



PATIENT ENGAGEMENT

Empathic diagnosis and assessment

Managing obesity can be a sensitive subject for many patients. Even though you may have successfully broached the topic of weight management with your patient, it is important to continue all discussions and assessments in a way that makes this experience as comfortable as possible for your patient.

Body mass index (BMI) and waist circumference are important measures for evaluating obesity-related health risks.¹

Body mass index and waist circumference allow you to assess your patient’s risk for weight-related comorbidities and to form treatment goals.

- Patients with a high waist circumference may be at an increased risk for type 2 diabetes (T2D), dyslipidemia, hypertension and cardiovascular disease.¹
- In addition to a surplus in total body fat, excess abdominal fat (indicated by a high waist circumference) serves as an independent marker of greater cardiometabolic disease risk.^{1,2}





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Assessing BMI

BMI is an internationally recognised standard for classifying overweight and obesity in adults.³ BMI does not necessarily reflect body fat levels in different individuals.[†] At a population level, however, BMI is a practical and useful measure for identifying overweight and obesity.^{3,4}

Before assessing BMI, you need to weigh your patient.

Making a weigh-in more comfortable for your patient:



Ensure weighing scales are in an area that offers privacy



Ensure weighing scales can measure >200 kg



Do not announce your patient's weight

BMI is calculated by dividing your patient's weight in kg by the square of their height in metres.⁵

$$\text{BMI (kg/m}^2\text{)} = \frac{\text{Weight (kg)}}{\text{Height}^2 \text{ (m)}}$$

BMI categories⁵

Classification	BMI
Underweight	<18.5 kg/m ²
Healthy weight	18.5–24.9 kg/m ²
Overweight	25.0–29.9 kg/m ²
Class I obesity	30.0–34.9 kg/m ²
Class II obesity	35.0–39.9 kg/m ²
Class III obesity	≥40 kg/m ²

You should weigh and document your patient's weight at every visit.

[†]BMI may not be as accurate in highly muscular people. In people of Asian descent, practitioners should consider lowering the treatment threshold in the presence of central obesity. The New Zealand Clinical Guidelines for Weight Management in Adults (2017) reported no evidence for using different thresholds for Māori and Pacific Peoples.⁴



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Measuring waist circumference



Use waist circumference to provide supporting information, especially if you suspect excess intra-abdominal fat in people who are overweight but not obese. A higher waist measurement has been shown to be an important risk factor for numerous negative health outcomes, including cardiovascular disease.⁴

Making waist measurement a more comfortable experience for your patient

- 1 Hand the person one end of the measuring tape and ask them to hold it at their belly button. Request they make one turn so that the tape wraps around their waist.
- 2 Grasp both ends of the tape and adjust it to ensure the tape is at the level of the upper hip bones and record their waist circumference.

Waist circumference thresholds to identify increased relative risk of obesity-related complications.⁵

Sex	Risk level	
	Increased	Substantially increased
Male	94–101 cm	≥102 cm
Female	80–87 cm	≥88 cm

Waist circumference is less accurate in some situations, including pregnancy, medical conditions where there is distension of the abdomen and for certain groups, such as people of Asian ethnicity.^{3,6} Consider lowering these thresholds for patients of Asian ethnicity.⁴



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Use this table as a guide to calculate your patient's BMI

	55 kg	60 kg	65 kg	70 kg	75 kg	80 kg	85 kg	90 kg	95 kg	100 kg	105 kg	110 kg	115 kg	120 kg	125 kg	130 kg	135 kg	140 kg
1.47 m	25	28	30	32	35	37	39	42	44	46	49	51	53	56	58	60	62	65
1.50 m	24	27	29	31	33	36	38	40	42	44	47	49	51	53	56	58	60	62
1.52 m	24	26	28	30	32	35	37	39	41	43	45	48	50	52	54	56	58	61
1.55 m	23	25	27	29	31	33	35	37	40	42	44	46	48	50	52	54	56	58
1.57 m	22	24	26	28	30	32	34	37	39	41	43	45	47	49	51	53	55	57
1.60 m	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
1.62 m	21	23	25	27	29	30	32	34	36	38	40	42	44	46	48	50	51	53
1.65 m	20	22	24	26	28	29	31	33	35	37	39	40	42	44	46	48	50	51
1.67 m	20	22	23	25	27	29	30	32	34	36	38	39	41	43	45	47	48	50
1.70 m	19	21	22	24	26	28	29	31	33	35	36	38	40	42	43	45	47	48
1.72 m	19	20	22	24	25	27	29	30	32	34	35	37	39	41	42	44	46	47
1.75 m	18	20	21	23	24	26	28	29	31	33	34	36	38	39	41	42	44	46
1.77 m	18	19	21	22	24	26	27	29	30	32	34	35	37	38	40	41	43	45
1.80 m	17	19	20	22	23	25	26	28	29	31	32	34	35	37	39	40	42	43
1.82 m	17	18	20	21	23	24	26	27	29	30	32	33	35	36	38	39	41	42
1.85 m	16	18	19	20	22	23	25	26	28	29	31	32	34	35	37	38	39	41
1.87 m	16	17	19	20	21	23	24	26	27	29	30	31	33	34	36	37	39	40
1.90 m	15	17	18	19	21	22	24	25	26	28	29	30	32	33	35	36	37	39
1.92 m	15	16	18	19	20	22	23	24	26	27	28	30	31	33	34	35	37	38
1.95 m	14	16	17	18	20	21	22	24	25	26	28	29	30	32	33	34	36	37
1.97 m	14	15	17	18	19	21	22	23	24	26	27	28	30	31	32	33	35	36
2.00 m	14	15	16	18	19	20	21	23	24	25	26	28	29	30	31	33	34	35
2.02 m	13	15	16	17	18	20	21	22	23	25	26	27	28	29	31	32	33	34
2.05 m	13	14	15	17	18	19	20	21	23	24	25	26	27	29	30	31	32	33

- Underweight (BMI <18.5)
- Normal (BMI 18.5–24.9)
- Overweight (BMI 25.0–29.9)
- Obesity class 1 (BMI 30.0–34.9)
- Obesity class 2 (BMI 35.0–39.9)
- Obesity class 3 (BMI ≥40)

References: **1.** NIH. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. Available at: https://www.ncbi.nlm.nih.gov/books/NBK2003/pdf/Bookshelf_NBK2003.pdf (Accessed August 2024). **2.** Garvey WT, *et al.* *Endocr Pract.* 2016;22(suppl 3):1–203. **3.** AIHW. Overweight and Obesity. Available at: <https://www.aihw.gov.au/reports/overweight-obesity/overweight-and-obesity/contents/measuring-overweight-and-obesity> (Accessed August 2024). **4.** Ministry of Health - Manatū Hauora. Clinical Guidelines for Weight Management in New Zealand Adults. 2017. Available at: <https://www.health.govt.nz/system/files/documents/publications/clinical-guidelines-for-weight-management-in-new-zealand-adultsv2.pdf> (Accessed August 2024). **5.** Ministry of Health - Manatū Hauora. Understanding Excess Body Weight: New Zealand Health Survey. 2015. Available at: <https://www.health.govt.nz/system/files/documents/publications/understanding-excess-body-weight-nzhs-apr15-v2.pdf> (Accessed August 2024). **6.** Markovic TP, *et al.* *Review Obes Res Clin Pract.* 2022;16:1353–1363.

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