



General Medical Investigations in Childhood Obesity for Health Professionals



Investigations in Primary Care (NICE CG189)

Standard Investigation	Notes
Blood pressure	Using suitably-sized cuff and compared to age, height and sex adjusted reference.
Fasting lipids: total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein and triglycerides	Consider especially in those with a family history of cardiovascular disease.
Haemoglobin A1C	

National Institute for Health and Clinical Excellence (NICE) (2014) *Obesity: Identification, Assessment and Management of Overweight and Obesity in Children, Young People and Adults. Partial update of CG43. NICE Clinical Guidelines:* Available Online: <http://www.nice.org.uk/guidance/CG189>

For more information and access to resources, visit: <http://childhoodobesity.ie/>



General Medical Investigations in Childhood Obesity for Health Professionals



Investigations in Secondary Care (NICE CG189 & Viner 2012)

Standard Investigation	Notes
Blood pressure	Using suitably-sized cuff and compared to age, height and sex adjusted reference.
Fasting lipids: total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL) and triglycerides.	Consider especially in those with a family history of cardiovascular disease.
Fasting insulin and fasting glucose.	Consider these especially in patients with a family history of type 2 diabetes, acanthosis nigricans, or high-risk ethnic backgrounds.
Haemoglobin A1C	
Liver function tests (LFTs)	
Thyroid function tests: Thyroid-stimulating hormone (TSH) and free T4.	Consider for patients with short stature or evidence of endocrine disease.
DNA fluorescence in situ hybridization (DNA FISH) or DNA methylation test for Prader-Willi Syndrome.	Consider if child has small hands or feet , a voracious appetite or developmental delay.

National Institute for Health and Clinical Excellence (NICE) (2014) *Obesity: Identification, Assessment and Management of Overweight and Obesity in Children, Young People and Adults. Partial update of CG43. NICE Clinical Guidelines*: Available Online: <http://www.nice.org.uk/guidance/CG189>

Viner, Russell & White, Billy & Barrett, Timothy & Candy, David & Gibson, Penny & Gregory, John & Matyka, Krystyna & Ong, Kenneth & Roche, Edna & Rudolf, Mary & Shaikh, Guftar & Shield, Julian & Wales, Jerry. (2012). Assessment of childhood obesity in secondary care: OSCA consensus statement. Archives of disease in childhood. Education and practice edition. 97. 98-105. 10.1136/edpract-2011-301426.

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Additional Investigations in Secondary Care (NICE CG189 & Viner 2012)

Additional Investigations to be considered	Notes
25-hydroxyvitamin D levels	Children who are well above a healthy weight are more likely to be deficient in Vitamin D.
Iron studies	Some evidence that iron stores can be depleted due to the inflammatory process effecting absorption despite adequate intake.
Oral glucose tolerance test	If fasting glucose >5.6 mmol/L (>100.8 mg/dL) and/or fasting insulin >180 pmol/l (30mU/L) in the presence of acanthosis nigricans or if there are symptoms suggestive of diabetes.
Liver ultrasound: If liver function tests (LFTs) are raised (greater than 2-3 times the upper limit).	To exclude other causes of raised LFTs (discussed later in the module).
Testosterone and sex hormone binding globulin (SHBG thyroid function tests (TFTs), prolactin and 170 Hydroxyprogesterone (170HP).	If there are concerns of possible polycystic ovary syndrome (e.g. in females with menstrual disturbance, acne, and/or hirsutism).
Hip X-ray (Anteroposterior and frog lateral pelvis x-rays of both hips.	If there are concerns of slipped upper femoral epiphysis (see Orthopaedic Module). In an unstable, acute SUFE*, a frog lateral view is not obtained preoperatively in order to avoid pain and because of the potential for displacement of the SUFE. A cross-table lateral x-ray, however, can be ordered.
Referral to a paediatric sleep unit in tertiary hospital for polysomnography	If obstructive sleep apnoea is suspected (see Sleep section in Advanced Module 3).

*Also known as Slipped Capital Femoral Epiphysis (SCFE)

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