

RANGES FOR THE RESULTS

TOTAL BODY FAT – RANGES FOR MEN AND WOMEN (%)

Females

RANGES	18-40	41-60	61-79
Low	15% - 20.9%	16% - 22.9%	17% - 23.9%
Low-Medium	21% - 32.9%	23% - 34.9%	24% - 35.9%
Medium-High	33% - 38.9%	35% - 39.9%	36% - 41.9%
High	39% - 65%	40% - 66%	42% - 67%

Males

RANGES	18-40	41-60	61-79
Low	5% - 7.9%	8% - 10.9%	9% - 12.9%
Low-Medium	8% - 18.9%	11% - 21.9%	13%- 24.9%
Medium-High	19% - 24.9%	22% - 26.9%	25% - 29.9%
High	25% - 50%	27% - 52%	30% - 55%

NOTE - The ranges above are based on Total Body Fat as derived from Magnetic Resonance Imaging (MRI) data which has been exclusively secured for BVI validation from the Medical Research Council (MRC).

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EU 005496781 and US 3,571,066, granted patents; US 8,374,671 B2 and EP 1993443 and pending patents stemming from WO20181 97896A1, including AU 2018258129, EP 2018722172, CN 201880042366.1, and SG 11202006038S.

VISCERAL FAT – RANGES FOR MEN AND WOMEN (ltrs)

Females

RANGES	FROM	TO
Low	0.1	1.5
Low-Medium	1.6	4.9
Medium-High	5	6.9
High	7	10

Males

RANGES	FROM	TO
Low	0.1	2.5
Low-Medium	2.6	6
Medium-High	6.1	8.9
High	9	13

NOTE - The ranges above are based on Visceral Fat as derived from Magnetic Resonance Imaging (MRI) data which has been exclusively secured for BVI validation from the Medical Research Council (MRC).

WAIST CIRCUMFERENCE – RANGES FOR MEN AND WOMEN (cm)

Females (of white European, black African, Middle Eastern and mixed origin)

RISK	RANGE
Low	≤ 80
High	80-88
Very high	$88 \geq$

Females (of African Caribbean, South Asian, Chinese and Japanese origin)

RISK	RANGE
Low	≤ 80
Very high	$80 \geq$

Males (of white European, black African, Middle Eastern and mixed origin)

RISK	RANGE
Low	≤ 94
High	94-102
Very high	$102 \geq$

Males (of African Caribbean, South Asian, Chinese and Japanese origin)

RISK	RANGE
Low	≤ 90
Very high	$90 \geq$

WAIST TO HIP RATIO – RANGES FOR MEN AND WOMEN (cm)

Waist to hip ratio is calculated by dividing your waist circumference by your hip circumference. The table below gives the cut-offs as stated by WHO (1999)* for abdominal obesity.

	Abdominal Obesity Cut-off Point*
Male	0.9
Female	0.85

*Consultation, W. H. O. (1999). Definition, diagnosis and classification of diabetes mellitus and its complications.

There is some discussion around ethnic differences, with research finding slight variations for people of Asian, African and Hispanic origins but there are no conclusive guidelines for this. A review of this research is presented in the report linked below**.

** Consultation, W. E. (2008). Waist circumference and waist-hip ratio. *Report of a WHO Expert Consultation. Geneva: World Health Organization, 2008*, 8-11. <https://iris.who.int/bitstream/handle/10665/44583/?sequence=1>

WAIST TO HEIGHT RATIO – RANGES FOR MEN AND WOMEN (cm)

Waist to height ratio is a simple measurement for assessment of central adiposity (excess abdominal fat). In 2022, Waist to height ratio was recommended by NICE* to be included alongside the use of BMI to measure obesity.

Ensure you've entered the correct height to receive an accurate classification.

Waist to Height Classification	Adults
No increased health risk	0.4 – 0.49
Increased health risk	0.5 – 0.59
Further increased health risk	0.6 \geq

BVI RISK INDICATOR (Quartiles)

Over 105 different indices of body volume parameters were reviewed against known indicators of obesity and cardiometabolic risk to create BVI. The BVI Risk Indicator has been validated by Mayo Clinic on over 1,280 patients in a longitudinal study, with the interim paper published in April 2022*. The number below are derived from predicted percentage risk of developing the metabolic syndrome, so the scale is no linear.

The four BVI quartiles indicate the level of expected risk of the Metabolic Syndrome (Hypertension, Cardiovascular disease and Type 2 Diabetes). These quartiles are as below:

QUARTILE	PREDICTED RISK
FIRST Quartile	Low Risk
SECOND Quartile	Medium to Low Risk
THIRD Quartile	Medium to High Risk
FOURTH Quartile	High Risk

*Medina-Inojosa, B. J. M., Somers, V. K., Medina-Inojosa, J., Johnson, L. A., & Lopez-Jimenez, F. (2022). PREDICTION OF METABOLIC SYNDROME USING REGIONAL BODY VOLUMES MEASURED USING A MULTISENSORY WHITE-LIGHT 3-D SCANNER. *Journal of the American College of Cardiology*, 79(9_Supplement), 2028-2028.
<https://www.jacc.org/doi/full/10.1016/S0735-1097%2822%2903019-4>

BVI NUMBER

The below is numerical representation of the quartiles displayed above. It is derived from predicted percentage risk of developing the metabolic syndrome so the scale is no linear.

Below is an explanation of the ranges for the BVI Number:

BVI Number	Risk of Metabolic Syndrome
0 - 1	A person with a low BVI number is at low risk of developing cardio-metabolic disease. The abdominal and torso volume in proportion to the total volume is not concerning.
2 - 3	Someone with a BVI number in this range puts them at low to medium risk for cardio-metabolic disease, as a result of their abdominal and torso volume being higher in proportion to their overall total body volume.
4 - 7	A BVI number in this range is indicative of a medium to high risk of metabolic disease, as the abdominal and torso volume is high in proportion to their total body volume.
8 - 20	In this range, a BVI number may be indicative of a high risk of developing diabetes, hypertension and cardiovascular disease, as the chest, abdomen and pelvis volumes are high as a proportion of total body volume.