

GUIDELINES & PROTOCOLS

ADVISORY COMMITTEE

Overweight and Obese Adults: Diagnosis and Management

Effective Date: April 1, 2011

Scope

This guideline is intended to provide primary care providers with definitions for overweight and obese classifications in non-pregnant adults aged 19 and older. The guideline contains information on the diagnosis and management of obesity.

Diagnostic Code: 278 Overweight, obesity and other hyperalimentation

Prevalence

The prevalence of overweight and obese adults is increasing dramatically and is associated with chronic diseases such as type 2 diabetes, cardiovascular disease (CVD), hypertension, osteoarthritis, gallbladder disease, and some cancers. In Canada, 36% of adults are overweight, and 23% are in one of the obese categories.¹

Diagnosis

Calculate patient's body mass index (BMI) and classify patient according to the World Health Organization's (WHO) classification system below:²

$$\text{Metric BMI (kg/m}^2\text{)} = \text{weight in kg} / (\text{height in m})^2$$

Table 1: WHO Categories of BMI

Weight Classification	BMI (kg/m ²)
Underweight	< 18.5
Normal	18.5 - 24.9
Overweight	25 - 29.9
Obese: Class 1	30 - 34.9
Obese: Class 2	35 - 39.9
Obese: Class 3	≥ 40

Note that BMI does not provide information about the composition or distribution of weight, and cannot distinguish between muscle, bone and fat.^{3,4} These limitations can cause problems such as:

- Overestimation of body fat in patients who gain muscle and lose fat, but do not change weight;
- Underestimation of body fat in older patients because lean body mass gradually declines with age; and
- Underestimation of body fat in South Asians. Criteria for South Asian populations are:⁵
 - normal BMI = 18.0–22.9; overweight = 23.0–24.9; obese = ≥ 25.0;

Measure waist circumference, particularly if BMI is ≤ 35, as a progress measuring tool to track body shape change.^{6,7}

Management

- For patients in overweight or obesity class 1, lifestyle management is recommended.
- For patients in obesity class 2 or 3, more extensive intervention is required in addition to lifestyle management. All pharmacologic and surgical management strategies in this document pertain only to patients in obesity class 2 or 3.

A higher level of intervention is recommended for patients of all weight classes with co-morbidities that are expected to improve with weight loss (e.g., type 2 diabetes, hypertension, CVD, osteoarthritis, dyslipidemia, sleep apnea). Screening for these conditions is recommended. Follow abnormal findings in accordance with the relevant BC Guideline. Routine chemical urinalysis is not indicated.

In addition, consider screening for eating disorders, depression, and other psychiatric disorders.⁷

a) Lifestyle Management (Overweight & Obese Class 1-3)

Advise patients on strategies for achieving and maintaining a healthy weight using diet and exercise. This advice is appropriate for patients in the overweight class, or any obesity class.

Refer the patient to a weight loss program, if the program meets the following criteria:

- Based on a balanced healthy diet (e.g., 500-1000 kcal/day deficit);
- Encourages regular physical activity;
- Expects people to lose no more than 0.5-1 kg (1-2 lb) a week; and
- Establishes an initial weight loss goal of 5-10% of the original weight.^{6,7}

Diets that are restrictive in particular food groups (e.g., protein, fat, carbohydrate) offer no long-term benefit and may be harmful by imposing risk of micronutrient deficiencies. Evidence shows that the benefit of various weight loss regimes is due to calorie restriction.⁶

The optimal follow-up interval for management of overweight and obese adults is unknown. Most obesity studies followed patients monthly and decreased contact over time (e.g., every 2 weeks, lengthening to every 2 months).⁶

b) Pharmacologic Management (Obese Class 2, 3)

Pharmaceutical therapy for obesity is recommended only after dietary, exercise, and behavioural approaches have failed. Drug therapy alone is insufficient and should only be used as an adjunct to other weight loss management strategies.

Currently orlistat (Xenical[®]) is the only medication marketed for the long term treatment of obesity available in Canada. Although long term cardiovascular risk reduction and safety trials continue, no effect on mortality from obesity related conditions has been shown with orlistat.^{8,9} Choice to pursue pharmaceutical therapy should be made after discussing benefits and limitations with the patient, including: ^{6,7,9}

- Adverse effects (orlistat side effects may include: oily spotting, steatorrhea, abdominal bloating, fecal incontinence);
- Monitoring requirements;
- Lack of long-term efficacy and safety data;
- Temporary nature of the weight loss achieved;
- Modest degree of weight loss attributable to the drugs (< 5 kg at 1 year); and
- Potential impact on the patient's motivation.

Please refer to *Appendix A – Prescription Medication Table for Treatment of Obesity in Adults* for more specific medication details.

c) Surgical Intervention (Obese Class 2, 3)

Gastric bypass and laparoscopic band surgery are the most common forms of bariatric surgery procedures. It should be noted that as of publication there is limited availability for these procedures.

Surgery may be considered if: ^{6,7}

- Patient's BMI is ≥ 40 , or ≥ 35 with a related condition (e.g., hypertension, type 2 diabetes, hyperlipidemia, or CVD);
and
- All appropriate non-surgical measures have been tried for at least six months without adequate success.

Details of surgical intervention fall outside the scope of this guideline. It is recommended that potential candidates who meet the above criteria are referred to a specialist in bariatric surgery.

Rationale

Statistics Canada examined the correlation between measured overweight/obesity and three major health risks. This information is presented in Table 2:¹⁰

Table 2: Relationship Between Weight Categories and Selected Co-morbidities

	Normal	Overweight	Obese: Class 1	Obese: Class 2	Obese: Class 3
CVD	3%	5%	7%	7%	7%
Diabetes	2%	4%	10%	12%	12%
Hypertension	9%	15%	20%	30%	30%

Mortality rates for the overweight and obese when compared to mortality rates for those of normal weight, showed significantly increased risk of death in obesity classes II & III (BMI ≥ 35), and the underweight class (BMI < 18.5).¹¹

References

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Appendices

Appendix A – Prescription Medication Table for the Treatment of Obesity in Adults

Appendix B – Body Mass Index Chart (Adults)

This guideline is based on scientific evidence current as of the Effective Date.

This guideline was developed by the Guidelines and Protocols Advisory Committee, approved by the British Columbia Medical Association and adopted by the Medical Services Commission.

The principles of the Guidelines and Protocols Advisory Committee are to:

- encourage appropriate responses to common medical situations
- recommend actions that are sufficient and efficient, neither excessive nor deficient
- permit exceptions when justified by clinical circumstances

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DISCLAIMER

The Clinical Practice Guidelines (the “Guidelines”) have been developed by the Guidelines and Protocols Advisory Committee on behalf of the Medical Services Commission. The Guidelines are intended to give an understanding of a clinical problem, and outline one or more preferred approaches to the investigation and management of the problem. The Guidelines are not intended as a substitute for the advice or professional judgment of a health care professional, nor are they intended to be the only approach to the management of clinical problems.

Appendix B - Body Mass Index Chart (Adults)

Body Mass Index (BMI) Chart

Height (ft/in)	Weight																			Kg	Lbs	Height (cm)				
	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190				195	200	205	210
5'0"	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	152
5'1"	19	20	21	22	23	24	25	26	26	27	28	29	30	31	32	32	34	35	36	37	38	39	40	41	42	155
5'2"	18	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	36	37	38	39	40	40	42	157
5'3"	18	19	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	38	39	40	160
5'4"	17	18	19	20	21	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	38	39	163
5'5"	17	17	18	19	20	21	22	22	23	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	165
5'6"	16	17	18	19	19	20	21	22	23	23	24	25	26	27	27	28	29	31	32	32	33	34	35	36	37	168
5'7"	16	16	17	18	19	20	20	21	22	23	23	24	25	26	27	28	29	30	31	31	32	33	34	34	34	170
5'8"	15	16	17	17	18	19	20	21	21	22	23	24	24	25	26	27	28	29	30	30	31	32	33	33	33	173
5'9"	15	16	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	28	29	30	30	31	32	32	32	175
5'10"	14	15	16	17	17	18	19	19	20	21	22	22	23	24	24	25	26	27	28	29	29	30	31	31	32	178
5'11"	14	15	15	16	17	17	18	19	20	20	21	22	22	23	24	24	25	26	27	28	29	29	30	31	31	180
6'0"	14	14	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	30	183
6'1"	13	14	15	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	185
6'2"	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	28	28	188
6'3"	12	13	14	14	15	16	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	28	188
6'3"	12	13	14	14	15	16	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	28	191
6'4"	12	13	13	14	15	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	24	25	26	26	27	191
6'4"	12	13	14	14	15	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	24	25	26	26	27	193

BMI < 18 = underweight 18.5 to 24 = healthy weight ≥ 25 = overweight ≥ 27 = increasing risk of hypertension, type 2 diabetes ≥ 30 obese