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**Surrey (East Surrey CCG, Guildford & Waverley CCG, North West Surrey CCG, Surrey Downs CCG & Surrey Heath), NE Hampshire and Farnham CCG**

| **INFORMATION SHEET – Blue Traffic Light Classification** | | |
|---|---|---|
| **Name of medicine** | Lithium (All forms) | |
| **Indication** (including whether for adults and/or children) | The prophylaxis and treatment of mania<br>Prophylaxis of bipolar disorder<br>Prophylaxis of recurrent depression<br>Treatment of resistant depression<br>All of the above in adults | |
| **APC policy statement reference** (if applicable) | N/A | |
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| **Version: 3.0** | **APC recommendation date: July 2019** | **Review date: July 2022** |

The information sheet is intended to facilitate the accessibility and safe prescribing of complex treatments across the secondary/primary care interface for medicines classified by the Area Prescribing Committee as **BLUE**

**BLUE** drugs are considered suitable for prescribing in primary care, following initiation and stabilisation by a specialist as ongoing monitoring can be undertaken in primary care without specialist support and WITHOUT the need for a formal shared care guideline.
For each drug classified as blue, the Area Prescribing Committee will recommend the minimum supply and whether an information sheet is required or not. A minimum of one month supply of medication will be provided by the initiating consultant.
This information sheet sets out the patient pathway relating to this medicine and any information not available in the British National Formulary and manufacturer's Summary of Product Characteristics. Prescribing must be carried out with reference to those publications. A GP or Primary Care Prescriber must ensure they are familiar with the prescribing responsibilities. This information sheet is available on the internet **http://pad.res360.net/** forming part of the Prescribing Advisory Database (PAD) giving GPs appropriate advice / guidance and is not required to be sent to the GP with the clinic letter.

## RESPONSIBILITIES and ROLES

| **Consultant / Specialist responsibilities** |
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| 1. To assess the suitability of patient for treatment |
| 2. To discuss the aims, benefits and side effects of treatment with the patient and/or carer as well as their role |
| 3. Explain to the patient and/or carer the treatment plan including the dosing schedule and request for transfer of care to GP |
| 4. Baseline monitoring undertaken of renal function, serum calcium, thyroid function, FBC (if indicated) and weight and height. Baseline ECG plus any other additional relevant investigations to be arranged by the consultant/specialist, and results reviewed by consultant before starting treatment, if there are risk factors for or existing cardiovascular disease |
| 5. To check for any interactions with other concurrent medications |
| 6. Monitor and evaluate response to treatment, including adverse drug reactions, with the patient and to continue / discontinue treatment in line with agreed treatment plan |

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| 7. Supply GP with target serum levels of lithium and to advise on actions to take when the serum level, thyroid function and renal function is outside the range. Supply a summary of patient review (including anticipated length of treatment) and a copy of any information sheet available. Specialists should satisfy themselves that the required tests are being carried out in primary care |
| 8. Advise GP if treatment is to discontinue at any point |
| 9. To review the patient when requested to by the GP to assess response and the benefits of continued treatment and which treatment is most appropriate. |
| 10. To advise on dose alterations, concurrent medication and side effects |
| 11. Inform GP if patient does not attend planned follow-up |
| 12. To provide the patient and/or carer with advice and support written and verbal, including initiation instructions. |
| 13. Ensure the NPSA Lithium information leaflet (purple book) and Treatment Card is issued and discussed |
| 14. To explain and agree with the patient their responsibilities |
| 15. To document any changes and/or results in the patient's Lithium Therapy Record Book |
| 16. To prescribe lithium for a minimum of three months to ensure that the patient is stable, benefiting from treatment and tolerating the medicine |
| 17. The dose will be individualised depending on serum lithium levels and clinical response. The minimum effective dose should be sought and maintained. Guidance on dosing provided in the manufacturer's Summary of Product Characteristics should be followed. |
| 18. Monitoring requirements are listed at the end of this document. Plasma level of lithium must be taken 12 hours post dose; checked 1 week after initiation and 1 week after every dose change and until the levels are stable. |

| **General Practitioner (GP) or Primary Care Prescriber responsibilities** |
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| 1. To undertake routine monitoring described below and act upon the results. Forward copies of the results to the specialist. Advice may be sought from the specialist where appropriate. Refer to the Community Recovery Team (CRT). |
| 2. To monitor the patient's overall health and well being |
| 3. To take into account the lithium prescription if the person becomes unwell, or dehydrated, ensuring appropriate fluid and electrolyte replacement. |
| 4. To provide repeat prescriptions after stabilisation (it is recommended that no more than one month's prescription should be issued at a time) |
| 5. To report adverse drug reactions to the specialist and complete a 'yellow' card if serious. |
| 6. To check for any interactions with other concurrent medications. |
| 7. To review the patient at yearly intervals to decide whether the patient should be reviewed by the specialist as to the need for continuing treatment and which treatment is most appropriate. In particular to request review if interacting medicines are prescribed or if there is a significant reduction in renal function. |
| 8. To keep the care co-ordinator/mental health team informed of any change of medication or dose prescribed for any indication that may affect lithium levels. |
| 9. To document any changes and/or results in the patient's Lithium Therapy Record Book |

| **Patient / Carer role** |
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| 1. Informing the specialist team, primary care prescriber or other healthcare professional if he or she has further questions or wants more information about the treatment |
| 2. Tell the consultant / specialist or GP or Primary Care Prescriber of any other medication |

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| being taken, including over-the-counter products. |
| 3. Sharing any concerns about their treatment and problems they are having taking their medicines with the specialist team, primary care prescriber or other healthcare professional involved in their care |
| 4. To read the patient information leaflet included with the medication, and the information contained within the Lithium Therapy Book |
| 5. To be aware of side effects and situations that could affect their lithium levels and report any relevant symptoms. |
| 6. Supported to know how to report any adverse effects to the specialist team, primary care prescriber or other healthcare professional involved in their care, and how adverse effects can be managed |
| 7. To be available for monitoring as required |
| 8. Attend follow-up appointments with the consultant / specialist / GP. **Non-attendance of appointments may result in treatment being stopped** |
| 9. To carry their Lithium Therapy Record Book whenever consulting a healthcare professional |

**Key information on the medicine**

Please refer to the current edition of the British National Formulary (BNF), available at www.medicinescomplete.org, and Summary of Product Characteristics (SPC), available at www.medicines.org.uk for detailed product and prescribing information and specific guidance.

**Background to disease and use of medicine for the given indication**
Bipolar disorder is a potentially lifelong and disabling condition characterised by episodes of mania (abnormally elevated mood or irritability and related symptoms with severe functional impairment or psychotic symptoms for 7 days or more) or hypomania (abnormally elevated mood or irritability and related symptoms with decreased or increased function for 4 days or more) and episodes of depressed mood. (NICE Clinical Guideline 185)

**Indication**
In the management of acute manic or hypomanic episodes.

In the management of episodes of recurrent depressive disorders where treatment with other antidepressants has been unsuccessful.

In the prophylaxis against bipolar affective disorders.

Treatment of resistant depression

**Dosage and Administration**
Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

**Expected outcome**
Reduction in number and severity of episodes of mania or depression.

**IMPORTANT NOTES**

1. Brands of lithium are not bio equivalent. They must be prescribed by brand name. If brands are changed the same precautions should be followed as when starting treatment. The preferred brand is Priadel® when initiating new patients.

2. Lithium carbonate 200mg tablets contain 5.4 mmol of lithium which is approximately equivalent to 5ml of Li-Liquid® oral solution (lithium citrate 509mg/5ml) or 5ml of Priadel® liquid (lithium citrate 520mg/5ml)

3. Contra-indicated in cardiac failure, clinically significant renal impairment, Addison's disease and untreated hypothyroidism.

4. Lithium levels can be affected by many other drugs. Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

5. Dose reduction or discontinuation may be necessary in diarrhoea, vomiting or concurrent infection.

6. Any woman who is pregnant or planning pregnancy or breastfeeding whilst on lithium therapy, should be referred to a specialist.

7. Patients taking lithium should be advised to:
   - seek medical attention if they develop diarrhoea and/or vomiting
   - ensure they maintain their fluid intake, particularly after sweating (for example, after exercise, in hot climates, or if they have a fever), if they are immobile for long periods or – in the case of older people – develop a chest infection or pneumonia
   - consider stopping lithium for up to 7 days if they become acutely and severely ill with a metabolic or respiratory disturbance from whatever cause.

**Stopping Lithium**

Lithium should be stopped gradually over at least 4 weeks, and preferably over a period of up to 3 months, particularly if the patient has a history of manic relapse (even if they have been started on another antimanic agent).

**What should I do if the levels are outside of the stated range?**

If the level is below the stated range then check compliance, check for any drug – drug or drug disease interaction and repeat level. Contact the specialist if further advice and support is required.

If the level is above the stated range then check the timing of the sample relative to the last dose taken, check for signs of toxicity, check for drug – drug and drug disease interactions and repeat level. Contact the specialist if further advice and support is required

**Older patients may require more frequent monitoring for symptoms of lithium toxicity.**

Monitor for symptoms of neurotoxicity, including paraesthesia, ataxia, tremor and cognitive impairment, which can occur at therapeutic levels**.**

**Cautions, contraindications -** Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

**Adverse effects -** Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

**Drug interactions -** Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

| BASELINE MONITORING | | | |
|---|---|---|---|
| Test | Frequency | Abnormal Result | Action if Abnormal Result |
| Renal Function | Specifically urea, electrolytes, and serum creatinine to calculate eGFR<br>(Long-term treatment with lithium may result in permanent changes in kidney histology, and impairment of renal function) | Outside normal parameters | Review clinical need and appropriateness of lithium treatment by specialist. |
| Calcium levels | Hypercalcaemia has been reported | Outside normal parameters | Consider hyperparathyroidism, and clinical consequences incl renal effects, osteoporosis and hypertension |
| Thyroid Function | Specifically TSH; if TSH abnormal, test T3 and T4 levels<br>(Long-term adverse effects may include thyroid function disturbances such as euthyroid goitre and/or hypothyroidism and thyrotoxicosis) | Outside normal parameters | Consider treatment options to attain euthyroid state |
| Full Blood Count | Only if clinically indicated | Outside normal parameters | Review likely causes and consider clinical need and appropriateness of lithium treatment by specialist. |
| ECG | Before initiation if there are risk factors for or existing cardiovascular disease | Outside normal parameters | Review clinical need and appropriateness of lithium treatment by specialist. |
| Weight and Height | Note that weight increase may occur | Baseline monitoring | |

| INITIAL TREATMENT STABILISATION | | | |
|---|---|---|---|
| Test | Frequency | Abnormal Result | Action if Abnormal Result |

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| Serum Levels of Lithium | **Weekly until stable**<br>Level must be taken 12 hours post dose, checked 1 week after starting and 1 week after every dose change, and weekly until the levels are stable | Target range is 0.6 - 0.8mmol/L in people being prescribed lithium for the first time.<br>0.4mmol/L may be effective in unipolar illness, 0.6-1.0mmol/L in bipolar illness and slightly higher levels in difficult to treat mania<br>The lower end of the range is usually the target for maintenance therapy and treatment of elderly individuals | If above 1.5mmol/L then doses should be stopped and additional serum levels taken until in range. The reasons for the rise in serum level should be investigated, e.g. change in lifestyle, over the counter medication, adherence problems. If serum levels are above 2mmol/l the patient should be urgently reviewed by a doctor, particularly if presenting with signs of toxicity. |

| ONGOING MONITORING | | | |
|---|---|---|---|
| Test | Frequency | Abnormal Result | Action if Abnormal Result |
| Serum Levels of Lithium | **Every 3 months** or **if** dose change or some other indication or evidence of deterioration, then 1 week after every dose change, and until the levels are stable, then every 3 months for the first year.<br>After the first year, measure plasma lithium levels every 6 months, or every 3 months for people in any of the following groups:<br>older people, people taking drugs that interact with lithium, people who are at risk of impaired renal or thyroid function, raised calcium levels or other complications,<br>people who have poor symptom control, people with poor adherence, people whose last plasma lithium level was 0.8 mmol/L or higher. | Target range is between 0.6 and 0.8mmol/L in people being prescribed lithium for the first time.<br>0.4mmol/L may be effective in unipolar illness, 0.6-1.0mmol/L in bipolar illness and slightly higher levels in difficult to treat mania<br>The lower end of the range is usually the target for maintenance therapy and treatment of elderly individuals | If lithium levels are outside the target range, the specialist should be contacted for advice. If above 1.5mmol/L then doses should be stopped and additional serum levels taken until in range. The reasons for the rise in serum level should be investigated, e.g. change in lifestyle, over the counter medication, adherence problems. Advice on future dosages must be obtained from the specialist. If serum levels > 2mmol/L the patient should be urgently reviewed by a doctor, particularly if presenting with signs of toxicity.<br>If levels are low, seek advice from specialist if symptoms of underlying condition present. |
| Renal Function | **Every 6 months**; more often if there is evidence of deterioration or the individual starts taking drugs such as ACE inhibitors, diuretics or NSAIDs or if calcium levels are raised | Specifically urea, electrolytes, including calcium and serum creatinine to calculate eGFR | Discuss with Specialist. Review clinical need and appropriateness of lithium treatment by specialist. Monitor lithium levels closely and adjust dose accordingly |
| Calcium levels | **Every 6 months**<br>Hypercalcaemia has been reported | Outside normal parameters | Consider hyperparathyroidism, and clinical consequences incl renal effects, osteoporosis and hypertension |
| Thyroid Function | **Every 6 months**; more often if evidence of deterioration | Specifically TSH; if TSH abnormal, test T3 and T4 levels | |
| Full Blood Count | Only if clinically indicated | | Identify cause; if lithium-associated consider need to continue treatment |
| Weight and Height | If individual continues to gain weight. Consider **annual** monitoring | | Appropriate advice given, review ongoing need for lithium by specialist |
| Signs of cardiovascular disease – including pulse and blood | At least annually | Outside normal parameters | Follow NICE guidance on hypertension, lipid modification, prevention of cardiovascular disease, obesity, physical activity, |

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| pressure | | | and preventing type 2 diabetes |

**Amendments made (June 2019)**

**Clarification** that this relates to the care of adults only.

**Addition of "**To check for any interactions with other concurrent medications" to Consultant/Specialist responsibilities

**Adjustment** to table formatting

**Addition** to advice on management of lithium levels outside normal range

**Amendment** of initial ECG monitoring to lie under Consultant responsibilities, and emphasis on other additional relevant investigations to be arranged, and results reviewed by consultant, if there are risk factors for or existing cardiovascular disease

**Addition** to monitoring table – information regarding ongoing cardiovascular monitoring