



Miss Jane O'Brien  
MBBS FRACS  
Specialist Breast Cancer Surgeon

The Breast Centre at St Vincent's Private Hospital East Melbourne  
Suite 92, Level 9, 166 Gipps Street East Melbourne VIC 3002  
T (03) 9928 6261 F (03) 9928 6260  
E jane.obrien@svha.org.au  
W www.thebreastcentre.com.au  
f facebook.com/drjaneobrien  
@ instagram.com/drjaneobrien



## Your BMI

As it has important implications related to breast cancer, including your risk of treatment related side-effects and surgical complications, and also your risk of recurrence, it is important that you are aware of your body weight category. Almost two thirds (63%) of Australians are now overweight or obese (36% overweight but not obese, and 28% obese).<sup>1</sup> There has been a progressive "normalisation" of obesity, to the extent that many overweight and obese people are unaware that they are overweight or obese, and public health initiatives to tackle obesity are potentially hampered by this lack of recognition of weight status. A British study of weight perception found self-identification of obesity to be low, with the proportion of obese adult women selecting the term 'obese' to describe their body size declining from a 13% in 2007 to an even lower level (11%) in 2012.<sup>2</sup> A 2016 University of Sydney research similarly revealed that more than one in four (26.8%) overweight or obese Australians don't realise they're overweight or obese.<sup>3</sup>

Based on your self-reported height/weight your current BMI is:



## World Health Organisation (WHO) Weight Category Classification according to BMI

Weight Categories	BMI (kg/m <sup>2</sup> )
Underweight	< 18.5
Healthy Weight	18.5-24.9
Overweight	25-29.9
Obese	30-34.9
Severely Obese	35-39.9
Morbidly Obese	≥40

It is the duty of care of health professionals to inform and educate patients about risk factors, particularly if they are modifiable, and the diagnosis of a serious illness can serve as an opportunity to critically reassess your lifestyle and implement some positive changes, and we are here to help you in this process.

An "ideal weight" is where a person is at their healthiest in terms of what they weigh. There are a variety of different ways to calculate ideal weight ranges and obesity but the most widely-used methods are **Body Mass Index (BMI)** and **Waist Circumference**, and the Australian National Health and Medical Research Council clinical practice guidelines for management of overweight and obesity, lists BMI and waist circumference as the routine measures for identifying overweight and obesity.

## BMI

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)}^2}$$

Normal Weight  
(BMI 19 to 24.9)



Overweight  
(BMI 25 to 29.9)



Obese (Class I)  
(BMI 30 to 34.9)



Obese (Class II)  
(BMI 35 to 39.9)



Severely Obese  
(BMI 40+)

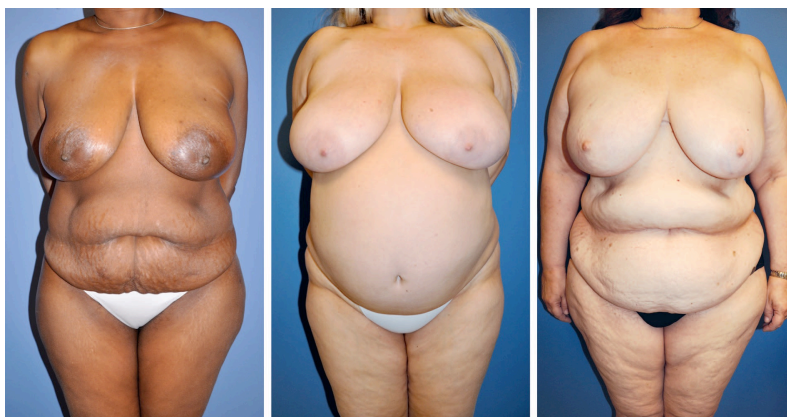


BMI is the international World Health Organisation (WHO) standard for classifying weight. BMI is defined as a person's weight in kilograms divided by the square of his height in meters ( $\text{kg/m}^2$ ).<sup>4</sup> BMI is the ratio of a person's weight and height, and is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults.

A healthy BMI is between 18.5 and 24.9. When a person is overweight or obese, it means that they have too much body fat in relation to lean body tissue, such as muscle. Overweight is defined by the WHO as a BMI of 25 or higher, and obesity is defined as a BMI of 30 or higher. These WHO BMI thresholds reflect the increasing risk of excess weight as BMI increases above the optimal healthy range. Obesity is split into three classes, according to severity, with more severe obesity associated with a higher risk of comorbidities.

WEIGHT	lbs	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290
	kg	41	45	50	54	59	64	68	73	77	82	86	91	95	100	104	109	113	118	122	127	132
HEIGHT	ft/in	Underweight				Healthy				Overweight				Obese				Extremely Obese				
	cm																					
4'8"	142.2	20	22	25	27	29	31	34	36	38	40	43	45	47	49	52	54	56	58	61	63	65
4'9"	144.7	19	22	24	26	28	30	32	35	37	39	41	43	45	48	50	52	54	56	58	61	63
4'10"	147.3	19	21	23	25	27	29	31	33	36	38	40	42	44	46	48	50	52	54	56	59	61
4'11"	149.8	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	51	53	55	57	58
4'12"	152.4	18	20	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57
5'1"	154.9	17	19	21	23	25	26	28	30	32	34	36	38	40	42	43	45	47	49	51	53	55
5'2"	157.4	16	18	20	22	24	26	27	29	31	33	35	37	38	40	42	44	46	48	49	51	53
5'3"	160.0	16	18	19	21	23	25	27	28	30	32	34	35	37	39	41	43	44	46	48	50	51
5'4"	162.5	15	17	19	21	22	24	26	27	29	31	33	34	36	38	39	41	43	45	46	48	50
5'5"	165.1	15	17	18	20	22	23	25	27	28	30	32	33	35	37	38	40	42	43	45	47	48
5'6"	167.6	15	16	18	19	21	23	24	26	27	29	31	32	34	36	37	39	40	42	44	46	47
5'7"	170.1	14	16	17	19	20	22	24	25	27	28	30	31	33	34	36	38	39	41	42	44	45
5'8"	172.7	14	15	17	18	20	21	23	24	26	27	29	30	32	33	35	37	38	40	41	43	44
5'9"	175.2	13	15	16	18	19	21	22	24	25	27	28	30	31	33	34	35	37	38	40	41	43
5'10"	177.8	13	14	16	17	19	20	22	23	24	26	27	29	30	32	33	34	36	37	39	40	42
5'11"	180.3	13	14	15	17	18	20	21	22	24	25	27	28	29	31	32	33	35	36	38	39	40
5'12"	182.8	12	14	15	16	18	19	20	22	23	24	26	27	28	30	31	33	34	35	37	38	39
6'1"	185.4	12	13	15	16	17	18	20	21	22	24	25	26	28	29	30	32	33	34	36	37	38
6'2"	187.9	12	13	14	15	17	18	19	21	22	23	24	26	27	28	30	31	32	33	35	36	37
6'3"	190.5	11	13	14	15	16	18	19	20	21	23	24	25	26	28	29	30	31	33	34	35	36
6'4"	193.0	11	12	13	15	16	17	18	19	21	22	23	24	26	27	28	29	30	32	33	34	35
6'5"	195.5	11	12	13	14	15	17	18	19	20	21	23	24	25	26	27	28	30	31	32	33	34
6'6"	198.1	10	12	13	14	15	16	17	18	20	21	22	23	24	25	27	28	29	30	31	32	34
6'7"	200.6	10	11	12	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	32	33
6'8"	203.2	10	11	12	13	14	15	16	18	19	20	21	22	23	24	25	26	27	28	29	30	32
6'9"	205.7	10	11	12	13	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	31
6'10"	208.2	9	10	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6'11"	210.8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	26	27	28	29	30

Above: Examples of World Health Organization Obesity Classifications (Reproduced from Plastic and Reconstructive Surgery, Garvey et al, 2012)

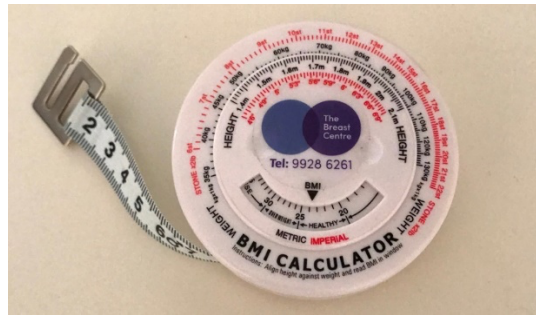



Above Left-Class I obesity (BMI 30.0 to 34.9); Centre-Class II obesity (BMI 35.0 to 39.9); Right- Class III obesity (BMI>40)


BMI provides the most useful population-level measure of overweight and obesity as it is the same for both sexes, and for all ages of adults, however, it should be considered an approximate guide because it may not correspond to the same degree of fatness in different individuals. It is important to remember that BMI may not be an applicable measure for those under 18, pregnant women and athletic people with higher than normal levels of lean body tissue/muscle.

## Waist Circumference

If your waist measures 80cm or more for a woman, and particularly if it is over 88cm, you are potentially harbouring a dangerous amount of abdominal fat. Subcutaneous fat that lurks beneath the skin as "love handles" or padding on the thighs, buttocks or upper arms may be cosmetically challenging, but it is otherwise harmless. However, the deeper belly fat — the visceral fat that accumulates around abdominal organs — is metabolically active and has been strongly linked to a host of serious disease risks, including cancer. To measure your waist circumference, all you need is a measuring tape. Place it on the top of your hip bone, bringing it around your body and level with your belly button.



Waist Girth and Health Risk			
	Men	Women	
Normal	78-94cm	64-80cm	
Overweight (Elevated Risk)	94-102cm	80-88cm	
Obese (High Risk)	>102cm	>88cm	



## References:

1. Australian Obesity Prevention Consensus, (2017), Tipping the Scales: Australian Obesity Prevention Consensus, Accessed at: <http://www.opc.org.au/downloads/tipping-the-scales/tipping-the-scales.pdf>.
2. Do weight perceptions among obese adults in Great Britain match clinical definitions? Analysis of cross-sectional surveys from 2007 and 2012. Johnson et al. BMJ, 2014. <https://bmjopen.bmj.com/content/bmjopen/4/11/e005561.full.pdf>
3. Assessing patients' and GPs' ability to recognise overweight and obesity. C Wong. Australian and New Zealand Journal of Public Health. 2016. Accessed at: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/1753-6405.12536>
4. BMI-Where do you fit? Australia's health 2018. Australian Institute of Health and Welfare (AIHW) <https://www.aihw.gov.au/reports/australias-health/australias-health-2018/contents/bmi-where-do-you-fit>

For further information on the relationship between body weight and breast cancer see:

- **Body Weight and Breast Cancer**
- **Body Weight and Breast Surgery Complications**