

## Waist Circumference and Obesity

Along with using BMI, it is important to use other measures to assess body shape to determine the potential impact of weight on health. Over the past few years, scientific research has demonstrated that carrying extra weight around the middle puts a person's health at greater risk than carrying extra weight around the hips or thighs. This means waist circumference is taking on a more important role in determining future health outcomes. Waist circumference is a better indicator of abdominal fat than BMI alone, and hence helps identify those at risk of complications from their obesity. The bottom line is excess fat in the abdominal region puts you at a greater risk of developing serious illnesses such as heart disease and type 2 diabetes.

### Waist circumference for adults<sup>1</sup> above which risk increases

GENDER	GENERAL ADULT POPULATION	ASIAN POPULATION
Male	102cm (40in)	90cm (35in)
Female	88cm (35in)	80cm (32in)

### Combining BMI and waist measurements to assess obesity and the risk of type 2 diabetes and cardiovascular disease in the general adult population<sup>1</sup>

CLASSIFICATION	BMI	WAIST CIRCUMFERENCE AND RISK OF CO-MORBIDITIES	
		MEN 94-102CM WOMEN 80-88CM	MEN >102CM WOMEN >88CM
Underweight	<18.5	-	-
Healthy weight	18.5-24.9	-	Increased
Overweight	25-29.9	Increased	High
Obese	30+	High	Very high

Studies on groups of people living in South Asia and people from South Asia living in the UK indicate that risk increases above a BMI of 23 and becomes high risk above BMI 27.5. As noted above the risk increases in South Asians with waist circumferences above 90cm (35in) in men and 80cm (32in) in women.

### How to measure waist circumference with the patient standing

Standing at the side of the patient/subject identify the lower edge of the lowest rib and the upper edge of the iliac crest\* (usually about 5cm apart in most adults) and measure the waist circumference halfway between the two. Holding the end of the tape at the side of the patient and passing the tape around the waist hold the tape in position ideally directly against the skin\*\* or at most over very thin clothing (avoid including belts or very thick fabric). Regardless of the shape of the patient's abdomen the waist circumference should be measured with the tape held horizontal. Ask the patient to breath in, and out and relax for a few seconds, then breath in and out and relax for a few seconds a second time. Finally after breathing in and out a third time take the waist measurement - the breathing exercise makes an artificially low measurement due to raising the diaphragm less likely.

\* The iliac crest is the curved upper surface of the ileum bone of the pelvis.

\*\* A degree of undressing is necessary for this and due consideration needs to be given as to where this is done and whether or not a chaperone is needed. The observer always works at the side of the patient and not at the front.

<sup>1</sup> National Institute for Health and Clinical Excellence, 2006.

*Slim-Fast!*<sup>®</sup>



# Body Mass Index Chart

Height	Weight																												Height											
	7st 1lb	7st 8lb	8st	8st 7lb	9st	9st 6lb	9st 13lb	10st 5lb	10st 12lb	11st 5lb	11st 11lb	12st 4lb	12st 12lb	13st 3lb	13st 10lb	14st 2lb	14st 9lb	15st 2lb	15st 8lb	16st 1lb	16st 7lb	17st	17st 7lb	17st 13lb	18st 6lb	18st 13lb	19st 5lb	19st 12lb		20st 4lb	20st 11lb	21st 4lb	21st 10lb	22st 3lb	22st 9lb	23st 2lb	23st 9lb	24st 1lb	24st 8lb	25st
4' 6"	24	25	27	29	30	32	33	35	37	38	40	41	43	45	46	48	49	51	53	54	56	57	59	61	62	64	65	67	69	70	72	73	75	76	78	80	81	83	84	137cm
4' 7"	23	25	26	28	29	31	32	34	35	37	38	40	41	43	45	46	48	49	51	52	54	55	57	58	60	61	63	65	66	68	69	71	72	74	75	77	78	80	81	140cm
4' 8"	22	24	25	27	28	30	31	33	34	36	37	39	40	41	43	44	46	47	49	50	52	53	55	56	58	59	61	62	64	65	67	68	70	71	73	74	76	77	79	142cm
4' 9"	21	23	24	26	27	29	30	31	33	34	36	37	39	40	41	43	44	46	47	49	50	51	53	54	56	57	59	60	62	63	64	66	67	69	70	72	73	74	76	145cm
4' 10"	21	22	23	25	26	28	29	30	32	33	35	36	37	39	40	41	43	44	46	47	48	50	51	52	54	55	57	58	59	61	62	64	65	66	68	69	70	72	73	147cm
4' 11"	20	21	23	24	25	27	28	29	31	32	33	35	36	37	39	40	41	43	44	45	47	48	49	51	52	53	55	56	57	59	60	61	63	64	65	67	68	69	71	150cm
5'	19	21	22	23	25	26	27	28	30	31	32	34	35	36	37	39	40	41	43	44	45	46	48	49	50	52	53	54	56	57	58	59	61	62	63	65	66	67	68	152cm
5' 1"	19	20	21	22	24	25	26	27	29	30	31	32	34	35	36	37	39	40	41	42	44	45	46	47	49	50	51	52	54	55	56	57	59	60	61	62	64	65	66	155cm
5' 2"	18	19	21	22	23	24	25	27	28	29	30	31	33	34	35	36	37	39	40	41	42	44	45	46	47	48	50	51	52	53	54	56	57	58	59	60	62	63	64	158cm
5' 3"	18	19	20	21	22	23	25	26	27	28	29	30	32	33	34	35	36	37	39	40	41	42	43	44	46	47	48	49	50	52	53	54	55	56	57	59	60	61	62	160cm
5' 4"	17	18	19	20	22	23	24	25	26	27	28	29	31	32	33	34	35	36	37	39	40	41	42	43	44	45	47	48	49	50	51	52	53	54	56	57	58	59	60	163cm
5' 5"	16	18	19	20	21	22	23	24	25	26	27	29	30	31	32	33	34	35	36	37	38	40	41	42	43	44	45	46	47	48	49	51	52	53	54	55	56	57	58	165cm
5' 6"	16	17	18	19	20	21	22	23	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	57	168cm
5' 7"	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	45	46	47	48	49	50	51	52	53	54	55	170cm
5' 8"	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	173cm
5' 9"	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	175cm	
5' 10"	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	46	47	48	49	50	178cm
5' 11"	14	15	16	17	18	18	19	20	21	22	23	24	25	26	27	28	29	29	30	31	32	33	34	35	36	37	38	39	40	41	41	43	44	45	46	46	47	48	49	180cm
6'	13	14	15	16	17	18	19	20	21	22	22	23	24	25	26	27	28	29	30	30	31	32	33	34	35	36	37	38	39	39	40	41	42	43	44	45	46	47	48	183cm
6' 1"	13	14	15	16	17	17	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	31	32	33	34	35	36	37	37	38	39	40	41	42	43	44	44	45	46	185cm
6' 2"	13	14	14	15	16	17	18	19	20	20	21	22	23	24	25	25	26	27	28	29	30	31	31	32	33	34	35	36	36	37	38	39	40	41	42	42	43	44	45	188cm
6' 3"	12	13	14	15	16	17	18	19	20	21	21	22	23	24	25	26	26	27	28	29	30	31	31	32	33	34	35	36	36	37	38	39	40	40	41	42	43	44	191cm	
6' 4"	12	13	14	14	15	16	17	18	19	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32	33	34	35	35	36	37	38	39	39	40	41	42	43	193cm	
6' 5"	12	13	13	14	15	16	16	17	18	19	20	20	21	22	23	24	24	25	26	27	27	28	29	30	31	31	32	33	34	34	35	36	37	38	38	39	40	41	42	196cm
6' 6"	11	12	13	14	15	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	31	31	32	33	34	34	35	36	37	37	38	39	40	40	198cm

Underweight
  Weight Appropriate
  Overweight
  Obese