

# Management of Childhood Obesity

August 2023

Validation Grid	
Version	1
Title	Management of Childhood Obesity
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Lead Business Unit	Paediatrics, BHBU
Target audience	Community paediatricians and general paediatricians employed by Royal Free London NHS Foundation Trust
Commissioning body (e.g. Directorate/CPG)	Women's and Children's
Stakeholders consulted	
Clinical Practice / Advanced Practice	Clinical Practice
Associated Policies / Documents	
Guideline Replacement	
Issue date	[Date]
Ratified by	The Paediatric Guidelines Group (PGG) on behalf of the Women and Children's Division
Date of ratification	WSGG: DTC: [remove if necessary]
Date for review	[Date]
Applicable to RFH, BH, CFH, GCS	All sites
Significant change to practice	
Implementation plan (including dissemination plan and audit plan if significant change to practice)	Guideline published on Trust intranet. Published at local guidelines launch event, newsletter and staff briefings
Key words	

Version control				
Version	Date	Author	Status	Comment

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## Royal Free London equality & diversity statement

“The Royal Free London NHS Foundation Trust is committed to creating a positive culture of respect for all individuals, including job applicants, employees, patients, their families and carers as well as community partners. The intention is, as required by the Equality Act 2010, to identify, remove or minimise discriminatory practice in the nine named protected characteristics of age, disability (including HIV status), gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex or sexual orientation. It is also intended to use the Human Rights Act 1998 to treat fairly and value equality of opportunity regardless of socio-economic status, domestic circumstances, employment status, political affiliation or trade union membership, and to promote positive practice and value the diversity of all individuals and communities.

This document forms part of the Trusts commitment, you are responsible for ensuring that the Trust’s policies, procedures and obligation in respect of promoting equality and diversity are adhered to in relation to both staff and service delivery.”

### 1. Abstract

Childhood obesity is one of the biggest public health issues facing the UK<sup>1</sup>. Obesity increases the risk of developing a range of health conditions in childhood and later life, including: heart disease; stroke; high blood pressure; diabetes and some cancers<sup>1</sup>. Obese children are much more likely to be obese adults, which may lead to significant health risks<sup>1</sup>.

It is therefore paramount for all health professionals involved in a child or young person’s care to identify and manage obesity early and accordingly.

### 2. Aim/purpose of the procedure to be undertaken

To identify and manage childhood obesity and related complications as early as possible.

### 3. Scope

To guide and support health professionals in identifying and managing childhood obesity.

## 4. Responsibility

Health professionals involved in a child or young person's care are responsible for using this guideline to guide their clinical practice.

## 5. Definitions

Body Mass Index (BMI) is calculated as  $[\text{height(cm)} \div \text{weight(kg)}^2]$ .

Obesity is a condition of excessive body fat or adiposity that exceeds healthy limits.

### Age <2 years

- Obese = weight above 95<sup>th</sup> centile

### Age >2 years

- Healthy weight = BMI on 2<sup>nd</sup> to 90<sup>th</sup> centile
- Overweight = BMI on or above 91<sup>st</sup> centile
- Obese = BMI on or above 98<sup>th</sup> centile
- Extreme or morbid obesity = BMI Z score >3.33

Growth charts are available at <https://www.rcpch.ac.uk/resources/growth-charts>

BMI charts for boys and girls aged 2-18 years are available at [https://www.rcpch.ac.uk/sites/default/files/2018-03/boys\\_and\\_girls\\_bmi\\_chart.pdf](https://www.rcpch.ac.uk/sites/default/files/2018-03/boys_and_girls_bmi_chart.pdf)

## 6. Background

While trends for 4-5 year olds are stable, trends for 10-11 years olds in England indicate that childhood obesity is increasing<sup>1</sup>. In England in 2018/19, 22.6% of children aged 4-5 were either overweight, obese or severely obese, but much higher at 34.3% among children aged 10-11<sup>1</sup>.

Obesity has far-reaching implications. Psychological health sequelae include emotional, behavioural, educational and social difficulties<sup>2</sup>. Physical health sequelae include reduced exercise tolerance, cardiovascular issues (such as high cholesterol and blood pressure), diabetes, breathing and sleep difficulties, as well as musculoskeletal problems<sup>2</sup>.

## 7. Staff who may undertake this procedure

Community paediatricians and general paediatricians employed by Royal Free London NHS Foundation Trust.

## 8. General approach to managing childhood obesity

**Step 1** – Identification

**Step 2** – Health promotion

**Step 3** – Clinical assessment

**Step 4** – First line blood tests (if BMI on or above 98<sup>th</sup> centile)

**Step 5** – Referrals (as required)

## 9. Step 1 – Identification

Make every encounter count and refer to Section 5 (above) to calculate a child or young person's BMI.

## 10. Step 2 – Health promotion

It may be helpful to signpost families to the NHS Change4Life website (<https://www.nhs.uk/healthier-families/>) in the first instance, which provides guidance on eating better, moving more, as well as accessible activities for children with disabilities.

The following three-pronged approach (diet, physical activity, wellbeing) should be recommended whenever possible.

### **Dietary habits**

Measures include reducing sugary foods and drinks, takeaway and portion sizes; increasing low glycaemic index (low GI) foods; optimising snacking behaviours; and cooking from scratch.

Resources:

- The Eatwell guide <https://www.nhs.uk/live-well/eat-well/food-guidelines-and-food-labels/the-eatwell-guide/>)
- The Eatwell guide infographic [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/528193/Eatwell\\_guide\\_colour.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/528193/Eatwell_guide_colour.pdf)

### **Physical activity**

Optimising physical fitness is paramount regardless of normal or raised BMI, and prevents type 2 diabetes and other health complications. National guidance recommends 180 minutes of physical activity daily in children aged up to 5 years, and 60 minutes of physical activity daily in children and young people (CYP) aged 5-18 years.

Resources for children aged up to 5 years:

- <https://nhs.uk/cms-live-well.nhswebsite-dev.nhs.uk/live-well/exercise/exercise-guidelines/physical-activity-guidelines-children-under-five-years/>
- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1054686/physical-activity-for-early-years-birth-to-5.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054686/physical-activity-for-early-years-birth-to-5.pdf)

Resources for CYP aged 5-18 years:

- <https://nhs.uk/cms-live-well.nhswebsite-dev.nhs.uk/live-well/exercise/exercise-guidelines/physical-activity-guidelines-children-and-young-people/>
- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1054282/physical-activity-for-children-and-young-people-5-to-18-years.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054282/physical-activity-for-children-and-young-people-5-to-18-years.pdf)

### **Overall wellbeing**

It is important to optimise a CYP's emotional wellbeing and encourage them to remain motivated and empowered to improve their health.

Examples include gratitude journals (writing 3 words daily of things that have made them smile or happy) or putting a coin into a glass jar every time they have done some exercise. Being part of youth groups locally such as Young Camden Foundation may provide other helpful and tailored recommendations.

## 11. Step 3 – Clinical assessment

### History

- Syndromic or monogenic causes – early onset of rapid weight gain in infancy with severe obesity in children aged under 2 years, hyperphagia, learning disability
- Obstructive sleep apnoea – disturbed sleep, pauses in breathing at night, daytime sleepiness, loud snoring with gasping
- Genetic predisposition – family history of familial dyslipidaemia (eg. early ischaemic heart disease or stroke) or type 2 diabetes
- Polycystic ovary syndrome – hirsutism, oligomenorrhoea
- Psychological conditions – depression, self-harm, suicidal ideation, eating disorder
- Psychosocial issues – social history, social care involvement, safeguarding concerns

### Examination

- Insulin resistance and/or type 2 diabetes – acanthosis nigricans
- Syndromic obesity – dysmorphic features
- Genetic or endocrine causes of obesity – short stature or slowed growth velocity (calculate genetic height potential), Cushingoid features
- Cardiovascular comorbidity – blood pressure (ensure correct technique and cuff size, and plot on centile chart available on <https://www.bsuh.nhs.uk/library/wp-content/uploads/sites/8/2020/07/Paediatric-guidelines-hypertension-tables.pdf>)

## 12. Step 4 – First line blood tests

Indicated if BMI on or above 98<sup>th</sup> centile, or if comorbidities or complex features are present.

- Fasting lipid profile
- Fasting insulin\*, glucose\* and HbA1C
- Liver function tests (LFTs)\*\*
- Thyroid function tests (TFTs)
- Vitamin D

\*Insulin and glucose are used to calculate the Homeostatic Model Assessment Score (HOMA-IR or HOMA-B), which helps to ascertain insulin resistance and long-term risk of type 2 diabetes.

\*\*An ultrasound scan of the abdomen should be arranged if LFTs are abnormal.

## 13. Step 5 – Referrals

### Universal services (Tier 1) – prevention

These include Health Visitors, School Nurses, GP, and Early Help Services.

### Community services (Tier 2) – lifestyle management

#### Child Weight Management Service – Healthy Living Practitioner

- Age 5-17 years, BMI on or above 95<sup>th</sup> centile
- Home/GP/school in Camden <https://gps.northcentrallondon.icb.nhs.uk/services/child-weight-management>
- Home/GP/school in Islington <https://gps.northcentrallondon.icb.nhs.uk/services/healthy-living-service-islington>

#### Brandon Centre – Families, Food and Feelings Parent Programme

- For parents or carers of CYP aged 5-17 years who are above a healthy weight

- Home/GP in Camden or Islington
- <https://brandon-centre.org.uk/services/families-food-and-feelings-parent-programme>

#### Families for Life – Healthy Lifestyles Programme

- Age 2-11 years, home/GP/school in Islington
- <https://findyour.islington.gov.uk/kb5/islington/directory/service.page?id=ZMmPrtiVHmc>

#### Xplore Lifestyle Weight Management Programme

- Age 4-13 years, BMI above 91<sup>st</sup> centile, no comorbidities or additional psychological/psychiatric/behavioural needs
- Home/GP/school in Barnet
- <https://gps.northcentrallondon.icb.nhs.uk/services/xplore-child-weight-management>

#### **Specialist services (Tier 3) – multi-disciplinary weight management**

Please note the CYP's home/GP address and borough in relation to the referral unit's catchment area prior to referral.

#### Consultant Paediatricians with special interest in Endocrine and Diabetes at Royal Free Hospital – Dr Nirit Braha and Dr Victoria Dublon

- Suspected endocrine cause of obesity, such as but not limited to:
  - Insulin resistance (high HOMA-IR or low HOMA-B)
  - Type 2 diabetes
  - Cushingoid features (needing a dexamethasone suppression test)
  - Abnormal TFTs
  - Polycystic ovary syndrome
- To investigate for medical complications of obesity

#### Familial hypercholesterolaemia (FH) clinic at Royal Free Hospital

- FH detected on genetic screening
- Fasting LDL cholesterol > 3mmol

#### Consultant Paediatrician with special interest in Diabetes and Obesity at University College London Hospital (UCLH) – Dr Billy White

- Medical complications of obesity requiring medical management, such as but not limited to:
  - Abnormal LFTs
  - Idiopathic/benign intracranial hypertension
  - Other medical symptoms relating to obesity

#### London Complications of Excess Weight (CEW) clinic at Great Ormond Street Hospital (GOSH) in collaboration with UCLH

- Morbid obesity (BMI Z score > 3.33) and family wants help to change
- Obesity (BMI on or above 98<sup>th</sup> centile) and significant obesity-related medical comorbidity which would benefit from weight loss (eg. Type 2 diabetes, obstructive sleep apnoea, NAFLD with fibrosis, benign intracranial hypertension, physical immobility) that has not responded to treatment with specialist team and family wants help to change

Details available on [https://www.gosh.nhs.uk/wards-and-departments/departments/clinical-specialties/complications-from-excess-weight-clinic-cew/#:~:text=The%20clinic%20is%20run%20by,Excess%20Weight%20\(CEW\)%20Clinic.](https://www.gosh.nhs.uk/wards-and-departments/departments/clinical-specialties/complications-from-excess-weight-clinic-cew/#:~:text=The%20clinic%20is%20run%20by,Excess%20Weight%20(CEW)%20Clinic.)

## Audit/Monitoring

Element to be audited/ monitored	Lead	Tool	Frequency	Reporting arrangements	Acting on recommendations and Lead(s)	Change in practice and lessons to be shared

## References

1. Royal College of Paediatrics and Child Health (2020) *State of Child Health: Healthy Weight*. Available at <https://stateofchildhealth.rcpch.ac.uk/evidence/prevention-of-ill-health/healthy-weight/#page-section-4> (Accessed: 1 August 2023).
2. Sheffield Children's NHS Foundation Trust (2021) *Clinical Guideline for the Management of Children and Young People who are Overweight or Obese*. Available at: [https://www.sheffieldchildrens.nhs.uk/download/628/medicine/9844/1844\\_obesity\\_guideline.pdf](https://www.sheffieldchildrens.nhs.uk/download/628/medicine/9844/1844_obesity_guideline.pdf) (Accessed: 1 August 2023).
3. Haringey London (2022) *Healthy Weight Strategy 2022-2025*. Available at: [https://www.haringey.gov.uk/sites/haringeygovuk/files/haringey\\_healthy\\_weight\\_strategy\\_2022-25.pdf](https://www.haringey.gov.uk/sites/haringeygovuk/files/haringey_healthy_weight_strategy_2022-25.pdf) (Accessed: 1 August 2023).

### Other resources:

- Wright, N. and Wales, J (2016) 'Assessment and Management of Severely Obese Children and Adolescents', *Archives of Disease in Childhood*, 101, pp. 1161-1167. Available at: <https://adc.bmj.com/content/archdischild/101/12/1161.full.pdf> (Accessed: 1 August 2023).
- British Medical Journal (2018) *BMJ Best Practice: Obesity in Children*. Available at: <https://www.transformationpartnersinhealthandcare.nhs.uk/wp-content/uploads/2018/04/Obesity-in-Children-BMJ-best-practice.pdf> (Accessed: 1 August 2023).
- National Institute of Health and Care Excellence (2013) *Weight management: lifestyle services for overweight or obese children and young people*. Available at: <https://www.nice.org.uk/guidance/ph47/resources/weight-management-lifestyle-services-for-overweight-or-obese-children-and-young-people-pdf-1996362978757> (Accessed: 1 August 2023).
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- Royal College of Paediatrics and Child Health. *Key topics: Nutrition and Obesity*. Available at: <https://www.rcpch.ac.uk/key-topics/nutrition-obesity> (Accessed: 1 August 2023).
- Public Health England (2017) *Let's Talk about Weight: A step-by-step guide to conversations about weight management with children and families for health and care professionals*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/649095/child\\_weight\\_management\\_lets\\_talk\\_about\\_weight.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/649095/child_weight_management_lets_talk_about_weight.pdf) (Accessed: 1 August 2023).
- HM Government (2016) *Childhood Obesity: A Plan for Action*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/546588/Childhood\\_obesity\\_2016\\_2\\_acc.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/546588/Childhood_obesity_2016_2_acc.pdf) (Accessed: 1 August 2023).

## Appendix 1: RFL NHS Foundation Trust Equality and Human Rights Analysis

<b>Name of the policy / function / service development being assessed</b>		
<b>Division and department</b>		
<b>Details of the person responsible for the EHRA</b>	<b>Name:</b> <b>Job Title:</b> <b>Contact Details:</b>	
<b>What are the main aims and objectives of the policy/ document/ project/ programme?</b>		
<b>Does the document include the equality statement?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If no, do not proceed with Equality Analysis until complete	
<b>5. Engagement and involvement</b> Who have you consulted with as part of this EA? E.g. Staff Networks, Trades Unions, patients, carers, families, advocacy groups, staff etc.		

6.	<p><b>a) Impact</b>  <b>Is the policy, project or programme likely to have a differential impact on any of the protected characteristics? If so, is this impact likely to be positive or negative?</b></p> <p><b>Consider:</b>  How does the policy, project or programme help us meet our public sector duty of:</p> <ul style="list-style-type: none"> <li>• Eliminating Unlawful discrimination</li> <li>• Advancing Equality of Opportunity</li> <li>• Promoting good relations between groups</li> </ul> <p>Does the policy exclude individuals with a protected characteristic e.g. females, older people etc?  What does existing evidence show? E.g. consultation from different groups, demographic data, questionnaires, equality monitoring data, analysis of complaints etc.  For internal policies, projects, or programmes, you need consider impacts on staff from all protected characteristics.  For policies, projects and programmes based on services, you should consider others affected by the proposals such as those accessing the service, taking into consideration the nine protected characteristics and human rights.</p> <p>Please use, the factsheet, the top tips and things to think about when conducting an equality analysis</p>	<p><b>b) Mitigation</b>  <b>Can any potential negative impact be justified? If not, how will you mitigate, reduce or remove any negative impacts?</b></p> <p>Think about reasonable adjustments  Consider positive action  Consider how you would measure and monitor the impact going forward e.g. equality monitoring data, analysis of complaints.</p>
Equality Group:	Impact:	Mitigation:
Age		
Carers / People with caring responsibilities		
Disability		

<b>Race / Ethnicity</b>		
<b>Gender</b>		
<b>Gender Reassignment</b>		
<b>Marriage &amp; Civil Partnership</b>		
<b>Pregnancy &amp; Maternity</b>		
<b>Religion &amp; Belief</b>		
<b>Sexual Orientation</b>		
<b>General Comments across all equality strands</b>		

If the policy, project or programme changes the way that we deliver our services, please complete section 7 - Human Rights duties assessment. You do not need to complete this section if the policy or document is internal-facing, e.g. a People policy – you can skip to section 8 – Action Planning.

8. Action Planning – this should be completed whenever a differential equality impact or human rights impact has been identified			
Action	Action Owner	Timescales	Date completed

9. EA – internal assurance	If your Analysis relates to staff along with policy, project or programme document should be sent to: Yemesi Osibote, Head of Workforce, Staff Experience <a href="mailto:Yemisi.osibote@nhs.net">Yemisi.osibote@nhs.net</a>		
	All other Equality Analysis along with policy, project or programme document should be sent to: Kulvinder Hira, Equality and Diversity Manager (Patients and Carers) <a href="mailto:Kulvinder.hira1@nhs.net">Kulvinder.hira1@nhs.net</a>		

10. Sign off and publish	Governing committee	See Validation Grid
	Date of approval	See Validation Grid
	Date of publish	See Validation Grid
	Date of review (if relevant)	See Validation Grid

Note that after sign off, EAs will be published on Freenet or internet so should be written with that in mind, for example in relation to person identifiable information.