

# Weight management

## IN 2-5 YEAR OLDS

### 1 MONITOR

#### Monitor growth.

Regularly measure height and weight to calculate Body Mass Index (BMI). Use New Zealand – World Health Organization age- and sex-specific growth charts.

#### Overweight

#### Obese



If trending towards overweight, or a child is above the 91st percentile, provide the family/whānau with brief nutrition and physical activity advice.

Discuss long-term health risks with the family or whānau.

Proceed to stage 2:  
Assess



### 2 ASSESS

#### Take a full history for BMI above 98th centile.

#### Consider:

- co-morbidities
- family history of obesity, early cardiovascular disease, or dyslipidaemia
- precipitating events and actions already taken
- usual diet and levels of physical activity and sleep patterns
- current physical and social consequences of body size
- signs of endocrine, genetic or psychological causes
- medications that may contribute to weight gain.

#### Include in a clinical examination:

- blood pressure with appropriate cuff size
- skin: intertrigo, cellulitis, carbuncles, acanthosis nigricans
- hepatomegaly
- enlarged tonsils
- assessment of short stature/poor linear growth
- abnormal gait, flat feet, lower leg bowing or problems with hips or knees
- dysmorphic features.

Consider further investigations for BMI above 98th centile:

- lipid profile
- HbA1c
- overnight sleep study, using pulse oximetry if history suggests sleep apnoea.



### 3 MANAGE

#### Aim to slow weight gain so the child can grow into their weight.

Use the Food, Activity (including sleep) and Behaviour management strategies (FAB) approach to address lifestyle interventions.

- Food/nutritionally balanced diet
- Physical activity and reduce sedentary time
- Sufficient sleep
- Behaviour management strategies.

To support meaningful engagement and improved health outcomes, it is important that a mutually agreed weight management plan takes into account the broader social, environmental and cultural contexts of the child and family/whānau.

Refer to paediatric services if significant co-morbidities are identified or if an endocrine or genetic cause for obesity is suspected.

Agree a plan for review and monitoring.



### 4 MAINTAIN

#### Maintain contact and support and continue to monitor the child's height and weight (eg, every 6–12 months) to ensure they are adequately supported.

Reinforce healthy eating, physical activity, behavioural strategies and sleep advice.

Identify and promote local support services. Develop collaborative partnerships with Māori health providers, Pacific health providers, Whānau Ora providers and other community-based organisations as appropriate.



Reassess if progress is not sustained.

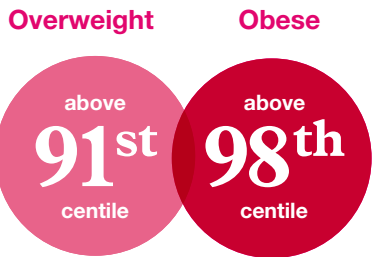
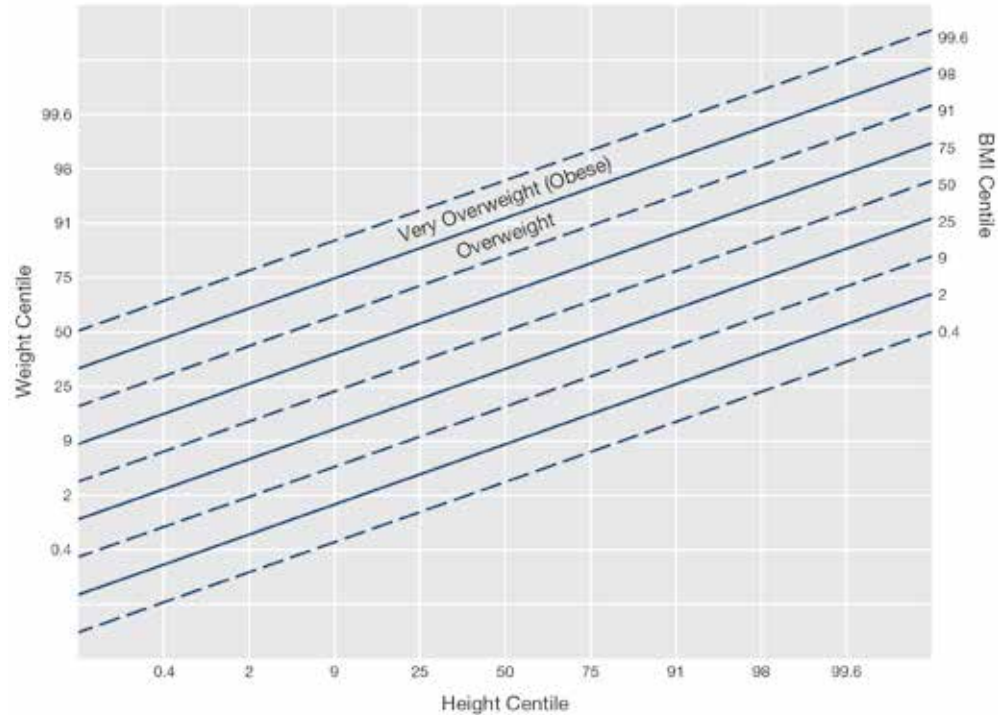
**1 MONITOR**

GROWTH CHARTS FOR 2-5 YEAR OLDS

Regularly measure the child’s height (in centimetres) and weight (in kilograms) and record all changes over time.

Use the New Zealand – World Health Organization growth charts for 2-5 year olds to determine the child’s weight and height centile. These can be downloaded from the Ministry of Health website [www.health.govt.nz](http://www.health.govt.nz). Plot the centiles on the Weight-Height BMI conversion chart to determine BMI centile.

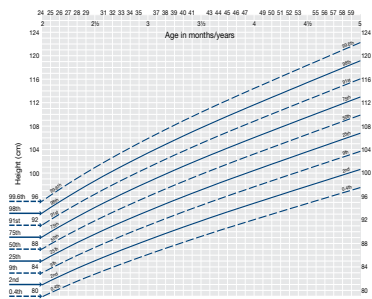
WEIGHT-HEIGHT | BMI conversion chart



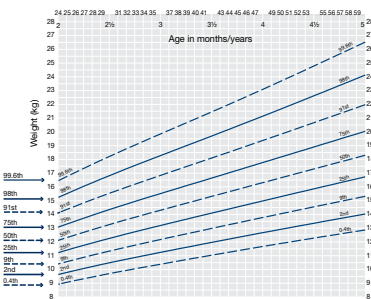
For children who are trending towards a BMI over the 91st centile, offer brief nutrition and physical activity advice.

For children who are over the 91st centile, discuss current and long-term health risks with the family and whānau. Explain that ‘overweight’ and ‘obese’ are clinical terms that have health implications.

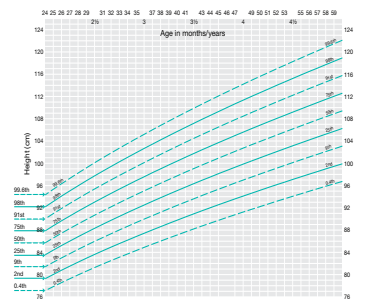
BOYS | height



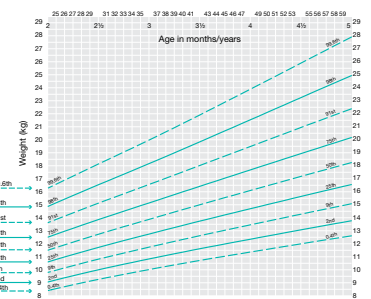
BOYS | weight



GIRLS | height



GIRLS | weight



## 2 ASSESS

Assess the child's history to identify clinical, social and behavioural factors that might be affecting their weight.

Consider co-morbidities and possible endocrine or genetic causes of obesity. Endocrine and genetic causes of obesity are rare, but it is important to diagnose them early as they may be progressive and/or treatable.

If a child's growth is showing an unhealthy trend or if a child's BMI is between the 91st and 98th centile, provide the family/whānau with brief nutrition, physical activity and sleep advice. (Refer Step 3: Manage)

For children with a BMI above the 98th centile, take a full history that includes details of:

- any family history of obesity, early cardiovascular disease or dyslipidaemia
- precipitating events and actions already taken
- usual diet (taking special note of the amount of sugar-containing drinks, high-energy foods and vegetables and fruit)
- usual levels of physical activity (time playing outside is a good indication of physical activity in younger children) and usual levels of sedentary activity (eg, screen time such as watching television playing on the computer and playing electronic games) and whether there is a television in the bedroom
- usual sleep patterns and sleep length (including regular sleep and nap times, instances of disturbed sleep and sleep hygiene, eg: temperature, crowding, noise, light, etc)

- parental reports of snoring, obstructive episodes, frequent night waking, daytime sleepiness
- medications that may be contributing to weight gain
- respiratory difficulties eg, asthma.

Ask about development and behavioural concerns. The PEDS questionnaire is useful here and any prior assessments should be available from the Well Child/Tamariki Ora notes and Parent health record.

### In the clinical examination:

- accurate height (in centimetres) and weight (in kilograms) to calculate and confirm BMI
- blood pressure, using the appropriate cuff size
- examine them for:
  - hip or knee pain, limited hip motion, or lower leg bowing (slipped capital femoral epiphysis, tibia vara /Blount's disease)
  - poor linear growth (hypothyroidism, Cushing syndrome, Prader-Willi syndrome)
  - dysmorphic features (genetic disorders, such as Prader-Willi syndrome)
  - tonsillar hypertrophy (sleep apnoea)
  - abdominal tenderness
  - hepatomegaly (non-alcoholic fatty liver disease)
  - skin infections, such as cellulitis or carbuncles

## LABORATORY TESTING



Consider conducting further investigations for children with a BMI above the 98th centile. Further investigations may include (but only if likely to lead to referral to paediatric care):

- a lipid profile
- HbA1c testing
- an overnight sleep study, using pulse oximetry if history and examination suggest that the child is suffering obstructive sleep apnoea.



### 3 MANAGE

Refer the child to paediatric services if you identify significant co-morbidities or suspect an endocrine or genetic cause for obesity.

Set realistic treatment goals aimed at a change in lifestyle – without seeking weight loss. The aim is to slow weight gain and have the child grow into their weight.

To support meaningful engagement and improved health outcomes, it is important that a mutually agreed weight management plan takes into account the broader social, environmental and cultural contexts of the child, family and whānau.

Give consistent, evidence-based messaging for weight management options that the family and whānau can use to make positive lifestyle changes, following the Food, Activity (including sleep), Behaviour (FAB) approach to address lifestyle interventions.

#### Food/balanced diet

Encourage a nutritionally balanced diet, with limited portion sizes and at least 2 servings of vegetables and 2 servings of fruit each day. Eat breakfast every day. Offer water or plain milk instead of sugary drinks and decrease the frequency of takeaways.

Remove unhealthy food from the home to reduce temptation.

Avoid opportunities for overeating to occur and try to eat regular meals together.

#### Activity

Encourage active play and physical activity and reduce sedentary behaviour and screen time.

#### Sufficient sleep

Ensure that the child receives sufficient sleep. Over a 24-hour period, aim for:

- infants: 12 to 15 hours
- toddlers: 11 to 14 hours
- preschoolers: 10 to 13 hours.

#### Behaviour

Develop strategies to support healthy eating and activity behaviours, such as learning how to understand food labels and to make healthier food and activity choices.

Simple positive behavioural strategies can also improve sleep, for example, setting up regular sleep and wake times (including during the weekends) and providing an appropriate sleeping environment. Remove the screen (eg. TV, portable devices) from the bedroom.

The Waikato District Health Board *BeSmarter* resource is a useful guide that encourages the family/whānau to engage and take control of their approach to healthy weight.

Work with local community-based health services, such as Green Prescription (GRx) Active Families, to develop a weight management programme that includes lifestyle interventions tailored to the child and family/whānau.

Work with the family/whānau to discuss and agree on a weight management plan that can be reviewed and monitored at future appointments.

### 4 MAINTAIN

Maintain contact with the child and their family/whānau and continue to monitor the child's height, weight and BMI centile to ensure they are progressing to a healthy weight. Reinforce healthy eating, physical activity, behaviour strategies and sleep advice.

Identify and promote local support services that encourage healthy lifestyle approaches. Develop collaborative partnerships with Māori health providers, Pacific health providers, Whānau Ora providers and other community-based organisations where appropriate.

REFER BACK INTO WEIGHT MANAGEMENT CYCLE IF PROGRESS IS NOT SUSTAINED.

