Lester UK Adaptation | **2023 update**

Positive Cardiometabolic Health Resource

An **intervention framework** for people experiencing **psychosis** and **schizophrenia**

Don't just SCREEN – INTERVENE

for all people in the "red zone"

Lester UK Adaptation: Positive Cardiometabolic Health Resource

This Cardiometabolic Health Resource supports the recommendations relating to monitoring physical health in the NICE guidelines on psychosis and schizophrenia in adults (www.nice.org.uk/cg178) and young people (www.nice.org.uk/cg155). In addition, it also supports the statement about assessing physical health in the NICE quality standard for psychosis and schizophrenia in adults (www.nice.org.uk/qs80).

National Institute for Health and Care Excellence, November 2015

This resource supports the Core20PLUS5 commitment to tackling the health inequality of a 15-year mortality gap faced by people experiencing severe mental illness. Comorbid cardiometabolic and cardiovascular diseases are the main contributors to this reduced life expectancy. Renewed focus is required on potentially preventable health conditions, the side-effects of medications, and inadequate healthcare access. While this resource focusses on antipsychotic treatment for adults, the principles can be applied to other psychotropic medicines used to treat long term mental disorders e.g., mood stabilisers.

For all people in the "red zone" (see next page): **Care should always be person-centred, tailoring discussion to enable shared decision-making**. The primary healthcare team and specialist mental health team will collaborate to support the individual, ensuring appropriate monitoring and interventions are provided and communicated.

Lester UK Adaptation | **2023 update**

Positive Cardiometabolic Health Resource

An **intervention framework** for people experiencing **psychosis** and **schizophrenia**

	Smoking	Health Behaviours and Lifestyle Changes	Body Mass Index (BMI) Weight*	Blood Pressure*	Glucose Regulation Assess by fasting blood glucose (FPG) and HbA_{1c}	Blood Lipids
RED ZONE	Current smoker	Unhealthy diet AND / OR Physical inactivity/ Sedentariness AND / OR Harmful alcohol intake (>14 units/wk)	BMI ≥25 kg/m² (≥23 kg/m² if from Black, Asian, minority ethnic background) AND/OR Rapid weight gain: particularly after new antipsychotic initiation	>140 mm Hg systolic **AND/OR** >90 mm Hg diastolic	HbA_{1c} or Glucose threshold: HbA_{1c} ≥42 mmol/mol (≥6%) **AND/OR** FPG ≥5.5 mmol/l **OR** RPG ≥ 11.1 mmol/l	High risk of CVD by validated tool, e.g. QRisk3 https://qrisk.org/ PRIMROSE www.ucl.ac.uk/primrose-risk-score/ *Note: Current CVD risk scores likely to underestimate risk in people aged <30*
INTERVENTIONS	**Care should always be person-centred, tailoring discussion to the needs of the person to enable shared decision-making**			**Refer for investigation, diagnosis and treatment by appropriate clinician if necessary.** ***Note** Family history of diabetes and/or premature heart disease heightens cardiometabolic risk.*		
	Follow NICE guidelines on tobacco use www.nice.org.uk/ng209 Brief intervention / behavioural support Offer combined NRT and/or varenicline** Referral to Smoking Cessation service	Promote positive health behaviours: • Healthy eating guidance www.nhs.uk/live-well/eat-well/ Follow UK Chief Medical Officers' Guidance on: • Physical Activity • Low-risk alcohol intake	Follow NICE obesity guidelines: www.nice.org.uk/cg189 Clinical review if >5% (av.3-4 kg) wt gain within 4 weeks of taking a new antipsychotic	Offer antihypertensive therapy if safe and appropriate Follow NICE hypertension guidelines www.nice.org.uk/ng136 Limit salt intake in diet	**At High Risk of Diabetes** HbA_{1c} 42-47 mmol/mol (6.0% - 6.4%) FPG 5.5 - 6.9 mmol/l i) Offer referral to evidence-based, lifestyle-change programme ii) If ineffective, offer metformin modified release if safe and appropriate	**Diabetes** HbA_{1c} ≥48 mmol/mol (≥6.5%) FPG ≥7.0 mmol/l RPG ≥11.1 mmol/l Diabetes review Follow NICE diabetes guidelines www.nice.org.uk/ng28	Offer lipid lowering therapy if safe and appropriate Follow NICE guidelines www.nice.org.uk/cg181 AND Refer to specialist if total cholesterol >9, non-HDL chol >7.5 or TG>20 (mmol/l)
TARGET	Stop smoking Anticipate impact on antipsychotic drug metabolism; alter dose appropriately	Improve quality of diet Contain calorie intake Daily exercise of 30 mins/day Alcohol intake <14 units/wk	BMI 18.5-24.9 kg/m² (18.5-22.9 kg/m² if from Black, Asian, minority ethnic background)	<140/90 mm Hg	Prevent or delay onset of diabetes HbA_{1c} <42 mmol/mol (<6%) FPG <5.5 mmol/l	Individualise HbA_{1c} target but typically 48-58 mmol/mol (6.5-7.5%)	Primary Prevention: Offer atorvastatin 20mg od if ≥10% risk (validated risk tool) OR Secondary Prevention: Offer atorvastatin 80mg od Aim: reduce non-HDL chol as per NICE guidelines www.nice.org.uk/cg181

FPG = Fasting Plasma Glucose | RPG = Random Plasma Glucose | BMI = Body Mass Index | Total Chol = Total Cholesterol | HDL = High Density Lipoprotein | TRIG = Triglycerides

**Developmentally appropriate norms should be used for people under age 18.* ***Consult pharmacy to check local availability.*

History and examination following initiation or change of antipsychotic medication

When initiating or reviewing medications it is important to discuss possible side effects and interactions with other medications as part of Personalised Care and Support Planning (PCSP).

Frequency: Normally psychiatrist-led. Planned physical assessment should follow the table below during the first twelve months following initiation or switch to a new antipsychotic. Baseline assessment is essential. Weight should be assessed weekly for the first six weeks of taking a new antipsychotic, as rapid early weight gain (e.g., 3-4 kg within the first 4 weeks) predicts severe long-term weight gain and higher risk of cardiometabolic disorders. In the longer term, review annually unless an abnormality emerges requiring more intensive monitoring and/or intervention.

At review

History: Seek history of rapid weight gain. Also review smoking, exercise, diet and alcohol use. Ask about family history (diabetes, obesity, CVD in first degree <55 yrs male relatives and <65 yrs female relatives) and gestational diabetes. Note and record ethnicity.

Examination: Weight, BMI, waist circumference, BP, pulse (developmentally appropriate norms should be used for people under age 18). *Note differing BMI and waist circumference thresholds across racial/ethnic groups reflect differences in regional body fat and body composition.*

Investigations: Plasma glucose (FPG), HbA_{1c}, and lipids (total cholesterol, non-HDL, HDL, triglycerides). Non-fasting samples are satisfactory but note reference ranges for glucose and triglycerides differ. Also note HbA_{1c} may be falsely low if glucose is rising rapidly as this measurement reflects average glucose of the previous 6-8 weeks.

Risk assessment tools: QRisk3 (https://qrisk.org) for CVD and QDiabetes (https://qdiabetes.org) for type 2 diabetes account for severe mental illness (SMI) but were not developed for this group. SMI-specific tools include PRIMROSE for CVD in adults with SMI (www.ucl.ac.uk/primrose-risk-score/), and PsyMetRiC for metabolic syndrome in those with first episode psychosis (psymetric.shinyapps.io/psymetric/). Risk scores should be weighed alongside individual factors, including patient preference, to inform rather than dictate clinical decisions.

ECG: Include if there is specific risk of CVD (e.g., co-existing hypertension, diabetes), personal history of CVD, family history of CVD, or examination reveals irregular pulse (if ECG confirms atrial fibrillation, follow NICE guidelines www.nice.org.uk/ng196); or if person taking certain antipsychotics (see SPC) or other drugs known to cause ECG abnormalities (e.g., erythromycin, tricyclic anti-depressants, anti-arrhythmics – see British National Formulary for further information).

Chronic Kidney Disease (additionlly increases risk of CVD): Screen those with co-existing diabetes, hypertension, CVD, family history of chronic kidney disease, structural renal disease (e.g., renal stones):

1. Monitor renal function with creatinine and estimated glomerular filtration rate (eGFR)
2. Monitor for early proteinuria: urine albumin creatinine ratio (laboratory analysis)

If evidence of chronic kidney disease, follow NICE guidance www.nice.org.uk/ng203.

Monitoring: How often and what to do

Applies to persons prescribed antipsychotics and mood stabilizers.

	Baseline	Weekly first 6 weeks	12 weeks	Annually
Personal/FHx	■			■
Lifestyle Review[1]	■		■	■
Weight	■	■	■	■
Waist circumference	■			■
BP	■		■	■
FPG/HbA_{1C}	■		■	■
Lipid Profile[2]	■		■	■

[1]Smoking, diet, physical activity, and alcohol. [2] A non-fasting sample is satisfactory

Monitoring table derived from consensus guidelines 2004, j clin. psych 65:2. APA/ADA consensus conference of 2004 published jointly in Diabetes Care and Journal of Clinical Psychiatry with permission from the Ontario Metabolic Task Force.

Behaviour change and pharmacological interventions

Specific behaviour change interventions should be discussed in a collaborative, supportive and encouraging way, taking into account the person's preferences, barriers they face, and need for reasonable adjustments. Support behaviour change using motivational interviewing as a brief intervention integrated into short consultations (e.g., www.bmj.com/content/340/bmj.c1900).

- **Nutritional counselling:** advise to avoid less healthy snacks, take-away/fried food and sugary drinks, reduce energy intake to prevent weight gain, increase fibre intake. (NHS Eat Well: www.nhs.uk/live-well/eat-well/).
- **Limit alcohol intake:** use low-risk drinking guidelines (UK Chief Medical Officers www.gov.uk/government/publications/alcohol-consumption-advice-on-low-risk-drinking).
- **Physical activity:** advise to increase physical activity to a minimum of 150 minutes of 'moderate-intensity' physical activity per week (e.g. 30 mins on 5 days/wk); minimise sedentary time: break-up periods of inactivity (UK Chief Medical Officers www.gov.uk/government/publications/physical-activity-guidelines-adults-and-older-adults).
- **Smoking cessation:** smoking can impact on the metabolism of psychotropic drugs. Change in smoking status may require prompt drug dose alteration of certain antipsychotics, especially clozapine with its potential for rapid and serious toxicity (within a week).

If the person has not successfully reached their targets within three months, offer relevant pharmacological interventions as adjuncts to behaviour change interventions if safe and appropriate to do so, and in collaboration with the GP:

Anti-hypertensive therapy: follow NICE guidance www.nice.org.uk/ng136.

Lipid lowering therapy: follow NICE guidance www.nice.org.uk/cg181. Note if total cholesterol >9, non-HDL chol >7.5 or TG>20 (mmol/l), refer to metabolic specialist.

Treatment of diabetes: follow NICE guidance www.nice.org.uk/ng28.

Treatment of those at high risk of diabetes:
Follow NICE guidance (recommendation 19) – www.nice.org.uk/PH38:

- **Metformin modified release** may be offered as an adjunct to intensive lifestyle intervention if behaviour change has not prevented/slowed progression of hyperglycaemia, particularly for those with BMI >35 kg/m^2.
- Adhere to British National Formulary guidance on safe use (in particular ensure renal function is adequate).
- Start with a low dose e.g., 500mg once daily and build up, as tolerated, to 1500–2000mg daily.

Review of antipsychotic and mood stabiliser medication: discussions about medication should involve the person, carer if appropriate, psychiatrist and the GP.

Ensure appropriate discussions if evidence of:

- Rapid substantial weight gain particularly following new antipsychotic initiation (e.g., 3-4kg < 4 weeks).
- Worsening of cardiometabolic indices (abnormal lipids, BP, or glucose) at 3-month check-up.

The psychiatrist should proactively consider, and discuss with the person, the potential risks and benefits of switching antipsychotic drug, both on physical and psychiatric health.

- As a first step prescribed dosages should follow BNF recommendations; rationalise any polypharmacy.
- Changing antipsychotic medication requires careful clinical judgement to weigh any benefits against the risk of relapse of the psychosis.
- An effective trial of medication is considered to be the person taking the medication, at an optimum dosage, for a period of 4-6 weeks.
- If clinical judgment and the person's preference support continuing with the same treatment, then ensure appropriate further monitoring and clinical considerations are carried out regularly.

It is advised that all side effects to antipsychotic medication are regularly monitored, especially when commencing a new antipsychotic medication **(GASS questionnaire** https://mypsych.nhsggc.org.uk/medicines-companion/antipsychotics/glasgow-antipsychotic-side-effect-scale-gass/), and that any side effects, as well as rationale for continuing, changing or stopping medication is clearly recorded and discussed with the person.

The Psychiatrist should maintain responsibility for monitoring the person's physical health and the effects of anti-psychotic medication for at least the first 12 months or until the person's condition has stabilised, whichever is longer. Thereafter, the responsibility for this monitoring may be transferred to primary care under shared care arrangements.

Discuss any non-prescribed therapies (including complementary therapies) which the person wishes to use; discuss the safety and efficacy of the therapies, and possible interference with the therapeutic effects of prescribed medication and psychological treatments.

RC PSYCH ROYAL COLLEGE OF PSYCHIATRISTS | NCAP NATIONAL CLINICAL AUDIT OF PSYCHOSIS

CORE20PLUS5

NHS England

This resource was co-produced by NHS England and the National Clinical Audit of Psychosis Team.

The following organisations support the use of this resource:

Royal College of Psychiatrists (RCPsych)
Royal College of General Practitioners (RCGP)
Royal College of Physicians (RCP)
Royal College of Surgeons of England (RCS)
Royal College of Nursing (RCN)
Healthcare Quality Improvement Partnership (HQIP)
Equally Well UK
Rethink Mental Illness
Centre for Mental Health
The British Dietetic Association (BDA)

To cite: Perry BI, Holt RIG, Chew-Graham CA, Tiffin E, French P, Pratt P, Byrne P, Shiers DE. 2023 update (with acknowledgement to the late Helen Lester for her contribution to the original 2012 version) ***Positive Cardiometabolic Health Resource: an intervention framework for people experiencing psychosis and schizophrenia. 2023 update.*** Royal College of Psychiatrists, London.

For their review and helpful comments: Professor Jackie Curtis, Mindgardens Neuroscience Network, Sydney, Australia; Mark Minchin, Associate Director of Quality, NICE, Manchester, UK; Dr Caroline Mitchell GP, RCGP clinical advisor, & Senior Clinical Lecturer Academic Unit of Primary Medical Care, University of Sheffield, UK.