Nutrition and Physical Activity Lab

Eating wisely is only one step of the process to achieving optimal performance. It is necessary to match your daily energy intake with your daily energy expenditure.

Goal : To determine if your daily energy intake matches your daily energy expenditure

Part A (Estimating your resting metabolic rate and your daily Caloric need)

Define resting metabolic rate (RMR)

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What 5 factors can affect the RMR

1. _____

2. _____

3. _____

4. _____

5. _____

What is the difference between basal metabolic rate and resting metabolic rate

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Using the Harris-Benedict Equation to calculate your RMR

(Males) RMR = 66.5 + (5 x height - cm) + (13.7 x weight - kg) - (6.8 x age -yr)

(Females) RMR = 665 + (1.9 x height - cm) + (9.5 x weight - kg) - (4.7 x age -yr)

Resting Metabolic Rate for Males					
Constant					66.5
Height	5	x	cm	+	
Weight	13.7	x	kg	+	
Subtotal				subtotal	
Age	6.8	x	yrs	-	
Resting Metabolic Rate for Males =					
Resting Metabolic Rate for Females					
Constant					665
Height	1.9	x	cm	+	
Weight	9.5	x	kg	+	
Subtotal				subtotal	
Age	4.7	x	yrs	-	
Resting Metabolic Rate for Females =					
Multiply your RMR by a factor of 1.4 if sedentary, 1.6 if moderately active, 1.8 if really active					
RMR		Factor		Daily Caloric Need	
	x				**kcal/day**

Part B

One you have calculated your daily caloric need , we need now to calculate our actual caloric food intake by recording your food intake over a three day period in the charts below.

Use the following website to help you breakdown your foods into the categories list in the charts.

http://caloriecount.about.com

Day 1

FOOD	Aprox. grams used	Carb per gram	Fat per gram	Protein per gram	Choles terol	Sodium	Vitamen A	Vitamen C	Calcium	Iron	Fibre	Total Energy
Totals												

Day 2

FOOD	Aprox. grams used	Carb per gram	Fat per gram	Protein per gram	Choles terol	Sodium	Vitamen A	Vitamen C	Calcium	Iron	Fibre	Total Energy

FOOD	Aprox. grams used	Carb per gram	Fat per gram	Protein per gram	Choles terol	Sodium	Vitamen A	Vitamen C	Calcium	Iron	Fibre	Total Energy
Totals												

Day 3

FOOD	Aprox. grams used	Carb per gram	Fat per gram	Protein per gram	Choles terol	Sodium	Vitamen A	Vitamen C	Calcium	Iron	Fibre	Total Energy
Totals												
Overall Totals												

In the chart below record your findings

Results	Totals
Resting Metabolic Rate	
Daily Caloric Intake Intake needs Estimate	
Estimated Daily Energy Intake from food after 3 days divided by 3	

Energy in - Energy out = Change in Body Stores

1. Are the calories consumed (Energy in) similar to the caloric intake needs (BMR) ?
2. Calculate the Change in body stores using the equation state above?
3. If the difference is great, speculate as to why there is a great difference and the possible implications to you as an athlete
4. What are the implications if the change in body stores is great with respect to
   a. body composition
   b. sport performance

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5. A. Review your overall diet over the 3 days and comment on the breakdown of your diet with respect to portions and food groups that are outlined by Canada's Food Guide to Healthy Eating?

B. Explain why your dietary intakes are different from the guidelines

C. After reviewing you diet what changes might you make to make your diet more healthy and beneficial to your lifestyle

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