CLINICAL PROCEDURE:

Antipsychotic Medication – Monitoring Adverse Effects when Prescribed for Children / Adolescents

DOCUMENT MANAGEMENT	
Document Number	cp2019_216
Summary	This document is a ***guide*** to what observations and monitoring should occur in children and adolescents prescribed antipsychotic medication so that intervention can occur in a timely manner to ensure optimal treatment outcomes. This document is based on current medical literature, consensus guidelines and expert opinion. It is ***not a directive document*** and consultants and registrars may use their own clinical judgement. However, health care providers are requested to be aware of and consider these guidelines when prescribing antipsychotics to children and adolescents, especially when treatment is likely to be long-term.
Applies to:	WCHN
Exceptions	nil
Replaces	CPR 2015_031 Guidelines for monitoring adverse effects in children and adolescents prescribed antipsychotic medication medical guideline
Lead Writer / Key Contact	David Ellis, Senior Specialist Pharmacist / Ph: (61 8) 8161 6115; Fax: (61 8) 8161 6049 Email: david.ellis2@sa.gov.au
Accountable Director / Oversight Committee	Dr Chris Pearson, Drug and Therapeutics Committee
Review Date	27 February 2024
Risk Rating	Low
	Antipsychotic medication, weight gain, metabolic effects, hyperprolactinaemia, extrapyramidal side effects (EPSE), liver abnormalities, haematological abnormalities, urea and electrolyte abnormalities, cardiac adverse effects, CAMHS
Status	Active
Approved by	Dr Chris Pearson, Drug and Therapeutics Committee
Approval Date	27 February 2020

Compliance with WCHN Procedures is mandatory.

Document History

Version	Date	Writer	Amendment/s	Status
v1.2	30/07/19	Pharmacist, David Ellis	Review Scheduled, format change and minor inclusions and exclusions	Under Review
v1	11/03/15	Pharmacist, David Ellis	Procedure Created	Approved

CORE CLINICAL PRACTICE REQUIREMENTS:

Positive patient identification
Consumers should be positively identified using three core identifiers:

- full name,
- date of birth,
- medical record number/address, prior to implementation of this procedure.

Staff completing positive patient identification should be mindful of collecting or confirming consumer identification information in a respectful, non-shaming way. Aboriginal people may have a number of names. For example, a person may have a European first name and surname, a skin name and maybe even a nickname. An individual gains a 'skin name' upon birth based on the skin names of his or her parents and skin names are used in a manner similar to a surname.

As a mark of respect, many Aboriginal people will avoid referring to a deceased person by name where the avoidance period may last anywhere from 12 months to several years. Those of the same name as the deceased are referred to by a substitute name during the avoidance period.

Identifying Aboriginal and Torres Strait Islander Status
The collection of the Aboriginal and Torres Strait Islander status of patients/consumers by WCHN is important for improving Aboriginal and Torres Strait Islander health. Under-identification of Aboriginal status has serious implications for Aboriginal health in two ways.

- Firstly, it prevents delivery of targeted services to Aboriginal and Torres Strait Islander people. If clinicians do not know which of their patients/consumers are Aboriginal, they are unable to offer them health interventions that are specific to Aboriginal people.
- Secondly, incomplete and unreliable data on Aboriginal and Torres Strait Islander health impede effective responses to the higher burden of disease and death among Aboriginal people, and make accurate assessment of progress in 'closing the gap' difficult.

See Identification of Patients / Clients prior to Delivery of Care/Service/Treatment for additional information.

Consumer Safety Risks
Consideration of any patient safety risks eg deterioration, infection status, fall, pressure injury or other safety risk (including social), must be considered in relation to this procedure.

For Aboriginal and Torres Strait Islander people, past policies and practices and have created unresolved trauma which has been passed down from generation to generation. Transgenerational trauma can manifest in many different ways and affect people differently. The social and health disadvantages experienced by Aboriginal and Torres Strait Islander people and the impact of unresolved trauma should be considered in relation to this procedure.

Person and Family Centred Care
WCHN staff operate in a framework of Person and Family Centred practice which involves; treating consumers and their family with dignity and respect, communicating information clearly and openly with the consumer, actively involving consumers in decision making and being positive and kind.

Diversity
WCHN will seek to ensure that this health service becomes more receptive and responsive to, and culturally safe for, Aboriginal and Torres Strait Islander people using their services and facilities in order to achieve equitable health outcomes. Aboriginal and Torres Strait Islander people should be recognised as having a special heritage and the WCHN will, in interacting with Aboriginal and Torres Strait Islander people, support values that respect their traditional and contemporary cultures.

WCHN services will be sensitive to the linguistic, physical, spiritual and cultural needs and requirements of consumers, and responsive as far as practicable to the particular circumstances of individuals and their families. Identification of linguistic, physical, spiritual and cultural needs is a responsibility of all staff.

Documentation
All aspects of care delivery must be documented in the health record, including documentation of discussions with the patient/care giver, in accordance with the WCHN Procedure: Documentation in Patient/Client Health Records.

MANAGER RESPONSIBILITIES:

Managers are responsible for:

- ensuring staff are aware of this procedure;
- have the skills and knowledge to undertake the actions described; and
- escalating any issues with the implementation of this procedure through the appropriate mechanism.

The Women's and Children's Clinical Governance and Consumer Engagement Frameworks, together with the National Safety & Quality Standards, serve as the foundation on which the WCHN system for Recognising and Responding to Acute Deterioration is built. This system, in collaboration with consumers and stakeholders, supports clinicians and families to ensure that a person's acute deterioration is recognised promptly and appropriate action is taken. At WCHN acute deterioration includes physiological changes, as well as acute changes in cognition and mental state.

Patient/Client Safety

Intent:
The aims are to:

- highlight to health care providers the potential short- and long-term adverse effects of antipsychotic medication usage in children and adolescents
- make recommendations for observation and monitoring of adverse effects in young people prescribed antipsychotics
- enable interventions to manage adverse effects of antipsychotics to occur in a timely manner to ensure optimal treatment outcomes of the patient, and
- facilitate continuity of care of these patients across the various hospital/community interfaces by enabling efficient transfer of patient health monitoring information

It is intended that the guidelines are to be used in conjunction with the "Antipsychotic Physical Health Monitoring Chart" where results of observations and monitoring performed at recommended time intervals or when deemed necessary are recorded for those likely to use or are using antipsychotics long term e.g. greater than a month.

Exceptions: Pregnant and/or lactating adolescents

1. Principles

1. 1 Who requires monitoring

- All clients prescribed antipsychotics that are likely to continue for more than a month.

1.2 Who does the monitoring

- It is the responsibility of the initial prescriber to ensure recommended monitoring occurs at appropriate times and that a monitoring chart is started and filled out appropriately. The initial prescriber also holds the responsibility of communicating with local GP's in rural areas to ensure monitoring occurs

1.3 Basis of Recommendations

- Compared to adults, observations and monitoring suggested in young people vary depending on the relative risk of adverse effects as outlined in the discussion below and also practical considerations:
    - while younger children using low doses of antipsychotics are less likely than adolescents using adult doses to develop adverse effects, the WCHN "Antipsychotic Physical Health Monitoring Chart" is used for all young people
    - it is imperative to ensure optimal safety but at the same time avoid unnecessary, time-consuming, invasive or traumatic interventions
    - coordinating the frequency for monitoring of different parameters to occur simultaneously, healthcare costs, inconvenience and burden to the patient can be minimised

1.4 Where to Document the Monitoring

- The WCHN "Antipsychotic Physical Health Monitoring Chart" (see Appendix 1) is a tool to:
  - prompt health care providers
  - record that monitoring has occurred
  - highlight abnormalities
  - highlight interventions that should occur

2. Adverse Effects that require monitoring

2.1 Weight gain and metabolic effects

- All antipsychotics have the potential to cause weight gain to various degrees:
  - in adults, clozapine and olanzapine are the second generation antipsychotics that have the highest incidence of weight gain
  - young people taking antipsychotics appear to be very vulnerable to weight gain, especially in the early stages of treatment
- There is an associated risk of metabolic side effects such as diabetes, dyslipidaemia and hypertension, all of which increase cardiovascular risk.

2.2 Hyperprolactinaemia

- Hyperprolactinaemia is generally dose related and more common in young people taking risperidone, paliperidone, amisulpride, olanzapine and the first generation antipsychotics due to their higher dopamine 2 receptor affinity:
  - prolactin levels increase sharply in the first weeks, peak at around 6 to 8 weeks then trend slowly downward (often not to baseline):
    - normalization of prolactin occurs within 4 days following cessation
  - it is essential to exclude other causes of raised prolactin levels such as pregnancy, breastfeeding, stress, tumours and other medications:
    - when elevation is mild (less than 1000 mIU/L) with no adverse effects, it is reasonable to continue monitoring
    - when elevation is greater than 1000 mIU/L, particularly if associated with adverse effects or changes in sex hormone levels, the clinician should consider dose reduction or switching therapy
    - persistent elevations of prolactin greater than 2000-3000 mIU/L should raise the suspicion of the presence of a pituitary adenoma if dose reduction fails to significantly reduce prolactin levels:
      - treatment with potent dopamine 2 receptor antagonists such as risperidone has been reported to be associated with pituitary tumours
- Children and adolescents appear to be more likely than adults to develop hyperprolactinaemia when taking antipsychotics:
  - most clinical symptoms are observed after puberty and include galactorrhoea and menstrual irregularities in females and gynaecomastia, galactorrhoea and sexual dysfunction in males, which may be particularly distressing to adolescents
  - in children:
    - hyperprolactinaemia may disrupt normal development, leading to delayed pubertal maturation and decreased growth to cause short stature
    - there is the potential to decrease bone mineral density and increase the risk of osteoporosis

2.3 Extrapyramidal side effects

- EPSEs can occur with all antipsychotics:
  - more common with first generation antipsychotics
  - risperidone, paliperidone, amisulpride and olanzapine have a higher incidence of the second generation antipsychotics
- EPSEs are generally dose related with a greater likelihood when higher doses are used.
- The incidence is higher in young patients compared with adults, especially in young males.

2.4 Liver abnormalities

- Transient, asymptomatic elevations of hepatic transaminases occur occasionally with some antipsychotics, especially in early treatment.
- Some antipsychotics have been reported to cause hepatotoxicity, particularly in youth who are obese:
    - if symptoms of liver dysfunction such as nausea, vomiting and/or anorexia develop, liver function tests should be performed immediately
    - if there is a clinically relevant elevation in liver function values or if symptoms of jaundice occur, treatment should be discontinued
    - more frequent monitoring should be conducted if there is significant weight gain or indications of any abnormalities in the liver function tests

2.5 Haematological abnormalities

- Decreases in the white blood cell count and other blood dyscrasias can occur during treatment with the range of antipsychotics:
    - usually occur during the first 2 months of drug therapy and mostly are not clinically significant
    - more frequent monitoring may be required if patients develop fever, flu-like symptoms, pallor or bruising, especially if it occurs shortly after treatment initiation
    - of particular note is the well-established risk of potentially fatal agranulocytosis associated with clozapine that requires mandated monitoring with a clozapine patient monitoring system

2.6 Urea and electrolyte abnormalities

- There is some evidence of the value of monitoring electrolytes in patients taking antipsychotics:
    - an electrolyte imbalance (e.g. hypokalaemia, hypomagnesaemia and hypocalcaemia) can increase the risk of cardiac arrhythmias (see 2.7)
    - the syndrome of inappropriate antidiuretic hormone (SIADH) has been reported with some antipsychotics and so measuring sodium may be of some use

2.7 Cardiac adverse effects

- Clozapine has been reported to cause a number of cardiac problems with therapeutic doses:
    - although cardiac problems such as cardiomyopathy, myocarditis and pericarditis are quite rare, the potential risk to patients warrants close monitoring
    - deaths have occurred from heart failure in patients using clozapine
    - the cardiac monitoring of clozapine is recorded on the relevant SA Health Clozapine Forms as per instructions under Clozapine Resources for Clinicians on the SA Health internet site located at; http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/clinical+topics/medicines+and+drugs/clozapine
- Certain antipsychotics can prolong the cardiac QT interval:
    - children may be susceptible to QT changes
    - some are restricted because of these concerns e.g. thioridazine, pimozide, droperidol and any intravenous antipsychotic
    - ziprazidone has concerns with QT interval prolongation that held up its approval in a number of countries
    - those less likely to cause prolongation of the QT interval e.g. chlorpromazine and quetiapine can still cause problems:
        - when a patient is predisposed to developing an arrhythmia such as if they have underlying cardiac abnormalities or an electrolyte imbalance
        - if the antipsychotic is prescribed in combination with other medications that have the potential to prolong the cardiac QT interval (e.g. some antiarrhythmics, some anti-infectives and tricyclic antidepressants) or with medications that increase the plasma levels of the antipsychotic (e.g. some selective serotonin reuptake inhibitors, azole antifungals, macrolide antibiotics

3. How to Use the Antipsychotic Physical Health Monitoring Chart

3.1 Learning Package

- The "Monitoring Adverse Effects of Antipsychotic Medication Prescribed to Children and Adolescents - Learning Package for CAMHS Clinicians" has been developed
- The aim is to assist staff in developing the skills, knowledge, attitudes and beliefs that will enable them to monitor for adverse side effects when children and adolescents have been prescribed antipsychotic medications.
- It is strongly recommended that all staff involved in the care of patients taking antipsychotic medication complete this learning package.

3.2 Where to get the chart

- Spare charts can be ordered as a stationary line.
- Various clinical areas of the hospital may then keep on hand for use.
- Before initiating a new chart, check in the "Medication" section of the patients case notes whether a current chart is in use.
- Check with the patient or referring doctor whether a chart is in use outside the hospital and endeavour to obtain a copy of this so that the current status of monitoring can be obtained and avoid unnecessary tests.
-

3.3 Where the charts go after use

- When patients are admitted to inpatient units, the current chart may be placed with the current medication chart for easy use.
- On discharge:
    - a ***copy*** of the chart should be sent to the patient's follow-up doctor with the discharge letter
    - the ***original*** chart is then filed in the "Medication" section of the case notes

3.4 How to fill in the chart

- For all new charts place a patient medical record sticker (or write in patient details if being used outside of the WCH) at the top of the chart.
- A new chart should be started when either:
    - initiating an antipsychotic,
    - switching to a different antipsychotic,
    - ongoing use of an antipsychotic:
        - and commencing the monitoring chart for the first time (in this instance a true baseline can't be obtained unless good retrospective data available in case notes)
        - and previous chart is full
- Refer to "User Guide" at the top of the first page of the monitoring chart for information on where to start depending on situation.
- Refer to the heading box (shaded black) in each section of the monitoring chart for information on how often to do the monitoring:
    - any data boxes shaded black indicate monitoring is not required for a given time point

3.5 Chart Data

- Write in the name of the current antipsychotic(s) being used.
- Write in the number of charts that have been used for the individual patient, with new charts numbered sequentially.
- Write in the date the chart started.
- Tick the appropriate box when starting a new chart whether "Initiating", "Switching" or "Ongoing".

3.6 Risk factors

- Assessment of cardiovascular risk factors should occur **at baseline and annually:**
  - if risk factors are present, more frequent monitoring may be required
- Factors increasing cardiovascular risk include:
  - smoking
  - personal or family history of diabetes
  - personal or family history of heart disease
  - low level of activity
  - poor diet
  - obesity
  - ethnicity (e.g. Indigenous Australian, African descent, Pacific Islander, Asian etc)
  - other medications that may cause weight gain or cause significant drug interactions with antipsychotics

3.7 Body weight, height, body mass index (BMI), BMI for age percentiles and BMI z scores

- Monitoring for meaningful changes in weight should occur **at baseline, monthly for the first 3 months, then every 3 months.**
  - the measurement of weight and height should be accurate (use of regularly calibrated weighing scales), quick, easy and clinically practical:
    - **BMI** should be obtained for monitoring weight changes, as it is a more sensitive parameter than measuring weight alone
    - **BMI for age percentiles according to gender** should be obtained as it allows for norms that change with age and gender
    - **BMI z** scores allow a more detailed statistical description of obese children who are above the 97th percentile for BMI for their age and gender
  - BMI, BMI for age percentiles and BMI z scores may be calculated by using a website that calculates these values e.g.
    - http://www.quesgen.com/BMIPedsCalc.php
      - note this is an oversea site therefore:
        - dates are added with the month before the day eg MM/DD/YYYY and not DD/MM/YYYY
        - need to change weight and height to metric units
- **Results that may cause concern and trigger an alert for appropriate interventions include:**
  - **a > 5% weight gain within the first 3 months (height unlikely to play a major role)**
  - **a ≥ 0.5 increase in BMI z score**
  - **crossing into being overweight e.g. a ≥ 85th to < 95th BMI percentile plus one adverse health consequence e.g. hyperglycaemia, dyslipidaemia, hypertension, hyperinsulinaemia**
  - **crossing into obesity e.g. a ≥ 95th BMI percentile**

3.8 Blood pressure

- Monitoring for meaningful changes in blood pressure should occur **at baseline and every 6 months** (with more frequent monitoring in young people with risk factors):
  - the measured blood pressure can be correlated with paediatric BP percentile charts
  - blood pressure should be measured preferably after 10 minutes rest in the sitting position, using an appropriate sized cuff, with the young person as quiet and relaxed as possible
- Note that many antipsychotics can cause postural hypotension, especially at the start of therapy.

3.9 Blood Tests

- Blood testing should occur **at baseline, at 3 months, then yearly** (with more frequent testing in young people with abnormalities) for the parameters:
  - total cholesterol
  - triglycerides
  - blood glucose
  - white blood cell (WBC) count

  - neutrophil count
  - liver function tests
  - urea & electrolytes and
  - prolactin
- These tests should be coordinated together so that only one lot of blood needs to be taken at a time.
- The best time to take bloods is **in the morning in a fasting state before giving any medication** (if this is not the case it should be documented):
  - prolactin undergoes diurnal variations, increases with stress and food intake therefore prolactin should be measured in the morning, after fasting and 8 to 12 hours after the last medication dose
  - triglycerides and blood glucose are affected by food therefore bloods should be taken in a fasting state
    - if abnormalities in total cholesterol and triglycerides are detected, a complete lipid profile is recommended
- WBC and neutrophill counts do not need to be repeated for clozapine due to the mandated WBC and neutrophil blood testing that is reported to the clozapine patient monitoring system however other blood tests should be coordinated with this to avoid extra bloods being taken.

3.10 Extrapyramidal Side Effects

- Questioning and observations for EPSE should occur **at baseline, monthly for the first 3 months, then every 3 months** for the symptoms of:
  - dystonia
  - Parkinsonism
  - akathisia
  - dyskinesia
- If movement disorders are present at baseline or emerge during antipsychotic treatment, a validated movement scale may be used, especially in specialist settings to more accurately monitor or determine significant problems: e.g.
  - Abnormal Involuntary Movement Scale (AIMS) (see http://www.cqaimh.org/pdf/tool_aims.pdf)

3.11 Hyperprolactinaemia

- Questioning and observations for hyperprolactinaemia should occur **at baseline, monthly for the first 3 months, then every 3 months** for the symptoms of:
  - galactorrhoea
  - gynaecomastia
  - menstrual irregularities
  - sexual dysfunction
  - disruption of normal development in young children
- Symptoms should be investigated and acted upon:
  - additional prolactin monitoring may be indicated if these adverse effects are present

3.12 Interventions Required

- If no abnormalities are detected the "none" box should be ticked to highlight no interventions are needed.
- If one or more abnormalities are detected, write what interventions need to occur in this space.
- Information and flow charts to help guide intervention in young people relating to metabolic abnormalities can be found at the Healthy Active Lives (HeAL) website at http://www.iphys.org.au/.

4. Strategies for preventing and management of weight gain and metabolic abnormalities in patients taking antipsychotics

4.1 Healthy Lifestyle Behaviours

- Replace all drinks containing sugar (e.g. soft drink, cordial, juice), "diet" drinks, and whole milk with at least 2L of water and moderate amounts of unsweetened tea or low-fat milk.
- Eat every 3 to 4 hours, with no more than 2 meals in the evening or at night.
- Eat small portions at meals.
- Eat breakfast every morning.
- Eat slowly, drink an ample amount of water between bites and take second helpings only after a delay.
- Eat no more than one fast food meal per week.
- Replace refined white flour and processed sugar products with whole-grain and other food items that have a low glycemic index (i.e. ≤ 55; http://www.glycemicindex.com).
- Do not snack when full and replace high-fat, high-calorie snacks with ample amounts of fruit and vegetables.
- Limit saturated fat intake, but avoid extensive consumption of processed fat-free food items.
- Eat at least 25-30g per day of soluble fibre from fruits, vegetables and/or whole grains.
- Limit watching television or playing computer/video games to < 2 hours per day.
- Perform moderate to vigorous physical activity for at least 30 to 60 minutes per day.

4.2 Medication Choice

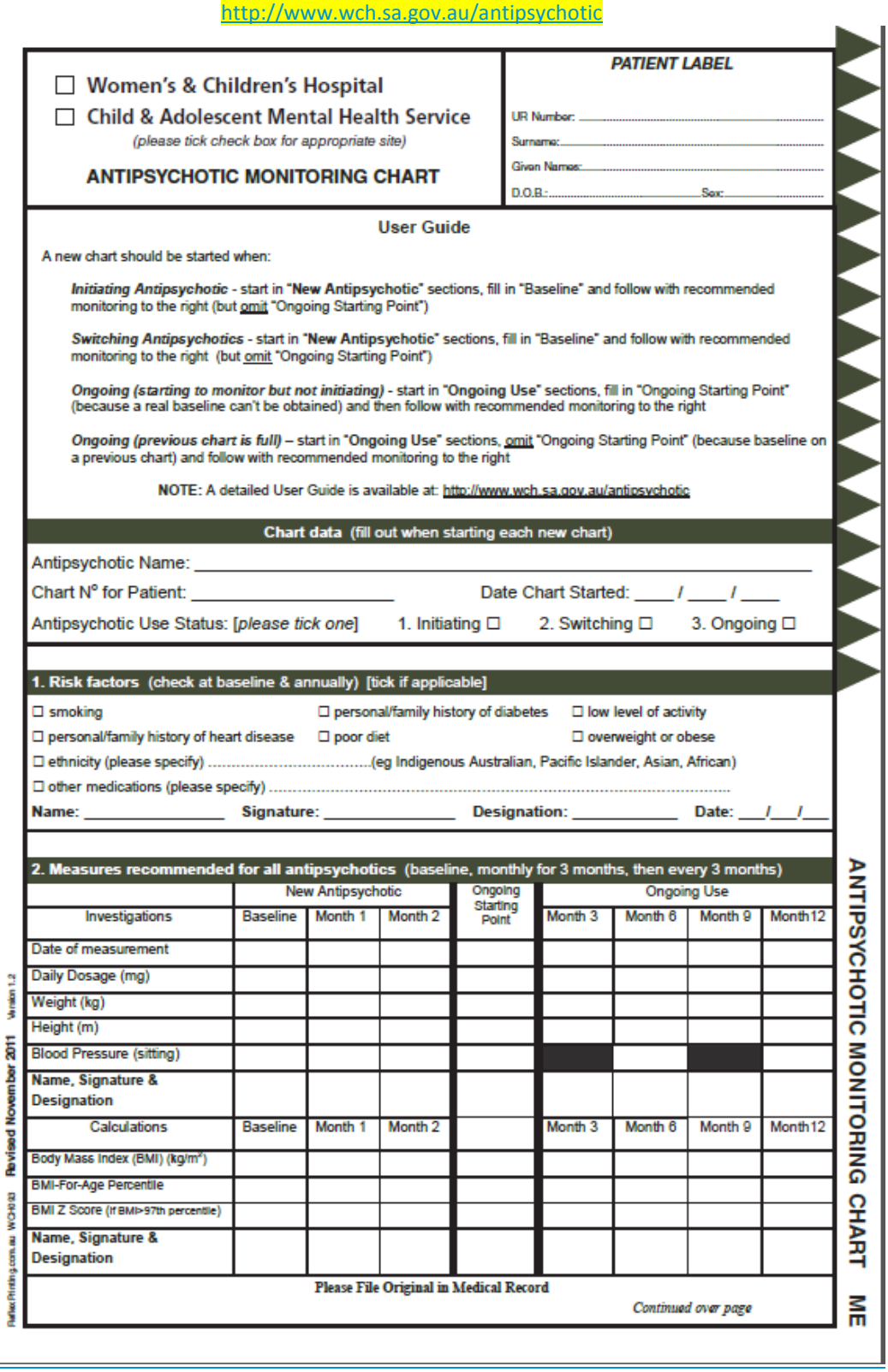
- Avoid starting treatment with medications that are associated with marked or extreme weight gain.
- Consider switching to an agent that is associated with less weight gain potential.

4.3 Additional Weight Loss Treatment

- If weight gain/obesity remains problematic despite the first and second strategies:
  - initiate or refer to formalized, non-pharmacological weight loss program
  - initiate adjunctive pharmacological weight loss treatment under the guidance of a paediatrician who specializes in weight loss programs

Appendix 1 - ANTIPSYCHOTIC PHYSICAL HEALTH MONITORING CHART

For further information and a copy of the Monitoring Chart, click on http://www.wch.sa.gov.au/antipsychotic



☐ Women's & Children's Hospital
☐ Child & Adolescent Mental Health Service
(please tick check box for appropriate site)

ANTIPSYCHOTIC MONITORING CHART

PATIENT LABEL

UR Number: .....
Surname: .....
Given Names: .....
D.O.B.: ..... Sex: .....

User Guide

A new chart should be started when:

Initiating Antipsychotic - start in "**New Antipsychotic**" sections, fill in "Baseline" and follow with recommended monitoring to the right (but omit "Ongoing Starting Point")

Switching Antipsychotics - start in "**New Antipsychotic**" sections, fill in "Baseline" and follow with recommended monitoring to the right (but omit "Ongoing Starting Point")

Ongoing (starting to monitor but not initiating) - start in "**Ongoing Use**" sections, fill in "Ongoing Starting Point" (because a real baseline can't be obtained) and then follow with recommended monitoring to the right

Ongoing (previous chart is full) – start in "**Ongoing Use**" sections, omit "Ongoing Starting Point" (because baseline on a previous chart) and follow with recommended monitoring to the right

NOTE: A detailed User Guide is available at: http://www.wch.sa.gov.au/antipsychotic

Chart data (fill out when starting each new chart)

Antipsychotic Name: _____

Chart N° for Patient: _____ Date Chart Started: ____ / ____ / ____

Antipsychotic Use Status: [*please tick one*] 1. Initiating ☐ 2. Switching ☐ 3. Ongoing ☐

1. Risk factors (check at baseline & annually) [tick if applicable]

☐ smoking ☐ personal/family history of diabetes ☐ low level of activity
☐ personal/family history of heart disease ☐ poor diet ☐ overweight or obese
☐ ethnicity (please specify) .....(eg Indigenous Australian, Pacific Islander, Asian, African)
☐ other medications (please specify) .....

Name: _____ **Signature:** _____ **Designation:** _____ **Date:** ___/___/___

2. Measures recommended for all antipsychotics (baseline, monthly for 3 months, then every 3 months)

	New Antipsychotic			Ongoing Starting Point	Ongoing Use			
Investigations	Baseline	Month 1	Month 2		Month 3	Month 6	Month 9	Month12
Date of measurement								
Daily Dosage (mg)								
Weight (kg)								
Height (m)								
Blood Pressure (sitting)								
Name, Signature & Designation								
Calculations	Baseline	Month 1	Month 2		Month 3	Month 6	Month 9	Month12
Body Mass Index (BMI) (kg/m²)								
BMI-For-Age Percentile								
BMI Z Score (If BMI>97th percentile)								
Name, Signature & Designation								

Please File Original in Medical Record

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ANTIPSYCHOTIC MONITORING CHART ME

Appendix 1 - ANTIPSYCHOTIC PHYSICAL HEALTH MONITORING CHART (cont.)

3. Blood tests recommended for all antipsychotics (baseline, at 3 months, then yearly)
Bloods should be taken in the morning in a fasting state and before giving medication

Investigations	New Antipsychotic: Baseline	New Antipsychotic: Month 3	Ongoing Starting Point	Ongoing Use: Month 12
Date of blood taken				
Total Cholesterol *				
Triglycerides *				
Blood Glucose				
White Blood Cell (WBC) Count †				
Neutrophil Count †				
Liver Function Tests (Normal Y/N) #				
Urea & Electrolytes (Normal Y/N) #				
Prolactin **				
Name, Signature & Designation				

4.1 Questions to ask for all antipsychotics to monitor for extrapyramidal side effects ** (baseline, monthly for 3 months, then every 3 months)

Observations (*please indicate with a tick = yes, x = no*)	New Antipsychotic: Baseline	Month 1	Month 2	Ongoing Starting Point	Ongoing Use: Month 3	Month 6	Month 9	Month 12
Any muscular tremors or spasms ie dystonia?								
Any muscular stiffness or rigidity ie Parkinsonism?								
Any restlessness or agitation ie akathisia?								
Any involuntary hyperkinetic movements ie dyskinesia?								

4.2 Questions to ask or consider for all antipsychotics to monitor for hyperprolactinaemia ** (baseline, monthly for 3 months, then every 3 months)

Observations (*please indicate with a tick = yes, x = no*)	New Antipsychotic: Baseline	Month 1	Month 2	Ongoing Starting Point	Ongoing Use: Month 3	Month 6	Month 9	Month 12
Any milk leakage from your breasts?								
Any breast enlargement?								
Have menstrual periods ceased or become irregular?								
Any loss of sexual function or desire?								
Stunted growth or delayed puberty?								
Name, Signature & Designation								

5. Interventions required

	Baseline	Month 1	Month 2	Ongoing Starting Point	Month 3	Month 6	Month 9	Month 12
Intervention required if abnormality detected	☐ None	☐ None	☐ None	☐ None	☐ None	☐ None	☐ None	☐ None
Name, Signature & Designation								

Legend:
* if any abnormalities are detected, a complete lipid profile is recommended
† optional for patients prescribed clozapine because mandatory blood monitoring involving weekly testing for the first 18 weeks then monthly thereafter is recorded elsewhere
# if No, indicate abnormality
** pay particular attention with risperidone, amisulpride, olanzapine and first generation antipsychotics

mg = milligram
kg = kilogram
m = metres
BMI = Body Mass Index
Y = Yes
N = No

RISK ASSESSMENT

CATEGORY	Clinical	Financial	Workforce	Legislative	Organisation	Reputation
Consequence	Medium					
Likelihood	Rare					
Risk Rating	**Low**					
Description	The procedure acts as a guideline for monitoring. Discussion on usage of antipsychotics should include the entire Multi Disciplinary Team prior to administration or prescription.					

Overall Risk rating:	Low

COMPLIANCE EVALUATION

Compliance Measures
That any side effects from antipsychotic medication are detected early and ongoing monitoring and management reduce the continued effects.

REFERENCING	
National Standard/s	Standard 4 - Medication Safety Standard 8- Recognizing and Responding to Acute Deterioration
Definitions and Acronyms:	**First generation Antipsychotics:** Older antipsychotics also called typical antipsychotics that are more likely to cause extrapyramidal side effects. **Second generation Antipsychotics:** Newer antipsychotics also called atypical antipsychotics that are more likely to cause weight gain. **EPSE:** Extrapyramidal side effects are various movement disorders such as acute dystonic reactions, parkinsonism, akathisia or withdrawal or tardive dyskinesia suffered as a result of taking dopamine antagonists, usually antipsychotic drugs. **Dystonia:** uncontrolled muscular spasm of distinct muscle groups, often in the neck, eyes (oculogyric crisis- eyes rolling upwards) or torso. **Parkinsonism:** slowed movement, tremor and rigidity as seen in Parkinson's disease. **Akathisia:** unpleasant state of inner restlessness which frequently manifests as constant pacing or physical agitation. **Dyskinesia:** is an involuntary movement disorder which consists of a wide variety of abnormal movements in the orofacial region (mouth and tongue), hands and other muscles. Tardive dyskinesia has a later onset and may be irreversible while

	withdrawal dyskinesia can occur with either gradual or sudden cessation of antipsychotics. **Metabolic Side Effects:** includes weight gain, glucose dysregulation/diabetes, and dyslipidemia (elevated triglycerides/cholesterol) that may worsen a patient's cardiovascular health profile. **Dyslipidaema:** is an abnormal amount of lipids (e.g. cholesterol and/or fat) in the blood. **Hyperprolactinaemia:** excessive levels of prolactin in the blood. **Gynaecomastia:** is the abnormal development of large mammary glands in males resulting in breast enlargement. **Galactorrhoea:** spontaneous flow of milk from the breast, unassociated with childbirth or nursing.
Legislation:	
SA Health:	
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Related Documents:	• Antipsychotic Physical Health Monitoring Chart • WCHN Antipsychotic Physical Health and Adverse Effect Monitoring Package • Monitoring Adverse Effects of Antipsychotic Medication Prescribed to Children and Adolescents-Learning Package for CAMHS Clinicians • Healthy Active Lives (HeAL) • South Australia's Mental Health and Wellbeing Policy 2010 – 2015 • CAMHS procedure - Clozapine Coordination • CAMHS procedure - Guidelines for use of Psychotropic Medication in Boylan Ward (inc. PRN Medication)
Consumer Health Information	• WCH Consumer Information Sheet - Antipsychotic Medicines for Children and Adolescents • WCH Consumer Information Sheet – Preventing Weight Gain Associated with Medication Use • SA Health Clozapine Consumer Information Brochure • Choice and Medicines