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Integra-Lean™ Irvingia

WEIGHT LOSS GUIDE

Inside:

- Pitfalls of a "Low-Carb" Diet?
- Nine Pillars to Weight Loss Success
- Sample 7-Day Diet Plan

Courtesy of Life Extension

Health Advisor toll-free: 1-866-820-8083

Congratulations on your purchase of Irvingia!

You've just made a life-changing commitment to yourself to lose that extra weight, to help you live healthier longer. As always, Life Extension® is there to support your choice and help you succeed.

So to facilitate your success, we've included some important information you need … about Integra-Lean™ Irvingia, a proprietary, patent-pending *Irvingia gabonensis* extract (also included in Enhanced Irvingia with Calorie Control Complex and SlimSignals™), its use and effects; the "9 pillars" of effective weight loss; even an example of a high-fiber, low-fat, complex-carbohydrate diet you can follow. We want to help you achieve your realistic weight management goals.

You can expect to see optimal results over the next 10 weeks.

It's easy to assume that just by taking Integra-Lean™ *Irvingia gabonensis* proprietary extract twice a day you will experience immediate results. There is no question this is a remarkable supplement … but it's not a miracle. It requires your understanding of the mechanisms by which Integra-Lean™ Irvingia works.

An important mechanism is its ability to help increase leptin sensitivity in the body. Leptin is the hormone that signals the appetite control center in your brain to shut down once you have eaten enough calories. But it takes time for Integra-Lean™ Irvingia to achieve optimal results.

In the largest clinical study using *Irvingia gabonensis* extract, weight lost at eight and ten weeks was greater than weight loss at four weeks. We believe the reason is that over time, sensitivity is restored to leptin receptors, enabling more effective signaling in the brain's appetite control center.

In addition to restoring sensitivity to leptin receptors, it helps shrink fat cells, helps reduce the amount of sugar converted to fat in your body, and helps reduce the amount of carbohydrates absorbed as sugar.

Follow the right diet.

Using Integra-Lean™ Irvingia is not a license to binge on food. Nor is it necessarily a good idea to go on a "low-carb" diet, which may not be the best way to maximize the effects of Integra-Lean™ Irvingia on appetite. The smart way to eat while taking Integra-Lean™ Irvingia is to use a diet that helps amplify the effects of this powerful, natural supplement!

We guarantee your satisfaction.

Integra-Lean™ Irvingia can be a powerful new tool to help you build a foundation for lifelong health and weight management.

Based on the reports of Integra-Lean™ *Irvingia gabonensis* extract's appetite reduction and the reorders we're receiving, we feel confident you'll find it every bit as effective as we have.

But, if after following the proper protocol and an appropriate diet with exercise for at least 10 weeks, you do not respond to Integra-Lean™ Irvingia, feel free to return your purchase and we'll refund your money. ■

LifeExtension®
For Longer Life®

Want help?
Call our Health Advisors
1-866-820-8083
for more information!

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

"Low-Carb" Diets and Integra-Lean™ Irvingia

By Steven Joyal, MD

Some Americans utilize a "low-carb" approach when trying to lose weight. Many Americans also do not consume adequate amounts of dietary fiber. A typical American diet rich in saturated fat but relatively poor in complex carbohydrates and dietary fiber is not an ideal diet.

The diet in Cameroon, where Dr. Oben conducted his *Irvingia gabonensis* research, is rich in high-fiber, complex-carbohydrate food staples like yams, cassava root, and plantains. In Cameroon, these foods are cooked, then pounded with a pestle, formed into balls, and dipped into hot, spicy sauces.[1] The traditional Cameroonian diet is not a "low-carb" diet high in protein and saturated fat.

Irvingia gabonensis seeds are typically ground into a paste and then used to thicken soups and spicy sauces.

Published research shows that *Irvingia gabonensis* extract has beneficial effects on a variety of metabolic targets involved in *carbohydrate* metabolism as follows:[2]

1) Inhibitory effect upon glycerol-3-phosphate dehydrogenase, a key enzyme involved in the conversion of glucose to stored fat (triglyceride);
2) Inhibitory effect upon alpha-amylase, a key enzyme involved in the digestion of dietary complex carbohydrates into maltose and dextrin;
3) Beneficial impact upon PPAR-gamma, a key enzyme involved in both adipogenesis (i.e., new fat cells) as well as insulin sensitivity;
4) Up-regulation of adiponectin, a key protein hormone involved in enhancing insulin sensitivity and endothelial function;
5) Enhancing leptin sensitivity and (therefore) decreasing leptin expression.

A reduction of dietary carbohydrate ingestion before body fat loss can cause leptin dysregulation, which in turn impacts leptin's beneficial effects upon metabolism.[3] Studies show that leptin helps regulate glucose metabolism by sparing liver and muscle glycogen (stored glucose) after dietary carbohydrate ingestion better than meals higher in dietary fat.[4] What this means is leptin helps decrease the breakdown in glycogen (the storage form of glucose molecules) in muscle and liver during weight loss. Research shows that leptin helps enhance the burning of body fat as fuel and helps blunt the reduction in metabolic rate associated with dieting,[5] so a diet relatively higher in carbohydrate and fiber can help preserve leptin's beneficial effects on metabolism during weight loss by helping to temper the rapid changes in leptin observed with dramatic weight loss.

Furthermore, unlike most weight loss clinical trials, in the largest *Irvingia gabonensis* extract study, although no formal dietary program was instituted in either the active or placebo group, this fact has been incorrectly interpreted by some physicians and scientists to mean that the study participants ate whatever they wanted and did no physical activity. In fact, study participants were asked to continue their current levels of physical activity and to continue their baseline dietary composition.

Given the multiple beneficial effects of *Irvingia gabonensis* extract upon carbohydrate metabolism and the effect of dietary carbohydrate on leptin functionality, diets high in complex carbohydrates and rich in fiber but low in saturated fat would appear to allow for optimal results with *Irvingia gabonensis* extract. ■

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Integra-Lean™ Irvingia Diet Program

Nutrition and physical activity are critical components for lifelong health. Committed as you are to your short-term weight loss goals, Life Extension® is equally committed to providing the tools you need to help you optimize your success over the long term.

Irvingia gabonensis is a plant native to West Africa. The traditional diet of the native population of West Africa is based upon consumption of low-fat, fiber-rich, complex carbohydrates like cassava, yams, and plantains. These starchy foods are typically cooked and then dipped into spicy sauces flavored with spices and thickened with ground seeds. In some native populations, *Irvingia gabonensis* fruit and seeds are traditionally consumed up to ten times per week. These particular groups have been described as physically leaner and much less prone to Type 2 diabetes and its related complications.

It should be noted that like much of the rest of the world, many native populations from this particular African region are switching to dangerous Western-style eating patterns and consequently suffering a surge in obesity and metabolic syndrome.

For Americans (and others) who choose to utilize a **low-carbohydrate**, higher-fat diet for short-term weight loss, results with Integra-Lean™ Irvingia may not be as profound as with a diet rich in complex carbohydrates and dietary fiber but low in saturated and omega-6 fats.

For optimal success with Integra-Lean™ Irvingia, Life Extension recommends a program to include physical activity and a nutritional strategy that emphasizes complex carbohydrates and dietary fiber.

Fiber-Rich Foods High in Complex Carbohydrates

What foods are rich in both dietary fiber and complex carbohydrates? For a start, consider whole grains like whole wheat, brown rice, wild rice, whole oats, buckwheat, and barley.

Other foods rich in fiber and complex carbohydrates are legumes like lentils and beans. Yams, sweet potatoes, squash, and plantains are also good sources of complex carbohydrates and dietary fiber. Of course, vegetables and whole fruits (not fruit juices, which are a concentrated source of fructose calories) are excellent sources of vitamins, minerals, and dietary fiber.

As a practical example, substituting whole wheat pasta instead of regular spaghetti is one of the easiest ways to boost your intake of

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

complex carbohydrates and dietary fiber. Other easy choices, readily available at grocery stores, are yams or sweet potatoes. If whole grains or legumes won't be at the center of your meal, there are plenty of other choices for delectable dishes packed with dietary fiber and complex carbohydrates at dinner. Try brown rice pilaf, mashed cauliflower, spicy bean dip with sliced, raw veggies, or just toss some chickpeas or kidney beans into a green salad with a splash of extra virgin olive oil and fresh lemon juice.

Here are some recommendations to consider for optimal success along with a complex carbohydrate-, fiber-rich diet:

- Drinking 8 glasses of water daily (about 64 ounces total) helps you stay hydrated and supports metabolic function, helping to process and excrete toxins from the body.
- Adequate protein in the form of fish, lean poultry, non-fat dairy and complementary proteins are needed daily, with the goal of reaching at least 60 grams total. Most Americans eat far more protein than needed, often at the expense of their pocketbooks (because meat is expensive!) and to the strain of the kidneys and liver, both of which help process excess protein. Just 4–6 ounces of fish or poultry, a serving of non-fat dairy products such as 8 ounces of skim or soy milk, and fiber-rich, complex carbohydrates can be complemented with nuts and seeds to provide added protein and fiber. For example, whole grain bread and almond butter (or peanut butter) make a complete protein. Tofu and other soy foods are also good sources of plant protein, as well.
- Remember the better ways to cook food: steam, bake, broil or poach, but avoid frying and grilling.
- Four to six servings of whole fruits and vegetables daily should be a part of your plan. Try to stay away from fruit juices and eat whole, fresh fruits and vegetables instead so you benefit from the the fiber to assist in maintaining healthy blood glucose levels, delay hunger, and assist with digestion.
- Avoid fat-rich gravies, sauces, spreads and toppings unless they are low in fat, especially saturated fats. Use spices instead of fat to flavor food.
- Get your crock pot out and begin to experiment with beans, lentils, and peas to make low-cost, easy, hearty and healthy soups your whole family can enjoy! Crock pot cooking is one of the easiest ways to make inexpensive, home-cooked meals.
- Potato chips, bakery muffins, bagels slathered in cream cheese, and corn crisps are a few examples of foods high in complex carbohydrates but also fiber-poor and fat-rich. These are not good food choices. Keep in mind that you can easily convert a low-fat food rich in complex carbohydrates and fiber into a calorie surplus — for example, a simple baked potato is rich in complex carbohydrates and fiber, but slathered with butter or sour cream it quickly becomes a calorie disaster. A better choice would be fiber-rich salsa with your potato.
- If you need to eat at a restaurant, make sensible food choices, emphasizing fiber-rich foods and minimizing fat-laden entrees. Ask for steamed vegetables with herbs, not sautéed vegetables in butter or oil.
- Ask your doctor if you can exercise. Increasing energy expenditure and maintaining lean muscle mass are always important ingredients to a healthy lifestyle. You will feel better physically and emotionally, with increased energy and improved strength

Menu Planning

Here is a range of serving values to help you get started on your weight management program:

- **Whole grain bread, cereal, brown rice, whole grain pasta, and potatoes: 5–7 servings per day**
  1 serving = 1 slice of bread, 1 ounce dry cereal, ½ cup cooked cereal, ½ cup cooked brown rice, ½ cup cooked whole grain pasta, 1 small baked potato or ½ cup sweet potato.
- **Vegetables: 3–5 servings per day**
  1 serving = 1 cup raw leafy greens, ½ cup any other chopped raw or cooked vegetable; do not use vegetable juice.
- **Fruits: 2–4 servings per day**
  1 serving = 1 medium apple, banana, or orange; ½ cup chopped fruit or berries; do not use fruit juice.

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

- **Low-fat milk, yogurt (plain, unsweetened), and cheese: 2–4 servings per day**
  1 serving = 1 cup milk or yogurt, 1–1.5 ounces of natural cheese, 2 ounces of processed cheese.
- **Meat, poultry, fish, dry beans, eggs, and nuts: 2–3 servings a day**
  1 serving = 2–3 ounces of cooked lean meat, poultry, or fish; 1 egg; ½ cup cooked beans, 2 tablespoons peanut butter, nuts, or seeds.

Sample Meals:

DAY 1

Breakfast

- 1 ounce of whole grain ready-to-eat cereal or ½ cup of oatmeal made from whole rolled oats
- ½ cup fresh fruit
- 1 8-ounce glass of skim milk or a 4-ounce serving of fat-free cottage cheese

Snack

- 1 fruit, such as a medium banana

Lunch

- Peanut butter sandwich made with 2 slices of whole grain bread
- ½ cup carrot sticks
- ½ cup blueberries
- 1 ½ ounces cheese

Snack

- 15–20 almonds

Dinner

- 1 cup whole wheat pasta tossed with 2 tablespoons of toasted sesame seeds and 4 ounces of broiled salmon chunks, drizzled with low sodium soy sauce
- Salad, lightly dressed with lemon juice, vinegar and olive oil blend
- ½ cup zucchini and yellow squash medallions baked, steamed or broiled with herbs and onions
- ½ cup melon

DAY 2

Breakfast

- 1 slice of whole grain toast
- 1 egg
- ½ cup berries
- 1 cup nonfat plain yogurt

Snack

- 1 fruit, such as a medium apple

Lunch

- 1 cup split pea and lentil soup
- ½ cup whole grain cooked pasta
- 2 tablespoons tomato sauce or 1 sliced tomato
- ½ cup broccoli, steamed or raw, can be tossed with pasta and tomato or tomato sauce

Snack

- 2 tablespoons of walnuts

Dinner

- 4 ounces of lean meat, fish or poultry
- Salad, lightly dressed with lemon juice, vinegar and olive oil blend
- ½ cup baked sweet potato, no butter or dressing, just herbs to taste
- 1 8-ounce cup skim milk
- ½ cup fresh strawberries or melon

DAY 3

Breakfast

- 2 ounces of dry whole grain cereal
- 1 cup skim milk
- ½ cup sliced banana

Snack

- 1 fruit, such as a medium orange

Lunch

- 4 ounces grilled fish or 1 cup nonfat cottage cheese

- 1 slice whole grain toast
- 1 teaspoon fruit preserves
- 1 cup raw or steamed string beans

Snack

- 2 tablespoons of sunflower seeds

Dinner

- 3 ounces of lean meat or poultry
- Salad, lightly dressed with lemon juice, vinegar and olive oil blend
- ½ cup potato crisps (thinly sliced potato brushed lightly with olive oil and herbs, baked)
- ½ cup fresh mango

DAY 4

Breakfast

- 1 cup cooked whole grain cereal
- 1 cup nonfat plain yogurt
- ½ cup berries

Snack

- 1 fruit, such as ½ cup apricots

Lunch

- 2 ounces cheese (melt into pasta)
- 1 cup whole grain pasta
- 1 cup broccoli (steamed or raw, mix in with pasta or on the side)
- ½ teaspoon olive oil (mixed into pasta), if needed

Snack

- 15–20 almonds

Dinner

- 4 ounces of lean meat or poultry, or 4 ounces tofu
- ½ cup cooked greens (mustard, kale, etc.), seasoned with garlic or other herbs
- ½ cup brown rice
- ½ cup melon

DAY 5

Breakfast

- 2 slices of whole grain toast
- 1 egg
- 1 medium orange
- 1 ounce cheese

Snack

- ½ cup berries

Lunch

- ½ cup beans (cooked and seasoned with spice)
- 3 tablespoons hummus
- 1 cup carrots and cucumber slices to dip
- 1 8-ounce cup skim milk

Snack

- 2 tablespoons of walnuts

Dinner

- 4 ounces of lean meat, fish, or poultry
- Spinach salad, lightly dressed with lemon juice, vinegar and olive oil blend
- ½ cup baked sweet potato, no butter or dressing, just herbs to taste
- ½ cup fresh papaya

DAY 6:

Breakfast

- 1 ounce of whole grain ready-to-eat cereal or ½ cup of oatmeal made from whole rolled oats
- ½ cup fresh fruit
- 1 8-ounce glass of skim milk or a 4-ounce serving of fat-free cottage cheese

Snack

- 1 fruit, such as a medium banana

Lunch

- 4 ounces fish or chicken
- 1 cup whole grain pasta seasoned with 1 teaspoon olive oil, garlic and black pepper
- ½ cup spinach
- ½ cup berries
- 1 ounce part skim cheese

Snack

- 15–20 cashews

Dinner

- 4 ounces lean meat or poultry seasoned to taste
- Salad, lightly dressed with lemon juice, vinegar and olive oil blend
- ½ cup zucchini and yellow squash medallions baked, steamed or broiled with herbs and onions
- 1 small baked potato, seasoned to taste with Butter Buds®
- ½ cup melon

DAY 7:

Breakfast

- 1 slice of whole grain toast
- 1 egg
- ½ cup berries
- 1 cup nonfat plain yogurt

Snack

- 1 fruit, such as a medium pear

Lunch

- 1 cup minestrone soup
- 2 slices whole grain flatbread
- ½ cup broccoli, steamed or raw, can be tossed with pasta and tomato or tomato sauce
- 1 8-ounce glass of skim milk or a 4-ounce serving of fat-free cottage cheese

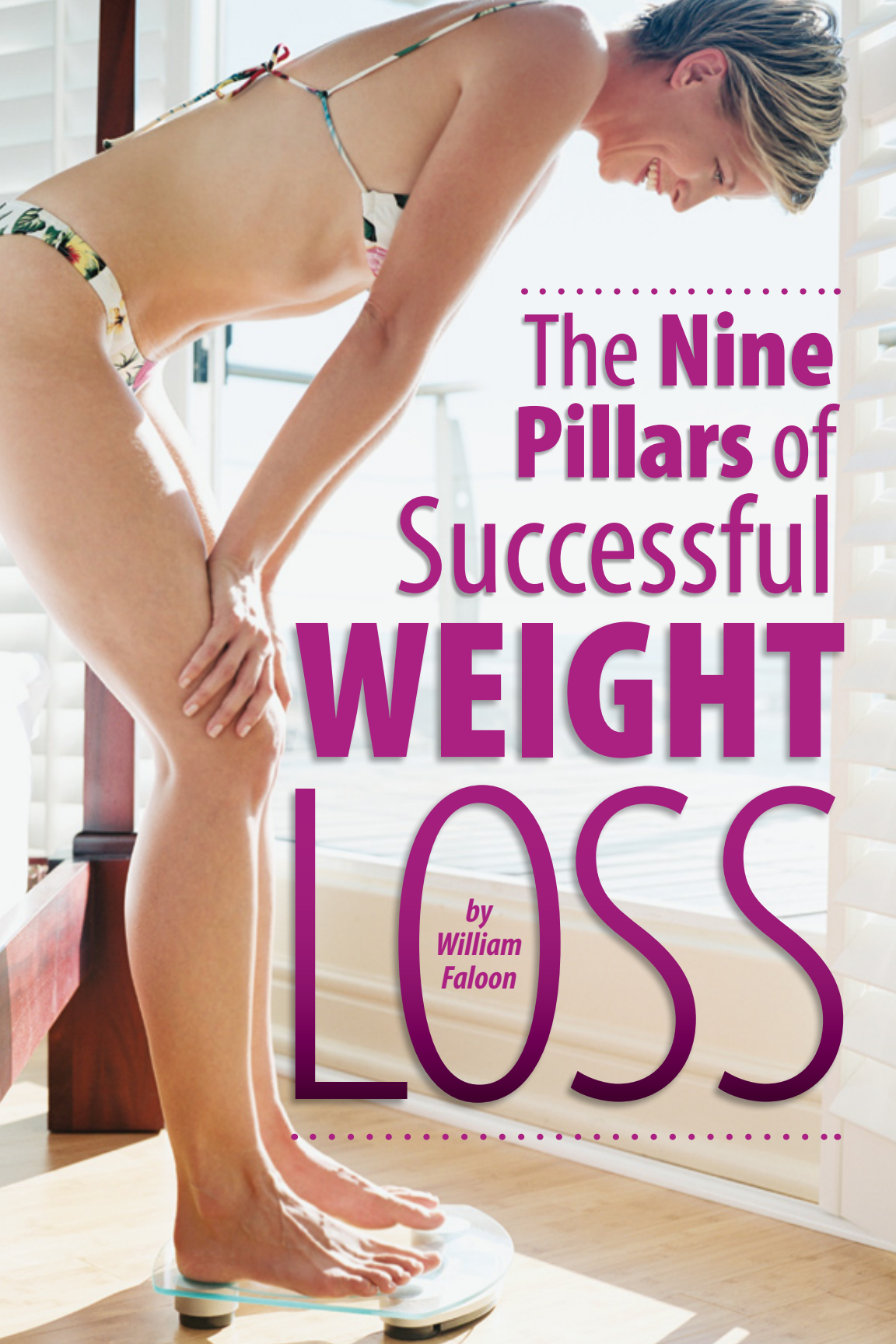
Snack

- 15–20 almonds

Dinner

- 4 ounces of lean meat, fish or poultry sautéed with garlic cloves, 1 cup red and green peppers
- Salad, lightly dressed with lemon juice, vinegar and olive oil blend
- ½ cup baked sweet potato, no butter or dressing, just herbs to taste
- 1 8-ounce cup skim milk
- ½ cup fresh fruit

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.



The Nine Pillars of Successful WEIGHT LOSS

by William Faloon

The Nine Pillars of Successful Weight Loss

The Life Extension Foundation® has a 29-year track record of identifying novel methods to address the health concerns of aging humans. For example, Life Extension warned long ago that *atherosclerosis* was caused by more than a *dozen* independent correctable risk factors, with cholesterol and LDL being only *two* of them.[1]

When it comes to *weight loss*, mainstream medicine has recommended "*diet and exercise*" for so long that this phrase has become more of a cliché than any kind of momentous scientific communication.

The fact is that aging people need to do a lot more than reduce calorie intake and increase physical activity if they are going to lose and keep off excess body fat.

In this article, we succinctly address the nine steps that most overweight, aging people should follow if they are to achieve optimal removal of surplus body fat. This multi-step program is analogous to the "drug cocktails" that doctors now use to control HIV infections in a way that enables patients to live for decades instead of less than one year, as was the case when the disease first manifested.

The Nine Pillars of Successful Weight Loss are also analogous to what progressive oncologists are doing to cure cancer today by administering multiple therapies designed to neutralize the numerous survival mechanisms cancer cells use to escape eradication.

In some respects, the uncontrolled proliferation and size of adipocytes (fat cells) in the aging body is like a benign tumor growing in our abdomens, buttocks, and other areas of the body where it is unwanted.

Just like most *Life Extension* members understand that they often have to correct several vascular disease risk factors if they are to protect against heart attack and stroke, those seeking to lose weight should consider making many of these *Nine Pillars of Successful Weight Loss* a regular part of their health-maintenance program.

What You Need to Know

- Simply eating less and exercising more is not enough to help most people remove excess body fat and keep it off. A comprehensive program is necessary to aggressively target the many factors that contribute to excess body fat.
- Excess body fat is not only unsightly, it can be deadly, increasing the risk for heart disease, diabetes, and cancer. Abdominal fat is particularly dangerous.
- A comprehensive fat-loss program includes improving insulin sensitivity, achieving youthful hormone balance, controlling the rate of carbohydrate absorption, increasing physical activity, normalizing brain serotonin, restoring energy expenditure rate, and adopting a long-term healthy eating strategy.
- Nutritional supplements offer important support for reducing appetite, promoting satiety, and enhancing fat-burning.
- The rewards of removing excess body fat go far beyond a slim physique to the promise of a lengthy, disease-free life.

Pillar Number 1: Restore Insulin Sensitivity

Normal aging causes the insulin receptors on cell membranes to lose their youthful sensitivity or functionality. The result is a pathological condition called "insulin resistance" that impairs the ability of cells to efficiently take up glucose and utilize it for energy production. Glucose not taken up by energy-producing cells prompts the release of excess insulin. Hyperinsulinemia, a condition of high circulating insulin levels, is associated with a significantly increased risk of heart disease. In fact, a recent study showed that patients with heart disease had significantly higher plasma levels of blood sugar and circulating insulin.[2]

There are several ways to restore insulin sensitivity to our cell membranes. For example,

nutrients such as *chromium*,[3,4] *magnesium*,[5] *cocoa polyphenols*,[6] and *fish oil*[7,8] can help.

A low-cost prescription drug called *metformin* can also significantly enhance insulin sensitivity.[9-11] It is approved only as a treatment for Type 2 diabetes, but published scientific studies indicate it can help reduce body fat.[12] The dose range for those seeking to enhance their insulin sensitivity and reduce body weight can vary from 250 mg three times daily with meals up to 850 mg three times daily with meals. Consult with your prescribing physician to make sure that metformin is right for you. As you will read later in this section, restoring free *testosterone* to youthful ranges markedly enhances insulin sensitivity in aging men.

The absolute most effective way of restoring insulin sensitivity is to reduce calorie intake. Calorie restriction to under 1,500–1,800 calories/day significantly enhances insulin sensitivity, as documented by dramatic lowering of fasting glucose and insulin blood levels.[13-17] Even a moderate cutback of excess calories can markedly improve insulin sensitivity.

So the first pillar to successful long-term weight loss should involve a moderate reduction in calorie intake, at least long enough to restore insulin receptor sensitivity to more youthful ranges. The use of nutrients, hormones, and drugs that enhance insulin sensitivity should also be considered. As you probably know already, a lot more than just eating less is needed to lose weight.

Pillar Number 2: Restore Youthful Hormone Balance

Most overweight human beings have suffered the agonies of calorie deprivation (dieting) but have failed to achieve any kind of sustained fat reduction. While eating less addresses *some* of the underlying causes of weight gain, the high failure rate of dieting is partially attributable to the severe alteration in hormone levels that occurs as part of normal aging.

A large percentage of men today suffer from abdominal obesity—the most dangerous kind of body fat. It is often difficult, if not impossible for aging men to lose inches off their waistline if they are deficient in *free testosterone*, especially in the presence of *excess estrogen*.[18-20] Low levels of dehydroepiandrosterone (DHEA) can also contribute to undesirable fat accumulation in men and women.[21]

A comprehensive blood test panel can reveal free testosterone and estrogen (estradiol) levels so that a physician can prescribe a topical testosterone cream and an *aromatase-inhibiting* drug (if necessary) to restore a man's sex hormone profile to a youthful range. The same blood test panel can also detect DHEA blood levels to enable one to take the proper dose of this over-the-counter dietary supplement. A comprehensive blood test panel should also measure prostate-specific antigen (PSA) in men to help rule out prostate cancer. Those with prostate cancer cannot restore these hormones until the cancer is completely eradicated. Some men are able to reduce excess estrogen while simultaneously boosting free testosterone by taking nutrient formulas that contain plant extracts to help inhibit the *aromatase* enzyme (which converts testosterone into estrogen) and decrease levels of *sex hormone-binding globulin* (which binds free testosterone).

A substantial percentage of aging women (and many aging men) have less-than-optimal thyroid levels, thus predisposing them to weight gain. Thyroid hormone is needed to maintain healthy metabolic rates. Those who are deficient in thyroid hormone should be prescribed thyroid medication to maintain or improve their overall health, as well as to provide this hormone involved in the regulation of body composition. Drugs to consider are *Armour® natural thyroid complex* (containing both T4 and T3) or *Cytomel®* (containing T3). Trying to lose weight in the face of thyroid hormone deficit can be particularly challenging.

A common problem women experience during menopause is an *increase* in belly fat mass. Estrogen levels plummet during menopause and some studies correlate this *estrogen deficiency* with greater abdominal adiposity in women. While excess levels of horse urine-derived estrogen drugs may cause weight gain, evidence suggests that individually dosed natural estrogen replacement facilitates a reduction in abdominal fat in women who are estrogen deficient.[22,23] Restoring hormone balance in aging females requires the intervention of a health care practitioner with specialized expertise in prescribing *bioidentical hormone replacement therapy*. Men are more

fortunate in that almost any doctor can prescribe the proper dose of testosterone (and aromatase-inhibiting drugs, if needed).

Pillar Number 3: Control Rate of Carbohydrate Absorption

We already know that too much blood glucose (and the subsequent insulin spike) predisposes people to gaining unwanted fat pounds. By taking just five grams of soluble fiber before or with each meal, one can significantly blunt the glucose-insulin surge.[34]

Fiber may protect against unwanted weight gain via several mechanisms that involve both effects on satiety and glucose-insulin responses.[34-36] For example, research has shown that vegetarians weigh significantly less than non-vegetarians, whether measured by body mass index or body weight.[37] Some experts believe that vegetarians' lower average body weight is linked to one factor: the high fiber content of the plant foods consumed.[38] Plant fiber fills you up quickly, and studies indicate that this results in less snacking and binging later in the day.

The *Seven Countries Study* provides additional evidence linking a high-fiber diet with lower body weight. Researchers found that people living in countries with high fiber intake weighed less than those living in countries where fiber intake is low.[39] Higher fiber intake is also associated with lower average body weight in the US. In the famous *Nurses' Health Study*, those who ingested more dietary fiber consistently weighed less than those who consumed less fiber.[36]

Finally, in the *Coronary Artery Risk Development in Young Adults Study* examining how heart disease develops in adults, researchers linked higher dietary fiber intake with lower body weight and waist-to-hip ratios, along with a reduction in markers of heart disease risk. Higher fiber consumption predicted less weight gain more strongly than did total or saturated fat consumption.[38]

Not all fibers are created equal. Beta-glucans (derived from oats and barley) are particularly effective in slowing the absorption of

Where's the Fat?

The location of body fat stores is directly related to disease risk factors. People with excess levels of abdominal fat are at markedly increased risk of chronic illnesses such as cardiovascular disease and Type 2 diabetes — both of which are closely related to the metabolic syndrome.[24,25] Direct entry of fats from abdominal stores into the liver may trigger increased insulin resistance, accounting for the relationship with Type 2 diabetes.[26]

Recent studies have also shown that the potent endocrine function of abdominal body fat may explain the relationship between abdominal fat and cognitive decline, such as that seen in Alzheimer's and other neurodegenerative diseases.[27]

Abdominal fat is not just a problem in adults—new studies have established a relationship between fat distribution in early childhood and adolescence and serious chronic disease in early to mid-adulthood.[28,29] Responsible doctors now include abdominal circumference measurements at routine visits as a means of identifying these risk factors.[30]

Even within the abdomen, the location of fat stores matters. People with excessive amounts of fat in their livers (fatty liver disease) are at even higher risk for all of these chronic conditions, compared with those who have lower levels of liver fat.[31] Indeed, damage to liver cells, as measured by increased levels of liver-based enzymes in the bloodstream, is closely associated with decreased insulin sensitivity and is a risk factor for development of Type 2 diabetes.[32,33]

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

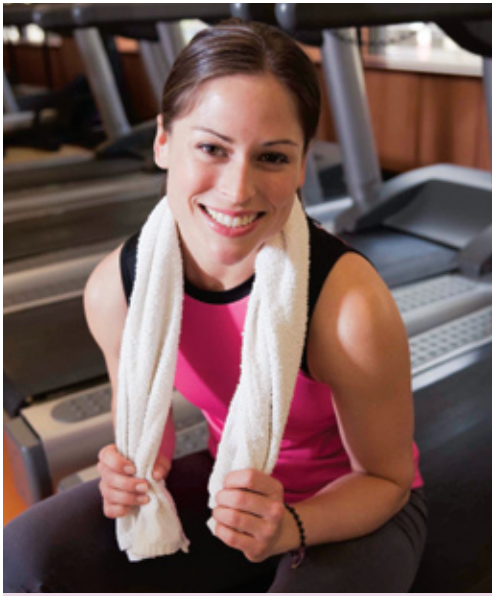
carbohydrates—enabling one to control blood sugar levels and induce the satiety needed to achieve healthy weight management. Studies show that when taken with meals, beta-glucan fibers markedly blunt post-meal elevations in blood sugar and insulin levels. Like other foods rich in soluble fiber, beta-glucans help improve blood glucose metabolism while also lowering serum lipid levels.[40,41]

Getting into the routine of taking five grams of a neutral-tasting beta-glucan fiber mix before or with each meal would help provide weight loss effects via this mechanism (i.e., controlling rate of carbohydrate absorption). Alternatively, taking fiber capsules (containing the highly viscous fiber glucomannan, which promotes healthy glycemic status) before each carbohydrate-rich meal would also help reduce the glucose-insulin surge that contributes to obesity.

Some people with chronic weight control problems will need more than soluble fibers to impede carbohydrate *absorption*. *Carbohydrates* contribute to surplus body fat by converting to *triglycerides* that bloat our adipocytes. Compounds that interfere with complex and simple carbohydrate breakdown and absorption can be important components of a weight loss program.

Alpha-glucosidase inhibitors interfere with the breakdown of simple carbohydrates into glucose. *Alpha-amylase inhibitors* interfere with the breakdown of large carbohydrate molecules like starch into linked glucose polymers. These simple sugars are then broken down to glucose by the *alpha-glucosidase* enzyme.

An extract from the white kidney bean (*Phaseolus vulgaris)* functions as an *alpha-amylase inhibitor.* In a placebo-controlled study, those taking *white kidney bean extract* before meals lost **1.5 inches** of **abdominal fat** over a 30-day period. An even greater benefit might be seen by taking an *alpha-glucosidase* and *alpha-amylase inhibitor* together. Such combinations are available in dietary supplement form. Alternatively, one can be prescribed 50 mg three times a day (before each carbohydrate meal) of the drug *acarbose* (an *alpha-glucosidase inhibitor)* and take 1,000 mg of *white kidney bean extract* (an *alpha-amylase inhibitor*) before each meal containing carbohydrates.



Fat and Oxidative Stress

Because of its chemical nature, fat is readily oxidized by free radicals—and it is the oxidized form of many lipids that triggers the blood vessel damage and eventual plaque formation that leads to atherosclerosis and its deadly consequences. Obesity is closely associated with increased oxidative stress[42] while loss of body fat is associated with decreasing levels of molecules associated with oxidation.[43] The bottom line is that people with excessive adipose tissue are walking "oxidant factories" whose bodies must cope with enormous loads of these violently destructive molecules.

Pillar Number 4: Increase Physical Activity

Most people think the only weight-loss benefit of exercise is to use up more stored body fat calories. In reality, exercise induces many beneficial changes at the cellular level that contribute to better weight control. Increased physical activity itself improves insulin sensitivity and mimics the effect of certain antidiabetic drugs (such as the PPAR-gamma agonists), which can have a favorable effect on body fat contouring.[44]

The type and intensity of physical activity will vary considerably among individuals. The purpose of making *increased physical activity*

one of *The Nine Pillars of Successful Weight Loss* is to encourage everyone seeking to achieve optimal fat loss to engage in some form of increased physical activity.

It is our opinion that people who could follow a good exercise program to keep fat pounds off would do so if they saw rapid and meaningful weight loss results. Even a modest increase in physical activity, as a component of *The Nine Pillars of Successful Weight Loss*, should produce a reduction of fat mass (especially in the abdomen) remarkable enough to motivate even sedentary individuals to find ways to become more consistently physically active.

Pillar Number 5: Restore Brain Serotonin

When the brain is flooded with ***serotonin***, satiety normally occurs. A serotonin deficiency has been associated with the *carbohydrate binging* that contributes to the accumulation of excess body fat.[50] Obese individuals have low blood tryptophan levels, which indicate that their overeating patterns may be related to a serotonin deficiency in the brain.[51,52]

In addition, cutting-edge research reveals that chronic inflammation and immune system overactivation appear to play critical roles in obesity.[52,53] Inflammatory cytokines like interferon-gamma are made and released in body fat. An enzyme called *indoleamine 2,3-dioxygenase* is activated by interferon-gamma, which then *degrades* tryptophan in the body. *Tryptophan* is *needed* to produce *serotonin* in the brain.

In fact, human studies suggest that obese patients have *decreased* plasma tryptophan levels that remain low, *independently* of weight reduction or dietary intake.[51,52] This altered **tryptophan** metabolism reduces **serotonin** production and contributes to impaired satiety, which in turn contributes to increased caloric intake and obesity.

When obese patients were given 1,000 mg, 2,000 mg, or 3,000 mg doses of L-tryptophan one hour before meals, a significant *decrease* in caloric consumption was observed. The majority of the reduction in caloric intake was in the amount of *carbohydrates* consumed and not the amount of protein consumed.[54]

In a double-blind, placebo-controlled study, obese patients on protein-rich diets who received tryptophan (750 mg twice daily orally) had significant weight loss, compared with a placebo group.[55]

For 19 years, *tryptophan* dietary supplements were restricted. The good news is that *pharmaceutical-pure* tryptophan supplements are once again available to Americans.

Those seeking to embark on a *comprehensive* weight-loss program should consider adding *tryptophan* (along with nutrients that inhibit tryptophan-degrading enzymes) to their daily program in starting doses of 500 mg before meals, two to three times per day.

Fat and Inflammation

The *metabolic syndrome* and its related conditions all derive from increased levels of inflammatory molecules called *cytokines*—and inflammatory cytokines are more prominent in people with excessive stores of body fat.[25,45] Indeed, physicians now commonly measure certain markers of inflammation such as *C-reactive protein* (CRP) as a means of screening for people at risk for cardiovascular disease.[46] Fortunately, reductions in body fat content (through exercise, diet, and appropriate supplementation) are associated with healthy reductions in inflammatory markers such as CRP—and that means a reduction in the many risk factors associated with obesity-related inflammation.[47-49]

Pillar Number 6: Restore Resting Energy Expenditure Rate

It is often challenging for aging humans to lose significant body fat stores, even when following a low-calorie diet, restoring youthful hormone balance, ingesting fiber, and aggressively exercising. A missing link for successful long-term weight loss is failing to *boost resting energy expenditure*, i.e., **to burn off stored body fat**.

Fucoxanthin and ***pomegranate seed oil*** have demonstrated interesting effects in enabling aging humans to safely boost their metabolic rate and obtain some fat loss.[56,57]

Several other natural nutritional agents offer safe and effective means of enhancing metabolic rate:

- The green tea polyphenol, *epigallocatechin gallate* (EGCG), in combination with caffeine (50 mg caffeine, 90 mg EGCG) has been shown to enhance 24-hour energy expenditure in human test subjects. In this same clinical study, treatment with caffeine alone had no effect upon energy expenditure, indicating that the effect of green tea in promoting fat burning goes beyond that explained solely by its caffeine content.[58] Other scientific data indicate that green tea polyphenols in combination with caffeine synergistically enhance thermogenesis (fat burning).[59]
- Although many people are aware of the cardiovascular benefits of *fish oils* rich in EPA and DHA, few people are aware that these omega-3 fatty acids also have beneficial effects on thermogenesis. They inhibit key enzymes responsible for lipid synthesis, such as fatty acid synthase and stearoyl-CoA desaturase-1, enhance lipid oxidation and fat burning, and inhibit free fatty acids from entering adipocytes (fat cells) for fat storage.[60]
- Experimental studies consistently show the benefits of *conjugated linoleic acid*, in particular the *trans*-10, *cis*-12 isomer, which has metabolic benefits that include increased energy expenditure, decreased fat cell differentiation and proliferation, decreased fat synthesis, and increased fat burning and fat oxidation.[61]

Fat and Cancer

Excess body fat not only increases the risk of cardiovascular disease, it also increases the risk of deadly cancers. In one large European study, increasing body mass index was associated with a significant increase in the risk of cancer for 10 out of 17 specific types examined.[71] Recent studies have shown a powerful association between body fat content and kidney and liver cancers.[72,73] By now, it should be no surprise to learn that weight loss, specifically body fat reduction, can lead to lowered risks for cancers just as it does for other devastating conditions.[74,75] One study has estimated a reduction of **45%** in the risk of breast cancer in women who lost more than about nine pounds.[75]

- *Capsaicin*, the active agent in red pepper, has been shown to enhance thermogenesis and energy metabolism in humans. In one study, energy expenditure was seen to increase in lean young women after consuming a capsaicin-rich curry.[62] Another study showed that consumption of a cultivar of red pepper increased core body temperature and metabolic rate in test humans.[63]
- Extracts of *ginger* rich in *gingerols* and *shogaols* have been shown to increase oxygen consumption and enhance fat burning in experimental models.[64]

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

Pillar Number 7: Restore Healthy Adipocyte Signaling

The adipocyte (fat cell) is the primary site for fat storage. Adipocytes of obese individuals are bloated with *triglycerides*, which is the form that most fat exists in the body. Fat storage and release is tightly regulated by adipocyte *command signals*.

Weight gain occurs when adipocytes (fat cells) enlarge with large amounts of *triglycerides*. Adipocytes accumulate excess *triglycerides* due to overeating, nutrient deficiencies, excessive stress, and other causes. These factors, however, fail to address the reason why aging individuals continue to put on fat pounds despite eating less, taking dietary supplements, and following other practices that should in theory lead to weight loss.

The aging process adversely affects the adipocyte *command signal* network, which helps explain the difficulty maturing individuals have in controlling their weight.

Adipocytes regulate their size and number by secreting *command signals*. The three command *signals* that regulate adipocytes are:

- Leptin
- Adiponectin
- Glycerol-3-phosphate dehydrogenase.

A West African medicinal food called ***Irvingia gabonensis*** has been shown to favorably affect the three adipocyte command centers in the following ways:

LEPTIN

Released by adipocytes, **leptin** travels to the brain to perform two critical functions. First it signals the brain that enough food has been ingested and shuts down appetite. It then depletes bloated adipocytes by promoting the *burning* of stored *triglycerides*. **Leptin** is much more abundant in the blood of obese individuals, yet leptin functions to turn off appetite while promoting the burning of *triglycerides* that bloat our adipocytes. The reason why obese people have higher blood levels of leptin is that leptin *receptor sites* on cell membranes are inactivated by inflammatory factors in the body. **Irvingia** helps unblock "leptin resistance".

ADIPONECTIN

The second *command signal* released by adipocytes is ***adiponectin***. The transcription factors associated with adiponectin help determine the amount of triglycerides stored in adipocytes and number of adipocytes formed in the body. Higher levels of adiponectin enhance insulin sensitivity, which is a long established method to induce weight loss. Gene *transcriptional factors* involved with adiponectin are directly involved in sequential expression of adipocyte-specific proteins. **Irvingia** suppresses ***transcriptional factors*** involved in the formation of new adipocytes, while enhancing cell membrane insulin sensitivity by increasing ***adiponectin***. High circulating levels of **adiponectin** have been shown to protect against coronary artery disease, whereas low adiponectin levels are observed in overweight individuals.

GLYCEROL-3-PHOSPHATE DEHYDROGENASE

An enzyme that facilitates the conversion of blood *glucose* into stored *triglyceride* fat is ***glycerol-3-phosphate dehydrogenase***. The presence of this enzyme in the body reveals why low-fat diets alone fail to achieve sustained weight loss, i.e., the body will take ingested *carbohydrates* and convert them into stored triglyceride fat via the ***glycerol-3-phosphate dehydrogenase*** enzyme. **Irvingia** inhibits *glycerol-3-phosphate dehydrogenase*, thus reducing the amount of ingested sugars that are converted to body fat.

Clinical studies have demonstrated significant belly fat and total weight loss in response to taking a **150** mg ***Irvingia gabonensis*** extract twice daily. A mechanism for this weight loss reported by many Irvingia users is a reduction in *appetite* with a concomitant decrease in the number of ingested calories.

Pillar Number 8: Inhibiting the Lipase Enzyme

Orlistat is an inhibitor of pancreatic and gastric *lipase*. It decreases the intestinal absorption of ingested dietary triglycerides by **30%**. By reducing the breakdown and absorption of dietary fat, orlistat enhances weight loss and lessens insulin resistance.

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

Fat and Cardiovascular Disease

High body fat is of course strongly associated with cardio-vascular disease—but the relationship is more complicated and subtle than we used to think. Atherosclerosis is clearly the result of the cycle of lipid oxidation, inflammation, and vascular injury, as mentioned above, but fat tissue causes other risks that are independent of plasma lipid levels. Acting as an endocrine organ, fat tissue can increase the flow of hormones (known as adipokines) involved in blood pressure control,[26] potentially accounting directly for some of the hypertension we used to attribute simply to "stiff blood vessels" and "extra force needed to pump blood."[65] Again, it seems to be specifically the accumulations of abdominal fat that produce these remarkable and deadly effects.[66] And again, it is fortunate that adequate reduction in body fat content through lifestyle changes, diet, and supplementation has been associated with decreased risk for cardiovascular catastrophes, such as heart attacks and strokes.[67-70]

In studies of obese subjects, orlistat treatment improves *insulin* and *glucose* blood levels while significantly decreasing *C-reactive protein*, a marker for chronic inflammation. Orlistat treatment favorably influences other blood markers (such as *leptin* and *adiponectin*) that are involved with obesity.

In a one-year trial of overweight women, a group with metabolic syndrome treated with orlistat (120 mg three times a day) and lifestyle modification lost 20.5 pounds compared with only 0.44 pounds weight loss in the placebo control group. A group of overweight women without metabolic syndrome taking the same dose of orlistat + lifestyle modification lost **20.2** pounds more than the control group with metabolic syndrome.

In a three-month open-label trial of overweight patients without Type 2 diabetes treated with orlistat (120 mg three times a day), men lost **17.4** pounds and women lost **12.3** pounds In overweight patients with Type 2 diabetes mellitus, men lost **18.7** pounds and women lost **12.5** pounds In this study, leptin levels decreased by 51% in men with Type 2 diabetes and 25% in women with Type 2 diabetes mellitus. Leptin levels dropped by **48%** in overweight men and **23%** in overweight women without Type 2 diabetes mellitus. Reduced leptin blood levels is a favorable response as it indicates a reduction in the "leptin resistance" phenomenon that often precludes weight loss.

Not all studies demonstrate this much weight loss in response to orlistat. Poor compliance is always a factor in the variability that exists among studies of the same compound. Another reason for these discrepancies is that orlistat users are warned to avoid excess ingestion of dietary fats, and are likely to switch to consuming more simple carbohydrates. Overweight individuals often suffer metabolic disturbances, meaning that ingested sugars more readily convert to stored (triglyceride) fats on the body. This is why taking carbohydrate-blocking agents (alpha-glucosidase and amylase inhibitors) in conjunction with orlistat for the first 60 days of a weight-loss program may be necessary to induce some immediate reduction of fat pounds that overweight and obese individuals expect.

Orlistat is available by prescription in **120** mg capsules as Xenical®, or over-the-counter under the trade name **alli**® in **60** mg capsules. The suggested dose for the 60-day initiation period is **120** mg before each meal (three times a day). Make sure to take fat-soluble nutrients such as omega-3 fish oil, vitamins D, E, and K, and carotenoids (like lutein and zeaxanthin) at the time of the day most removed from the last orlistat dose as its fat-blocking effects can interfere with absorption of these critical nutrients into the blood.

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

Pillar Number 9: Eat to Live a Long and Healthy Life

No one should embark on a weight-loss program by trying to follow a fad **diet** that cannot be adhered to over the long term. At the same time, aging individuals have to make *choices* as to what is more important, i.e., ingesting foods that are known to promote weight gain (and cause horrendous diseases) or selecting healthier foods that facilitate weight loss and protect against illness.

Six years ago, *Life Extension* published an article about the dangers of eating foods cooked at high temperatures (over 250 degrees). Overcooked foods damage our body's proteins while foods cooked at lower temperatures have been shown to facilitate weight loss. So just changing how your foods are prepared could help you shed body fat and, at the same time, protect against age-related disease (see "Eating food cooked at high temperature accelerates aging," *Life Extension*, May 2003).

Solid scientific evidence shows that *excess* calorie ingestion accelerates the onset of degenerative disease and the aging process itself—in addition to promoting the unsightly accumulation of **body fat**. With the help of the various elements described in this *Nine Pillars of Successful Weight Loss*, the reduction in body fat one may see should provide a strong motivational basis to initiate more sensible food intake patterns.

It's never too late to change one's lifestyle in a manner that promotes better health while melting away excess body fat.

Conclusion

Lifestyle changes are clearly critical to safe and responsible loss of weight and body fat, and provide additional quality-of-life benefits that vastly exceed simple reduction in disease risk. Clinicians and patients who are truly committed to attaining a long and happy life will always include responsible diet and moderate exercise programs in their long-term plans. ■

If you have any questions on the scientific content of this article, please call a Life Extension Health Advisor at 1-866-820-8083.

Controlling Body Fat Content Safely

Despite the obvious dangers of obesity and specifically elevated abdominal body fat content, most Americans have a hard time losing weight. Many turn to "quick-fix" solutions such as bariatric surgery ("stomach stapling"), which actually does provide some benefit in extreme cases,[76] or to "diet pills" that are usually ineffective and often dangerous.[77-81] The best and safest approaches to weight loss continue to be a modest reduction in caloric intake coupled with a careful increase in energy expenditure.

Note: This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.

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LifeExtension Weight Loss Blood Test Panel

What *Factors* Are Keeping You from Losing Weight?

While most aging people accumulate excess body fat, the underlying causes of weight gain vary considerably amongst individuals. Unless the factors responsible for your weight problem are identified, you're literally "shooting in the dark" when attempting to shed excess **fat** pounds. Fortunately, proper **blood testing** can uncover the specific factors responsible for your unwanted weight gain, so that corrective actions can be taken.

The New Life Extension® Weight Loss Blood Test Panel

Many people have tried to follow low-calorie diets without achieving meaningful reductions in **body fat.** One reason for these failures is **hormone** imbalances that can preclude significant weight loss if not corrected.

For example, if you have *insufficient* levels of **T3** (the active **thyroid** hormone), your cellular metabolism may be too slow to *burn off* stored fat. In response to eating less, your body responds by further *inhibiting* **T3** production, thus making it even more challenging to burn off surplus fat pounds. By measuring **TSH** (thyroid-stimulating hormone), **free T4,** and **free T3** blood levels, your doctor can *optimize* your thyroid hormone status to the *youthful* ranges when you were much thinner. Thyroid hormone deficits are especially prevalent in **women**.

Abdominal weight gain is epidemic in aging **men**. Low **free testosterone** is a common culprit. In women, **abdominal fat** accumulation may be caused by an **estrogen** imbalance and/or excess **free testosterone** (the opposite of men). In both sexes, low **DHEA** hormone can contribute to excess belly fat. By measuring blood levels of **hormones** involved in fat metabolism, one can restore their hormonal profile to youthful ranges that existed when you were at normal body weight.

The new **Life Extension Weight Loss Blood Test Panel** analyzes these hormones (along with other factors) so that you and your doctor have the data to properly restore them to optimal ranges.

Correcting Metabolic Imbalances

Aging results in a reduction in *insulin sensitivity* that contributes to our bloodstreams being chronically bloated with excess **glucose** and **triglycerides**. One might assume that cutting calories would correct this problem, yet many overweight people lack the ***metabolic capacity*** to remove excess glucose, triglycerides, and other factors from their blood. It is particularly challenging to lose significant weight while one's bloodstream is chronically overloaded with fat-inducing compounds.

The **Life Extension Weight Loss Blood Test Panel** analyzes a host of metabolic parameters that may be blocking your ability to shed body fat. Once identified, proven methods exist that you (and/or your doctor) can implement to purge your bloodstream of these dangerous **factors**.

Suppressing Chronic Inflammation

Heavy people have startlingly high levels of **C-reactive protein**, which is a blood marker of chronic inflammation. Research indicates that **C-reactive protein** inhibits leptin signaling in the appetite control center of the brain. **Leptin** signals **satiety** (thereby reducing hunger) and promotes the breakdown of **body fat** through the process of lipolysis. Suppressing elevated **C-reactive protein** is an essential element in a scientific weight loss and longevity program.

The **Life Extension Weight Loss Blood Test Panel** analyzes **C-reactive protein** levels. If elevated, proven methods exist to reduce **C-reactive protein** to safer ranges.

The Male Weight Loss Panel

To identify *factors* in the blood responsible for weight gain in **men** (especially in the abdomen) and age-related disease risks, the **Life Extension Male Weight Loss Panel** includes measurements of:

- **Free testosterone**
- **Total testosterone**
- **Estradiol (a potent estrogen)**
- **DHEA**
- **TSH (thyroid-stimulating hormone)**
- **Free T4**
- **Free T3 (the metabolically active thyroid hormone)**
- **Glucose**
- **Triglycerides**
- **Total Cholesterol**
- **LDL (low-density lipoprotein)**
- **HDL (high-density lipoprotein)**
- **C-reactive protein**
- **Liver function**
- **Kidney function**
- **Complete blood cell counts**
- **PSA (prostate-specific antigen)**
- **Homocysteine**
- **And numerous other markers of disease risk.**

CODE: LCWLM

The Female Weight Loss Panel

To identify *factors* in the blood responsible for weight gain in **women** (and age-related disease risks), the **Life Extension Female Weight Loss Panel** includes measurements of:

- **Estradiol (a potent estrogen)**
- **Progesterone**
- **TSH (thyroid-stimulating hormone)**
- **Free T4**
- **Free T3 (the metabolically active thyroid hormone)**
- **Free testosterone**
- **Total testosterone**
- **DHEA**
- **Glucose**
- **Triglycerides**
- **Total Cholesterol**
- **LDL (low-density lipoprotein)**
- **HDL (high-density lipoprotein)**
- **C-reactive protein**
- **Liver function**
- **Kidney function**
- **Complete blood cell counts**
- **Homocysteine**
- **And numerous other markers of disease risk.**

CODE: LCWLF

The Lowest-Cost Blood Tests

Restoring a youthful hormonal and metabolic profile is a critical component of a comprehensive weight loss program, especially when it comes to shedding **abdominal fat**.

One reason that blood tests are not used more frequently to assist with weight loss is the high price. Tests can cost over **$1,000**. Life Extension members can obtain the **Life Extension Weight Loss Blood Test Panel** for just **$324** *(retails for $432.00)* — a ***25% saving*** off our everyday retail price.

How to Order

To obtain the comprehensive **Male** or **Female Weight Loss Blood Test Panels** at these super-discounted prices, call **1-800-208-3444** to order your requisition forms. (You can also log on to www.lef.org/bloodfat). Then, at your convenience, you can visit a blood-drawing facility in your area. Please remember that you can have your blood drawn any time.

Note: residents of NY, NJ, and RI will receive a blood draw kit due to state law, and an additional local draw fee may be incurred.

Congratulations!

You're on the path to a healthier you.

Use this Weight Loss Guide and Life Extension® products as tools to help achieve your goals.

Need additional help? Call our Health Advisors toll-free at

1-866-820-8083

Item code: IRVBOOK **428.43B 0509**

LifeExtension® For Longer Life®

1100 W. Commercial Blvd.
Fort Lauderdale, FL 33309