BEDFORDSHIRE AND LUTON JOINT PRESCRIBING COMMITTEE

Shared Care and Transfer of care Guidelines for the Prescribing and Monitoring of Lithium

Version number :	2.0
Consultation Groups	Adult Mental Health, Bedfordshire JPC, Medicines Committee
Approved by (Sponsor Group)	ELFT Medicines Committee Bedfordshire JPC
Ratified by:	ELFT Medicines Committee
Date ratified:	November 2020
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Implementation Date :	December 2020
Last Review Date	November 2020
Next Review date:	November 2023

Services	Applicable
Trustwide	✓
Mental Health and LD	
Community Health Services	

Version Control Summary

Version	Date	Author	Status	Comment
1.0	June 2014	Raj Shergill Samantha Scholes	Final	

Contents

Patient Name:

Address:

NHS Number: / RIO Number:

Consultant Name: **GP Name**

Tel: **Tel:**

Email: **Email:**

Other Health Care Professional contact details (if appropriate):

ELFT have issued specific advice regarding lithium and COVID-19 .

CLICK HERE for full details of additional precautions and special measures

GENERAL INFORMATION

- Lithium is predominantly used for the prophylaxis and treatment of mania, bipolar disorder, refractory recurrent depression and the control of aggressive or self-harming behaviour. Occasionally lithium can be used 'off-label' for other conditions (GPs will be informed if the proposed indication is 'off-label').
- The aim of treatment is to control symptoms and prevent relapse in patients with conditions described above.
- Lithium has a narrow therapeutic range, therefore serum level needed for response and the level that causes toxicity are very close together.
- As a result, patients **must have regular blood tests** to ensure the lithium plasma drug level is within the **agreed target range*** as specified by the specialist.

***Target Ranges: -**

Indication for Lithium	**Target dose (mmol/L)**
Acute treatment of Mania	0.8 – 1.0
Maintenance treatment for bipolar disorder	0.6 – 0.8
Augmentation of antidepressant in depression	0.6 – 1.0
Minimum effective level for prophylaxis	0.4

- Keeping plasma levels in the target range gives the best chance of attaining the desired therapeutic outcome, whilst reducing (though not eliminating) the risk of harmful lithium toxicity occurring.
- Lithium is exclusively excreted by the kidneys and can build up in the blood if kidney function is impaired. Lithium has been associated with a gradual decline in estimated glomerular filtration rate (eGFR) over time, particularly if levels are maintained near or above the maximum recommended level. Longer exposure to supra-therapeutic lithium levels is possibly more toxic than short exposure to high levels.

  Lithium toxicity
- Drug interactions are an important cause of increased lithium levels and subsequent decline in renal function. NSAIDs, diuretics and ACE inhibitors/ARBs are the most common drug causes of lithium toxicity. (Note that NSAIDS and drugs acting on ACE may be withdrawn during COVID-19 infection, causing a fall in lithium levels.)
- Dehydration or reduced fluid intake is another important cause of lithium toxicity.
- Febrile patients may become dehydrated and lithium levels may rise putting patients at greater risk of toxicity
- In many cases of slowly developing lithium toxicity, symptoms can be relatively bland, non-specific or non-existent. Signs of moderate to severe lithium toxicity may include diarrhoea, vomiting, mental state changes, coarse tremor or falls due to ataxia
- Clinicians should be aware that lithium toxicity is a clinical diagnosis and can occur even at therapeutic lithium plasma levels

Prescribing Information

- A shared care agreement between the Specialist and the GP is essential in the management of patients prescribed lithium as they may frequently transfer between primary and secondary care.
- **To ensure patient safety, the clinician (e.g. GP / specialist) who prescribes the drug must, before issuing any further prescriptions for lithium, check for up to date lithium levels and other blood test results.**
- **An agreed method of communication of blood test results between the GP, the Specialist, the community pharmacist and the patient should be agreed at the onset of therapy and documented in the patient's notes in primary and secondary care.**
- The specialist will issue all newly initiated patients with a Purple Lithium Patient pack (as per recommendation in the 'Patient Safety Alert 'Safer lithium therapy' issued by the National Patient Safety Agency in December 2009 (NPSA/2009/PSA005). The Specialist will also advise the patient of the existence of the ***NHS Health care Monitoring Lithium App***. It is noted, however that given the electronic nature of prescribing and monitoring in primary care, it is unlikely that either of these options will be used to keep a record of blood test monitoring. When the patient blood test monitoring starts in Primary Care (as part of SCG arrangements), the method of recording blood test results in primary care will be discussed between the patient and GP and system that works for both parties will be agreed and noted in the patient's notes. This could include for example: - GP providing blood test results to patients' mobile phones via AccuRx or Airmid, use of purple book, retention of blood test results by the GP only. The GP will advise the specialist of the agreed system and ensure that the specialist receives blood test results if they cannot access them themselves. The converse is true of specialist to GP blood test monitoring information.
- Patients should be advised to attend for regular blood tests.
- **Lithium should be prescribed by brand name as formulations are not bioequivalent.** Details of the **brand name** prescribed should be recorded in the purple booklet / on the App record. There are two different salts of lithium available (lithium carbonate and lithium citrate) and preparations vary widely in bioavailability:

- Lithium carbonate is available as standard release and modified release tablets and Lithium citrate is available as liquid.
- GPs should contact the specialist if there is a need to change formulation or brand. Secondary care will advise on the correct dose to prescribe and the additional monitoring requirements.
- **See Appendices 1 & 2** for **detailed** clinical information including details of side effects / significant drug interactions and signs of lithium toxicity. Clinicians should also refer to the Electronic BNF, Individual SmPCs.

Key elements applicable when agreeing to share care:

- The intention to share care should be explained to the patient and agreed by them.
- Patients should be at the centre of any shared care arrangements. Individual patient information and a record of their preferences (including patient consent) should accompany shared care prescribing guidelines where appropriate.
- A copy of the shared care guideline should be provided by the specialist centre initiating the treatment to both the patient (where appropriate) and the clinician participating in the shared care. Failure to provide a copy of the shared care guideline could result in a delay in responsibility for prescribing being accepted in primary care. (click here for electronic version - this can be emailed)
- Both secondary care and the GP should agree to adhere to CCG policies.
- The secondary care clinician / specialist service should contact the GP to request a shared care agreement **once the patient is clinically stable and on a stable maintenance dose of lithium** (NB: If a patient is required to attend the hospital regularly for other specialist monitoring, then the need to share care is not applicable and the Specialist should continue to prescribe.)
- Under this shared care agreement, it will be assumed that the GP will accept shared care unless they advise the secondary care clinician / specialist service to the contrary.
- If a GP is not confident / not able to participate in a shared care agreement, the CCG medicines optimisation/management team should be asked for assistance in facilitating suitable prescribing arrangements for the patient.
- Where there is a disagreement around prescribing lithium for justified reasons, which cannot be resolved satisfactorily, prescribing responsibility will remain with the Secondary Care Mental Health Service.

Share Care Requirements

- Good communication between the Specialist / GP / community pharmacist and the patient / patient's carer is essential for shared care to work effectively.
- An agreed robust method of communication of blood test results between the GP, the Specialist and the patient should be agreed at the onset of therapy and clearly documented in the patient's records.
- The Specialist and GP should agree to share important clinical information in a timely manner. Depending on the urgency, communication can be via telephone, secure email or in the form of a formal written communication. Regardless of initial method used, a formal written record should always be communicated.
- When the specialist, makes any dose changes or takes action as a result of either a high or sub-therapeutic lithium level, the GP must be informed as soon as possible to avoid an incorrect dose being prescribed and **vice versa**.
- GPs should be provided with sufficient information on the drug to either allow them to monitor the patient's response to therapy and adjust dosages as required or know in what circumstances they should refer the patient back to the hospital clinician. (This information is provided in the monitoring section (p 10) and Appendix 1 & 2 of this guideline).

Transfer of care (in the longer term):

- In the longer term, the Specialist and the GP may agree to **a transfer of care** arrangement where the GP agrees to take over the **full clinical responsibility for the patient** – this should only be considered when the person's clinical condition is stable or predictable.
- The Specialist must contact the GP to request Transfer of care and the GP is required to formally accept in writing (NB this differs from the shared care arrangement by which it has been agreed that it is assumed the GP will accept shared care unless they state otherwise).
- Prior to transfer of care, the Specialist should provide the GP with a clear management plan which should include:
    - recommendations around the continuation of lithium treatment long term
    - details of annual health check criteria
    - details of a step-up or step-down plan should any problems arise in the future,
    - provide specialist input into how to stop lithium treatment as abrupt withdrawal should be avoided as this can result in relapse.
    - provide contact numbers for access to immediate specialist psychiatric advice
    - provide details of an easy route back into secondary care

Patient's discharged into the Care of the GP

It is recognised that a number of patients receiving Lithium are now (and have been for many years) under the sole care of the GP. It is expected that GPs can request urgent advice/easy route back into secondary care as per the patients in the 'Transfer of Care' Group.

Secondary Care Mental Health Service Responsibilities (Specialist)

A**t Initiation of therapy:**

- Assess the patient, determine a diagnosis and decide on a management strategy.
- Assess the patient for any co-morbidities.
- Carry out the required baseline monitoring requirements which must include the monitoring of calcium, renal function, thyroid function tests, FBC, BP and pulse, weight and BMI, where necessary ECG.
- Send a copy of the baseline test results to the GP in writing.
- There is the possibility of **significant drug interactions** to occur with lithium. Clinicians should check for possible drug interactions with existing medication before initiating lithium therapy (Refer to electronic BNF / Individual SmPCs / Drug interaction table, Appendix 1& 2)
- Possible drug interactions should also be checked if prescribing any new medications or when stopping any concurrent medications at any point.
- Discuss potential benefits and side effects of lithium treatment with patient.
  NB: If the patient does not have the mental capacity to understand, ensure that the relevant care(s) receive the necessary information.
- **Explain how to recognise signs and symptoms of lithium toxicity and to seek medical advice if these occur.**
- Inform the patient to report any side effects to the Specialist or GP (once shared care has been started).
- Advise patient to seek medical attention if they develop diarrhoea, vomiting or feel acutely unwell for any reason as this can affect the lithium blood level and can lead to toxicity.

- Ensure that patients know to maintain their fluid intake, particularly if they have a fever, if they are immobile for long periods or if they develop a chest infection or pneumonia.
- Explain the importance of maintaining adequate fluid intake and to be aware of situations that can lead to fluid loss e.g. hot weather / during exercise.
- Advise patient to avoid dietary changes which could reduce or increase salt intake during lithium treatment as an alteration in sodium intake can affect lithium levels.
- Explain that certain medications should be avoided if taking lithium due to potentially significant interactions, including over the counter medications e.g. herbal medicines, NSAIDs, cold and flu remedies, indigestion remedies.
- Discuss the risks associated with lithium and pregnancy with female patients of childbearing age, and the need for contraception.
- Document full details of the discussion around lithium therapy in the patient's medical notes.
- Provide the patient with a ***Purple Lithium Patient Pack***, containing the patient information booklet, lithium alert card and blood test monitoring record book and tell them about the existence of the NHS health Monitoring Lithium APP.
- Record the brand and formulation of lithium and dosage instructions in the booklet / Lithium App.
- Explain to the patient, that their GP will discuss the best method of communicating/recording blood test results when blood test monitoring starts to take place in primary care...
- Explain the blood test requirements (i.e. every 3 months and after every dose change) and the importance of attending for regular blood tests to the patient.
- Provide GP with lithium target plasma level as clinically indicated.
- Explain that the blood test needs to be done approximately 12 hours post dose.
- Provide advice to GPs on what action to take if mental state changes or in case of development of adverse effects.
- Provide full prescription details to the GP (i.e. the **specific brand and formulation** of lithium that has been initiated with full dosage directions. This is essential as the different brands and formulations of lithium are **not** interchangeable.
- Continue to prescribe lithium and monitor blood therapeutic levels until patient is on a stable maintenance dose (this can be up to 3 months post initiation) and shared care has commenced. NB: If supplying an FP10HP prescription, please annotate where possible, the lithium level and date taken on the prescription as this information will be required by the community pharmacist.

Specialist responsibilities once shared care has been commenced:-

- Promptly review patient if necessary when there are signs of lithium toxicity, renal impairment, unmanageable side effects or deterioration in mental state.
- Inform GP of any changes made at outpatient appointment and supply an outpatient prescription (28 days' supply) if dose is changed. NB: Information should be shared with the GP by secure email or telephone as soon as possible, especially if a doses change has occurred to ensure that the GP updates their records accordingly.

- If supplying an FP10HP prescription, please annotate where possible, the lithium level and date taken on the prescription as this information will be required by the community pharmacist.
- For all patients **under shared care** – the specialists should review each patient every 6 months **and** perform an annual health check (see monitoring section, pg 10).
- Reviews can be done digitally or face to face, whichever is most appropriate. NB For each out-patient review, it is the responsibility of the Secondary Care Mental Health Service to request copies of the most recent blood test results from either the GP or the hospital laboratory if these cannot be accessed electronically).) NB: Specialist reviews are no longer required if the patient has been fully transferred to the care of the GP.
- Notify the GP and primary care team if the patient does not present for specialist reviews
- If the patient is re-admitted to hospital at any time - Carry out any routine monitoring due and notify the GP of the results.

- Support the GP with changing the dose if the lithium level is outside the target range or if the patient is experiencing side effects.

Summary of GP Responsibilities

- Engage in shared care and take over the routine prescribing and monitoring of lithium levels (3 monthly or more frequently if indicated) once the patient is deemed clinically stable and is on a stable lithium dose.

Monitoring requirements:

As the prescriber, GPs are required to check recent blood test results prior to issuing a prescription for lithium. *(General Medical Council requirement)*

- **Blood Tests**
  - Ensure that plasma lithium levels are checked every 3 months and that any other clinically relevant blood tests e.g. U&Es are checked at the required frequency. (see monitoring section p 10 for details)
  - Advise the patient to attend for a blood test one week before their next prescription is due.
  - Advise the patient that the blood level should be taken approximately 12 hours post dose. If a twice daily regime is prescribed, the patient should be advised to withhold morning dose until after the blood sample has been taken.
  - Discuss any patients who has a lithium level outside of the specified target range with the Specialist. A level of less than 0.6 mmol / L is classed as sub therapeutic however a level as low as 0.4 mmol / L may be acceptable in certain patients. (See monitoring section, page 10).
  - Discuss any patient who develops side effects with the Specialist.
  - Provide the patient with access to their latest blood test results and assist them in updating their lithium record book and / or Lithium App, if appropriate (depending on the agreed method of communication results to the patient).
  - Assist the patient to update their lithium record book and / or Lithium App if any changes are made to treatment, if appropriate (depending on the agreed method of communication results to the patient).

- **Annual health check**:– see monitoring section, p 10
  - **Under shared cared**, - the Specialist should review the patient every 6 months **and** perform the annual health check
  - **When full transfer of care** has been agreed, the GP should perform the annual health check.
- Ensure that the Secondary Care Mental Health Service is informed if any physical illness develops that may affect the patient's treatment with lithium. (See clinical Information sheet (Appendix 1 &2)
- If a patient does not comply with the necessary monitoring requirements, the GP should contact the Secondary Care Mental Health Services and withdraw Lithium treatment. **NB**: Lithium should **not be stopped suddenly**. Specialist advice on how to withdraw lithium should be sought.

- Discuss any concerns relating to lithium therapy with the Specialist and contact the specialist team immediately if a patient discontinues treatment and suffers a worsening mental state.
- Inform the Specialist of any concordance / adherence issues.
- Provide ongoing advice to the patient and monitor general health.
- Refer to the electronic BNF / individual SmPCs / Clinical Information sheet appendix 1 &2 for full details of contraindications / cautions / side effects / signs of toxicity / drug interactions.
- Be aware that some commonly co-prescribed drugs / OTC medications can interact significantly with lithium (lithium levels may be increased or decreased) and ensure that appropriate action is taken / levels monitored. For example Lithium levels can be increased by diuretics, ACE Inhibitors, angiotensin II antagonists, NSAIDs (regular and prn use); Lithium levels can be decreased by Xanthines e.g. theophylline, sodium containing antacids. – Refer to electronic BNF / individual SmPCs / Clinical Information sheet appendix 1 & 2 for further details.
- Check for drug interactions with any newly prescribed medication. If a medicine that can alter lithium levels is prescribed or stopped, then additional monitoring should be put in place.
- **Prescribing notes:**
    - Prescribe by brand name - Ensure the **brand and formulation prescribed is the same** as that stated by the specialist (as not all brands and formulations are interchangeable due to differences in bioavailability).
    - Annotate where possible, the lithium level and date taken on the FP10 as this information is needed by the community pharmacists.
- Ensure that the patient and Specialist are fully informed of any changes to medication that are made to avoid harm.
- Ensure that patients know to maintain their fluid intake, particularly if they have a fever, if they are immobile for long periods or if they develop a chest infection or pneumonia.
- Re-iterate advice on the importance of maintaining an adequate fluid intake and to be aware of situations that can lead to fluid loss e.g. hot weather / during exercise.
- Re-iterate advice to patient to avoid dietary changes which could reduce or increase salt intake during lithium treatment as an alteration in sodium intake can affect lithium levels.
- Re-iterate advice to patient to check with a pharmacist before buying over the counter medications e.g. herbal medicines, NSAIDs, cold and flu remedies, indigestion remedies as these can alter lithium levels.
- **Reiterate advice about the signs and symptoms of lithium toxicity and to seek urgent medical advice if these occur.**
- Be aware that a case of vomiting and/or diarrhoea can affect lithium blood level and can lead to toxicity. Ensure this advice is reiterated to the patient and that they should be advised to seek medical advice.
- In the case of abnormal renal function and thyroid function tests, contact the Specialist to discuss relevant actions.
- Reiterate the advice regarding contraception to woman of childbearing age.
- Contact the ELFT perinatal service as soon as you become aware of any patient who is pregnant / wishes to breastfeed / or who is planning pregnancy and is taking lithium therapy. NB: GPs should not stop lithium therapy as it is the responsibility of the ELFT Specialist Service to review the patient and decide whether treatment should be continued or not.

When to seek Specialist advice: -

- The GP should seek specialist advice in the following circumstances:
    - **If signs of lithium toxicity, STOP treatment, check blood lithium level and contact the Secondary Care Mental Health Service as a matter of urgency**.

- **Seek urgent advice from the Specialist team if the level is above 1.0 mmol/ L and withhold lithium treatment if the patient is showing signs of lithium toxicity.**
- If the lithium level falls **outside of the agreed specified target range**, contact the Specialist for advice.
- Patient becomes mentally unwell (shows signs and symptoms of mania or depression).
- Non-compliance or suspected non-compliance with treatment and/or monitoring requirements.
- Pregnancy / breastfeeding / planning pregnancy
- Introduction of a potentially interacting medication (see Appendix 1&2 and eBNF for further details)

NB: In the event of an Overdose / suspected overdose of lithium or any other psychotropic medication, the patient should be immediately referred to A&E and the specialist clinician informed.

Patient / or Patient's Carer Responsibilities

- Discuss potential benefits and side-effects of treatment with their Specialist and GP and share any concerns that they have in relation to their treatment.
- Participate in the monitoring of therapy (including having blood tests carried out at agreed intervals) and assessment of outcomes, to assist health professionals to provide safe, appropriate treatment.
- Agree a method of keeping a record of their blood test results with their GP
- Report any side-effects to the Specialist or GP.
- Report an increase in thirst and / or an increase in frequency of urine to the GP/ Specialist.
- Report any mood changes to the GP or Specialist.
- Tell all healthcare professionals that they are taking lithium e.g. GP's, A&E clinicians, community pharmacists, dentists.
- Do not alter the dose or stop lithium treatment without consulting their GP / specialist.
- Tell their usual community pharmacist that they have been started on lithium treatment and inform the pharmacist of the specific brand and formulation they are taking to help ensure that supplies are available. (As brands and formulations are not interchangeable).
- Tell their GP/Specialist of all medicines (including OTC preparations and alternative / complementary medicines) that you are currently taking.
- To ensure they maintain their fluid intake, particularly if they have a fever, if they are immobile for long periods or if they are being treated for a chest infection or pneumonia as advised by their doctor.
- In general, to maintain adequate fluid intake - this is particularly important during periods of warm weather and on travelling to countries where the temperature may be very high and also where there is a significant change in physical activity.
- Avoid dietary changes which could reduce or increase salt intake during lithium treatment as an alteration in sodium intake can affect lithium levels.

Information for Community Pharmacists

Community pharmacists are advised to use their professional judgment when dispensing a lithium prescription. As part of this, community pharmacists are advised to:-

- Verbally check that a patient has had a recent lithium blood test taken and the results have been checked by the GP / Specialist before dispensing a prescription for lithium**.**
- Check that the patient has received appropriate verbal and written information about lithium. (ELFT clinicians issue each patient with a '**Lithium Patient Pack'**, containing a purple blood test Monitoring Booklet, patient information booklet and lithium card on initiation of therapy.)
- Confirm the correct brand name and formulation is prescribed (as different brands and formulations are not interchangeable and have different bioavailabilities) before dispensing a prescription.
- Check for any drug interactions including over the counter medications / herbal medications.
- **Contact the prescribing clinician if in any doubt** regarding the dosage prescribed / any concerns relating to the blood test monitoring & blood test results / any concerns regarding compliance issues.

. *A full list of contact details for the ELFT specialist team are included in the contact details section of this document.

MONITORING REQUIREMENTS AND INTERPRETATION OF LITHIUM LEVELS

General

Physical assessment for signs of toxicity.

Every 3 months

- Lithium blood levels should be checked **every 3 months** (or more frequently if indicated by the Specialist).
- Blood tests for lithium Levels should be taken 12 hours post dose.
- If a twice daily regime is prescribed, the patient should be advised to withhold morning dose until after the blood sample has been taken.
- A repeat lithium level should be taken 7 days following a change in dose or change/ addition of an interacting medication. Following this, a plasma level should be done weekly until level is stable (typically up to 5 weeks). Blood forms should be issued to the patient at the point of contact by whichever clinician (primary or secondary care) has seen the patient and made the dose adjustment.
- If there is to be a change to the prescribed dose, a current lithium level should be available. This should be no more than two weeks old.

Every 6 months

- Check thyroid function and renal function every **6 months.**
  (more frequently if there is evidence of changed thyroid or impaired renal function, elderly patients)

Annually

- A**nnual health check**. NICE Guidance (and NPSA Alert) recommends that FBC, BP, and pulse should be monitored **annually** along with fasting lipid screen (>40 years), blood glucose levels, weight, BMI and smoking/alcohol status. Calcium levels should also be checked **annually.**

Other

Consider ECG in those with risk factors for or existing /family history of cardiovascular disease

NB Older adults should be monitored closely for signs of lithium toxicity even when levels are within the normal range.

More frequent monitoring tests may be required if there is evidence of the following: -

- clinical deterioration,
- abnormal results,
- a change in sodium intake,
- symptoms suggesting abnormal renal or thyroid function e.g. unexplained fatigue.

- Other risk factors
- Also prescribed other medication which interacts with lithium e.g. ACE inhibitors, NSAIDs or diuretics

Action to be taken if plasma blood levels outside range or if patient experiences signs of toxicity

Lithium level <1 mmol/L but signs of mild toxicity:

- STOP lithium and contact specialist for advice

Lithium level 1.0-1.5mmol/L:

- Examine for signs of toxicity:-
  - If none, repeat blood test and contact specialist for advice immediately.
  - WITHOLD lithium therapy if the patient is showing any signs of lithium toxicity.

Lithium level >1.5mmol/ L AND/ OR signs of MILD toxicity:

- STOP lithium, **immediate referral to Specialist team** who initiated therapy, daily follow- up
  NB: Plasma levels may still be rising, monitor for signs of moderate/ severe toxicity over next 7 days.

Lithium level > 2 mmol/L AND/OR signs of MODERATE / SEVERE toxicity

STOP lithium, **immediate referral to A&E** for possible diuresis and inform responsible secondary care physician.

- Investigate reason for toxicity.

Clinical Queries and Specialist Contact Details :-

Non –Urgent Queries:-

Specialist team will aim to answer all non- urgent queries within 72 hours.

Urgent Queries:-

During working hours, the Specialist team will aim to answer urgent queries within 4 hours. If out of hours, contact Luton or Bedford Crisis teams who will triage the call

In cases were immediate action is required, contact A&E

ELFT clinicians

Bedford:-

Triage, Assessment & Brief Intervention Team (TABI) - elt-tr.bedfordtriagecmht@nhs.net: 01234880404

Bedford Adult MDT Review Team - elft.bedfordmdtreviewcmht@nhs.net :01234880404

Bedford Adult Recovery Team - elft.bedfordcmhtrecovery@nhs.net :01234880404

Bedford Early intervention Team: 01234315690

Biggleswade CMHT (Spring House)- Elt-tr.biggleswadecmht@nhs.net: 01767224922

Ampthill CMHT (Meadow Lodge) - elt-tr.ampthillcmht@nhs.net: 01525758400

Mid Beds for Older People (The Lawns): elt-tr.midbedsopcmht@nhs.net:01767224181

South Beds for Older People: : elt-tr.sbop@nhs.net: 01582657588

Bedford Older People: elt-tr.bedfordbopscmht@nhs.net : 01234880345

Luton:-

Brantwood CMHT - elft.brantwood-cmht-referral@nhs.net : 01582708617

Wardown CMHT - elft.wardown-cmht-referral@nhs.net: 015825708609

Dallowdowns CMHT - elft.dallowdowns-cmht-referral@nhs.net: 01525 638400

Stockwood CMHT - elft.stockwood-cmht-referral@nhs.net : 01582708610

Beacon House Dunstable CMHT: elt-tr.dunstableCMHT@nhs.net :01582709200

Leighton Buzzard CMHT and South Beds AOT (Crombie House) House: elt-tr.leightonbuzzardcmht@nhs.net

:01525751133

South Beds Older Peoples CMHT- elt-tr.sbop@nhs.net : 01582657588

ELFT Pharmacy Service (Beds & Luton)

01582657564

Mob 07774558416

elft.pharmacyluton@nhs.net

ELFT Perinatal Service

Bedfordshire and Luton Perinatal Mental Health Service
The Lawns Resource Centre
Biggleswade
Beds
SG18 0PT
01767 223153
elft.blperinatal@nhs.net

Luton and South Bedfordshire Crisis Team
Calnwood Court,
Calnwood Road
Luton
LU4 0FB
01582 556971
elft.CRHT-Luton@nhs.net

Bedford and Mid-Bedfordshire Crisis Team
Florence Ball House
Bedford Heath Village
3 Kimbolton Road
Bedford
MK40 2NT
01234 315691
elft.Bedford-CrisisTeam@nhs.net

Appendix 1

Prescribing Information

The information below has been taken from the ELFT document entitled 'Protocol for the Safe Use of Lithium, (2020)'. For full prescribing and drug related information regarding contraindications , cautions , side effects etc , clinicians should refer to the Summary of Product Characteristics (SmPCs) and the current electronic BNF . www.medicines.org.uk/emc www.bnf.org/products/bnf-online

CLINICAL INFORMATION

Indications	○ Mania and hypomania ○ Prophylaxis of bipolar affective ○ Recurrent depression ○ Control of aggressive behaviour or intentional self harm
Place in therapy	○ Lithium may be used as first line therapy in acute mania and for the prophylaxis of bipolar illness. ○ Lithium may also be used as an adjunct to antidepressants when there has been an insufficient response to an antidepressant alone.
Therapeutic summary	○ Lithium is a mood stabiliser. ○ It is used in acute mania and in the prophylaxis of bipolar illness. ○ Lithium also has antidepressant properties
Prescribing Note that various lithium preparations are not interchangeable, **clinicians should always prescribe by brand name** i.e. Priadel or Camcolit. If change band, then need to monitor lithium level as at initiation of therapy.	• **Start at 400mg** at night (200mg in the elderly) • **Dose** is usually guided by plasma level and clinical status, increase slowly to minimise side effects: • **Bipolar**: **lithium plasma level** 0.6 – 0.8 mmol / L (0.8 – 1.0 mmol / L if previously on lithium and relapsed / sub syndromal symptoms) • Monitor plasma level after **1 week** of starting and **1 week** after every dose change until levels are stable. • Once daily dosing preferable to encourage adherence and prevent side effects related to high peak levels (tremor, urinary frequency, GI effects) • Blood should be taken **12 hours** post dose • Liquid should be prescribed twice daily and level done prior to morning dose **Stopping lithium**: **If there is a need to stop lithium, GPs should contact the specialist for guidance.**

<table>
<tr><td>Duration of treatment</td><td colspan="3">Usually long term
NB: Abrupt withdrawal worsens prognosis</td></tr>
<tr><td>Adverse effects</td><td>Adverse effect</td><td>Frequency (in maintenance therapy)</td><td>Management</td></tr>
<tr><td></td><td>Weight gain</td><td>Common</td><td>Give advice on diet and exercise.</td></tr>
<tr><td></td><td>Hypothyroidism</td><td>Common</td><td>Refer to consultant.</td></tr>
<tr><td></td><td>Polyuria and polydipsia</td><td>*Uncommon</td><td>Give advice on reducing fluid intake.</td></tr>
<tr><td></td><td>Diarrhoea</td><td>*Uncommon</td><td>May be a sign of **toxicity (see below). Give advice on fluid and salt replacement.</td></tr>
<tr><td></td><td>Nausea/vomiting</td><td>*Uncommon</td><td>Give after food. Use a slow release preparation.</td></tr>
<tr><td></td><td>Dermatological effects (including exacerbation of existing dermatological conditions)</td><td>Uncommon</td><td>Refer to consultant.</td></tr>
<tr><td></td><td>Sexual dysfunction (decreased libido, erectile dysfunction, priapism and decreased sperm motility)</td><td>Uncommon</td><td>Refer to consultant.</td></tr>
<tr><td></td><td>Fine tremor</td><td>Uncommon</td><td>Refer to consultant.</td></tr>
<tr><td></td><td>**Toxicity (see below) N.B. can be fatal</td><td>_</td><td>Stop lithium and refer to A&E.</td></tr>
<tr><td></td><td colspan="3">*With appropriate maintenance therapy these adverse effects are uncommon. If they persist, refer the patient back to the consultant</td></tr>
<tr><td>Monitoring Requirements</td><td colspan="3">Plasma lithium:
Monitor plasma level after 1 week of starting and 1 week after every dose change until levels are stable and then every 3 months.

U&Es and TFTs every 6 months

Weight or BMI annually

Physical assessment for signs of toxicity.

More frequent tests required if there is evidence of:
○ Clinical deterioration
○ Abnormal results
○ A change or unexplained fatigue
○ Other risk factors / other prescribed medication which interacts with lithium e.g ACE inhibitors, NSAIDs diuretics</td></tr>
</table>

Clinically Relevant Drug Interactions (examples) **(NB: Refer to Appendix 2 and electronic BNF for full details)**	○ The use of lithium with ACE inhibitors, diuretics and some NSAIDs may lead to lithium toxicity, which in some cases may be fatal. ○ Sodium and fluid restriction may lead to lithium toxicity (see below). ○ Theophylline and excess sodium may reduce lithium levels.
Management of blood levels and signs of toxicity	**See monitoring section , page 10**

Symptoms of Lithium Toxicity

Please note that lithium toxicity is a clinical diagnosis and can occur even at therapeutic lithium plasma levels

Symptoms of lithium toxicity:

MILD	• Nausea • Diarrhoea	• Severe fine tremor	• Poor concentration
MODERATE	• **Vomiting**	**<u>Cerebellar signs</u>;** • Coarse tremor • Cerebellar ataxia • Slurred speech	• Drowsiness • **Disorientation**
SEVERE	• Incontinence	• Choreiform movements • Parkinsonism • Myoclonus • Cerebellar dysfunction • Spasticity • EEG abnormalities • Renal failure • Seizures	• Apathy • Coma

Appendix 2

The information below has been taken from the ELFT document entitled 'Protocol for the Safe Use of Lithium, (2020)'. For full details, clinicians should refer to the Summary of Product Characteristics (SmPCs) and the current electronic BNF. www.medicines.org.uk/emc www.bnf.org/products/bnf-online

DRUG INTERACTIONS

Class of Drug	Example	Interaction Effects
Alcohol		Increased tremor/shakiness with chronic alcohol use
Angiotensin-converting enzyme (ACE) inhibitors ACE-2 inhibitors	Enalapril, captopril, lisinopril Losartan, candesartan, valsartan	Lithium toxicity due to sodium depletion, Lithium toxicity due to reduced aldosterone levels
Antibiotics	Doxycycline, tetracycline, levofloxacin, metronidazole	Can increase lithium level due to reduced lithium excretion
Anticonvulsants	Carbamazepine, phenytoin, valproate	Increased neurotoxicity of both drugs at therapeutic doses Valproate may aggravate tremor
Antidepressants Cyclic, MAOIs, RIMA SSRIs	 Desipramine, tranylcypromine, moclobemide Fluoxetine, fluvoxamine, sertraline	 Synergistic antidepressant effect in treatment resistant patients, may increase lithium tremor Increase lithium level, possible neurotoxicity and serotonergic effects
Antiepileptics	Carbamazepine and phenytoin Topiramate	Neurotoxicity may occur without any increase of lithium plasma level Altered Lithium level possible
Antihypertensives	Amiloride, spironolactone, thiazides, triamterene, methyldopa, B-blockers: propranolol, oxprenolol	Increase lithium effects and toxicity Treatment of lithium tremors, propranolol lowers glomerular filtration rate
Antipsychotics	Haloperidol (high doses), flupentixol, fluphenazine, chlorpromazine, clozapine	Increased neurotoxicity possible at therapeutic doses in rare cases
Calcium channel blocker	Verapamil, diltiazem	Increased neurotoxicity with symptoms such as ataxia, confusion and somnolence. May increase lithium level
Caffeine		Reduce lithium level by increased lithium excretion

Diuretics	Bendroflumethiazide, furosemide	Increase lithium level
Class of Drug	**Example**	**Interaction Effects**
NSAIDS	Ibuprofen, diclofenac, naproxen, mefenamic acid	Increased lithium level, monitor level regularly
Sodium salt	Antacids, Gaviscon®. Sodium bicarbonate containing antacids or urinary alkalising agents.	Increased intake causes a reduced lithium level