CrossFit
Forging Elite Fitness

Foundations

CrossFit is a core strength and conditioning program. We have designed our program to elicit as broad an adaptational response as possible. CrossFit is not a specialized fitness program but a deliberate attempt to optimize physical competence in each of ten recognized fitness domains. They are Cardiovascular and Respiratory endurance, Stamina, Strength, Flexibility, Power, Speed, Coordination, Agility, Balance, and Accuracy.

The CrossFit Program was developed to enhance an individual's competency at all physical tasks. Our athletes are trained to perform successfully at multiple, diverse, and randomized physical challenges. This fitness is demanded of military and police personnel, firefighters, and many sports requiring total or complete physical prowess. CrossFit has proven effective in these arenas.

Aside from the breadth or totality of fitness the CrossFit Program seeks, our program is distinctive, if not unique, in its focus on maximizing neuroendocrine response, developing power, cross-training with multiple training modalities, constant training and practice with functional movements, and the development of successful diet strategies.

Our athletes are trained to bike, run, swim, and row at short, middle, and long distances guaranteeing exposure and competency in each of the three main metabolic pathways.

We train our athletes in gymnastics from rudimentary to advanced movements garnering great capacity at controlling the body both dynamically and statically while maximizing strength to weight ratio and flexibility. We also place a heavy emphasis on Olympic Weightlifting having seen this sport's unique ability to develop an athletes' explosive power, control of external objects, and mastery of critical motor recruitment patterns. And finally we encourage and assist our athletes to explore a variety of sports as a vehicle to express and apply their fitness.

An effective approach

In gyms and health clubs throughout the world the typical workout consists of isolation movements and extended aerobic sessions. The fitness community from trainers to the magazines has the exercising public believing that lateral raises, curls, leg extensions, sit-ups and the like combined with 20-40 minute stints on the stationary bike or treadmill are going to lead to some kind of great fitness. Well, at CrossFit we work exclusively with compound movements and shorter high intensity cardiovascular sessions. We've replaced the lateral raise with push-press, the curl with pull-ups, and the leg extension with squats. For every long distance effort our athletes will do five or six at short distance. Why? Because compound or functional movements and high intensity or anaerobic cardio is radically more effective at eliciting nearly any desired fitness result. Startlingly, this is not a matter of opinion but solid irrefutable scientific fact and yet the marginally effective old ways persist and are nearly universal. Our approach is consistent with what is practiced in elite training programs associated with major university athletic teams and professional sports. CrossFit endeavors to bring state-of-the-art coaching techniques to the general public and athlete who haven't access to current technologies, research, and coaching methods

Is this for me?

Absolutely! Your needs and the Olympic athlete's differ by degree not kind. Increased power, strength, cardiovascular and respiratory endurance, flexibility, stamina, coordination, agility, balance, and coordination are each important to the world's best athletes and to our grandparents. The amazing truth is that the very same methods that elicit optimal response in the Olympic or professional athlete will optimize the same response in the elderly. Of course, we can't load your grandmother with the same squatting weight that we'd assign an Olympic skier, but they both need to squat. In fact, squatting is essential to maintaining functional independence and improving fitness. Squatting is just one example of a movement that is universally valuable and essential yet rarely taught to any but the most advanced of athletes. This is a tragedy. Through painstakingly thorough coaching and incremental load assignment CrossFit has been able to teach anyone who can care for themselves to perform safely and with maximum efficacy the same movements typically utilized by professional coaches in elite and certainly exclusive environments.

Who has benefited from CrossFit?

Many professional and elite athletes are participating in the CrossFit Program. Prize-fighters, cyclists, surfers, skiers, tennis players, triathletes and others competing at the highest levels are using the CrossFit approach to advance their core strength and conditioning, but that's not all. CrossFit has tested its methods on the sedentary, overweight, pathological, and elderly and found that these special populations met the same success as our stable of athletes. We call this "bracketing". If our program works for Olympic Skiers and overweight, sedentary homemakers then it will work for you.

Your current regimen

If your current routine looks somewhat like what we've described as typical of the fitness magazines and gyms don't despair. Any exercise is better than none, and you've not wasted your time. In fact, the aerobic exercise that you've been doing is an essential foundation to fitness and the isolation movements have given you some degree of strength. You are in good company; we have found that some of the world's best athletes were sorely lacking in their core strength and conditioning. It's hard to believe but many elite athletes have achieved international success and are still far from their potential because they have not had the benefit of state-of-the-art coaching methods

Just what is a "core strength and conditioning" program?

CrossFit is a core strength and conditioning program in two distinct senses. First, we are a core strength and conditioning program in the sense that the fitness we develop is foundational to all other athletic needs. This is the same sense in which the university courses required of a particular major are called the "core curriculum". This is the stuff that everyone needs. Second, we are a "core" strength and conditioning program in the literal sense meaning the center of something. Much of our work focuses on the major functional axis of the human body, the extension and flexion, of the hips and extension, flexion, and rotation of the torso or trunk. The primacy of core strength and conditioning in this sense is supported by the simple observation that powerful hip extension alone is necessary and nearly sufficient for elite athletic performance. That is, our experience has been that no one without the capacity for powerful hip extension enjoys great athletic prowess and nearly everyone we've met with that capacity was a great athlete. Running, jumping, punching and throwing all originate at the core. At CrossFit we endeavor to develop our athletes from the inside out, from core to extremity, which is by the way how good functional movements recruit muscle, from the core to the extremities.

Can I enjoy optimal health without being an athlete?

No! Athletes experience a protection from the ravages of aging and disease that non-athletes never find. For instance, 80-year-old athletes are stronger than non-athletes in their prime at 25 years old. If you think that strength isn't important consider that strength loss is what puts people in nursing homes. Athletes have greater bone density, stronger immune systems, less coronary heart disease, reduced cancer risk, fewer strokes, and less depression than non-athletes

What is an athlete?

According to Merriam Webster's Collegiate Dictionary, an athlete is "a person who is trained or skilled in exercises, sports, or games requiring strength, agility, or stamina".

The CrossFit definition of an athlete is a bit tighter. The CrossFit definition of an athlete is "a person who is trained or skilled in strength, power, balance and agility, flexibility, and endurance". The CrossFit model holds "fitness", "health", and "athleticism" as strongly overlapping constructs. For most purposes they can be seen as equivalents.

What if I don't want to be an athlete; I just want to be healthy?

You're in luck. We hear this often, but the truth is that fitness, wellness, and pathology (sickness) are measures of the same entity, your health. There are a multitude of measurable parameters that can be ordered from sick (pathological) to well (normal) to fit (better than normal). These include but are not limited to blood pressure, cholesterol, heart rate, body fat, muscle mass, flexibility, and strength. It seems as though all of the body functions that can go awry have states that are pathological, normal, and exceptional and that elite athletes typically show these parameters in the exceptional range. The CrossFit view is that fitness and health are the same thing. It is also interesting to notice that the health professional maintains your health with drugs and surgery each with potentially undesirable side effect whereas the CrossFit Coach typically achieves a superior result always with "side benefit" vs. side effect.

What is the CrossFit method?

The CrossFit method is to establish a hierarchy of effort and concern that builds as follows:

Diet - lays the molecular foundations for fitness and health.

Metabolic Conditioning - builds capacity in each of three metabolic pathways, beginning with aerobic, then lactic acid, and then phosphocreatine pathways.

Gymnastics - establishes functional capacity for body control and range of motion.

Weightlifting and throwing - develop ability to control external objects and produce power.

Sport - applies fitness in competitive atmosphere with more randomized movements and skill mastery.

Examples of CrossFit exercises

Biking, running, swimming, and rowing in an endless variety of drills. The clean&jerk, snatch, squat, deadlift, push-press, bench-press, and power-clean. Jumping, medicine ball throws and catches, pull-ups, dips, push-ups, handstands, presses to handstand, pirouettes, kips, cartwheels, muscle-ups, sit-ups, scales, and holds. We make regular use of bikes, the track, rowing shells and ergometers, Olympic weight sets, rings, parallel bars, free exercise mat, horizontal bar, plyometrics boxes, medicine balls, and jump rope.

There isn't a strength and conditioning program anywhere that works with a greater diversity of tools, modalities, and drills.

What if I don't have time for all of this?

It is a common sentiment to feel that because of the obligations of career and family that you don't have the time to become as fit as you might like. Here's the good news: world class, age group strength and conditioning is obtainable through an hour a day six days per week of training. It turns out that the intensity of training that optimizes physical conditioning is not sustainable past forty-five minutes to an hour. Athletes that train for hours a day are developing skill or training for sports that include adaptations inconsistent with elite strength and conditioning. Past one hour, more is not better!

"Fringe Athletes"

There is a near universal misconception that long distance athletes are fitter that their short distance counterparts. The triathlete, cyclist, and marathoner are often regarded as among the fittest athletes on earth. Nothing could be farther from the truth. The endurance athlete has trained long past any cardiovascular health benefit and has lost ground in strength, speed, and power, typically does nothing for coordination, agility, balance, and accuracy and possesses little more than average flexibility. This is hardly the stuff of elite athleticism. The CrossFit athlete, remember, has trained and practiced for optimal physical competence in all ten physical skills (cardiovascular/respiratory endurance, stamina, flexibility, strength, power, speed, coordination, agility, balance, and accuracy). The excessive aerobic volume of the endurance athlete's training has cost him in speed, power, and strength to the point where his athletic competency has been compromised. No triathlete is in ideal shape to wrestle, box, pole-vault, sprint, play any ball sport, fight fires, or do police work. Each of these requires a fitness level far beyond the needs of the endurance athlete. None of this suggests that being a marathoner, triathlete or other endurance athlete is a bad thing; just don't believe that training as a long distance athlete gives you the fitness that is prerequisite to many sports. CrossFit considers the Sumo Wrestler, triathlete, marathoner, and power lifter to be "fringe athletes" in that their fitness demands are so specialized as to be inconsistent with the adaptations that give maximum competency at all physical challenges. Elite strength and conditioning is a compromise between each of the ten physical adaptations. Endurance athletes do not balance that compromise.

Aerobics and Anaerobics

There are three main energy systems that fuel all human activity. Almost all changes that occur in the body due to exercise are related to the demands placed on these energy systems. Furthermore, the efficacy of any given fitness regimen may largely be tied to its ability to elicit an adequate stimulus for change within these three energy systems.

Energy is derived aerobically when oxygen is utilized to metabolize substrates derived from food and liberates energy. An activity is termed aerobic when the majority of energy needed is derived aerobically. These activities are usually greater than ninety seconds in duration and involve low to moderate power output or intensity. Examples of aerobic activity include running on the treadmill for twenty minutes, swimming a mile, and watching TV.

Energy is derived anaerobically when energy is liberated from substrates in the absence of oxygen. Activities are considered anaerobic when the majority of the energy needed is derived anaerobically. These activities are of less than two minutes in duration and involve moderate to high power output or intensity. There are two such anaerobic systems, the phosphagen system and the lactic acid system. Examples of anaerobic activity include running a 100-meter sprint, squatting, and doing pull-ups.

Our main purpose here is to discuss how anaerobic and aerobic training support performance variables like strength, power, speed, and endurance. We also support the contention that total conditioning and optimal health necessitates training each of the physiological systems in a systematic fashion.

It warrants mention that in any activity all three energy systems are utilized though one may dominate. The interplay of these systems can be complex, yet a simple examination of the characteristics of aerobic vs. anaerobic training can prove useful.

Aerobic training benefits cardiovascular function and decreases body fat. This is certainly of significant benefit. Aerobic conditioning allows us to engage in moderate/low power output for extended period of time. This is valuable for many sports. Athletes engaging in excessive aerobic training witness decreases in muscle mass, strength, speed, and power. It is not uncommon to find marathoners with a vertical leap of several inches and a bench press well below average for most athletes. Aerobic activity has a pronounced tendency to decrease anaerobic capacity. This does not

bode well for athletes or the individual interested in total conditioning or optimal health.

Anaerobic activity also benefits cardiovascular function and decreases body fat. Anaerobic activity is unique in its capacity to dramatically improve power, speed, strength, and muscle mass. Anaerobic conditioning allows us to exert tremendous forces over a very brief time. Perhaps the aspect of anaerobic conditioning that bears greatest consideration is that anaerobic conditioning will not adversely affect aerobic capacity! In fact, properly structured, anaerobic activity can be used to develop a very high level of aerobic fitness without the muscle wasting consistent with high volume aerobic exercise!

Basketball, football, gymnastics, boxing, track and field events under one mile, soccer, swimming events under 400 yards, volleyball, wrestling, and weightlifting are all sports that require the majority of training time spent in anaerobic activity. Long distance and ultra-endurance running, cross-country skiing, and 1500+ yard swimming are all sports that require aerobic training at levels that produce results unacceptable to other athletes or individuals concerned with total conditioning or optimal health.

The CrossFit approach is to judiciously balance anaerobic and aerobic exercise in a manner that is consistent with the athlete's goals. Our exercise prescriptions adhere to proper specificity, progression, variation, and recovery to optimize adaptations.

The Olympic Lifts, a.k.a., Weightlifting

There are two Olympic lifts, the clean and jerk and the snatch. Mastery of these lifts develops the squat, deadlift, powerclean, and split jerk while integrating them into a single movement of unequaled value in all of strength and conditioning. The Olympic lifters are without a doubt the world's strongest athletes.

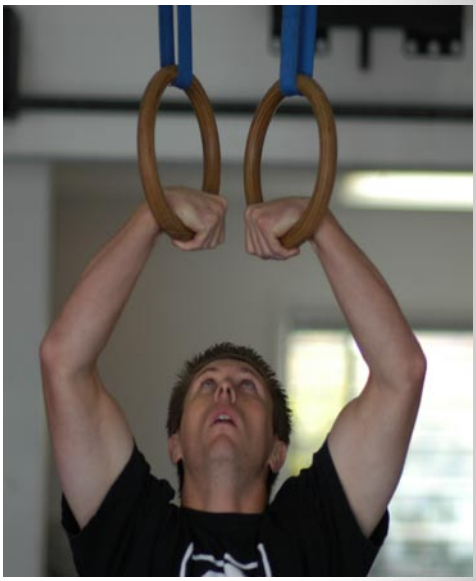
These lifts train athletes to effectively activate more muscle fibers more rapidly than through any other modality of training. The explosiveness that results from this training is of vital necessity to every sport.

Practicing the Olympic lifts teaches one to apply force to muscle groups in proper sequence, i.e., from the center of the body to its extremities (core to extremity). Learning this vital technical lesson benefits all athletes who need to impart force to another person or object as is commonly required in nearly all sports.

In addition to learning to impart explosive forces, the clean and jerk and snatch condition the body to receive such forces from another moving body both safely and effectively.

Numerous studies have demonstrated the Olympic lifts unique capacity to develop strength, muscle, power, speed, coordination, vertical leap, muscular endurance, bone strength, and the physical capacity to withstand stress. It is also worth mentioning that the Olympic lifts are the only lifts shown to increase maximum oxygen uptake, the most important marker for cardiovascular fitness.

Sadly, the Olympic lifts are seldom seen in the commercial fitness community because of their inherently complex and technical nature. CrossFit makes them available to anyone with the patience and persistence to learn.



Gymnastics

The extraordinary value of gymnastics as a training modality lies in its reliance on the body's own weight as the sole source of resistance. This places a unique premium on the improvement of strength to weight ratio. Unlike other strength training modalities gymnastics and calisthenics allow for increases in strength only while increasing strength to weight ratio!

Gymnastics develops pull-ups, squats, lunges, jumping, push-ups, and numerous presses to handstand, scales, and holds. These skills are unrivaled in their benefit to the physique as evident in any competitive gymnast.

As important as the capacity of this modality is for strength development it is without a doubt the ultimate approach to improving coordination, balance, agility, accuracy, and flexibility. Through the use of numerous presses, handstands, scales, and other floor work the gymnast's training greatly enhances kinesthetic sense.

The variety of movements available for inclusion in this modality probably exceeds the number of exercises known to all non-gymnastic sport! The rich variety here contributes substantially to the CrossFit program's ability to inspire great athletic confidence and prowess.

For a combination of strength, flexibility, well-developed physique, coordination, balance, accuracy, and agility the gymnast has no equal in the sports world. The inclusion of this training modality is absurdly absent from nearly all training programs.

Routines

There is no ideal routine! In fact, the chief value of any routine lies in abandoning it for another. The CrossFit ideal is to train for any contingency. The obvious implication is that this is possible only if there is a tremendously varied, if not randomized, quality to the breadth of stimulus. It is in this sense that the CrossFit Program is a core strength and conditioning program. Anything else is sport specific training not core strength and conditioning.

Any routine, no matter how complete, contains within its omissions the parameters for which there will be no adaptation. The breadth of adaptation will exactly match the breadth of the stimulus. For this reason the CrossFit program embraces short, middle, and long distance metabolic conditioning, low, moderate, and heavy load assignment. We encourage creative and continuously varied compositions that tax physiological functions against every realistically conceivable combination of stressors. This is the stuff of surviving fights and fires. Developing a fitness that is varied yet complete defines the very art of strength and conditioning coaching.

This is not a comforting message in an age where scientific certainty and specialization confer authority and expertise. Yet, the reality of performance enhancement cares not one wit for trend or authority. The CrossFit Program's success in elevating the performance of world-class athletes lies clearly in demanding of our athletes total and complete physical competence. No routine takes us there.

Neuroendocrine Adaptation

"Neuroendocrine adaptation" is a change in the body that affects you either neurologically or hormonally. Most important adaptations to exercise are in part or completely a result of a hormonal or neurological shift. Current research, much of it done by Dr. William Kraemer, Penn State University, has shown which exercise protocols maximize neuroendocrine responses. Earlier we faulted isolation movements as being ineffectual. Now we can tell you that one of the critical elements missing from these movements is that they invoke essentially no neuroendocrine response.

Among the hormonal responses vital to athletic development are substantial increases in testosterone, insulin-like growth factor, and human growth hormone. Exercising with protocols known to elevate these hormones eerily mimics the hormonal changes sought in exogenous hormonal therapy (steroid use) with none of the deleterious effect. Exercise regimens that induce a high neuroendocrine response produce champions! Increased muscle mass and bone density are just two of many adaptative responses to exercises capable of producing a significant neuroendocrine response.

It is impossible to overstate the importance of the neuroendocrine response to exercise protocols. This is why it is one of the four defining themes of the CrossFit Program. Heavy load weight training, short rest between sets, high heart rates, high intensity training, and short rest intervals, though not entirely distinct components, are all associated with a high neuroendocrine response.

Power

Power is defined as the "time rate of doing work." It has often been said that in sport speed is king. At CrossFit "power" is the undisputed king of performance. Power is in simplest terms, "hard and fast." Jumping, punching, throwing, and sprinting are all measures of power. Increasing your ability to produce power is necessary and nearly sufficient to elite athleticism. Additionally, power is the definition of intensity, which in turn has been linked to nearly every positive aspect of fitness. Increases in strength, performance, muscle mass, and bone density all arise in proportion to the intensity of exercise. And again, intensity is defined as power. Power is one of the four defining themes of the CrossFit

Program. Power development is an ever-present aspect of the CrossFit Daily Workout.

Cross-Training

Cross training is typically defined as participating in multiple sports. At CrossFit we take a much broader view of the term. We view cross training as exceeding the normal parameters of the regular demands of your sport or training. The CrossFit Program recognizes functional, metabolic, and modal cross training. That is we regularly train past the normal motions, metabolic pathways, and modes or sports common to the athlete's sport or exercise regimen. We are unique and again distinctive to the extent that we adhere to and program within this context.

If you remember the CrossFit objective of providing a broad based fitness that provides maximal competency in all adaptive capacities, cross training, or training outside of the athletes normal or regular demands is a given. The CrossFit coaching staff had long ago noticed that athletes are weakest at the margins of their exposure for almost every measurable parameter. For instance, if you only cycle between five to seven miles at each training effort you will test weak at less than five and greater than seven miles. This is true for range of motion, load, rest, intensity, and power, etc. The CrossFit workouts are engineered to expand the margins of exposure as broad as function and capacity will allow. Cross training is one of the four CrossFit defining themes.

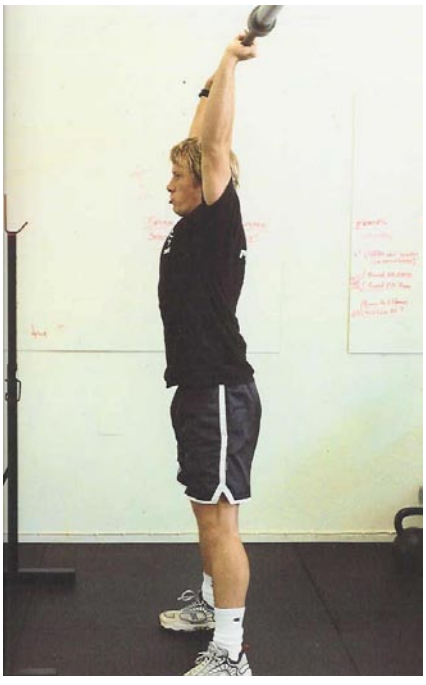
Functional Movements

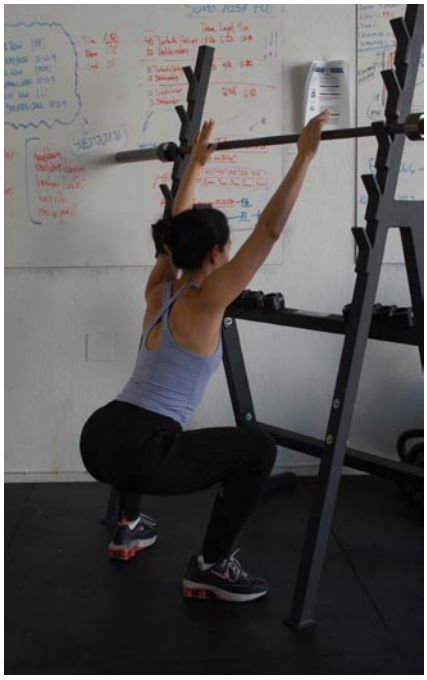
There are movements that mimic motor recruitment patterns that are found in everyday life. Others are somewhat unique to the gym. Squatting is standing from a seated position; deadlifting is picking any object off the ground.They are both functional movements. Leg extension and leg curl both have no equivalent in nature and are in turn non-functional movements. The bulk of isolation movements are non-functional movements. By contrast the compound or multi-joint movements are functional. Natural movement typically involves the movement of multiple joints for every activity.

The importance of functional movements is primarily two-fold. First of all the functional movements are mechanically sound and therefore safe, and secondly they are the movements that elicit a high neuroendocrine response.

CrossFit has managed a stable of elite athletes and dramatically enhanced their performance exclusively with functional movements. The superiority of training with functional movements is clearly apparent with any athlete within weeks of their incorporation.

The soundness and efficacy of functional movement is so profound that exercising without them is by comparison a colossal waste of time. For this reason functional movement is one of the four dominant CrossFit themes.





Diet

The CrossFit dietary prescription is as follows:

Protein should be lean and varied and account for about 30% of your total caloric load.

Carbohydrates should be predominantly low-glycemic and account for about 40% of your total caloric load.

Fat should be predominantly monounsaturated and account for about 30% of your total caloric load.

Calories should be set at between .7 and 1.0 grams of protein per pound of lean body mass depending on your activity level. The .7 figure is for moderate daily workout loads and the 1.0 figure is for the hardcore athlete.

What should I eat?

In plain language, base your diet on garden vegetables, especially greens, lean meats, nuts and seeds, little starch, and no sugar. That's about as simple as we can get. Many have observed that keeping your grocery cart to the perimeter of the grocery store while avoiding the aisles is a great way to protect your health. Food is perishable. The stuff with long shelf life is all circumspect. If you follow these simple guidelines you will benefit from nearly all that can be achieved through nutrition.

The Caveman or Paleolithic Model for Nutrition

Modern diets are ill suited for our genetic composition. Evolution has not kept pace with advances in agriculture and food processing resulting in a plague of health problems for modern man. Coronary heart disease, diabetes, cancer, osteoporosis, obesity and psychological dysfunction have all been scientifically linked to a diet too high in refined or processed carbohydrate. Search "google" or "Alta Vista" for Paleolithic nutrition, or diet. The return is extensive, compelling, and fascinating. The Caveman model is perfectly consistent with the CrossFit prescription.

What Foods should I avoid?

Excessive consumption of high-glycemic carbohydrates is the primary culprit in nutritionally caused health problems. High glycemic carbohydrates are those that raise blood sugar too rapidly. They include rice, bread, candy, potato, sweets, sodas, and most processed carbohydrates. Processing can include bleaching, baking, grinding, and refining. Processing of carbohydrates greatly increases their glycemic index, a measure of their propensity to elevate blood sugar.

What is the Problem with High-Glycemic Carbohydrates?

The problem with high-glycemic carbohydrates is that they give an inordinate insulin response. Insulin is an essential hormone for life, yet acute, chronic elevation of insulin leads to hyperinsulinism, which has been positively linked to obesity, elevated cholesterol levels, blood pressure, mood dysfunction and a Pandora's box of disease and disability. Research "hyperinsulinism" on the Internet. There's a gold mine of information pertinent to your health available there. The CrossFit prescription is a low-glycemic diet and consequently severely blunts the insulin response

Caloric Restriction and Longevity

Current research strongly supports the link between caloric restriction and an increased life expectancy. The incidence of cancers and heart disease sharply decline with a diet that is carefully limited in controlling caloric intake. "Caloric Restriction" is another fruitful area for Internet search. The CrossFit prescription is consistent with this research.

The CrossFit prescription allows a reduced caloric intake and yet still provides ample nutrition for rigorous activity.