Bipolar Affective Disorder Formulary Guidance [3]
(adapted from NICE guideline CG185)

1. Introduction

These Guidelines are intended for routine use. However there will be instances where they are not suitable for the patient you are managing, where more bespoke treatment will be necessary. In such instances the rationale for prescribing away from formulary must be recorded.

Bipolar Affective Disorder [BPAD] is a chronic, recurrent condition associated with high levels of suffering, occupational dysfunction, impaired social life and relationships, as well as increased morbidity and mortality.

Bipolar disorder is often co-morbid with a range of other mental disorders (for example substance misuse, personality disorders and ADHD) and this has significant implications for both the course of the disorder and its treatment.

The treatment of BPAD is based primarily on psychotropic medication to reduce the severity of symptoms, stabilise mood and prevent relapse. The treatments are determined by the phase of illness and subtype of disorder.

Individual variation in response to medication will often determine the choice of drug, as will side effects, interactions and cautions associated, the need for rapid onset, child bearing potential, previous history and individual preferences.

A range of psychological and psychosocial interventions can also be used.

See Table 4b on Valproate for guidance on the Prevent Programme

2. Pharmacological Treatment of Bipolar Disorder

2.1 Bipolar Mania or Hypomania

- Consider withdrawing antidepressant at onset of manic episode, abruptly or gradually, as appropriate due to the propensity to exacerbate symptoms.
- Initiate oral antipsychotic, if the patient is not lready on one or a mood stabiliser offer haloperidol, olanzapine, quetiapine or risperidone
- If this is ineffective or not tolerated, offer an alternative antipsychotic
- If this is still ineffective consider adding Lithium
- If Lithium is not suitable or is ineffective consider adding valproate (see MHRA guidance for use in women of child bearing age)
- Short term use of benzodiazepines may be considered in addition to manage agitation.
- Aripiprazole is recommended as an option for treating moderate to severe manic episodes in adolescents with bipolar I disorder, within its marketing authorisation (that is, up to 12 weeks of treatment for moderate to severe manic episodes in bipolar I disorder in adolescents aged 13 and older). (NICE TA292)

2.2 Acute manic episode while already taking antimanic medication

- If a service user already taking an antipsychotic experiences a manic episode, the dose should be checked, and increased if necessary. If there is no improvement, Lithium or valproate should be considered in addition.
- If a service user who is already taking lithium experiences a manic episode, plasma lithium levels should be checked. If the repsonse is inadequate, augmenting with an antipsychotic could be considered.
- If a service user is already taking valproate and experiences a manic episode, the dose

should be increased until symptoms start to improve depending on side effects, if there is no improvement consider augmenting with an antipsychotic.
- If a service user who is already taking lithium or valproate presents with severe mania, consider increasing the dose and adding an antipsychotic.
- If a service user on carbamazepine presents with mania, the dose should not be routinely increased –an antipsychotic should be considered, however be aware of interactions.

2.3 Bipolar Depression

- In patients are tretament naïve NICE reccomends offering Fluoxetine combined with Olanzapine or Quetiapine as monotherapy
- If fluoxetine is not appropriate consider using the depression guidelines for choosing an alternative antidepressant.
- If the person prefers, consider olanzapine or Lamotrigine as monotherapy
- If the patient is already on a mood stabiliser, maximise that first and then treat as above

2.4 Bipolar Disorder – Long Term Treatment

- First line offer lithium
- If ineffective, consider adding valproate.
- If poorly tolerated, or issues with monitoring consider valproate or olanzapine, or if it has been effective in acute treatment of depression or mania consider quetiapine
- If stopping long term treatment discuss with the patient how to recognise the signs of relapse and what to do.
- Continue monitoring symptoms, mood and mental state for two years after medication has been stopped entirely, this can be done in primary care

2.5 Bipolar Disorder - Rapid Cycling

NICE guidance recommends that service users that have 4 or more acute episodes in a year are classified as having rapid-cycling bipolar disorder.

There is limited evidence on treatments on rapid cycling. A key element is to avoid treatment that may induce switching to a manic state, in particular with antidepressants, where there is a 12-20% chance of switching.

Treatment should be as for manic and depressive episode, but in addition:

- Review the service user's previous treatments for bipolar disorder, and consider a further trial of agents that were not given an adequate trial, or where there was poor compliance.
- Optimize long-term treatment rather than focussing on treating individual episodes and symptoms.
- Try a psycho-educational approach and encourage service users to keep a regular mood diary to monitor progress and changes in severity and frequency of symptoms.
- If on an antidepressant – withdraw this due to risk of cycling.
- Identify and manage possible precipitants e.g. alcohol, thyroid dysfunction, and external stressors
- Optimise mood stabiliser treatment
- Each trial of medication should usually last at least 6 months
- For many, combination treatment may be required
- Consider prescribing a combination of Lithium and Valproate
- Consider other (adjunct) antipsychotic treatment options (e.g. in alphabetical order)
    - Aripiprazole (15mg - 30mg/day)
    - Carbamazepine
    - Clozapine (Usual doses; off-label use)
    - Lamotrigine (up to 225mg/day)
    - Olanzapine (usual doses)
    - Quetiapine (300mg -600mg/day) currently, may have the best supporting data.
    - Risperidone (up to 6mg/day)

Choice of drug is determined by service user factors

2.6 Bipolar Disorder – Mixed Affective State

A small proportion of patients will present with a mixed affective state, where the patient will present with a combination of manic/hypomanic and depressive symptoms, along with commonly a marked

dysphoria. These patients are at particular risk of switching when given antidepressants.

- Treat as hypomania/mania
- Stop/withdraw antidepressants
- Maximise mood stabilisers

3. Monitoring

During review of treatment, service users should be specifically questioned about the efficacy of the medication, functioning, concordance and adverse effects. Side effects should be documented in the notes, and where appropriate reported via the yellow card scheme. Doses and decision to continue should be reviewed on an ongoing basis.

BPAD is associated with poor physical health and drug treatments can add to this. Patients are at an increased risk of metabolic syndrome. NICE recommends monitoring physical health at baseline and at least annually as follows:

- Lipid profile,
- Glucose,
- Weight/Height,
- Blood Pressure,
- Prolactin,
- Thyroid Function Tests
- Liver Function Tests
- Full Blood Count
- Smoking and Alcohol status
- ECG, where cardiac history suggests or SPC requirement
- U&E / Renal Function (eGFR)

See table 5 for more guidance

4. Communication with Primary Care

Different areas of the Trust have slightly different shared care arrangements with GPs, however in principle, with the GP's agreement once the patient is on a stable dose then primary care can take over prescribing under shared care. Good communication is key, and clear lines of responsibility must be agreed between primary and secondary care. [In Doncaster a pro forma is in place to support these arrangements.]

5. References

1. NICE guidance for treatment of Bipolar Disorder. Available at www.nice.org.uk
2. British Association for Psychopharmacology. G. M Goodwin, Consensus Group of the British Association for Psychopharmacology.
3. BAP Evidence Based Guidelines for Treating Bipolar, Second edition. Available at: http://www.bap.org.uk/pdfs/Bipolar_guidelines.pdf
4. Scottish Intercollegiate Guidelines Network (SIGN). Bipolar Affective Disorder. (July 2005). Available at www.sign.ac.uk
5. BNF online at: http://bnf.org/
6. SPC for all the drugs referred to in this guideline can be found in the Electronic Medicines Compendium (http://emc.medicines.org.uk/)
7. MHRA https://www.gov.uk/guidance/valproate-use-by-women-and-girls

Table 1: BIPOLAR AFFECTIVE DISORDER – Acute Treatment of Mania/Hypomania

First Line	Relative costs	Notes
Oral antipsychotics Risperidone Haloperidol Olanzapine Quetiapine XL	 £ £ £ £- ££	Evidence of advantage in acute mania. Consider atypical antipsychotics (because of their generally more favourable short-term side effect profile) if manic symptoms are severe or there is marked behavioural disturbance. Before prescribing consider side effect profile and individual risk factors e.g. diabetes, weight and cardiovascular risk, adherence and previous response Risk of weight gain, hyperglycaemia, dyslipidaemia, hypercholesterolaemia, hyperprolactinaemia Monitor weight, glucose and lipids and prolactin. If stopping, discontinue gradually
Benzodiazepines e.g. Lorazepam Clonazepam	 £ £	Use PRN for as short time as possible; Consider if severe anxiety and agitation present of if sleep deprived. Benzodiazepines can rapidly diminish overactivity. Risk of disinhibited behaviour, tolerance, withdrawal symptoms and dependence. Also increased risk of sedation, falls and ataxia.
Second Line:	**Relative Cost**	**Notes**
Lithium	£	For less severe symptoms and control of overactive behavior not immediately required. Slower onset of action ~7 days. Consider if previous good response and compliant with monitoring (see notes on lithium, above)
Depakote (valproate)	££	Has rapid antimanic effect. Consider if previous good response; For monitoring, see notes above Do not prescribe routinely for women of child-bearing potential –see MHRA guidance
Alternative antipsychotic	£-£££	Consider an alternative antipsychotic not tried eg haloperidol / Zuclopentixol
Carbamazepine	£	No longer in NICE guidance, however may be considered if other reccomended options are ineffective or not tolerated
Not Recommended	**Relative Cost**	**Notes**
Antidepressants Lamotrigine, Topiramate, Gabapentin.	£-£££	Antidepressants should be abruptly discontinued or dose tapered and discontinued, as appropriate There is inadequate supporting evidence for these anticonvulsants in acute mania

Table 2: BIPOLAR AFFECTIVE DISORDER – Acute Depressive Episodes

First Line:	Relative Cost	Notes
Olanzapine + Fluoxetine	£	In naïve patients
Quetiapine	£-ff	Consider if early effect is desirable. Appears to not be associated with a switch to mania. and add an antimanic agent if not on maintenance treatment and Bipolar I.
Lamotrigine	£	Does not induce switching or rapid cycling. Care with dose - very slow dose titration required. NICE does not recommend Lamotrigine as a single first line agent in Bipolar I disorder Increased risk of a rash is associated with rapid dose titration or concurrent use of valproate and add an antimanic agent if not on maintenance treatment and Bipolar I disorder.
Second Line:	**Relative Cost**	**Notes**
Antidepressants	£-ff	• Always prescribe a mood stabiliser in combination • Add a selective serotonin reuptake inhibitor (SSRI) in moderate depression Avoid tricyclics or MAOIs • Care- When prescribing SSRIs concurrently with NSAIDS due to risk of bleeding. • Serotonin syndrome can occur with serotonergic drugs, with co-prescribing of SSRIs and lithium. it can present as: • agitation, confusion, tremor, hyperflexia, myoclonus, hypermania • NICE recommends venlafaxine or mirtazapine as alternative second line antidepressant options for • service users who fail to respond to initial treatment. **Consider stopping the antidepressant if in remission from depressive symptoms (or symptoms have been significantly less severe for 8 weeks **
Valproate and Lithium	£	When depressive symptoms are less severe, lithium or valproate may be considered. Slower onset – takes 6-8 weeks; If already on lithium or valproate as a prophylactic agent – optimise dose. •
Olanzapine	£	• If patient prefers monotherapy
Third Line:	**Relative Cost**	**Notes**
ECT	£££	Consultant initiation only. Consider for high suicide risk and severe depression. .
Not Recommended	**Relative Cost**	**Notes**
Antidepressant monotherpay	£-ff	Antidepressant monotherapy – due to risk of switching to mania especially in Bipolar I disorder. Tricyclic antidepressants are more likely to result in switching to mania.

Table 3: BIPOLAR AFFECTIVE DISORDER - Long Term Maintenance Therapy (Relapse prevention)

First Line:	Relative Cost	Notes
Lithium	£	Lithium monotherapy is probably effective against both manic and depressive relapse, although more effective in preventing mania. Lithium is associated with a reduced suicide risk in individuals with bipolar. Prescribe by generic name and specify brand. Different preparations should not be assumed to be bioequivalent; When prescribing liquid preparations, clearly specify strength and dose
Depakote	££	Valproate probably prevents both manic and depressive relapse (but see MHRA guidance) Interactions – valproate can increase levels of carbamazepine and lamotrigine.
Olanzapine	£	Consider risks, response and preference. Olanzapine prevents manic and depressive relapse. Consider Quetiapine if the patient has responded well to it during an episode of bipolar depression or mania
Second Line:	**Relative Cost**	**Notes**
Combination therapy	£-£££	Use combinations of prophylactic agents if frequent relapses or significant functional impairment
Lamotrigine	£	Consider if bipolar II disorder; Prevents depressive more than manic relapse. Can be used as prophylaxis in service users initially stabilised with lamotrigine or for recurrent depressive episodes
Carbamazepine	£	Carbamazepine is less effective than lithium but can be used if lithium is ineffective. Hepatic enzyme inducer (risk of significant interactions) with other medications. Reduces effectiveness of oral contraceptives. The dose of contraceptive should be adjusted and barrier methods used; Teratogenic risk of neural tube defects, craniofacial abnormalities.
Third Line:	**Relative Cost**	**Notes**
Clozapine	**££**	Consider clozapine for treatment-refractory symptoms (off-label use)
Other:	**Relative Cost**	**Notes**
Benzodiazepines	£	Short- term use when an acute stressor (such as anxiety or lack of sleep)is present
Antidepressants	£-££	Consider long-term treatment with SSRI and mood stabiliser for chronic recurrent depression

Table 4: PRESCRIBING INFORMATION FOR SPECIFIC DRUGS
4a: Lithium

Drug; Licenced Indications	Dose	Contraindications and Cautions	Side Effects and Interactions

Lithium (Priadel/ Camcolit
 	
Formulation
Tablets m/r, lithium carbonate 200mg and 400mg
Tablets 250mg ir
 	
Liquid, sugar-free, lithium citrate 520mg/5ml
(5mL dose is equivalent to ~200mg lithium carbonate)
 	
Licenced indications
Prophylaxis of bipolar affective disorder.
and
Treatment of acute manic or hypomanic episodes.
	• Dose range for treatment and prophylaxis is 400-1200mg daily as a single dose or in 2 divided doses (if elderly or < 50kg, 400mg daily)
	• Dose adjusted to achieve lithium levels in the range of 0.4–1mmol/l.
	• Sample taken at least 12 hours after the last dose
	• Levels should not exceed 1.5mmol/l.
	• Optimal serum lithium levels may vary for each service user.
	• Additional serum-lithium levels should be made if significant intercurrent disease or change in sodium or fluid intake.
	• **Preparations vary widely in bioavailability; changing the preparation requires the same precautions as initiating treatment.**
	• Discontinue gradually
		Contraindications
		• Hypersensitivity to lithium or excipients
		• Cardiac disease
		• Cardiac insufficiency
		• Severe renal impairment
		• Untreated hypothyroidism
		• Breast-feeding
		• Hyponatremia, including due to dehydration or low sodium diets
		• Addison's disease
		• Brugada syndrome or family history of Brugada syndrome.
		
		Cautions
		• Renal and thyroid dysfunction,
		• Electrolyte imbalance/diuretics
		• Cardiac problems
		• Psoriasis
		• Seizures
		• QT interval prolongation
		• Elderly people
		• drug interactions
		• Low sodium diet
		• Dehydration, diarrhoea, vomiting
		
		Pregnancy
		Avoid in first trimester of pregnancy if possible
		Dose adjustments in second and third trimesters with close monitoring of serum levels (neonatal toxicity)
			Side effects
			• Lithium has a narrow therapeutic index.
			• Side effects are related to serum levels, as follows:
			  ○ Mild gastrointestinal side effects such as nausea, abdominal discomfort and taste disorder
			  ○ Tremor, especially fine hand tremors
			  ○ Peripheral oedema and weight gain
			  ○ Hyperglycaemia,
			  ○ Leucocytosis
			  ○ Confusion
			  ○ Reduction in thyroid and renal function
			  ○ Polydipsia and/or polyuria
			  ○ Sexual dysfunction
			• High serum-lithium levels (usually >1.5mmol/litre) can cause toxic effects including restlessness, apathy, nausea, coarse tremor, vomiting, diarrhoea, drowsiness, blurred vision, ataxia, dysarthria, myalgia and arthralgia. Lithium should be stopped. Higher levels can lead to confusion, hyperreflexia, renal failure, convulsions, coma and death.
			• Long-term adverse effects may include thyroid function disturbances such as euthyroid goitre and/c hypothyroidism and thyrotoxicosis.
			
			Key interactions:
			NSAIDs; Diuretics e.g. thiazides, ACE Inhibitors; Angiotensin II antagonists, calcium channel blockers, additive effect with psychotropic drugs

4b: Valproate

Drug; Licenced Indications	Dose	Contraindications and Cautions	Side Effects and Interactions
Valproate Depakote: tablets 250mg; 500mg (Other valproate preparations are also used off label*) **Licenced indications** Treatment of manic episodes associated with bipolar disorder. Prophylaxis of Bipolar disorder *reserved for when compliance issues arround Depakote	Initial dose: 750 mg daily in 2–3 divided doses, increased according to response. Maintenance dose: 1–2g daily Doses greater than 45mg/kg daily require careful monitoring See above for monitoring schedule	**Contraindications** Active liver disease; family history of severe hepatic dysfunction; acute porphyria; **Cautions** Women of child-bearing potential; Monitor liver function before therapy and during first 6 months especially in those most at risk; Measure full blood count and ensure no undue potential for bleeding before starting and before surgery Systemic lupus erythematosus; False-positive urine tests for ketones; Avoid abrupt withdrawal; Consider vitamin D supplementation in patients that are immobilised for long periods or who have inadequate sun exposure or dietary intake of calcium See MHRA guidance: https://www.gov.uk/guidance/valproate-use-by-women-and-girls	**Side effects** Gastrointestinal disturbances, particularly at the start of therapy. Increased appetite, and weight gain is common. Less common adverse effects include oedema, headache reversible prolongation of bleeding time, and thrombocytopenia. Leucopenia and bone marrow depression have been reported. Tremor and ataxia have also been reported usually when therapy is started. Transient hair loss. Occasionally rashes. Rare but serious side effect are liver damage and pancreatitis **Interactions** Caution is recommended when giving valproate with other drugs liable to interfere with blood coagulation, such as aspirin or warfarin. Use with other hepatotoxic drugs should be avoided. Use of highly protein bound drugs with valproate may increase free valproate plasma concentrations. Care with dosing when used with lamotrigine Potential for additive effects when used with other psychotropic drugs

Valproate Prevent Programme

Valproate is an effective treatment for epilepsy and bipolar disorder. In girls and women of childbearing potential* valproate must be initiated and supervised by a specialist experienced in the management of epilepsy or bipolar disorder. Valproate should not be used in girls and women of childbearing potential unless other treatments are ineffective or not tolerated. Valproate may be initiated in **girls and women of childbearing potential** only if the conditions of **prevent** – the valproate pregnancy prevention programme (outlined below) are fulfilled.

Specialists

- Discuss the risks with the patient (or parent/caregiver/responsible person)
- Exclude pregnancy in women of childbearing potential (by serum pregnancy test) before the first prescription is issued
- Arrange for highly effective** contraception for women of childbearing potential before the first prescription is issued
- Complete the Annual Risk Acknowledgment Form with patient (or parent/caregiver/ responsible person); give them a copy and send a copy to the GP
- See the patient urgently (within days) if referred back in case of unplanned pregnancy or if she wants to plan a pregnancy
- Provide a copy of the Patient Guide to the patient (or parent/caregiver/responsible person)

General practitioners

- Ensure continuous use of highly effective contraception in all women of childbearing potential (consider the need for pregnancy testing if not a highly effective method)
- Check that all patients have an up to date, signed, Annual Acknowledgment of Risk Form each time a repeat prescription is issued
- Ensure the patient is referred back to the specialist for review, annually
- Refer back to the specialist urgently (within days) in case of unplanned pregnancy or where a patient wants to plan a pregnancy.

4c: Carbamazepine

Drug; Licenced Indications	Dose	Contraindications and Cautions	Side Effects and Interactions
Carbamazepine Tablets 100mg, 200mg and 400mg; Prolonged Release 200mg and 400mg Tablets; Liquid 100 mg/5ml **Licensed indications** Prophylaxis of bipolar disorder unresponsive to lithium	Initial dose: 400mg daily in divided doses Maintenance dose: 400–600mg daily; max. 1.6g daily	**Contraindications:** AV conduction abnormalities (unless paced); history of bone-marrow depression; acute porphyria; known hypersensitivity to carbamazepine or structurally related drugs (e.g. tricyclic antidepressants) Not recommended in combination with monoamine oxidase inhibitors (MAOIs) **Cautions** Cardiac disease. History of haematological reactions to other drugs. Susceptibility to angle-closure glaucoma Liver dysfunction or acute liver disease. Manufacturer recommends blood counts and hepatic and renal function tests - Plasma monitoring is required to exclude toxicity	**Side effects** Common side effects include dizziness and ataxia; gastrointestinal disturbances e.g. nausea and vomiting; blurred vision; hypertension and hypotension; mild skin reactions and transient leucopenia - Serious dermatologic side effects include generalised erythematous rashes Stevens-Johnson syndrome and toxic epidermal necrolysis. - Blood disorders reported include eosinophilia, leucopenia thrombocytopenia, haemolytic anaemia, and anaemia. - Also reported are hepatitis, jaundice, pancreatitis - Abnormalities of kidney function and cardiac conduction disorders. Congestive heart failure. Hyponatraemia have occurred. - Exacerbation of seizures - Congenital malformations have been reported in infants born to women given carbamazepine during pregnancy **Interactions** - Carbamazepine is a hepatic enzyme inducer, and induces its own metabolism as well as that of other drugs including antibacterials (e.g. doxycycline), anticoagulants, and sex hormones (notably oral contraceptives) reducing therapeut effect. - Drugs that induce CYP3A4 may increase the metabolism of carbamazepine, - May interact with MAOIs, other antiepileptics/ mood stabilisers.

4e: Lamotrigine

Drug; Licenced Indications	Dose	Contraindications and Cautions	Side Effects and Interactions
Lamotrigine (non-proprietary) or Lamictal **Licenced Indication** Adults aged 18 years and above - Prevention of depressive episodes in patients with bipolar I disorder who experience predominantly depressive episodes	Monotherapy or adjunctive therapy of bipolar disorder (without enzyme inducing drugs) without valproate, initially 25mg once daily for 14 days, then 50mg daily in 1–2 divided doses for further 14 days, then 100mg daily in 1–2 divided doses for further 7 days; usual maintenance 200mg daily in 1–2 divided doses; max. 400mg daily Adjunctive therapy of bipolar disorder with valproate, initially 25mg on alternate days for 14 days, then 25mg once daily for further 14 days, then 50mg daily in 1–2 divided doses for further 7 days; usual maintenance 100mg daily in 1–2 divided doses; max. 200mg daily Adjunctive therapy of bipolar disorder (with enzyme inducing drugs) without valproate, initially 50mg once daily for 14 days, then 50mg twice daily for further 14 days, then 100mg twice daily for further 7 days, then 150mg twice daily for further 7 days; usual maintenance 200mg twice daily dose adjustments may be required if other drugs are added to or withdrawn from their treatment regimen	**Contraindications** Hypersensitivity to the active substance or to any of the excipients **Cautions** Skin reactions - monitor and withdrawal if rash, fever, or other signs of hypersensitivity syndrome develop Increases clearance of hormonal contraceptive Parkinson's disease - risk of exacerbation Blood disorders Renal/hepatic impairment	Skin rash, Nausea, vomiting, diarrhoea, dry mouth Aggression, irritability, Headache, Somnolence, dizziness, tremor, insomnia, agitation, arthralgia, Tiredness, pain, back pain nystagmus, diplopia, blurred vision, hypersensitivity syndrome Blood disorders

TABLE 5: PHYSICAL HEALTH MONITORING FOR PATIENTS WITH BIPOLAR DISORDER
Adapted from NICE CG30 for Lithum and Antipsychotics see tables 6 & 7

	Monitoring for all patients			
Parameter	**Initial Health Check**	**Annual check up**	**Valproate***	**Carbamazepine**
Thyroid function	Yes	Yes [a]		
Liver function	Yes		At start and at 6 months	At start and at 6 months
Renal function	Yes			Urea and electrolytes every 6 months
Full blood count	Yes		At start and 6 months	At start and at 6 months
Blood (plasma) glucose	Yes	Yes		
Lipid profile	Yes	Over 40s only		
Blood pressure	Yes	Yes		
Prolactin	Yes			
ECG	If indicated by history or clinical picture			
Weight and height	Yes	Yes [b]	At start and at 6 months If patient gains weight rapidly	At start and at 6 months If patient gains weight rapidly
Drug screening and chest X-ray	If suggested by history or clinical picture			
EEG, MRI, CT scans	If organic aetiology or comorbidity is suspected			
Smoking/ alcohol	Yes	Yes		
Serum levels of drug			Only if there is evidence Of ineffectiveness, poor adherence ortoxicity	Every 6 months[c]

Table 6 Monitoring of Patients on Lithium					
Test	**Baseline**	**Weekly till stable**	**3 Monthly**	**6 monthly**	**Annually**
Weight/Height/ BMI	X				X
Alcohol and Smoking	X				X
ECG	If indicated by cardiac history or other risk factors				X If indicated
U&E's +eGFR	X		X (if CKD 3a or worse)	X if stable and no concerns	
Calcium	X			X	X
TFT's	X			X	
ACR		If eGFR stage 3a or worse			X
Lithium levels	X	X	X (for first year) AND Lithium Levels (after the first year) *or every 3 months for people in any of the following groups:* • older people >65) • taking drugs that interact with lithium • who are at risk of impaired renal or thyroid function, raised calcium levels or other complications • who have poor symptom control • poor adherence • last plasma lithium level was 0.8 mmol per litre or higher	X (after first year if not in at risk group – see previous box)	

Table 7 Monitoring of Antipsychotics

GENERAL INFORMATION

1. A provisional/definitive diagnosis of ICD F20-29 or F30-33 has been made/confirmed.
2. Diagnosis discussed with patient and appropriate information sheet given as necessary.
3. The choice of antipsychotic considered appropriate for the patient, has been discussed with the patient and / or advocate. This includes advanced plans / directives if available and likely side effects of the specific drugs (see formulary).
4. Written information (http://www.choiceandmedication.org/rdash/) regarding specific antipsychotic given to patient or carer
5. Baseline physical health checks are carried out, recorded and discussed with the patient / carer to specifically include taking cardiac, smoking and alcohol histories
6. Review date to assess efficacy and tolerability made in the diary, and patients treatment plan
7. This guidance is based on results being within normal limits. Tests may need to be repeated more often due to individual clinical indicators.
8. Additional detail is available in the trust formulary
9. Monitoring [not necessarily prescribing]. The secondary care team should maintain responsibility for monitoring service users' physical health and the effects of antipsychotic 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.

	INPATIENTS						OUTPATIENTS and PRIMARY CARE[1]					
	BASE LINE	ONE month	THREE month	SIX month	NINE month	ANNUAL and after	BASE LINE	ONE month	THREE month	SIX month	NINE month	ANNUAL and after
Blood pressure	✓		✓			✓	✓		✓			✓
Pulse	✓		✓			✓	✓		✓			✓
Height & Weight[2,3]	✓	✓[3]	✓	✓	✓	✓	✓	✓[3]	✓	✓	✓	✓
Waist circumference[2,3]	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓
Blood Glucose/HbA1c[2,4]	✓	✓	✓			✓	✓	✓	✓			✓
Lipids (preferably fasting)	✓		✓			✓	✓		✓			✓
Renal function (U&E, eGFR)	✓					✓	✓					✓
Full blood count (FBC)	✓	✓	✓			✓	✓	✓	✓			✓
Liver function test (LFT)	✓					✓	✓					✓
Smoking status	✓					✓	✓					✓
Alcohol/ Drug status	✓					✓	✓					✓
Electrocardiogram (ECG)	✓					✓	✓					✓
Prolactin[5]	✓		✓[5]				✓		✓[5]			
Side-effects (GASS or like)[2,6]	✓	✓	✓	✓		✓[6]	✓	✓	✓	✓		✓[6]
Movement disorders[2,7]	✓					✓[6]	✓					✓[6]
Physical Activity[7]	✓					✓[6]	✓					✓[6]
Nutritional status[7]	✓					✓[6]	✓					✓[6]
Adherence to medication[2]						✓						✓
Overall physical health[2]	✓					✓	✓					✓
LEGEND	**ECG** – At baseline for ALL patients on admission. Repeat at one WEEK for high dose antipsychotics						**ECG** – for patients with: • a personal history of CVD, • an identified cardiac risk factors or • where specified in the drug's SPC. Repeat at one WEEK for high dose antipsychotics					
NICE directed												
RDaSH directed												

1. 'Annual and after' column identifies the monitoring required in primary care as part of shared care or post discharge
2. Monitor and record regularly and systematically throughout treatment, ESPECIALLY THROUGH TITRATION.
3. Weight should be measured weekly for the first SIX weeks. All weight and waist circumference to be plotted on a chart
4. Blood Glucose – measured as FASTING blood sugar and HbA1c
   particularly important to monitor for olanzapine and clozapine
5. Prolactin – to be repeated at 3 months if patient is symptomatic
6. GASS – consider repeating side-effect monitoring during dose titration and as clinically indicated (annually as a minimum)
7. Movement disorders to be assessed at baseline, levels of physical activity and nutritional status to be used as reference points for further opportunistic assessments (annually as a minimum)