YOUR RESTING ENERGY EXPENDITURE

1371	1295
MEASURED	PREDICTED

CALORIC ENERGY PROFILE

CLARK COLLEGE

FITNESS TESTING

Name Sample

Date 9/7/2016

Resting Energy Expenditure (REE)

REE is the measurement of how much oxygen a person consumes from air. Once a person's oxygen consumption is known along with a person's RQ (see below) then REE can be determined. REE is typically expressed in kcals per 24 hours. There are a number of factors that affect a person's REE values. These include age, gender, training status, a person's lean mass, overall body size, hormonal status, environmental temperature, disease status and genetics.

Your REE is:	1371	Your RQ is:	.81

What is RQ: Respiratory quotient (RQ) is a measurement of the ratio between oxygen (O_2) an organism intakes and carbon dioxide (CO_2) the organism eliminates, this ratio reveals what the body is using for energy and can be used to gather data about someone's metabolism in the course of a diagnostic evaluation.

High RQ > 0.90

Your resting energy expenditure (REE) test suggests your body burns predominantly carbohydrates

RQ is between 0.80-0.90

Your REE test suggests your body burns a combination of fat and carbs – not really preferring one over the other.

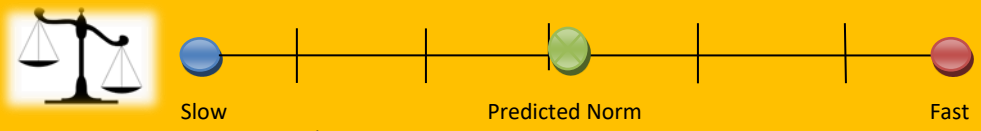
Low RQ < 0.80

This REE test suggests your body burn predominantly fat at rest.

How does your metabolism compare?

Compared to a typical person of similar gender, age height and weight, your metabolic rate is:

Predicted REE	Measured REE	Your Metabolic Rate is	Normal
1295	1371	6%	



*Note: *Normal is considered to be +/- 10% of your predicted RMR*

Calories burned through Active Daily Living (ADL)

The number of calories burned by daily (non-exercise) activity at the various intensity zones. This is sometimes referred to as NEAT (Non-Exercise Activity Thermo-genesis).

Activity Zones	REE	1371	Calories/day Range	
Light Daily Activity			274	548
Moderate Activity			617	823
Vigorous Activity			891	1097

Total Daily Energy Expenditure (TDEE)

The number of calories you need to sustain regular activity* in the various activity intensity zones

	Max HR	167	REE	1371	Kcals
Activity Zones	HR	Zone	Kcals/day Range		
Zone 1 Light Activity (ADL)	Resting HR	67	1645.2	1919.4	Calorie Goal
Zone 2 Moderate Activity	67	100	1919.4	2193.6	
Zone 3 Vigorous Activity	100	134	2193.6	2467.8	
Zone 4 Very Vigorous Activity	134	Max HR	2467.8	2742	

*Based on Harris-Benedict Standard Activity Factor Scores

Our recommendation based on your TDEE is to eat at least 1600 to 1900 Kcals a day.

The Caloric Energy Balance

Total Energy Expenditure
WHAT YOU BURN

Calorie Intake
WHAT YOU EAT

Exercise	Body	Carbs
ADL	In	Protein
REE	Balance	Fat

What People Think They Need to Do to Look Better, Lose Fat and Get in Shape

What People actually need to do

Key Points Regarding weight Loss

1. To lose 1 pound of body fat a person must expend or create a deficit of 3500 calories. We suggests you achieve the deficit through a combination of exercise and eating a, healthy diet of calories specific to your body's needs.
2. The biggest impact on daily energy expenditure (TDEE) is from calories oxidized through N.E.A.T (non-exercise activity) not necessarily from changes in REE. This suggests that chronic activity is the key to fat control.
3. Lower intensity exercise (40-60% Zone 1 & 2) relies primarily on fat as fuel. Higher intensity exercise (Zone 3-4) will rely more on carbohydrates as fuel. However, higher intensities will create a higher absolute caloric expenditure and higher tolerance to greater workloads. These adaptations increase the capacity to burn more fat at moderate levels and also during recovery periods.
4. Losing body fat is dependent on at least one of three methods. The way to lose body fat is to maintain a negative energy balance. To do this you will need to: 1) have an appropriate calorie intake, 2) increase total energy expenditure through physical activity and optimizing lean mass to raise REE, or 3) a combination of both.
5. Switching around cardiovascular exercises (cross training) will help keep the intensity up and burn greater amounts of calories in a shorter time.
6. Weight training will help to increase lean mass which contributes both to a higher metabolism and greater potential for tolerating higher workloads safely.
7. It is never recommended to reduce calorie intake below your REE. Chronic under eating will have a negative effect on the body's ability to maintain lean body mass and to burn fat.

*Christopher Melby. Dr. P.H. Dr. James O. Hill, Ph.D, Exercise Macronutrient's and Body Weight regulation, Sports Science Exchange, Vol. 12 (1999)

Name	Age	Ht.	Wt.	BMI	Frame
Sample	53	63”	175.7	31	Med/Sm

Skinfold Measurements:

Sum of 3 Skinfolds			
Men		**Women**	
Chest		Triceps	35
Abdomen		Suprailiac	43
Thigh		Thigh	35
Sum	0	**Sum**	113
% Fat		% Fat	**39.2**

Body Composition

Body Fat	43.9	%
Fat Mass	77.1	lbs.
Lean Body Mass	98.6	lbs.
Total Weight	175.7	lbs.
Est. RMR	1371	Kcal/day

You	Body Fat Rating	Men	Women	Explanation
	Risky (too low)	<5%	<15%	Too little body fat can present health risks, especially for women.
	Ultra Lean	5-8%	15-18%	Fat levels sometimes found in elite athletes
	Lean	9-12%	19-22%	Lower body fat levels than many people.
	Moderately Lean (recommended)	13-20%	23-30%	Fat level is acceptable for good health.
	Excess Fat	21-30%	31-40%	Indicates an excess accumulation of fat over time.
X	Risky (too high)	>30%	>40%	Too much body fat can pose serious health risks.

Classification: Below Norm Within Norm Above Norm

LEAN BODY MASS NORMS

MEN Ht.	65”	66”	67”	68”	69”	70”	71”	72”	73”	74”	75”
LBM-lbs.	108-120	110-125	112-129	118-132	122-137	127-145	133-153	137-163	140-168	143-176	145-183
WOMEN Ht.	**60”**	**61”**	**62”**	**63”**	**64”**	**65”**	**66”**	**67”**	**68”**	**69”**	**70”**
LBM-lbs.	70-86	73-89	75-91	78-93	81-96	83-99	86-102	90-105	93-109	95-115	98-119

Lean Body Mass (LBM) is associated with your Resting Metabolic Rate (RMR) – the amount of calories you burn at rest. **The greater amount of Lean Body Mass you have, the greater your RMR will be.** This means that people with greater amounts of Lean Body Mass will have a greater energy expenditure while doing nothing, helping to avoid calorie imbalances, and ultimately, obesity. The only way to increase your LBM is to build muscle by engaging in appropriate strength training activities. Weight training will help maintain lean body and will also help maintain mobility and function as we age.

- **Calculation of desirable weight range.** Note: body composition should be retested to determine if Lean Body Mass has changed as a result of losing weight and/or participating in a fitness program:

LBM			Desired % BF		Weight Range
98.6			23%		128
			30%		140

- According to the World Health Organization your "ideal" weight should be between 105 to 135 Lbs. Because of your frame size, lean body mass and percentage body fat a more realistic goal weight for health would be **128 to 140** Lbs.

Obesity reduces life expectancy by increasing the risks of coronary artery disease, hypertension, Type II diabetes, obstructive pulmonary disease, osteoarthritis, and certain types of cancer. Obesity constitutes one of the most significant health risks in the United States today and is directly or indirectly associated with 15-20% of the annual mortality in the U.S.

Too little body fat also poses a health risk because the body needs a certain amount of fat for normal physiological functions. Essential and nonessential lipids found in adipose tissue, provide thermal insulation, store metabolic fuel, transport of fat-soluble vitamins and normal function of the nervous system and the reproductive system.

Variables that affect our ability to lose fat:

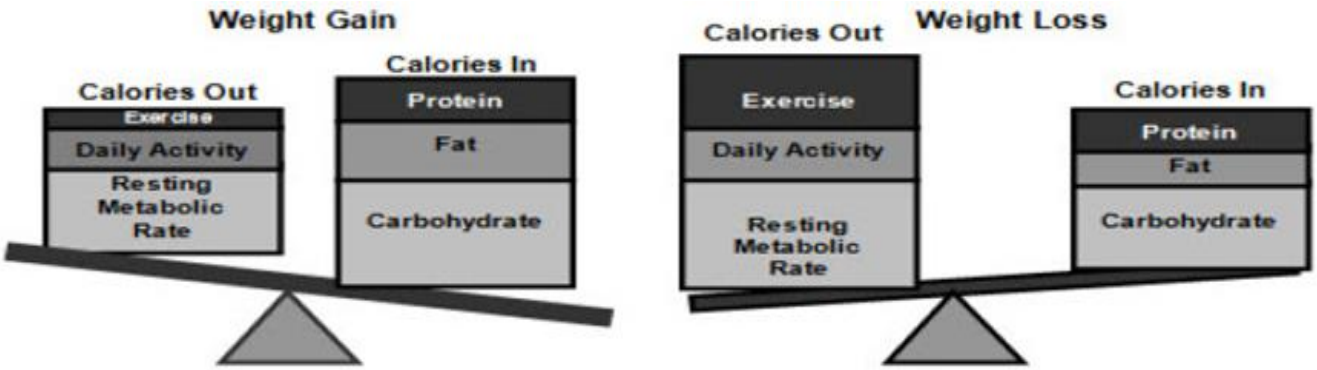
- **Sleep:** Our bodies need sleep to recover and for hormonal balance, without sufficient rest the hard work we put in won't have much impact. Studies suggest that most people need 7 to 9 hrs. of sleep each night to be fully rested and ready for an active day. http://www.webmd.com/diet/sleep-and-weight-loss

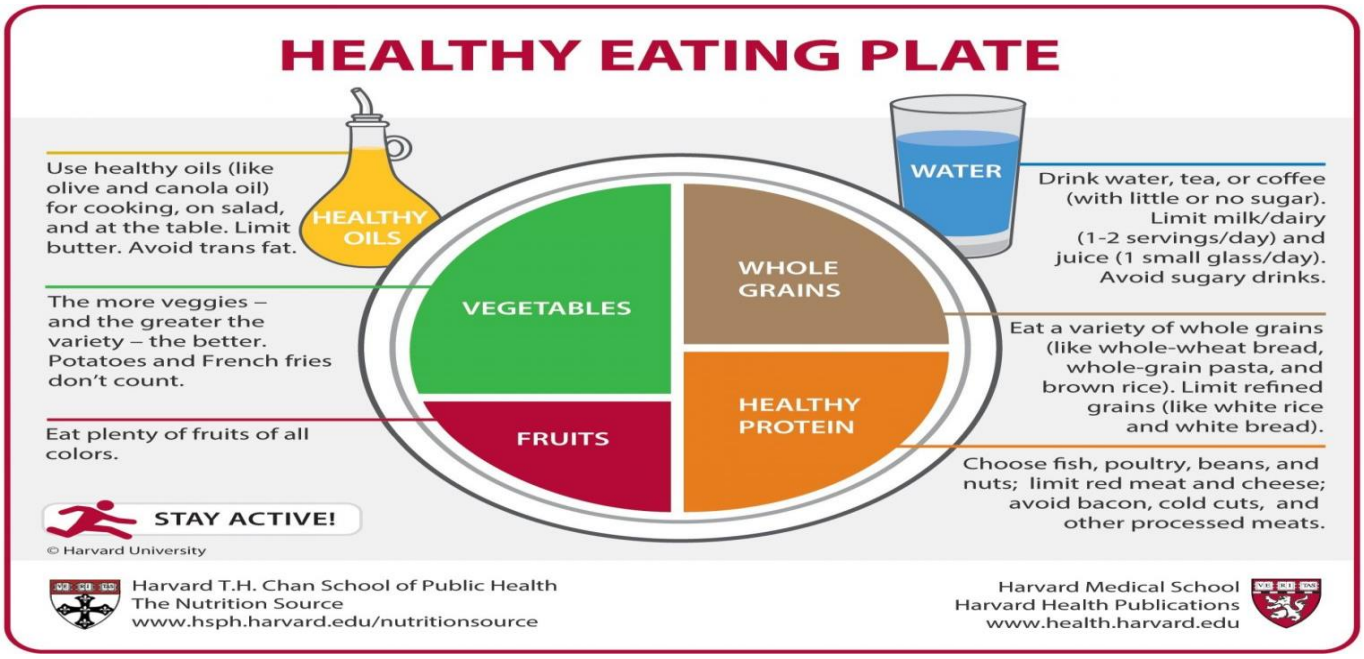
- **Stress:** Stress hormones like cortisol can cause us to overeat by increasing insulin which in turn drops blood sugar and we crave sugary, fatty foods. Shoot for 20 min. a day of destressing, try meditation, reading, yoga or walking. http://www.webmd.com/diet/stress-weight-gain

- **Hydration:** Our body's particularly metabolically active tissues like our muscles are made up of mostly water. When we are dehydrated we are not able to function properly and our metabolism slows down. Try and drink half your bodyweight in ounces each day plus 16-20 oz. for every hour of exercise. http://www.webmd.com/diet/water-for-weight-loss-diet

- **Exercise & Activity:** Exercise is important to weight management and we should break a sweat 3 to 5 times a week for at least 30 minutes, but what may be more important is how active you are outside of the gym. We burn 200 to 900+ Kcals a day from non-exercise activity thermogenesis or N.E.A.T. depending on how much we move. Try and meet a goal of not sitting more than 30 minutes without taking a 2 to 3 minute "movement snack".

- **Nutrition & Eating for Good Health:** Choosing the right foods helps promote health and reduces your risk of chronic diseases. Your meals should emphasize fresh, unprocessed plant-based foods, with a few lean animal products. Eating whole foods, while limiting consumption of highly processed and refined foods, added sugar and solid fats can also help maintain calorie balance over time helping sustain a healthy weight.





Useful links:

http://macronutrientcalculator.com/

http://www.precisionnutrition.com/calorie-control-guide

http://www.precisionnutrition.com/pn-my-plate

http://www.precisionnutrition.com/cmd.php?ad=801107 (download a PDF meal planning guide)

We are happy that you chose Clark College for your fitness testing and hope you had a pleasant experience. If you have any questions or need help reviewing your results please feel free to email or call me anytime.

In health,

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