

GIRLS UK

Body mass index (BMI)

2-20 years

RCPCH (DH) Department of Health
Royal College of Paediatrics and Child Health
Leading the way in Children's Health

The BMI centile is a simple and reliable indicator of thinness and fatness in childhood. Where severe over- or underweight is a concern, or where there is a need for monitoring over time, BMI can be calculated and plotted on this chart. It is important also to plot the height and weight separately on the main 2-18 chart. There is also a BMI centile look-up on the standard 2-18 chart for less complex cases.

BMI is calculated by dividing weight (in kg) by the square of height (in metres e.g. 1.32 m, not centimetres e.g. 132 cm).

A simple way to do this on a calculator or mobile phone is:

1. Enter the weight. 2. Divide by height. 3. Divide the result by height. The result can then be plotted on the chart below.

Please place sticker (if available) otherwise write in space provided.

Name: _____

NHS/CHI No: _____

Hospital No: _____

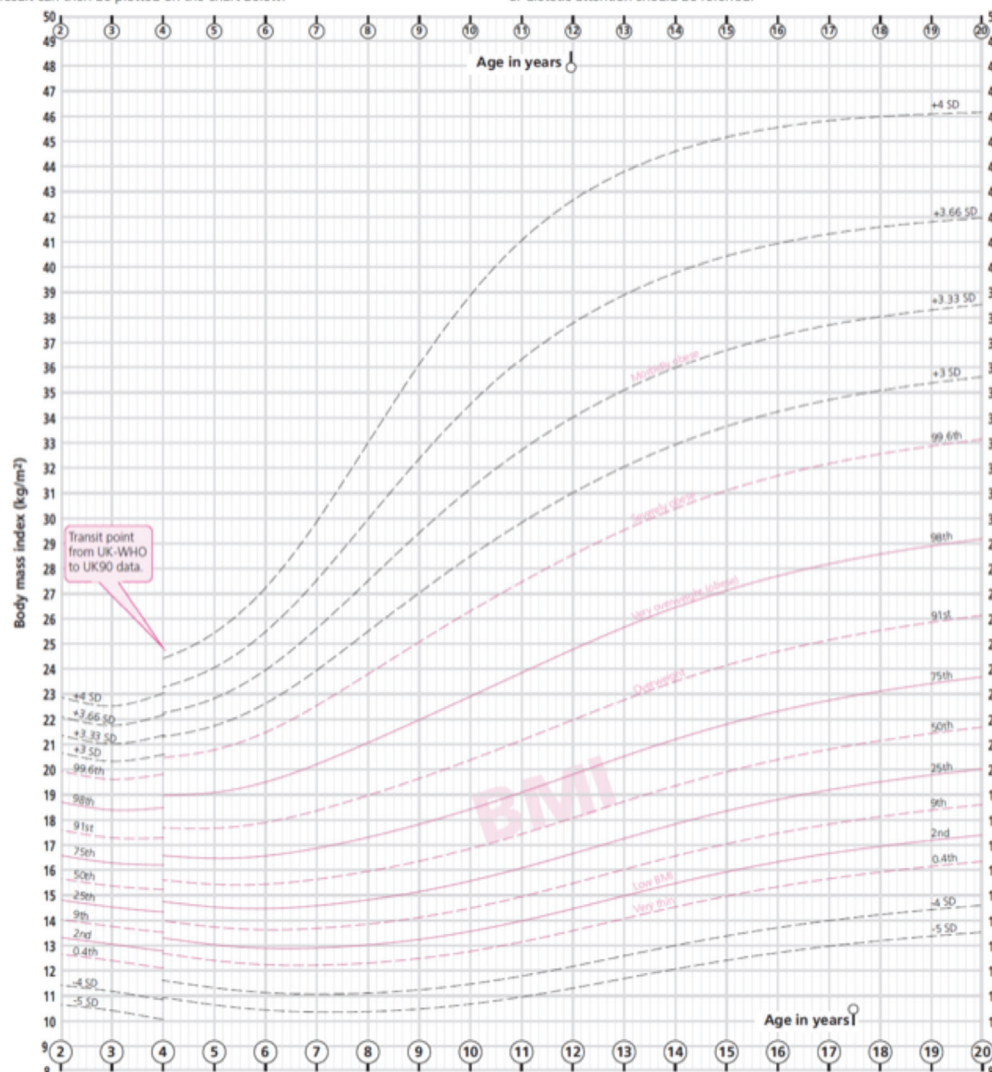
Date of Birth: ____/____/____

Overweight and obesity

A BMI above the 91st centile suggests overweight. A child above the 98th centile is very overweight (clinically obese) while a BMI above the 99.6th centile is severely obese. In addition to the usual nine centile lines, the BMI chart displays high lines at +3, +3.33, +3.66 and +4 SD, which can be used to monitor the progress of children in overweight treatment programmes.

Thinness

A BMI below the 2nd centile is unusual and may reflect undernutrition, but may simply reflect a small build. The chart also displays low lines at -4 and -5 SD for those who are severely underweight. Children whose BMI lies below the 0.4th centile are likely to have additional problems and if not already receiving medical or dietetic attention should be referred.



Data Recording

Measurement 1

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 2

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 3

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 4

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 5

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 6

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 7

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 8

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 9

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Measurement 10

Recording Date _____
Weight _____
Length/Height _____
BMI _____
Location _____
Health worker name _____

Data Recording

Measurement 1	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 2	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 3	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 4	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 5	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 6	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 7	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 8	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 9	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

Measurement 10	
Recording Date	
Weight	
Length/Height	
BMI	
Location	
Health worker name	

BOYS UK Body mass index (BMI) 2-20 years

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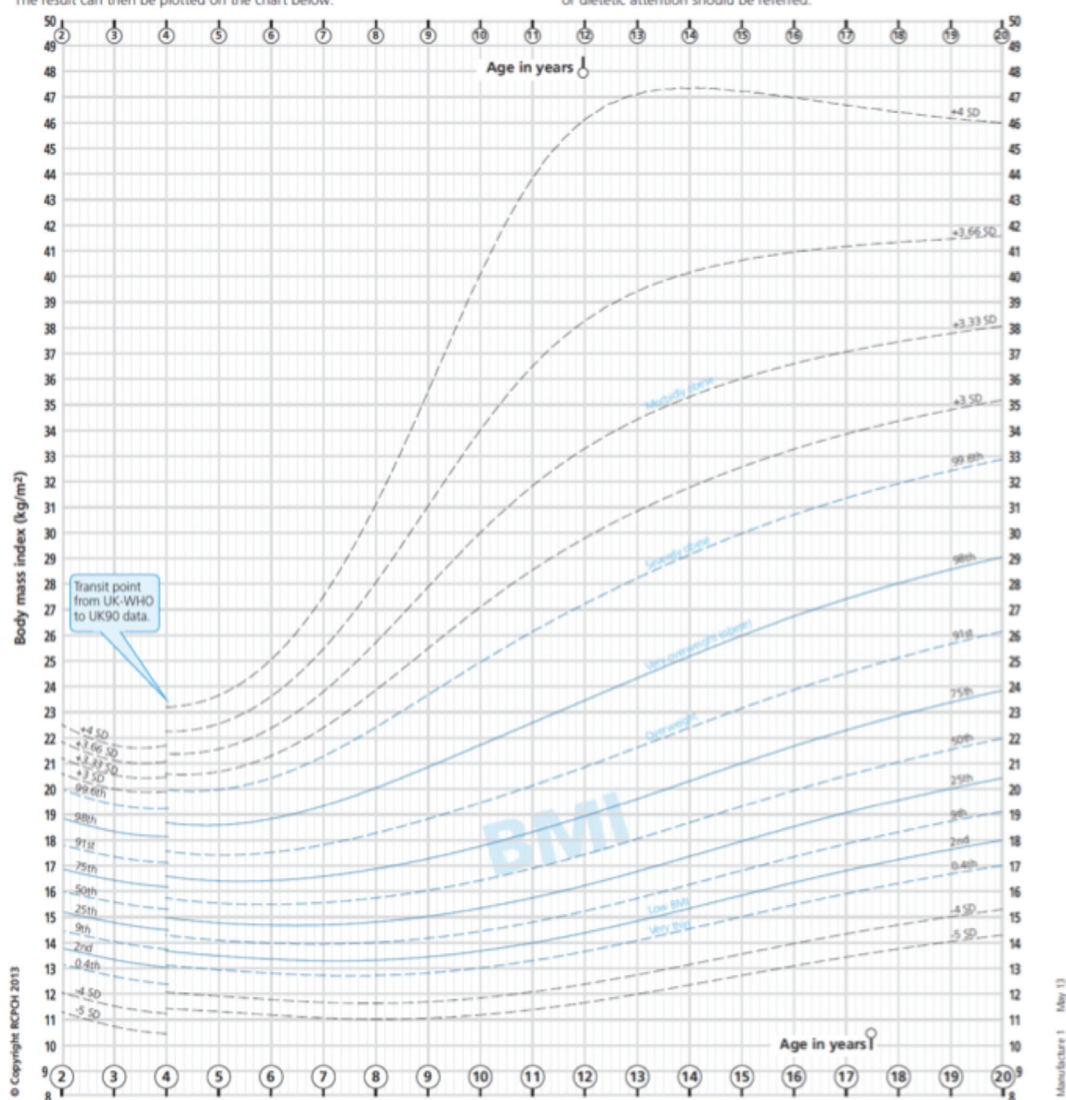
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APPENDIX 2. Tips on lifestyle modification to promote healthy weight

General
Evaluate general comorbidities, including (but not limited to) cardiovascular disease in parents
For school-aged children, consider barriers (e.g., social support, unsafe neighbourhoods or lack of school-based PE) and investigate child-centred solutions.
Use NHS resources (see Appendix 4)
Nutrition
Respect a child's appetite and natural satiety. Children should not be put on a "diet," unless under medical advisement. Food should not be in the context of reward or punishment.
Provide education to caregivers on the significance of age-specific and suitable meals/snacks, regular family mealtimes, appropriate serving sizes (not packaging portion suggestions), reading nutritional labels, daily activity. . Caregivers can be role models for both healthy eating and activity.
Structure healthy eating with a supervising adult; encourage eating together as a family
Encourage eating breakfast daily.
Starting at 2 years of age, promote replacing whole milk with skimmed, where appropriate ²
Promote a diet that includes fruits and vegetables; offer children healthy snack choices, such as fresh fruits and cut-up veg
Encourage the avoidance of high calorie, nutrient-poor beverages (e.g., cola) However, limit intake of 100% juice to <6oz per day and substitute pieces of whole fruit
Minimize the number of meals and portion sizes of food eaten outside the home, especially fast foods.
Physical Activity
Encourage physical activity at home, at day care, and in the community, "including unstructured play."
Accumulate a minimum of 60 minutes (up to several hours) on most days of the week, of age-appropriate physical activity (emphasizing lifestyle exercise, e.g., outdoor play, gardening, household tasks)
Plan family activities that involve exercise, such as hiking, cycling, washing the car, or walking around a shopping centre. Offering choices and letting children have a say in the decision may get more buy-in. Leave the car at home. Walk or cycle whenever possible
Sedentary Activity
No television or computer screens in bedroom; limit TV and computer screen time to 1–2 hours per day and not within 90 minutes of bedtime; the less the better. Gradually reduce screen time (e.g., television, computers, video games) and replace with active play time (e.g., family walk after dinner).

Sources:

- 1) Prevention and identification of childhood overweight and obesity. Southfield, MI. Michigan Quality Improvement Consortium; 2012. Summarised in Guideline Summary NGC-9446 www.hhs.gov.
- 2) Eating Well with Canada's Food Guide. Health Canada. 2011. <http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/order-commander/index-eng.php#a1>
- 3) Canadian Physical Activity Guidelines. Canadian Sedentary Behaviour Guidelines. *Your Plan to Get Active Every Day*. Canadian Society for Exercise Physiology (CSEP); 2012 http://www.csep.ca/CMFiles/Guidelines/CSEP_Guidelines_Handbook.pdf
- 4) Bradford NF. Overweight and obesity in children and adolescents. *Primary care*. 2009;36:319-39. PMID:19501246.
- 5) Children and type 2 diabetes. *Canadian Diabetes Association*; 2012 <http://www.diabetes.ca/diabetes-and-you/youth/type2/>



APPENDIX 3. Sample Log- Early Years: Your Plan to Get Active Every Day

Your Plan to Get Active Every Day is a helpful guide containing tools for getting more active. Blank log sheets (sample below) to help with recording/tracking daily activity are also available for different age groups (e.g., early years, ages 5-17) Available free at www.csep.ca/guidelines

Name

Blank Log 1: Early Years

Log #1 is for the Early Years and lists activity examples you and your infant, toddler or preschooler could be doing everyday to be physically active. Try to check as many boxes as you can every day!

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
INFANT 0-6 MONTHS	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Tummy time <input type="checkbox"/> Interactive play <input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Rolling <input type="checkbox"/> Going outdoors
INFANT 6-12 MONTHS	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors	<input type="checkbox"/> Reaching <input type="checkbox"/> Grasping <input type="checkbox"/> Pushing/Pulling <input type="checkbox"/> Rolling <input type="checkbox"/> Crawling <input type="checkbox"/> Interactive play with others <input type="checkbox"/> Going outdoors
TODDLER 1-2 YEARS	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors	<input type="checkbox"/> Crawling <input type="checkbox"/> Walking <input type="checkbox"/> Running <input type="checkbox"/> Dancing <input type="checkbox"/> Climbing stairs <input type="checkbox"/> Playing outdoors
PRESCHOOLER 3-4 YEARS	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play	<input type="checkbox"/> Hopping/Skipping <input type="checkbox"/> Running <input type="checkbox"/> Jumping <input type="checkbox"/> Dancing <input type="checkbox"/> Bike riding <input type="checkbox"/> Playing outdoors & exploring <input type="checkbox"/> Playing with balls <input type="checkbox"/> Learning sports <input type="checkbox"/> 60 minutes of energetic play



APPENDIX 4. Online Resources For Health Professionals

RESOURCES FOR HEALTH PROFESSIONALS

BHF Physical Activity & Health Booklets

www.bhfactive.org.uk/young-people-resources-and-publications-results/39/index.html

A number of practical resources from British Heart Foundation Physical Activity & Health centre, available to order for free. The 'Pocket Planner' looks particularly good, providing a colourful record for children to log their activity, and a certificate to mark their achievement! http://www.bhfactive.org.uk/files/530/pocket_planner.pdf

Physical Activity Infographic Poster

www.paha.org.uk/File/Index/fda236ae-651d-40be-9c6c-a5c900aa6d27

Simple & colourful UK government poster promoting physical activity for children and young people aged 5-18 years.

Eatwell Guide Poster

www.gov.uk/government/uploads/system/uploads/attachment_data/file/508636/FINAL_Eatwell_guide_15_MARCH_2016.pdf

Traditional portion plate poster. Updated for 2016: now includes cous cous!

WEBSITES FOR PARENTS

Change4Life www.nhs.uk/change4life

Excellent website from NHS UK focussing on healthy lifestyles for families. Well-pitched and engaging. Sections include "Eat Well", "Get Going" and "Find Local Activities". Has several spin off resources including apps (see below).

Start4Life www.nhs.uk/start4life

In same series as Change4Life, focussing on babies. Great sections on dietary advice and encouraging activity.

Take Life On www.takelifeon.co.uk

Scotland-specific website with links to resources for healthy eating, activity suggestions and family ideas.

Eat Better Feel Better www.eatbetterfeelbetter.co.uk

Website from Healthier Scotland with numerous easy & affordable recipes. Lists current supermarket offers on fresh food.

APPS *All apps below are free and produced by the NHS.*



Change4Life Smart Recipes

Over 100 easy, recipes for parents who are short on time and ideas for what to cook for their family. Shopping list function allows parents keep track of the ingredients they need, and organises them by supermarket aisle.



Change4Life Sugar Smart

Barcode scanner allows families to see how much sugar is in a product. Also included are recommended maximum daily amounts and hints & tips on how to cut down on sugar.



Change4Life Fun Generator

Over 100 fun activities for kids to enjoy. Gives families inspiration for outdoor and indoor activities, arranged by how many kids are participating.



Change4Life Smart Restart

Ideal for parents looking to change the habits of their children, especially at the start of a new school term. Pick from 5 healthy changes, including "screen time switch" and "beat the treats".



NHS BMI healthy weight calculator and tracker

Handy BMI calculator for adults and children over 2 years old. Tracker function and multiple user profiles allow parents to view the weight and BMI of their family over time. Includes optional password protection to keep details secret!

