Positive Cardiometabolic Health Resource

An intervention framework for people experiencing psychosis and schizophrenia

This clinical resource supports the implementation of the physical health CQUIN http://www.england.nhs.uk/wp-content/uploads/2014/02/sc-cquin-guid.pdf (page 36) which aims to improve collaborative and effective physical health monitoring of patients experiencing Serious 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
History and examination following initiation or change of antipsychotic medication
Frequency: Normally supervised by the psychiatrist. As a minimum review those prescribed a new antipsychotic at baseline and at least once after 3 months.
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 <55 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, 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). 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*: 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) urea & electrolytes
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
Applies to patients prescribed antipsychotics and mood stabilizers.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Baseline</th>
<th>Weekly</th>
<th>1st 6 weeks</th>
<th>12 weeks</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal/FH</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifestyle/Risk</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>HbA1c</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>FPG/HbA1c</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipid Profile</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific lifestyle and pharmaceutical interventions
Specific lifestyle interventions should be discussed in a collaborative, supportive and encouraging way:
- Nutritional counselling: reduce take-away and “junk” food, reduce energy intake to prevent weight gain, avoid soft and carbonated drinks and juices, and increase fibre intake.
- Physical activity: structure education through interprofessional advice. Physical activity such as a minimum of 150 minutes of ‘moderate-intensity’ physical activity per week (http://bit.ly/1mO7ds). 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 pharmaceutical interventions:
- Lipid lowering therapy: Normally GP supervised. (If total cholesterol >9, non-HDL chl >3.5 or TG >20 (mmol/l), refer to metabolic specialist.) Follow NICE recommendations (http://www.nice.org.uk/nicemedia/pdf/CG67NICEguideline.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; HbA1c 42 - 47 mmol/mol (5.6 - 6.4%) Follow NICE guidelines PH 38 Preventing Type 2 diabetes: risk identification and interventions for individuals at high risk (recommendation 19) – http://guidance.nice.org.uk/PH38.
- Where intense 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 GMC guidelines, http://www.gmc-uk.org/guidance/ethical_guidance/14327.asp. These GMC guidelines are recommended by the NPS 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 a 500mg once daily and build up, as tolerated, to 1500–2000mg daily.
- Review of antipsychotic and mood stabiliser medication:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Baseline</th>
<th>Weekly</th>
<th>1st 6 weeks</th>
<th>12 weeks</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifestyle and Life Skills</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glucose Regulation</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Lipids</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Blood Lipids

- Total cholesterol: Recommended levels vary, generally below 5 mmol/L.
- HDL cholesterol: Higher is better, 1.0 mmol/L or above is considered protective.
- Triglycerides: Recommended levels below 1.7 mmol/L.

**Glucose Regulation**

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

- FPG: Should be below 5.0 mmol/L.
- HbA1c: Should be below 5.7%.

**Lifestyle and Life Skills**

- Smoking:
  - Current smoker: Consider smoking cessation advice.
  - Previous smoker: Referral to smoking cessation service.

- Lifestyles:
  - Poor diet and/or sedentary lifestyle: Nutritional education.

- BMI:
  - BMI >25 kg/m²: lifestyle intervention.
  - BMI >30 kg/m²: refer for specialist advice.

- Blood Pressure:
  - >140 mm Hg systolic and/or >90 mm Hg diastolic: Start with a low dose of antihypertensive therapy.

- Blood Lipids:
  - Total cholesterol: Recommended levels vary, generally below 5 mmol/L.
  - HDL cholesterol: Higher is better, 1.0 mmol/L or above is considered protective.
  - Triglycerides: Recommended levels below 1.7 mmol/L.

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

Frequency: Normally supervised by the psychiatrist. As a minimum review those prescribed a new antipsychotic at baseline and at least once after 3 months.

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.

**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 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 guidelines).

**Discussions about medication should involve the patient, the general practitioner and the psychiatrist.**

- **Specific lifestyle and pharmacological interventions**

  **Lifestyle interventions** should be discussed in a collaborative, supportive and encouraging way.

  - **Nutritional counselling:** reducing junk food, reducing energy intake to prevent weight gain, avoid soft and caffeinated drinks and juices, and increase fibre intake.

  - **Physical activity:** structured educational lifestyle intervention. Advise physical activity such as a minimum of 150 minutes of ‘moderate-intensity’ physical activity per week (http://bit.ly/107b6ss). 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:**

    - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE recommendations.

      - **Lipid lowering therapy:** Normally GP supervised. If total cholesterol >9 mmol/L, non-HDL chl >7.5 mmol/L, refer to metabolic specialist. Follow NICE guidelines.

        - **Diabetes:** HbA1c, 42.47 mmol/mol (6.0-6.4%)

      - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

    - **Consider lipid modification for those with CVD or diabetes.**

- **At high risk of diabetes:** HbA1c, 42.47 mmol/mol (6.0-6.4%) Follow NICE guidelines PT 38 Preventing type 2 diabetes: risk identification and interventions for individuals at high risk (recommendation 19) – http://guidance.nice.org.uk/PH38.

  - 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 GMC guidelines, http://www.gmc-uk.org/guidance/ethical_guidance/14327.asp. These GMC guidelines are recommended by the NPS and MDU, 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 e.g 500mg once daily and build up, as tolerated, to 1500–2000mg daily.**

- **Review of antipsychotic and mood stabiliser medications:**

  - 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. 5 kg <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 the same clinical benefits with fewer side effects.

  - As a first step prescribed dosages should follow NICE 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 questionnaire http://mentalhealthpartnerships.nhs.uk/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.

- **Target**

  - **At high risk of diabetes:** HbA1c, 42.47 mmol/mol (6.0-6.4%)

  - **Lipid lowering therapy:** Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease. Consider lipid modification for those with CVD or diabetes.

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **At high risk of diabetes:** HbA1c, 42.47 mmol/mol (6.0-6.4%)

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.

  - **Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.**

  - **Anti-hypertensive therapy:** Normally GP supervised. Follow NICE guidelines for lipid modification and follow appropriate NICE guidelines on chronic kidney disease.
For all patients in the “red zone” (see centre 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.

This clinical resource supports the implementation of the physical health CQUIN (http://www.england.nhs.uk/wp-content/uploads/2014/02/sc-cquin-guid.pdf) which aims to improve collaborative and effective physical health monitoring of patients with serious 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.

Don’t just screen – INTERVENE for all patients in the “red zone”. 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 Nursing
- UK Faculty of Public Health (FPH)
- UCL Partners – Academic Health Science Partnership
- Healthcare Quality Improvement Partnership (HQIP)
- National Collaborating Centre for Mental Health (NCCMH)
- Diabetes UK
- Rethink Mental Illness


Adapted for use by the RCGP/RCPsych. With permission from Curtis J, Newall H, Samaras K. © HETI 2011 | June 2014 | 1.0