

Health Monitor GMON

„INDICATE Health Risks – RATE professionally – REACT prophylactically”

Explanation to Register Body Measures / Further Measures



The single values of the bodily frame lie within a natural range of variation. The relations between those values correspond with the different (healthy) growth tendencies, which are also called bodily frame types, from the short - stout type to the tall - slim type. Besides the normal change of bodily values during the length grows there is also another individual change during the aging process. And the changes of body values go hand in hand with changes in the body composition.



To characterize the varying body values so called 5% resp. 95% percentiles are used, which are the values of a large reference group (about 700 subjects from the region around Potsdam/Germany), where 5% maximum don't fall below and also 5% don't fall above.

There is no doubt, that the visceral body fat distribution corresponds with the some health risks. But there is no easy proof, it other body values correspond with overweight and all the other potential health risks.



Body values support the detailed description of the body and its composition. Their changes should always be seen in relation to moving and eating habits. **Note:** Only a well-defined measuring method ensures replicable results!



[\(A\)](#) Ranges used in the GMON (Men)

[\(B\)](#) Ranges used in the GMON (Women)



Greil H: Alters-, geschlechts- und Gruppenspezifik von Körperbau und Ernährungszustand. Curare 16 (1993), S. 265 – 274.

Knussmann, R. Anthropologie. Handbuch der vergleichenden Biologie des Menschen. Band I,1, Fischer-Verlag, Stuttgart, 1988.

Stolzenberg H, Kahl H, Bergmann KE: Körpermaße bei Kindern und Jugendlichen in Deutschland. Bundesgesundheitsblatt – Gesundheitsforschung – Gesundheitsschutz 50 (2007), S. 659 – 669.

Trippo U: Körperbau, Körperzusammensetzung und Ernährungsgewohnheiten bei Erwachsenen in Abhängigkeit von Alter und Geschlecht. Universität Potsdam, 2000.



[Overview about GMON modules](#)

general operation instruction, using goals values, other relevant parameters for health

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Measuring Methods [Knussmann 1988]

Chest circumference (mesosternal): mesosternal circumference (middle point of breast bone)

Thigh circumference: largest circumference of thigh

Lower leg circumference: largest circumference of calf

Upper arm circumference: largest circumference of bizep (in rest)

Lower arm circumference: largest circumference of radioulnar proximale

(A) Ranges (Men, percentage of body height)

Chest circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 45.8%	45.8 to 47.0%	47.0 to 59.3%	59.3 to 64.7%	over 64.7%
24 to 54	up to 47.5%	47.5 to 50.8%	50.8 to 63.8%	63.8 to 68.2%	over 68.2%
over 55	up to 49.3%	49.3 to 54.6%	54.6 to 68.3%	68.3 to 71.7%	over 71.7%

Thigh circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 25.6%	25.6 to 27.8%	27.8 to 35.0%	35.0 to 38.1%	over 38.1%
24 to 54	up to 25.7%	25.7 to 28.2%	28.2 to 35.7%	35.7 to 38.8%	over 38.8%
over 55	up to 25.7%	25.7 to 28.6%	28.6 to 36.3%	36.3 to 39.5%	over 39.5%

Lower leg circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 17.9%	17.9 to 18.5%	18.5 to 23.5%	23.5 to 25.5%	over 25.5%
24 to 54	up to 17.1%	17.1 to 18.9%	18.9 to 24.1%	24.1 to 25.8%	over 25.8%
over 55	up to 16.2%	16.2 to 19.4%	19.4 to 24.6%	24.5 to 26.1%	over 26.1%

(Still) Upper arm circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 12.0%	12.0 to 13.7%	13.7 to 18.8%	18.8 to 20.2%	over 20.2%
24 to 54	up to 12.5%	12.5 to 14.6%	14.6 to 19.9%	19.9 to 21.3%	over 21.3%
over 55	up to 13.1%	13.1 to 15.5%	15.5 to 20.9%	20.9 to 22.5%	over 22.5%

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Lower arm circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 12.0%	12.0 to 13.5%	13.5 to 16.4%	16.4 to 17.1%	over 17.1%
24 to 54	up to 12.5%	12.5 to 14.0%	14.0 to 17.2%	17.2 to 18.2%	over 18.2%
over 55	up to 13.0%	13.0 to 14.5%	14.5 to 17.9%	17.9 to 19.2%	over 19.2%

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(B) Ranges (Women, percentage of body height)

(Chest circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 43.2%	43.2 to 45.7%	45.7 to 54.9%	54.9 to 56.3%	over 56.3%
24 to 54	up to 46.8%	46.8 to 48.4%	48.4 to 61.8%	61.8 to 64.8%	over 64.8%
over 55	up to 50.5%	50.5 to 51.2%	51.2 to 68.7%	68.7 to 73.2%	over 73.2%

Thigh circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 29.1%	29.1 to 30.0%	30.0 to 38.7%	38.7 to 39.5%	over 39.5%
24 to 54	up to 29.6%	29.6 to 30.5%	30.5 to 41.1%	41.1 to 47.0%	over 47.0%
over 55	up to 30.1%	30.1 to 31.0%	31.0 to 43.5%	43.5 to 54.4%	over 54.4%

Lower leg circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 18.6%	18.6 to 19.1%	19.1 to 23.6%	23.6 to 24.4%	over 24.4%
24 to 54	up to 18.8%	18.8 to 19.3%	19.3 to 24.8%	24.8 to 25.9%	over 25.9%
over 55	up to 19.1%	19.1 to 19.6%	19.6 to 26.0%	26.0 to 27.4%	over 27.4%

(Still) Upper arm circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 12.5%	12.5 to 13.1%	13.1 to 17.4%	17.4 to 18.8%	over 18.8%
24 to 54	up to 13.7%	13.7 to 14.3%	14.2 to 19.8%	19.8 to 21.2%	over 21.2%
over 55	up to 14.8%	14.8 to 15.5%	15.5 to 22.1%	22.1 to 23.5%	over 23.5%

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Lower arm circumference	to low	low	good	high	to high
Age [years]	red	yellow	green	yellow	red
18 to 24	up to 11.7%	11.7 to 12.4%	12.4 to 15.1%	15.1 to 15.4%	over 15.4%
24 to 54	up to 12.6%	12.6 to 13.1%	13.1 – 16.7%	16.7 to 18.5%	over 18.5%
over 55	up to 13.4%	13.4 to 13.8%	13.8 – 18.2%	18.2 to 21.5%	over 21.5%

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