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Lithium for patients within adult services

Please ensure that [summaries of product characteristics](#) (SPCs), [British National Formulary](#) (BNF) or the [Medicines and Healthcare products Regulatory Agency](#) (MHRA) or [NICE](#) websites are reviewed for up-to-date information on any medicine.

Specialist responsibilities

- Assess the patient and provide diagnosis; ensure that this diagnosis is communicated to primary care.
- Use a shared decision-making approach; discuss the benefits and risks of the treatment with the patient and/or their carer and provide the appropriate counselling (see [section 11](#)) to enable the patient to reach an informed decision. Obtain informed consent in line with current local processes. Provide an appropriate patient information leaflet and means for the patient to keep a record of their serum plasma lithium levels, such as the purple lithium pack.
- Discuss with the patient their responsibilities outlined below, confirm understanding, and confirm that the patient is happy to adhere to them.
- Assess for contraindications and cautions (see [section 4](#)) and interactions (see [section 7](#)).
- Conduct required baseline investigations and initial monitoring (see [section 8](#)).
- Initiate and optimise treatment as outlined in [section 5](#). Prescribe the maintenance treatment for a minimum of 4 weeks.
- Send information to the patient's GP practice detailing the current and ongoing dose including brand and formulation, any relevant test results and when the next monitoring is required. The target lithium range for the patient must be included.
- Prescribe sufficient medication to enable transfer to primary care.

- Prescribe lithium by brand
- Conduct the required reviews and monitoring in [section 8](#). After each review, advise primary care whether treatment should be continued, confirm the ongoing dose, and whether the ongoing monitoring outlined in [section 9](#) remains appropriate.
- Provide advice to primary care on the management of adverse effects if required.

Primary care responsibilities

- Respond to the specialist in writing within 2 weeks if unwilling to take over prescribing and monitoring as requested by specialist. Include rationale for unwilling to take over prescribing.
- If accepted, prescribe ongoing treatment as detailed in the specialist request and as per [section 5](#), taking into account any potential drug interactions in [section 7](#).
- Adjust the dose of lithium prescribed as advised by the specialist.
- Encourage patients to carry the purple Lithium book, recording of results in books may be variable. Health care professionals may need to seek the latest blood test from the patient's health record
- Conduct the required monitoring as outlined in [section 9](#). Communicate any abnormal results to the specialist.
- Manage adverse effects as detailed in [section 10](#) and discuss with specialist team when required.
- If toxicity is suspected, withhold lithium, and discuss urgently with the specialist. Plasma lithium levels should be acquired immediately to aid interpretation and facilitate specialist advice
- If plasma lithium levels are above the specified range, check the dose, adherence, and timing of the sample (repeating if necessary). Determine whether toxicity is present and discuss with the specialist with an urgency determined by clinical judgement.
- Contact specialist if patient does not attend for blood monitoring.
- Refer the management to local perinatal service if the patient becomes or plans to become pregnant.
- Stop treatment as advised by the specialist.

Assess for interactions with lithium when starting new medications.

Patient and/or carer responsibilities

- To agree and accept responsibility for taking Lithium as prescribed.
- To understand how to take lithium safely.
- To understand the duration of treatment prescribed initially by the hospital specialist.

- To understand the most common adverse events/side effects and inform the Specialist/GP as soon as reasonably possible should they occur and significantly affect the use of the medicines.
- Report suspected adverse effects to the Medicines and Healthcare products Regulatory Agency. <https://yellowcard.mhra.gov.uk/>
- To understand the circumstances under which the medicines should be immediately stopped and what action to take.
- To understand contents of written information provided by the Specialist and in the patient information leaflet supplied with the medicines and to seek clarification if required.
- To attend for blood tests/disease monitoring on time.
- To carry the purple lithium booklet with them. Keep the purple lithium booklet up to date with most recent blood results. Note some patients may choose to use a Lithium app (Android devices only). Patients can request to have blood results on the NHS App.
- Show most recent lithium blood results to your healthcare professional.
- To check with the community pharmacist that there are no interactions with lithium, and other medications taken including other prescribed medications, medicines bought over the counter and herbal/homoeopathic products.
- To check with dentists or other specialists who may prescribe medicines that there are no interactions with lithium.
- To contact the GP, Specialist or Medicines Information patient helpline if further information or advice is needed about lithium or if there is anything they do not understand.
- More information on asking about medication can be found in the Me & My Medicines Charter <https://meandmymedicines.org.uk/the-charter/>
- Use an appropriate form of contraception, as agreed with their doctor/nurse/sexual health service.
- Inform the specialist or primary care prescriber immediately if they become pregnant or wish to become pregnant.

The NHS Website – NHS information on health [link](#) and medicines [link](#)

Patient information leaflets for mental health conditions and treatments:

- Leeds and York Partnership NHS Foundation Trust
<https://www.choiceandmedication.org/leedsandyorkpft>
- South West Yorkshire Partnership NHS Foundation Trust
<https://www.choiceandmedication.org/swyp/>
- Bradford District Care NHS Foundation Trust <https://www.choiceandmedication.org/bradford>

1. Background

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Lithium is licensed for the treatment and prevention of mania, bipolar depression, recurrent depression (unipolar) and aggressive/self-mutilating behaviour. Not all patients respond to lithium, so the benefits and risks should be regularly and individually assessed. Lithium treatment should not be stopped suddenly, as this can cause relapse.

Lithium has a narrow therapeutic window of between 0.4 and 0.8 mmol/L for most indications, although a narrower range is usually specified on an individual patient. Higher target plasma levels (0.8–1 mmol/L) are occasionally recommended for acute episodes of mania, for patients who have previously relapsed or when subthreshold symptoms of illness are associated with functional impairment. **The specialist service will determine the target range for each patient and advise the primary care prescriber accordingly.**

Lithium has numerous mild side effects but can be toxic if the dose is too high. Toxicity usually occurs with levels above 1.5 mmol/L but can emerge at lower levels in susceptible patients such as the elderly or those with renal impairment. Toxicity can also occur when levels are in the 'therapeutic range'. Excluding excessive ingestion, toxicity most commonly arises due to a reduced elimination of lithium. Elimination of lithium is almost exclusively renal and is sensitive to the handling of sodium by the kidneys. Lithium toxicity can itself impair renal function, so rapid escalations in plasma lithium levels may occur. With long-term use, lithium can have adverse effects on the kidneys, the thyroid, and the parathyroid glands.

Lithium should always be prescribed by brand and form; tablets and liquids are not interchangeable. Extra care must be taken when prescribing liquid forms, with clarity over the name and strength of the preparation. Patients should be involved in treatment decisions and understand the importance of lithium monitoring.

2. Indications

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Indications:

- Treatment and prophylaxis of mania
- Treatment and prophylaxis of bipolar disorder
- Treatment and prophylaxis of recurrent depression. NB: lithium should not be used as a sole agent to prevent recurrence, see [NICE CG222: Depression in adults: recognition and management](#)
- Treatment and prophylaxis of aggressive or self-harming behaviour

3. Locally agreed off-label use

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Nil

4. Contraindications and cautions

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Please see [BNF](#) & [SPC](#) for comprehensive information.

5. Initiation and ongoing dose regimen

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- Transfer of monitoring to primary care is normally after at least 12 weeks, and when the patient's dose has been optimised and with satisfactory investigation results for at least 4 weeks.
- The duration of treatment & frequency of review will be determined by the specialist, based on clinical response and tolerability.
- All dose or formulation adjustments will be the responsibility of the initiating specialist unless directions have been discussed and agreed with the primary care clinician.
- Termination of treatment will be the responsibility of the specialist.

Initial stabilisation:

Lithium carbonate

Typically 400 mg once daily, then adjusted according to patient response and 12-hour plasma levels.

In some scenarios, such as acute mania, a higher starting dose may be preferable. The BNF outlines the typical starting doses by indication and brand.

Doses may initially be divided throughout the day, but once-daily administration is preferred (best taken at bedtime), when plasma lithium concentration is stabilised in the target range (specified by specialist team).

Lithium carbonate tablets should be prescribed unless there is a specific problem with swallowing difficulties.

Lithium citrate

Typically, 509 mg or 520 mg twice daily (depending on brand), in the morning and evening, then adjusted according to patient response and 12-hour plasma levels.

Liquid formulations contain lithium citrate and doses are not equivalent to lithium carbonate; bioavailability is significantly different. If a switch in formulation is considered, discuss with the specialist team.

Extra care must be taken when prescribing lithium in liquid form, as some offer different strengths under the same brand names, and some brands are used for the liquid and tablet forms.

The initial 4-week period must be prescribed by the initiating specialist.

Conditions requiring dose adjustment:

Lower doses may be required in older or physically frail/low body weight patients, in mild to moderate renal impairment and electrolyte imbalance. Dose adjustments may also be required in patients prescribed interacting medicines.

Stopping lithium treatment

The decision to stop treatment will be the responsibility of the specialist. Clinicians, patients, and carers should be aware that abrupt discontinuation of lithium increases the risk of relapse. If lithium is to be stopped, the dose should gradually be reduced over a period of at least four weeks but preferably over a period of up to three months.

6. Pharmaceutical aspects

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Route of administration:	Oral
Formulation:	Lithium is available as lithium carbonate (tablet formulations) and lithium citrate (liquid formulations). The patient should be maintained on the same brand and formulation of lithium. If a switch in brand or formulation is considered, refer to the specialist team. Lithium tablets and liquids are not interchangeable.

	<p>Lithium Carbonate:</p> <ul style="list-style-type: none"> • Priadel® 200 mg and 400 mg prolonged-release tablets • Camcolit® 400 mg controlled release tablets • Liskonum® 450 mg controlled release tablets • Lithium carbonate Essential Pharma: 250 mg film-coated tablets (immediate release) <p>Lithium Citrate:</p> <ul style="list-style-type: none"> • Priadel® Liquid: 520 mg/5 mL strength sugar-free, pineapple flavoured syrup • Li-Liquid®: 509 mg/5 mL and 1018mg/5mL strength cherry flavoured syrup <p>Extra care must be taken when prescribing lithium in liquid form, as some offer different strengths (mg/ml) under the same brand name (Li-liquid®) and some brand names (Priadel®) are used for the liquid and tablet forms.</p> <p><u>Always prescribe lithium by brand name.</u> Switching preparation (either between brands of the same form or changing between tablets and liquid) requires additional monitoring to ensure that the 12-hour plasma lithium level remains in the desired range.</p> <p>Particular care should be taken if prescribing liquid preparations; lack of clarity may lead to the patient receiving a sub-therapeutic or toxic dose.</p>
Administration details:	<p>Consistency is paramount in lithium treatment and monitoring. Doses should be taken regularly, at the same time every day. Lithium carbonate tablets should not be crushed or chewed. Lithium should be taken once a day, and this is best at bedtime</p> <p>Advise patient to take once daily dose at bedtime to facilitate a 12-hour blood monitoring.</p> <p>Priadel® 200mg and 400mg tablets have score lines and can be divided accurately to provide dosage requirements as small as 100mg within product license.</p> <p>Liskonum® 450mg tablets are licensed to be halved for the purposes of dose adjustment.</p> <p>Other brands may be scored to facilitate breaking for ease of swallowing, but not to divide into equal doses. Breaking these tablets is not expected to alter their release properties but the accuracy of the division is not established</p>

Other important information:	<p>If a dose is missed, then the next scheduled dose should be taken as usual; <u>a double dose should not be taken to make up for a missed dose.</u></p> <p>For a given total daily dose, 12-hour plasma lithium levels will differ for once versus twice daily dosing schedules. The schedule should be determined by the specialist and not altered without their advice.</p>
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7. Significant medicine interactions

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The following list is not exhaustive. Please see [BNF](#) or [SPC](#) for comprehensive information and recommended management.

The following medicines must not be prescribed without consultation with specialists:

- **Medicines that may increase plasma lithium concentrations** (by reducing renal elimination) and so risk toxicity:
 - NSAIDs (including cyclo-oxygenase 2 inhibitors). If NSAID use is unavoidable, a dose reduction of lithium may be required, and levels should be monitored more frequently; discuss with specialist team. 'As required' use of NSAIDs should be avoided since it may cause fluctuations in lithium levels and makes monitoring levels challenging.
 - Diuretics, particularly thiazide diuretics
 - Angiotensin converting enzyme (ACE) inhibitors and angiotensin II receptor antagonists
 - Other drugs which alter electrolyte balance with the potential to alter lithium clearance e.g., steroids.
 - Certain antibiotics including metronidazole and tetracyclines
- **Medicines that may decrease plasma lithium concentrations** (by increasing renal elimination) and so risk loss of efficacy:
 - Theophylline
 - Products which contain sodium bicarbonate e.g., antacids
- **Medicines that may increase risk of neurotoxicity** when co-administered with lithium:
 - Calcium channel blockers with cardiac effects (e.g., verapamil, diltiazem)
 - Antipsychotics (e.g., haloperidol, olanzapine, clozapine, flupentixol, chlorpromazine)
 - Antidepressants with a serotonergic action (e.g., SSRIs, tricyclic antidepressants, venlafaxine, duloxetine)
 - Carbamazepine
- **Medicines associated with QT prolongation** (e.g., amiodarone, macrolides, tricyclic antidepressants) – potential for additive effects when co-administered with lithium.
- **Medicines that lower seizure threshold** (e.g., SSRIs, tricyclic antidepressants, antipsychotics) – increased risk of seizures

Care should be taken on initiation, dose adjustment or discontinuation of any interacting medicines. The onset and degree of the interaction can vary, and additional lithium monitoring is likely to be indicated, with doses adjusted accordingly. Discuss with specialist team.

8. Baseline investigations, initial monitoring and ongoing monitoring to be undertaken by specialist

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Monitoring at baseline and during initiation is the responsibility of the specialist.

Only once the patient is optimised on the chosen medication with no anticipated further changes expected in immediate future will prescribing (minimum 4 weeks supply from secondary care) and monitoring (will be the responsibility of secondary for 12 weeks) be transferred to primary care.

Monitoring at baseline and during initiation is the responsibility of the specialist. Recent and relevant investigation results must be documented in the corresponding letter from specialist

Baseline (all indications):

- Urea and electrolytes (U&Es), including estimated glomerular filtration rate (eGFR)
- Calcium
- Thyroid function tests (TFTs)
- Electrocardiogram (ECG) recommended for patients with existing cardiovascular disease (CVD) or risk factors if over 40 years of age
- Height, weight, and body mass index (BMI)
- Exclude pregnancy

Initial monitoring:

- 12-hour plasma lithium levels one week after initiation and one week after any change in dose or formulation; lithium levels take 4-7 days to reach steady state concentrations. Typically, this means levels will be monitored weekly until the desired level and clinical effect is achieved. Following a dose, levels fluctuate during absorption/distribution, so measurements are made 12 hours post-dose for monitoring purposes.

Follow Up:

Review patient at least every 12 months to assess their mental health, effectiveness of treatment and the ongoing need for lithium.

9. Ongoing monitoring requirements to be undertaken by primary care

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See [section 10](#) for further guidance on management of adverse effects/responding to monitoring results.

Monitoring – all indications	Frequency
<p>Plasma lithium level taken 10-14 hours post-dose. NB: samples should be taken as close to 12-hours post-dose as possible.</p> <ul style="list-style-type: none"> Record results in the patient's record as well as patient-held purple lithium pack, or other suitable recording mechanism. It is advisable to document the actual time interval between the last dose and the blood sample 	<p>At least every 12 weeks for the first year, then every 6 months.</p> <p>Every 3 months for:</p> <ul style="list-style-type: none"> Older people (over 65yrs) People taking drugs that interact with lithium (e.g., NSAIDs, diuretics, ACE inhibitors) People who are at risk of impaired renal or thyroid function, raised calcium levels or other complications such as significant cardiac disease At risk of significant changes in sodium or fluid intake People who have poor symptom control People with poor adherence People whose last plasma lithium level was 0.8 mmol/l or higher <p>Consider additional monitoring whenever there is a change in the patient's circumstances, e.g., intercurrent illness.</p>
<p>U&Es, including eGFR</p>	<p>6 monthly</p> <p>If patient's eGFR <60ml/min/1.73m² or 2 consecutive readings showing a downward trend in eGFR seek advice as to whether to continue lithium.</p> <p>Lithium would usually be discontinued if eGFR < 45ml/min/1.73m²</p>

<p>Calcium</p> <p>TFTs</p> <p>Weight, and BMI.</p>	<p>Every 6 months. – if develops hypercalcaemia may be sign of hyperparathyroidism. Investigate cause and if thought to be due to lithium discuss need for lithium with psychiatrist.</p> <p>6 monthly – if patient develops hypothyroidism due to lithium discuss need for lithium with psychiatrist and if required treat with levothyroxine.</p> <p>6 monthly</p> <p>More frequent monitoring (particularly renal function) may be advised by the specialist team in some circumstances (e.g. elderly, renal impairment, altered TFTs, concurrent interacting medicines).</p>
<p>Signs of toxicity</p> <p>Enquire about and document signs and symptoms which might indicate toxicity, e.g., paraesthesia, ataxia, tremor, cognitive impairment.</p>	<p>At every consultation with the prescriber regarding lithium treatment</p>
<p>(If relevant) If monitoring results are forwarded to the specialist team, please include clear clinical information on the reason for sending, to inform action to be taken by secondary care.</p>	
<p>10. Adverse effects and other management Back to top</p> <p>Any serious adverse reactions should be reported to the MHRA via the Yellow Card scheme. Visit www.mhra.gov.uk/yellowcard</p> <p>For information on incidence of ADRs see relevant summaries of product characteristics</p>	
Result	Action for primary care

As well as responding to absolute values in laboratory tests, a rapid change or a consistent trend in any value should prompt caution and extra vigilance.

<p>12-hour plasma lithium level.</p> <p>Below target range</p> <p>NB: range for each patient to be determined by the specialist team. Note that local reference ranges may vary</p>	<p>Assess adherence, including discussion with patient and check of GP clinical systems. Offer advice on adherence if appropriate (e.g., daily routines, reminders). Ensure level was taken 12 hours after lithium dose.</p> <p>Contact specialist team for advice if suspected that the dose is too low.</p>
<p>Above target range</p> <p>NB: range for each patient to be determined by the specialist team. Note that local reference ranges may vary</p>	<p>Ensure level was taken 12 hours after lithium dose and that the correct dose has been prescribed and taken. Check for interactions, hydration, patient's physical and mental status, and features of toxicity. Repeat level if necessary.</p> <p>Withhold lithium if there are features of toxicity or if lithium >1.5mmol/l. Contact specialist team for advice in all cases. In case of delay stop lithium until advice can be sought.</p> <p>If $\geq 2.0\text{mmol/L}$ – consider sending patient to A&E, based on clinical presentation (e.g., features of toxicity) and inform specialist team.</p>
<p>Within target range but toxicity suspected</p> <p>NB: range for each patient to be determined by the specialist team. Note that local reference ranges may vary</p>	<p>Contact specialist team for advice.</p> <p>Referral to secondary care may be required depending on the severity of symptoms and the certainty of toxicity. Use clinical judgement to determine the urgency of referral.</p>
<p>Within target range but marked change since last level (and there has been no dose change)</p>	<p>Establish whether level was taken 12 hours after lithium dose. Repeat level with an urgency determined by clinical judgement.</p> <p>Assess adherence, including discussion with patient and check of GP clinical systems. Offer</p>

NB: range for each patient to be determined by the specialist team. Note that local reference ranges may vary	advice on adherence if appropriate (e.g. daily routines, reminders). More frequent monitoring may be required.
Thyroid function Altered TFTs without symptoms	Contact specialist team for advice. During lithium treatment, TFTs are commonly abnormal; the TSH can rise early in treatment but settle with time. Note that the symptoms of hypothyroidism can be difficult to discriminate from depression and the common side effects of lithium.
Subclinical <u>hypothyroidism</u> <ul style="list-style-type: none"> • Raised TSH • Normal T4 <ul style="list-style-type: none"> - Clinical features not overtly manifest 	Contact specialist team for advice, which may include input from endocrinology services. The optimal management of subclinical hypothyroidism during lithium treatment remains controversial, with different thresholds for treatment advocated. Anticipate the need for additional monitoring, investigations and potentially thyroid hormone replacement based on specialist recommendations.
Overt <u>hypothyroidism</u> <ul style="list-style-type: none"> • High TSH • Low T4 • Symptomatic 	Contact specialist team for advice, which may include input from endocrinology services. Thyroid hormone replacement is usually indicated and often continued throughout the course of lithium treatment.
<u>Hyperthyroidism</u>	Contact specialist team for advice, which may include input from endocrinology services.
Renal function Polyuria and polydipsia	Polyuria is common with lithium and often well tolerated. Advise the patient to maintain

	<p>adequate fluid intake and advocate excellent oral hygiene.</p> <p>Contact specialist team for advice, which may include input from nephrology services. In some instances, dose adjustment or specific treatments may be advocated.</p>
U&Es or calcium out of range	<p>Check that the most recent 12-hour plasma lithium level is in the desired range and act accordingly if not.</p> <p>Determine whether there are symptoms and signs related to the electrolyte disturbance or lithium toxicity.</p> <p>Consider arranging an ECG in those at risk for QT prolongation.</p> <p>Contact specialist team for advice. Changes in calcium levels may reflect parathyroid dysfunction and input from endocrinology services may be indicated.</p>
<p>eGFR <45ml/min</p> <p>rapidly falling eGFR</p> <p>gradual decline in eGFR</p>	<p>The response to impaired or deteriorating renal function should be individualised.</p> <p>Lithium would usually be discontinued if eGFR < 45ml/min/1.73m².</p> <p>Contact specialist team for advice, which may include input from nephrology services. In case of delay stop lithium until advice can be sought. A cardiovascular risk profile may guide specialist advice and should be provided if available. Use clinical judgement to determine the urgency of referral.</p> <p>“Anticipate the need for increased monitoring as trends in renal function are more useful than absolute values. In the elderly or those at the extremes of muscle mass, creatinine</p>

	<p>clearance provides a better estimate of renal function than eGFR.</p> <p>Adjustments to dose may be advised. If renal function is significantly compromised, lithium may no longer be an appropriate treatment and specialists will advise accordingly.</p>
<p>Weight and BMI</p> <p>Outside healthy range</p>	<p>Provide appropriate support on multicomponent interventions to increase physical activity levels, improve eating behaviour and quality of diet. Remind patient of the importance of maintaining adequate fluid intake and avoiding dehydration while exercising.</p> <p>Consider measuring waist circumference for individualised monitoring.</p> <p>Patients should be instructed to avoid sudden changes in diet, especially avoiding low sodium diets. Lithium levels are influenced by body weight and so for patients being supported to lose weight, lithium levels may need to be checked more frequently (akin to other situations of caution). Use clinical judgement, lithium levels and the rate of weight loss when determining the frequency of blood tests.</p>
<p>Signs of toxicity</p> <p>Typical signs and symptoms include diarrhoea, vomiting, loss of appetite, muscle weakness, lethargy, dizziness, ataxia, lack of coordination, tinnitus, blurred vision, coarse tremor of the extremities and lower jaw, muscle hyper-irritability, choreoathetoid movements, dysarthria, and drowsiness</p>	<p>If lithium toxicity is suspected, do an urgent lithium level immediately and seek specialist advice.</p> <p>Referral to secondary care may be required depending on the severity of symptoms and the certainty of toxicity. Use clinical judgement to determine the urgency of referral.</p>

Physical health check (bi-polar disorder)

Any physical health problems should be treated by the appropriate primary care health professional and communicated to the specialist team within 14 days.

11. Advice to patients and carers

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The specialist will counsel the patient with regard to the benefits and risks of treatment and will provide the patient with any relevant information and advice, including patient information leaflets on individual medicines.

The patient should be advised to report any of the following signs or symptoms to their GP without delay:

- Lithium toxicity (diarrhoea, vomiting, loss of appetite, muscle weakness or twitching, clumsiness or poor coordination, dizziness, confusion, tinnitus, blurred vision, coarse tremor, writhing movements, change in speech, lethargy and/or drowsiness, incontinence, restlessness, confusion, seizures/fits).
- Signs of hypothyroidism (e.g., fatigue, cold intolerance, weight gain, constipation, and depression), renal dysfunction (including polyuria and polydipsia), and benign intracranial hypertension (persistent headache and visual disturbance).

At the start of treatment patients should be given suitable information on lithium and means to keep a record of their plasma lithium levels, such as a purple lithium pack [supplies of which](#) can be ordered from nhsforms@mmm.com or accessible at [\[ARCHIVED CONTENT\] Safer lithium therapy \(nationalarchives.gov.uk\)](#) .

Additional advice for patients/carers:

- Patients must attend regularly for monitoring and review appointments to ensure their lithium dose remains safe and effective and bring their purple lithium book to keep a record of their lithium levels. Patient should be advised to keep their lithium booklet up to date with their latest blood results or request blood results via their NHS App which they should share with all healthcare professionals they come in contact with.
- Patients should notify their primary care prescriber straight away if there is any change in their health, e.g., an infection, or significant weight loss. Additional lithium monitoring may be required.
- Lithium should be taken regularly, once a day, as prescribed and this is best at bedtime. If doses are missed, patients should not attempt to catch up or double dose.

- Patients should not stop taking lithium suddenly – doing so increases the chance of relapse. If lithium is to be stopped, it should be reduced over at least four weeks and preferably three months.
- The same brand of lithium should always be taken unless otherwise instructed. Patients should become familiar with their brand and check they have received the correct one before taking.
- Changes in hydration and sodium balance can affect plasma lithium levels. Patients should maintain adequate fluid intake, particularly in hot weather or when activity levels change (such as increases in exercise or immobility). Large changes in dietary sodium should be avoided – changing dietary regime may inadvertently alter sodium intake.
- Substantial changes in plasma lithium levels can occur if patients develop diarrhoea or vomiting, or if they become acutely ill for any reason. Patients should seek medical advice in such instances.
- Excessive alcohol consumption should be avoided as it can lead to dehydration, increasing plasma lithium levels and so risk of toxicity.
- Patients should be warned about common drug interactions and advised to present their Lithium book whenever they redeem a new prescription. They should specifically be advised not to take OTC NSAIDs as these can increase plasma lithium levels and so risk toxicity.
- Lithium may impair performance of skilled tasks (e.g., driving, operating machinery). Patients with a diagnosis of bipolar disorder must notify the Driver and Vehicle Licensing Agency (DVLA); see <https://www.gov.uk/bipolar-disorder-and-driving>.
- Patients of childbearing potential should be advised that lithium carries additional risks in pregnancy and is a potential teratogen. They should be aware of the need to use reliable contraception. If they become pregnant while taking lithium, they should not stop taking it, but should tell their doctor straight away if they become pregnant while taking lithium. Breastfeeding should be avoided during treatment with lithium.
- For acute indications such as mania or augmentation, patients may respond within days to weeks of starting lithium. Depending on episode frequency, it may take months or even years to determine whether lithium has proven effective for relapse prevention.

Patient information on this medicine can be found at the following links:

- NHS: <https://www.nhs.uk/medicines/lithium/>
- MIND: <https://www.mind.org.uk/information-support/drugs-and-treatments/lithium-and-other-mood-stabilisers/lithium/>
- National Patient Safety Agency purple lithium pack: Supplies of the booklets can be ordered from nhsforms@mmm.com. Alternatively, apps are available for android only, at: <https://play.google.com/store/apps/details?id=com.incentivated.nhs.HealthMonitor>

12. Pregnancy, paternal exposure and breast feeding

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It is the responsibility of the specialist to provide advice on the need for contraception to male and female patients on initiation and at each review, but the ongoing responsibility for providing this advice rests with both the primary care prescriber and the specialist.

All patients should be informed of the risks and benefits of taking this medicine during pregnancy and breastfeeding.

Pregnancy:

If a patient becomes pregnant whilst on lithium, the specialist team should be informed immediately (but do not stop the lithium).

Lithium should not be used during pregnancy where possible, especially in the first trimester (risk of teratogenicity, including cardiac abnormalities). In certain cases where a severe risk to the patient could exist if treatment were stopped, lithium has been continued during pregnancy; under these circumstances prescribing is the responsibility of the specialist team.

There is a risk of relapse of bipolar disorder if lithium is withdrawn, particularly in the postnatal period.

Patients of child-bearing potential should be advised to use a reliable form of contraception. It is the responsibility of the specialist to provide advice on the need for contraception to patients on initiation of lithium, and at each review. The ongoing responsibility for providing this advice rests with both the GP and the specialist.

Information for healthcare professionals:

<https://www.medicinesinpregnancy.org/bumps/monographs/USE-OF-LITHIUM-IN-PREGNANCY/>

Information for patients and carers: <https://www.medicinesinpregnancy.org/Medicine--pregnancy/Lithium/>

Breastfeeding:

Lithium is secreted in breast milk and there have been case reports of neonates showing signs of lithium toxicity. Breastfeeding should be avoided during treatment with lithium.

Information for healthcare professionals: <https://www.sps.nhs.uk/medicines/lithium/>

Paternal exposure:

- Animal studies have reported spermatogenesis abnormalities that may lead to impairment of fertility. It is unknown if this risk applies to humans.

13. Specialist contact information

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See specialist letter for details

Bradford District Care NHS Foundation Trust

phone number and e-mail: 01274 363 230

pharmacy@bdct.nhs.uk

Calderdale and Kirklees NHS Foundation Trust

phone number and e-mail: 01484 343108 or 01422 222933

PharmacyteamCK@swyt.nhs.uk

Leeds and York Partnership Foundation Trust

phone number and e-mail: 0113 8555534

Pharmacyleedspft.lypft@nhs.net

Wakefield District NHS Foundation Trust

phone number and e-mail: 01924 316820

FieldheadPharmacy@SWYT.nhs.uk

South West Yorkshire Partnership NHS Foundation Trust

For Wakefield FieldheadPharmacy@SWYT.nhs.uk

01924 316820

For Calderdale and Kirklees PharmacyteamCK@swyt.nhs.uk

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