




Childhood and adolescent obesity can be defined as a BMI \geq 95th percentile for age/sex.

Complications of childhood obesity include insulin resistance, type 2 diabetes, non-alcoholic fatty liver disease, obstructive sleep apnea, hypertension, dyslipidemia, slipped capital femoral epiphysis and poor self esteem.

PRESENTATION

HISTORY	PHYSICAL EXAM
<p>Increased weight:</p> <ul style="list-style-type: none"> Weight increasing across \geq 2 percentile lines on the WHO growth chart between interval visits <p>Complications of obesity:</p> <ul style="list-style-type: none"> Fatigue/sleep disturbance, joint pain, anxiety/depression, RUQ pain <p>Reduced linear growth velocity $< 5\text{cm/year}$ is abnormal and should raise concern for genetic or endocrine causes of obesity </p>	<p>Growth parameters</p> <ul style="list-style-type: none"> Weight, height on WHO growth charts at every visit Plot BMI at least once yearly for children \geq 2 years Waist circumference <p>Other</p> <ul style="list-style-type: none"> Blood pressure, resting pulse Thyroid exam Dysmorphic features Skin: acanthosis nigricans, striae, hirsutism, acne Assess for hypogonadism

DIFFERENTIAL DIAGNOSIS

- Chronic increase in calorie intake relative to energy expenditure
- Endocrine disorders: hypothyroidism, Cushing disease, growth hormone deficiency
- Genetic syndromes associated with obesity: Prader-Willi, Turner, Fragile X, Bardet-Biedel, leptin/leptin receptor deficiency, POMC and MC4R mutations

INVESTIGATIONS

- HbA1c, fasting insulin, LFTs, fasting lipid panel
- AM cortisol, TSH, GH if height velocity slowed
- ECG, echo, sleep study, genetic testing as indicated



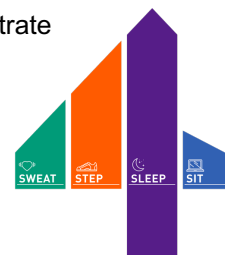
Diagnosis \geq 2 years

Classification	BMI percentile
Normal	$5 \leq \text{BMI} < 85$
Overweight	$85 \leq \text{BMI} < 95$
Obese	≥ 95
Severely obese	$\text{BMI} \geq 120\%$ of 95 th percentile

Various classification systems exist and definitions vary by age

MANAGEMENT

- Educate and empower parents** using motivational interviewing techniques to demonstrate how the **whole family may achieve a healthier lifestyle**.
- For children ages 5-17, follow the **Canadian 24 hour movement guidelines**. Write a physical activity prescription and encourage more time outside!
- Reduce sedentary behaviour and screen time** to < 2 hours daily for children over 4 years and to < 1 hour for children 2-4 years. Screen time for children under 2 years is discouraged.
- Encourage a healthy diet, with reference to the **Canada food guide**. Emphasize the avoidance of sugar-sweetened beverages and casual snacking. Food should not be used as a bribe or reward.
- Referral to a specialized centre for pediatric weight management where the family may access allied health professionals in addition to medical care.
- Manage complications of obesity as indicated.



August, 2022