

Positive Cardiometabolic Health

An early intervention framework for adolescents with intellectual disability: Evidence Guide

This Evidence Guide should be read alongside the [Adolescent Positive Cardiometabolic Health Framework](#) (2026; herein referred to as the *Framework*). The *Framework* was developed by 3DN UNSW Sydney, part of the National Centre of Excellence in Intellectual Disability Health, in consultation with a steering committee consisting of clinical and lived experience experts. The Evidence Guide brings together key evidence sources - including clinical and public health guidelines and academic literature - that inform the recommendations aimed at improving cardiometabolic health outcomes for adolescents with intellectual disability.

People with intellectual disability experience substantially poorer health outcomes, including increased risks of preventable hospitalisations and twice the rate of potentially preventable death compared to the general population. Often beginning early in childhood, poor cardiometabolic health is highly prevalent, with disparities widening into adulthood (Walsh et al., 2018).

The Adolescent *Framework* has been developed to support health professionals working with adults with intellectual disability to provide high-quality, practical care. It emphasises person-centred care, fostering shared decision-making between individuals with intellectual disability, their families and support persons, and healthcare providers, through a framework for structured and individualised care.

The framework aligns with the [National Roadmap for Improving the Health of People with Intellectual Disability](#) (Australian Government, 2021).

The *Framework* was first developed in 2016 and has been reviewed and updated by 3DN UNSW Sydney in 2026. It was adapted from MindGardens (2023) "[Positive Cardiometabolic Health Resource: An early intervention framework for people of psychotropic medication](#)". This Evidence Guide relates specifically to the updated 2026 version. An equivalent [Adult Framework](#) has also been reviewed and updated.

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The Evidence in the Framework

The framework details cardiometabolic risk factors and associated interventions, based on clinical guidelines and recommendations. Links to key evidence used throughout this framework are listed by risk factor below:



National Centre
of Excellence in
Intellectual
Disability Health

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Adolescent

Lifestyle			Oral Health	Sleep		Weight		Glucose		Blood Pressure	Blood Lipids*	
Smoking	Physical Activity	Diet		Insomnia	OSA	Waist	BMI	Pre-diabetes	Diabetes			
Lifestyle advice including diet, physical activity, smoking prevention/cessation, sleep hygiene and dental hygiene to individual, family members and support people. Co-management of physical health with general practitioner is strongly recommended												
ACTION ZONE	Current smoker Tobacco, marijuana, vaping, shisha Support person / family member current smoker	< 60 min physical activity/day < 3 days/week muscle strengthening activities ≥ 2 hours of recreational screen time/day	Poor dietary intake	Poor oral health Irregular dental checks (> 12 months apart)	< 8 hours sleep or > 11 hours sleep Daytime tiredness	Co-occurring conditions causing insomnia Symptoms of OSA - Loud snoring - Stopping breathing during sleep	Waist-to-height ratio > 0.5	BMI > 95 th centile	HbA1c 5.7 - 6.4% (39 - 47 mmol/mol) FBG 5.6 - 6.9 mmol/L ²	HbA1c ≥ 6.5% (≥ 48 mmol/mol) FBG ≥ 7.0 mmol/L HbG ≥ 11.1 mmol/L	BP ≥ 90 th centile	TC ≥ 4.3 mmol/L LDL ≥ 2.8 mmol/L TRIG ≥ 1.0 mmol/L HDL ≥ 1.2 mmol/L Non-HDL ≥ 3.1 mmol/L
Minimise off-label psychotropic prescribing & where possible, trial non-pharmacological interventions first. See reverse side for additional guidance on responsible psychotropic prescribing												
Actively involve family members and/or support people in interventions												
INTERVENTION	Individualised smoking cessation program Consider referral to Nicotine Specialist or quit programs	1 Sedentary and access time 1 Physical activity Individualised exercise program Consider referral to Exercise Physiologist, Physiotherapist or Occupational Therapist	4 Discretionary foods and drinks ≥ 5 serves of vegetables / legumes daily Consider co-occurring conditions affecting diet Refer to Dietitian / other allied health as indicated	Good oral hygiene education, especially during puberty Treat infection/pain if appropriate Encourage annual Dentist review Consider referrals to Dietitian as indicated	Refer to lifestyle interventions, promote weight loss and arrange multidisciplinary referrals							
				Refer to Psychologist or Paediatrician Consider tailored medication treatment, if above insufficient	Refer for sleep study and / or to Paediatrician	If BMI rapidly increased or ≥ 95 th centile, consider referral to Paediatrician		Arrange Paediatric Endocrinologist and diabetes educator referral Pre-diabetes education Metformin if lifestyle modification insufficient	Provide diabetes education Screen for complications and refer appropriately	Limit salt intake BP management education Refer to Paediatrician if above insufficient	Consider Paediatrician referral	
TARGET	Smoking prevention or cessation	Physical Activity Guidelines met ≥ 2 hours of recreational screen time/day	Balanced dietary intake	Good oral health Dental review every 6 - 12 months (check eligibility for oral dental benefits scheme)	8 - 11 hours sleep Improved daytime alertness Treated sleep condition	Waist-to-height ratio < 0.5		BMI < 95 th centile	HbA1c < 5.7% (< 39 mmol/mol) FBG < 5.6 mmol/L	HbA1c < 6.5% (< 48 mmol/mol) for type 2 diabetes or otherwise individually determined	BP < 90 th centile	TC < 4.3 mmol/L LDL < 2.8 mmol/L TRIG < 1.0 mmol/L HDL > 1.2 mmol/L Non-HDL < 3.1 mmol/L

* Common gastrointestinal tract conditions include: constipation, celiac disease and gastro-oesophageal reflux disease. Common feeding difficulties include: hyperphagia, disordered eating, dysphagia, aerophagia. Appropriate diagnoses may include: Celiacitis, Speech Pathologist or Psychologists. 1) *Diabetes: ≥ 5.3 mmol/L during pregnancy, overt diabetes in pregnancy ≥ 7.0 mmol/L. 2) *Hyperglycaemia, however, chronic kidney disease, neurohypophyseal, neuroendocrine and liver complications

BMI: Body mass index | BP: Blood pressure | FBG: Fasting blood glucose
HbA1c: Glycated haemoglobin | HDL: High density lipoprotein | LDL: Low density lipoprotein | NBT: Nicotine replacement therapy | OSA: Obstructive sleep apnoea
HbG: Random blood glucose | TC: Total cholesterol | TRIG: Triglycerides

* Common gastrointestinal tract conditions include constipation, coeliac disease and gastro-oesophageal reflux disease. Common feeding difficulties include: hyperphagia, disordered eating, dysphagia, anorexia. Appropriate divisions may include Dietitians, Speech Pathologist or Psychologist. ¹ The diabetes < 5.3 mmol/L during pregnancy, overt diabetes in pregnancy > 7.0 mmol/L. ² Hyperglycaemia, ketones, chronic kidney disease, retinopathy, neuropathy and foot complications
*Source: [Australian Health Foundation \(2018\)](#)

BMI: Body mass index | BP: Blood pressure | FBG: Fasting blood glucose
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Lifestyle

- Smoking
 - [“Smoking, Nutrition, Alcohol, Physical activity \(SNAP\) Guidelines”](#), Royal Australian College of General Practitioners, 2015
 - [“Supporting smoking and vaping cessation: A guide for health professionals”](#), Royal Australian College of General Practitioners, 2024.
- Physical Activity
 - [“24-hour movement guidelines for all Australians: Recommendations for children and young people \(5 to 17 years\)”](#), Australian Government, 2026
 - [“Managing screen time and digital technology use”](#), Raising Children Network, 2025
- Diet

- [*"Eat for Health: Recommended number of serves for children, adolescents and toddlers"*](#), Australian Government
- [*"Eat for Health: Discretionary Food and drink choices"*](#), Australian Government
- [*"Nutrition Issues in Intellectual Disability"*](#), Dietitians Australia, 2020

Oral Health

- [*"Dental Care"*](#), The Royal Children's Hospital Melbourne, 2020
- [*"Dental Conditions"*](#), The Royal Children's Hospital Melbourne, 2024
- [*"Child Dental Benefits Schedule"*](#), Australian Government, 2024

Sleep

- [*"Insomnia Management"*](#), Australian Journal of General Practice, 2019
- [*"24-hour movement guidelines for all Australians: Ensuring good sleep"*](#), Australian Government, 2026
- [*"Sleep Hygiene: Autism in Children and Sleep"*](#), Sleep Health Foundation, 2025
- [*"Melatonin"*](#), Children's Dosing Companion, 2026

Weight

- [*"Healthy kids for professionals"*](#), NSW Health, 2026
- [*"Treating obesity in children and adolescents with special healthcare needs"*](#), Dreyer Gillette, 2022

Glucose

- [*"Fact Sheet: Understanding pre-diabetes"*](#), National Diabetes Services Scheme, 2022
- [*"Fact Sheet: Understanding type 2 diabetes"*](#), National Diabetes Services Scheme, 2025
- [*"Type 2 diabetes mellitus in children and adolescents"*](#) Royal Australian College of General Practitioners, 2016

Blood Pressure

- [*"AAP Pediatric Hypertension Guidelines"*](#) American Academy of Pediatrics, 2017
- [*"Blood Pressure and your heart"*](#), Heart Foundation

Blood Lipids

- [*"Guidelines on the Management of Blood Cholesterol: Executive Summary"*](#), American Heart Association, 2018

Additional references:

- Sex specific risk factors
 - [*"Australian Pregnancy Care Guidelines"*](#), Australian Living Evidence Collaboration, 2026
 - [*"Management of obesity, gestational diabetes, and hypertension in pregnancy: College statements"*](#), The Royal Australian and New Zealand College of Obstetricians and Gynaecologists, 2021
 - [*"Management of polycystic ovary syndrome in general practice"*](#), The Royal Australian College of General Practitioners, 2019
- Psychotropic medicines
 - [*"Psychotropics medicines in cognitive disability or impairment Clinical Care Standard"*](#), Australian Commission on Safety and Quality in Health Care, 2024
 - [*"Therapeutic Guidelines: Consent, capacity and decision making for people with Developmental disability"*](#), Therapeutic Guidelines, 2021
 - [*"Therapeutic Guidelines: Challenging behaviours in a person with developmental disability"*](#), Therapeutic Guidelines, 2021
- Other Topics
 - [*"Ensuring Consent"*](#), Council for Intellectual Disability
 - [*"National Aboriginal and Torres Strait Islander Health Plan"*](#), Australian Government, 2021
 - [*"Comprehensive Health Assessment Program \(CHAP\)"*](#), Australian Government, 2024
 - [*"Cultural responsiveness in general practice"*](#), The Royal Australian College of General Practitioners, 2023
 - [*"National Roadmap for Improving the Health of People with Intellectual Disability"*](#), Australian Government, 2021