Sussex Partnership NHS Foundation Trust **WORKING IN PARTNERSHIP WITH**

Eastbourne, Hailsham & Seaford Clinical Commissioning Group
Hastings & Rother Clinical Commissioning Group

NHS

# SHARED CARE GUIDELINE

## DRUG NAME: **Lithium**

INDICATION/S COVERED (including whether for adults or children):

- The management of acute manic or hypomanic episodes in adults.
- The management of episodes of recurrent depressive disorders where treatment with other antidepressants has been unsuccessful in adults.
- In the prophylaxis against bipolar affective disorders in adults.
- Control of aggressive behaviour or intentional self-harm in adults.

**East Sussex Health Economy Formulary Traffic Light System Classification: Amber**

**NOTES to the General Practitioner (GP) or Primary Care Prescriber**

***Amber drugs:***
For drugs which require specialist initiation and/or dose titration and specific ongoing monitoring. For initiation, dose stabilisation and prescribing (including monitoring) by a specialist until the patient is stabilised (usually for a minimum 3 months but see individual shared care guidelines) after which the GP may be asked to agree shared care through the use of shared care guidelines.
The expectation is that these guidelines should provide sufficient information to enable GPs or Primary Care Prescribers to be confident to take clinical and legal responsibility for prescribing these drugs.

The questions below will help you confirm this:

- Is the patient currently under your care? (e.g. shared care should not be agreed if the patient is currently in intermediate care following hospital discharge.)
- Do you have the relevant knowledge, skills and access to equipment to allow you to monitor treatment as indicated in this effective shared care agreement?
- Have you been provided with relevant clinical details including monitoring data?

If you can answer YES to all these questions (after reading this shared care guideline), then it is appropriate for you to accept prescribing responsibility.

If the answer is NO to any of these questions, you should not accept prescribing responsibility. You should write to the Consultant/Specialist within 14 days, outlining your reasons for NOT prescribing. If you do not have the confidence to prescribe, we suggest you discuss this with your local Trust/specialist service, which will be willing to provide training and support. If you still lack the confidence to accept clinical responsibility, you still have the right to decline. Your CCG Medicines Management Pharmacist will assist you in making decisions about shared care.

Prescribing unlicensed medicines or medicines outside the recommendations of their marketing authorisation alters (and probably increases) the prescriber's professional responsibility and potential liability. The prescriber should be able to justify and feel competent in using such medicines.

**The patient's best interests are always paramount**

*The GP or Primary Care Prescriber has the right to refuse to agree to shared care, in such an event the total clinical responsibility will remain with the consultant.*

<table>
<tr><td colspan="2">Reason for update: n/a</td><td>Prepared by: Jed Hewitt, Chief Pharmacist – Sussex Partnership NHS Trust<br>Updated by: n/a</td></tr>
<tr><td>Valid from:<br>Sept 2015</td><td>Review date:<br>Sept 2018</td><td>Approved by:<br>East Sussex Area Prescribing Committee<br>Date:</td></tr>
<tr><td>Version: 1</td><td>Supersedes version: n/a</td><td></td></tr>
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## Information

*This page should include general information relevant to the specific drug and indication/s. It should include information on the dose of the drug for the indication, cautions, contraindications, common side effects and interactions to look out for. This section should have input from a specialist consultant in the field.*

**This information sheet does not replace the Summary of Product Characteristics (SPC), which should be read in conjunction with this guidance. Prescribers should also refer to the appropriate paragraph in the current edition of the BNF.**

1. **Link to the relevant SPC website**:
   Priadel® 400mg prolonged release tablets www.medicines.org.uk/emc/medicine/25500
   Priadel® 200mg prolonged release tablets www.medicines.org.uk/emc/medicine/25501
   Priadel® 520mg/5ml liquid www.medicines.org.uk/emc/medicine/6981
   Li-liquid® 1018mg/5ml liquid /www.medicines.org.uk/emc/medicine/10680
   Li-liquid® 509mg/5ml liquid www.medicines.org.uk/emc/medicine/10677
   Liskonium® 450mg tablets www.medicines.org.uk/emc/medicine/6981

2. **Background to use for the indication/s, including licence status:**
   - In the management of acute manic or hypomanic episodes – licensed indication.
   - In the management of episodes of recurrent depressive disorders where treatment with other antidepressants has been unsuccessful – licensed indication.
   - In the prophylaxis against bipolar affective disorders – licensed indication.
   - Control of aggressive behaviour or intentional self-harm – licensed indication.

3. **Dose & administration:**

   Target serum lithium concentration (mmol/l) will vary depending on the diagnosis and past response to treatment. Levels should never exceed 1.5 mmol/l and levels of 2 mmols/l would require urgent admission to an acute trust.

   - The serum level range for the management of acute manic or hypomanic episodes and episodes of recurrent depressive disorders where treatment with other antidepressants has been unsuccessful is 0.8 to 1.2mmol/l
   - The serum level range for the prophylaxis against bipolar affective disorders and control of aggressive behaviour or intentional self-harm is 0.5 to 1.0 mmol/l

4. **Cautions (including for pregnancy & lactation where relevant):**

   - **General**
     The minimum clinically effective dose of lithium should always be used. Clear instructions regarding the symptoms of impending toxicity should be given by the doctor to patients receiving long-term lithium therapy. They should be warned of the urgency of immediate action should these symptoms appear, and also of the need to maintain a constant and adequate salt and water intake. At the first sign of toxicity, the patient should consult a doctor and lithium levels should be checked. Treatment should be discontinued immediately on the first signs of toxicity.

   - **Monitoring recommendations**
     Before starting treatment with lithium, renal function, cardiac function and thyroid function should be evaluated. Patients should be euthyroid before initiation of lithium therapy. Lithium therapy is contraindicated in patients with severe renal insufficiency or cardiac insufficiency. Renal, cardiac and thyroid functions should be re-assessed regularly during treatment with lithium. For monitoring recommendations of lithium serum levels see Section 8.

   - **Renal Impairment**
     Since lithium is primarily excreted via the renal route, significant accumulation of lithium may occur in patients with renal insufficiency. Therefore, if patients with mild or moderate renal impairment are being treated with lithium, serum lithium levels should be closely monitored and the dose should be adjusted accordingly. If very regular and close monitoring of serum lithium levels and plasma creatinine levels is not possible, lithium should not be prescribed in this population. Lithium is contraindicated in patients with severe renal insufficiency. The possibility of hypothyroidism and renal dysfunction arising during prolonged treatment should be borne in mind and periodic assessments made. Patients should be warned to report if polyuria or polydipsia develop. In patients who develop polyuria and/or polydipsia, renal function should be monitored in addition to the routine serum lithium assessment.

   - **Fluid/electrolyte balance**
     If episodes of nausea, vomiting, diarrhoea, excessive sweating, and/or other conditions leading to salt/water depletion (including severe dieting) occur, lithium dosage should be closely monitored and dosage adjustments made as necessary. Drugs likely to upset electrolyte balance such as diuretics should also be reported. Indeed, sodium depletion increases the lithium plasma concentration (due to competitive

reabsorption at the renal level). In these cases, lithium dosage should be closely monitored and reduction of dosage may be necessary. Caution should be exercised to ensure that diet and fluid intake are normal in order to maintain a stable electrolyte balance. This may be of special importance in very hot weather or work environment. Infectious diseases including colds, influenza, gastro-enteritis and urinary infections may alter fluid balance and thus affect serum lithium levels. Treatment discontinuation should be considered during any concurrent infection.

- **Risk of convulsions**
  The risk of convulsions may be increased in case of co-administration of lithium with drugs that lower the epileptic threshold, or in epileptic patients.

- **Benign intracranial hypertension**
  There have been case reports of benign intracranial hypertension. Patients should be warned to report persistent headache and/or visual disturbances.

- **QT prolongation**
  As a precautionary measure, lithium should be avoided in patients with congenital long QT syndrome, and caution should be exercised in patients with risk factors such as QT interval prolongation (e.g. uncorrected hypokalaemia, bradycardia), and in patients concomitantly treated with drugs that are known to prolong the QT interval.

- **Brugada syndrome**
  Lithium may unmask or aggravate Brugada syndrome, a hereditary disease of the cardiac sodium channel with characteristic electrocardiographic changes (right bundle branch block and ST segment elevation in right precordial leads), which may lead to cardiac arrest or sudden death. Lithium should not be administered to patients with Brugada Syndrome or a family history of Brugada Syndrome. Caution is advised in patients with a family history of cardiac arrest or sudden death.

- **Elderly patients**
  Elderly patients are particularly liable to lithium toxicity and may exhibit adverse reactions at serum levels ordinarily tolerated by younger patients. Caution is also advised since lithium excretion may be reduced in the elderly due to age related disease in renal function.

- **Children**
  The use in children is not recommended.

**5. Contraindications:**

- Hypersensitivity to lithium or to any of the excipients.
- Cardiac disease.
- Cardiac insufficiency.
- Severe renal impairment.
- Untreated hypothyroidism.
- Breast-feeding.
- Patients with low body sodium levels, including for example dehydrated patients or those on low sodium diets.
- Addison's disease.
- Brugada syndrome or family history of Brugada syndrome.

**6. Side effects: see also SPC for details**

Adverse effects are directly related to blood levels and their frequency increase dramatically at plasma levels above 1.0mmol

- Fine tremor – (often responds to a low dose propranolol).
- Nephrotoxicity. Up to one third of patients may develop polyuria and polydipsia, which is usually reversible on withdrawal. Long-term treatment may result in permanent changes and renal impairment.
- Gastrointestinal disturbances – often at start of treatment and usually transient
- Weight gain and oedema (not to be treated by diuretics)
- Disturbances of thyroid function
- Exacerbation of psoriasis
- Raised antidiuretic hormone concentration
- Hypokalaemia
- ECG changes
- Mental dulling – reported in some patients, although others may report increase creativity due to increased organisational ability

**Note:** periods of gastric illness with diarrhoea or vomiting may result in salt and water depletion- this can lead to an increase in lithium levels.

**Signs of toxicity (levels above 2.0mmol/l are normally considered dangerous – increased disorientation and seizures may lead to coma and death.**

- Blurred vision
- Diarrhoea and vomiting
- Unsteadiness or clumsiness
- Difficultly in speaking
- Severe tremor or twitching limbs
- Greatly increase thirst and/or passing water
- Severe drowsiness and/or confusion

**7. Interactions:**

- Diuretics (esp. thiazides) => increase lithium levels
- ACE-Inhibitors & Angiotensin-II-Antagonists => increase lithium levels
- Non-Steroidal Anti-Inflammatory Drugs => increase lithium levels
- SSRIs: may increase CNS toxicity, (although lithium levels may not be raised, increased monitoring should be considered).
- Many other interactions are possible – refer to current edition of BNF

**8. Criteria for use:**

Lithium treatment should only be continued if the patient is properly monitored against the criteria set out below:

**Routine monitoring**

- Results of routine monitoring should be recorded in a patient held lithium monitoring booklet. If the patient does not hold one, a copy should be provided for the patient and the importance of carrying the booklet for healthcare professionals to refer to should be stressed.

| **Routine Testing** | |
|---|---|
| Lithium | Every 3 months – or more frequently during dose changes, illness etc. |
| eGFR | Every 6 months – (3 months for elderly or where complicating factors) |
| Thyroid Function Tests | o Every 6 months – (every 4 to 6 weeks if TSH is raised)<br>o Consider early thyroxine supplement in hypothyroid patients |
| Weight/BMI | Every 6 months |
| Electrolytes | Every 6 months |
| Serum calcium | As appropriate – raised serum calcium may indicate hyperparathyroidism |

**9. Any further information**

- 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.
- Lithium carbonate 200mg tablets contain 5.4 mmol of lithium which is approximately equivalent to 509mg/5ml lithium citrate tetrahydrate (Li-Liquid®)
- 520mg/5ml of lithium citrate liquid (Priadel Liquid®) is equivalent to 204mg of lithium carbonate.
- Contra-indicated in cardiac failure, clinically significant renal impairment, Addison's disease and untreated hypothyroidism.
- Lithium levels can be affected by many other drugs please see 'Drug Interactions' for further guidance.
- Dose reduction or discontinuation may be necessary in diarrhoea, vomiting or concurrent infection.
- Any women who is or planning **pregnancy** or to **breast feed** whilst on lithium therapy, should be referred to a specialist.
- Patients need to be made aware of what they should do if they become ill or find themselves in a situation that results in profuse sweating.

**10. References:**


a. SPCs for all preparations listed in section 1 (checked on 4 February 2015)
b. Safer Lithium Therapy, PSA 005, NPSA, 1 December 2009

**RESPONSIBILITIES and ROLES**

| Consultant / Secondary Care Prescriber or Nurse responsibilities |
|---|
| 1 To discuss fully the aims, benefits, risks and side effects of treatment with the patient and/or carer and for written information to be supplied to the patient and/or carer. |
| 2 To explain their role and provide written information as necessary |
| 3 Explain the treatment plan to the patient and/or carer including the dosing schedule |
| 4 Undertake baseline monitoring as required (specific to drug) |
| 5 Ensure a patient information leaflet is issued and discussed, (available on the Sussex Partnership website) |
| 6 To provide the patient and/or carer with printed advice including a lithium monitoring & information booklet and initiation instructions. |
| 7 To initiate treatment and monitor lithium levels until the dosage is stabilized by prescribing usually for a minimum of 3 months. A copy of the lithium levels should be requested for the GP. |
| 8 While prescribing for this patient to monitor and evaluate response to treatment with the patient and/or carer, including adverse drug reactions, with the patient and to continue / discontinue treatment in line with the agreed treatment plan |
| 9 Discuss the possibility of shared care with the patient and/or carer and ensure that they understand the plan for their subsequent treatment |
| 10 Supply GP with a summary of the patient's review (including anticipated length of treatment) and a link to the shared care guideline when requesting transfer of prescribing to GP or Primary Care Prescribers |
| 11 To ensure that all parties (GP, CPN, Consultant, Patient) are in agreement regarding on-going responsibility for taking blood and monitoring lithium levels. |
| 12 To provide the GP with target serum levels of lithium and to advise on actions to take when the serum level is outside the range. |
| 13 To document any changes and/or results in the patient's lithium treatment - monitoring booklet |
| 14 To advise on dose alterations, abnormal results and concurrent medication. |
| 15 To review the patient at least annually and when requested to by the GP to assess response, the benefits of continued treatment and which treatment is most appropriate. |
| 16 Advise GP if treatment is to discontinue at any point |
| 17 Inform GP if patient does not attend planned follow-up |

| GP or Primary Care Prescriber responsibilities |
|---|
| 1 Continue prescribing of lithium at the dose recommended after stabilization |
| 2 Inform the Consultant/Specialist of any issues that may arise |
| 3 To monitor the prescribing rate of lithium for individual patients |
| 4 To undertake routine blood / lithium level monitoring once dosage is stabilised and act upon the results |
| 5 To document any changes and/or results in the patient's lithium treatment - monitoring booklet. |
| 6 Monitor for adverse effects throughout treatment and check for drug interactions on initiating new treatments |
| 7 To report adverse drug reactions to the specialist and complete a 'yellow' card if serious. |
| 8 To keep the care coordinator/mental health team informed, e.g. any change of medication prescribed for any indication. |
| 9 To monitor the patient's overall health and well being |
| 10 Ensure that if care of the patient is transferred to another prescriber, that the new prescriber is made aware of the shared care guideline. |

| Monitoring requirements and appropriate dose adjustment |
|---|
| 1 Lithium levels – 3 monthly (or more frequently if indicated by a dose change or illness involving fluid loss) |
| 2 U&Es – 6 monthly |
| 3 eGFR – 6 monthly (3 months for elderly or where complicating factors) |
| 4 TSH – 6 monthly (every 4 to 6 weeks if TSH is raised) |
| 5 Weight/BMI – 6 monthly |
| 6 Corrected calcium – as appropriate (Raised serum calcium may indicate hyperparathyroidism) |
| 7 ECG – if appropriate |
| 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 with the patient/carer, e.g. change in lifestyle, over the counter medication, adherence problems. Advice on future dosages must also be obtained from the specialist. If serum levels are above 2mmol/l the patient should be admitted urgently in to an acute hospital. |
| GPs should order a copy of any test results for the specialist for information. Results should be provided to the patient so their lithium monitoring booklet can be updated. |

| Patient's/Carer's role |
|---|
| 1 Ask the Consultant/Specialist or GP or Primary Care Prescriber for information, if he or she does not have a clear understanding of the treatment |
| 2 To take lithium as prescribed. |
| 3 Share any concerns in relation to treatment with lithium |
| 4 Tell the Consultant/Specialist or GP or Primary Care Prescriber of any other medication being taken, including over-the-counter products. |
| 5 Read the patient information leaflet included with your medication and report any side effects or concerns you have to the Consultant/Specialist or GP or Primary Care Prescriber. |
| 6 Attend the follow up appointments with the consultant/specialist |
| 7 To attend appointments for monitoring blood tests. |
| 8 To inform the GP if health problems arise. |
| 9 To be aware of side effects, situations that could affect their lithium levels and report any relevant symptoms. |
| 10 To carry their lithium monitoring record whenever consulting a healthcare professional. |

# SHARED CARE GUIDELINE
## DRUG NAME: Lithium
## INDICATION:

## Agreement for transfer of prescribing to General Practice or Primary Care Prescriber

| **Patient details:** | | |
|---|---|---|
| | Name: | |
| | Address: | |
| | DoB: | |
| | NHS No: | |
| | Hospital No: | |

**Drug name and strength**:

**The following tests and investigations have been carried out:**

**Date treatment initiated:**

**Patient is now stabilised on a dose of:**

**I confirm the following:**

- **At last review the patient's symptoms were well controlled and the drug is providing benefit.**
- **The patient has been given written information about their medication.**
- **The patient understands that this medication is being prescribed under a shared care agreement between their GP and specialist and that they also have responsibilities under the agreement.**
- **The patient has been informed that their GP can opt-out of taking on prescribing responsibility if they do not feel clinically able to prescribe or if the patient does not attend for treatment monitoring.**
- **I will arrange to review this patient regularly. Date of next clinic appointment:**

**Consultant signature** _____ **Date**_____

**If the Primary Care Prescriber wishes to decline shared care, the named consultant must be informed within 14 days of receipt of this request.**

### BACK-UP ADVICE AND SUPPORT

| | **Name / position** | **Telephone** | **Email** |
|---|---|---|---|
| **Specialist / Consultant:** | | | |
| **Alternative Specialist:** (e.g. departmental contact) | | | |
| **Out of hours:** (e.g. medical team on call) | | | |
| **Hospital Pharmacy for SPT:** | Worthing Hospital | 01903 205111 x 85471 | pharmacy@wsht.nhs.uk |