

RELEASE YOUR FITNESS HORMONE! • 2nd Edition

Ready, Set, GO!

SYNERGY FITNESS

**for Time-Crunched
Adults**

Phil Campbell

M.S., M.A., FACHE

Age 50

**THIS STEP-BY-STEP
MANUAL SHOWS YOU
HOW TO:**

- Synergize Your Metabolism
- Cut Body Fat
- Tone & Build Muscle

Chapter 1

A Fully Illustrated Workbook for Beginners to Advanced Athletes



1

Exercise-Induced Growth Hormone

***Your body's ultimate fat-burning,
muscle-toning and building, anti-aging,
anti-middle-aging, synergistic agent***

Human growth hormone is an extremely powerful substance that is produced by the body naturally. Some researchers consider it one of the most powerful hormones in the body.

Human growth hormone (frequently called HGH) is released in pulses - about twelve a day. And what it does to your body throughout life is nothing short of miraculous!

This is the substance that makes us, during childhood, grow several feet in height in just a few short years. After puberty, growth hormone begins to decline. Actually, it takes a nose dive until we reach the mid 30s, at which time the body begins to add bodyfat and some other not-so-positive things.

We joke about the weight gain that occurs in the early 30s and call it the "middle-age spread." But it's a real condition that medical researchers call the "somatopause."

The somatopause is related directly to the decline of growth hormone during aging. Symptoms of the sagging somatopause are bodyfat increases, muscle tone and size declines; good cholesterol goes down, bad cholesterol goes up, bone density begins to thin, and the skin begins to wrinkle.

***"Human Growth
Hormone is the
most powerful
anabolic stimulus
known to
science."***

*(The Sports
Nutrition Guide,
Dr. Michael Colgan,
2002).*

“The term ‘somatopause’ indicates the potential link between the age-related decline in growth hormone levels and changes in body composition, structural functions and metabolism which characterize aging. Physical exercise is an important environmental regulator...” (Aging, growth hormone and physical performance, 2003 Sep, J Endocrinol Invest., Lanfranco F).

Will the Real Fitness Hormone Please Stand Up?

For children, growth hormone is truly the “hormone of growth” as it was initially named by Dr. Harvey Cushing in 1912 because it makes children grow taller. Once we reach adulthood, however, growth hormone changes roles.

Growth hormone doesn’t make adults “grow” after reaching their full height. Researchers show that when growth hormone is released during exercise, it targets and actually shrinks bodyfat for two hours after training. Whether it’s called growth hormone, HGH, or the “fitness hormone,” this substance can do some wonderful things when it’s increased naturally in the body of a healthy adult.

New Landmark Research

When I completed the research phase for the first edition, the research was complete enough to draw hard conclusions about the type of fitness program that would make the body release growth hormone. However, the research didn’t specifically test high-intensity sprints until later. Now we have more details.

In a 2002 study, researchers compared growth hormone produced by anaerobic exercise in several ways - resting (for a baseline measurement), after a 6-second cycle sprint, and after a 30-second cycle sprint.



SYNERGY FITNESS STRATEGY 1

Increase growth hormone naturally

The 6-second sprint method did move growth hormone some but didn't come close to the body's potential to release this powerful hormone. The 30-second, all-out effort sprint increased this hormone by 530 percent over resting baseline and 450 percent over the lesser intensity sprint.

Now we can conclude that it is possible to increase growth hormone by as much as 530 percent with this type of anaerobic exercise (*The time course of the human growth hormone response to a 6s and a 30s cycle ergometer sprint*, 2002, Stokes).

The researchers in this study also measured growth hormone for hours afterwards to see how long it stayed in the participant's bodies after exercise. This study confirmed the findings of earlier studies showing that growth hormone can circulate in the body for two hours after this type of exercise (*Impact of acute exercise intensity on pulsatile growth hormone release in men*, 2000, Pritzlaff).

Now we know that once exercise-induced growth hormone is released, this powerful hormone will target bodyfat like a heat-seeking missile for two hours after training. This is synergy! And it's where the "synergy" comes from in the book's title, *Ready, Set, Go! Synergy Fitness*.

Increasing exercise-induced growth hormone should become your top fitness goal. And step one is learning how HGH functions in your body.

New Research shows that one form of exercise can increase HGH by 530 percent over baseline. (*The time course of the human growth hormone response to a 6s and 30s cycle ergometer sprint*, 2002, Stokes).

"Exercise is a robust stimulus of GH secretion."
(*Growth Hormone Release During Acute and Chronic Aerobic and Resistance Exercise: Recent Findings*, 2002, Wideman, L.).

“Intensity of exercise plays a key role in GH response to exercise.”

(Neuroendocrine control of GH release during acute aerobic exercise, 2003, J Endocrinol Invest, Weltman A).

What Does Sprinting Mean?

Sprinting is discussed throughout this book. Sprinting *does not necessarily mean running sprints*. The anaerobic sprinting workouts in the book can be performed in many ways - cycling, swimming, skiing, running, cross-country skiing, or even power walking. The workouts can also be performed indoors at home or in the gym on an elliptical unit, stationary cycle, recumbent bike, or treadmill. And since Vision Fitness (www.visionfitness.com) added my Sprint 8 Workout as a featured program in their award-winning, home cardio equipment, targeting exercise-induced growth hormone release at home is easier than ever!

Whatever the method of exercise, the goal is to reach all FOUR critical growth hormone release benchmarks with some type of exercise that is equal to the “winded” condition that most associate with running sprints.

How to Maximize HGH Release

There are some tricks-of-the-trade in maximizing exercise-induced growth hormone once it’s released.

The gland that releases this hormone, the pituitary gland, is called the “master gland” because of its impact on so many other hormones. HGH may do more than you ever imagined. This hormone impacts every aspect of life and does so over an entire lifetime. HGH affects your career, appearance, self-image, ambition, energy, and performance - physically and mentally. Even relationships with family and friends are affected by this hormone.

Understanding how HGH functions will impact the way you think about exercise. And it may lead you to modify your diet, to add specific nutritional supplements, and perhaps even to change your sleeping habits.

Human growth hormone is stored in the pituitary gland until it is “released” into the blood system.

(Beyond the somatopause: growth hormone deficiency in adults over the age of 60 years, 1996, Toogood).

The Somatopause The Ultimate Baby-Boomer Bummer

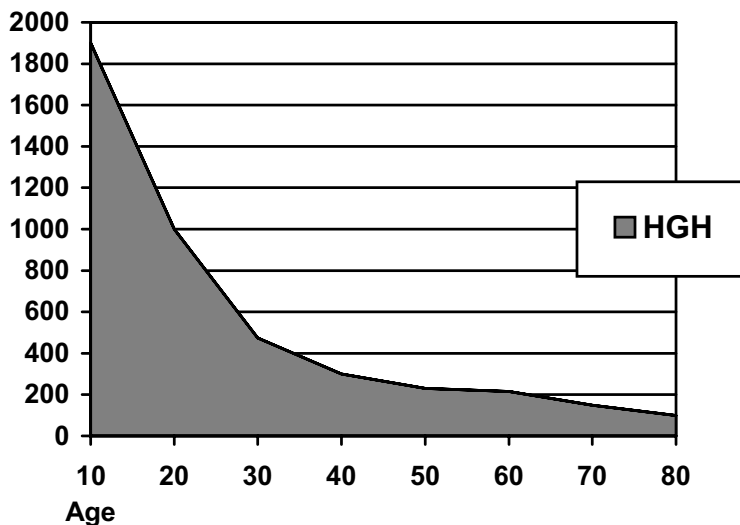
It's been called the "middle-age spread" and the "middle-age bulge." But whatever it's called, it's a physical reality for 80 million middle-age adults.

Are you middle-age and experiencing weight-gain, energy decline, and loss of muscle? Are lab reports showing bad cholesterol going up and good cholesterol going down? These are all symptoms of the somatopause that typically begins in the 30s. Medical researchers report that the somatopause is related directly to the decline of growth hormone during aging.

It is characterized by high insulin levels and low plasma growth hormone levels, and how this leads to obesity, high cholesterol, and cardiovascular disease in both syndrome X and type 2 diabetes.

(A reappraisal of the blood glucose homeostat which comprehensively explains the type 2 diabetes mellitus-syndrome X complex, 2003, Jun, J Physicol, Koeslag JH).

HGH Declines During Aging



“Aging is accompanied by gradual but progressive reductions in the secretion of testosterone and growth hormone, and by alterations in body composition and functional capacity.”

(Neuroendocrine aging in men.

Andropause and somatopause, 2001, Endocrinol Metab Clin North Am. Anawalt BD).

Hormone Replacement?

Growth hormone replacement therapy via injections has proven successful in many anti-aging research studies. It has produced a 14 percent drop in bodyfat and an 8 percent gain in muscle. Researchers also report improvements in skin, bone density, and cholesterol.

These remarkable clinical results are not the best case outcome. These are the typical, average results. So, you can see why many are calling HGH therapy the fountain of youth.

Initially, HGH injections were given to children with clinical stature growth problems to help them grow normally. Today, there are 15,000 children being treated with growth hormone. And this therapy has proven to be very effective. For adults, however, there are better ways than injecting HGH to get the wonderful benefits of increasing this hormone.

Celebrity Anti-Aging Drug of Choice

It’s widely reported that several well-known actors take HGH growth hormone injections for its anti-aging, youth-rejuvenating properties. HGH has been banned from athletes because of its ability to improve performance.

While there is research to show serious side effects are possible with this therapy, everyone knows instinctively that when you inject something into your bloodstream that costs \$1,500 a month (that can put on muscle like steroids and pull 28 pounds of bodyfat off a 200-pound person), it doesn’t take a rocket scientist to figure there’s a price to pay in the long run.

There are better ways! Anaerobic exercise (as we’ve seen), adequate deep sleep, inexpensive supplements like 2-grams of L-glutamine before training will get the job done naturally!

The REAL Cure for the Middle-Age Somatopause

There are three cures for the middle-age somatopause - growth hormone injections (not recommended), a starvation diet (this doesn't work in a time-crunched, fast-food society), or the natural method, anaerobic exercise followed by a few simple fitness strategies to maximize exercise-induced growth hormone.

To be more specific, anaerobic exercise is the short-burst, get-you-out-of-breath quickly, sprinting types of exercise. You don't have to spend all day in the gym, jog for hours, or starve yourself. But it does require high-intensity exercise for short periods.

Now, before you go out and run, cycle, or swim a few full-speed 100-meter sprints or power-walk some steep hills, it's important to note that anaerobic exercise is the most productive form of exercise (from the HGH release standpoint), but it's also the most dangerous. Even young athletes need to warm-up and progressively build intensity levels or risk pulling a hamstring or tearing an Achilles.

Adults can successfully add anaerobic fitness training to their fitness program, but there needs to be a slow, progressive buildup period. Middle-age adults need to ease slowly into high-intensity anaerobic exercise.

For some reason, many of my X-jock friends believe that this warning does not apply to them. Even well-conditioned athletes, who can jog for miles, need a progressive, six- to eight-week buildup period.

It's a good idea to read Chapter 8, *Accelerating Growth Hormone Release with Anaerobics*, and it's mandatory to get physician clearance before beginning a fitness program, particularly a high-intensity program like this.

"The fall in GH secretion seen with aging coincides with changes in body composition and lipid metabolism that are similar to those seen in adults with GH deficiency."

(Growth hormone - hormone replacement for the somatopause? 2000, Horm Res. Savine R).

"Moderate and light activities

... showed nonsignificant

inverse associations

(for coronary heart disease risk)."

(Physical activity and coronary heart disease in men: The Harvard Alumni Health Study. Circulation. 2000 Aug 29, Sesso HD).

High-Intensity is Missing

High-intensity, short-burst, sprinting types of anaerobic exercise is the missing ingredient in many fitness plans today. Yet this form of exercise is essential in getting all of the benefits the body has to offer those who make the decision to exercise.

Researchers show that high-intensity, anaerobic exercise plays the key role in increasing hormone release (Meirleir, 1986). Researchers also show that increasing the intensity of training, *not adding more training volume*, will improve athletic performance.

We now know that high-intensity training improves athletic performance, and it also cures the somatopause for middle-age adults. So why is it that we quit doing anaerobic exercise typically before age 20? The long answer to this question is given throughout the book. The short answer is that we should never quit anaerobic exercise. Never. It should be a lifelong addition to our fitness plan.

When kids go out to play, do they methodically jog at the same pace for hours, or do they run, sprint, laugh, chase, zig-zag, climb, sweat, and get totally exhausted?

Here's another interesting question. When is the highest release stage of growth hormone during our life-span? It's when we are children - playing, running, and sprinting.

Slow-paced "cardio" is beneficial for burning calories and providing an endurance base, and it is a key element of every well-designed fitness plan, including this one. However, it's anaerobic exercise that takes us beyond the results of calorie-burning cardio by tapping into the most powerful bodyfat cutting substance known in science, exercise-induced growth hormone.

This book is not about quitting cardio. It's about adding anaerobic exercise to your fitness plan and multi-tasking it with cardio.

It was once thought that the buildup of lactic acid caused muscle soreness. Not true. Lactic acid is recycled in the body before soreness appears. Soreness is caused by numerous muscle micro-tears, or overstretching the muscle during exercise. (Delayed muscle soreness: the inflammatory response to muscle injury and its clinical implications, 1995, MacIntyre).

Leading Research

One of the most significant research studies concerning fitness training, anti-aging, and anti-middle aging was completed in 1999 by researchers at the University of Virginia School of Medicine.

Researchers there set out to determine the effects of exercise intensity on growth hormone release. They discovered that **HGH is released in the body in direct proportion to exercise intensity**. Simply, the higher the intensity, the higher the HGH release - once the HGH release benchmarks have been achieved (*Impact of acute exercise intensity on Pulsatile growth hormone release in men*, 1999, Pritzlaff, Wideman, Weltman, Abbott, Gutgesell, Hartman, and Veldhuis).

Once the research by this team becomes widely circulated and added to the textbooks in a few years, it will change the way the world thinks about exercise, fitness, health, and aging.

The “muscle burn” caused by the increase of lactic acid in muscles may be partly responsible for HGH release during anaerobic exercise. (Effect of acid-base balance on the growth hormone response to acute high-intensity cycle exercise, 1994, Gordon).

The Grand Prize of Fitness Training

Early research showed that a “particular threshold” of exercise intensity must be achieved before human growth hormone can be released (*Effect of low and high intensity exercise on circulating growth hormone in men*, 1992, Felsing). However, this “threshold” is evolving in the research to include four main benchmarks that must be achieved in order to release exercise-induced growth hormone.

You’ll see this important information next. However, I can’t overemphasize how essential it is for you to become an expert at understanding how to reach these four benchmarks during workouts.

“Growth hormone releasing hormone (GHRH) is one of the most important hormones in life.” (Production and enhanced biological activity of a novel GHRH analog, 2004, April, Protein Expr Purif, Tang, SS).

“Delayed reoxygenation appears to affect the GH response to exercise.”

(Effect of Muscle Oxygenation during Resistance Exercise on Anabolic Hormone Response, 2003, Med Sci Sports Exercise, Hoffman)

Human Growth Hormone Release Benchmarks

Oxygen Debt

The out-of-breath condition resulting from high-intensity exercise during anaerobic training is an unmistakable HGH release benchmark. This is one of those conditions where “you’ll know it when you’ve arrived.”

Oxygen demand is an important regulator in the body’s release of HGH during exercise (*Regulation of growth hormone during exercise by oxygen demand and availability, 1987, Vanhelder*).

Unlike other methods of fitness training, the goal of anaerobic exercise is actually to propel you into a winded state. The word *anaerobic* means “without oxygen.”

After 8 to 10 seconds of 90 to 100 percent maximal high-intensity effort (like sprinting), or 20 to 30 seconds of 70 to 90 percent high-intensity anaerobic exercise (like hard intervals), the body experiences “oxygen debt.”

During recovery from this state, the body pays back the oxygen debt by increasing the heart rate and supplying oxygen to the blood with hard, rapid breathing. And the **oxygen debt generated during exercise triggers HGH release.**

“Intensity of exercise plays a key role in GH response to exercise.”

(Neuroendocrine control of GH release during acute aerobic exercise, 2003, J Endocrinol Invest, Weltman A).

WARNING

Anaerobic exercise forces the heart muscle to pump fast and hard to pay back the oxygen debt caused by this form of exercise. See your physician before attempting anaerobic training. Even young athletes need to build up to anaerobic capacity.

Muscle Burn

The burning sensation that you feel in your muscles during exercise is caused by lactic acid. And reaching the “muscle burn” stage corresponds with release of HGH into your body. In fact, researchers show that HGH is released 16 minutes after reaching the “lactic acid threshold.”

Lactic acid is a by-product of being “oxygen deficit” during high-intensity exercise. The lactic-acid-induced “muscle burn” is somewhat like a self-defense mechanism of the body. It lets you know that you’re exercising anaerobically.

Reaching the “muscle burn” stage during fitness training is a noticeable sign that an important HGH release benchmark has been achieved.

HGH release occurs 16 minutes after reaching the muscle burn lactate threshold benchmark during exercise. (*Growth hormone responses during intermittent weightlifting exercise in men, 1984, Vanhelder*).

Increased Body Temperature

A third benchmark that must be reached to increase HGH is to turn up your body heat during fitness training.

Researchers show that increasing body temperature is an important HGH release benchmark (*Role of body temperature in exercise-induced growth hormone and prolactin release in non-trained and physically fit subjects, 2000, Vigas*).

Note: *A good warm-up should raise your body temperature by approximately one degree, and this is necessary for HGH release.*

Even in freezing temperatures, body heat can be raised by wearing adequate clothing. Don’t let cold weather be an excuse not to exercise. There *are* temperatures, however, that will preclude HGH from being released. Use common sense. In most cases, however, working up a good “sweat” during training should accomplish this HGH release benchmark.

Researchers demonstrate that HGH will not release when exercise occurs in a cold room where body temperature cannot increase. (*Characterization of growth hormone release in response to external heating: Comparison to exercise induced release, 1984 Christensen*).

The increase of HGH during exercise is closely correlated with the release of adrenal hormones (adrenaline and norepinephrine). This occurs after reaching the "lactate threshold" benchmark.

(Threshold increases in plasma growth hormone in relation to plasma catecholamine and blood lactate concentration during progressive exercise in endurance-training athletes, 1996, Chwalbinski-Moneta).



Running & walking bleachers can reach HGH release benchmarks

Adrenal Response

The University of Virginia research team identified the "adrenal hormone release function" as possibly playing a central role in HGH release. The release of epinephrine (adrenaline) that boosts the body in stressful situations and norepinephrine, which maintains normal blood circulation, both play vital roles in HGH release.

Exercise must achieve the out-of-breath, slightly painful level of intensity that produces an epinephrine response before HGH is released.



SYNERGY FITNESS STRATEGY 2

Reach HGH release benchmarks during fitness training

1. *Out-of-breath (oxygen debt)*
2. *Muscle burn (lactic acid)*
3. *Increased body temperature (one degree)*
4. *Adrenal response (slightly painful)*

Researchers show that the *physical age* of a person lessens the body’s ability to release HGH. However, it’s the *intensity* of exercise that is the key to releasing HGH.

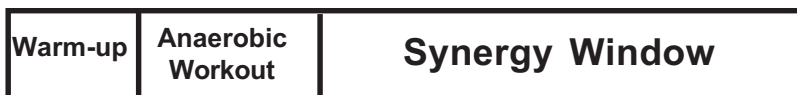
In one study, young and old adults were tested for their ability to release norepinephrine during exercise. There was no statistical difference in performance at any age (*Young and old subjects matched for aerobic capacity have similar noradrenergic responses to exercise*, 1993, Castello).

Timing of HGH Release

By the end of 20 minutes of high-intensity exercise, the body experiences a significant release of HGH. It continues to rise after the workout until it peaks approximately one hour into the recovery period.

After peaking, HGH slowly returns to baseline around two hours after training. One study shows that HGH will even last up to three hours (*Effects of blood pH and blood lactate on growth hormone, prolactin, and gonadotropin release after acute exercise in male volunteers*, 1997, Slias).

This means you have a two-hour, bodyfat burning “Synergy Window” open to you after every anaerobic workout that reaches the HGH release benchmarks.



This is the “synergy” created by fitness training, and it’s the “synergy” in *Synergy Fitness for Time-Crunched Adults*.

When you release HGH from exercise, you are turning your body into a powerful, fat-burning machine for at least two hours - that is, if you don’t stop the release of HGH.

There are some things you can do to help . . . or hurt the release of HGH - before, during, and after exercise. These strategies are discussed next.

Growth hormone predominantly stimulated the turnover of free fatty acids in the recovery phase after exercise.
(Exercise, hormones, and body temperature, regulation and action of GH during exercise, 2003, J Endocrinol Invest, Jorgensen JO).

Convert Energy to Synergy During Exercise

Implement the following strategies before, during, and after fitness training, and you'll maximize exercise induced GHG release.

BEFORE Training

Don't - Eat a high fat meal before exercise

Researchers report that a high fat meal before training will stop the release of GHG (*Acute effects of high fat and high glucose meals on the growth hormone response to exercise*, 1993, Cappon).

High fat meals trigger an increase in a hormone called "somatostatin," which shuts down GHG. It is, therefore, important to limit any activity that increases somatostatin because of its negative impact on GHG release (*Chapter 2*).

"We conclude that a positive relationship exists between exercise intensity and both carbohydrate expenditure during exercise and fat expenditure during recovery and that the increase in fat expenditure during recovery with higher intensities is related to GH release." (Pritzlaff, 2000, PMID).

Do - Take 2-grams of L-glutamine before training

L-glutamine is an inexpensive, single amino acid supplement that stimulates GHG release, and researchers show that 2-grams of glutamine will significantly increase GHG. Chapter 2 has more details.

Do - Eat some carbohydrates to fuel intensity

Researchers show that eating carbohydrates before exercise will help fuel workout intensity. Researchers report:

An important goal of the athlete's everyday diet is to provide the muscle with substrates to fuel the training program that will achieve optimal adaptation for performance enhancements (Carbohydrates and fat for training and recovery, J Sports Science, 2004, Burke, Kiens, Ivy).

DURING Training **Do - Drink lots of Water**

Researchers show that inadequate water intake during fitness training will “significantly” reduce the HGH response to exercise (*Effect of hydration on exercise-induced growth hormone response*, 2001, Peyreigne).

AFTER Training

Limit Sugar for Two Hours After Training

THIS IS THE TOUGH ONE! A high sugar meal after training, or even a recovery drink (containing high sugar) after training, may stop the benefits of exercise-induced HGH.

You can work out for hours, then eat a high sugar candy bar or have a high sugar energy drink, and this may shut down the synergistic benefits of HGH. Even before training, a high sugar meal will slightly impair HGH, but after training, consider your exercise-induced HGH release stopped dead in its tracks.

If you miss reaching HGH release during training (due to lack of intensity), you will still receive the calorie burning benefit from the workout. However, you’ll miss the HGH “synergy bonus” of enhanced fat burning for two hours after training. This is an extremely important fact to remember if you want to cut bodyfat and shed a few pounds.

The University of Virginia research team demonstrated that carbohydrates are burned during exercise in direct proportion to the intensity of training. Fat burning is also correlated with intensity. However, **the actual fat burning takes place after the workout**, during the recovery.

This makes the “Synergy Window,” the two-hour period after a workout, very important in maximizing exercise-induced growth hormone.

“We conclude that the exercise-induced GH response decreases when exercise is performed without fluid intake.” (*Effect of hydration on exercise-induced growth hormone response*, 2001 Oct., Peyreigne C).

“We conclude that early intake of an oral protein supplement after resistance training is important for the development of hypertrophy (growth) in skeletal muscle of elderly men in response to resistance training.” (*Timing of postexercise protein intake is important for muscle hypertrophy with resistance training in elderly humans*, 2001 Aug, J Physiol., Esmarck B).

“Despite the frequently expressed concern about adverse effects of high protein intake, there is no evidence that protein intakes in the range suggested (1.6 to 1.7 grams per kilogram of bodyweight for high intensity training) will have adverse effects in healthy individuals.” (Effects of exercise on dietary protein requirements, 1998, Dec Int J Sport Nutr, Lemon PW).

Research shows that the intake of carbohydrates jump-starts protein synthesis, and the recovery process begins faster with carbohydrates. There are several studies involving young cyclists who compete for several days back-to-back, and quick recovery is their top priority, not maximizing HGH. If you’re young and a quick recovery is your goal, a recovery drink with carbs and protein would be the best strategy. However, if you’re middle-age, or need to lose some bodyfat, and want all the benefits from exercise-induced growth hormone, then apply the strategy of “limiting sugar for two hours.”

Do - Take 25 Grams of Protein after training

While high fat meals before training and sugar afterwards limit the synergistic action of HGH, researchers have found that protein after training is beneficial (*Acute amino acids supplementation enhances pituitary responsiveness in athletes*, Di Luigi, 1999).

After training, protein utilization increases during the recovery period (Bilol, 1995). A high protein meal (with minimal concentrated sugar) or a protein supplement containing 25 grams of protein after fitness training is a wise muscle-toning and building, and body-fat-reducing strategy.

Protein supplements sold in large canisters with two scoops totaling approximately 25 to 40 grams is a convenient source of protein. One scoop of 25 grams is sufficient for most individuals.

The 25 Gram Protein List

Protein Supplement	1 scoop
Chicken / Fish / Beef	4 oz.
Nutritional Yeast	8 tbs.
Beef/Turkey Jerky	1 cup
Water-packed Tuna	6 oz.
Eggs	3

Specific details for high-intensity training protein needs can be found on page 60 in Chapter 2, *“Daily Protein Needs.”* You can also find the latest research information on protein requirements for high-intensity fitness training and a free newsletter on the Web at <http://www.readysetgofitness.com>

An excellent resource is *The Sports Nutrition Guide* by Dr. Michael Colgan - www.colganinstitute.com.

Conclusion

To achieve the synergistic benefits of exercise-induced growth hormone, remember that you must first reach all four GHG release benchmarks during fitness training.

Once released, GHG will peak and remain in your body burning fat for two hours - if you maximize its release. To get the full synergy bonus available from exercise, implement Synergy Fitness Strategy 3 (below) before, during, and after every workout.

The next chapter, *Maximizing Exercise-Induced Growth Hormone*, will show you how to further enhance your body's ability to produce and maximize GHG.

“The response of muscle protein metabolism to a resistance exercise bout lasts for 24-48 hours; thus, the interaction between protein metabolism and any meals consumed in this period will determine the impact of the diet on muscle hypertrophy (growth).” (Exercise, protein metabolism, and muscle growth, 2001 Mar, Int J Sports Exerc Metab, Tipton).



SYNERGY FITNESS STRATEGY 3

Maximize GHG release during fitness training

- Before training*** - no high fat meals one hour prior
- intake some carbs to fuel intensity
- During training*** - drink lots of water
- After training*** - limit sugar for two hours
- intake 25 grams of protein

I couldn't put it down. If you have reached a weight loss plateau, Phil Campbell's new book may be exactly what you need to pump up your fitness routine. Even if you don't know the first thing about exercise, this book will help you map out a fitness plan.

- Renee Kennedy, Editor NutriCounter Health News

On a cold wintry day this past January Phil Campbell was the keynote presenter and a workshop leader for our first "Wellness Day".

This day was designed to provide over 400 staff members with the opportunity to attend a variety of programs examining wellness, nutrition and healthy lifestyles.

He was fantastic! He connects with his audience and inspires through his words. We look forward to his return to Governor Mifflin School District. - Rick Wolf, Reading, PA

Ready Set GO Fitness is perfect whether you are a beginner or an advanced athlete. - Chris and Stacy Clark, Owners Powerhouse Gym Louisville, KY

Chris Clark, 46, Two-time NCAA, All-American javelin thrower, placed 8th in the world during the World Masters Track and Field Championships in Brisbane, Australia



Stacy Clark, Personal Fitness Trainer and masters track & field 400-meter champion



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What Others are Saying About this Book...

I predict Campbell's book will become the next fitness best-seller.
- **Joanna Daneman, Amazon Top 10 Reviewer**

I absolutely guarantee you will NOT be able to put this book down.
-**Thomas Woodrow, What You Need to Know About Running**

Ready Set Go! Synergy Fitness explains why so many people start exercising, don't see results and give up. The program is easy to understand, has transformed people of all fitness levels and ages, and is supported by more scientific research than I've seen in any other consumer fitness book. - **Vera Tweed, health and fitness writer**

I now understand why even the best diet and regular weight lifting weren't working. With a few tweaks to my workout program (and no more time involvement), I have twice the energy and feel more toned than I've felt in a long time. - **Nan Allison, MS, RD, License Nutritionist Author of *Full and Fulfilled***



Ready, Set, GO! Synergy Fitness is a real breakthrough in the health industry. His recommendations are sound and exercise routines are extremely effective. I highly recommend his book.

-**Chad Tackett, CPT Fitness Expert**

- Global Health and Fitness

<http://www.global-fitness.com>

*Chad Tackett, CPT
Global Health & Fitness Expert*

I could be a spokesperson for you! This has literally changed my entire life! I have lost 130 pounds so far. With what I've learned from your book, I have seen more results in one week than in 2 years doing "conventional" exercise!!! Thank you!!!

- Debbie Gross, Wilmington, Delaware

This book is brilliant!

**- Mike Gotfredson
President, Road
Runner Sports**

*5 Stars. Superbly presented.
Profusely illustrated.
Practical and Effective.
Highly Recommended!*

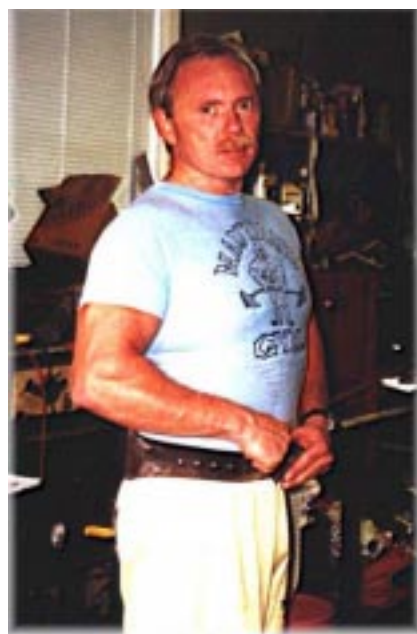
- Midwest Book Reviews

Phil Campbell has discovered the secret to maximizing exercise potential. His book does it all. It provides the most comprehensive exercise plans I have seen to date. And I have tried virtually every type of program that has come out in the past 30 years. It seemed as I got older, positive results were impossible to achieve, impossible that is, until I began following the step-by-step Ready Set Go Fitness program. This plan can turn back the clock for anyone. It has changed my life both physically and mentally!

- Detective Captain Mickey Miller



One week before starting Ready Set Go Fitness



Mickey Miller - 90 days later



I'm glad I bought this book. Even with bad knees I found that I can still do the Sprint 8 Workout on the bike at the gym. In a few short weeks, I lost 10 pounds. And I didn't have to diet.
- Dr. Steve Kail

This is the fitness program I do personally, and I highly recommend it.
- Dr. Keith Atkins

At my age of 55, I have felt frustrated by a lowered metabolism and energy level. The growth hormone release was new information for me. Acquiring an understanding of the HGH release has made a significant difference in my weight loss success. Not only do I feel healthier, but I have lost those 20 pounds in just 10 weeks! -
Pauline Blanchard, Salt Lake City, Utah

Ready Set Go Fitness works! Phil Campbell has taken the lead in training techniques, general fitness and nutrition.
- Dr. L. Schrader, Orthopedic Surgeon

Campbell's qualifications make his routine an easy sell. The author is a twenty-year veteran in the healthcare field, including a stint as a division president in charge of eight hospitals. He is also an accomplished athlete who holds several USA Track and Field Masters titles as well as a black belt in Isshinryu Karate.

- Forward Reviews



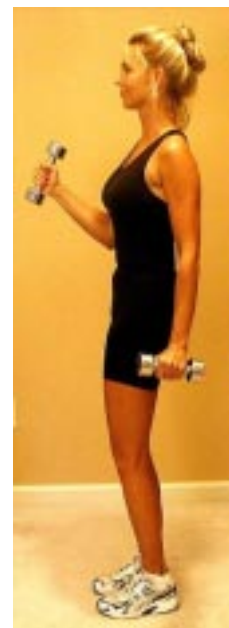
The next fitness revolution is here and it's called Ready Set Go Fitness. I was finishing my masters in Exercise Science when Aerobics fired the shot that started the world running and ushered in the "Cardio" revolution. Ready Set Go Fitness is destined to change fitness training as we know it today.

**- Alvin Hoover, FACHE
Hospital Administrator
South Carolina**

This is an excellent fitness workbook...Along with photos of people performing the actual exercise, there are explicit descriptions of how the exercise should be done correctly and why. I've already used this book to add to my usual exercise routine. I think it's improved my overall performance dramatically!

I recommend this book for everyone young and old!

**- Lisa, Managing Editor
THE BOOK REVIEW CAFE**



Phil Campbell, M.S., M.A., in his excellent book, Ready, Set, Go! Synergy Fitness, outlines the detailed exercise (weight training, sprinting, plyometrics, stretching, drills, including hundreds of photos), and supplements to produce growth hormone by natural means and thus improve athletic performance and increase longevity. Phil Campbell, a very fit muscular 51 year old athlete is the living example of his book. His methods are backed up by frequent reference to many scientific studies in this area. An ideal easy-to-apply book for triathletes, swimmers, cyclists, runners, and fitness advocates."

**- Earl Fee, Author of
How To Be A Champion from 9 to 90**



Dr. Williams performing the 10-Minute Stretching Routine

As a physician, I recognize and encourage patients in the importance of exercise and nutrition and the benefits obtained from a sustained program. But like most, I struggle with the ability to maintain an exercise program. For two decades I have tried multiple programs but have been frustrated by the time commitment, expense,

isolated results, and lack of desired results for maintaining overall physical health.

After reading this book, I started the Ready Set Go Fitness program. I was amazed at the results I achieved in body flexibility, strength, endurance, and improvement in overall sense of well being that results from a regular exercise program. Most of all I was able to accomplish this with a reasonable time investment, because I was able to do the program on my time at home.

This plan is practical, scientifically based, and meets my goals for good health now and into the future.

- Dr. Keith Williams, Ob-Gyn

BOOXS Review of Good Books

Lean and mean workbook outlining Campbell's Synergy Fitness plan for time-crunched adults, a fluffless, step-by-step guide that promises four main how-to's: Increasing the body's anti-aging growth hormone naturally; looking years younger while achieving optimum health and fitness, developing a sprinter's physique at any age; and rediscovering the energy of youth.

A well-illustrated and explained in-your-face rant that pushes the aerobics crowd to an all new level. - Geoff Rotunno, Managing Editor

I have been athletic all my life, but with the addition of the Sprint 8 and weight-plyos, I am no doubt in the best shape of my life at age 39. The addition of the Ready Set Go Fitness plyolifting techniques to my workout enabled me to increase my bench by 20 percent in just 6 weeks. I receive compliments daily on my new found physique. Bring on Age 40!

**- Jeff Mitchell, President
Benefit Consulting Services**



Heartland Reviews

Ready, Set, Go! Synergy Fitness is the fitness book for us middle-aged baby boomers. It focuses on the natural re-energizing of our bodies growth hormone production, which is critical for anti-aging.

It is sensibly written and has an immense amount of research data to back up everything it advises.

Where this book is different from many is in its focus on the intensity of exercise which is required to see results and in the importance of planning and timing. This guide takes a whole-body and a varied type-exercise approach to fitness.

The author is a highly qualified expert who gives out trustworthy, knowledgeable guidance. This is like having your own personal trainer.

- Bob Spear, Publisher Heartland Reviews

Bob Spear (right, 1975 photo) is a nationally recognized self-defense expert. He is a 7th degree black belt in Hapkido, and has presented at the Olympic Scientific Congress.



What Triathletes are Saying

I have read every book on training for triathlons, but it was not until I started doing the Ready, Set, Go program that I started to reach my full potential as an age-group triathlete.

**- Dr. Tim Berry,
Family Physician
and triathlete**



**Dr. Debra Berry, Pediatrician
completing a triathlon**

As a former elite athlete who still wants to compete on a high level in master's cycling events, I have incorporated the Sprint 8 Workout as a key component of my weekly training program. The Sprint 8 Workout definitely offers significant positive fitness returns in the sport of cycling which requires the use of all three muscle types.

**- Tom Gee, Age 50, triathlete and
national cycling title holder**

Tom Gee qualified for two Olympic trials. He is a five time medalist in the US Cycling National Masters Championships; four time finisher of Paris-Brest-Paris; and a veteran of two world championships, and 11 European road races



Book Review

Ready, Set, GO! Synergy Fitness

by Dwayne Hines, II, CPT, national fitness writer

This book is a total departure from the traditional approach to fat loss? Phil Campbell's blockbuster new book, *Ready, Set, Go! Synergy Fitness* takes an effective stab at the prevailing wisdom in the fitness world.

Ready, Set, Go! Synergy Fitness is a revolutionary concept for fat loss and lean muscularity. Campbell focuses on the key area of growth hormone release through two familiar channels - diet and exercise, but via unconventional means.

Campbell acknowledges the effectiveness of growth hormone intake via chemical means, but also points out the dangerous side effects and offers a better alternative - using specific dietary and exercise practices to manipulate growth hormone release in a natural manner. It is anaerobic exercise that will promote the release of the Human Growth Hormone in a manner that works with, not against, the health of the body.

Ready, Set, Go! Synergy Fitness is a radical new approach to shaping the ultimate physique. It contains the program for drastically changing your body for the better.

The book is also full of various weight training exercises, plyometric training routines, sprinting and stretching exercises to provide the body with a total package. The book contains over 350 pages and sells for \$19.95 in most major stores.

The average Amazon book review customer ranked the book as a five star rating (highest possible). If you are looking for an effective way to burn off fat and boost muscularity, grab a copy of *Ready, Set, Go! Synergy Fitness*.

For those who want to ramp up their training and take it to the next level, Ready Set Go Synergy Fitness is a proven way to do it.

- Cary Nosler, Host, Wide World of Health KSTE Talk Radio,



Phil Campbell's book, Ready, Set, Go Synergy Fitness is a concise, well researched, practical program for people of all ages.

After following the level 2 program for 8 weeks, my total cholesterol dropped from 221 to 157. Because of its principle-based teaching and structured guidelines, I highly recommend this book to my patients, and they receive reproducible results.

- Dr. Chet Gentry, Family Physician

I just wanted to tell you how much I am enjoying your book and your philosophy about exercise. I am sharing it with co-workers and clients. It makes so much sense and I can see using it to supplement and/or replace our current approach to working with many...if not all....clients.

- Deborah Tregua M.Ed, Senior Exercise Physiologist University Fitness Center, Penn State Hershey Medical Center

After not quite 3 months on your program, I've now burned about 19 pounds of fat, added about 4 pounds of muscle, and cut bodyfat by almost 6 percent. I'm tremendously grateful for your insights and am turning friends on to your book and ideas at every opportunity. I had a complete physical this morning and even my doctor was impressed. My cholesterol dropped 70 points (to 207 since my last test 2 years ago!!) I am stronger than I've ever been in my life and fitter than I've been in at least a decade.

- Terry Bazyluk, Writer/Lawyer, Maryland

What Others are Saying About this Book ... Internationally

Ready Set Go, Synergy Fitness, uses revolutionary research and a sound scientific approach, to offer a practical and effective way to help middle age adults, and adults of all ages get fit and stay young.
- **Stefan Angheli, CSCS, Editor, HealthFitness.com, Australia**

The workout to accelerate GH release works. I am 69 years old. After a few months of practicing I feel the tightness of muscles built in my buttocks and thighs that gives me a feeling of youth I never experienced even when I was young. - **Chi On Kwan, Hong Kong**

I love this book - it's brilliant - very readable - and it all makes sense!
- **Dickon Weir-Hughes, Deputy CEO & Chief Nurse
Royal Marsden Hospital, London, United Kingdom**

I'm really glad that I discovered Ready, Set, GO. I'm 38, have never had much exercise, and yet I'm running. Your book inspired me. My weight has dropped and seems to have leveled out at 9 stone (122 pounds). This program is fabulous. The most noticeable difference is that I look and feel healthier and my muscles are beginning to tone.
- **Sally Somerville, Channel Islands, United Kingdom**

Ready, Set, GO! Synergy Fitness is a practical, science-based fitness plan anyone can use to lose weight, delay the middle-age "somatopause," and boost their anti-aging hormones naturally.
Phil Campbell's book is an easy-to-use, step-by-step plan for anyone who wants to turn back the clock and look their very best - no matter what their age. I highly recommend it!
- **Christian Finn, M.Sc., Northampton, United Kingdom**

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This book is designed to provide information in regard to the subject matter covered for healthy adults. It is sold with the understanding that the publisher, author and advisors are not rendering medical advice or other professional services. It is highly recommended that an examination by a physician be performed BEFORE attempting to begin any fitness training programs outlined in this book.

The purpose of this book is to educate, expand thinking about fitness as an informational source for readers, and it is not medical advice, nor has it been evaluated by the FDA. The publisher, author, and advisors shall have neither liability nor responsibility to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information and programs contained in this book. If you do not agree with the above, you may return to the publisher for a full refund.

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*The **Ready, Set, Go!** program works! I was able to pile on new muscle faster than ever before while shedding bodyfat at an unprecedented rate. I'm now a personal fitness trainer, and I have all my clients do this program because it works, and it works for everyone. - **Alan White***