the better your sex life can be.

Doctors at the New England Research Institute found that regular, vigorous exercise can be effective at lowering impotence risk. The researchers studied more than 600 middle-aged men who hadn't reported any problems with impotence. After eight years, the men who exercised regularly were less likely to have problems. Vigorous exercise — the equivalent of walking two miles or burning 200 extra calories a day — was most effective.

On the opposite coast, a University of California, San Diego study of 78 healthy but sedentary middle-aged men documented changes when the men were assigned to exercise three to four times a week for one-hour sessions. Overall, the former couch potatoes reported more reliable sexual functioning, more frequent sexual activity and orgasms, and greater satisfaction.

Yet another study, conducted at the Harvard School of Public Health, revealed that men who exercised vigorously for 20 to 30 minutes were about half as likely to have erection problems as inactive men. The scientists in this study also discovered that as a man gained weight, he became more susceptible to experiencing erectile dysfunction (E.D.).

Women's sex lives can also benefit from regular exercise. Researchers at the University of Texas at Austin studied 35 women, ages 18 to 34. On two separate occasions the women first watched a short travel film, followed by an abbreviated X-rated film. To begin with, the subjects cycled vigorously for 20 minutes. The second time they didn't. Researchers calculated their sexual response using a device that measures blood flow in genital tissue, and discovered that the women's vaginal responses were 169 percent greater after exercising.

More to Love

Doctors believe that exercise has the effect it does on increasing sexual potency because it strengthens the cardiovascular system and improves circulation. Good circulation is important for sexual function. Other things that hamper circulation include obesity, smoking or heavy alcohol use, however losing weight and quitting smoking or drinking didn't improve sexual function the way exercise did.

If exercise can do so much for your sex life, shouldn't more be even better? The answer is no, according to the same doctors who did the studies. Heavy exercise can actually decrease testosterone levels, leading to a less robust sexual appetite. In addition, overtraining can compromise the immune system, which could also adversely affect sexual performance.

Exercise, while not a panacea, can be just what the doctor ordered for physical and psychological complaints.

Compliments of:

Put your name and logo in this area, then make handout copies.

ACE

AMERICAN COUNCIL ON EXERCISE®

If you are interested in information on other health and fitness topics, contact: American Council on Exercise, 4851 Paramount Drive, San Diego, CA 92123, 800-825-3636; or, go online at http://www.acefitness.org and access the complete list of *ACE Fit Facts*.

 M01-076 SRE - 52

Nutrition

Nutrition at-a-glance: ***Good****: Water, Protein, Fiber.* ***Bad****: Sugar, Saturated Fat, Trans Fats.*

Whole books have been written on proper nutrition, nutrition for athletes, nutrition for seniors, etc. What you see here is a synopsis – a what you need to know. It is NOT a deep dive into the topic with discussions as to what occurs at the molecular level. It is designed to give you the fundamentals of good, proper, basic nutrition so you can reference as a guideline when choosing your meals.

a. Quite a large number of health professionals recommend eating **multiple** (5-6) **smaller meals** throughout the day - stop thinking breakfast, lunch and dinner, and think more along the lines of breakfast (caffeine), a healthy snack, lunch, healthy snack, dinner, and (you guessed it) healthy snack.

b. It's been touted as the most important meal of the day – **Breakfast**. Here's why… the word "breakfast" stems from "break the fast." Even if you ate a healthy snack prior to going to bed, it would be at least 8-10 hours before you eat again. To keep your body from thinking you're starving and it starts to "consume" your muscles, you may wish to consider making your evening meal a protein-rich meal in order to save your muscles! Then, when you do have breakfast, make sure you include enough protein! (More on that very soon). Your body won't go after your fat overnight as fat is very valuable to your body. Although it is a very rich supply of energy (each gram of carbohydrate and protein contains 4 calories - which your body uses for energy - fat contains 9 calories per gram! Your body will feed off of glucose, then muscle, then fat.

c. **Protein** does a body good. It's not really a source of energy per se, rather think of protein as what your body uses to repair and build muscle. How much protein you should consume depends on whom you ask. Some say one gram per kilogram (2.2 pounds). Athletes often say one gram per pound. I personally consume as much as I can trying to get close to the one gram per pound ideology. Regardless of how much you consume, be sure to drink plenty of water. Protein = good.

d. **Water**; without it we would die. That's how important it is. But it also keeps us in good running condition – hydrated and refreshed. Our bodies are primarily water. Our muscles need water and when we consume lots of

protein it's processed via the liver. The liver helps detoxify harmful substances in the blood like ammonia, which is actually a by-product of protein metabolism. Drink water throughout the day. Always keep water with you. Yes, you will make frequent trips to the bathroom, but you won't be just "passing the water" as water goes through your system and helps rid your body of waste. Cardiologists even recommend drinking water upon waking. Water = good.

e. **Fiber**. While health and nutrition primarily focus on what we put into our bodies, we also need to be mindful of what comes out of our bodies! Drinking plenty of water helps to ensure liquid wastes are processed and eliminated. Well, fiber helps to ensure we eliminate solid waste. Nutrition professionals often site 35-40g of fiber daily. I consume a couple of spoonsful of Psyllium every morning. Without going into detail and without getting graphic, the fiber turns gelatinous as it passes through your system gathering up waste and taking it with it on its journey through your digestive tract. Once you develop a routine (and you get past any stomach issues that may *initially* occur) don't be surprised if you find yourself "going" one to three times a day. That may be shocking to you if you "go" every couple of days or so (not good!) Out with the bad, in with the good. Fiber = good.

f. **Saturated Fat**. You'll see on food labels a number of different types of fat – mono, poly, trans, saturated, etc. Contrary to previous popular belief eating fat won't automatically make you fat. Remember, fat is an excellent source of calories (fuel). Just be sure you use that fuel! Saturated fat, however, actually solidifies/congeals at room temperature (and in your body). That's what the concern is – clogging your arteries with this gelatinous fat. The saying "anything in moderation" applies to saturated fat. If you can avoid it, great! If you can't, just be mindful of your intake. Saturated fat = bad.

g. **Sugar**! It's EVERYWHERE and in EVERYTHING! While the saying "sugar is sugar" is technically true, there are different types of sugar (that differ on the molecular level) and your body responds differently to each type. To keep this basic, let's look at **SUCROSE** (sugar) vs. F**RUCTOSE** (fruit sugar). When you consume sugar (particularly a large amount like 35-45g from a soda) it enters your body and into your bloodstream. Your body likes to maintain a sense of homeostasis – where everything is running smoothly. When your body detects that influx of sugar (or even sweeteners in zero-sugar soft drinks) it alerts the pancreas whose job it is to secret insulin to negate and neutralize the effects of the sugar. The sugar gives you that energy high and then when it is neutralized, you experience

the energy crash. Further, activating the pancreas like that is hard on it (pancreas is one organ). The pancreas' job is to maintain homeostasis and getting jolted into action can take its toll. Now, here's the real interesting part… when the pancreas is secreting insulin to combat the sugar, your body essentially stops burning fat! Now, imagine consuming sugar all day long. That would put a strain on your pancreas and stop your body from burning any fat. That is how drinking zero calorie, sugar-free diet drinks can "make you fat." (Artificial sweeteners are basically viewed by the body as sugar – though hundreds of times stronger!). I try very hard to minimize the amount of sugar (sucrose) I ingest, but it's very difficult as sugar, in various forms including high-fructose corn syrup, is present in almost everything! I set a target of 50-75 grams of sugar per day. Wow, that was difficult!

Now, let's look at **fructose**. It differs on the molecular level from sucrose. It doesn't get broken down quickly and then enter the bloodstream like sucrose and **high-fructose corn syrup** does. Instead, the body breaks down the fructose more slowly and it is released into the bloodstream a little at a time – which relieves stress on the pancreas and allows your body to continue to burn fat. Cookies and cake vs. bananas and apples. FYI, high-fructose corn syrup is man-made and has a weak chemical bond that is easily (and quickly) broken down by the body and, therefore, more rapidly ingested and distributed into your bloodstream. It's also very sweet and cheaper to produce! Companies have improved profits and you get sweeter foods (you also get fatter). Sugar = bad.

The three main items I would like to summarize:

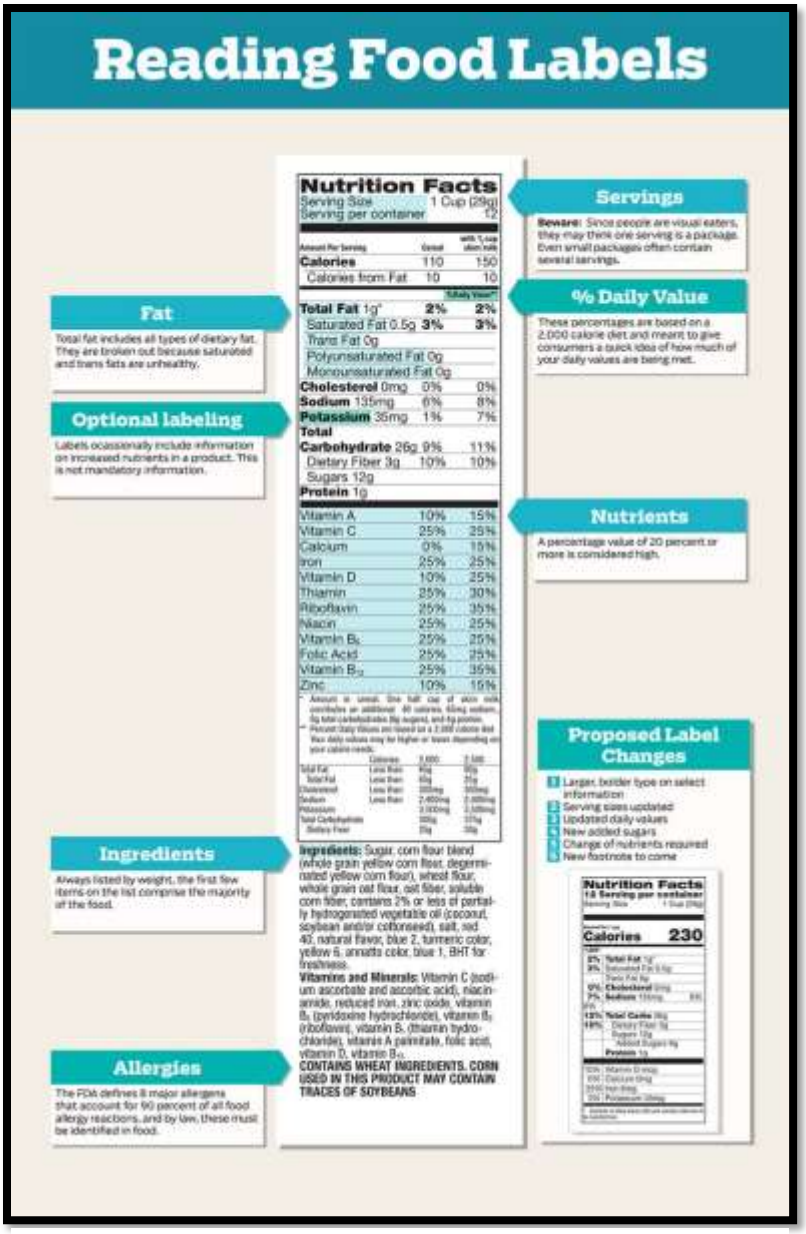
1. **Protein** – it builds and repairs muscles

2. **Carbs** – they provide short-term, readily-available fuel for the body
    i. Complex carbs (ex. veggies to main homeostasis)
    ii. Simple carbs (processed – blood sugar spikes)

3. **Fat** – it provides long-term fuel
    - Saturated Fat – Bad; Trans Fat – Bad; Monounsaturated fat – better; Polyunsaturated fat – best (among the fats).

Reading a Food Label

1. Servings: Labels will indicate both the number of servings contained in the product as well as the serving size.
2. % Daily Value: The government has determined recommended daily values for nutrition. This number represents the percentage of those recommendations contained in the product.
3. Fat: Here you will see the grams and % of the various fats – Saturated, Trans, Poly and Mono. Be on the lookout for Saturated and Trans Fats.
4. Optional Labeling: Here you will find information that MAY be of use to you. For example, if your doctor recommends you restrict the amount of sodium (salt) per day, this will give you information to help you keep track. I try for 2000mg/day, so when I see 135mg, I don't worry about it. But, when I see 460mg per slice (of meat) and I have 2-3 slices, well that would be a big red flag!



Credit: Baltimore Sun

5. Nutrients: This is a great area to keep tabs on how much you are ingesting in the way of vitamins and minerals and the percentages of your recommended daily value.
6. Ingredients: Know this… the ingredients are listed in order of highest quantity to lowest quantity. If it's first on the list, there's a lot! This area is also a good place to see where there might be hidden sources of sugar.
7. Allergies: This is great! If you have sensitivities to milk or nuts, they would be listed here and are easy to see so you can make a quick decision as to buy or not.

Here’s a trick I ALWAYS use: I look at the TOTAL Carbohydrates (in the label above it reads 26g). I then subtract the amount of fiber (in grams). In this case I see 3 grams. So, 26 minus 3 = 23 NET Carbs. NET carbs are Carbs minus Fiber. The remaining amount is your fuel. In this case 23 grams. Then you want to determine how much of your fuel is coming from sugar. In this case 12 grams. So, this product gives you just over 50% of your energy from sugar (not great). It’s also not a big deal in and of itself as it’s only 12 grams. Just be sure to keep track of what you eat throughout the day and if you find you average 50% of your energy (carbs) from sugar, then you may want to modify your diet and lower your sugar intake.

Exercise

Exercise at-a-glance: ***Good****: Resistance Training, High Intensity Interval Training, Just Moving (swimming, running, walking, etc.!)* ***Bad****: Sitting, Poor Form.*

"The single most effective exercise you can do… is the one you WILL do."

I'm not a runner; never have been. But there are people out there – possibly you – that love to run! If running was the key to weight loss, muscle growth and newfound energy, you'd still find me and my Oreos® on the couch. So, you need to ask yourself what you enjoy doing. Do you enjoy swimming (and have access to water)? Do you like to run? Lift weights? Play basketball? Exercise isn't really going to help you if you don't stick with it. So, let me repeat:

"The single most effective exercise you can do… is the one you WILL do."

All forms of exercise are NOT created equal. Depending on your goals, you'll want to explore specific types of movement. That being said, ANY exercise is better than nothing. The information I'm providing here is designed for those who wish to lose (fat) weight, build muscle, and gain energy!

Take a moment to search online images of marathon runners. Then look for sprinters. You will notice a BIG difference! Marathon runners have little to no fat! But they also have very lean muscle. They can *look* emaciated and malnourished – though they could feel great. When you look at the sprinters, you'll notice that they, too, have little to no fat! But they have muscle. They look healthy and energetic. That's because they are healthy and energetic! (If you're a marathon runner and look and feel great, more power to you!)

The secret to losing fat is NOT endless hours of aerobics; endless miles of jogging or running. It's actually a combination of two things: The BEST combination for fat loss and muscle gain is Resistance Training and HIIT.

Before we go into that, I want to briefly explain a few basics of exercise.

Aerobic Activity consists of movement. This can be slow, steady state exercise (jog/run) or fast-paced such as Zoomba® and Aerobics.

Anaerobic Activity includes resistance training, e.g., weight training (free weights or machines at the gym) and bodyweight resistance training.

HIIT stands for *High Intensity Interval Training*. If you like to walk or jog, then you would walk or jog for 2-5 minutes (depending on your fitness level) and then you would break into a sprint for 30 seconds, then return to your walk/jog. Your entire walk/jog session would include intermittent bouts of high intensity exercise. Swimmers could swim a lap or two at a slow steady state and then break into a sprint where they go all out for X seconds or perhaps the length of the pool. HIIT workouts can be easily tailored to your fitness level. I prefer two types of HIIT workouts (partly chosen to ease pressure on my lower back). I ride a stationary bike. I pedal at a steady pace for 2 minutes and then pedal like a crazy person for 30 seconds. I then return to the steady pace for another 2 minutes and so on. My total HIIT workout lasts 10 minutes (four 2 ½ minute sessions). I also like using heavy ropes, aka Battle Ropes. It really kicks my butt aerobically while simultaneously working my upper body muscles.

Now, previously I asserted that the BEST combination for fat loss and muscle gain is Resistance Training and HIIT. Here's why:

Popular aerobic activities like to tout the fact that they provide a high caloric burn during the exercise. What better way to lose weight than to burn 300, 500, 700 or more calories in one exercise session?! Well, though it is true that you can burn a significant number of calories during aerobic exercise and certainly more when compared to a resistance training session, don't be fooled into thinking that calorie burn always equals weight loss. Scratching beneath the surface you'll find the lost weight isn't just fat. Research often shows cardio-only routines cause less weight to be lost from fat and more from lean body mass (marathon). In turn, this creates a *slowing* of the metabolism far more than if you had included weights in your quest for fat loss.

Yes, it's true you'll probably burn less calories during your weight training workout, however, and here's the good news, your calorie burning doesn't end right after you complete your workout. In fact, you'll experience a significant amount of ongoing caloric expenditure for *days* after your workout! And that's the difference.

"It's true that, from a calorie-burning standpoint, aerobic exercise outperforms resistance training," says Dr. Cedric X. Bryant, Chief Science Officer, American Council on Exercise. "However, I think it is somewhat shortsighted to conclude or make the recommendation that it's the preferred exercise choice for burning fat."

Resistance training, as indicated in many studies, produces positive results because it increases the relative amount of lean tissue to fat tissue. Since lean tissue is denser than fat tissue, it takes up less space, which contributes to that leaner, fitter look that many individuals seek. Though a pound of fat and a pound of muscle weigh the same, the fat

takes up approximately 28% more space. So, when you have two persons of equal height and weight, where one has more muscle and one has more fat, the person with the fat will be bigger. That's why losing weight vs. losing fat is a significant distinction to make.

One thing to note is DOMS – Delayed Onset Muscle Soreness. This was the impetus for the popular phrase, "No pain, no gain." That phrase did NOT refer to experiencing pain while exercising. During resistance training your muscles build up lactic acid, and if you don't perform a proper warm down (light exercise to "rinse" the muscles with blood), the lactic acid will remain and you'll feel it the next day… or two! Some people "enjoy" this feeling as it's a reminder of their hard work; I'm not one of them. Other studies indicate the pain felt is from micro tears in the muscle.

When you add to resistance training a regimen of HIIT, you really make a difference.

Anaerobic interval training uses the body's reserves of energy and, after a workout, metabolism stays elevated and continues to burn calories for hours after the workout. This is due to something called the *excess post-exercise oxygen consumption* (EPOC) effect. With HIIT, you not only burn a lot of calories during the workout, but because of the high intensity you will continue to burn calories as your body replaces energy and repairs muscle proteins damaged during exercise.

Not only does your body metabolize fat for fuel during the workout, during the post-exercise recovery period after HIIT exercise the body will tap into fat stores for the energy required to restore it to its normal resting state.

Your body burns calories at a rate of 5 calories per liter of oxygen consumed. In general, using exercise to increase the oxygen demands on your body will increase total caloric expenditure both during and after your workout. Short intervals of extremely high-intensity exercise involving a lot of muscle mass require a tremendous amount of oxygen, during both the work interval and the recovery periods.

Exercise intensity can be measured with a scale of perceived exertion, where 1 is low intensity and 10 is the highest intensity you can tolerate. For the greatest benefits, HIIT should be performed at an 8 or higher for periods lasting 30 seconds or less.

One of the most common misperceptions about exercise is that it is necessary to spend hours busting your butt and sweating buckets to obtain benefits like weight loss, muscle growth and improved overall health and well-being. Instead of working longer, work *smarter* by using short intervals of extremely high-intensity exercise. HIIT is extremely effective, but it can place a tremendous amount of stress on the body.

That's why I like the 3-2-1 exercise prescription. This includes three resistance training sessions per week (M-W-F), two HIIT sessions (T-TH), and one steady-state workout such as walking or jogging (Sat.) and on the seventh day he rested. 😊

On the following pages you'll find a number of exercise illustrations and photos with accompanying instructions on how to properly and safely perform each exercise. I recommend exercises that work your larger muscle groups first, then work your way down (largest to smallest). That's just a guideline, however, and will vary as you transition from lower body to upper body.

Example: Thighs, butt (glutes), calves, chest, shoulders, arms, and core (abdominals). Please note that several exercises target more than one muscle. For example, the push-up primarily targets your chest, but is also an excellent exercise for your shoulders, triceps, biceps and abdominals.

I wish you much success and enjoyment as you start on your journey to transform your body! Stay positive, stay focused. Remember, *the mind quits before the body*.

Sample Full-Body, Bodyweight Workout

After 5-10 minutes of light movement for warm up and gentle stretching…

1. Squats - 3 sets of 8-12 reps (repetitions)
2. Lunges - 3 sets of 8-12 reps (each leg)
3. Calf Raises – 3 sets of 8-12 reps and pause at the top of each raise to contract your muscles for 2-3 seconds.
4. Push-ups – 3 sets of 8-12 reps. You can start with Bent Knee Push-ups if push-ups initially prove to be too difficult.
5. Dips – 3 sets of 8-12 reps.
6. Planks – 3 planks, each according to however long you can maintain good form. Try for 30 to 60 seconds each.
7. Side Planks - 3 planks, each according to however long you can maintain good form. Try for 30 seconds each. You can start with modified side planks with your knees bent if the side plank initially proves to be too difficult.

Once you've completed your workout, you'll want to warm down. This will help "rinse" your muscles of the lactic acid that may have built up during your workout. Five minutes of light movement or easy exercises (above but with only 2-3 reps).

Lower Body:
Thighs, Butt, Calves

Squats:

Step 1: Starting Position: Begin standing with your feet slightly wider than hip-width, with the toes turned slightly outwards with your hands by your sides so your palms face inwards. Depress and retract your scapulae (pull the shoulders down and back).

Step 2: Stiffen your core and abdominal muscles ("bracing") to stabilize your spine. Hold your chest up and out, tilt your head slightly up, shift your weight back into your heels while pushing your hips towards the wall behind you.

Step 3: Downward Phase: Start the downward phase by first shifting your hips backwards then downwards to create a hinge-like movement at your hips and knees simultaneously. As you lower your hips the knees will then start to shift forward slowly, but try to control the amount of forward translation (movement) of the tibia (shinbone). Maintain tension in the core muscles (continue bracing) and attempt to keep your back flat.

Step 4: Continue to lower yourself until your thighs are parallel or almost parallel with the floor, until your heels begin to lift off the floor, or until your torso begins to round or flex forward. Monitor your feet, ankles and knees, ensuring that the feet don't move, the ankles do not collapse in or out and the knees remain aligned over the second toe.

Step 5: From the Lowered Position: the knees should continue to remain aligned over the second toe and body weight should be evenly distributed between the balls and heels of the feet. From the side, the position of the tibia (shinbone) and torso should be parallel with each other and the low back should appear flat or showing the beginning of some rounding.

Step 6: Upward Phase: While maintaining your back, chest and head-up position, exhale and extend the hips and knees by pushing your feet into the floor through your heels. The hips and torso need to rise together while keeping the heels flat on the floor and knees aligned over the second toe. Continue extending until you reach your starting position.

TIP: *If you are unsure of your leg strength, try performing the squat with a chair or bench behind you, so if your legs give out, you won't fall.*

Goblet Squats:

Stand with your feet about shoulder-width apart, and hold a dumbbell in a vertical position directly in front of your chest. Keep your elbows close to your rib cage and your back straight while lowering into a squat. Continue lowering until your hips are below your knees, then push both feet into the floor and return back to the original standing position.

Lunges:

Step 1: Starting Position: Stand with your feet together. Depress and retract your scapulae (pull your shoulders down and back) without arching your low back, and "brace" (engage your abdominal/core muscles) to stiffen your spine.

Step 2: In preparation to step forward, slowly lift one foot off the floor, stabilizing your body on the stance (supporting) leg. Avoid any sideways tilting or swaying in your upper body and try not to move the stance (supporting) foot. Hold this position momentarily before stepping forward. The raised (swing) leg should initiate contact with a heel strike first, slowly transferring your body weight into the leading (forward) foot placed firmly on the floor. As you load into this leg, avoid any sideways tilting or swaying in your upper body and try not to move the stance (supporting) foot.

Step 3: As you lunge forward, focus more on dropping your hips towards the floor rather than driving your hips forward. This will help control the amount of forward movement of your shinbone (forward tibial translation) over your foot. Continue lowering your body to a comfortable position or until your front thigh becomes parallel with the floor and your tibia (shinbone) is in a slight forward lean. While lunging, simultaneously, bend forward at your hips, maintaining a flat back.

Step 4: Firmly push off with your front leg, activating both your quads and glutes (thighs and butt muscles) to return to your upright, starting position.

Standing Calf Raises (Wall):

Step 1: Starting Position: Stand 6 -12" away from a wall with your feet hip-width apart and facing forward. Extend your arms to place your palms on the wall, level with your chest or shoulders.

Step 2: Upward Phase: Exhale and slowly lift your heels off the floor keeping your knees extended and without rotating your feet. Use your hands on the wall to support your body. Hold your raised position briefly.

Step 3: Downward Phase: Inhale and slowly lower your heels back towards the floor.

Step 4: Exercise Variation (1): Single-leg Calf Raise: From your starting position, bend your left knee to lift your left foot off the floor and perform single-leg calf raises. Repeat with your right leg. 2. Internal and External Foot Position: Turn your feet inward (to the 10 and 2 o'clock positions on a clock) or turn your feet outward (to the same clock positions) as a starting position and perform your calf raises with both feet or with a single-leg. Turning your feet inward places more emphasis on the medial (inner) muscles while turning your feet outward places more emphasis on the lateral (outer) muscles

Step 5: Exercise Variation (2): Modified Internal and External Foot Position: Turn your feet inward (to 10 and 2 o'clock) or turn your feet outward (to the same clock positions) and perform your calf raises with both feet or with a single leg. Turning your feet inward places more emphasis on the medial (inner) muscles while turning your feet outward places more emphasis on the lateral (outer) muscles.

The gastrocnemius (major calf muscle) contains a higher percentage of fast-twitch fibers thus is better suited to more explosive training. Therefore, once you have mastered your technique, these raises can be performed more explosively (with greater power and force) so you can gain greater benefits from the exercise.

Upper Body:
Chest, Shoulders, Arms

Push Ups:

Step 1: Starting Position: Kneel on an exercise mat or floor and bring your feet together behind you.

Step 2: Slowly bend forward to place your palms flat on the mat, positioning your hands shoulder-width apart with your fingers facing forward or turned slightly inward. Slowly shift your weight forward until your shoulders are positioned directly over your hands. Reposition your hands as needed to allow full extension of your body without any bend at the hips or knees. Stiffen your torso by contracting your core/abdominal muscles ("bracing"), your glute and quadriceps muscles and align your head with your spine. Place your feet together with your ankles dorsiflexed (toes pointed towards your shins).

Step 3: Downward Phase: Slowly lower your body towards the floor while maintaining a rigid torso and head aligned with your spine. Do not allow your low back to sag or your hips to hike upwards during this downward phase. Continue to lower yourself until your chest or chin touch the mat/floor. Allow your elbows to flare outwards during the lowering phase.

Step 4: Upward Phase: Press upwards through your arms while maintaining a rigid torso and head aligned with your spine. For extra strength think about pushing the floor away from you. Do not allow your low back to sag or your hips to hike upwards. Continue pressing until the arms are fully extended at the elbows.

Bent Knee Push Ups:

Step 1: Starting Position: Kneel on an exercise mat or floor and bring your feet together behind you.

Step 2: Slowly bend forward to place your palms flat on the mat, positioning your hands shoulder-width apart with your fingers facing forward. Slowly shift your weight forward until your shoulders are positioned directly over your hands. Reposition your hands as needed to allow full extension of your body from the knees without any bend at the hips. Stiffen your torso by contracting your core and abdominal muscles ("bracing").

Step 3: Downward Phase: Slowly lower your body towards the floor while maintaining a rigid torso and head aligned with your spine. Do not allow your low back to sag or your hips to hike upwards during this downward phase. Continue to lower yourself until your chest or chin touch the mat or floor. Your elbows should remain close to the sides of your body or flare outwards slightly.

Step 4: Upward Phase: Press upwards through your arms while maintaining a rigid torso and head aligned with your spine. Do not allow your low back to sag or your hips to hike upwards. Continue pressing until the arms are fully extended at the elbows.

Dips:

Step 1: Sit down on a bench, hands next to your thighs. (You can also perform a bench dip off a stair or other elevated surface; the same steps apply.)

Step 2: Walk your feet out and extend your legs, (legs can be bent or straight depending on your fitness level). Lift your bottom off the bench and hold there with extended arms.

Step 3: Hinging at the elbow, lower your body down as far as you can go, or until your arms form a 90-degree angle (parallel to the floor).

Step 4: Push up through your palms back to start.

Triangle Push-ups:

Step 1: Get on all fours with your hands together under your chest. Position your index fingers and thumbs so they're touching, forming a triangle shape, and extend your arms so that your body is elevated and forms a straight line from your head to your feet.

Step 2: Lower your chest towards your hands, ensuring you don't flare your elbows out to the sides and keeping your back flat. Stop just before your chest touches the floor, then push back up to the starting position.

TIP: This exercise can prove to be somewhat difficult when you first start out, but stick with it (even if just for 2-3 reps); it's an excellent way to target your triceps.

Core:
Stomach

Plank:

Step 1: Starting Position: Lie prone (on your stomach) on an exercise mat or floor with your elbows close to your sides and directly under your shoulders, palms down and hands facing forward. Contract your quadriceps to extend your legs and dorsiflex your ankles (pull toes towards your shins). Contract your core and abdominal muscles to stiffen your torso.

Step 2: Upward Phase. Slowly lift your entire torso off the floor or mat, maintaining a stiff torso and legs. Avoid any arching (sagging) in your low back, hiking (upwards) in your hips or bending in the knees. Avoid shrugging your shoulder and keep your shoulders positioned directly over your elbows with your palms facing down. Continue to breath while holding this position for a specified time (5+ seconds). Some people prefer to hold this position for 30 seconds or a minute or more.

Step 3: Downward Phase: While maintaining a stiff torso and extended knees, gently lower your body back towards the mat or floor before relaxing.
If you experience any pain in the low back with this movement, stop the exercise immediately and consult with your doctor.

Glute Bridge: (Glutes and core)

Step 1: Starting Position: Lie supine (on your back) on an exercise mat or the floor in a bent-knee position with your feet flat on the floor. Place your feet hip-width apart with the toes facing away from you. Gently contract your abdominal muscles to flatten your low back into the floor. Attempt to maintain this gentle muscle contraction throughout the exercise.

Step 2: Upward Phase: Gently exhale while holding your abdominal contraction and press your hips upwards off the floor into extension by contracting your glutes (butt muscles). At the same time press your heels into the floor for more stability. Avoid pushing your hips too high as this generally increases the amount of hyperextension (arching) in your low back. Maintaining your abdominal contraction helps avoid excessive arching in your low back.

Step 3: Lowering Phase: Inhale and slowly lower yourself back towards your starting position.

Step 4: Progression: Gradually progress this exercise by starting with both feet together and extending one leg while in the raised position.

TIP: Avoid arching your lower back as your press your hips upward which normally occurs if your attempt to push your hips as high as possible. This can be achieved by contracting your abdominal muscles prior to lifting, and keeping them engaged throughout the lift

Side Plank:

Step 1: Starting Position: Lie on your right side on an exercise mat with extended legs, placing your left leg directly over your right leg and stacking your feet one on top of the other. Place your right elbow directly under your shoulder, align your head with your spine and keep your hips and right knee in contact with the exercise mat.

Step 2: Upward Phase: Exhale, gently contract your abdominal / core muscles to stiffen your spine and lift your hips and knees off the mat, keeping contact with the side of your right foot and keeping your head aligned with your spine. Keep your right elbow positioned directly under your shoulder.

Step 3: Lowering Phase: Inhale and gently return yourself to your starting position. Alternate sides and repeat.

Step 4: Exercise Variation: You can increase the intensity of this exercise by (1) increasing the length of time you are in the raised position, (2) raising the upper leg off the lower leg or (3) raising the lower leg off the floor and maintaining contact with your elbow and the foot of the upper leg only. When raising the upper leg off the lower leg, there is no need to raise it to a level beyond parallel with the floor.

Wishing you much success as you Jumpstart Your Fitness Journey!