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**Fitness Testing Irrationality**

**By Brian D. Johnston**

The purpose of fitness testing is to determine the function and health of an individual and an appropriate measure of exercise demands at which an individual can begin. Although this test usually is implemented prior to beginning an exercise program, it can be used as an intermittent measurement tool, to determine progress. Fitness testing comprises the following:

**HEALTH QUESTIONNAIRE**

This phase addresses an individual's health status/history. The questionnaire is an important aspect of the test since health problems must be addressed and brought to the forefront. Moreover, it is important to have the waiver signed to protect an instructor legally in the event of an unforeseen and imperceptible mishap.

The remainder of the test, described below, holds little validity as to a person's overall function and health and the results should be taken with some reservation. Before I explain each aspect, consider that if a room in a house were to be measured, to put in a new carpet or hardwood flooring, the entire area would be measured with a tool designed for the task, such as a measuring tape. One part of the floor would not be measured and the remaining dimensions guessed. Nor would a person measure with his or her foot length then tell a flooring retailer that the living room is twenty paces by thirty paces. This would be pointless since any individual's foot length is not accepted universally or an accurate method of measurement - unlike the yard, meter, or actual foot (twelve inches). With that in mind, we then can consider the following steps in conducting a fitness test.

**BODY COMPOSITION**

The percentage of body fat is measured, usually with fat calipers, since they are inexpensive compared to other body composition tools. The more deconditioned (fat) a person, or the better conditioned (muscle and leanness) a person, the less accurate body fat percentage readings become if calipers are used as the tool of measurement. Other methods also lose their accuracy with very muscular and obese individuals: the extent being relative to the device in question.

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Calipers are acceptable for determining millimeter (mm) fat thickness, in order to establish data for comparison purposes, but the readings, together with the mathematical formulae provided to suggest "x" percentage of fat and muscle, should be avoided in regard to body composition constitution. (About eight years ago, I had a very experienced caliper tester, who taught and certified instructors in fitness testing, tell me that my body fat was close to 20% [overweight] although my abdominals were quite visible and the remainder of my body fairly lean and muscular.)

Moreover, mm thickness can vary significantly, and this depends on the skill of the person who performs the test and how and where the tissue to be measured is pinched. Even experienced caliper users must be quick in application and take a single reading since continual prodding and pulling of the skin alters the architecture and pliability of the tissues, thereby encouraging different results.

Nor will caliper body fat measurement account for areas not measured. Some individuals, for example, have large buttocks and carry an excessive amount of fat in that area. I tend to carry it in the lower back and buttocks more than in other areas, a distribution that is not a typical male characteristic. Many men have leaner buttocks and carry more fat in the front of the abdominals. Yet, the buttocks are not measured with a caliper reading. Hence, how can a mathematical equation be created so that allowances are made for fat buttocks that may or may not exist and in any measure?

### MUSCULAR STRENGTH & ENDURANCE

With this test, trainees do not prove their ability on the leg press or bench press, although doing so would not disclose much information. Rather, strength is determined with a hand-held dynamometer. In other words, the strength of a person's grip supposedly indicates how strong a person is overall. Therefore, if a person has a relatively weak grip, compared to the average population, and regardless of the strength in the remaining muscle groups, that person will score below average. The extent of an individual's grip is irrelevant to what can be achieved or what has been achieved as governed by the function(s) of the remainder of the body and its health status.

Although I regularly perform grip exercises, my grip is barely above average for my sex and age group, even after more than two decades of regular exercise and grasping heavy barbells. At the time of my fitness test (mid 1990s), I was one standard deviation below normal in grip strength, although I could leg press several hundred pounds and easily chin my body weight for at least fifteen repetitions. My father, who was a practicing plumber at the time, used his grip daily and scored almost three standard deviations above normal, yet I could out-lift him in the gym and was more fit overall. This example demonstrates that grip strength is not an indication of strength or function in general.

The muscular endurance test I experienced was measured through a maximum count (uncontrolled, crank-them-out-as-fast-as-you-can) push-ups and sit-ups or stomach crunches. After twenty push-ups, my upper body was heavily blood engorged and I could not continue. After eighteen stomach crunches, my abdominals also were fatigued significantly. Again, I scored below normal since I was used to a short tension time while under intense strain when I exercised, including abdominal exercises. I did not practice high repetition push-ups or stomach crunches, and this

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reflected the SAID Principle in my results. Although I had good pectoral and abdominal development, and I could lift heavy weights relative to most other people, apparently I was not in very good condition as far as muscular endurance was concerned.

Does it matter if a person has poor endurance in the push-up and sit-up, since rate of fatigue may have some issues with the contention? What if the goal is to increase lean muscle and strength, in that the environment needs to be anaerobic, and such an environment does not require the performance of dozens of consecutive repetitions with a focus on endurance?

### FLEXIBILITY

I have very good flexibility in some muscle groups, particularly around my shoulder joints and ankles, and to a lesser degree my hips. Yet, and because of laziness on my part, I never sustained good flexibility in my hamstrings, although it was attained once. I easily can perform very deep squats, but stiff-legged toe-touches are uncomfortable. Unfortunately, for me, flexibility of the hamstring muscles was tested. The stretch was tested with me sitting on the floor and reaching forward with locked knees. I was about 2–3 inches from reaching my toes and scored below normal in flexibility. I never

understood the need or desire to touch one's toes while keeping the knees locked since I do not recall having to perform such a feat in my activities of daily living. Moreover, with locked knees, excessive forward bending increases the compression and strain on the lumbar discs, an unhealthy practice for some people if performed regularly.

Further, what bearing would tight hamstrings have on exercises other than the stiff-legged deadlift and, to a lesser degree, a few other lower body movements such as deep squats? There is little purpose behind this testing except that the authorities who created the test felt that flexibility had to be tested in some manner. Therefore, rather than test the range-of-motion of all joints, it is easier to focus on a limited area of the body that typically is tight and inflexible.

### CARDIO-RESPIRATORY FITNESS

The person being tested moves three steps up, then two steps back on a tiered platform to a beat played on a cassette music machine. If this is accomplished for a specific period, without having the heart rate rise above the maximum rate allowed for the person's age group, the next level of step-up intensity, at a faster beat, is attempted. This process continues until the person's heart rate exceeds the maximum established for that age group.

What I noticed is that heart rate had much to do with the person's being used to an activity. I was not used to stepping up and down on steps to a predetermined beat, and so a considerable percentage of effort was utilized in that skill. Had I practiced only a few times prior to being tested, I could have increased my proficiency.

Nonetheless, I did score two standard deviations above normal for cardiorespiratory fitness. Ironically, I never performed any cardio-type exercise at the time, only weight training, yet my wife regularly used the Stairmaster for cardio exercise and scored lower. It must be considered that her leg length

was much shorter and she had to exert greater effort to climb the same stair height. Consequently, this test did not take into account the size of the person relative to the steps, and this is similar to the mechanical and leverage differences between a short person and a tall person who lift the same weight off the floor. As with any other physiological factors, the ability to improve cardiovascular fitness is limited - more so than muscular strength or muscle mass. That is not to suggest that cardio efficiency cannot be improved upon, but only to a marginal degree, although this would depend on how 'deconditioned' a person is. The fact remains, that either a person was born with the ability to run a marathon or not. Furthermore, the goal of the individual may not be to enhance cardio fitness to an optimal extent, and this test would not hold much relevance as a result.

### SUMMARY

It has been argued that a fitness test, at least, provides a benchmark for future comparisons, to see if an individual has made improvement. However, that is the purpose of exercise progression and accurate record keeping of workouts. Moreover, after my twenty years experience in this field, this particular standardized industry test has never helped me make a decision in exercise prescription. I could never reason how it could. If someone is obese, it is obvious that he or she requires additional cardio work and greater volume and frequency to help reduce fat stores; and more attention needs to be directed toward safety during exercise in regard to the effects on the heart and joints. It is unnecessary to have an obese person fail at one or two pushups and sit-ups to help decide exercise prescription. Other functional idiosyncrasies will present themselves during the initial workouts, such as joint ROM and flexibility throughout the entire body, ability to sustain constant activity (muscular

endurance and cardio endurance), and a trainee's strength level throughout all muscles. These are far more accurate and usable data than those provided by a very restricted and limited fitness test that examines specific abilities that may not reflect other abilities. In accordance with the SAID Principle, the results of any test reflect only the ability that is tested.

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### **Setting Body Perfect Fitness Goals for the New Year**

**By Robert Adams**

## Setting Body Perfect Fitness Goals for the New Year by Robert Adams

All of our lives, we have many things we want to accomplish, but somehow, somehow, things just don't get done. That includes sticking with a lifestyle change that helps improve your overall fitness and health.

Each year the average American gains more and more weight, and yet there are more and more diet plans, weight loss schemes, exercise programs, and short cut methods that are supposed to support a Body Perfect solution.

Well I have a secret!!!

Life and success in your fitness and health goals, begins and ends with a between the ears process.

Yes, your MIND!!!

How you feel, what you think, what is going on between your ears, effects the net result of any lifestyle change, fitness program, or reaching any long term fitness or health goals.

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So this is what defines S.M.A.R.T Goals.

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Robert Adams holds an Associates Degree in Culinary Arts from the Culinary Institute of America, is a Certified Coach in Coaching for Personal Development as well Interaction Management, is a member of NESTA– National Endurance Sports Trainers Association, and lives a healthy lifestyle through his Body Perfect Fitness philosophy of healthy eating and fitness focus.

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