

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!

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

Formulas

BMI = body mass (kg) / height² (m²)

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

Classification	BMI(kg/m ²)	
	Principal cut-off points	Additional cut-off points
Underweight	<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
Normal range	18.50 - 24.99	18.50 - 22.99 23.00 - 24.99
Overweight	≥25.00	≥25.00
Pre-obese	25.00 - 29.99	25.00 - 27.49 27.50 - 29.99
Obese	≥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: http://www.dukandiet.co.uk/en/756-this-months-file.html
1	Sleep and siesta, resting in a reclined
1.5	In a sitting position: resting, TV, computer, video games, board games, reading, writing, office work, sewing, using transport, mealtimes...
2.2	Standing up: getting washed and dressed, going around the house, cooking, house work, shopping, laboratory work, working as a sales assistant, driving machinery etc.
3	Women: walking, gardening or equivalent, gymnastics, yoga Men: manual work when standing up and moderately intense (e.g. chemical industry, carpentry, etc.)
3.5	Men: walking, gardening, work with high physical intensity (e.g. building, plastering, car repairs etc.)
5	Sport, intense work (e.g. excavation work, work in forests etc.)