

Prvek	Zastoupení	Prvek	Zastoupení
Kyslík	65 %	Draslík	0,4 %
Uhlík	18 %	Síra	0,2 %
Vodík	9,5 %	Sodík	0,2 %
Dusík	3,2 %	Chlór	0,2 %
Vápník	1,5 %	Hořčík	0,1 %
Fosfor	1,2 %	Ostatní prvky	< 1 %

Název modelu	Složky
Dvoukompartmentový model	FM, FFM
Čtyřkompartmentový model	FM, TBW, Proteiny, minerální látky

Složka	Procentuální zastoupení
Tuk	83–87 %
Voda	10–15 %
Proteiny	2–3 %

Rating	Men	Women
Essential fat	2–5 %	10–13 %
Athletes	6–13 %	14–20 %
Fitness	14–17 %	21–24 %
Average	18–24 %	25–31 %
Obese	25 % +	32 % +

Males	Females	Rating
5–10 %	8–15 %	Athletic
11–14 %	16–23 %	Good
15–20 %	24–30 %	Acceptable
21–24 %	31–36 %	Overweight
>24 %	>36 %	Obese

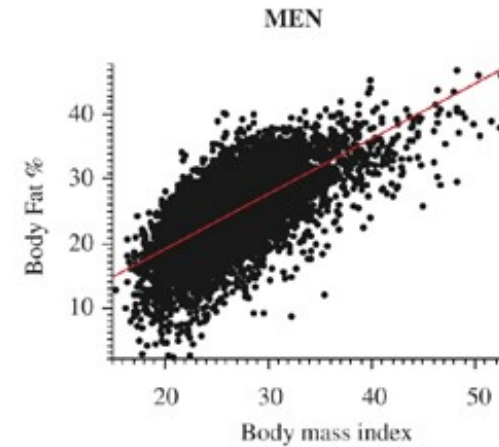
Sex and BMI	20–39 y	40–59 y	60–79 y
Women			
BMI <18,5	21 %	23 %	24 %
BMI ≥25	33 %	34 %	36 %
BMI ≥30	39 %	40 %	42 %
Men			
BMI <18,5	8 %	11 %	13 %
BMI ≥25	20 %	22 %	25 %
BMI ≥30	25 %	28 %	30 %

Obesity definition	Men	Women
Body fat percentage	>25 %	>35 %

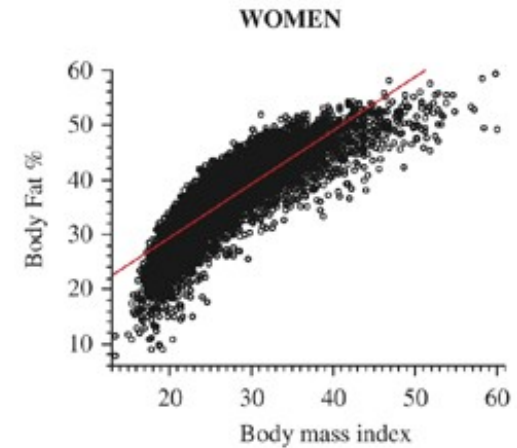
Sex	Men	Women
Normal range	10–20 %	18–28 %

	Men	Women
BMI ≥ 30	19,1 %	24,7 %
BF % $>25/>35$	43,9 %	52,3 %

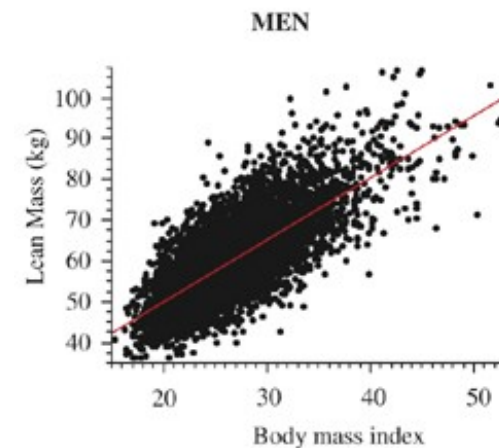
	Men	Women
Specificita	95 %	99 %
Senzitivita	36 %	49 %



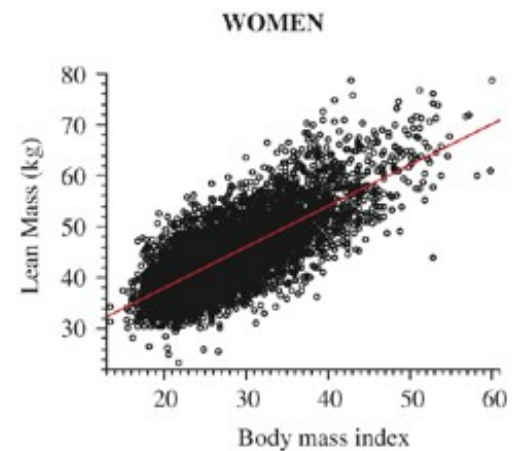
N = 6,580 Adjusted rho (ρ) = 0.65, $p < 0.0001$



N = 7,021 Adjusted rho (ρ) = 0.87, $p < 0.0001$



N = 6,580 Adjusted rho (ρ) = 0.73, $p < 0.0001$



N = 7,021 Adjusted rho (ρ) = 0.74, $p < 0.0001$

	Men	Women
Specificita	95 %	99 %
Senzitivita	36 %	49 %

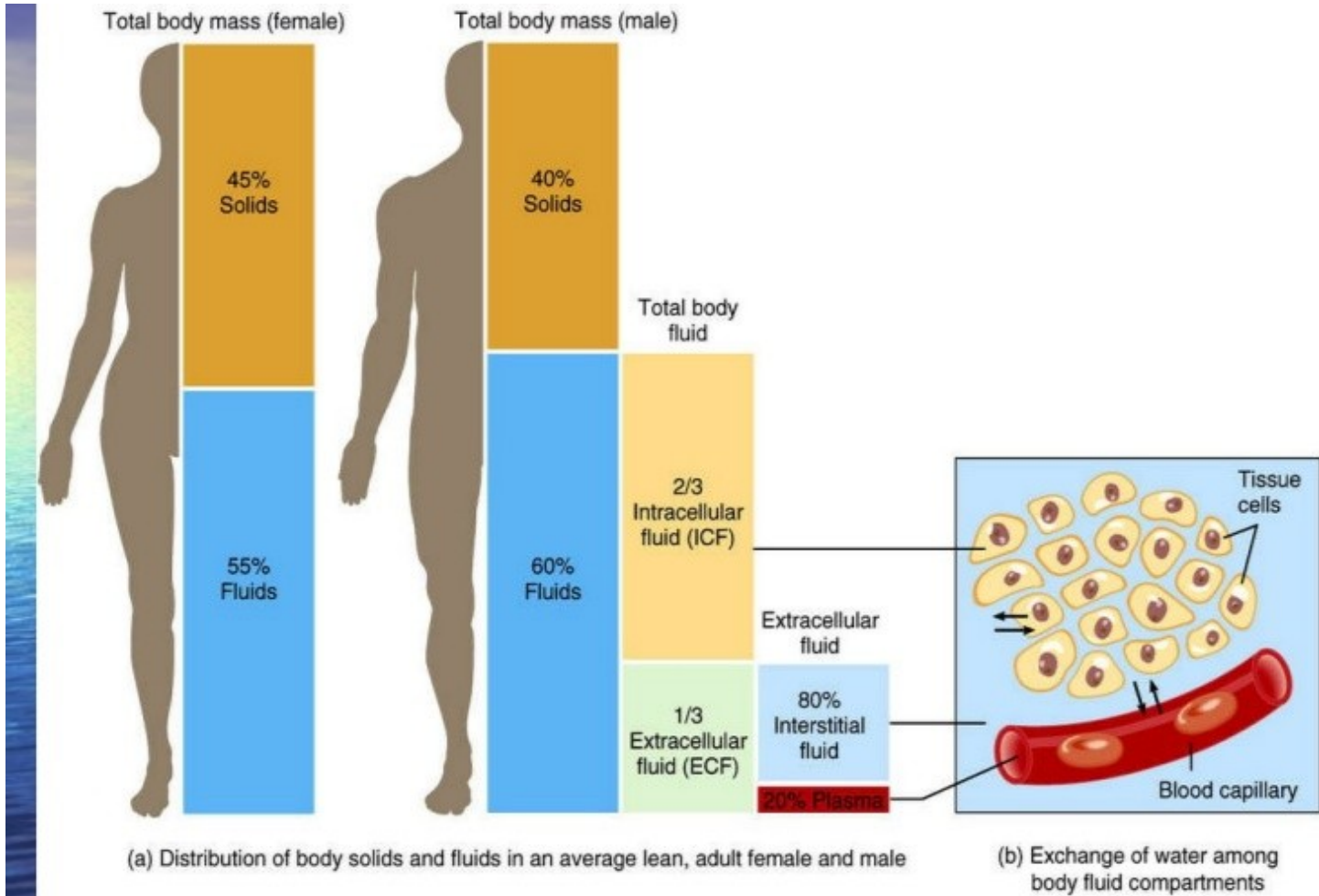
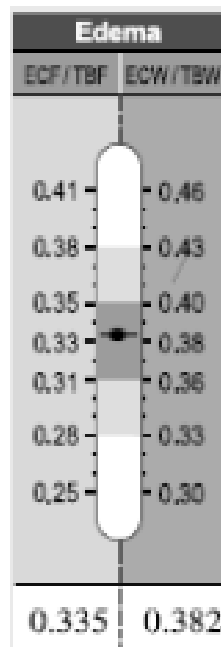


Figure 27.01 Tortora - PAP 12/e
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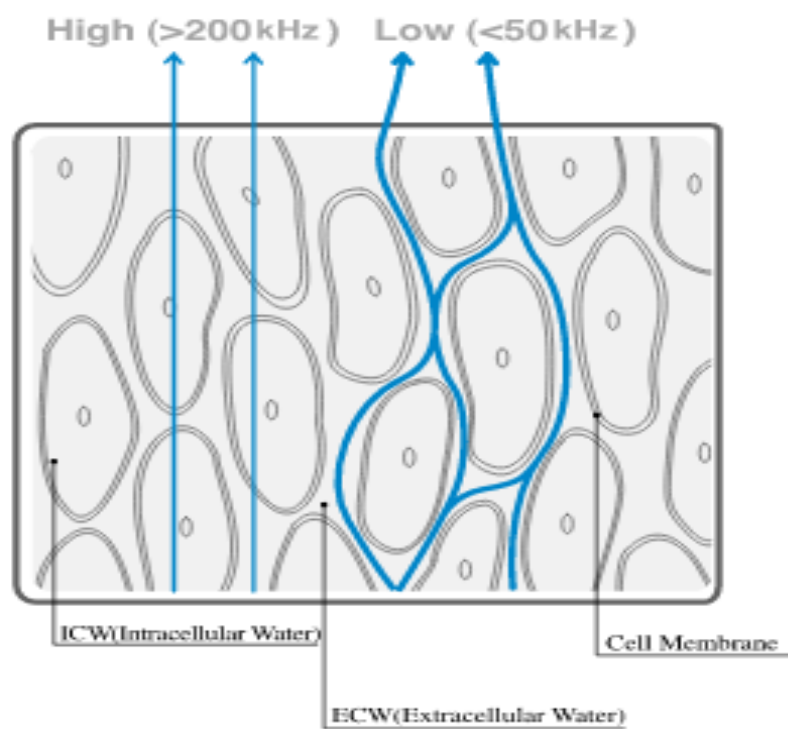


1 Tělesná kompozice



Složka	Procentuální zastoupení
Voda	73 %
Proteiny	20 %
Glykogen	1–2 %
Intramuskulární tuk	0,01–1 %, zdroje se velmi různí
Anorganické a další organické látky	<5

Compartments	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight	Normal Range
I C W (l) <i>Intracellular Water</i>	24.3	38.7	49.9	52.8	68.0	22.2 ~ 27.1
E C W (l) <i>Extracellular Water</i>	14.4					13.6 ~ 16.6
Protein (kg)	10.5			9.6 ~ 11.7		
Mineral (kg)	3.54	<small>non-osseous</small> osseous: 2.91		3.31 ~ 4.04		
Body Fat Mass (kg)	15.2			7.6 ~ 15.3		

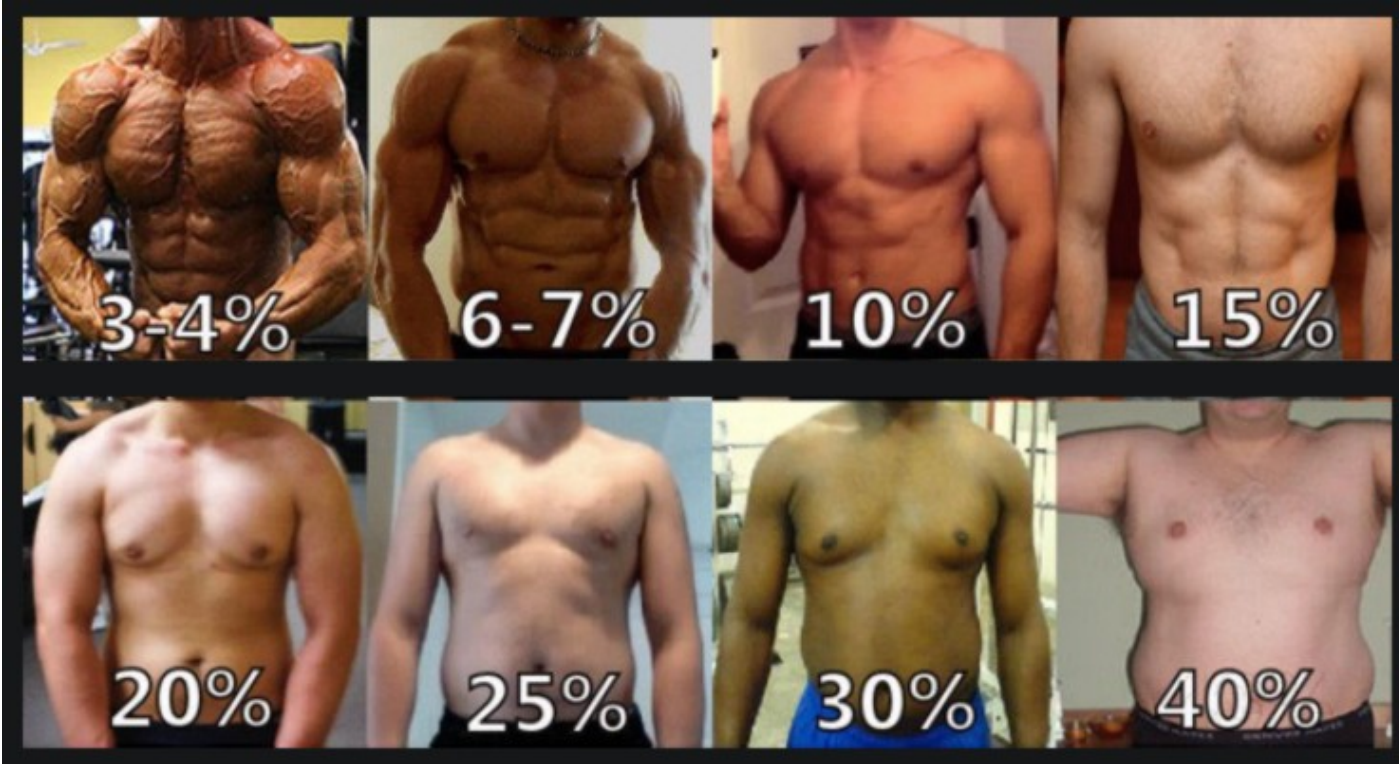




1-cylinder model



5-cylinder model





15%

16-17%

17-18%

18%

18%

20%

20%

12-14% Essential for survival. Elevated risk of infertility, anemia, osteoporosis, high mortality, amenorrhea, infection. may burn muscle for nutrition as not enough fat stores.

14-15% Very Low. Elevated risk of infertility, cardiovascular disease & diabetes. Most athletes compete at this percentage, but gain fat between tournaments for their health.

BODY FAT FOR WOMEN

16-20% Very Fit

21-24% Average

25-31% A Little Extra

32+% Overweight. Elevated risk of heart disease, cancer, stroke, type 2 diabetes, reduced life expectancy, sleep apnea, osteoarthritis, etc.



20-21%

20-22%

25%

25%

25-26%

30%

35%

40%



Body Composition Analysis

Compartments	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight	Normal Range
I C W (ℓ) <small>Intracellular Water</small>	17.7	28.7	36.8	39.1	76.5	16.1 ~ 19.7
E C W (ℓ) <small>Extracellular Water</small>	11.0					9.9 ~ 12.1
Protein (kg)	7.7	<small>not included</small>				7.0 ~ 8.5
Mineral (kg)	2.76	<small>osseous: 2.29</small>				2.41 ~ 2.94
Body Fat Mass (kg)	37.4					10.2 ~ 16.4

► Mineral is estimated

Muscle - Fat Analysis

	Under	Normal	Over	UNIT: kg	Normal Range
Weight (kg)	65 70 85 100 115 130 145 160 175 190 205			76.5	43.4 ~ 58.8
S M M (kg) <small>Skeletal Muscle Mass</small>	70 80 90 100 110 120 130 140 150 160 170			21.1	19.2 ~ 23.5
Body Fat Mass (kg)	40 60 80 100 140 180 220 260 300 340 380 420 460 500 520			37.4	10.2 ~ 16.4

Obesity Diagnosis

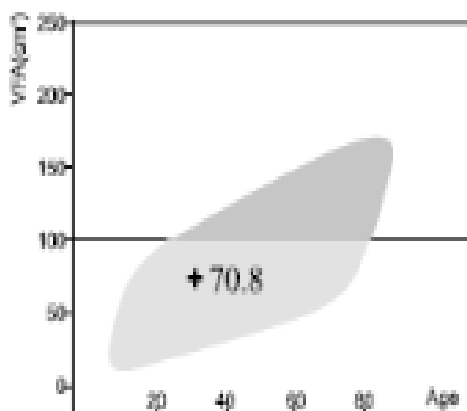
	Under	Normal	Over	Normal Range
B M I <small>Body Mass Index</small> (kg/m ²)	10 15 18.5 21.5 25 28 30 35 40 45 50			18.5 ~ 25.0
P B F <small>Percent Body Fat</small> (%)	5 10 15 20 25 30 35 40 45 50 55 58			18.0 ~ 28.0
W H R <small>Waist-Hip Ratio</small>	0.50 0.70 0.75 0.80 0.85 0.90 0.95 1.00 1.05 1.10 1.15			0.75 ~ 0.85

Lean Balance

	Under	Normal	Over	UNIT-%	Segmental Edema	Edema
Right Arm (kg)	40 60 80 100 120 140 160 180			1.86	ECF/TBF 0.331	ECW/TBW 0.378
Left Arm (kg)	40 60 80 100 120 140 160 180			1.85	0.333	0.379
Trunk (kg)	70 90 95 100 110 120 130 140			17.2	0.337	0.384
Right Leg (kg)	70 90 95 100 110 120 130 140			5.96	0.334	0.381
Left Leg (kg)	70 90 95 100 110 120 130 140			5.91	0.333	0.380

Edema
ECF/TBF 0.335
ECW/TBW 0.382

Visceral Fat Area



Nutritional Evaluation

Protein Normal Deficient
 Mineral Normal Deficient
 Fat Normal Deficient Excessive

Weight Management

Weight Normal Under Over
 SMM Normal Strong Under
 Fat Normal Under Over

Obesity Diagnosis

BMI Normal Under Over Extremely Over
 PBF Normal Obese Extremely Obese
 WHR Normal Obese Extremely Obese

Body Balance

Upper Balanced Slightly Imbalanced Extremely Imbalanced
 Lower Balanced Slightly Imbalanced Extremely Imbalanced
 Upper-Lower Balanced Slightly Imbalanced Extremely Imbalanced

Body Strength

Upper Normal Developed Weak
 Lower Normal Developed Weak
 Muscle Normal Muscular Weak

Health Diagnosis

Body Water Normal Under
 Edema Normal Slight Edema Edema
 Life Pattern Normal Alert Risky Highly Risky

Additional Data

(Normal Range)

Obesity Degree = 149 % 90 ~ 110
 B C M = 25.4 kg 23.1 ~ 28.3
 B M C = 2.29 kg 1.98 ~ 2.42
 B M R = 1215 kcal 1130 ~ 1299

Anthropometry

NECK = 36.3cm CHEST = 97.9cm
 ABD = 109.9cm HIP = 122.6cm
 AC_R = 34.3cm AC_L = 34.0cm
 THIGH_R = 58.8cm THIGH_L = 58.9cm
 AMC = 26.6cm

Weight Control

Target Weight	51.1 kg
Weight Control	- 25.4 kg
Fat Control	- 25.6 kg
Muscle Control	+ 0.2 kg
Fitness Score	54 Points

Impedance

R	RA	LA	TR	RA	LL
1kHz	412.0	413.0	31.2	277.1	288.7
5kHz	406.1	407.3	30.0	268.6	278.0
50kHz	369.0	373.9	24.7	240.0	249.8
250kHz	334.3	339.4	23.0	215.8	222.1
500kHz	325.0	330.1	22.5	209.0	216.4
1000kHz	248.4	254.0	18.1	194.2	195.0
Xc 5kHz	98.9	34.0	3.0	51.8	49.5
50kHz	56.2	91.9	9.5	11.3	12.8
250kHz	18.7	49.8	5.9	83.1	80.8



It's just the beginning

