

## Indirect Calorimetry: A Measure of your Metabolic Rate

### What is Indirect Calorimetry?

Indirect calorimetry is a test that measures your Resting Energy Expenditure (REE), or how many calories you burn just to maintain your body's basic functions. This number, usually between 1,000-3,000 calories for adults, is multiplied by an activity factor to estimate how many calories you burn in a day based on your daily activity. Everyone's metabolic rate varies and can be affected by lean muscle mass, history of dieting, genetics, and certain medical conditions.



### How does indirect calorimetry measure my energy expenditure?

The test you just completed, measured the volume of oxygen you breathed in and the volume of carbon dioxide you breathed out while resting on the chair. This breathe exchange gives us the ability to determine how many calories you burn and what types of nutrients your body is best at burning (carbohydrates, fats, or proteins).

### What do my results mean?

#### *RQ= Respiratory Quotient*

This number tells you what type of nutrients (carbohydrate, fat, or protein) your body is most efficiently using for energy.

- RQ < 0.70 indicates underfeeding
- RQ of 0.70-0.79 burning mostly fats
- RQ of 0.80-0.82 burning mostly protein
- RQ of 0.83-0.89 burning a combination of fats and carbohydrates
- RQ of 0.90-1.0 burning mostly carbohydrate
- RQ > 1.00 indicates overfeeding (hyperventilation can also cause this)

#### *Measured REE vs. Predicted REE*

Your measured REE is the number of calories you actually burn at rest (the value we obtained from the test today). The predicted REE is calculated from an equation based on your height, weight, gender, and age.

If your measured REE is higher than predicted, this could mean you have more muscle mass than the average person and/or are more physically fit. If your REE is lower than predicted, you may have less muscle mass than the average person or your metabolism may have been altered by history of diet or certain medical conditions.