

## **THE SCIENCE OF MOMENTUM SUMMARY REPORT\***



### **WHY MOMENTUM?**

- **Poor Diet and Physical Inactivity Kill 400,000 Annually in the U.S.**  
“...poor diet and physical inactivity may soon overtake tobacco as the leading cause of death.” *Journal of the American Medical Association.*
- **Physical Inactivity: Heart Disease Risk Comparable to Cigarette Smoking**  
“The relative risk of coronary heart disease associated with physical inactivity is comparable to high blood cholesterol, high blood pressure or cigarette smoking.” *American Heart Association.*
- **Overweight and Obesity Together Represent the No. 2 Preventable Cause of Death**  
“Today, nearly seven of every 10 U.S. adults are overweight, and about three of every 10 are obese. And among children, overweight and obesity are also rising at an alarming rate.” *American Heart Association.*
- **Overweight and Obesity Raise the Risk for:** Type 2 diabetes, high blood pressure, high cholesterol levels, coronary heart disease, congestive heart failure, angina pectoris, stroke, asthma, osteoarthritis, musculoskeletal disorders, gallbladder disease, sleep apnea, respiratory problems, gout, bladder control problems, poor female reproductive health, pregnancy complications, menstrual irregularities, infertility, irregular ovulation, cancers of the uterus, breast, prostate, kidney, liver, pancreas, esophagus, colon, and rectum. *U.S. Department of Health and Human Services.*
- **The Cost of Obesity**  
“The estimated annual cost of obesity-related diseases in the United States is about \$100 billion.” *American Heart Association.*
- **Cardiovascular Heart Disease: America’s #1 Killer**  
“Cardiovascular disease (CVD) remains America’s No. 1 killer, still claiming more lives than the rest of major causes of death.” *American Heart Association.*
- **Heart Disease Kills More Women Annually Than All Cancers Combined**  
“It causes about a death a minute among females —nearly half a million female lives every year. That’s more lives than are claimed by the next six causes of death combined.” *American Heart Association.*

\* This report is a summary of the information presented in the original “*The Science of Momentum*” document which cites specific and qualified research pertaining to the *Momentum Fitness & Weight Loss System*. A copy of that report is available upon request.

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## **THE SCIENCE OF MOMENTUM\***

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**MOMENTUM=INTERVAL WORKOUTS=HIGHER INTENSITY=MORE BENEFIT=LIFELONG REWARDS**

**Momentum** = The *Momentum Fitness & Weight Loss System* is a whole health fitness solution that addresses both sides of the weight loss coin: exercise and nutrition.

**Interval Workouts** = The *Momentum System* exercise program is based on highly-effective Interval Training techniques, which means that, while exercising, users alternate short bursts of energy (work intervals) with periodic rests (recovery intervals).

**Higher Intensity** = Recovery periods are important because they allow individuals to accomplish a higher intensity of work overall.

**More Benefit** = This higher intensity is essential to maximizing fitness and weight loss during exercise because research shows that the already important benefits of an active lifestyle increase with higher-intensity physical activity when compared to moderate- and lower-intensity activity.

**Lifelong Rewards** = The benefits of *Momentum* include weight management, a stronger heart and lungs, more endurance, and a decreased risk for major health problems including heart disease, diabetes, and hypertension.

## **THE RESEARCH**

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- **ACSM Guidelines: Interval Recommendation**
- **Interval Training: Lose 3 Times the Fat**
- **Interval Training: Burns up to 30% More Calories**
- **Interval Training: Results in Three 30-Minute Workouts Per Week**
- **Interval Training: Strengthens Heart and Lungs**
- **Interval Training: Builds Endurance**
- **Interval Training: Increases “After-Burn”**

\* *Momentum* Note: The amount of weight that people can expect to lose, the number of calories burned during exercise, and the level of exercise recommended with the *Momentum Fitness & Weight Loss System*, are all dependent on a person’s initial fitness level. Individuals with low initial levels of fitness and a high percentage of body fat can expect to experience a greater improvement over time than leaner individuals with higher initial levels of fitness.

## THE RESEARCH (CONTINUED)

### #1: ACSM Guidelines: Interval Recommendation

For the first time, the American College of Sports Medicine (ACSM), the most widely recognized authority on fitness guidelines, specifies “intervals” as an acceptable method of working toward improving cardiovascular fitness in their textbook, *ACSM’s Guidelines for Exercise and Prescription* (ACSM Guidelines), 7<sup>th</sup> Edition (2006 – released May, 2005).

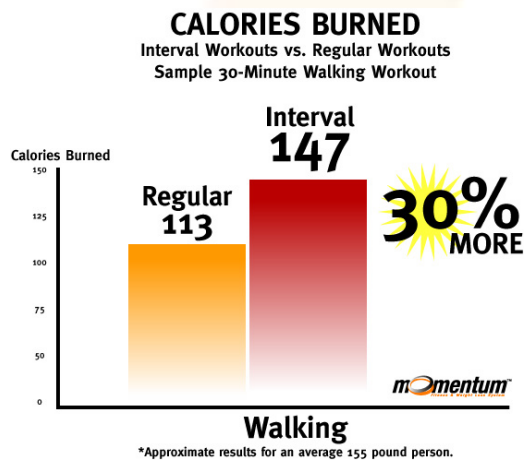
### #2: Interval Training: Lose 3 Times the Fat

One important benefit of positive lifestyle changes from a program like *Momentum* (which promotes increased levels of physical activity and healthy eating habits) is a reduction in body fat. This is important because of the well-established effect of reduced body weight and fat on risk for a host of health problems including heart disease, diabetes, and hypertension. Studies show that high-intensity physical activity leads to greater loss of subcutaneous fat than moderate- or lower-intensity activity. This is important for *Momentum* users because the *Momentum System* is based on higher-intensity work intervals alternating with short periods of recovery. The following are excerpts from a range of studies on this subject (please refer to the original *Science of Momentum* document for full study references): “...the high-intensity (HI) group lost 71% more body fat (4.91% vs. 1.4%) than the medium-intensity (MI) group...”; “...those who reported vigorous physical activity on a regular basis had lower percent fat and skinfold thickness than those not performing vigorous activities...”; “...there was a significant decrease in percent fat for HI group compared to LI group (average of 5% fat compared to 1% fat)...”; “...the high-intensity interval training group lost over three times as much subcutaneous fat as the endurance training group...”; “...those who self-reported vigorous physical activity on a regular basis had lower percent fat and waist-to-hip ratios than those not performing vigorous activities...”

### #3: Interval Training: Burns up to 30% More Calories

Studies show that higher-intensity physical activity, like workouts that incorporate intervals, leads to a greater calorie deficit than moderate- or lower-intensity activity.

- The calorie comparison values used for the chart and table below are taken from **Ainsworth, B. et. al. (1993). Compendium of physical activities. Classification of energy costs of human physical activities. *Medicine & Science in Sports & Exercise*. 25: 71-80.\***



**COMPARISON RESULTS**  
Weight vs. Actual Calories Burned

Weight	Walking		Running	
	Steady State	Interval Workout	Steady State	Interval Workout
130 lbs.	93	122	209	230
155 lbs.	113	147	247	275
180 lbs.	131	171	287	318
205 lbs.	149	195	327	362
230 lbs.	168	218	366	406

**Momentum**

\* Numbers for calories burned are rounded.

## ***THE RESEARCH (CONTINUED)***

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### **#4: Interval Training: Results in Three 30-Minute Workouts Per Week**

Participating in the *Momentum System* program will not only enhance fitness, but it will also significantly improve overall health in as little as three 30-minute workouts a week. ACSM Guidelines define the frequency, duration, and intensity of exercise necessary to meet fitness goals. The typical *Momentum* user's training routine falls within these guidelines. For example, a typical *Momentum* workout week might include a program of three 30-minute training sessions of varying intensities (intervals) ranging from 60 to 90% of maximal heart rate (participant programs vary). According to the ACSM, participating in this level of exercise program will lead to a variety of improvements in cardiovascular fitness such as decreased resting heart rate and blood pressure, increased stroke volume, and increased aerobic capacity (VO<sub>2</sub>max).

### **#5 & #6: Interval Training: Strengthens Heart and Lungs and Builds Endurance**

Studies show that an active lifestyle is not only beneficial, but that benefits increase with higher-intensity physical activity. Through *Momentum's* Interval Workouts, participants are able to increase intensity and overall volume of work because the hard work is alternated with periods of recovery (lower intensity). This translates into a host of overall health and fitness benefits including a stronger heart and lungs and improved endurance.

### **#7: Interval Training: Increases "After-Burn"**

Research shows that high-intensity exercise elevates "after-burn" – or post-workout metabolism – at a higher rate than low- and moderate-intensity exercise. This additional calorie burning, although minor in comparison to the calories burned during an actual workout, could be a contributing factor to weight loss over a period of time.

## ***VALIDATION OF RESULTS: DR. JOSEPH QUATROCHI***

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The results stated in the *Science of Momentum* report are verified by Dr. Joseph Quatrochi. Joseph Quatrochi, Ph.D. is Professor of Human Performance and Sport (HPS) at Metropolitan State College of Denver, where he coordinates the Adult Fitness and Exercise Science curriculum. He holds a B.S. in Physical Education, an M.S. in Exercise Physiology and a Ph.D. in Health Promotion. Dr. Quatrochi's primary research interest lies in the area of physical activity for the promotion of health and the prevention of disease.

A paid advisor for Breakthrough Health & Fitness, Dr. Quatrochi is available to discuss this report, to offer his insights on the **Momentum Fitness & Weight Loss System**, and to review the benefits of Interval Training techniques. To schedule an appointment with Dr. Quatrochi, please contact Senior Vice Presidents Shawn Smith (Ph: 608-209-2665; e-mail: [ShawnS@BreakthroughHF.com](mailto:ShawnS@BreakthroughHF.com)) or Melanie Stephens (Ph: 970-887-0590; e-mail: [MelanieS@BreakthroughHF.com](mailto:MelanieS@BreakthroughHF.com)).

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