Positive Cardiometabolic Health Resource

An intervention framework for people experiencing psychosis and schizophrenia

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/guidance/cg178) and young people (www.nice.org.uk/guidance/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/guidance/qs80).

National Institute for Health and Care Excellence, November 2015

This clinical resource supports the implementation of the physical health CQUIN https://www.england.nhs.uk/wp-content/uploads/2015/03/19-cquin-guid-2015-16.pdf (page 13) which aims to improve collaborative and effective physical health monitoring of patients experiencing severe mental illness. It focuses on antipsychotic medication for adults, but many of the principles can be applied to other psychotropic medicines given to adults with long term mental disorders, e.g. mood stabilisers.

For all patients in the “red zone” (see center page spread): The general practitioner, psychiatrist and patient will work together to ensure appropriate monitoring and interventions are provided and communicated. The general practitioner will usually lead on supervising the provision of physical health interventions. The psychiatrist will usually lead on decisions to significantly change antipsychotic medication.

Download Lester UK Adaptation: www.rcpsych.ac.uk/quality/NAS/resources
Positive Cardiometabolic Health Resource

**Smoking**
- Current smoker

**Lifestyle and Life Skills**
- Poor diet AND/OR Sedentary lifestyle

**Body Mass Index (BMI) Weight**
- BMI >25 kg/m² (+23 kg/m² if South Asian or Chinese) AND/OR Weight gain >5kg over 3 month period
- >140 mm Hg systolic AND/OR >90 mm Hg diastolic

**Blood Pressure**

**Glucose Regulation**
- Asess by fasting blood glucose (FPG); random blood glucose (RBP); HbA1c.

**Blood Lipids**
- Total cholesterol/HDL ratio to detect high (>10%) risk of CVD based on QRisk tool

**Medication review and lifestyle advice to include diet and physical activity**

**At review**

**History**
- Seek history of substantial weight gain (e.g. 5kg), especially where this has been rapid (e.g. within 3 months). Also review smoking, exercise and diet. Ask about family history (diabetes, obesity, CVD in first degree <55 yrs male relatives and <65 yrs female relatives) and gestational diabetes. Note ethnicity.

**Examination:**
- Weight, BMI, BP, pulse.

**Investigations:**
- Fasting plasma glucose (FPG), HbA1c, and lipids (total cholesterol, non-HDL, LDL, triglycerides). If fasting samples are impractical then non-fasting samples are satisfactory for most measurements except for triglycerides.

**ECG:**
- Include if history of CVD, family history of CVD; where examination reveals irregular pulse (if ECG confirms atrial fibrillation, follow NICE recommendations; http://guidance.nice.org.uk/CG31), or if patient taking certain antipsychotics (see SPI) or other drugs known to cause ECG abnormalities (eg sympathomimetic, tricyclic antidepressants, anti-arrhythmics – see British National Formulary for further information).

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

1. Monitor renal function:
   - a) ura & electrolytes
   - b) estimated glomerular filtration rate (eGFR)
2. Test urine:
   - a) for proteinuria (dip-stick),
   - b) albumin:creatinine ratio (laboratory analysis)

*Presence of chronic kidney disease additionally increases risk of CVD: follow appropriate NICE guidelines on chronic kidney disease.

**Monitoring: How often and what to do**

*Priming interventions* for people experiencing psychosis and schizophrenia

<table>
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<th>Baseline</th>
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<th>First 6 weeks</th>
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**FPG = Fasting Plasma Glucose | RPG = Random Plasma Glucose | BMI = Body Mass Index | Total Chol = Total Cholesterol | HDL = High Density Lipoprotein | TRIG = Triglycerides

**Target**

- FPG 5.5 - 6.9
- BMI 18.5 - 24.9 kg/m² (18.5-22.9 kg/m² if South Asian or Chinese)
- total cholesterol <5.0 mmol/l
- HDL >1.0 mmol/l
- TRIG <1.7 mmol/l

**At high risk of diabetes**

- Hba1c >52 mmol/mol (6.6-7.0%)
- FPG 5.5 - 6.9 mmol/l

**At high risk of CVD**

- Hba1c >46 mmol/mol (6.0-6.4%)
- FPG >5.5 mmol/l
- OR RPG >1.1 mmol/l

**Positive Cardiometabolic Health Resource**

- Smoking, diet, and physical activity
- FPG = Fasting Plasma Glucose | RPG = Random Plasma Glucose | BMI = Body Mass Index | Total Chol = Total Cholesterol | HDL = High Density Lipoprotein | TRIG = Triglycerides

**Specific lifestyle and pharmaceutical interventions**

Specific lifestyle interventions should be discussed in a collaborative, supportive and encouraging way, taking into account the person's preferences:

- Nutritional counselling: reduce take-away and “junk” food, reduce energy intake to prevent overweight, avoid soft and carbonated drinks and juices, and increase fibre intake.
- Physical activity: structured education/structured 10 min activity. Advise physical activity such as a minimum of 150 minutes of ‘moderate-intensity’ physical activity per week (https://www.gov.uk/guidance/every-activity-matters).

**Reduce CVD**

- When Intensive lifestyle intervention has failed consider a metformin trial (normally be GP supervised).

Lipid lowering therapy: Normally GP supervised. If total cholesterol >9, non-HDL chl >7.5 or TG>20 (mmol/l), refer to metabolic specialist. (Follow NICE recommendations http://www.nice.org.uk/Nicemedia/pdf/CG87NICEguideline.pdf)

**Treatment of diabetes:**

- Normally GP supervised. Follow NICE recommendations http://www.nice.org.uk/CG87

**Treatment of those at high risk of diabetes:**

- FPG 5.5-6.9 mmol/l, Hba1c 42-47 mmol/mol (6.0-6.4%)


Where Intensive lifestyle intervention has failed consider a metformin trial (normally be GP supervised). Please be advised that off-label use requires documented informed consent as described in the GM guidelines, http://www.gmc-uk.org/guidance/ethical_guidance/14327.asp

These GMC guidelines are recommended by the XPS and MDG, and the use of metformin in this context has been agreed as a relevant example by the Defence Unions.

- Adhere to British National Formulary guidance on safe use (in particular ensure renal function is adequate).
- Start with a low dose of a 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 patient, the general practitioner and the psychiatrist.

Should be a priority if there is:
- Rapid weight gain (e.g. 5kg <3 months) following antipsychotic initiation.
- Rapid development (<3 months) of abnormal lipids, BP, or glucose.

The psychiatrist should consider whether the antipsychotic drug regimen has played a causative role in these abnormalities and, if so, whether an alternative regimen could be expected to offer benefit and fewer adverse effects:

As a first step prescribed dosages should follow NIFN recommendations; rationalise any polypharmacy.

- Changing antipsychotic medication requires careful clinical judgment to weigh any benefits against the risk of relapse of the psychosis.
- An effective trial of medication is considered to be the patient taking the medication, at an optimum dosage, for a period of 4-6 weeks.
- If clinical judgment and patient 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 questionnaires http://mentalhealthpartnerships.org/ resource/glasgow-antipsychotic-side-effect-scale), and that any side effects, as well as the rationale for continuing, changing or stopping medication is clearly recorded and communicated with the patient.

The Psychiatrist should maintain responsibility for monitoring the patient’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 the patient wishes to use (including complementary therapies) with the patient, and if appropriate.

Discuss the safety and efficacy of the therapies, and possible interference with the therapeutic effects of prescribed medication and psychological treatments.

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

**Blood Lipids**

Normally GP supervised. Follow NICE recommendations.

- Reduce take-away and “junk” food, reduce energy intake to prevent weight gain.
- Monitor renal function: a) urea & electrolytes
- Monitor metabolic changes (eg erythromycin, tricyclic anti-depressants, anti-arrhythmics – see British National Formulary for further information).
- Where intensive lifestyle intervention has failed consider metformin.

**Glucose Regulation**

Assess by fasting blood glucose (FPG); random blood glucose (RBG), HbA1c;

- Total cholesterol/HDL ratio to detect high (>10%) risk of CVD based on QRISK2 tool
- Note: CVD risk scores cannot underestimate risk in those with psychosis.

**Interim Conclusions**

Smoking

- Stop smoking
- Contain calorie intake
- Daily exercise of 30 mins/day

**Lifestyle Modifications**

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

**Blood Pressure**

- BMI <25 kg/m²
- ≥42 mmHg systolic AND/OR
- ≥90 mmHg diastolic

**BMI <25 kg/m²**

- (≤32 kg/m² if South Asian or Chinese)
- AND/OR
- Weight gain ≥5kg over 3 months period

**At High Risk of Diabetes**

HbA1c ≥42 mmol/mol (6.5%) OR
- FPG 5.5 to 6.9 mmol/l

Prevent or delay onset of diabetes

- HbA1c <42 mmol/mol (<6%)
- FPG <5.5 mmol/l

Follow NICE guidelines for obesity

http://www.nice.org.uk/CG643

Follow NICE hypertension guidelines

https://www.nice.org.uk/guidance/ng18

Consider anti-hypertensive therapy

Limit salt intake in diet

Follow NICE guidelines for obesity

http://www.nice.org.uk/CG643

**Chronic Kidney Disease**

- Screen those with co-existing diabetes, hypertension, CVD, family history of chronic kidney disease, structural renal disease (e.g. renal stones) routinely.
- Monitor renal function:
  - a) urea & electrolytes
  - b) albumin-creatinine ratio (laboratory analysis)

**At Review**

**Referral to Smoking Cessation service**

**Screening for those at risk of chronic kidney disease**

- BMI 18.5-24.9 kg/m²
- ≥42 mmol/mol (<6%)

**Frequency:**

- At review

**Lifestyle Review**

**Follow-up examinations**

- BMI 18.5-24.9 kg/m²
- (≥42 mmol/mol (<6%))

**Family history** of diabetes and/or premature heart disease heightens cardiometabolic risk.

BMI 18.5 - 24.9 kg/m²

**Diabetes**

- HbA1c ≥48 mmol/mol (6.5%) OR
- FPG 5.5 - 6.9 mmol/l

**Glycaemic control**

- Offer intensive structured lifestyle education programme:
  - Limit salt intake in diet

**Smoking and lifestyle advice to include diet and physical activity**

- NB Family history of diabetes and/or premature heart disease heightens cardiometabolic risk.

**Medication review and lifestyle advice to include diet and physical activity**

**Refer for investigation, diagnosis and treatment by appropriate clinician if necessary.**

**Review of antipsychotic and mood stabiliser medication:**

- If rapid development (<3 months) of abnormal lipids, BP, or glucose.

**Rapid weight gain (<3 months)**

- Aim to reduce non-HDL chol by 40% and review in 3 months

**Primary Prevention:**

- Consider statin treatment if ≥10% risk based on QRISK2

**Secondary Prevention:**

- aim to reduce non-HDL chol by 40% and review in 3 months

**History and examination following initiation or change of antipsychotic medication**

**Frequency:**

- At review

- Weight should be assessed weekly in the first six weeks of taking a new antipsychotic, as rapid early weight gain may predict severe weight gain in the longer term.

- Subsequent reviews should take place annually unless an abnormality of physical health emerges. In these cases, appropriate action should be taken and/or the situation should be reviewed at least every 3 months.

**At review**

**History:** Seek history of substantial weight gain (e.g. 5kg), especially where this has been rapid (e.g. within 3 months). Also review smoking, exercise and diet. Ask about family history (diabetes, obesity, CVD in first degree ≤5 yrs male relatives and ≤65 yrs female relatives) and gestational diabetes. Note ethnicity.

**Examinations:**
- Weight, BMI, BP, pulse
- Investigations:
  - Fasting estimates of plasma glucose (FPG), Hba1c, and lipids (total cholesterol, non-HDL, HDL, triglycerides). If fasting samples are impractical then non-fasting samples are satisfactory for most measurements except for triglycerides.

**ECG:** Include if history of CVD, family history of CVD, where examination reveals irregular pulse (if ECG confirms atrial fibrillation, follow NICE recommendations http://guidance.nice.org.uk/CG38), or if patient taking certain antipsychotics (see SPC) or other drugs known to cause ECG abnormalities or if patient taking certain antipsychotics (see SPC) or other drugs known to cause ECG abnormalities

**Chronic Kidney Disease**

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**Presence of chronic kidney disease additionally increases risk of CVD**

- Follow appropriate NICE guidelines on chronic kidney disease.

**Specific lifestyle and pharmaceutical interventions**

**Specific lifestyle interventions** should be discussed in a collaborative, supportive and encouraging way, taking into account the person’s preferences:

- Nutritional counselling: reduce take-away and “junk” food, reduce energy intake to prevent weight gain, avoid soft and caffeinated drinks and juices, and increase fibre intake

- Physical activity: structured education-intervention programme.

**Advise physical activity such as a minimum of 150 minutes of ‘moderate-intensity’ physical activity per week (https://bit.ly/2SKwx32).** For example suggest 30 minutes of physical activity on 5 days a week.

**If the patient has not successfully reached their targets after 3 months, consider specific pharmacological interventions:**

**Antihypertensive therapy:** Normally GP supervised. Follow NICE recommendations

http://www.nice.org.uk/CG87

**Lipid lowering therapy:** Normally GP supervised. (If total cholesterol ≥9, non-HDL chol ≥7.5 or TG≥20 mmol/l), refer to metabolic specialist. Follow NICE recommendations

http://www.nice.org.uk/guidance/ng7

**Treatment of diabetes:**

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**Treatment of those at high risk of diabetes:**

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Follow NICE guidelines


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Positive Cardiometabolic Health Resource

Lester UK Adaptation

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Don’t just SCREEN – INTERVENE for all patients in the “red zone”.

An Intervention Framework for people experiencing psychosis and schizophrenia

Download Lester UK Adaptation: www.rcpsych.ac.uk/quality/NA5/resources


The following organisations support the use of this resource:

- Royal College of Psychiatrists (RCPsych)
- Royal College of General Practitioners (RCGP)
- Royal College of Physicians
- Royal College of Surgeons (RCS)
- UCL Partners – Academic Health Science Partnership
- Healthcare Quality Improvement Partnership (HQIP)
- National Collaborating Centre for Mental Health (NCCMH)
- Diabetes UK
- Ruthin Mental Health

National Institute for Health and Care Excellence

This resource was co-produced by NHS England, NHS Improving Quality, Public Health England and the National Audit of Schizophrenia Team.

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