Childhood Obesity

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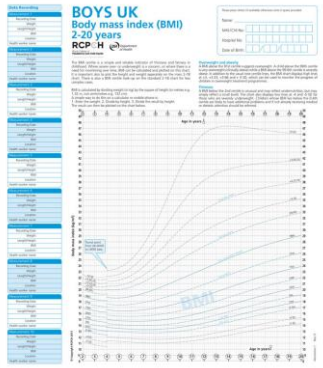
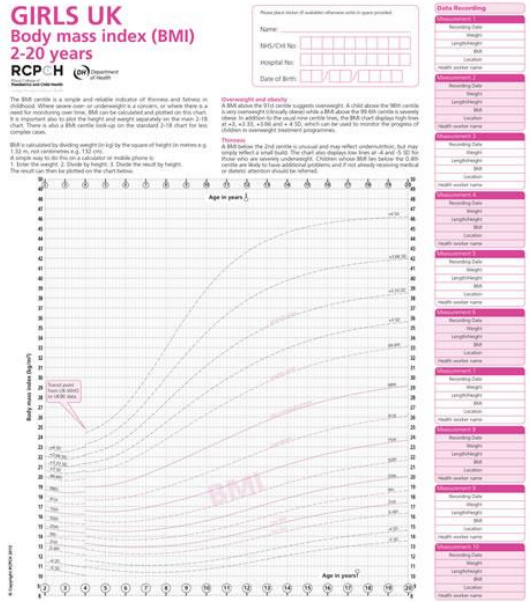
(Obesity and Eating Disorders)

Definitions





- Based on BMI – normal values vary with age:
  - Underweight: BMI < 5th centile
  - Overweight: BMI 91st-98th centile
  - Obese: BMI > 98th centile
  - Severe obesity: BMI > 99.6th centile

*Growth Charts UK-WHO App

Context

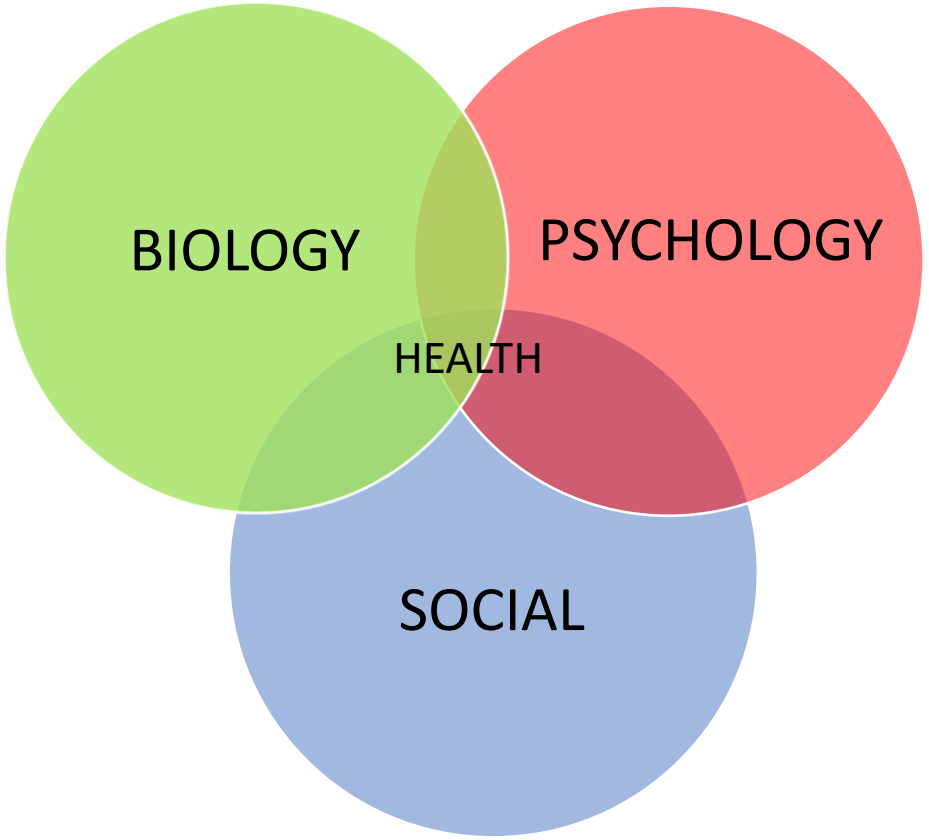
- 2.5 million children in England are affected by excess weight or obesity

CYP Classification	Overweight or Obese	Obese	Severe obesity
BMI percentile	> 85th	> 95th	> 99.6th
Number of children in reception	135,020 (22.6%) Ldn (21.8%)	57,869 (9.7%) Ldn (10.2%)	14,495 (2.4%) Ldn (2.9%)
Number of children in year 6	205,923 (34.2%) Ldn (37.9%)	121,409 (20.2%) Ldn (23.2%)	26,158 (4.4%) Ldn (5.4%)

2018-2019 NCMP data

A biopsychosocial model of obesity

GENDER
PHYSICAL ILLNESS
DISABILITY
GENETIC VULNERABILITY
APPETITE CONTROL SYSTEM
STRESS REACTIVITY
MEDICATION RESPONSE



LEARNING/MEMORY
ATTITUDES/BELIEFS
MENTAL HEALTH PROBLEMS
BODY DISSATISFACTION
PERSONALITY
BEHAVIOURS
EMOTIONAL COPING SKILLS
PAST TRAUMA
SENSITIVITY TO INTERNAL FEELINGS OF FULLNESS

SOCIAL SUPPORTS FAMILY CONFLICT
CULTURE SOCIOECONOMIC STATUS
EDUCATION AVAILABILITY OF HEALTHY FOOD
WEIGHT STIGMA

Why worry?

- Obese children are 5x more likely to have obesity as adults
- Obese children are at increased risk of:
  - cardiovascular disease
  - Type 2 diabetes
  - fatty liver disease
  - sleep apnoea
  - musculoskeletal problems
  - mental health conditions
  - increased risk of developing cancer as an adult.
- Estimated NHS cost from obesity of £9.7 billion by 2050

What can you do in primary care?

- Identification
- Education
- Signposting to support
- Referral
- Commissioning

Where to start?
IDENTIFY

- Difficult to detect obesity visually, so need to have low threshold to measure weight and height – be opportunistic!
- Calculate BMI and plot centiles (or use app)
- Consider obesity in children with:
  - Obese parents or siblings
  - Headache (hypertension or IIH)
  - Tiredness or snoring (OSA)
  - Joint pain (esp in lower limbs)
  - Polyuria/polydipsia (diabetes)
  - Irregular periods/hirsutism (PCOS)

How to broach the subject?

- Delicate subject + Parents get defensive
- Link to presenting complaint
- Be objective, sensitive and non-judgemental
- Refer to weight in terms of health effects, avoiding terms like “fat”
- Refer to increased childhood obesity (esp with lockdown)
- Advise on efficacy of early intervention

Next: History and Examination

History:

Birth history and early growth

Dietary history (inc drinks)

Exercise/activity history (inc screen time)

Eating patterns (eats all the time/when bored or sad/binges)

Examination:

BP

Acanthosis nigricans

Tonsils (if ?OSA)

Investigations

- **Bloods:**
  - TFTs
  - LFTs
  - Blood glucose/HbA1c
  - Fasting lipids
- **Other:**
  - Sleep study
  - Liver ultrasound
  - Genetics

Management: **Education**

Understanding is essential for long term compliance

Balance of energy:

Energy in – Energy out

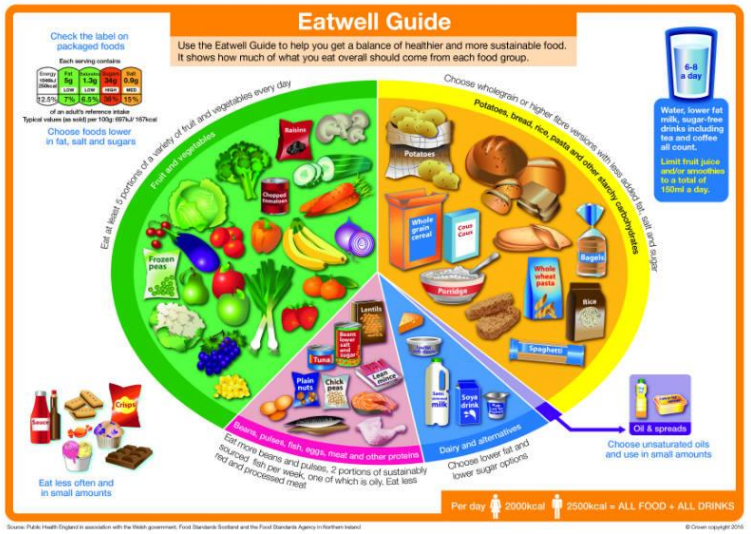
Analogy of saving extra money in the bank

Eating behaviours

Lifestyle Modifications

https://www.nhs.uk/live-well/healthy-weight/very-overweight-children-advice-for-parents/

- These should be personalised and adopted by the whole family
- Dietary
  - Healthy meals (more vegetables, less sugary/fatty foods)
  - Drinks (less sugary drinks including fruit juices)
  - Portion sizes (Eatwell Guide)
- Exercise
  - 60-180 mins a day of moderate physical activity
  - Reduce non-educational screen time
- Sleep
  - Ensure adequate, quality sleep



Medications

- Not generally commenced in primary care
- Orlistat and Metformin – poor tolerance and compliance

Other support

- Referral/signposting to local services:
  - Counselling
  - Health visitors and school nurses
  - Healthy eating/cooking groups
  - Exercise/sports groups or clubs
  - Youth centres
  - Parenting courses/groups
  - Local community weight management services

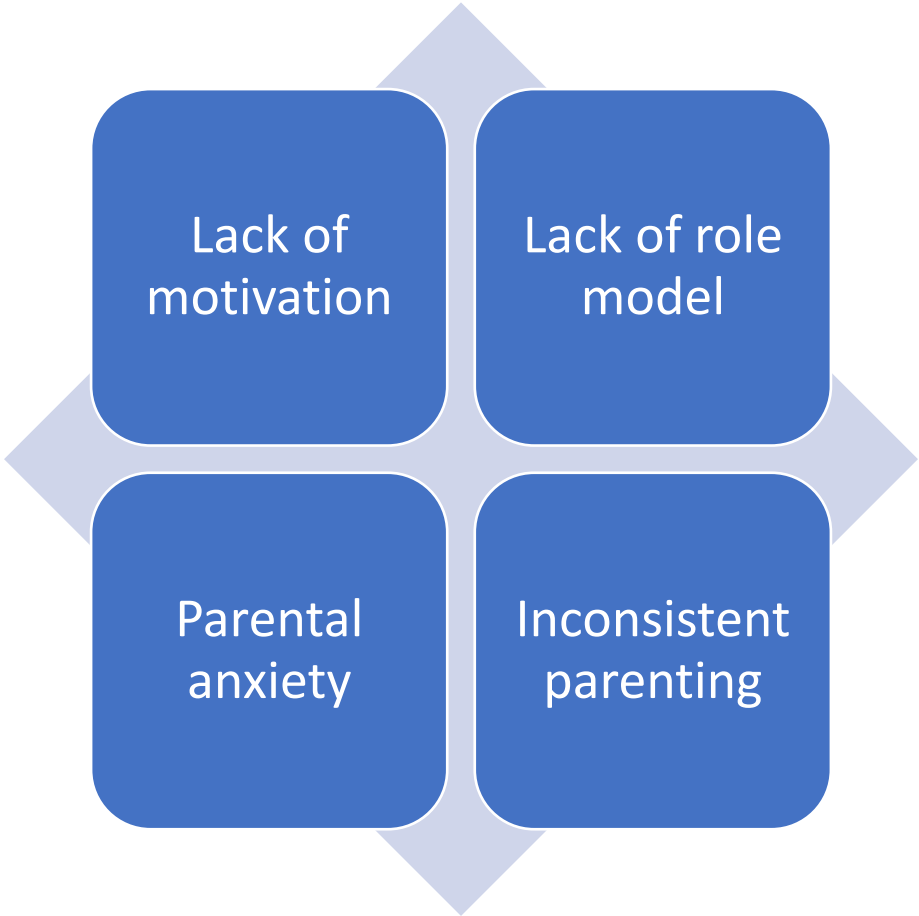
Monitoring

REGULAR MONITORING OF WEIGHT

Aim for weight maintenance or weight loss of up to 0.5-1 kg/month (<12) or up to 2-3 kg/month (>12)

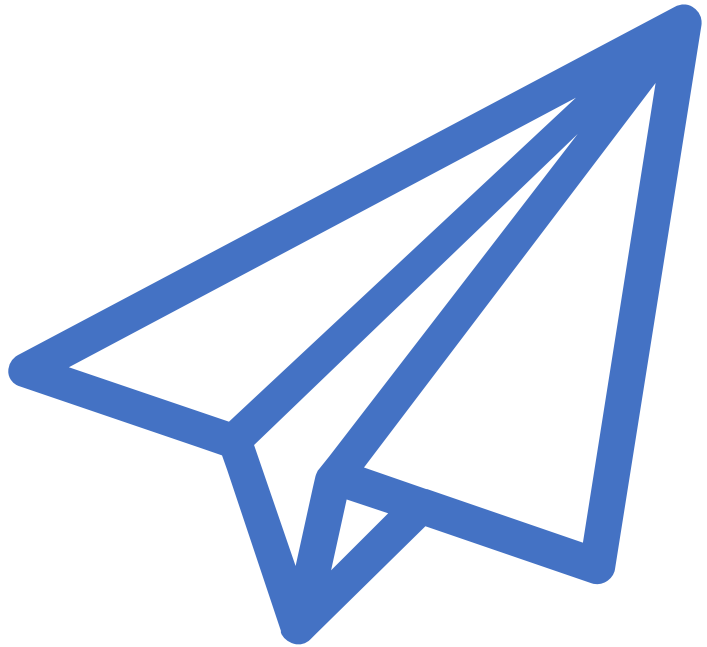
KEEPING DIARY OF DIET AND ACTIVITIES

Pitfalls


Lack of motivation
Lack of role model
Parental anxiety
Inconsistent parenting

When to refer?

- Dietetic input
- Tertiary:
  - BMI >99.6th centile
  - Co-morbidities (OSA, fatty liver, etc)
- New CEW Clinics:
  - Morbid obesity with complications
- Bariatric Surgery:
  - As above AND >13 yrs/post-pubertal
  - BMI >40 kg/m2 OR BMI >35 kg/m2 with comorbidities
  - Able to understand procedure and follow guidance



Summary

- Childhood obesity is easily overlooked
- Early intervention prevents co-morbidities
- Education is essential
- Lifestyle modifications can be effective with support

Appendices:

- How to discuss obesity with parents/patients
- Common discussion topics around obesity:
  - Balance of energy
  - Energy efficiency (i.e. Basal Metabolic Rate)
  - Reasons for eating
  - Motivation
- Resources

How to discuss obesity with parents/patients

- Be objective, sensitive and non-judgemental about the topic and ideally start with the measurements so you have objective evidence to back up the discussion, without commenting on how the child looks – this is about health, not being “fat”.
- Link the concerns around obesity to health issues or symptoms that the child may have can help to broach the subject so that rather than focusing on the obesity, you focus on the complications and what can be done about it.
- I try to ensure that I am not implying blame on the cause of the obesity but at the same time, try to get parents (and the young person if appropriately aged) to think about reasons or factors that may have contributed to the weight gain/obesity. This should be done in a way that once again focuses on wanting to help find a way to overcome the issues leading to the weight gain, rather than being punitive about it.
- It can help to state that childhood obesity is very common now and that the child is not alone in facing this problem and that intervention now can prevent long term complications that may be more irreversible if tackled in adulthood.

Balance of energy

- We gain or lose weight as a result of whether our body has more energy/calories going in or going out. The body gets energy/calories from what we eat and drink and it uses energy/calories when the heart beats as well as all our other bodily functions and when we carry out any physical activities.
- If there is leftover energy after all the energy expenditure, the excess energy is stored – a bit like how we save our money in the bank after we have spent what is required from our earnings (we wouldn't just throw that extra money away). If there is a lot of excess energy every day, the body will keep storing this, a proportion of which will be as fat, and we gain weight (similar to having a large bank balance when you have been saving regularly).
- To lose weight, we need to have a negative balance of energy so that the body has to "withdraw from its savings/bank" and break down the stored energy to be used. It's important to be aware that each person's energy requirements can differ, which brings us to the next topic.

Energy efficiency (i.e. Basal Metabolic Rate)

- Each person's body uses energy at different rates, a little bit like how a hybrid car is more fuel efficient than a traditional 4-wheel drive. This explains how 2 similar people eating the same types and amounts of food, can have different weight change to each other, as the person who is more energy efficient (i.e. their body doesn't require as much energy to function) will tend to have more unused energy compared to the other, and so will be more likely to gain weight.
- Following our car analogy, if you filled the same amount of fuel in 2 cars and drove them both until one ran out, then filled them with the same amount of fuel again and kept repeating this, eventually, the more fuel-efficient car will have too much fuel and will have to store the extra fuel in fuel cans stored in the boot, which will eventually build up over time, just like extra weight.
- We therefore have to tailor our lifestyle (what and how much we eat and exercise) according to our individual body's needs.

Reasons for eating

- We eat for many different reasons – usually because we need nutrition when we're hungry but nowadays, we sometimes eat when we are not hungry but when we're bored or feeling down or just because the food tastes yummy!
- When trying to manage weight, we need to start recognising when we're hungry so that we try not to eat for the other reasons. One effective strategy is, when we are thinking of eating something, e.g. biscuits, we ask ourselves if we would eat carrots or cucumbers instead. If the answer is, "No," then we aren't really hungry and probably don't really need to eat at that moment in time. If the answer is, "Yes," then we should eat carrots or cucumbers instead of biscuits.
- The same principle applies to mealtimes, in that after finishing our appropriately portioned meal, if we are still feeling hungry, we should ask ourselves if we would eat the vegetable portion of the meal only – if the answer is "No," then we aren't really hungry and shouldn't really eat anymore.
- Other strategies at main meals is to drink a glass of water after finishing our meal or taking a break of at least 5-10 minutes to allow time for the food to settle in our stomach and for the signals from the stomach to reach the brain to tell us that we are full.

Motivation

- In adolescents, lack of motivation is a common cause of poor compliance and it can be helpful to get the young person to write down the reasons they want to get their weight under control, and to make copies of this list and place them in strategic areas such as on the fridge or snack cupboard or on the games console or tablet, to remind them of the reasons they are trying to stick to the weight management plan.
- Try to help make change as easy as possible – making small changes to start with; choosing physical activities that the young person enjoys; focusing on achievable goals that help move towards a healthier lifestyle (instead of solely focusing on weight loss)
- Explore if there are any barriers to change and how these can be overcome – e.g. family conflict (“mum keeps nagging me!”); mental health difficulties; not knowing what local services/facilities are available, etc.

Some Online Resources

- Change4Life/Healthier Families
  https://www.nhs.uk/healthier-families/
- NHS.uk – What can I do if my child is overweight?
  https://www.nhs.uk/live-well/healthy-weight/childrens-weight/very-overweight-children-advice-for-parents/
- Caroline Walker Trust resources on portion sizes
  https://www.cwt.org.uk/publications/
- PHE Guidance on talking to parents
  https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/788813/NCMP_Conversation_framework_for_talking_to_parents.pdf
- GSTT Charity guidance
  https://urbanhealth.org.uk/our-work/childhood-obesity/framing-toolkit-talking-about-childhood-obesity