1 The Disease of Obesity

References

Abbreviations

GERD - Gastroesophageal reflux disease

HTN - hypertension

MASLD - Metabolic dysfunction-associated steatotic liver disease

OMA - Obesity Medicine Association

PCP - primary care provider

References

* *Kyle TK, Dhurandhar EJ, Allison DB. Regarding Obesity as a Disease: Evolving Policies and Their Implications. Endocrinol Metab Clin North Am. 2016;45(3):511-520. doi:10.1016/j.ecl.2016.04.004*

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Cuda S, Censani M, O'Hara V, et al. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2024;11:100113. Published 2024 May 23. doi:10.1016/j.obpill.2024.100113

Srivastava G, Browne N, Kyle TK, et al. Caring for US Children: Barriers to Effective Treatment in Children with the Disease of Obesity. Obesity (Silver Spring). 2021;29(1):46-55. doi:10.1002/oby.22987

Krist AH, Davidson KW, Silverstein M. A National Call to Action for a Feasible Equitable Approach to Childhood Obesity. Pediatrics. 2021;148(1):e2021051052. doi:10.1542/peds.2021-051052

Chetty AK, Chen AS, Hajduk AM, Sharifi M, Nugent JT. Proportion of Obesity-Related Conditions Attributable to Obesity and Overweight in US Youth. JAMA Pediatr. 2025;179(10):1123–1126. doi:10.1001/jamapediatrics.2025.2716

** - Foundational publication*

2

Physiology and Pathophysiology of Energy Regulation

References

Abbreviations

AgRP - Agouti-related protein

AR - adiposity rebound

BDNF - Brain-derived neurotrophic factor

CART - cocaine- and amphetamine-regulated transcript

CCK - Cholecystokinin

CNS - central nervous system

GI - gastrointestinal

GLP-1 - Glucagon-like peptide-1

MCH - Melanin-concentrating hormone

MC3R - Melanocortin-3 receptor

MC4R - Melanocortin-4 receptor

NPY - neuropeptide Y

POMC - Pro-opiomelanocortin

PYY - peptide YY

SDoH - social determinants of health

References

Jais A, Brüning JC. Arcuate Nucleus-Dependent Regulation of Metabolism-Pathways to Obesity and Diabetes Mellitus. Endocr Rev. 2022;43(2):314-328. doi:10.1210/endrev/bnab025

Patel M, Braun J, Lambert G, Kameneva T, Keatch C, Lambert E. Central mechanisms in sympathetic nervous dysregulation in obesity. J Neurophysiol. 2023;130(6):1414-1424. doi:10.1152/jn.00254.2023

Scheja L, Heeren J. The endocrine function of adipose tissues in health and cardiometabolic disease. Nat Rev Endocrinol. 2019;15(9):507-524. doi:10.1038/s41574-019-0230-6

Managing Pediatric Obesity Using Advanced Therapies: Practical Guide for Pediatric Health Care Providers., Ed: Claudia Fox. 2024. Springer. doi.org/10.1007/978-3-031-37380-0

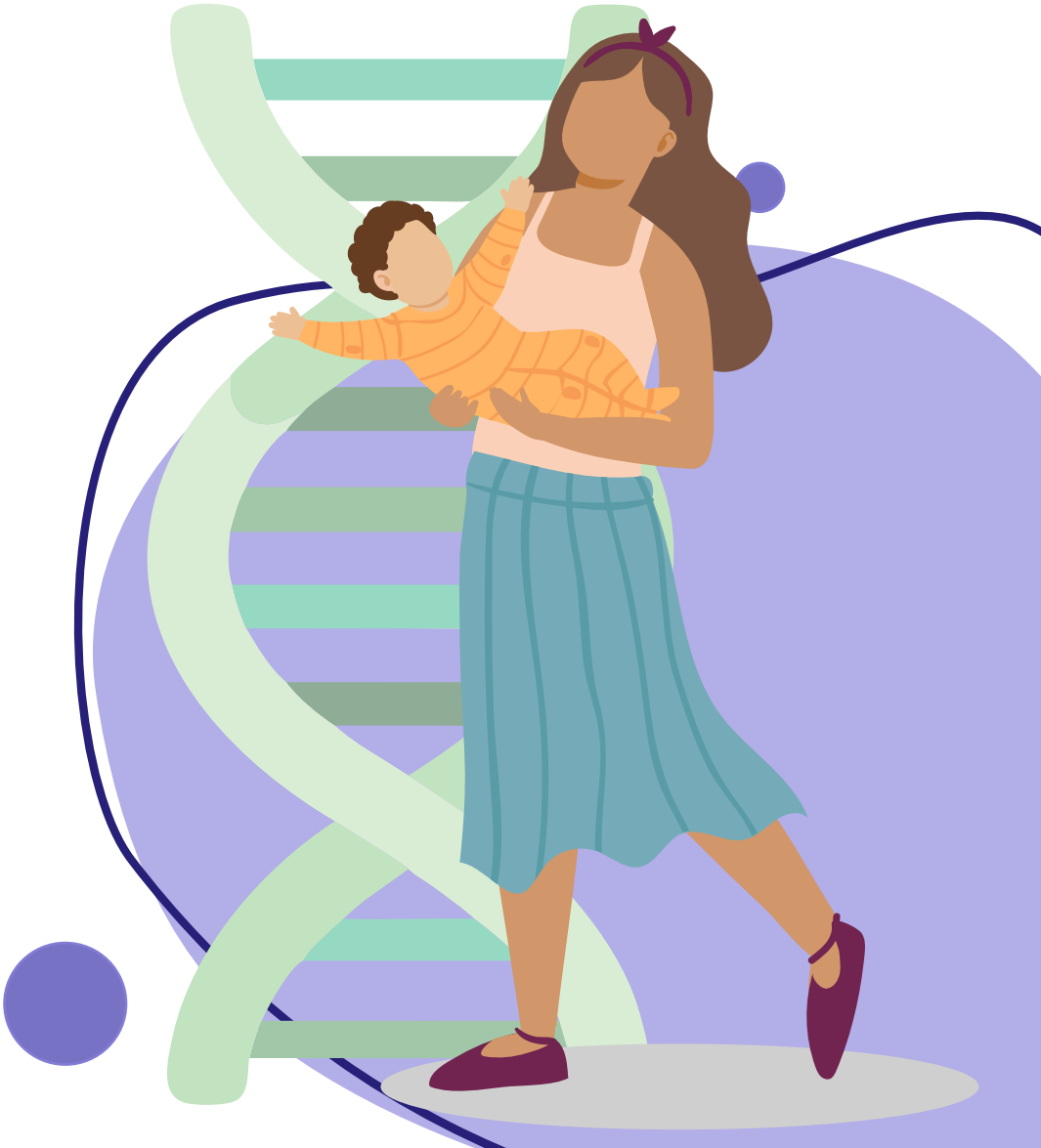
Gjermeni E, Kirstein AS, Kolbig F, et al. Obesity-An Update on the Basic Pathophysiology and Review of Recent Therapeutic Advances. Biomolecules. 2021;11(10):1426. Published 2021 Sep 29. doi:10.3390/biom11101426

Kong Y, Yang H, Nie R, et al. Obesity: pathophysiology and therapeutic interventions. Mol Biomed. 2025;6(1):25. Published 2025 Apr 25. doi:10.1186/s43556-025-00264-9

Menendez A, Wanczyk H, Walker J, Zhou B, Santos M, Finck C. Obesity and Adipose Tissue Dysfunction: From Pediatrics to Adults. Genes (Basel). 2022;13(10):1866. Published 2022 Oct 15. doi:10.3390/genes13101866

3 Epigenetics

References



Abbreviations

BMI - body mass index

CHO - carbohydrate

CV - cardiovascular

GI - gastrointestinal

GDM - gestational diabetes mellitus

IR - insulin resistance

MBS - metabolic & bariatric surgery

NICU - neonatal intensive care unit

T2DM - Type 2 diabetes mellitus

TMAO - trimethylamine N-oxide

References

*Rasmussen SH, Shrestha S, Bjerregaard LG, Ängquist LH, Baker JL, Jess T, Allin KH. Antibiotic exposure in early life and childhood overweight and obesity: A systematic review and meta-analysis. Diabetes Obes Metab. 2018 Jun;20(6):1508-1514. doi: 10.1111/dom.13230. Epub 2018 Feb 25. PMID: 29359849.

Elbeltagi R, Al-Beltagi M, Saeed NK, Bediwy AS. Cardiometabolic effects of breastfeeding on infants of diabetic mothers. World J Diabetes. 2023;14(5):617-631. doi:10.4239/wjd.v14.i5.617

Keller M, Vogel M, Garten A, et al. Epigenetics of Childhood Obesity. Horm Res Paediatr. Published online January 14, 2025. doi:10.1159/000543467

Ong YY, Pang WW, Huang JY, et al. Breastfeeding may benefit cardiometabolic health of children exposed to increased gestational glycemia in utero. Eur J Nutr. 2022;61(5):2383-2395. doi:10.1007/s00394-022-02800-7

Si J, Meir AY, Hong X, et al. Maternal pre-pregnancy BMI, offspring epigenome-wide DNA methylation, and childhood obesity: findings from the Boston Birth Cohort. BMC Med. 2023;21(1):317. Published 2023 Aug 23. doi:10.1186/s12916-023-03003-5

Panera N, Mandato C, Crudele A, Bertrando S, Vajro P, Alisi A. Genetics, epigenetics and transgenerational transmission of obesity in children. Front Endocrinol (Lausanne). 2022 Nov 14;13:1006008. doi: 10.3389/fendo.2022.1006008. PMID: 36452324; PMCID: PMC9704419.

Núñez-Sánchez MÁ, Jiménez-Méndez A, Suárez-Cortés M, Martínez-Sánchez MA, Sánchez-Solís M, Blanco-Carnero JE, Ruiz-Alcaraz AJ, Ramos-Molina B. Inherited Epigenetic Hallmarks of Childhood Obesity Derived from Prenatal Exposure to Obesogens. Int J Environ Res Public Health. 2023 Mar 7;20(6):4711. doi: 10.3390/ijerph20064711. PMID: 36981620; PMCID: PMC10048338.

* - Foundational publication

4 Shared Decision Making

References

Abbreviations

OM - obesity medication

AT - advanced therapies

FDA - Food and Drug Administration

ILT - intensive lifestyle therapy

MBS - metabolic & bariatric surgery

References

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

Cuda S, Censani M, Kharofa R, et al. Social consequences and genetics for the child with overweight and obesity: An obesity medicine association (OMA) clinical practice statement 2022. Obes Pillars. 2022;3:100032. Published 2022 Aug 6. doi:10.1016/j.obpill.2022.100032

Cuda SE, Kharofa R, Williams DR, et al. Metabolic, behavioral health, and disordered eating comorbidities associated with obesity in pediatric patients: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;3:100031. Published 2022 Aug 6. doi:10.1016/j.obpill.2022.100031

Cuda SE, Censani M. Assessment, differential diagnosis, and initial clinical evaluation of the pediatric patient with obesity: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;1:100010. Published 2022 Jan 13. doi:10.1016/j.obpill.2022.100010

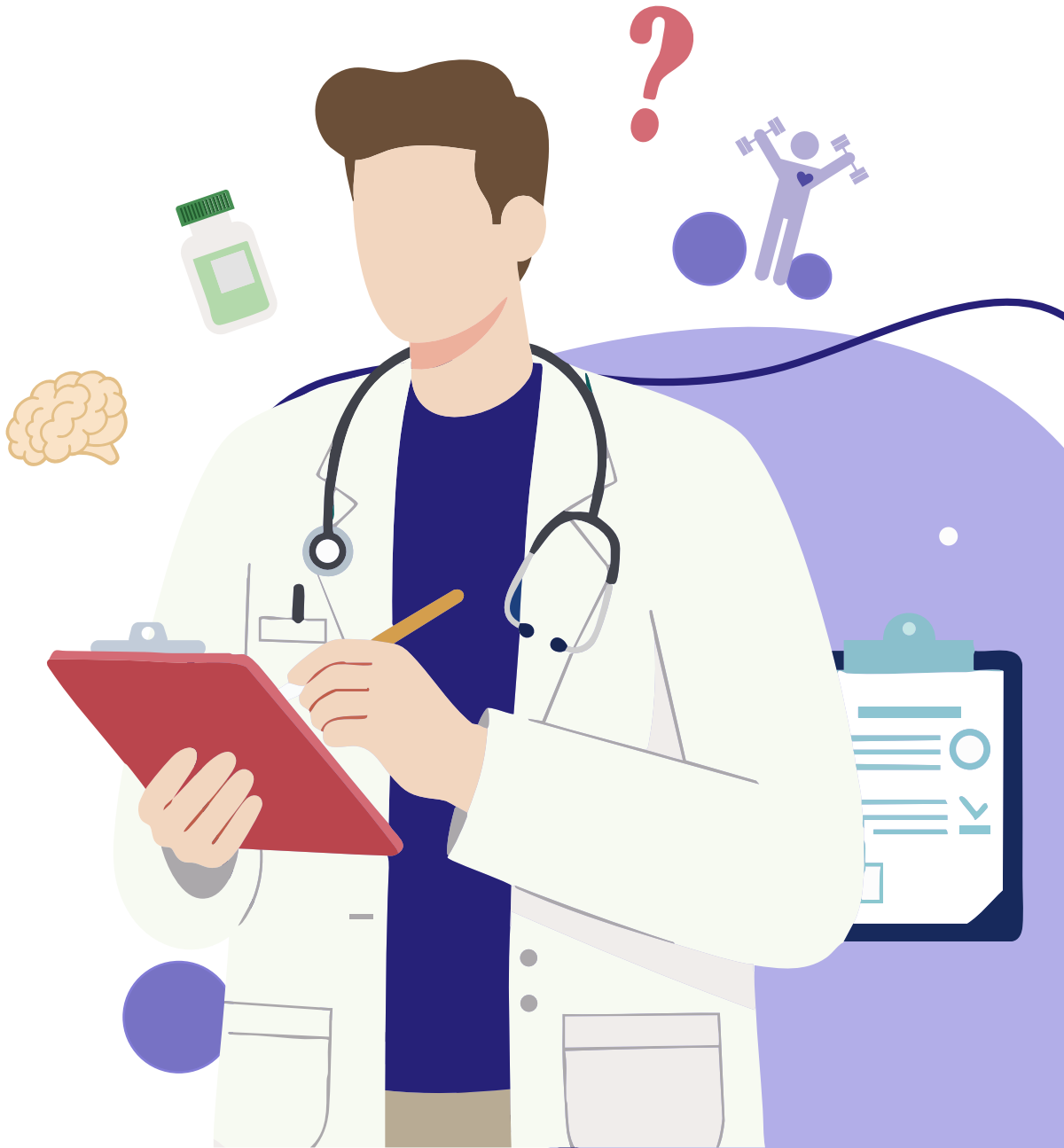
Cuda S, Censani M, O'Hara V, et al. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2024;11:100113. Published 2024 May 23. doi:10.1016/j.obpill.2024.100113

Frattarelli DA, Galinkin JL, Green TP, et al. Off-label use of drugs in children. Pediatrics. 2014;133(3):563-567. doi:10.1542/peds.2013-4060

Pape L, Ernst G. Health care transition from pediatric to adult care: an evidence-based guideline. Eur J Pediatr. 2022;181(5):1951-1958. doi:10.1007/s00431-022-04385-z

5 Obesity-Focused Assessment

References



Abbreviations

ACEs - adverse childhood experiences

ADHD - attention-deficit/hyperactivity disorder

OM - obesity medication

BMI - body mass index

CDC - Centers for Disease Control

CVD - cardiovascular disease

LGA - large for gestational age

MASLD - metabolic dysfunction-associated steatotic liver disease

MBS - metabolic & bariatric surgery

OT - occupational therapy

PT - physical therapy

SDoH - social determinants of health

SGA - small for gestational age

T2DM - Type 2 diabetes mellitus

WHO - World Health Organization

References

Centers for Disease Control. WHO Growth Standards Are Recommended for Use in the U.S. for Infants and Children 0 to 2 Years of Age. September 9, 2010. Accessed August, 2024. http://www.cdc.gov/growthcharts/who_charts.htm

Ogden CL, Kuczmarski RJ, Flegal KM, et al. Centers for Disease Control and Prevention 2000 growth charts for the United States: improvements to the 1977 National Center for Health Statistics version. Pediatrics. 2002;109(1):45-60. doi:10.1542/peds.109.1.45.

Centers for Disease Control. 2022 CDC Extended BMI-for-Age Growth Charts. December 15, 2022. Accessed August, 2024. https://www.cdc.gov/growthcharts/extended-bmi.htm 279. doi:10.1002/oby.22367

Centers for Disease Control. 2022 CDC Extended BMI-for-Age Growth Charts. December 15, 2022. Accessed August, 2024. https://www.cdc.gov/growthcharts/extended-bmi.htm

Gulati AK, Kaplan DW, Daniels SR. Clinical tracking of severely obese children: a new growth chart. Pediatrics. 2012;130(6):1136-1140. doi:10.1542/peds.2012-0596

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

References

Cuda SE, Kharofa R, Williams DR, et al. Metabolic, behavioral health, and disordered eating comorbidities associated with obesity in pediatric patients: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;3:100031. Published 2022 Aug 6. doi:10.1016/j.obpill.2022.100031

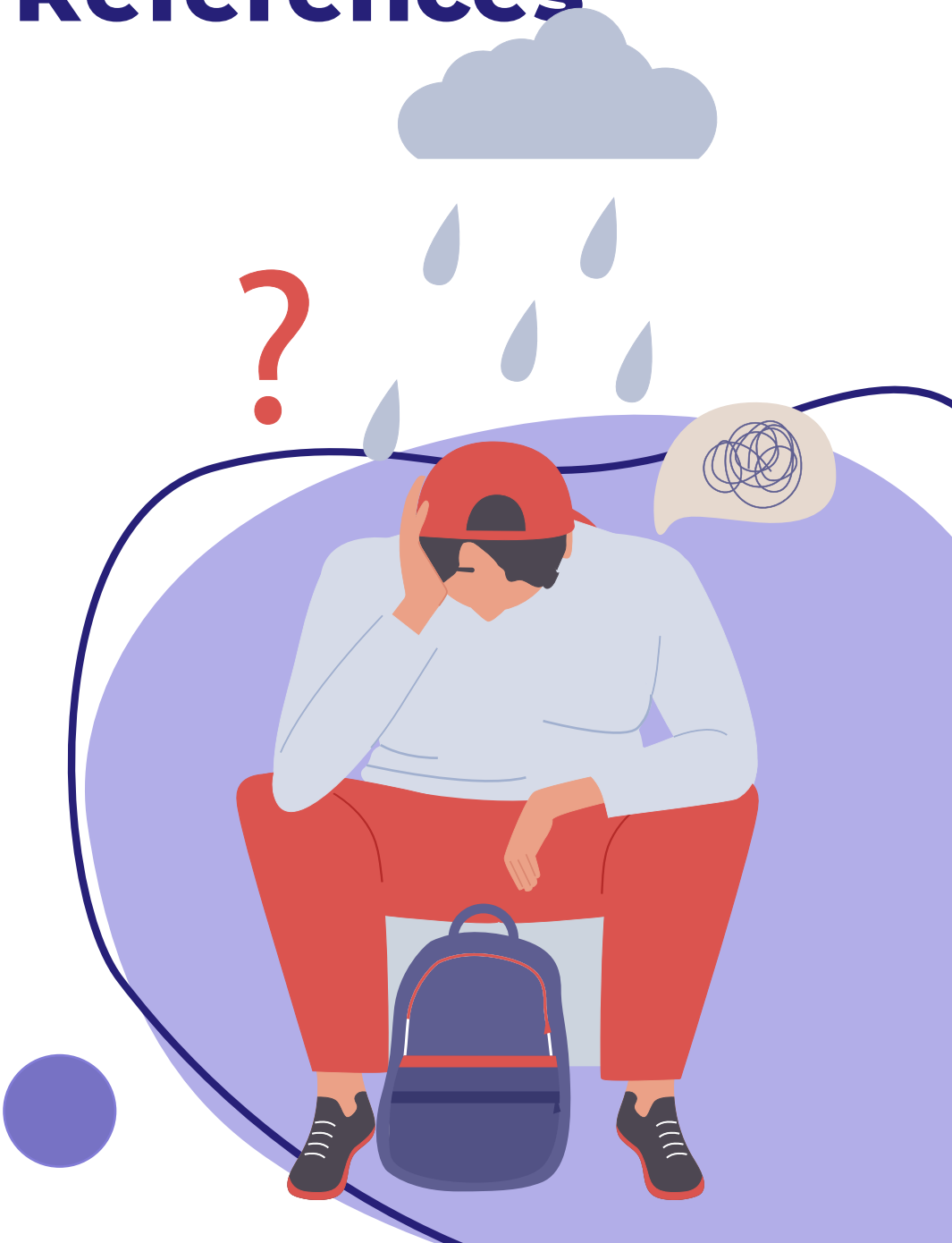
Cuda SE, Censani M. Assessment, differential diagnosis, and initial clinical evaluation of the pediatric patient with obesity: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;1:100010. Published 2022 Jan 13. doi:10.1016/j.obpill.2022.100010

Sweeney B., Fernandez C. Assessment of the pediatric patient with obesity. In: Fox C, editor. Managing pediatric obesity using advanced therapies: practical guide for pediatric health care providers. 25. Springer; 2023. p. 53-77.

Palmer AB, Lee KH, Roshani R, et al. Prevalence of Obesity With Confirmed Excess Adiposity in US Children and Adolescents. JAMA Pediatr. Published online September 08, 2025. doi:10.1001/jamapediatrics.2025.2991

6 Social Consequences Affecting Children with Obesity

References



Abbreviations

ACE - adverse childhood experience

AL - allostatic load

ALT - alanine transaminase

AST - aspartate transaminase

BMI - body mass index

CV - cardiovascular

DM - diabetes mellitus

FI - food insecurity

FSH - follicle-stimulating hormone

hCG - human chorionic gonadotropin

HRQOL - health related quality of life

LH - luteinizing hormone

NSLP - National School Lunch Program

PTSD - post-traumatic stress disorder

QOL - quality of life

SES - socioeconomic status

SNAP - Supplemental Nutrition Assistance Program

SSNR - safe, stable, nurturing relationships

TGD - transgender/gender diverse

USDA - United States Department of Agriculture

WIC - Special Supplemental Program for Women, Infants and Children

References

Bethell CD, Carle A, Hudziak J, et al. Methods to Assess Adverse Childhood Experiences of Children and Families: Toward Approaches to Promote Child Well-being in Policy and Practice. Acad Pediatr. 2017;17(7S):S51-S69. doi:10.1016/j.acap.2017.04.16

Loveday S, Hall T, Constable L, Paton K, Sanci L, Goldfeld S, Hiscock H. Screening for Adverse Childhood Experiences in Children: A Systematic Review. Pediatrics. 2022 Feb 1;149(2):e2021051884. doi: 10.1542/peds.2021-051884. PMID: 35104358; PMCID: PMC9677935.

References

Lessard LM, Puhl RM. Weight-based cybervictimization: Implications for adolescent health. Pediatr Obes. 2022;17(6):e12888. doi:10.1111/ijpo.12888

Puhl RM. Weight stigma, policy initiatives, and harnessing social media to elevate activism. Body Image. 2022;40:131-137. doi:10.1016/j.bodyim.2021.12.008

Braddock A, Browne NT, Houser M, Blair G, Williams DR. Weight stigma and bias: A guide for pediatric clinicians. Obes Pillars. 2023;6:100058. Published 2023 Mar 20. doi:10.1016/j.obpill.2023.100058

Quality of Life Consulting, QLLC. IWQOL-Kids©: Assessing the impact of weight on quality of life in youth ages 11-19. Accessed August, 2024. www.qualityoflifeconsulting.com/iwqol-kids.html

Williams DR, Chaves E, Greenwood NE, Kushner J, Chelvakumar G, Swaringen SE, Leibowitz SF. Care of Gender Diverse Youth with Obesity. Curr Obes Rep. 2022 Dec;11(4):215-226. doi: 10.1007/s13679-022-00480-2. Epub 2022 Sep 2. PMID: 36050541.

Browne NT, Hodges EA, Small L, et al. Childhood obesity within the lens of racism. Pediatr Obes. 2022;17(5):e12878. doi:10.1111/ijpo.12878

Mackey ER, Burton ET, Cadieux A, et al. Addressing Structural Racism Is Critical for Ameliorating the Childhood Obesity Epidemic in Black Youth. Child Obes. 2022;18(2):75-83. doi:10.1089/chi.2021.0153

Lawton RI, Stanford FC. The Role of Racism in Childhood Obesity. Curr Obes Rep. 2024;13(1):98-106. doi:10.1007/s13679-023-00538-9

Tester JM, Xiao L, Tinajero-Deck L, Juarez L, Rosas LG. Food Insecurity Influences Weight Trajectory in Children with Obesity. Child Obes. 2022;18(7):437-444. doi:10.1089/chi.2021.0311

Mokari-Yamchi A, Faghfouri AH, Gholami S, Nattagh-Eshtivani E, Gheibi S. Association of household food insecurity with sociodemographic factors and obesity in US youth: findings from the National Health and Nutrition Examination Survey 2017-2018. Front Public Health. 2024 Jul 17;12:1387638. doi: 10.3389/fpubh.2024.1387638. PMID: 39086807; PMCID: PMC11288867.

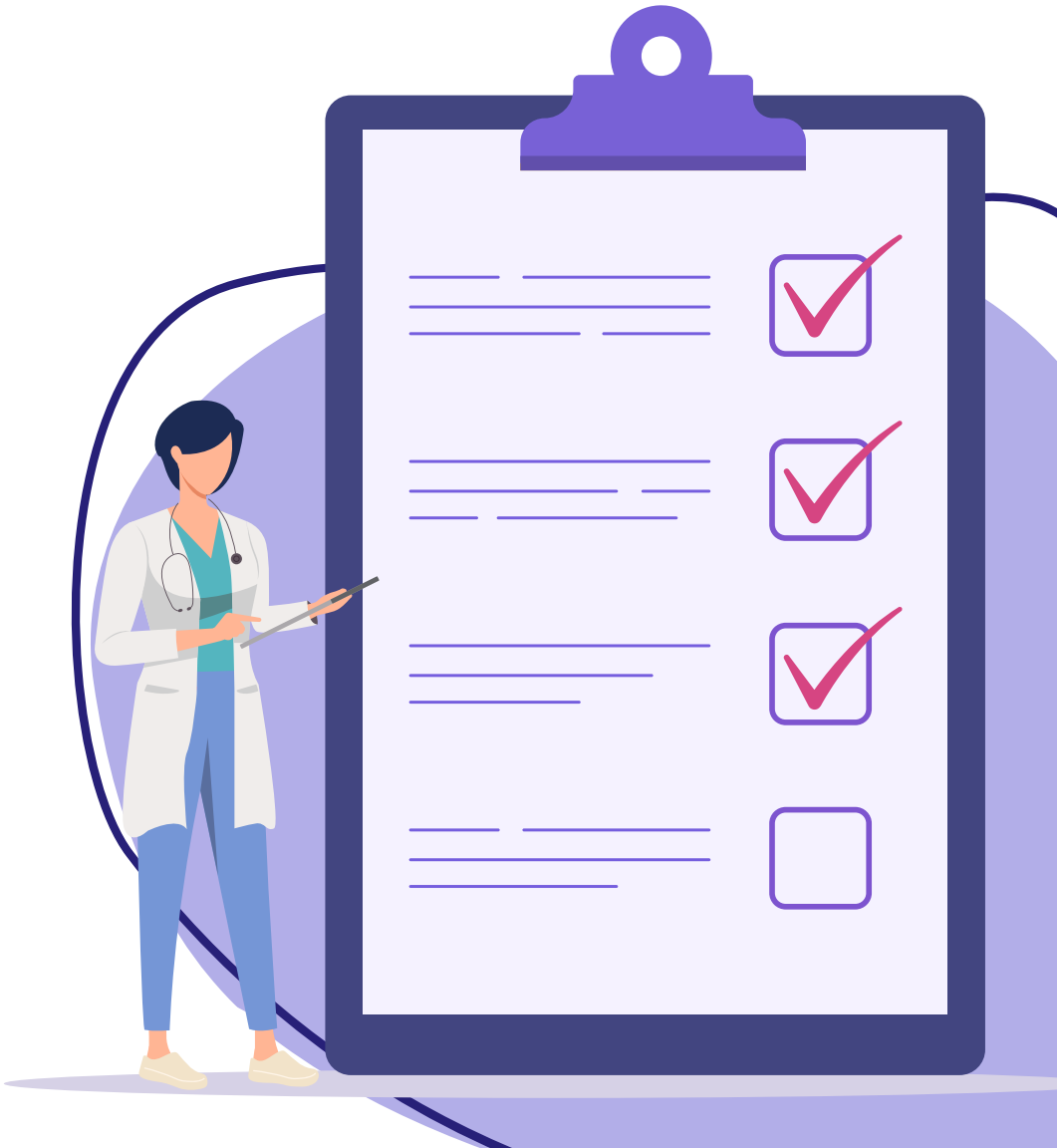
Gross A, Nurmi E. Behavioral treatment and psychological complications of pediatric obesity. In: Fox C, editor. Managing pediatric obesity using advanced therapies: practical guide for pediatric health care providers. 25. Springer; 2023. p. 245-272.

Scherr K, Honeycutt L, Page S, Armstrong S. Communication, Bias, and Stigma. In: Fox C, editor. Managing pediatric obesity using advanced therapies: practical guide for pediatric health care providers. 25. Springer; 2023. p. 27-51.

Bannuru RR; Professional Practice Committee. Weight stigma and bias: standards of care in overweight and obesity-2025. BMJ Open Diabetes Res Care. 2025;13(Suppl 1):e004962. Published 2025 May 16. doi:10.1136/bmj-drc-2025-004962

7 Differential Diagnosis & Review of Systems

References



Abbreviations

TSH - thyroid stimulating hormone

IR - Insulin Resistance

T2DM - Type 2 Diabetes Mellitus

ADHD - Attention deficit/hyperactivity disorder

GERD - Gastroesophageal reflux disease

NES - Night eating syndrome

OSA - Obstructive sleep apnea

PCOS - Polycystic Ovary Syndrome

SCFE - Slipped capital femoral epiphysis

SRED - Sleep related eating disorder

References

Cuda S, O'Hara V, Censani M, et al. Special considerations for the adolescent with obesity: An obesity medicine association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2023;9:100096. Published 2023 Dec 7. doi:10.1016/j.obpill.2023.100096

Cuda SE, Kharofa R, Williams DR, et al. Metabolic, behavioral health, and disordered eating comorbidities associated with obesity in pediatric patients: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;3:100031. Published 2022 Aug 6. doi:10.1016/j.obpill.2022.100031

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Cuda S, O'Hara V, Censani M, et al. Special considerations for the adolescent with obesity: An obesity medicine association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2023;9:100096. Published 2023 Dec 7. doi:10.1016/j.obpill.2023.100096

Cavallo F, Mohn A, Chiarelli F, Giannini C. Evaluation of Bone Age in Children: A Mini-Review. Front Pediatr. 2021 Mar 12;9:580314. doi: 10.3389/fped.2021.580314. PMID: 33777857; PMCID: PMC7994346.

8 Physical Exam

References

References

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Weedn AE, Benard J, Hampl SE. Physical Examination and Evaluation for Comorbidities in Youth with Obesity. Pediatr Clin North Am. 2024;71(5):859-878. doi:10.1016/j.pcl.2024.06.008

9 Diagnostic Work-Up

References

Abbreviations

ALT - alanine transaminase

BMI - body mass index

BP - blood pressure

CRP - C-reactive protein

CVD - cardiovascular disease

DM - diabetes mellitus

References

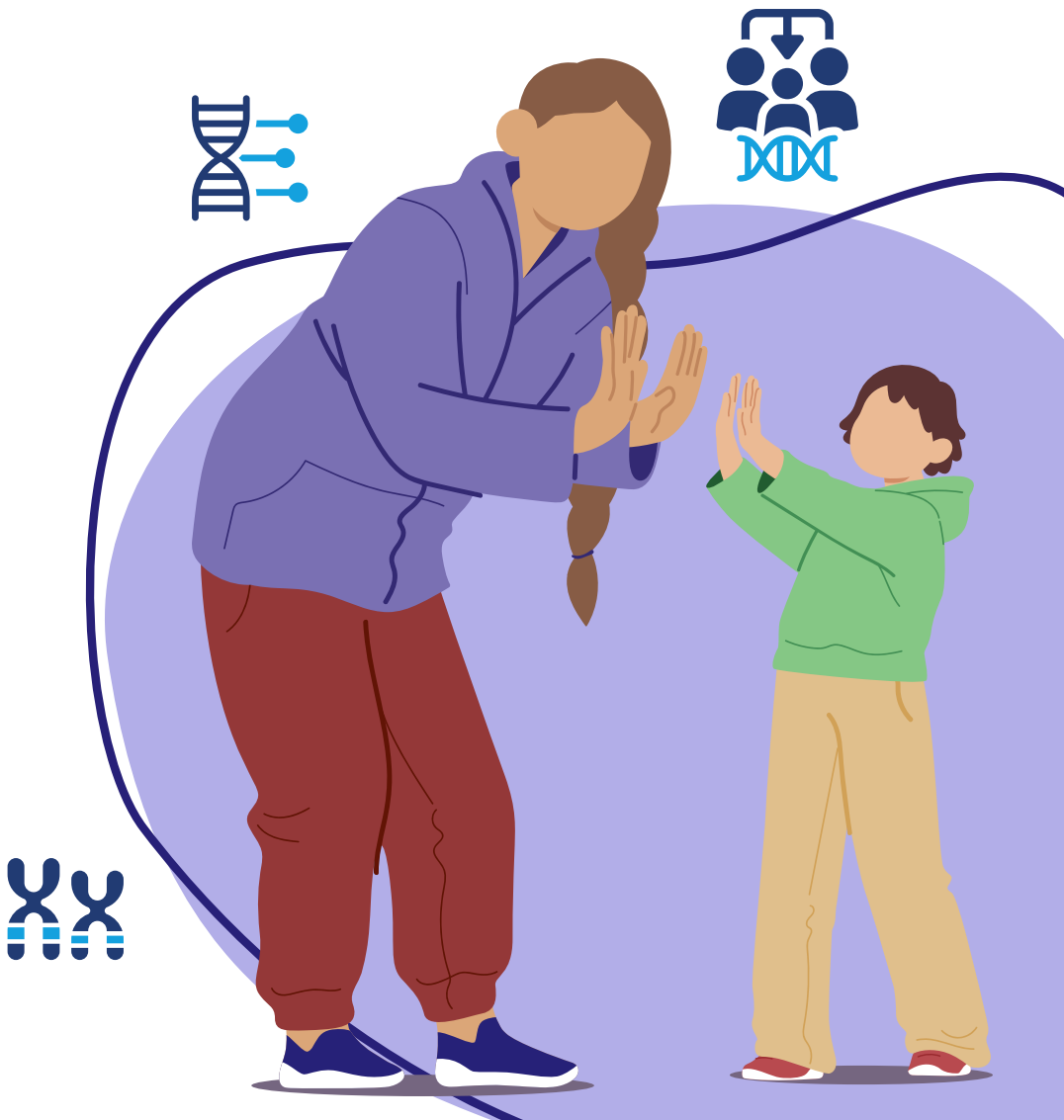
Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Cuda S, O'Hara V, Censani M, Conroy R, Sweeney B, Paisley J, Fernandez C, Dreyer Gillette ML, Browne A, Browne NT. Special considerations for the adolescent with obesity: An obesity medicine association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2023 Dec 7;9:100096. doi: 10.1016/j.obpill.2023.100096. PMID: 38186667; PMCID: PMC10770754.

Cuda S, Censani M, O'Hara V, Paisley J, Kharofa R, Conroy R, Sweeney B, Fernandez C, Dreyer Gillette ML, Browne NT. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2024 May 23;11:100113. doi: 10.1016/j.obpill.2024.100113. PMID: 38953014; PMCID: PMC11216014.

10 Genetics

References



Abbreviations

ACTH - adrenocorticotropic hormone

AFP - alpha fetoprotein

ALMS - Alström Syndrome

FDA - Food and Drug Administration

GWAS - Genome wide association studies

ID - intellectual disability

LEPR - Leptin Receptor Deficiency

POMC - Proopiomelanocortin

References

*Jones KL, Jones MC, Campo M. Smith's Recognizable Patterns of Human Malformation, 7th ed. Saunders: Philadelphia; 2014.

Cuda S, Censani M, Kharofa R, et al. Social consequences and genetics for the child with overweight and obesity: An obesity medicine association (OMA) clinical practice statement 2022. Obes Pillars. 2022;3:100032. Published 2022 Aug 6. doi:10.1016/j.obpill.2022.100032

Cuda S, Censani M. Progress in pediatric obesity: new and advanced therapies. Curr Opin Pediatr. 2022;34(4):407-413. doi:10.1097/MOP.0000000000001150

Muscogiuri G, Barrea L, Faggiano F, et al. Obesity in Prader-Willi syndrome: physiopathological mechanisms, nutritional and pharmacological approaches. J Endocrinol Invest. 2021;44(10):2057-2070. doi:10.1007/s40618-021-01574-9

Markham A. Setmelanotide: First Approval. Drugs. 2021;81(3):397-403. doi:10.1007/s40265-021-01470-9

Forsythe E, Kenny J, Bacchelli C, Beales PL. Managing Bardet-Biedl Syndrome-Now and in the Future. Front Pediatr. 2018;6:23. Published 2018 Feb 13. doi:10.3389/fped.2018.00023

Trapp CM, Censani M. Setmelanotide: a promising advancement for pediatric patients with rare forms of genetic obesity. Curr Opin Endocrinol Diabetes Obes. 2023;30(2):136-140. doi:10.1097/MED.0000000000000798

Miller JL, Gevers E, Bridges N, et al. Diazoxide Choline Extended-Release Tablet in People With Prader-Willi Syndrome: A Double-Blind, Placebo-Controlled Trial. J Clin Endocrinol Metab. 2023;108(7):1676-1685. doi:10.1210/clinem/dgad014

Forsyth R, Gunay-Aygun M. Bardet-Biedl Syndrome Overview. In: Adam MP, Feldman J, Mirzaa GM, Pagon RA, Wallace SE, Amemiya A, eds. GeneReviews®. Seattle (WA): University of Washington, Seattle; July 14, 2003, updated 2023.

Shoemaker A. Bardet-Biedl syndrome: A clinical overview focusing on diagnosis, outcomes and best-practice management. Diabetes Obes Metab. 2024;26 Suppl 2:25-33. doi:10.1111/dom.15494

* - Foundational publication

11 Special Populations

References

Abbreviations

BMI - Body Mass Index

CDC - Centers for Disease Control

DS - Down syndrome

FGFR3 - fibroblast growth factor 3

T1DM - Type 1 diabetes mellitus

T2DM - Type 2 diabetes mellitus

TS - Turner syndrome

OT - occupational therapy

SHCN - Special healthcare needs

References

Mitsch C, Alexandrou E, Norris AW, Pinnaro CT. Hyperglycemia in Turner syndrome: Impact, mechanisms, and areas for future research. Front Endocrinol (Lausanne). 2023;14:1116889. Published 2023 Feb 15. doi:10.3389/fendo.2023.1116889

Magge SN, Zemel BS, Pipan ME, Gidding SS, Kelly A. Cardiometabolic Risk and Body Composition in Youth With Down Syndrome. Pediatrics. 2019;144(2):e20190137. doi:10.1542/peds.2019-0137

Kitoh H, Matsushita M, Mishima K, Kamiya Y, Sawamura K. Disease-specific complications and multidisciplinary interventions in achondroplasia. J Bone Miner Metab. 2022;40(2):189-195. doi:10.1007/s00774-021-01298-z

Cuda S, Censani M, O'Hara V, et al. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars.2024;11:100113. Published 2024 May 23. doi:10.1016/j.obpill.2024.100113

Cuda S, O'Hara V, Censani M, et al. Special considerations for the adolescent with obesity: An obesity medicine association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2023;9:100096. Published 2023 Dec 7. doi:10.1016/j.obpill.2023.100096

Dreyer Gillette ML, Killian HJ, Fernandez C, Sweeney BR. Treating Obesity in Children and Adolescents with Special Healthcare Needs. Curr Obes Rep. 2022;11(4):227-235. doi:10.1007/s13679-022-00484-y

Manfredo J, Capone G, Yanek L, McCarter R, Zemel B, Kelly A, Magge SN. Cardiometabolic risk in young adults with Down syndrome. Am J Med Genet A. 2023 Jul;191(7):1758-1768. doi: 10.1002/ajmg.a.63197. Epub 2023 Mar 31. PMID: 37000612.

Anand NS, Zemel BS, Pipan M, Kelly A, Magge SN. Diet Quality and Cardiometabolic Risk Factors in Adolescents with Down Syndrome. J Acad Nutr Diet. 2023 Feb;123(2):253-262. doi: 10.1016/j.jand.2022.07.017. Epub 2022 Aug 5. PMID: 35940494.

Saint-Laurent, C., Garde-Etayo, L. & Gouze, E. Obesity in achondroplasia patients: from evidence to medical monitoring. Orphanet J Rare Dis 14, 253 (2019). https://doi.org/10.1186/s13023-019-1247-6

Moreau M, Benhaddou S, Dard R, Tolu S, Hamzé R, Vialard F, Movassat J, Janel N. Metabolic Diseases and Down Syndrome: How Are They Linked Together? Biomedicines. 2021 Feb 22;9(2):221. doi: 10.3390/biomedicines9020221. PMID: 33671490; PMCID: PMC7926648.

12 The Young Child with Obesity

References

Abbreviations

AAP - American Academy of Pediatrics

ADHD - attention deficit hyperactivity disorder

OM - obesity medication

BBS - Bardet-Biedl syndrome

BMI - body mass index

CPG - Clinical Practice Guideline

FDA - Food and Drug Administration

LEPRdef - leptin receptor deficiency

PCSK1 - proprotein convertase subtilisin/kexin type 1

POMC - pro-opiomelanocortin

T2DM - Type 2 diabetes mellitus

References

Cuda S, Censani M, O'Hara V, et al. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2024;11:100113. Published 2024 May 23. doi:10.1016/j.obpill.2024.100113

Cuda S, O'Hara V, Censani M, et al. Special considerations for the adolescent with obesity: An obesity medicine association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2023;9:100096. Published 2023 Dec 7. doi:10.1016/j.obpill.2023.100096

Haqq AM, Chung WK, Dollfus H, et al. Efficacy and safety of setmelanotide, a melanocortin-4 receptor agonist, in patients with Bardet-Biedl syndrome and Alström syndrome: a multicentre, randomised, double-blind, placebo-controlled, phase 3 trial with an open-label period [published correction appears in Lancet Diabetes Endocrinol. 2023 Feb;11(2):e2. doi: 10.1016/S2213-8587(22)00360-6]. Lancet Diabetes Endocrinol. 2022;10(12):859-868. doi:10.1016/S2213-8587(22)00277-7

Tamborlane WV, Barrientos-Pérez M, Fainberg U, et al. Liraglutide in Children and Adolescents with Type 2 Diabetes. N Engl J Med. 2019;381(7):637-646. doi:10.1056/NEJMoa1903822

Arslanian SA, Hannon T, Zeitler P, et al. Once-Weekly Dulaglutide for the Treatment of Youths with Type 2 Diabetes. N Engl J Med. 2022;387(5):433-443. doi:10.1056/NEJMoa2204601

Laffel LM, Danne T, Klingensmith GJ, et al. Efficacy and safety of the SGLT2 inhibitor empagliflozin versus placebo and the DPP-4 inhibitor linagliptin versus placebo in young people with type 2 diabetes (DINAMO): a multicentre, randomised, double-blind, parallel group, phase 3 trial. Lancet Diabetes Endocrinol. 2023;11(3):169-181. doi:10.1016/S2213-8587(22)00387-4

Fox CK, Barrientos-Pérez M, Bomberg EM, et al. Liraglutide for Children 6 to <12 Years of Age with Obesity - A Randomized Trial. N Engl J Med. 2025;392(6):555-565. doi:10.1056/NEJMoa2407379

Torbahn G, Lischka J, Brown T, et al. Anti-Obesity Medication in the Management of Children and Adolescents With Obesity: Recent Developments and Research Gaps. Clin Endocrinol (Oxf). 2025;102(1):51-61. doi:10.1111/cen.15133

13 Treatment of Pediatric Obesity

References

Abbreviations

ADHD - Attention-deficit Hyperactivity Disorder
AE - Adverse event
AED - anti-epileptic drug
AT - advanced therapies
ALT - alanine aminotransferase
BBS - Bardet-Biedl Syndrome
BDNF - brain-derived neurotrophic factor
BED - binge eating disorder
BID - twice a day
BMI - body mass index
zBMI - body mass index z score
FT - foundational therapies
ILT - intensive lifestyle therapy
CHO - carbohydrate
CI - confidence interval
CV - cardiovascular
CVD - cardiovascular disease
DA - dopamine
DSM-IV-TR - Diagnostic and Statistical Manual of Mental Disorders 4th ED
DMR - Duodenal mucosal resurfacing
EBT - Endoscopic Bariatric Therapies
ESG - Endoscopic gastroplasty
ExQW - exenatide every week
FDA - Food and Drug Administration
FH - Familial Hypercholesterolemia
GABAA - gammaaminobutyric acid type A
GERD - gastroesophageal reflux
GI - gastrointestinal
GFR - glomerular filtration rate
GIP - glucose dependent insulinotropic peptide

Abbreviations

HCG - human chorionic gonadotropin
ILT - intensive lifestyle therapy
kg - kilogram
KD - ketogenic diet
LDL - low density lipoproteins
LDX - lisdexamfetamine
LEPR - leptin receptor deficiency
LGI - low glycemic index
LOC-BED - Loss of control-binge eating disorder
LVSG - laparoscopic vertical sleeve gastrectomy
MAOI - Monoamine oxidase inhibitors
MASLD - Metabolic dysfunction-associated steatotic liver disease
MBS - Metabolic and bariatric surgery
MCT - medullary thyroid carcinoma
MCR4 - melanocortin 4 receptor
MEN2 - multiple endocrine neoplasia syndrome type 2
MUFA - Monounsaturated fatty acids
NE - norepinephrine
NNS - nonnutritive sweeteners
OM - obesity medication
PCSK1 - proprotein convertase 1
PCOS - polycystic ovary syndrome
POMC - proopiomelanocortin
PUFA - Polyunsaturated fatty acids
QOL - quality of life
RYGB - Roux-en-Y Gastric Bypass
RCT - randomized control trial
REE - resting energy expenditure
SGA - Second generation antipsychotics
SD - standard deviation

Abbreviations

SDS - standard deviation score

SGL-2 - Sodium-glucose cotransporter-2 inhibitors

SNRI - serotonin-norepinephrine reuptake inhibitor

SSRI - Selective Serotonin Reuptake Inhibitors

T2DM - Type 2 diabetes mellitus

TBW - total body weight

TEAE - treatment emergent adverse event

VSG - vertical sleeve gastrectomy

References

Intesive Lifestyle Therapy (ILT) and Adiposity-Promoting Medications

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

McIntyre RS, Kwan ATH, Rosenblat JD, Teopiz KM, Mansur RB. Psychotropic Drug-Related Weight Gain and Its Treatment. Am J Psychiatry. 2024;181(1):26-38. doi:10.1176/appi.ajp.20230922

Tondt J, Bays HE. Concomitant medications, functional foods, and supplements: An Obesity Medicine Association (OMA) Clinical Practice Statement (CPS) 2022. Obes Pillars. 2022;2:100017. Published 2022 Apr 6. doi:10.1016/j.obpill.2022.100017

Ghusn W, Bouchard C, Frye MA, Acosta A. Weight-centric treatment of depression and chronic pain. Obes Pillars. 2022;3:100025. Published 2022 Jun 23. doi:10.1016/j.obpill.2022.100025

Cuda S, Censani M, Kharofa R, et al. Social consequences and genetics for the child with overweight and obesity: An obesity medicine association (OMA) clinical practice statement 2022. Obes Pillars. 2022;3:100032. Published 2022 Aug 6. doi:10.1016/j.obpill.2022.100032

Kokka I, Mourikis I, Bacopoulou F. Psychiatric Disorders and Obesity in Childhood and Adolescence-A Systematic Review of Cross-Sectional Studies. Children (Basel). 2023 Feb 1;10(2):285. doi: 10.3390/children10020285. PMID: 36832413; PMCID: PMC9955505.

Boutari C, DeMarsilis A, Mantzoros CS. Obesity and diabetes. Diabetes Res Clin Pract. 2023 Aug;202:110773. doi: 10.1016/j.diabres.2023.110773. Epub 2023 Jun 23. PMID: 37356727.

Zierhut M, Weiser M, Thanarajah SE, Opel N. GLP-1 Receptor Agonists for Pharmacologically Induced Weight Gain. JAMA Psychiatry. 2025 Sep 24. doi: 10.1001/jamapsychiatry.2025.2536. Epub ahead of print. PMID: 40991279.

References

Ganeshalingam AA, Uhrenholt N, Arnfred S, et al. Semaglutide Treatment of Antipsychotic-Treated Patients With Schizophrenia, Prediabetes, and Obesity: The HISTORI Randomized Clinical Trial. JAMA Psychiatry. Published online September 03, 2025. doi:10.1001/jamapsychiatry.2025.2332

Romo-Nava F, Buijs RM, McElroy SL. The use of melatonin to mitigate the adverse metabolic side effects of antipsychotics. Handb Clin Neurol. 2021;179:371-382. doi: 10.1016/B978-0-12-819975-6.00024-8. PMID: 34225976.

Agahi M, Akasheh N, Ahmadvand A, Akbari H, Izadpanah F. Effect of melatonin in reducing second-generation antipsychotic metabolic effects: A double blind controlled clinical trial. Diabetes Metab Syndr. 2018 Jan-Mar;12(1):9-15. doi: 10.1016/j.dsx.2017.08.004. Epub 2017 Aug 18. PMID: 28847468.

Tondt J, Bays HE. Concomitant medications, functional foods, and supplements: An Obesity Medicine Association (OMA) Clinical Practice Statement (CPS) 2022. Obes Pillars. 2022;2:100017. Published 2022 Apr 6. doi:10.1016/j.obpill.2022.100017

Nutritional Management for Children with Obesity

Capra ME, Monopoli D, Decarolis NM, et al. Dietary Models and Cardiovascular Risk Prevention in Pediatric Patients. Nutrients. 2023;15(16):3664. Published 2023 Aug 21. doi:10.3390/nu15163664

López-Gil JF, García-Hermoso A, Martínez-González MÁ, Rodríguez-Artalejo F. Mediterranean Diet and Cardiometabolic Biomarkers in Children and Adolescents: A Systematic Review and Meta-Analysis. JAMA Netw Open. 2024;7(7):e2421976. Published 2024 Jul 1. doi:10.1001/jamanetworkopen.2024.21976

Farías C, Cisternas C, Gana JC, et al. Dietary and Nutritional Interventions in Nonalcoholic Fatty Liver Disease in Pediatrics. Nutrients. 2023;15(22):4829. Published 2023 Nov 18. doi:10.3390/nu15224829

Thorsteinsdottir S, Njardvik U, Bjarnason R, Olafsdottir AS. Changes in Eating Behaviors Following Taste Education Intervention: Focusing on Children with and without Neurodevelopmental Disorders and Their Families: A Randomized Controlled Trial. Nutrients. 2022;14(19):4000. Published 2022 Sep 27. doi:10.3390/nu14194000

Thorsteinsdottir S, Bjarnason R, Eliasdottir HG, Olafsdottir AS. Body Composition in Fussy-Eating Children, with and without Neurodevelopmental Disorders, and Their Parents,Following a Taste Education Intervention. Nutrients. 2023;15(12):2788. Published 2023 Jun 18. doi:10.3390/nu15122788

Lister NB, Baur LA, House ET, Alexander S, Brown J, Collins CE, Cowell CT, Day K, Garnett SP, Gow ML, Grunseit AM, Henderson M, Inkster MK, Kwok C, Lang S, Paxton SJ, Truby H, Varady KA, Jebeile H. Intermittent Energy Restriction for Adolescents With Obesity: The Fast Track to Health Randomized Clinical Trial. JAMA Pediatr. 2024 Oct 1;178(10):1006-1016. doi: 10.1001/jamapediatrics.2024.2869. PMID: 39186288; PMCID: PMC11348084.

Bakhsh J, Salvy SJ, Vidmar AP. Intermittent fasting as a treatment for obesity in young people: a scoping review. NPJ Metab Health Dis. 2024;2(1):39. doi: 10.1038/s44324-024-00041-2. Epub 2024 Dec 30. PMID: 39744147; PMCID: PMC11685102

References

Rozga M, Handu D. Nutrition Interventions for Pediatric Obesity Prevention: An Umbrella Review of Systematic Reviews. Nutrients. 2023;15(24):5097. Published 2023 Dec 13. doi:10.3390/nu15245097

Browne NT, Cuda SE. Nutritional and activity recommendations for the child with normal weight, overweight, and obesity with consideration of food insecurity: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;2:100012. Published 2022 Mar 13. doi:10.1016/j.obpill.2022.100012

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Espinosa A, Mendoza K, Laviada-Molina H, Rangel-Méndez JA, Molina-Segui F, Sun Q, Tobias DK, Willett WC, Mattei J. Effects of Nonnutritive Sweeteners on the BMI of Children and Adolescents: A Systematic Review and Meta-Analysis of Randomized Controlled Trials and Prospective Cohort Studies. Adv Nutr. 2024 Dec;15(12):100292. doi: 10.1016/j.advnut.2024.100292. Epub 2024 Sep 13. PMID: 39299839; PMCID: PMC11705594.

Activity Management for Children with Obesity

O'Malley GC, Shultz SP, Thivel D, Tsiros MD. Neuromusculoskeletal Health in Pediatric Obesity: Incorporating Evidence into Clinical Examination. Curr Obes Rep. 2021;10(4):467-477. doi:10.1007/s13679-021-00463-9

Cuda S, O'Hara V, Censani M, et al. Special considerations for the adolescent with obesity: An obesity medicine association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2023;9:100096. Published 2023 Dec 7. doi:10.1016/j.obpill.2023.100096

Browne NT, Cuda SE. Nutritional and activity recommendations for the child with normal weight, overweight, and obesity with consideration of food insecurity: An Obesity Medical Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;2:100012. Published 2022 Mar 13. doi:10.1016/j.obpill.2022.100012

Pharmacotherapy

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

O'Hara V, Cuda S, Kharofa R, Censani M, Conroy R, Browne NT. Clinical review: Guide to pharmacological management in pediatric obesity medicine. Obes Pillars. 2023;6:100066. Published 2023 Apr 27. doi:10.1016/j.obpill.2023.100066

Torbahn G, Jones A, Griffiths A, et al. Pharmacological interventions for the management of children and adolescents living with obesity-An update of a Cochrane systematic review with meta-analyses. Pediatr Obes. 2024;19(5):e13113. doi:10.1111/ijpo.13113

Kelly AS, Bensignor MO, Hsia DS, et al. Phentermine/Topiramate for the Treatment of Adolescent Obesity. NEJM Evid. 2022;1(6):10.1056/evidoa2200014. doi:10.1056/evidoa2200014

References

Bensignor MO, Bramante CT, Bomberg EM, et al. Evaluating potential predictors of weight loss response to liraglutide in adolescents with obesity: A post hoc analysis of the randomized, placebo-controlled SCALE Teens trial. Pediatr Obes. 2023;18(9):e13061. doi:10.1111/ijpo.13061

Mainieri F, La Bella S, Rinaldi M, Chiarelli F. Rare genetic forms of obesity in childhood and adolescence: A narrative review of the main treatment options with a focus on innovative pharmacological therapies. Eur J Pediatr. 2024;183(4):1499-1508. doi:10.1007/s00431-024-05427-4

McIntyre RS, Kwan ATH, Rosenblat JD, Teopiz KM, Mansur RB. Psychotropic Drug-Related Weight Gain and Its Treatment. Am J Psychiatry. 2024;181(1):26-38. doi:10.1176/appi.ajp.20230922.

Mahapatra MK, Karuppasamy M, Sahoo BM. Semaglutide, a glucagon like peptide-1 receptor agonist with cardiovascular benefits for management of type 2 diabetes. Rev Endocr Metab Disord. 2022;23(3):521-539. doi:10.1007/s11154-021-09699-1

Weghuber D, Barrett T, Barrientos-Pérez M, et al. Once-Weekly Semaglutide in Adolescents with Obesity. N Engl J Med. 2022;387(24):2245-2257. doi:10.1056/NEJMoa2208601

Weghuber D, Boberg K, Hesse D, et al. Semaglutide treatment for obesity in teenagers: a plain language summary of the STEP TEENS research study. J Comp Eff Res. 2023;12(2):e220187. doi:10.2217/cer-2022-0187

Vajravelu ME, Chu PY, Frank DA, Ragavan MI, Vajravelu RK. Projected impact of antiobesity pharmacotherapy use on racial and ethnic disparities in adolescent obesity. Pediatr Obes. 2024;19(4):e13103. doi:10.1111/ijpo.13103

Salama M, Hassan D, Pittock S, Kumar S. Weight Loss Effect of Lisdexamfetamine in Children with Severe Obesity: A Case Series. Child Obes. 2025 Sep 29. doi: 10.1177/21532176251385703. Epub ahead of print. PMID: 41022566.

Srivastava G, O'Hara V, Browne N. Use of Lisdexamfetamine to Treat Obesity in an Adolescent with Severe Obesity and Binge Eating. Children (Basel). 2019;6(2):22. Published 2019 Feb 4. doi:10.3390/children6020022

Cuda S, Censani M. Progress in pediatric obesity: new and advanced therapies. Curr Opin Pediatr. 2022;34(4):407-413. doi:10.1097/MOP.0000000000001150

Roth CL, Scimia C, Shoemaker AH, et al. Setmelanotide for the treatment of acquired hypothalamic obesity: a phase 2, open-label, multicentre trial. Lancet Diabetes Endocrinol. 2024;12(6):380-389. doi:10.1016/S2213-8587(24)00087-1

Cuda S, Censani M, O'Hara V, et al. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2024;11:100113. Published 2024 May 23. doi:10.1016/j.obpill.2024.100113

Guan R, Yang Q, Yang X, Du W, Li X, Ma G. Efficacy and safety of tirzepatide in patients with type 2 diabetes mellitus: A bayesian network meta-analysis. Front Pharmacol. 2022;13:998816. Published 2022 Oct 14. doi:10.3389/fphar.2022.998816

Fox CK, Barrientos-Pérez M, Bomberg EM, et al. Liraglutide for Children 6 to <12 Years of Age with Obesity - A Randomized Trial. N Engl J Med. Published online September 10, 2024. doi:10.1056/NEJMoa2407379

Jastreboff AM, Aronne LJ, Ahmad NN, et al. Tirzepatide Once Weekly for the Treatment of Obesity. N Engl J Med. 2022;387(3):205-216. doi:10.1056/NEJMoa2206038

Sanyal AJ, Newsome PN, Kliers I, Østergaard LH, Long MT, Kjær MS, Cali AMG, Bugianesi E, Rinella ME, Roden M, Ratziu V; ESSENCE Study Group. Phase 3 Trial of Semaglutide in Metabolic Dysfunction-Associated Steatohepatitis. N Engl J Med. 2025 Jun 5;392(21):2089-2099. doi: 10.1056/NEJMoa2413258. Epub 2025 Apr 30. PMID: 40305708.

References

Argente J, Verge CF, Okorie U, Fennoy I, Kelsey MM, Cokkinias C, Scimia C, Lee HM, Farooqi IS. Setmelanotide in patients aged 2-5 years with rare MC4R pathway-associated obesity (VENTURE): a 1 year, open-label, multicenter, phase 3 trial. Lancet Diabetes Endocrinol. 2025 Jan;13(1):29-37. doi: 10.1016/S2213-8587(24)00273-0. Epub 2024 Nov 13. PMID: 39549719.

Aronne LJ, Sattar N, Horn DB, et al. Continued Treatment With Tirzepatide for Maintenance of Weight Reduction in Adults With Obesity: The SURMOUNT-4 Randomized Clinical Trial. JAMA. 2024;331(1):38-48. doi:10.1001/jama.2023.24945

Chuang MH, Chen JY, Wang HY, Jiang ZH, Wu VC. Clinical Outcomes of Tirzepatide or GLP-1 Receptor Agonists in Individuals With Type 2 Diabetes. JAMA Netw Open. 2024;7(8):e2427258. Published 2024 Aug 1. doi:10.1001/jamanetworkopen.2024.27258

Abbasi J. FDA Green-Lights Tirzepatide, Marketed as Zepbound, for Chronic Weight Management. JAMA. 2023;330(22):2143-2144. doi:10.1001/jama.2023.24539

Lincoff AM, Brown-Frandsen K, Colhoun HM, et al. Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes. N Engl J Med. 2023;389(24):2221-2232. doi:10.1056/NEJMoa2307563

Lu Y, Liu Y, Jastreboff AM, et al. Eligibility for Cardiovascular Risk Reduction Therapy in the United States Based on SELECT Trial Criteria: Insights From the National Health and Nutrition Examination Survey [published correction appears in Circ Cardiovasc Qual Outcomes. 2024 Jan;17(1):e000126. doi:10.1161/HCQ.0000000000000126]. Circ Cardiovasc Qual Outcomes. 2024;17(1):e010640.

Torbahn G, Jones A, Griffiths A, et al. Pharmacological interventions for the management of children and adolescents living with obesity-An update of a Cochrane systematic review with meta-analyses. Pediatr Obes. 2024;19(5):e13113. doi:10.1111/ijpo.13113

Senoo Y, Kami M. Once-Weekly Dulaglutide for Treatment of Youths with Type 2 Diabetes. N Engl J Med. 2022;387(16):1529-1530. doi:10.1056/NEJMc2211623

Vajravelu ME, Chu PY, Frank DA, Ragavan MI, Vajravelu RK. Projected impact of antiobesity pharmacotherapy use on racial and ethnic disparities in adolescent obesity. Pediatr Obes. 2024;19(4):e13103. doi:10.1111/ijpo.13103

Harris E. Oral Empagliflozin Receives FDA Approval for Children With Diabetes. JAMA. 2023;330(4):307. doi:10.1001/jama.2023.12057

Kelly AS, Bensignor MO, Hsia DS, et al. Phentermine/Topiramate for the Treatment of Adolescent Obesity. NEJM Evid. 2022;1(6):10.1056/evidoa2200014. doi:10.1056/evidoa2200014

Cuda S, Censani M, O'Hara V, et al. Special considerations for the child with obesity: An Obesity Medicine Association (OMA) clinical practice statement (CPS) 2024. Obes Pillars. 2024;11:100113. Published 2024 May 23. doi:10.1016/j.obpill.2024.10

Miller JL, Gevers E, Bridges N, Yanovski JA, Salehi P, Obrynba KS, Felner EI, Bird LM, Shoemaker AH, Angulo M, Butler MG, Stevenson D, Goldstone AP, Wilding J, Lah M, Shaikh MG, Littlejohn E, Abuzzahab MJ, Fleischman A, Hirano P, Yen K, Cowen NM, Bhatnagar A; C601/C602 Investigators. Diazoxide choline extended-release tablet in people with Prader-Willi syndrome: results from long-term open-label study. Obesity (Silver Spring). 2024 Feb;32(2):252-261. doi: 10.1002/oby.23928. Epub 2023 Nov 2. PMID: 37919617; PMCID: PMC12181816.

McGowan, B., Ciudin, A., Baker, J.L. et al. Framework for the pharmacological treatment of obesity and its complications from the European Association for the Study of Obesity (EASO). Nat Med (2025). https://doi.org/10.1038/s41591-025-03765-w

Kermansaravi M, Cohen RV. Oral Semaglutide in Adults with Overweight or Obesity. N Engl J Med. 2025 Dec 11;393(23):2381-2382. doi: 10.1056/NEJMc2515109. PMID: 41370811.

References

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Armstrong SC, Skinner AC. Severe Obesity in Toddlers: A Canary in the Coal Mine for the Health of Future Generations. Pediatrics. 2024;153(1):e2023063799. doi:10.1542/peds.2023-063799

Haqq AM, Chung WK, Dollfus H, et al. Efficacy and safety of setmelanotide, a melanocortin-4 receptor agonist, in patients with Bardet-Biedl syndrome and Alström syndrome: a multicentre, randomised, double-blind, placebo-controlled, phase 3 trial with an open-label period. Lancet Diabetes Endocrinol. 2022;10(12):859-868. doi:10.1016/S2213-8587(22)00277-7

Trapp CM, Censani M. Setmelanotide: a promising advancement for pediatric patients with rare forms of genetic obesity. Curr Opin Endocrinol Diabetes Obes. 2023;30(2):136-140. doi:10.1097/MED.0000000000000798

**Tamborlane WV, Barrientos-Pérez M, Fainberg U, et al. Liraglutide in Children and Adolescents with Type 2 Diabetes. N Engl J Med. 2019;381(7):637-646. doi:10.1056/NEJMoa1903822*

Arslanian SA, Hannon T, Zeitler P, et al. Once-Weekly Dulaglutide for the Treatment of Youths with Type 2 Diabetes. N Engl J Med. 2022;387(5):433-443. doi:10.1056/NEJMoa2204601

Laffel LM, Danne T, Klingensmith GJ, et al. Efficacy and safety of the SGLT2 inhibitor empagliflozin versus placebo and the DPP-4 inhibitor linagliptin versus placebo in young people with type 2 diabetes (DINAMO): a multicentre, randomised, double-blind, parallel group, phase 3 trial. Lancet Diabetes Endocrinol. 2023;11(3):169-181. doi:10.1016/S2213-8587(22)00387-4

Childress AC, Lloyd E, Jacobsen L, Gunawardhana L, Johnson SA Jr, Findling RL. Efficacy and Safety of Lisdexamfetamine in Preschool Children With Attention-Deficit/Hyperactivity Disorder. J Am Acad Child Adolesc Psychiatry. 2022;61(12):1423-1434. doi:10.1016/j.jaac.2022.03.034

Sugaya LS, Farhat LC, Califano P, Polanczyk GV. Efficacy of stimulants for preschool attention-deficit/hyperactivity disorder: A systematic review and meta-analysis. JCPP Adv. 2023;3(3):e12146. Published 2023 Feb 25. doi:10.1002/jcv2.12146

https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/204042s043lbl.pdf2.https://clinicaltrials.gov/study/NCT03170518?term=pediatric&intr=invokana&rank=1&tab=results#outcome-measures

Grube PM, Beckett RD. Clinical studies of dapagliflozin in pediatric patients: a rapid review. Ann Pediatr Endocrinol Metab. 2022 Dec;27(4):265-272. doi: 10.6065/apem.2244166.083. Epub 2022 Dec 31. PMID: 36567463; PMCID: PMC9816466.

Tamborlane WV, Laffel LM, Shehadeh N, Isganaitis E, Van Name M, Ratnayake J, Karlsson C, Norjavaara E. Efficacy and safety of dapagliflozin in children and young adults with type 2 diabetes: a prospective, multicentre, randomised, parallel group, phase 3 study. Lancet Diabetes Endocrinol. 2022 May;10(5):341-350. doi: 10.1016/S2213-8587(22)00052-3. Epub 2022 Apr 1. PMID: 35378069; PMCID: PMC10851108.

Hannon TS, Chao LC, Barrientos-Pérez M, Pamidipati KC, Landó LF, Lee CJ, Patel H, Bergman BK. Efficacy and safety of tirzepatide in children and adolescents with type 2 diabetes (SURPASS-PEDS): a randomised, double-blind, placebo-controlled, phase 3 trial. Lancet. 2025 Sep 17:S0140-6736(25)01774-X. doi: 10.1016/S0140-6736(25)01774-X. Epub ahead of print. Erratum in: Lancet. 2025 Sep 25:S0140-6736(25)01961-0. doi: 10.1016/S0140-6736(25)01961-0. PMID: 40975112.

Torbahn G, Lischka J, Brown T, Ells LJ, Kelly AS, Wabitsch M, Weghuber D. Anti-Obesity Medication in the Management of Children and Adolescents With Obesity: Recent Developments and Research Gaps. Clin Endocrinol (Oxf). 2025 Jan;102(1):51-61. doi: 10.1111/cen.15133. Epub 2024 Sep 11. PMID: 39257303; PMCID: PMC11612549.

** - Foundational publication*

References

Kotecha P, Huang W, Yeh YY, Narvaez VM, Adirika D, Tang H, Bernier AV, Westen SC, Smith SM, Bian J, Guo J. Efficacy and Safety of GLP-1 RAs in Children and Adolescents With Obesity or Type 2 Diabetes: A Systematic Review and Meta-Analysis. JAMA Pediatr. 2025 Sep 15:e253243. doi: 10.1001/jamapediatrics.2025.3243. Epub ahead of print. PMID: 40952752; PMCID: PMC12439189.

Kompaniyets L, Pierce SL, Porter R, Autrey K, Chua KP, Belay B, Blanck HM, Goodman AB. Prescriptions for Obesity Medications Among Adolescents Aged 12-17 Years with Obesity - United States, 2018-2023. MMWR Morb Mortal Wkly Rep. 2025 Jun 5;74(20):337-344. doi: 10.15585/mmwr.mm7420a1. PMID: 40471858; PMCID: PMC12140182

Kompaniyets L, Pierce SL, Porter R, Autrey K, Chua KP, Belay B, Blanck HM, Goodman AB. Prescriptions for Obesity Medications Among Adolescents Aged 12-17 Years with Obesity - United States, 2018-2023. MMWR Morb Mortal Wkly Rep. 2025 Jun 5;74(20):337-344. doi: 10.15585/mmwr.mm7420a1. PMID: 40471858; PMCID: PMC12140182.

Hannon TS, Chao LC, Barrientos-Pérez M, Pamidipati KC, Landó LF, Lee CJ, Patel H, Bergman BK. Efficacy and safety of tirzepatide in children and adolescents with type 2 diabetes (SURPASS-PEDS): a randomised, double-blind, placebo-controlled, phase 3 trial. Lancet. 2025 Oct 4;406(10511):1484-1496. doi: 10.1016/S0140-6736(25)01774-X. Epub 2025 Sep 17. Erratum in: Lancet. 2025 Oct 4;406(10511):1472. doi: 10.1016/S0140-6736(25)01961-0. PMID: 40975112. https://pi.lilly.com/us/mounjaro-uspi.pdf

Bariatric Technologies

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

Williams K, Nadler EP. The Role of Devices in the Management of Pediatric Obesity. Curr Obes Rep. 2022;11(3):55-60. doi:10.1007/s13679-022-00476-y

Ryder REJ, Yadagiri M, Burbridge W, et al. Duodenal-jejunal bypass liner for the treatment of type 2 diabetes and obesity: 3-year outcomes in the First National Health Service (NHS) EndoBarrier Service. Diabet Med. 2022;39(7):e14827. doi:10.1111/dme.14827

Wu Z, Gao Z, Qiao Y, et al. Long-Term Results of Bariatric Surgery in Adolescents with at Least 5 Years of Follow-up: a Systematic Review and Meta-Analysis. Obes Surg. 2023;33(6):1730-1745. doi:10.1007/s11695-023-06593-4

Levaillant L, Levaillant M, Sfeir N, et al. Factors Associated With Weight Loss After Laparoscopic Adjustable Gastric Banding in Adolescents With Severe Obesity. JPGN Rep. 2023;4(2):e296. Published 2023 Mar 9. doi:10.1097/PG9.0000000000000296

Oyola C, Berry M, Salazar MAP, et al. Successful Weight Loss in Adolescents with Overweight or Obesity Using a Swallowable Intragastric Balloon and Nutritional Oversight. Obes Surg. 2024;34(10):3762-3770. doi:10.1007/s11695-024-07458-0

Williams K, Nadler EP. The Role of Devices in the Management of Pediatric Obesity. Curr Obes Rep. 2022;11(3):55-60. doi:10.1007/s13679-022-00476-y

Ard JD, Ryan DH, O'Neil PM, et al. Efficacy and safety of a novel oral hydrogel capsule in adults with overweight or obesity: the pivotal randomized RESET study. Obesity (Silver Spring). 2025;33(3):500-511. doi:10.1002/oby.24240

Reja D, Zhang C, Sarkar A. Endoscopic bariatrics: current therapies and future directions. Transl Gastroenterol Hepatol 2022;7:21.

References

Metabolic & Bariatric Surgery

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

**Pratt JSA, Browne A, Browne NT, et al. ASMBS pediatric metabolic and bariatric surgery guidelines, 2018. Surg Obes Relat Dis. 2018;14(7):882-901. doi:10.1016/j.soard.2018.03.019*

**Alqahtani AR, Elahmedi M, Abdurabu HY, Alqahtani S. Ten-Year Outcomes of Children and Adolescents Who Underwent Sleeve Gastrectomy: Weight Loss, Comorbidity Resolution, Adverse Events, and Growth Velocity. J Am Coll Surg. 2021;233(6):657-664. doi:10.1016/j.jamcollsurg.2021.08.678*

de la Cruz-Muñoz N, Xie L, Quiroz HJ, et al. Long-Term Outcomes after Adolescent Bariatric Surgery. J Am Coll Surg. 2022;235(4):592-602. doi:10.1097/XCS.0000000000000325

Goldenshluger M, Iluz R, Beck T, et al. Laparoscopic Sleeve Gastrectomy in Adolescents: Ten-Years Follow-up. Obes Surg. 2023;33(1):32-37. doi:10.1007/s11695-022-06348-7

Salimi-Jazi F, Chkhikvadze T, Shi J, et al. Trends in Adolescent Bariatric Procedures: a 15-Year Analysis of the National Inpatient Survey. Obes Surg. 2022;32(11):3658-3665. doi:10.1007/s11695-022-06265-9

Raatz S, Pratt JSA. Metabolic and Bariatric Surgery for Pediatric Obesity. In: Fox C, editor. Managing pediatric obesity using advanced therapies: practical guide for pediatric health care providers. 25. Springer; 2023. p. 211-244.

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Cuda S, Censani M, Kharofa R, et al. Medication-induced weight gain and advanced therapies for the child with overweight and obesity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. Obes Pillars. 2022;4:100048. Published 2022 Dec 5. doi:10.1016/j.obpill.2022.100048

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Lucas E, Simmons O, Tchang B, Aronne L. Pharmacologic management of weight regain following bariatric surgery. Front Endocrinol (Lausanne). 2023;13:1043595. doi:10.3389/fendo.2022.1043595

Ryder JR, Jenkins TM, Xie C, et al. Ten-Year Outcomes after Bariatric Surgery in Adolescents. N Engl J Med. 2024;391(17):1656-1658. doi:10.1056/NEJMc2404054

Chinn JO, Shacker M, Brennan KA, Esquivel MM, Pratt JS. Timing of Antiobesity Medications and Adolescent Metabolic and Bariatric Surgery. JAMA Surg. Published online October 22, 2025. doi:10.1001/jamasurg.2025.4430

Shacker M, Chao SD, Chinn JO, Fell GL, Mueller CM, Pratt JSA. Metabolic and bariatric surgery in adolescents compared to young adults: an MBSAQIP database analysis. Surg Obes Relat Dis. 2025 Aug 20:S1550-7289(25)00852-4. doi: 10.1016/j.soard.2025.08.010. Epub ahead of print. PMID: 40946077.

Wu Z, Gao Z, Qiao Y, Chen F, Guan B, Wu L, Cheng L, Huang S, Yang J. Long-Term Results of Bariatric Surgery in Adolescents with at Least 5 Years of Follow-up: a Systematic Review and Meta-Analysis. Obes Surg. 2023 Jun;33(6):1730-1745. doi: 10.1007/s11695-023-06593-4. Epub 2023 Apr 28. PMID: 37115416.

* - Foundational publication

14

Co-Morbidities

References

Abbreviations

AAP - American Academy of Pediatrics
ACE - Angiotensin-converting enzyme
ADA - American Diabetes Association
ALT - alanine aminotransferase
ARB - Angiotensin II receptor blockers
AST - Aspartate transferase
BP - blood pressure
BMI-SDS - body mass index standard deviation score
Ca - calcium
CPG - clinical practice guideline
CRP - C-Reactive protein
CSF - cerebrospinal fluid
CV - cardiovascular
ECHO - echocardiogram
EKG - electrocardiogram
DBP - diastolic blood pressure
DKA - diabetic ketoacidosis
FBG - fasting blood glucose
GDM - gestational diabetes mellitus
GGT - Gamma-Glutamyl Transpeptidase
HA - headache
HbA1c - hemoglobin A1c
HCG - human chorionic gonadotropin
HDL - high-density lipoprotein
Hg - mercury
HHNK - Hyperglycemic hyperosmolar nonketotic coma
HTN - hypertension
IIH - Idiopathic Intracranial Hypertension
ISPAD - International Society for Pediatric and Adolescent Diabetes
LFT - liver function tests
MASLD - metabolic dysfunction-associated steatotic liver disease

Abbreviations

MASH - Metabolic dysfunction-associated steatohepatitis

MetS - metabolic syndrome

MI - myocardial infarction

Na - sodium

OGTT - oral glucose tolerance test

NHLBI - National Heart, Lung, and Blood Institute

OCP - Oral contraceptive pills

OM - Obesity medications

OSA - obstructive sleep apnea

PCOS - Polycystic ovary syndrome

SBP - systolic blood pressure

SGA - small for gestational age

SSB - sugar sweetened beverages

T1DM - Type 1 diabetes mellitus

T2DM - type 2 diabetes mellitus

TG - triglycerides

TNF-α - Tumor necrosis factor alpha

UACR - urine albumin/ creatinine ratio

WC - waist circumference

WHO - World Health Organization

References

Wentzel A, Mabhida SE, Ndlovu M, Mokoena H, Esterhuizen B, Sekgala MD, Dludla PV, Kengne AP, Mchiza ZJ. Prevalence of metabolic syndrome in children and adolescents with obesity: a systematic review and meta-analysis. Obesity (Silver Spring). 2025 Jan;33(1):12-32. doi: 10.1002/oby.24159. Epub 2024 Dec 2. PMID: 39622709.

Chung ST, Krenek A, Magge SN. Childhood Obesity and Cardiovascular Disease Risk. Curr Atheroscler Rep. 2023;25(7):405-415. doi:10.1007/s11883-023-01111-4

Correa-Burrows P, Rogan J, Blanco E, et al. Resolving early obesity leads to a cardiometabolic profile within normal ranges at 23 years old in a two-decade prospective follow-up study. Sci Rep. 2021;11(1):18927. Published 2021 Sep 23. doi:10.1038/s41598-021-97683-9

References

Flynn JT, Kaelber DC, Baker-Smith CM, et al. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents [published correction appears in Pediatrics. 2017 Dec;140(6):e20173035. doi: 10.1542/peds.2017-3035] [published correction appears in Pediatrics. 2018 Sep;142(3):e20181739. doi: 10.1542/peds.2018-1739]. Pediatrics. 2017;140(3):e20171904. doi:10.1542/peds.2017-1904

Karam S, Cohen DL, Jaoude PA, et al. Approach to Diagnosis and Management of Hypertension: A Comprehensive and Combined Pediatric and Adult Perspective. Semin Nephrol. 2023;43(4):151438. doi:10.1016/j.semnephrol.2023.151438

Chung ST, Krenek A, Magge SN. Childhood Obesity and Cardiovascular Disease Risk. Curr Atheroscler Rep. 2023 Jul;25(7):405-415. doi: 10.1007/s11883-023-01111-4. Epub 2023 May 31. PMID: 37256483; PMCID: PMC10230147.
Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Correction to: "Childhood Obesity, Diabetes, and Cardiovascular Disease Risk". J Clin Endocrinol Metab. 2024 Apr 19;109(5):e1422. doi: 10.1210/clinem/dgae030. Erratum for: J Clin Endocrinol Metab. 2023 Nov 17; 108(12):3051-3066. doi: 10.1210/clinem/dgad361. PMID: 38245377.

Bansal N, Kumar S, Brar PC. Update on management of paediatric dyslipidaemia. Curr Opin Endocrinol Diabetes Obes. 2023;30(1):52-64. doi:10.1097/MED.0000000000000794

Harada-Shiba M, Ohtake A, Sugiyama D, et al. Guidelines for the Diagnosis and Treatment of Pediatric Familial Hypercholesterolemia 2022. J Atheroscler Thromb. 2023;30(5):531-557. doi:10.5551/jat.CR006

Brun BN, Aylward SC. Pediatric Intracranial Hypertension: A Spotlight on Imaging, the Idiopathic Intracranial Hypertension Treatment Trial, and COVID-19 Associated Cases. Semin Pediatr Neurol. 2021 Dec;40:100922. doi: 10.1016/j.spen.2021.100922. Epub 2021 Sep 4. PMID: 34749916

Kilic K, Korsbæk JJ, Jensen RH, Cvetkovic VV. Diagnosis of idiopathic intracranial hypertension - the importance of excluding secondary causes: A systematic review. Cephalalgia. 2022 May;42(6):524-541. doi: 10.1177/03331024211056580. Epub 2021 Nov 25. PMID: 34822742.

Subramaniam S, Fletcher WA. Obesity and Weight Loss in Idiopathic Intracranial Hypertension: A Narrative Review. J Neuroophthalmol. 2017 Jun;37(2):197-205. doi: 10.1097/WNO.0000000000000448. PMID: 27636748.

Hoang KB, Hooten KG, Muh CR. Shunt freedom and clinical resolution of idiopathic intracranial hypertension after bariatric surgery in the pediatric population: report of 3 cases. J Neurosurg Pediatr. 2017 Dec;20(6):511-516. doi: 10.3171/2017.6.PEDS17145. Epub 2017 Sep 29. PMID: 28960170.

Amin S, Monaghan M, Forrest K, Harijan P, Mehta V, Moran M, Mukhtyar B, Muthusamy B, Parker A, Prabhakar P, Whitehouse WP, Krishnakumar D. Consensus recommendations for the assessment and management of idiopathic intracranial hypertension in children and young people. Arch Dis Child. 2024 Jul 18;109(8):654-658. doi: 10.1136/archdischild-2023-326545. PMID: 38724065

Colman BD, Boonstra F, Nguyen MN, Raviskanthan S, Sumithran P, White O, Hutton EJ, Fielding J, van der Walt A. Understanding the pathophysiology of idiopathic intracranial hypertension (IIH): a review of recent developments. J Neurol Neurosurg Psychiatry. 2024 Mar 13;95(4):375-383. doi: 10.1136/jnnp-2023-332222. PMID: 37798095.

Lyons HS, Mollan SLP, Liu GT, Bowman R, Thaller M, Sinclair AJ, Mollan SP. Different Characteristics of Pre-Pubertal and Post-Pubertal Idiopathic Intracranial Hypertension: A Narrative Review. Neuroophthalmology. 2022 Dec 15;47(2):63-74. doi: 10.1080/01658107.2022.2153874. PMID: 36891406; PMCID: PMC9988343.

References

Haspel JA, Anafi R, Brown MK, Cermakian N, Depner C, Desplats P, Gelman AE, Haack M, Jelic S, Kim BS, Laposky AD, Lee YC, Mongodin E, Prather AA, Prendergast BJ, Reardon C, Shaw AC, Sengupta S, Szentirmai É, Thakkar M, Walker WE, Solt LA. Perfect timing: circadian rhythms, sleep, and immunity - an NIH workshop summary. JCI Insight. 2020 Jan 16;5(1):e131487. doi: 10.1172/jci.insight.131487. PMID: 31941836; PMCID: PMC7030790.

Besedovsky L, Lange T, Haack M. The Sleep-Immune Crosstalk in Health and Disease. Physiol Rev. 2019 Jul 1;99(3):1325-1380. doi: 10.1152/physrev.00010.2018. PMID: 30920354; PMCID: PMC6689741.

Papatriantafyllou E, Efthymiou D, Zoumbaneas E, Popescu CA, Vassilopoulou E. Sleep Deprivation: Effects on Weight Loss and Weight Loss Maintenance. Nutrients. 2022;14(8):1549. Published 2022 Apr 8. doi:10.3390/nu14081549

Troester MM, Quan SF, Berry RB, et al; for the American Academy of Sleep Medicine. The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications. Version 3. Dariel IL: American Academy of Sleep Medicine; 2023.

Mitchell RB, Archer SM, Ishman SL, et al. Clinical Practice Guideline: Tonsillectomy in Children (Update). Otolaryngol Head Neck Surg. 2019;160(1_suppl):S1-S42. doi:10.1177/0194599818801757

Damian A, Gozal D. Pediatric Obstructive Sleep Apnea: What's in a Name?. Adv Exp Med Biol. 2022;1384:63-78. doi:10.1007/978-3-031-06413-5_5

Mokhlesi B, Masa JF, Brozek JL, et al. Evaluation and Management of Obesity Hypoventilation Syndrome. An Official American Thoracic Society Clinical Practice Guideline [published correction appears in Am J Respir Crit Care Med. 2019 Nov 15;200(10):1326. doi: 10.1164/rccm.v200erratum7]. Am J Respir Crit Care Med. 2019;200(3):e6-e24. doi:10.1164/rccm.201905-1071ST

Hampl SE, Hassink SG, Skinner AC, et al. Clinical Practice Guideline for the Evaluation and Treatment of Children and Adolescents With Obesity [published correction appears in Pediatrics. 2024 Jan 1;153(1):e2023064612. doi: 10.1542/peds.2023-064612]. Pediatrics. 2023;151(2):e2022060640. doi:10.1542/peds.2022-060640

Salama M, Balagopal B, Fennoy I, Kumar S. Childhood Obesity, Diabetes. and Cardiovascular Disease Risk. J Clin Endocrinol Metab. 2023 Nov 17;108(12):3051-3066. doi: 10.1210/clinem/dgad361. Erratum in: J Clin Endocrinol Metab. 2024 Apr 19;109(5):e1422. doi: 10.1210/clinem/dgae030. PMID: 37319430.

De Blas-Zapata A, Sastre-Albiach JM, Baixauli-López L, López-Ruiz R, Alvarez-Pitti J. Emerging cardiovascular risk factors in childhood and adolescence: a narrative review. Eur J Pediatr. 2025 Apr 14;184(5):298. doi: 10.1007/s00431-025-06102-y. PMID: 40229626; PMCID: PMC11996947.

Paruthi S, Brooks LJ, D'Ambrosio C, et al. Recommended Amount of Sleep for Pediatric Populations: A Consensus Statement of the American Academy of Sleep Medicine. J Clin Sleep Med. 2016;12(6):785-786. Published 2016 Jun 15. doi:10.5664/jcsm.5866

Christensen Pacella KA, Forbush KT. Weight bias internalization is positively associated with insomnia symptom severity in young women with disordered eating. Sleep Health. 2024;10(1):60-64. doi:10.1016/j.sleh.2023.10.014

Wallace AS, Wang D, Shin JI, Selvin E. Screening and Diagnosis of Prediabetes and Diabetes in US Children and Adolescents. Pediatrics. 2020;146(3):e20200265. doi:10.1542/peds.2020-0265

American Diabetes Association. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes-2020. Diabetes Care. 2020;43(Suppl 1):S14-S31. doi:10.2337/dc20-S002

References

Hosey CM, Halpin K, Yan Y. Considering metformin as a second-line treatment for children and adolescents with prediabetes. J Pediatr Endocrinol Metab. 2022;35(6):727-732. Published 2022 May 3. doi:10.1515/jpem-2021-0200

Lazarte J, Hegele RA. Pediatric Dyslipidemia-Beyond Familial Hypercholesterolemia. Can J Cardiol. 2020;36(9):1362-1371. doi:10.1016/j.cjca.2020.03.020

Shah AS, Zeitler PS, Wong J, Pena AS, Wicklow B, Arslanian S, Chang N, Fu J, Dabadghao P, Pinhas-Hamiel O, Urakami T, Craig ME. ISPAD Clinical Practice Consensus Guidelines 2022: Type 2 diabetes in children and adolescents. Pediatr Diabetes. 2022 Nov;23(7):872-902. doi: 10.1111/pedi.13409. Epub 2022 Sep 25. Erratum in: Pediatr Diabetes. 2025 Aug 21;2025:9814065. doi: 10.1155/pedi/9814065. PMID: 36161685.

Schmitt JA, Ashraf AP, Becker DJ, Sen B. Changes in Type 2 Diabetes Trends in Children and Adolescents During the COVID-19 Pandemic. J Clin Endocrinol Metab. 2022;107(7):e2777-e2782. doi:10.1210/clinem/dgac209

Mefford MT, Wei R, Lustigova E, Martin JP, Reynolds K. Incidence of Diabetes Among Youth Before and During the COVID-19 Pandemic. JAMA Netw Open. 2023;6(9):e2334953. Published 2023 Sep 5. doi:10.1001/jamanetworkopen.2023.34953

**Christian Flemming GM, Bussler S, Körner A, Kiess W. Definition and early diagnosis of metabolic syndrome in children. J Pediatr Endocrinol Metab. 2020;33(7):821-833. doi:10.1515/jpem-2019-0552*

Virmani A, Brink SJ, Middlehurst A, et al. ISPAD Clinical Practice Consensus Guidelines 2022: Management of the child, adolescent, and young adult with diabetes in limited resource settings. Pediatr Diabetes. 2022;23(8):1529-1551. doi:10.1111/pedi.13456

Leister KR, Cilhoroz BT, Rosenberg J, Brown EC, Kim JY. Metabolic syndrome: Operational definitions and aerobic and resistance training benefits on physical and metabolic health in children and adolescents. Diabetes Metab Syndr. 2022;16(6):102530. doi:10.1016/j.dsx.2022.102530

Codazzi V, Frontino G, Galimberti L, Giustina A, Petrelli A. Mechanisms and risk factors of metabolic syndrome in children and adolescents. Endocrine. 2024 Apr;84(1):16-28. doi: 10.1007/s12020-023-03642-x. Epub 2023 Dec 22. PMID: 38133765; PMCID: PMC10987369.

Talebi Anaraki K, Heidari-Beni M, Arefian M, Kelishadi R. Managing pediatric metabolic syndrome: a systematic review of current approaches. BMC Pediatr. 2025 May 28;25(1):431. doi: 10.1186/s12887-025-05759-6. PMID: 40437390; PMCID: PMC12117906.

Teede HJ, Tay CT, Laven JJE, et al. Recommendations From the 2023 International Evidence-based Guideline for the Assessment and Management of Polycystic Ovary Syndrome. J Clin Endocrinol Metab. 2023;108(10):2447-2469. doi:10.1210/clinem/dgad463

Ng HY, Chan LTW. Prediabetes in children and adolescents: An updated review. World J Clin Pediatr. 2023 Dec 9;12(5):263-272. doi: 10.5409/wjcp.v12.i5.263. PMID: 38178932; PMCID: PMC10762598.

Bacha F, Hannon TS, Tosur M, Pike JM, Butler A, Tommerdahl KL, Zeitler PS. Pathophysiology and Treatment of Prediabetes and Type 2 Diabetes in Youth. Diabetes Care. 2024 Dec 1;47(12):2038-2049. doi: 10.2337/dci24-0029. PMID: 39250166; PMCID: PMC11655414.

Panganiban J, Kehar M, Ibrahim SH, et al. Metabolic dysfunction-associated steatotic liver disease (MASLD) in children with obesity: An Obesity Medicine Association (OMA) and expert joint perspective 2025. Obes Pillars. 2025;14:100164. Published 2025 Feb 1. doi:10.1016/j.obpill.2025.100164https://doi.org/10.1016/j.obpill.2025.100164. (https://www.sciencedirect.com/science/article/pii/S2667368125000087)

** - Foundational publication*

References

Whooten RC, Rifas-Shiman SL, Perng W, Chavarro JE, Taveras E, Oken E, Hivert MF. Associations of Childhood Adiposity and Cardiometabolic Biomarkers With Adolescent PCOS. Pediatrics. 2024 May 1;153(5):e2023064894. doi: 10.1542/peds.2023-064894. PMID: 38634159; PMCID: PMC11035160.

Trent M, Gordon CM. Diagnosis and Management of Polycystic Ovary Syndrome in Adolescents. Pediatrics. 2020;145(Suppl 2):S210-S218. doi:10.1542/peds.2019-2056J

Karjoo S, Braglia-Tarpey A, Chan AP, Ayala Germán AG, Herdes RE, Pai N, Sierra-Velez D, Whitehead B, Quiros-Tejeira RE, Duro D. Evidence-based review of the nutritional treatment of obesity and metabolic dysfunction-associated steatotic liver disease in children and adolescents. J Pediatr Gastroenterol Nutr. 2025 Sep;81(3):485-496. doi: 10.1002/jpn3.70099. Epub 2025 Jun 17. PMID: 40525381.

Rinella ME, Lazarus JV, Ratziu V, et al. A multisociety Delphi consensus statement on new fatty liver disease nomenclature. Hepatology. 2023;78(6):1966-1986. doi:10.1097/HEP.0000000000000520

Rinella ME. Examining the Nomenclature Change From NAFLD and NASH to MASLD and MASH. Gastroenterol Hepatol (N Y). 2023;19(11):697-699.

Rinella ME, Sookoian S. From NAFLD to MASLD: updated naming and diagnosis criteria for fatty liver disease. J Lipid Res. 2024;65(1):100485. doi:10.1016/j.jlr.2023.100485

Di Sessa A, Guarino S, Umano GR, Miraglia Del Giudice E, Marzuillo P. MASLD vs. NAFLD: A better definition for children with obesity at higher risk of kidney damage. J Hepatol. 2024;80(2):e87-e89. doi:10.1016/j.jhep.2023.10.021

Sanyal AJ, Newsome PN, Kliers I, Østergaard LH, Long MT, Kjær MS, Cali AMG, Bugianesi E, Rinella ME, Roden M, Ratziu V; ESSENCE Study Group. Phase 3 Trial of Semaglutide in Metabolic Dysfunction-Associated Steatohepatitis. N Engl J Med. 2025 Jun 5;392(21):2089-2099. doi: 10.1056/NEJMoa2413258. Epub 2025 Apr 30. PMID: 40305708.

Singh A, Kotzur T, Torres-Izquierdo B, et al. Decade-long Trends in Incidence of Slipped Capital Femoral Epiphysis in the United States: A Nationwide Database Analysis of Over 33 Million Patients. J Am Acad Orthop Surg Glob Res Rev. 2024;8(5):e24.00112. Published 2024 May 22. doi:10.5435/JAAOSGlobal-D-24-00112

Janoyer M. Blount disease. Orthop Traumatol Surg Res. 2019;105(1S):S111-S121. doi:10.1016/j.otsr.2018.01.009

Ramella M, Depaoli A, Menozzi GC, Gallone G, Cerasoli T, Rocca G, Trisolino G. Recurrence and Complication Rates of Surgical Treatment for Blount's Disease in Children: A Systematic Review and Meta-Analysis. J Clin Med. 2023 Oct 12;12(20):6495. doi: 10.3390/jcm12206495. PMID: 37892633; PMCID: PMC10607610.

Woods N, Wittmeier K, Mulder K, Dufault B, Black B. The Relationship Between Body Mass Index and the Magnitude of Curve at Diagnosis of Adolescent Idiopathic Scoliosis: A Retrospective Chart Review. Orthop Res Rev. 2022 May 9;14:149-155. doi: 10.2147/ORR.S359394. PMID: 35586199; PMCID: PMC9109906.

Momtaz D, Mirghaderi P, Gonuguntla R, Singh A, Mittal M, Burbano A, Hosseinzadeh P. Rate and Risk Factors for Contralateral Slippage in Adolescents Treated for Slipped Capital Femoral Epiphysis: A Comprehensive Analysis of 3,528 Cases. J Bone Joint Surg Am. 2024 Mar 20;106(6):517-524. doi: 10.2106/JBJS.23.00779. Epub 2024 Jan 25. PMID: 38271486.

Castano L, Madariaga L, Grau G, García-Castaño A. 25(OH)Vitamin D Deficiency and Calcifediol Treatment in Pediatrics. Nutrients. 2022;14(9):1854. Published 2022 Apr 29. doi:10.3390/nu14091854

Corsello A, Macchi M, D'Oria V, et al. Effects of vitamin D supplementation in obese and overweight children and adolescents: A systematic review and meta-analysis. Pharmacol Res. 2023;192:106793. doi:10.1016/j.phrs.2023.106793

References

Büyükçelebi H, Açak M, Eken Ö, Doğaner A, Özen G, Ardigò LP. Association between pediatric obesity and foot morphology: insights from a large-scale cross-sectional study using photogrammetry. BMC Pediatr. 2025 Aug 16;25(1):628. doi: 10.1186/s12887-025-05966-1. PMID: 40818938; PMCID: PMC12357437.

Kardm SM, Alanazi ZA, Aldugman TAS, Reddy RS, Gautam AP. Prevalence and functional impact of flexible flatfoot in school-aged children: a cross-sectional clinical and postural assessment. J Orthop Surg Res. 2025 Aug 21;20(1):783. doi: 10.1186/s13018-025-06207-y. PMID: 40841947; PMCID: PMC12369048.

15 Behavioral Health

References

Abbreviations

ADHD - attention-deficit hyperactivity disorder

BED - binge eating disorder

BMI - body mass index

BN - bulimia nervosa

CBT - cognitive behavioral therapy

CV - cardiovascular

DBT - Dialectical behavior therapy

FBT - Family-based behavioral therapy

ICAT-A - Integrated cognitive affective therapy - Adolescent

LOC - loss of control

NES - night eating syndrome

OR - odds ratio

PCP - primary care provider

PHQ-A - Patient Health Questionnaire

SRED - sleep related eating disorder

SNRI - Serotonin and norepinephrine reuptake inhibitors

SSRI - Selective serotonin reuptake inhibitors

References

*Cortese S, Moreira-Maia CR, St Fleur D, Morcillo-Peñalver C, Rohde LA, Faraone SV. Association Between ADHD and Obesity: A Systematic Review and Meta-Analysis. Am J Psychiatry. 2016;173(1):34-43. doi:10.1176/appi.ajp.2015.15020266

O'Hara VM, Curran JL, Browne NT. The Co-occurrence of Pediatric Obesity and ADHD: an Understanding of Shared Pathophysiology and Implications for Collaborative Management. Curr Obes Rep. 2020 Dec;9(4):451-461. doi: 10.1007/s13679-020-00410-0. Epub 2020 Oct 28. PMID: 33113108.

Reed C, Cortese S, Golm D, Brandt V. Longitudinal Associations Between Attention-Deficit/Hyperactivity and Weight From Birth to Adolescence. J Am Acad Child Adolesc Psychiatry. 2025 Oct;64(10):1192-1200. doi: 10.1016/j.jaac.2024.09.009. Epub 2024 Nov 5. PMID: 39510314.

Barker ED, Ing A, Biondo F, Jia T, Pingault JB, Du Rietz E, Zhang Y, Ruggeri B, Banaschewski T, Hohmann S, Bokde ALW, Bromberg U, Büchel C, Quinlan EB, Sounga-Barke E, Bowling AB, Desrivières S, Flor H, Frouin V, Garavan H, Asherson P, Gowland P, Heinz A, Ittermann B, Martinot JL, Martinot MP, Nees F, Papadopoulos-Orfanos D, Poustka L, Smolka MN, Vetter NC, Walter H, Whelan R, Schumann G; IMAGEN Consortium. Do ADHD-impulsivity and BMI have shared polygenic and neural correlates? Mol Psychiatry. 2021 Mar;26(3):1019-1028. doi: 10.1038/s41380-019-0444-y. Epub 2019 Jun 21. PMID: 31227801; PMCID: PMC7910212.

* - Foundational publication

References

Kang NR, Kwack YS. An Update on Mental Health Problems and Cognitive Behavioral Therapy in Pediatric Obesity. Pediatr Gastroenterol Hepatol Nutr. 2020 Jan;23(1):15-25. doi: 10.5223/pghn.2020.23.1.15. Epub 2020 Jan 8. PMID: 31988872; PMCID: PMC6966224

Zhu Y, Wang NN, Pan D, Wang S. Risk of Overweight and Obesity in Children and Adolescents With Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-Analysis. Child Obes. 2024;20(2):119-127. doi:10.1089/chi.2022.0230

Kanellopoulou A, Antonogeorgos G, Douros K, Panagiotakos DB. The Association between Obesity and Depression among Children and the Role of Family: A Systematic Review. Children (Basel). 2022;9(8):1244. Published 2022 Aug 18. doi:10.3390/children9081244

Say A, de la Piedad Garcia X, Mallan KM. The correlation between different operationalisations of parental restrictive feeding practices and children's eating behaviours: Systematic review and meta-analyses. Appetite. 2023;180:106320. doi:10.1016/j.appet.2022.106320

Dakanalis A, Mentzelou M, Papadopoulou SK, et al. The Association of Emotional Eating with Overweight/Obesity, Depression, Anxiety/Stress, and Dietary Patterns: A Review of the Current Clinical Evidence. Nutrients. 2023;15(5):1173. Published 2023 Feb 26. doi:10.3390/nu15051173

Grajek M, Krupa-Kotara K, Białek-Dratwa A, et al. Prevalence of Emotional Eating in Groups of Students with Varied Diets and Physical Activity in Poland. Nutrients. 2022;14(16):3289. Published 2022 Aug 11. doi:10.3390/nu14163289

Morillo-Sarto H, López-Del-Hoyo Y, Pérez-Aranda A, et al. 'Mindful eating' for reducing emotional eating in patients with overweight or obesity in primary care settings: A randomized controlled trial. Eur Eat Disord Rev. 2023;31(2):303-319. doi:10.1002/erv.2958

Feltner C, Peat C, Reddy S, et al. Screening for Eating Disorders in Adolescents and Adults: Evidence Report and Systematic Review for the US Preventive Services Task Force. JAMA. 2022;327(11):1068-1082. doi:10.1001/jama.2022.1807

Smith JD, Fu E, Kobayashi MA. Prevention and Management of Childhood Obesity and Its Psychological and Health Comorbidities. Annu Rev Clin Psychol. 2020 May 7;16:351-378. doi: 10.1146/annurev-clinpsy-100219-060201. Epub 2020 Feb 25. PMID: 32097572; PMCID: PMC7259820.

Aykutlu HC, Okyar E, Karadağ M, Öztürk M. Comparative Effects of Stimulant and Antipsychotic Medications on Eating Behaviors and Weight in Children with Attention Deficit Hyperactivity Disorder. Children (Basel). 2024 Sep 28;11(10):1189. doi: 10.3390/children11101189. PMID: 39457154; PMCID: PMC11506010.

Garcia-Argibay M, Lundström S, Cortese S, Larsson H. Trends in Body Mass Index Among Individuals With Neurodevelopmental Disorders. JAMA Netw Open. 2024 Sep 3;7(9):e2431543. doi: 10.1001/jamanetworkopen.2024.31543. PMID: 39230900; PMCID: PMC11375475.

Jelalian E, Jandasek B, Wolff JC, Seaboyer LM, Jones RN, Spirito A. Cognitive-behavioral therapy plus healthy lifestyle enhancement for depressed, overweight/obese adolescents: results of a pilot trial. J Clin Child Adolesc Psychol. 2019;48(sup1):S24–S33.

Mannan, M., Mamun, A., Doi, S., & Clavarino, A. (2016). Prospective Associations between Depression and Obesity for Adolescent Males and Females- A Systematic Review and Meta-Analysis of Longitudinal Studies. PloS one, 11(6),e0157240. https://doi.org/10.1371/journal.pone.0157240

Miri SF, Javadi M, Lin CY, Griffiths MD, Björk M, Pakpour AH. Effectiveness of cognitive-behavioral therapy on nutrition improvement and weight of overweight and obese adolescents: a randomized controlled trial. Diabetes Metab Syndr. 2019;13:2190–2197.

References

Wang, S., Sun, Q., Zhai, L., Bai, Y., Wei, W., & Jia, L. (2019). The Prevalence of Depression and Anxiety Symptoms among Overweight/Obese and Non-Overweight/Non-Obese Children/Adolescents in China: A Systematic Review and Meta-Analysis. International journal of environmental research and public health, 16(3),340.

Moradi M, Mozaffari H, Askari M, Azadbakht L. Association between overweight/obesity with depression, anxiety, low self-esteem, and body dissatisfaction in children and adolescents: a systematic review and meta-analysis of observational studies. Crit Rev Food Sci Nutr. 2022;62(2):555-570. doi: 10.1080/10408398.2020.1823813. Epub 2020 Sep 28. PMID: 32981330.

Chaves E, Jeffrey DT, Williams DR. Disordered Eating and Eating Disorders in Pediatric Obesity: Assessment and Next Steps. Int J Environ Res Public Health. 2023 Aug 24;20(17):6638. doi: 10.3390/ijerph20176638. PMID: 37681777; PMCID: PMC10487955.

Feltner C, Peat C, Reddy S, et al. Screening for Eating Disorders in Adolescents and Adults: Evidence Report and Systematic Review for the US Preventive Services Task Force. JAMA.2022;327(11):1068-1082. doi:10.1001/jama.2022.1807

Stabouli S, Erdine S, Suurorg L, Jankauskienė A, Lurbe E. Obesity and Eating Disorders in Children and Adolescents: The Bidirectional Link. Nutrients. 2021;13(12):4321. Published 2021 Nov 29. doi:10.3390/nu13124321

Jebeile H, Lister NB, Baur LA, Garnett SP, Paxton SJ. Eating disorder risk in adolescents with obesity. Obes Rev. 2021;22(5):e13173. doi:10.1111/obr.13173

Keshen A, Bartel S, Frank GKW, et al. The potential role of stimulants in treating eating disorders. Int J Eat Disord. 2022;55(3):318-331. doi:10.1002/eat.23650

Lebow J, Sim L, Wonderlich S, Peterson CB. Adapting integrative cognitive-affective therapy for adolescents with full and subthreshold bulimia nervosa: A feasibility study. Eur Eat Disord Rev. 2023;31(1):178-187. doi:10.1002/erv.2946

American Academy of Sleep Medicine. AASM Internation Classification of Sleep Disorders. 2023. Accessed August, 2024. https://aasm.org/clinical-resources/internationalclassification-sleep-disorders/

Lavery ME, Frum-Vassallo D. An Updated Review of Night Eating Syndrome: An Under-Represented Eating Disorder. Curr Obes Rep. 2022;11(4):395-404. doi:10.1007/s13679-022-00487-9

Kaur J, Dang AB, Gan J, An Z, Krug I. Night Eating Syndrome in Patients With Obesity and Binge Eating Disorder: A Systematic Review. Front Psychol. 2022;12:766827. Published 2022 Jan 5. doi:10.3389/fpsyg.2021.766827

Spettigue W, Obeid N, Santos A, Norris M, Hamati R, Hadjiyannakis S, Buchholz A. Binge eating and social anxiety in treatment-seeking adolescents with eating disorders or severe obesity. Eat Weight Disord. 2020 Jun;25(3):787-793. doi: 10.1007/s40519-019-00689-6. Epub 2019 Apr 24. PMID: 31020481.

Kokka I, Mourikis I, Bacopoulou F. Psychiatric Disorders and Obesity in Childhood and Adolescence-A Systematic Review of Cross-Sectional Studies. Children (Basel). 2023 Feb 1;10(2):285. doi: 10.3390/children10020285. PMID: 36832413; PMCID: PMC9955505.

Waldrop SW, Ibrahim AA, Maya J, Monthe-Dreze C, Stanford FC. Overview of Pediatric Obesity as a Disease. Pediatr Clin North Am. 2024 Oct;71(5):761-779. doi: 10.1016/j.pcl.2024.06.003. Epub 2024 Jul 23. PMID: 39343491; PMCID: PMC11443063.

Muha J, Schumacher A, Campisi SC, Korczak DJ. Depression and emotional eating in children and adolescents: A systematic review and meta-analysis. Appetite. 2024 Sep 1;200:107511. doi: 10.1016/j.appet.2024.107511. Epub 2024 May 23. PMID: 38788931.

References

Morales I, Berridge KC. 'Liking' and 'wanting' in eating and food reward: Brain mechanisms and clinical implications. Physiol Behav. 2020;227:113152. doi:10.1016/j.physbeh.2020.113152

Moustafa AF, Quigley KM, Wadden TA, Berkowitz RI, Chao AM. A systematic review of binge eating, loss of control eating, and weight loss in children and adolescents. Obesity (Silver Spring). 2021;29(8):1259–1271.

Muscatello MRA, Torre G, Celebre L, Dell'Osso B, Mento C, Zoccali RA, Bruno A. 'In the night kitchen': A scoping review on the night eating syndrome. Aust N Z J Psychiatry. 2022 Feb;56(2):120-136. doi: 10.1177/00048674211025714. Epub 2021 Jun 25. PMID: 34169752.

Kucukgoncu S, Midura M, Tek C. Optimal management of night eating syndrome: challenges and solutions. Neuropsychiatr Dis Treat. 2015 Mar 19;11:751-60. doi: 10.2147/NDT.S70312. PMID: 25834450; PMCID: PMC4371896.

Allison KC, Tarves EP. Treatment of night eating syndrome. Psychiatr Clin North Am. 2011 Dec;34(4):785-96. doi: 10.1016/j.psc.2011.08.002. Epub 2011 Sep 29. PMID: 22098804; PMCID: PMC3222864.

16 Telemedicine

References

Abbreviations

EMR - electronic medical record

ILT - intensive lifestyle therapy

MBS - metabolic & bariatric surgery

OM - obesity medication

PCP - primary care provider

PHE - public health emergency

PWMC - pediatric weight management center

QOL - quality of life

RPM - remote patient monitoring

SDoH - social determinants of health

SOE - Socioeconomic

TROA - Treat and Reduce Obesity Act

References

O'Malley G, Shaikh U, Marcin JP. Telehealth and Patient Safety.. PSNet [internet]. Rockville (MD): Agency for Healthcare Research and Quality, US Department of Health and Human Services. 2022.

O'Hara VM, Louder D, Johnston SV, Hastey K, Browne NT. Pediatric Obesity Care via Telemedicine: Expanding the Path Forward-A Review. Curr Obes Rep. 2023;12(4):546-556. doi:10.1007/s13679-023-00537-w

New England Telehealth Resource Center. Accessed August, 2024. https://netrc.org/index.php

National Consortium of Telehealth Resource Centers. Accessed August, 2024. https://netrc.org/index.php

Hays RD, Skootsky SA. Patient Experience with In-Person and Telehealth Visits Before and During the COVID-19 Pandemic at a Large Integrated Health System in the United States. J Gen Intern Med. 2022;37(4):847-852. doi:10.1007/s11606-021-07196-4

Herdes RE, Matheson BE, Tsao DD, Bruzoni M, Pratt JSA. Effect of telehealth implementation on an adolescent metabolic and bariatric surgery program. Surg Obes Relat Dis. 2022;18(9):1161-1166. doi:10.1016/j.soard.2022.05.014

Hinchliffe N, Capehorn MS, Bewick M, Feenie J. The Potential Role of Digital Health in Obesity Care. Adv Ther. 2022;39(10):4397-4412. doi:10.1007/s12325-022-02265-4

Nguyen L, Phan TL, Falini L, Chang D, Cottrell L, Dawley E, Hockett CW, VanWagoner T, Darden PM, Davis AM. Rural Family Satisfaction With Telehealth Delivery of an Intervention for Pediatric Obesity and Associated Family Characteristics. Child Obes. 2024 Apr;20(3):147-154. doi: 10.1089/chi.2022.0210. Epub 2023 Apr 10. PMID: 37036783; PMCID: PMC10979670.

Conroy R, Gordon C, O'Hara V. Treatment of Pediatric Obesity in Rural Settings: Identifying and Overcoming Barriers to Care. Pediatr Clin North Am. 2025 Feb;72(1):11-18. doi: 10.1016/j.pcl.2024.07.024. Epub 2024 Aug 26. PMID: 39603719.

References

Tang M, Short L, June R, Dowling M, Mehrotra A. How to tap the full potential of telemedicine. Harvard Business Review. 2023. Accessed August, 2024. https://hbr.org/2023/06/how-to-tap-the-full-potential-of-telemedicine

Bomberg EM, Kyle T, Stanford FC. Considering Pediatric Obesity as a US Public Health Emergency. Pediatrics. 2023;152(4):e2023061501. doi:10.1542/peds.2023-061501