

THE FAST-5 DIET AND THE FAST-5 LIFESTYLE

A LITTLE BOOK ABOUT MAKING BIG CHANGES

BERT W. HERRING, M.D.

I M A G I N E

a diet that lets you eat what you want,
with no food or food group off-limits.

Imagine a diet that works without
drugs even if you don't exercise.

Can you imagine a diet that lets
you eat until you are full? One

that doesn't require measuring
foods or keeping track of points?

How about a diet that's so easy
to keep that you stick with it

after you've lost the weight you
wanted to lose, so the pounds stay

off? Imagine that all this comes in a

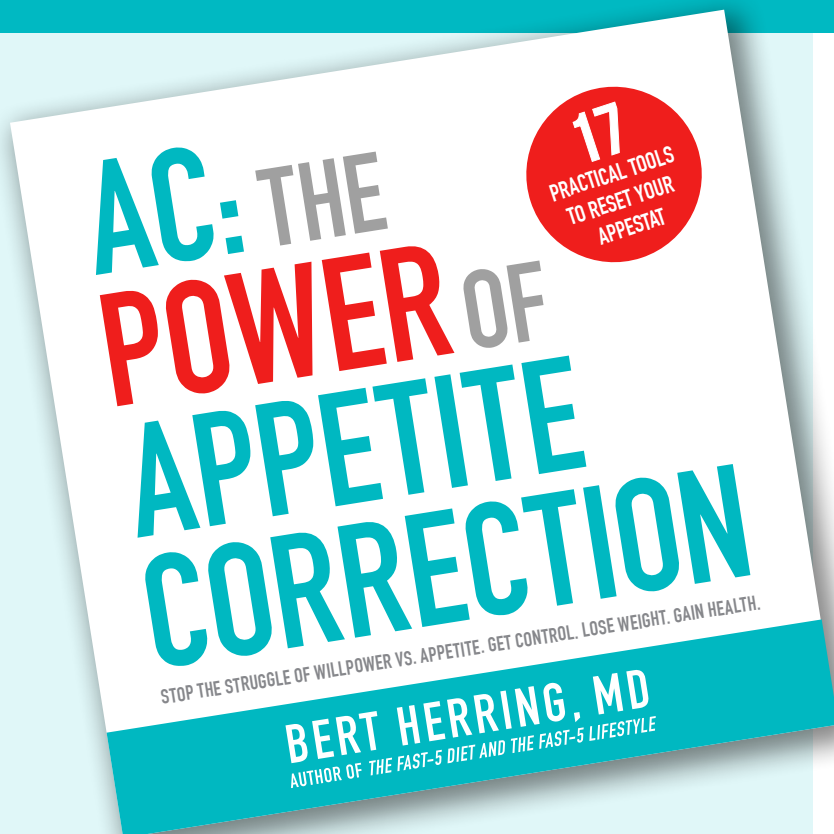
single diet, one that may even prolong
your life. It's too good to be true...isn't it?

It's all in this little book. As soon as you
begin the Fast-5 diet plan, you'll discover
how much our culture encourages overeating.
Escape from the cultural rut. Take control.

ENJOY THIS FREE DOWNLOAD AND DON'T FORGET TO READ DR. BERT'S **NEW** BOOK
BASED ON 10+ YEARS OF REAL-LIFE USER EXPERIENCE WITH FAST-5
FROM THOUSANDS OF PEOPLE ALL AROUND THE WORLD!

ARE YOU FIGHTING YOUR APPETITE?

ACHIEVE LONG-TERM SUCCESS WITH AC: *THE POWER OF APPETITE CORRECTION*.



ORDER NOW*



*If you received a discount code from Dr. Bert, you may apply it to a purchase at Shop.BertHerring.com

Thanks to Dr. Bert, thousands of people all over the world have experienced freedom, power and control over food and appetite.

AC: The Power of Appetite Correction looks at why people overeat and provides 17 non-drug, non-surgical lifestyle tools that really work to reset appetite.

The customizable tools in **AC: The Power of Appetite Correction** can help you find a personal, balanced lifestyle that works with your body to achieve long-term success while you have fun, enjoy rich social times and have plenty of energy for your favorite activities.

APPETITE CORRECTION MEANS:

- ☒ No constant, draining demand for willpower
- ☒ No shakes or packaged food gimmicks to buy
- ☒ No calorie counting required
- ☒ Exercise is not required
- ☒ No food is off limits

My Eureka: "Well, duh!"

It's been ten years since I first used this weight loss tool, back in 1995. I had put on about twenty extra pounds after leaving the Marines and had tried the eat less, exercise more approach. That knocked off a couple of pounds; they came right back. Then I tried the technique I now call Fast-5. The twenty pounds melted away like wax under a blowtorch. I saw ridges and valleys in my body I'd never seen before. My love handles, present for a lifetime, disappeared. Satisfied, I returned to my typical American diet.

Ten years passed; the pounds and the love handles gradually came back. Once more, there were twenty pounds too much of me. I turned to Fast-5 again. Twenty weeks later, the twenty pounds were gone. Like magic, like clockwork. It was so remarkably reliable, so uniquely effective, and so relatively easy that I looked for answers to the questions "Why?" and "Could this technique work for others, or is it just a quirk of mine?"

"Well, duh," I said to myself as the answer assembled itself from the pieces of my research. The answer to "Why?" was blindingly clear, as obvious as the solution to a preschool puzzle. The answer to the other question was equally evident. It can work for others and it has, so I present it here for your use.

Be careful with that blowtorch.

A handwritten signature in black ink, appearing to read 'Bert Herring'.

Bert Herring, MD

Notice:

This book is written for reference purposes only and is not to be considered a medical guide or text. It is not to be regarded as medical advice, and it must not be substituted for a physician-prescribed treatment plan. Information is presented here to illustrate one approach to weight-reduction dieting and to assist you in making choices about dieting. Do not begin, end, or alter a medically-prescribed treatment plan, prescription, or diet based on the content of this book. Consult a physician if you believe you may have a medical problem or if you are unsure whether this or any diet plan is appropriate for you.

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The Fast-5 Diet and the Fast-5 Lifestyle

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Published by Fast-5 LLC, Box 5671, Jacksonville, Florida 32247

First Edition

Fast-5 is a trademark of Fast-5, LLC.

Manufactured in the United States of America.

Library of Congress Control Number: 2005933568

ISBN 0-9772534-0-6

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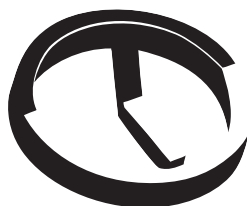
A little book about making big changes

Bert Herring, M.D.

PUBLISHED BY FAST-5 LLC

JACKSONVILLE, FLORIDA

WWW.FAST-5.COM



INVASIONS OF ARMIES MAY BE RESISTED, BUT NOTHING CAN
STOP AN IDEA WHOSE TIME HAS COME.

—VICTOR HUGO

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Acknowledgements

I give my thanks to the early adopters (G.Y. and T.A.) of this diet, and to my wife, whose insistence that I was onto something real has helped make this book a reality. My gratitude also goes to my editors and reviewers, including Judi, Lauren, Denise C. B., and Pat M. I also thank Tara for her suggestions and Helen for her patience, flexibility, and support.

Without the funding from taxpayers, the efforts of researchers, and the industry of the staff of the National Library of Medicine who have made the research results accessible, this book would have no foundation.

About the Author

Dr. Herring is a graduate of Southwestern University and Texas A&M College of Medicine. After medical school, he served four years on active duty as a medical officer in the U.S. Navy, assigned to the Marine Corps' Third Marine Regiment in Kaneohe, Hawaii.

Following his Navy service, Dr. Herring joined the Public Health Service as a researcher in the Metabolism Branch in the National Cancer Institute of the National Institutes of Health, after which he retired his medical license. He resides in Jacksonville, Florida with his family.

Precautions:

First, Do No Harm

This book is written to assist people who are overweight and are otherwise healthy in their effort to reach a goal weight consistent with good health and longevity.

Safety is most important. If you do not feel you are able to undertake this diet safely, do not do so. If, while beginning or maintaining this diet, you experience light-headedness, dizziness, changes in vision, headache, or nausea, it is probably an indication that your body has not adapted to the fasting period. Eat something, then decrease the amount by which you're advancing your fasting duration. If symptoms persist, seek medical attention immediately.

Do not attempt to follow this guide if you are not a fully-grown adult. As an adult, you decide for yourself whether to undertake this diet and accept the full risk of choosing to do so.

Do not apply this eating regimen to a child or children.

Do not attempt to follow this guide if you are or may be pregnant or if you are nursing.

Do not attempt to follow this diet without a physician's supervision if you are taking any long-term medication or have a medical condition that is permanent or long-term in nature such as diabetes, epilepsy, heart disease, high blood pressure, or strokes. Obesity (greater than 20 percent overweight) is a long-term medical condition distinct from being overweight that involves substantial changes in

physiologic status and may cause unpredictable responses to a change in diet. The obese individual should consult with, and be monitored by, a physician while pursuing the Fast-5 plan.

The material presented in this book is for your consideration and personal evaluation. It is not to be considered or acted on as medical advice.

Introduction

The *Fast-5 Diet* is the temporary use of the Fast-5 plan to lose excess fat and reach a goal weight. The *Fast-5 Lifestyle* is the permanent adoption of the Fast-5 plan to maintain a lean weight and sustain a reduction of calorie intake that may have substantial health and longevity benefits. The practice of the diet and lifestyle is the same.

If you are over your desired weight now, that means that your eating pattern (diet) of recent years is not a good one for you to maintain for the rest of your life. If it added excess fat in the past, it will do so again. You cannot start any weight-reduction diet and expect to go back to your former eating habits without the weight coming right back. To avoid regaining the weight, you have to make a permanent change.

The guide to successful adoption of the Fast-5 diet and lifestyle is presented first (Section I) followed by the explanation and resources supporting the Fast-5 approach (Section II). If, after reading this introduction, you feel the Fast-5 plan is intimidating or believe it is too austere or too radical to adopt, please skip to Section II. Understanding why the diet works and why it is not as radical as it sounds can help you successfully adopt it. If you read only the introduction, start on the Fast-5 plan, then find yourself failing, please read the remainder of the guide. If you're successful after reading only this introduction, your result is worth far more than you paid for this book even if you never read past page six. The framework of the Fast-5 plan is so simple it is fully described in the next three pages.

The Fast-5 Steps:

- 1. Learning**—What to do and why it's worth the trouble.
- 2. Goal Setting**—Determine your ideal weight.
- 3. Adjustment**—Extend your present nighttime fast to 19 hours, so you eat only between 5 PM and 10 PM daily.
- 4. Active Loss**—Lose a pound per week on a diet you can manage.
- 5. Maintenance**—Keep the weight off.

Four things you must know to be successful:

1. Fasting has been associated with harsh self-denial and brings to mind images of arcane monks and granola-fueled waifs. Nothing about the Fast-5 diet is harsh, and it's not about self-denial. It is based on science and results and has no connection to spiritual or religious traditions. The Fast-5 plan has the potential to liberate you from the excess weight you carry and the stigma that goes with it. The Fast-5 steps help your body adapt to a routine that allows you to turn away from food without superhuman willpower, building a sense of achievement and self-confidence, not self-denial. The Fast-5 approach is easier than it sounds because of an amazing and surprising characteristic of hunger: given adequate adjustment, eating nothing during the daily 19-hour fasting period can be far easier than eating little. Hunger becomes a milder, more distant sensation instead of a behavior-controlling drive. Fast-5 is not a starvation diet; when you eat, you eat until you are full.

2. Adjustment to the plan (Step 3) is a big step—such a big step that you should think of it as you would think of climbing a sandy hill. It takes a lot of little steps and you should not approach it expecting to not slip at all. In the Adjustment phase, you are changing from a lifetime pattern of constant glucose availability to a daily fill-up. Your body adapts by using fat and ketones (*KEE-tones*) as fuel instead of glucose. Fat released from fat cells is modified by the liver to form ketones. Every body part except the liver, which can make its own glucose, will happily use ketones for fuel. The brain, which doesn't run on ketones alone, gets a bit of glucose from the liver via the bloodstream. Because the adjustment is a huge change, you are likely to experience days when you can't quite make your goal and you succumb to your eating drive. That is not failure to stick with the diet—it is a predictable slip. If you slip, then just keep taking the little steps that get you to the top of the hill. Some people can make the switch in a day; others may take weeks. Pace yourself and do not expect instant results from the diet or immediate adjustment from your body.

3. The Fast-5 plan is a five-step adaptation to a new lifestyle, not a crash diet. You should not expect weight loss until Step 4 (Active Loss), and then a pound per week is a reasonable goal.

4. The word “breakfast” is a combination of the old words “breken” and “faste,” meaning “break the fast.” The fast is the longest part of the day when no food is consumed. In American culture, this fasting period typically extends from after dinner through sleep until morning, but it may be shortened by late-night snacks or drinks. In this book,

the term *break~fast* (pronounced *brake-fast*) indicates the first meal eaten in the day no matter what time of day it occurs. As you adjust to a longer fasting period, break~fast comes later in the day, passing from morning to lunchtime, then later still, until break~fast is at or after five o'clock.

Section I

The Plan

Step 1—Learning

Step one is learning what to do and what to expect. There's not much to learn, so you'll be at Step 2 after a few minutes of reading. There's nothing to count and nothing to measure. There are no tables to remember, no special recipes, and there is no food to avoid. You don't even have to weigh yourself, but doing so can provide encouraging feedback.

The Fast-5 diet calls for a single, dramatic change: extending your daily fast from whatever it is now (it may be only the time you're asleep) to 19 hours, so you eat only between 5 PM and 10 PM. For a couple of weeks after pushing break-fast to 5 PM, you may experience compensatory overeating during the 5 PM–10 PM window, but that's no problem. As you stick with the plan, your ability to turn away from food during the day increases, your appetite during the eating window decreases, and your calorie intake falls by around 500 calories a day—enough to lose about a pound per week. One pound per week may not seem like much, but it's 52 pounds per year—almost tenfold better than the typical weight loss seen in a study of the most popular diets. A pound per week is a tolerable pace when you get to eat your choice of food.

That's all there is to it. From 10 PM one day to 5 PM the next day, you eat nothing and drink only unsweetened or artificially-sweetened beverages having negligible calorie content such as water, flavored water, regular or herbal tea, coffee, or diet sodas. No juice, milk, or alcohol-containing drink should be consumed until after 5 PM.

How big is this change? On a typical schedule, the fast that breakfast breaks is about 12 hours, from the end of dinner at 7 PM to the start of breakfast at 7 AM, assuming no after-dinner snacks. The Fast-5 plan extends that fast to 19 hours. It is a significant increase, but it is not in the same league as the multi-day fasting associated with emaciated monks and skeletal waifs.

You're invited to climb the hill. No one can climb it for you. If you slip, the hill doesn't get higher. It remains, awaiting your next effort. No matter how many times you slip, as long as you make a tiny bit of progress each time, you will get to the top. In order to keep trying, it is best to know what justifies your effort to reach the summit.

Once you have adjusted to the Fast-5 routine, you can expect:

- To lose about a pound per week, yielding a 52-pound weight loss in a year, if you have that much to lose;
- To be no more hungry, and probably less hungry, than what you experience before mealtimes now;
- To be able to pass up food and decline offers of food throughout the day, no matter how tempting they are;
- To realize, face, and resist the substantial social pressures built into our culture and customs that push you to eat based on a schedule rather than on hunger or appetite.

When you think of extending your nightly fast from whatever it is now to 19 hours, you may think:

- 1) I can't do it—I don't have that much willpower.
- 2) It can't be healthy.
- 3) I'll just binge after the fast and make up for all I didn't eat during the day.

If one has trouble going four hours without eating, how can 19 hours be easier? The answer is the reason this book is in your hands; it's the “magic” of the Fast-5 plan.

The Fast-5 routine changes how the body responds to food and it changes the rhythm of hunger. This makes the 19-hour fast easier to keep than a conventional reduced-calorie diet. A peek behind the magic reveals some sound reasons why the Fast-5 diet works:

Reason 1: Sleeping prepares our bodies for a prolonged absence of food. How often does hunger awaken you from sleep? For most people, it rarely if ever happens, even though the duration of sleep is a longer stretch without food than any other interval between meals.

Reason 2: Once your body is using energy from storage (fat) rather than from fresh glucose absorbed from digesting food, it's easier to keep this steady state than to flip back and forth from fat to glucose and back again. Changing back and forth causes fluctuations in the levels of hunger-related hormones (insulin, ghrelin, leptin, and more). The sensation of hunger may be caused more by the changing levels of these hormones than from lack of food in the stomach or gut.

Reason 3: If you have committed yourself to the 19-hour fast, there is no question about how much food you should be eating during the fasting period. You don't have to make a moment-by-moment decision on a limit or decide how closely you'll stick to your diet. When your limit is zero, you don't have to decide when to stop eating because you don't get started. There is no judging between a little, a little more, and too much. Zero makes it easy to measure how much you should eat, and it keeps *limbic hunger* from wedging its way into your decision-making and taking control.

Limbic (LIM-bik) hunger is a name for what happens when your eating behavior conflicts with your long-term preference to eat less. The name "limbic" comes from the limbic system, the part of the brain that connects primitive drives, emotion, and memory. For primitive humans, eating a lot when there was food available was a great idea. The "sweet tooth" many people have may be nature's way of encouraging us to seek out and eat fruit, because we need the vitamins the fruit contains.

You can't eat just one potato chip because of limbic hunger. Eating one chip triggers more appetite because primitive limbic signals tell our brains we should eat as much as we can while the food is available. This leads to more eating, connecting in a vicious circle that doesn't stop until the bag of chips is empty. The ancient instinct takes control of behavior, ignoring higher thinking and preferences. Limbic hunger in a land of plenty causes one to eat too often and eat too much.

Limbic hunger can be impulsive and stealthy. You decide to eat just one doughnut. A few minutes or a few hours later, in the middle of the second or the third doughnut, you remember your decision to eat only one. You chose to stop at one, but something let you reach out for that second or third doughnut. That something is limbic hunger overriding your willpower and your conscious preference to eat less.

Somatic (so-MA-tik) hunger is the sensation of discomfort in the stomach area that is commonly called hunger or hunger pangs. Somatic hunger is the result of the interaction of many hormonal and nerve signals and incorporates more information than just whether the stomach is empty. By itself, this sensation can be unpleasant. As long as it stays out of the mind, it's tolerable, like a sore ankle or a bruise. You may consider this sensation to be far beyond unpleasant and totally intolerable. Be assured, that can change.

Nature is not stupid. If hunger alone were to incapacitate a hunter by being excessively distracting or intolerable, then the hunter would be unable to hunt and the species would have died off long ago. We're built with more resilience than that. As time goes by on the Fast-5 plan, the sensation of hunger becomes less frequent, less intense, and much less distracting.

Humans evolved in an environment in which meals were likely a once-a-day event because it took hours, sometimes days, to hunt the wild game, then hours more to prepare it. The kill was consumed in a single sitting because there were no refrigerators to hold leftovers for a midnight snack or a later day. Several hours after the end of the meal,

bacterial growth on the uneaten portion of meat could make the food sickening or inedible, sometimes even lethal. It's no wonder dogs became man's best friend—they ate all the leftovers in the prehistoric days. If dogs didn't get the uneaten food, then ants, flies, mice, rats, and bacteria would.

In summary, a once-a-day eating pattern makes sense for weight loss because it creates a long, steady, fat-consuming period. Before going to Step 2, remember the following points:

- 1) Fast-5 is not radical, it's not a crash diet, and it is not unhealthy. Better health is quite clearly the point of the Fast-5 diet.
- 2) The “fast” in the Fast-5 plan is a gradual extension of the existing fasting period people already have as they sleep.
- 3) You can do it, and it's neither as extreme nor as difficult as it sounds.

Step 2—Goal Setting

Set a goal. It doesn't have to be a goal weight, but that is most common. Your goal may be fitting into an old pair of jeans, having a certain fat bulge gone, or something similar. Your goal should reflect a lean body status, not a weight lighter than you are now, but still with excess fat.

It is very important that you be truthful with yourself or you will never be satisfied with your result. You will think the diet has failed you and you'll go back to your old eating pattern and keep gaining weight. Even if you think it will take years to reach your goal, set it where it should be.

Write your goal in the blank on page 57 and post it somewhere you'll see it every day. If you want a "before" picture to compare to an "after" picture later, now is the time to have it taken. Most people have a good idea of what they'd like to weigh. If you're not sure what a lean weight is for you, look for your height in the graph on page 53 and determine a weight in the "healthy weight" range to set as your goal.

Here's another way to find your goal weight. For women, start at 100 pounds for five feet, then add five pounds for every inch over five feet. For men, start at 106 pounds for five feet and add six pounds for every inch over five feet. Add 10 percent for a large frame, or deduct 10 percent for a small frame. Measure around your wrist with a cloth tape measure. If you don't have a cloth tape measure, cut a strip of paper at least eight inches long. Wrap the paper around your wrist, mark the circumference, then measure from the end to the mark with a ruler or metal measuring tape.

Find your wrist measurement in the row containing your gender and height in the table, then look at the top of the column to find your frame size.

Feet-Inches	Small Frame	Medium Frame	Large Frame
Female under 5-2	Less than 5 ½"	5 ½ – 5 ¾"	Over 5 ¾"
Female 5-2 to 5-5	Less than 6"	6 – 6 ¼"	Over 6 ¼"
Female over 5-5	Less than 6 ¼"	6 ¼ – 6 ½"	Over 6 ½"
Male over 5-5	Less than 6 ½"	6 ½ – 7 ½"	Over 7 ½"

You may want to write your goal weight on a calendar, in your personal blog (web log), or in a progress blog at www.fast-5.com. Now that you have your goal weight in mind, it may be refreshing to imagine life without carrying the extra weight around. To calculate your percentage of excess weight, subtract your ideal weight from your current weight, multiply the result by 100, then divide by your ideal weight.

To better appreciate the burden you're putting on your body by carrying your extra weight, the next time you're in a sporting goods store or a gym, stack up your excess weight in barbell weights. Even for someone mildly overweight, the excess amount can be a formidable load to be carrying all the time.

How much extra are you carrying? Here's a cumulative list of what you have to gain from losing, based on a person whose lean weight is 140 pounds.

20 percent overweight (28 extra pounds, weight 168):

At this point, there's a mild increase in the load on your ankles and knees. The burden is comparable to carrying a backpack with four textbooks in it at all times.

40 percent overweight (56 extra pounds, weight 196):

There's a substantial increase in the load on your ankles and knees, comparable to carrying a fully-loaded military backpack at all times. Cumulative load: backpack with four textbooks plus 3½ gallons of milk.

60 percent overweight (84 extra pounds, weight 224):

This is equivalent to carrying an 11-year-old child or a fully-grown Labrador retriever around at all times. Hips, knees, ankles, and feet may have accelerated arthritis due to overloading. Cumulative load: backpack with textbooks, 3½ gallons of milk, and a 20-inch chain saw.

80 percent overweight (112 extra pounds, weight 252):

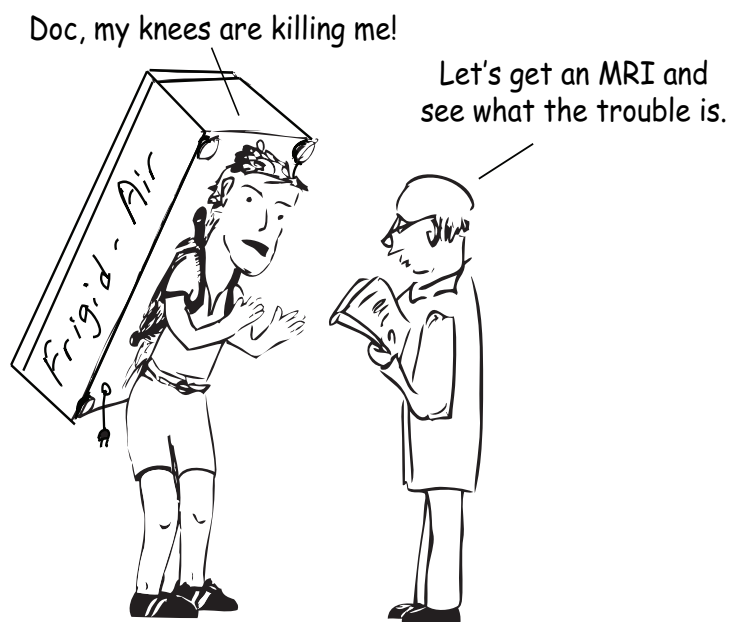
This burden is like carrying a smaller adult or a full-size recliner around at all times. If your feet, knees, and back hurt, it's no wonder. Cumulative load: backpack with textbooks, 3½ gallons of milk, a 20-inch chain saw, and a folding wheelchair.

100 percent overweight (140 extra pounds, weight 280):

At this weight, you are carrying your lean self, a washing machine, or a 15-cubic foot chest freezer around at all times. Cumulative load: backpack with textbooks, 3½ gallons of milk, a 20-inch chain saw, a folding wheelchair, and a bushel of okra.

The extra weight you carry is distributed all over you, so you may not realize how much it is weighing you down. Every move you make requires moving that extra weight, which

often means you move less and less as you get heavier. If you move less, you use less energy, so your body has more excess fuel to store. With more excess fuel to store, you get fatter. To escape from this constricting spiral, you have to make a big change. The next chapter is about how to succeed in making that change.



Step 3—Adjustment

You must consider and accept your current eating habits to form an adjustment plan that will work for you. Pretending or minimizing will set you up for failure. If your current daily eating pattern includes multiple snacks—even the smallest bit of food like a piece of candy, chewing gum, or mints counts as a snack—you should expect a longer adjustment period than if you usually skip breakfast, eat lunch, then have dinner with no in-between snacks.

To take a proper accounting of snacks, you should include any calorie-containing drinks. Do you drink coffee with cream and/or sugar? Sugar-sweetened sodas, lemonade, or tea? Alcohol-containing drinks? Count each as a snack. To your body, every packet of fuel that comes into the stomach looks like a snack, whether it's liquid before it enters your mouth or not. As you'll see in the Calorie Creeps table (page 30), some liquid snacks pack a meal-sized calorie content.

Part A: Push break~fast to lunchtime.

If you already skip breakfast routinely and have no midmorning calorie intake, skip ahead to Part B. If you do eat breakfast, it is also your break~fast. Start your adjustment by delaying break~fast, whatever and whenever it is, until noon. Many people will be able to skip breakfast and have lunch at their usual time without any significant change in their pre-lunch hunger. If you cannot skip breakfast, gradually delay it. Substitute something you can eat quickly, such as a breakfast bar or breakfast drink, for your usual

breakfast so you can have it at the appropriate time. Delay consuming it by 30 minutes every two days until you've reached the noon mark, and then continue with Part B. What about breakfast being the most important meal of the day? This slogan is brought to you by the same system that has helped make 65 percent of Americans overweight; it has helped to sell a lot of breakfast cereal and toaster pastries. You can see for yourself whether you're better off with breakfast or without it. Put it to the test.

Part B: Push break~fast to 5 PM.

When you are consistently going without a morning meal, lunch is now your break~fast. If your lunchtime is not fixed by a rigid schedule, choose a start time for lunch, such as noon. Mark a calendar with your break~fast time, delaying it by 30 minutes every couple of days, so you know exactly when you can let yourself eat. Keep this up until break~fast time is 5 PM. If your fasting tolerance is developing well, you can advance the time increment to an hour a day. With no setbacks (or jumps ahead), the adjustment from a noon break~fast to a 5 PM break~fast will take 18 days. If you are unable to maintain your fast to the scheduled break~fast time, don't stop trying. Use the same break~fast time for the following day. Keep trying until you make it a couple of days in a row, then push break~fast back by another 30 minutes.

While fasting, drink lots of water, diet drinks, or unsweetened tea. Coffee's fine too. Without cream or sugar, it has a negligible calorie content. This phase is a good time to try different kinds of herbal, green, or regular tea and see if you find one you like. Artificial sweeteners

are acceptable; aspartame may be better than sucralose because sucralose may have unpleasant side effects on your gut when it is the only thing you're consuming. Explore new tastes such as flavored seltzer/soda products to add variety, or make your own with club soda and a dash of lemon or lime juice concentrate.

Prior to your break~fast time, identify something nutritious and filling that you will eat first as your break~fast food (a banana, granola bar, high-protein drink—whatever is the best of what's available). Keep something like carrots, grapes, apples, peaches, peanuts, or a box of high-fiber breakfast cereal around so you can avoid sugary alternatives. If you're hungry at your scheduled break~fast time, eat the designated break~fast food first, before you eat any of the less nutritious snacks you've been eyeing all day. If you're not hungry, wait a while. As you eat or drink, focus on your hunger. How much food does it take to make the somatic hunger go away? Try to stop there and get busy with something else. What if you can't stop? No problem as long as you stop sometime and stick with your schedule. If you have binges, don't worry. Keep taking little steps toward your goal. The binge-eating should subside as your body and brain adapt to the new eating rhythm. While your gut is adapting to the change, you may notice some changes in your bowel activity that resolve as your body adjusts to the new eating pattern.

In the Adjustment step, your body is changing its primary fuel source from glucose absorbed from food to ketones and fatty acids released from fat cells. As your stored glucose (glycogen) is depleted, the fat burning machinery gears up, making fasting easier as your body adapts.

Caution: Don't break your fast with alcohol. Alcohol is acceptable in the Fast-5 plan, but it should not be the first or only part of your break~fast consumption. Alcohol intake immediately after your fast may inhibit your liver's metabolism and cause your blood sugar to drop to unpleasant or even unsafe levels. This effect of alcohol is debated in the medical literature, but it is best to be safe. The absorption of alcohol by your empty stomach may be much faster than you would usually experience, resulting in unexpected levels of intoxication.

You do not have to eat right at 5 PM to stick with the Fast-5 plan. Your eating window opens at 5 PM. After that, what you eat and when is up to you until the window closes at 10 PM.

Step 3 Summary: Prolong your fasting period after awakening until you've reached a 5 PM break~fast.

Success? Continue to Step 4.

If you don't succeed with this step, be sure to read or re-read Problems & Solutions (page 37). Determine what is interfering with your effort. Step back and try to beat that interference just once. When you've done it, work at it until you've beaten the problem two days in a row. When you've done that, go for three days in a row, and keep going until beating the interference is routine. Go on to Step 4 when your break~fast is routinely at or after 5 PM.

Step 4—Active Loss

If you've successfully completed Step 3, you're now having break-fast at 5 PM or later. All there is to Step 4 is doing it again. And again. And again. The good news is that it gets easier the longer you do it.

After about two weeks of daily fasting, your stored glycogen will be depleted. Your fat-handling enzymes will be fully activated, increasing your body's ability to metabolize fat, because that's all there is for it to run on for 19 hours out of the day. As your fat metabolism increases, so will your production of ketones. Ketones are a family of naturally-made chemicals that have a scent described as fruity or sweet. As your fat-metabolizing machinery gears up, those around you may notice this unusual aroma on your breath. Consider it a badge of success, because it is evidence that you are burning fat instead of glucose, and you are on your way to your goal weight. As your body improves its ability to use the ketones as fuel, the presence of ketones on your breath should diminish. The ketone smell can be masked using non-caloric breath fresheners.

Once you adapt to the fasting conditions, you may lose about one pound or more per week, but the best measure of success is relative. Every week you should weigh measurably less than the week before. As long as your weight is going down from one week to the next, you'll eventually reach your goal. Getting to your goal and staying there is far more important than getting there quickly. Do not expect to see loss every day. There is too much variation in water, salt retention, and other factors to reliably compare one day to

the next. You can still measure daily, record your weight on pages 57-58, then look at the numbers you've entered in one column to see how the weekly trend is going. You can then predict how long it will take to reach your goal.

To track your progress and provide encouragement, it is very helpful to have a scale that is both accurate (it reads your actual weight) and precise (when loaded with the same weight at different times, it gives the same reading). Some digital scales vary by as much as half a pound with each measurement, making them useless for daily or weekly measurements. To test a scale for precision, step on the scale and get a weight reading. Step off the scale, then step back on. A precise scale will read the same weight every time. The Salter 905 and Soehnle's Alpha and Gamma models, available for around \$45-\$75, do a nice job of delivering reproducible results. For consistent tracking, you should weigh yourself each morning upon awakening, without any clothing and after urinating.

During the Active Loss step, you eat what you want in the five-hour period after your break-fast. Is this license to eat candy and ice cream for dinner every night? No, but doing that once in a while is not a problem. The unlimited variety and flexibility of personal choices within the Fast-5 diet make it a diet you can maintain indefinitely.

You may have binges that add up to all the food or more that you didn't eat during the day. Stay on track with the diet and things will stabilize. Typically, your break-fast consumption will gradually decrease, and you will feel fine on a fraction of the calories you would have consumed in a day prior to starting the Fast-5 diet. If you want to

maximize the health benefits of your fasting, make your break-fast and any food consumed until 10 PM a balanced mix emphasizing fruits and vegetables.

Getting into the fasting groove gives you the willpower you need to pass by the doughnut box left open at the office. You can leave the candy in the candy jar or drive by the burger joint. Limbic hunger doesn't get the chance to take control, and the invasive, distracting nature of somatic hunger becomes a milder sensation that reminds you that you're doing something good for yourself. Not only is the weight loss good, you also save time and money on breakfast and lunch.

Exercise can accelerate your Active Loss and help preserve your muscle mass (so you're burning fat, not muscle, for fuel), but make changes gradually. It is not a good time to abruptly take up a highly strenuous exercise program. If you are accustomed to some pattern of exercise, by all means, keep it up. If you don't exercise at all, add some light exercise like walking a little at lunchtime instead of eating. If, during exercise, you experience nausea, light-headedness, dizziness, changes in vision, or feel unsteady, make the better-safe-than-sorry choice. Back off or stop your exertion and eat something, and if you don't start feeling better promptly, seek medical attention. Even though it is a common complaint and a common explanation for these symptoms, true hypoglycemia (low blood sugar) is extremely rare in non-diabetics.

You may want to check your blood pressure now for comparison later. When you're well into the Maintenance phase, you can check it again to see whether Fast-5 is

having a detectable beneficial effect on your cardiovascular health. If you decide to measure your blood pressure, use an automatic device rather than a person. By using the same device when you measure again in a month or two, you'll have the best chance of getting consistent measurement technique. Sit still for a few minutes before measuring, then measure three times and take the average. If the results are widely different, wait a few more minutes, then take another three readings.

Step 5—Maintenance

When you reach your goal weight, you will need a maintenance plan. Returning to your old eating habits will have you regaining the weight you lost very quickly and waste all your work in adapting and following the Fast-5 diet. You've done the hard part, getting to your goal. Adjusting to steady-state maintenance is something you can fit individually to your lifestyle.

You can maintain your Fast-5 plan indefinitely, and your break~fast and later consumption will balance your needs. In the unlikely event that you are continuing to lose weight beyond your desired point, increase your meal size, cut back on your fasting days, or lengthen your eating window. You may choose to fast only on weekdays or weekends, if that suits your schedule, but changing back and forth between fasting and non-fasting days is more difficult than keeping a consistent schedule. Tailor your schedule to what works best for you, and see the web site for more maintenance ideas.

The human body, like all living things, is a biochemical engine. The machinery in living cells makes the burning of fuel a slow, multi-step sequence instead of the sudden explosive combustion that occurs in a mechanical engine. The summary of the biologic process yields the same chemical result as a mechanical engine: fuel is oxidized (burned) to produce energy, carbon dioxide, and water. Although fuels for mechanical engines (gasoline, Diesel fuel, kerosene) are chemical cousins of fats and edible oils, slight differences make the petroleum-based fuels toxic. In contrast, some mechanical engines can run on edible oils.

The body engine's combustion takes place in tiny components of cells called mitochondria. The cellular exhaust (carbon dioxide) dissolves in the bloodstream and is transported to the lungs and exhaled in the breath. The next breath takes in more oxygen to support the combustion going on in the mitochondria.

The analogy of body engine and gasoline engine gets even more interesting. If you've ever started a lawn mower, you probably put the throttle in the choke position to start it. "Choke" means the engine's getting a lot of fuel and very little oxygen (from the air). The engine starts well in this position, but for it to run smoothly, the throttle has to be moved off choke, reducing the fuel-to-oxygen ratio. If the mixture of air and fuel is right (conveniently termed "lean"), the engine generates maximum power and burns the gasoline cleanly, without producing much soot or sludge. If the fuel-air mixture is kept too rich (too much fuel for the oxygen available), partially burned fuel comes out in the exhaust as soot, and sludge builds up in the cylinders and valves, shortening the useful life of the engine.

Mitochondria, the cylinders of the biologic engine, have the same outcome. Excess fuel promotes the production of damaging waste products (oxygen free radicals), which cause cell and DNA damage. The damage results in aging and according to a number of animal studies, shortens the useful life of the biologic engine/animal.

Calorie restriction (CR) is the medical term for a diet supplying only a fraction (usually half to two-thirds) of a typical unrestricted diet. Animals living on a CR diet

live longer and have fewer health problems than animals able to eat all they want. In some cases, animal models of autoimmune diseases (in which the body's immune system attacks normal structures, such as rheumatoid arthritis, multiple sclerosis, and lupus) have shown improvement with CR. If animal models apply to humans, calorie restriction will result in a longer, healthier life and may reduce or prevent autoimmune diseases and even cancer. More resources and recent studies concerning CR can be found at www.fast-5.com.

If CR has a similar effect in humans as has been seen in animals, maintaining the Fast-5 plan as a permanent lifestyle may yield rewards beyond those directly associated with being your ideal weight. The calorie restriction is a hidden benefit of the Fast-5 diet and lifestyle. You don't have to make a choice to eat less, you just eat less.

After six to eight weeks of Fast-5 maintenance, you may see a slight decrease in your blood pressure. If you don't, it's not a problem, but it can be nice to see some internal results of your effort toward better health. If you do see a drop in your blood pressure, it can help you answer the question "Is the Fast-5 diet healthy?"

If you have a history of high blood pressure, it is absolutely essential that you continue regular follow-up visits with your doctor, regardless of any change seen with Fast-5.

Calorie Creeps

No matter which step of the Fast-5 plan you're in, it's good to know about calorie creeps. Calorie creeps are foods that are casually consumed when location or labeling obscures the calorie content of the food, letting a lot of calories creep into your body, hampering your efforts to lose weight. Like everything else, the items in the table are permitted on the Fast-5 diet after 5 PM. The table indicates how much an innocent-looking indulgence can impede your weight loss effort. For comparison, keep in mind that a typical candy bar has 230-280 calories.

	Calories	Sugars (g)	Carb (g)	Protein (g)	Fat (g)
16 oz Hot Chocolate (whole milk)	450	41	49	14	24
16 oz Latte	260	19	21	14	14
16 oz Nonfat Latte	160	20	24	16	0
12 oz Java Chip frozen cappuccino drink	370	44	54	5	15
Cranberry-Orange Muffin	410	31	53	5	20
Croissant	260	3	28	5	15
11 oz coffee with 1 oz half-and-half & 1 tsp sugar	56	5	5	0.5	3
Cola, 500 mL bottle	208	56	56	0	0

Calories can also creep into your diet using alternative names for sugar or substitutes that have significant calorie content, such as dextrose, fructose, high-fructose corn syrup, glucose, lactose, maltodextrin, maltose, sorbitol, sucrose, invert sugar, juice concentrate, and molasses. Check the nutrition label for calorie content if you're not sure.

Calorie Bombs

Calorie bombs are the foods everyone knows are thick with calories. Despite such common knowledge, the manufacturer may still try to understate the dietary impact. The example used here for illustration is a well-known sandwich cookie. The unrealistic portion labeling practice is common among many snack and drink manufacturers. Cookies, even double-filling sandwich-cookie calorie bombs, can be a part of the Fast-5 diet.

When you indulge in a calorie bomb, indulge. Enjoy it, savor it, and consider the sensations it brings to you. How does it taste? How does it feel? When you have savored the flavor, ask yourself what having another would add to the experience. It doesn't add much, usually. More of the same often adds only calories and delays your progress to your goal. Sometimes the easiest way to avoid losing ground on your weight loss plan due to calorie bombs is to not buy them.

	Calories	Sugars (g)	Carb (g)	Protein (g)	Fat (g)
Double-filling sandwich cookie, labeled serving size (2 cookies)	140	13	20	1	7
Double-filling sandwich cookie, real world serving size (6 cookies)	420	39	60	3	21
Double-filling sandwich cookie, real-world serving size (ohmigod I've eaten the whole bag I just bought the day before yesterday)	2730	253	390	19.5	136.5

Section II

Foundation

Questions and Answers

Q. Can Fast-5 really give me the willpower to pass up snacks and sweets?

A. Yes.

Q. Is it guaranteed?

A. No. People are different, and nothing works for everyone.

Q. How does it work?

A. See the “Physiology” section for all the details. Having one meal a day allows the fat-burning machinery in your body to get to work and stay at work. The steady energy supply keeps you from feeling uncomfortably hungry.

Q. Won't I eat just as much at break-fast as I would have eaten during a non-fasting day?

A. Possibly, and perhaps even more, during the Adjustment and early Active Loss steps. A typical person in the Fast-5 Maintenance phase eats an evening meal that is slightly larger than a pre-diet dinner and has only a modest appetite for evening snacks. The sensation of a full belly develops quickly and creates a stronger urge to stop eating than it does on a customary three-meal-a-day diet.

Q. What can I eat on the Fast-5 diet?

A. Whatever you want, but only during the eating window from 5 to 10 PM. Dietary balance is strongly recommended to maximize the yield for your effort.

Q. What should I eat on the Fast-5 diet?

A. You're only eating one meal a day, so it's worth making it a good one. Strive for balance. Fiber is still essential for good health, and fiber supplements are a good idea if you're not getting much fiber in your diet. Making your break-fast healthy means you reach your goal sooner. You will likely find food more savory when it's a once-a-day event. Eating fish and other foods rich in omega-3 fatty acids may increase the health benefit of your fasting by reducing your cancer risk. Dare to try tofu and other soy products if they are not already a part of your diet. You can follow the food choice recommendations of the American Heart Association and still be on the Fast-5 plan. See www.americanheart.org for more information.

Q. I get irritable or cranky when I'm hungry. What can I do?

A. Irritability may be a part of the Adjustment step. It passes. Hang in there and ask your family/coworkers to hang in there with you, because the result is worth it for you and for them.

Q. Can this little book make such a big difference?

A. The book is as long as it needs to be to tell you how to make a big difference. No filler, stabilizer, preservatives, "results not typical" case reports or unnecessary recipes have been added to fluff the book up to the size the marketing gurus say sells best.

Problems and Solutions

Problem 1.

I keep caving into the social pressure from my friends and schedule to eat.

Discussion:

Our eating customs are the Achilles heel of the Fast-5 plan, and bear a lot of responsibility for the obesity problem in this country. Embarking on the Fast-5 plan reveals just how much social pressure there is to eat. What do you do when you're at a luncheon and everybody's eating? How do you socialize at lunchtime and not eat? That is the biggest problem you're likely to face with the Fast-5 plan. Our society's intolerance of not eating at the expected times is a cultural weakness. When you become keenly aware of how much pressure there is to eat on a customary schedule regardless of hunger, it's no wonder so many people are overweight.

Solutions:

1. There are likely associates in your workplace who have tried hard to lose weight and have not succeeded. If you can get one person to join your effort, the social taboo of not eating lunch is broken. The two of you can invite others to join you in sharing non-eating activities for your lunch break. If two or more people are involved, you turn social pressure in favor of keeping the fast rather than breaking it.

2. Tell your friends and associates in advance what you're doing. They may be very impressed by your willpower when you make it through lunch without grabbing a plateful. Their awareness of your intent can make it easier for you to fast because your pride can be a little bruised if they see you eating and you've told them you're not going to. If they're skeptical or believe the plan is unhealthy, refer them to www.fast-5.com so they can see that it is results-oriented and science-based, not a fanatical crash diet or a metaphysical cleansing ritual.

3. Wearing the Fast-5 lapel pin (available at the web site) can remind co-workers that you're fasting, so they won't tempt you with offers of food. If you see others wearing the pin, you know they won't be eating lunch. You may want to post the Fast-5 logo in your workspace so others aware of the Fast-5 plan will know you're on it.

4. If you can't partner up with someone, you can still avoid the social pressure to eat by getting away from it. This may be especially helpful during Adjustment when your limbic hunger drive is still strong. Get outside and enrich yourself by doing something rewarding instead of eating.

A few suggestions:

Go to the library—one of the few places you can't eat.

Go for a walk, jog, or run.

Go to a yoga or exercise class.

Visit a museum.

Go shopping.

Have tea.

Write a real letter or card.
Catch up on e-mail.
Watch your favorite TV series on DVD or tape.
Clean out your car.
Take a nap.
Meditate.
Meet your lover.
Play a game with a friend or friends.
Plan your break-fast to be healthy and satisfying.
Play a video game.
Write in your personal blog.
Write in your fast-5.com progress blog.
Read a book.
Write a book.
Go to a park.
Smell the roses.

Problem 2.

I get headaches when I don't eat.

Solution:

Headache sensitivity varies widely from person to person. For some, headaches may be aggravated or triggered by going for longer than usual without food. A more gradual adjustment may be necessary to accommodate this sensitivity if the usual remedies such as ibuprofen and acetaminophen are ineffective in relieving your headaches. Once your ketone metabolism is active, you may have fewer headaches than before and be less sensitive to glucose and hormonal variations because of the steady-state metabolism supported by the Fast-5 diet.

Problem 3.

I can't keep the fast until five o'clock.

Solutions:

1. The Fast-5 diet only works if you're truly fasting. One bite is enough to let limbic hunger take control and that little bite may trigger enough insulin release to squelch your fat metabolism. Don't take that first bite until it is time for break-fast, and make sure you're not accidentally breaking your fast with an unrecognized calorie creep (cream, milk, or sugar in your coffee; mints, chewing gum, etc.) before 5 PM.
2. Try mentally focusing to keep the hunger in your belly and out of your head. Do this by mentally squeezing the sensation down into your belly, where it remains a more ignorable sensation.
3. Sleep is crucial. Poor sleep leads to increased appetite and diminished willpower. Allow yourself eight hours of sleep and turn off the TV early so you can avoid stimulating late-night snacking habits. When you've acclimated yourself to fasting, you can get by with less sleep, but get plenty during Adjustment and early Maintenance.
4. If you find yourself dwelling on your hunger, find a distraction immediately. Try to make writing about it in a journal or blog your automatic response rather than heading somewhere to get food.
5. Make sure you drink plenty of liquids. Try "filling up" on something without calories by drinking a glass of water or diet soda quickly.

6. Brush your teeth. This zero-calorie maneuver keeps your dentist happy, has a strong oral stimulus, and still does not add calories. The tooth-brushing ritual is a signal to your body that you won't be eating for a while, so it can help reset the clock. Don't forget to floss.

Problem 4.

When 5:00 gets here, I go on a binge and eat everything in sight.

Solution:

If you haven't been on the fasting plan for more than a month, don't worry about it. If you've been fasting daily for more than a month and still binge, do the following:

- a) Is your weight falling? If so, make sure you have healthy foods around and go ahead and binge on them. Feelings of guilt may somehow tie into limbic hunger, helping to drive a binge, so feeling that it is an acceptable behavior may weaken the drive.
- b) If your binges include calorie-laden sweets, avoid buying them for now and do your shopping only after you've had break~fast and are feeling full.
- c) While on the binge, imagine how much you are truly likely to eat. Cut that amount in half and try stopping at half a binge.
- d) If you've started on a binge, do anything you can to get away from the food, even it means taking a handful

with you. Get outside. Go for a walk. A little time is all it takes for the limbic hunger behind a binge to subside. If you can't get away from the food, sit down, close your eyes, count to 100, and do a mental "reboot." Remind yourself you are not feeling somatic hunger anymore and you've had enough for break~fast.

Problem 5.

My doctor (friend, spouse, personal trainer...) says that fasting burns muscle.

Solutions:

1. Prolonged, multi-day fasting (**not** recommended in the Fast-5 plan) will, if necessary, use muscle protein to make glucose for the liver and brain, since your body cannot make glucose from fat. The daily meal you have with the Fast-5 plan makes protein and glucose available to the liver for use and storage, so it does not have to use protein from muscle. That is why it's important to keep a balanced diet that includes a generous portion of protein and to engage in some light exercise. The dietary protein intake and the use of muscles for exercise work together to protect muscle mass.

2. If you do lose muscle in the weight-loss process despite protein intake and exercise, it's going to be at most about one-twentieth of the weight you lose, or 5 percent. Exercise can restore that muscle, a task that is much easier to accomplish once you have rid yourself of the encumbrance of excess fat.

Problem 6.

My weight keeps bumping up and down.

Solutions:

1. Compare your weight week to week, not day to day, using the tracking sheets at the end of this book or something similar. Day-to-day changes in the amount of salt (sodium) you eat can cause you to hold onto a large amount of water that stays with you for a couple of days until the sodium is excreted. This can cause bumps in your weight that don't correlate with the quantity of food intake. As long as the weekly/monthly trend is down, you should expect some bumps. Bigger meals, a high salt load, or even your bowel and bladder content can make a visible difference on a precise scale.
2. Women may notice period-related weight gain and may have a week without the expected weight loss. The fat loss still occurs but may be masked by fluid retention.

Problem 7.

I have business lunches and it's just too weird/rude/unacceptable to not eat.

Solutions:

1. Eat. Sometimes lunch is an obligatory part of doing business. The best option from the diet perspective is to resist the social pressure to eat, but that's not always practical. As long as the luncheon is not a daily event, the Fast-5 plan can still work for you.

2. Don't Eat. If you have a prominent belly or are otherwise obviously overweight, your abstention is justified and your willpower will be respected if you say "I'll never get rid of this if I keep eating restaurant food—I'm going to pass today and just have tea." Whoever's paying will be grateful, and you'll have greater opportunity to voice your opinions because your mouth won't be full of food.

3. Use Damage Control. Solution 2 won't always work. You don't want to appear weird or you don't want to explain, so what do you do? You eat, but practice damage control. Restaurant chefs pile on the calories to make the food taste the best possible at the lowest practical cost. The portions are often excessive because the food cost for a typical restaurant is only about 10 percent of the total. Serving large portions lets the restaurant boost apparent value without adding much in cost. It's culturally un-American to serve a plate with room on it for more food. One method of damage control is to order the thing on the menu that you like the least. It's likely to still be palatable fare, but it won't compel you to push any more of it into your belly than necessary. Choosing from the low-carb options or the salads can help with damage control, too.

4. Apply the Sunk Cost Rule. Once you've ordered an entrée, the economic principle of *sunk cost* applies. No matter how much of the entrée you eat, the amount you have to pay will be the same, so you should make choices that maximize your benefit. Enjoy the food and savor each bite. There is no reason to eat it all. You're better off with the excess in the trash than on your waist. If millions of people eat less, the portion size may decrease, leaving more supply at the source for the starving people of the world.

5. An imaginary friend can help. As a last line of defense, try to mentally divide the portions in half, and imagine you are sharing with someone who is expecting to eat the other half. Leave half of everything behind.

Problem 8.

How will I know I'm eating right when I'm eating so little?

Solutions:

1. When you're eating less, it's important to eat right to be sure your body gets the nutrients it needs. However, it does not take much in the way of food and vitamins to maintain an adult body. Eating a variety of foods will almost always take care of the needs. You would have to deliberately avoid certain foods in order to cause dietary deficiency in amino acids or vitamin content. As long as you eat a mix of fruits and vegetables with at least occasional fish, meat, or poultry, you'll be fine. While you may be surprised at how little food your body needs, you should remember that the typical weight-gaining American diet is not, by any measure, "eating right."

2. There is no harm in vitamin supplements taken with your break-fast. A daily vitamin and mineral supplement may be good insurance and alleviate your concern. If your diet is short on vegetables, consider adding a fiber supplement to your break-fast. Diets low in dairy products can be calcium-supplemented by adding almonds, broccoli, calcium-enriched juice, or a calcium tablet.

Problem 9 a-b.

- a) I'm a night shift worker, and I sleep during the day.*
- b) I travel often, so the time is always changing. Which 5 PM do I use?*

Solution:

If your schedule is different from the common work schedule, don't throw out the plan. Adapt it. There's nothing special about 5 PM, but there is something special about the duration of the Fast-5 fasting period and sleeping during the first part of it. The duration of the fast is long enough to work, and short enough to be comfortably managed. If you're a night shift worker, flip things around. If you travel often, choose a home time zone and stick with it. If you have to adjust to a new time zone and you're well-adapted to fasting, you can hold your fast until the next 5 PM in the local zone so you can eat at the local dinner time.

Problem 10.

I get hypoglycemia when I go without eating for very long.

Solution:

Hypoglycemia is very rare in one who is not diabetic. What you feel when you go more than a few hours without eating is real, but it's probably not hypoglycemia since you can sleep 7-8 hours and not have more severe symptoms on awakening. If you think you have hypoglycemia, ask a doctor to check and ask whether you should monitor yourself with a glucometer like those used by diabetics. It's likely you can adjust to the Fast-5 plan. The feelings you attribute to hypoglycemia should subside as you adapt.

The Physiology of Fast-5

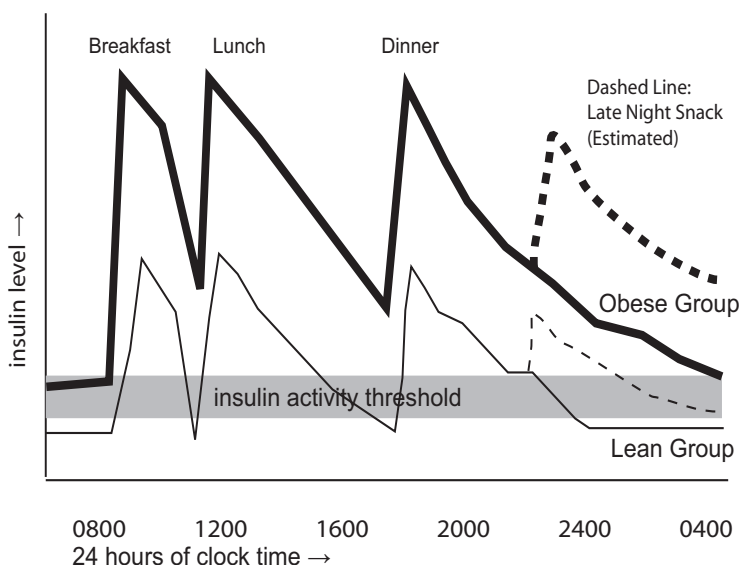
The physiology behind the Fast-5 plan requires a tentative explanation because the study of energy balance and overeating is still ongoing. The gut (gastrointestinal tract, GI tract) is responsible for digesting food. With the attached liver and pancreas, and with help from the thyroid, kidneys, fat tissue, and brain, the gut maintains energy balance for the body.

The gut has a nervous system containing as many nerve cells as the brain, and it is connected to the brain by major nerve pathways, each of which can be considered one of the body's information superhighways. In addition to the nerve communication, the gut uses a vast array of hormones to communicate from one part to another and back and forth with the brain and other organs. On top of all that complexity, fat has recently joined the picture, revealing itself to be a sophisticated energy storage system communicating with the gut, brain, and the rest of the body using at least 40 hormones. Fat is not the passive storage silo that it was once thought to be. Scientists have learned enough about fat to know that some big pieces of the communication puzzle are still missing.

Some pieces of the energy balance system fit together and seem harmonious in lean or moderately overweight people, but the system in obese individuals and in those with Type II diabetes is essentially chaotic. In these individuals, the system that is supposed to keep balance has gone awry. While some methods correct the problem for a few people, nothing works for everyone. Of all the hormones involved

in maintaining fat balance, insulin is by far the most well-known. A less well-known hormone, leptin, has something in common with insulin. Both hormones suppress fat breakdown in fat cells and inhibit the release of the fat (as fatty acids) into the bloodstream to supply energy to the body. The two hormones have another characteristic in common: they are elevated in a person who has recently eaten. Insulin varies much faster than leptin. Insulin is an immediate status report for the body (indicating energy is available for absorption right now) and leptin reports the recent trend (energy has been plentiful in the last day or two). When the body is well-fed, both hormones signal the fat cells that it's time to store fuel and not to release it.

The presence of these signals can make it a challenge for an overweight person to lose weight. As shown on the graph, the insulin levels after eating a meal fall back to the resting, inactive level (below the gray zone) just before the next mealtime. The only sustained period when fat stores can be removed from storage and released for use as fuel is between midnight and breakfast (at 0800). If the study from which the graph has been adapted had included a late-night snack at 10 PM (2200 in 24-hour time), the insulin level might not have a steady, fat-metabolizing period below the gray zone at all. The situation is more confused for obese people, whose insulin levels are much higher than those of non-obese people. The obese person has a sluggish response to insulin, resulting in very high insulin peaks. The insulin activity threshold for the obese group may vary widely from person to person and is not shown on the graph.



Interpretation of data from Polonsky et al, J. Clin. Invest. 81: 442-448

Leptin, the “trend” hormone mentioned above, also falls with fasting, starting to drop about six hours after the last meal and leveling out at about 14 hours. As is the case with insulin, the leptin levels for obese individuals are substantially higher than they are for non-obese people.

Because food digestion takes a couple of hours and the blood glucose level takes a few hours to fall back to the baseline after a meal, eating three meals a day maintains a nearly constant flow of glucose into the bloodstream, keeping both insulin and leptin at active levels. The insulin and leptin suppress the body’s ability to use fat as fuel. It’s no surprise that with abundant glucose around, the fat cells keep adding fat—it’s what we’re telling them to do, and it’s what we see happening all around us.

Turning the situation around means going longer between meals—long enough for insulin and leptin to fall to baseline levels and stay there for a while. Fat cells cannot switch from absorbing glucose to releasing fat instantly like a light switch. The complex machinery of the cell requires triggering a chain of message links that stop the importation of glucose and signal the proper enzymes (protein-machines) to break down fat instead of building it. In many cases, the enzymes are made from scratch. The cell has to make RNA copies from DNA, then translate the RNA to build a protein out of amino acids. The new protein is then modified as needed to finally make the active enzyme. Making enzymes takes time, and every time the fat cell is busy making the switch, it's not busy breaking down and releasing fat.

In addition to the hormones insulin and leptin, a third component can be added to the theory behind the Fast-5 plan's effectiveness. Fat in a fat cell is stored as a triglyceride, which is three long fatty acid chains attached to a molecule of glycerol. An enzyme called adipose triglyceride lipase (ATL) breaks the first fat chain off of the fully-loaded glycerol. Recent studies indicate that fasting increases the presence of ATL in fat cells, adding to the fat cells' ability to rapidly and efficiently initiate the breakdown of fat from its storage form. In the broken-down (fatty acid) form, the fat can be exported from the fat cell as fuel for the body.

In summary, there are at least three well-described mechanisms that support the Fast-5 plan's ability to deliver efficient, safe, and prompt weight loss. A fourth mechanism, thermogenesis, is under study.

Warning

There is a concern with any diet that too much of a good thing can be hazardous. If you find you have passed your goal weight and feel the need to lose even more, you may be manifesting anorexia, which is more dangerous than modest excess weight.

If you feel a reset goal is appropriate, ask for a second opinion from a friend or family member. If the second opinion doesn't agree with yours, ask a doctor or dietitian to help determine your ideal weight.

Similarly, if the urge to eat in binges never passes for you, or if you induce vomiting to undo your binge eating, it's time to stop and get medical help.

Conclusion

The Fast-5 diet is revolutionary, yet ancient. To succeed using the Fast-5 plan, you have to clash with our well-entrenched but unhealthy eating customs.

The Fast-5 plan helps you say “no more” because short-term fasting eliminates the potential for eating to drive more eating, and keeps limbic hunger from taking control. The Fast-5 plan enhances your fat-burning capability by providing a long period every day when your fat-burning machinery is switched on and stays on. Body tissues adapt to using ketones as fuel, leaving plenty of glucose for the brain. The body sees an environment much like it did in times past when the acquisition of food took an enormous investment of time and energy. The body may well have been born to run on ketones. A constantly-available stream of dietary glucose with no significant demand in physical labor overwhelms the body’s energy balance system under the weight of excess fuel.

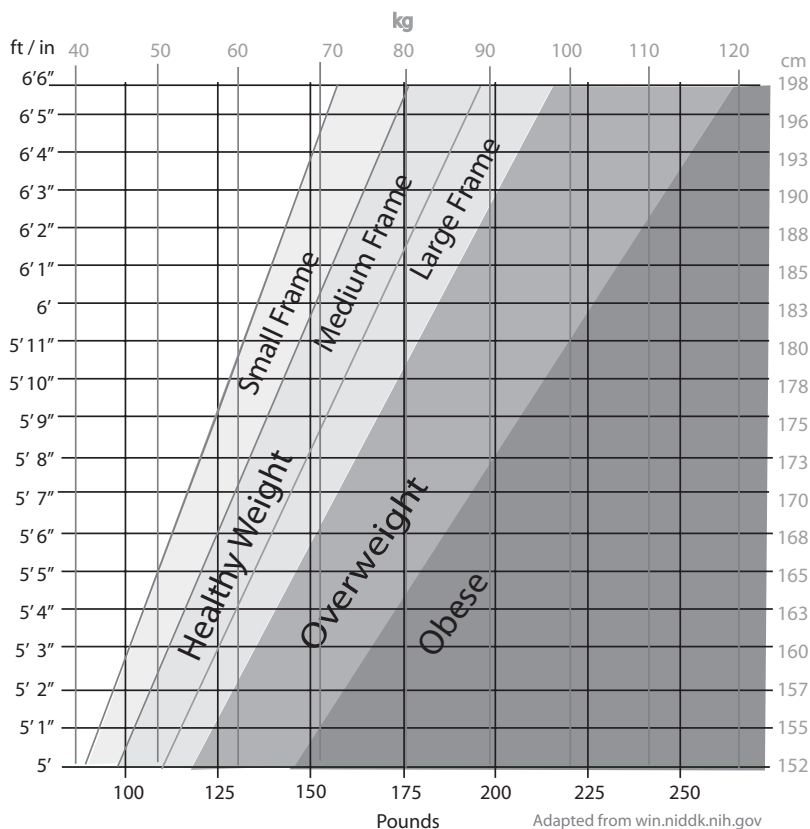
The biggest hurdle to a healthier, leaner country is culture. Our three-meals-a-day routine is firmly embedded in our minds as being ideal and healthy, when it is really arbitrary and not particularly healthy. Every social occasion is marked by indulgence in food, and the food at an event often gets more focus than the people or entertainment.

Food-producing companies will not stop encouraging consumption, nor will they cut back on supply, so it’s time to turn to new tactics like Fast-5.

Your comments and questions are welcome at cq@fast-5.com or Box 5671, Jacksonville, FL 32247.

Live lean. Live long. Live well.

Healthy Weight Guide



Glossary

Adipocyte—fat cell

Break~fast—the first food consumed after a fasting period

Diet—the composition, quantity, and schedule of an individual's food intake

Fasting—going for a set period of time without eating; in the case of Fast-5, it means zero calorie intake, including beverages

Glucose—a simple sugar molecule that is a primary fuel for most animal life

Glycogen—branching chains of glucose used as a storage form by muscle and liver cells

Insulin—a quickly-responding hormone that promotes glucose uptake and the synthesis and storage of fat

Ketone—a chain of at least three carbon atoms with an oxygen atom attached to one of the middle carbon atoms

Leptin—a slowly-responding hormone that promotes synthesis and storage of fat and may be a component in signaling somatic hunger

Metabolism—chemical processes necessary for maintaining living things

Triglyceride—three fat chains attached to a molecule of glycerol; the primary form of stored fat in fat cells

Obese—greater than 20 percent overweight

Physiology—the study of a living organism, its parts, and their interaction and function

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Health & Wellness Coaching

with Bert Herring, MD

One-on-one sessions with Dr. Bert are available by Skype or telephone to fit your schedule. Personalized one-on-one coaching is available for:

- helping you get achieve a state of wellness if you're not feeling well
- helping you maintain your health through sustainable choices and actions
- identifying and reducing health risks
- assistance in selecting or implementing an appetite correction (AC) schedule
- setting and achieving realistic weekly and monthly goals for weight loss, weight maintenance and other health-related objectives
- education about medical diagnoses, tests and results
- a-la-carte research assistance for understanding rare diseases or complicated cases
- building and sustaining a whole-life health plan incorporating Dr. Bert's "Did I Enrich Today?" (D.I.E.T.) objectives: physical activity and health, social contact, mental stimulation and financial stability with a "diet" of meaning, challenge, novelty, variety and play



To schedule a single 20-minute session with Dr. Bert, go to:
BertHerring.com/coaching

After checkout, you'll be contacted by a member of Dr. Bert's scheduling team to confirm contact information and arrange a time for your session that's convenient for you.

By law, consultations must be non-medical in nature; for diagnosis or treatment of a medical problem, please consult a local physician.

Six-Month Weight Tracking Sheet (1)

Start Weight _____ Goal Weight _____ To Lose _____

Wk	Wk Begins	SUN	MON	TUE	WED	THU	FRI	SAT
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Six-Month Weight Tracking Sheet (2)

Wk	Wk Begins	SUN	MON	TUE	WED	THU	FRI	SAT
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