## 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 (kkal/kJ)
Sleeping			
Learning			
Walking			
Watching TV			
Running			
Total			

			Formulas		
=	body mass (kg)	/ height² (m²)			
Ta	ble: The Internati	ional Classificatio	on of adult		
un	derweight, overw	eight and obesity	according to BMI		
	Classification	BMT	(kg/m²)		
		Principal cut-off point	Additional cut-off		
Und	lerweight	<18.50	<pre>conts</pre>		
	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 18.50 - 22.99		
Nor	mal range	18.50 - 24.99	23.00 - 24.99		
Ονε	erweight	≥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		
<u> </u>			32.50 - 34.99 35.00 - 37.49		
	Obese class II	35.00 - 39.99	37.50 - 39.99		
	Obese class III Cee: Adapted from WHO, 19	≥40.00	≥40.00		
_	waist (cm) / hi	/ \			
= 66 is -	– Benedict equa	(kg)) + (5 x višina atio for women	(cm)) – (6,8 x starost na (cm)) – (4,7 x staros		
= 66 ris -	5 + (13,8 x masa ( - Benedict equa	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višir	na (cm)) – (4,7 x staros		
= 66 ris -	5 + (13,8 x masa ( - Benedict equa	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višir			
= 66 <u>ris -</u> = 65	5 + (13,8 x masa ( - Benedict equa	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višir EE = BN	na (cm)) – (4,7 x staros	st (leta))	ml
= 66 ris -	5 + (13,8 x masa ( <u>– Benedict equa</u> 55 + (9,6 x masa (	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višir EE = BN	na (cm)) – (4,7 x staros M x PAL ://www.dukandiet.co.uk/en/75	st (leta))	mt
= 66 ris - = 65	5 + (13,8 x masa ( <u>– Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višir EE = BN Source: http a, resting in a re	na (cm)) – (4,7 x staros M x PAL ://www.dukandiet.co.uk/en/75	st (leta)) 6-this-months-file.ht	ml
= 66	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, T	na (cm)) – (4,7 x staros <mark>A x PAL</mark> ://www.dukandiet.co.uk/en/75 :clined V, computer, video ga	st (leta)) 6-this-months-file.ht	<u>m1</u>
= 66 <u>ris -</u> = 65	5 + (13,8 x masa ( - <u>Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, re	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, TV eading, writing,	na (cm)) – (4,7 x staros / x PAL ://www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work,	st (leta)) 6-this-months-file.ht	ml
= 66 ris - = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, re sewing, using t	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, TV eading, writing, ransport, mealti	na (cm)) – (4,7 x staros X X PAL ://www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes	st (leta)) 6-this-months-file.hi	
= 66 ris - = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, re sewing, using t	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, TV eading, writing, ransport, mealti	na (cm)) – (4,7 x staros / x PAL ://www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work,	st (leta)) 6-this-months-file.hi	
= 66 ris - = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, re sewing, using t Standing up: ge	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višir EE = BN Source: http a, resting in a re ition: resting, TV eading, writing, ransport, mealti etting washed ar	na (cm)) – (4,7 x staros X X PAL ://www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes	st (leta)) 6-this-months-file.hi	
= 66 r <u>is -</u> = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, ro sewing, using t Standing up: ge cooking, house	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, TV eading, writing, ransport, mealti etting washed an work, shopping	Ana (cm)) – (4,7 x staros X X PAL ://www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes nd dressed, going arco g, laboratory work,	st (leta)) 6-this-months-file.hi ames,	
= 60 ris - = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, ra sewing, using t Standing up: ga cooking, house working as a sa	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re- ition: resting, TV eading, writing, ransport, mealti etting washed and work, shopping ales assistant, dr	Ana (cm)) – (4,7 x staros / x PAL //www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes nd dressed, going arco g, laboratory work, iving machinery etc.	st (leta)) 6-this-months-file.hi ames,	
= 60 ris - = 65	5 + (13,8 x masa ( - Benedict equa 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, re sewing, using t Standing up: ge cooking, house working as a sa Women: walking	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, TV eading, writing, ransport, mealti etting washed an work, shopping iles assistant, dr ng, gardening or	Ana (cm)) – (4,7 x staros X X PAL //www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes ad dressed, going aro g, laboratory work, iving machinery etc. c equivalent, gymnas	st (leta)) 6-this-months-file.h ames, bund the house	
= 60 ris - = 65	5 + (13,8 x masa ( - Benedict equa 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, re sewing, using t Standing up: ge cooking, house working as a sa Women: walking	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re ition: resting, TV eading, writing, ransport, mealti etting washed an work, shopping iles assistant, dr ng, gardening or	Ana (cm)) – (4,7 x staros / x PAL //www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes nd dressed, going arco g, laboratory work, iving machinery etc.	st (leta)) 6-this-months-file.h ames, bund the house	
= 60 ris - = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, ro sewing, using t Standing up: ga cooking, house working as a sa Women: walkin Men: manual w	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re- ition: resting, TV eading, writing, ransport, mealti etting washed and work, shopping ales assistant, dr ng, gardening on york when stand	A (cm)) – (4,7 x staros X X PAL ////////////////////////////////////	st (leta)) 6-this-months-file.h ames, bund the house	
= 60 ris = 65	5 + (13,8 x masa ( <u>- Benedict equa</u> 55 + (9,6 x masa ( Sleep and siesta In a sitting posi board games, ro sewing, using t Standing up: ge cooking, house working as a sa Women: walkin Men: manual w (e.g. chemical i	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re- ition: resting, TV eading, writing, ransport, mealti etting washed and work, shopping ales assistant, dr ng, gardening on york when stand industry, carpen	A (cm)) – (4,7 x staros X X PAL //www.dukandiet.co.uk/en/75 cclined V, computer, video ga office work, mes nd dressed, going arco g, laboratory work, iving machinery etc. c equivalent, gymnas ling up and moderate try, etc.)	st (leta)) 6-this-months-file.ht ames, bund the house tics, yoga ely intense	
= 66 <u>ris -</u> = 65	5 + (13,8 x masa ( - Benedict equa 55 + (9,6 x masa ( Sleep and siest In a sitting posi board games, re sewing, using t Standing up: ge cooking, house working as a sa Women: walking Men: walking,	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re- ition: resting, TV eading, writing, ransport, mealti etting washed ar- work, shopping ales assistant, dr ng, gardening or vork when stand industry, carpen gardening, worl	A (cm)) – (4,7 x staros X X PAL //www.dukandiet.co.uk/en/75 clined V, computer, video ga office work, mes ad dressed, going arco g, laboratory work, iving machinery etc. c equivalent, gymnas ling up and moderate try, etc.) k with high physical	st (leta)) 6-this-months-file.ht ames, bund the house tics, yoga ely intense	
= 60 ris = 65	5 + (13,8 x masa ( - Benedict equa 55 + (9,6 x masa ( Sleep and siest In a sitting posi board games, re sewing, using t Standing up: ge cooking, house working as a sa Women: walking Men: walking,	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re- ition: resting, TV eading, writing, ransport, mealti etting washed and work, shopping ales assistant, dr ng, gardening on york when stand industry, carpen	A (cm)) – (4,7 x staros X X PAL //www.dukandiet.co.uk/en/75 clined V, computer, video ga office work, mes ad dressed, going arco g, laboratory work, iving machinery etc. c equivalent, gymnas ling up and moderate try, etc.) k with high physical	st (leta)) 6-this-months-file.ht ames, bund the house tics, yoga ely intense	
= 60 ris - = 65	5 + (13,8 x masa ( - Benedict equa 55 + (9,6 x masa ( Sleep and siest In a sitting posi- board games, ra- sewing, using t Standing up: ge- cooking, house working as a sa Women: walking Men: walking, (e.g. building, p	(kg)) + (5 x višina atio for women (kg)) + (1,8 x višin EE = BN Source: http a, resting in a re- ition: resting, TV eading, writing, ransport, mealting etting washed and work, shopping ales assistant, dr ng, gardening on vork when stand industry, carpen gardening, worl plastering, car re-	A (cm)) – (4,7 x staros X X PAL //www.dukandiet.co.uk/en/75 clined V, computer, video ga office work, mes ad dressed, going arco g, laboratory work, iving machinery etc. c equivalent, gymnas ling up and moderate try, etc.) k with high physical	st (leta)) st (leta)) 6-this-months-file.h ames, ound the house tics, yoga ely intense intensity	