

**Body composition and energy needs**

1. Calculate what is your **BMI!**

2. Calculate what is your **WHR!**

**Energy expenditure (EE)**

1. Calculate your basal metabolic rate (BMR or BM) with Harris–Benedict equatio!

2. Calculate your energy expenditure!

<b>Activity</b>	<b>BM factor</b>	<b>Duration (h)</b>	<b>Energy expenditure (kcal/kJ)</b>
Sleeping			
Learning			
Walking			
Watching TV			
Running			
Total			

## Formulas

**BMI = body mass (kg) / height<sup>2</sup> (m<sup>2</sup>)**

Table: The International Classification of adult underweight, overweight and obesity according to BMI

Classification	BMI(kg/m <sup>2</sup> )	
	Principal cut-off points	Additional cut-off points
<b>Underweight</b>	<18.50	<18.50
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
<b>Normal range</b>	18.50 - 24.99	18.50 - 22.99 23.00 - 24.99
<b>Overweight</b>	≥25.00	≥25.00
Pre-obese	25.00 - 29.99	25.00 - 27.49 27.50 - 29.99
<b>Obese</b>	≥30.00	≥30.00
Obese class I	30.00 - 34.99	30.00 - 32.49 32.50 - 34.99
Obese class II	35.00 - 39.99	35.00 - 37.49 37.50 - 39.99
Obese class III	≥40.00	≥40.00

Source: Adapted from WHO, 1995, WHO, 2000 and WHO 2004.

**WHR = waist (cm) / hip (cm)**

**Harris – Benedict equatio for men**

**BM = 66 + (13,8 x masa (kg)) + (5 x višina (cm)) – (6,8 x starost (leta))**

**Harris – Benedict equatio for women**

**BM = 655 + (9,6 x masa (kg)) + (1,8 x višina (cm)) – (4,7 x starost (leta))**

$$EE = BM \times PAL$$

PAL	Source: <a href="http://www.dukandiet.co.uk/en/756-this-months-file.html">http://www.dukandiet.co.uk/en/756-this-months-file.html</a>
<b>1</b>	Sleep and siesta, resting in a reclined
<b>1.5</b>	In a sitting position: resting, TV, computer, video games, board games, reading, writing, office work, sewing, using transport, mealtimes...
<b>2.2</b>	Standing up: getting washed and dressed, going around the house, cooking, house work, shopping, laboratory work, working as a sales assistant, driving machinery etc.
<b>3</b>	Women: walking, gardening or equivalent, gymnastics, yoga Men: manual work when standing up and moderately intense (e.g. chemical industry, carpentry, etc.)
<b>3.5</b>	Men: walking, gardening, work with high physical intensity (e.g. building, plastering, car repairs etc.)
<b>5</b>	Sport, intense work (e.g. excavation work, work in forests etc.)