Lithium: information to support the specialist role in shared care

journey to change

NHS Tees, Esk and Wear Valleys NHS Foundation Trust

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Title	Lithium: information to support specialist role in shared care	
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Quick Reference Guide

This guideline provides guidance on the safe and appropriate use of Lithium, to support specialists in fulfilling their responsibilities within local shared care protocols. It is not a substitute for sound clinical decision making and should be viewed in line with the relevant shared care protocol, guidelines and other lithium resources.

Click on the 'buttons' on this page to navigate the document.

Use "Ctrl+F" and type in keywords to quickly search the document.

Shared care protocols:

NYY Care Group (Humber and North Yorkshire ICB)

DTVF Care Group (North East and North Cumbria ICB)

Further guidance

Links to the trust policies and guidance: Medicines Optimisation – Interactive Guide

General Statement – Prescribing and Monitoring

Prescribing

- Treatment with lithium for approved indications should be initiated by specialist mental health services
- Prescribing and monitoring responsibility should remain with specialist services until a shared care arrangement is agreed with the patient's GP. This includes patients discharged from inpatient settings who have been newly initiated on lithium – responsibility for such patients should initially transfer to the appropriate community team.
- Prescribing and monitoring tasks for patients on lithium must stay together. A reliable system for accessing monitoring results at the time of prescribing must be in place. Prior to issuing a prescription, the prescriber must check that all necessary monitoring tests have been completed and that it is safe to issue a prescription. Where this is not the case, arrangements for monitoring tests should be made as soon as possible
- Whoever initiates monitoring tests is responsible for acting on the results, particularly increases in lithium levels, levels outside normal/target ranges or results that indicate deteriorating renal or thyroid function
- Prescribers must have a system for checking, identifying and dealing with medicines that might adversely interact with lithium.

Monitoring

- Regular checks on lithium levels, renal function and thyroid function are essential for safe prescribing
- Whilst transfer of prescribing and monitoring responsibility is appropriate in high risk or vulnerable patients, consideration should be given to a higher frequency of specialist review.
- The Trust maintains a register of lithium patients and the Lithium Registers Team will routinely check WebICE for monitoring results, alerting the TEWV team if monitoring is overdue or if results indicate that action is required.
- The dispensing pharmacist or GP practice must check that monitoring is up-to-date and that it is safe to dispense lithium, contacting the GP surgery or the TEWV lithium registers team if necessary
- Regardless of shared care arrangements in place, specialist services have a responsibility to check monitoring results of all lithium patients when admitted or seen as outpatients
- The patient-held "purple" booklet, alert card and record book developed by the NPSA will be supplied to all patients on lithium and their use supported by all healthcare professionals involved in providing care.

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General Statement – Transfer of Care / Discharge

Transfer of care

- Prescribing and monitoring responsibility of patients with a target lithium level >1 mmol/L **must not** transfer to primary care
- A patient's clinical condition must be stabilised* before requesting shared care. Once the patient is stabilised on lithium they should be considered for shared care between specialist services and the GP. This will normally occur following the 3-month monitoring check.*
- There must be effective communication between all healthcare practitioners involved with patients on lithium therapy about the target level / range, dosage, monitoring results and changes to concurrent medication.
- Specialist mental health services have a responsibility to proactively and reactively provide advice to primary care on the management of patients treated with lithium

**For the purposes of transfer of prescribing and monitoring responsibility, patients are regarded as stabilised once they have shown a response to lithium and are not experiencing significant side effects, and there are no recognised problems with compliance and no significant acute risks of harm to themselves or to others. Their lithium dose will be stable, and a 3-month check of lithium plasma levels has been completed*

Discharge and Referral

- Patients prescribed lithium should **not** be discharged from specialist mental health services.
- Patients who have been discharged from specialist mental health services in the past should be referred back to specialist services unless the exceptional circumstances described below apply. Particular caution should be applied to patients whose lithium therapy becomes unstable.
- In exceptional circumstances an individual agreement for a patient to remain discharged may be considered if they expressly indicate that they do not want to be seen by specialist mental health services. This should only be considered if lithium treatment is stable, and the patient is adherent to treatment and compliant with monitoring requirements. Such arrangements should involve a proper discussion with the GP and the rationale must be clearly documented.

Shared care protocols:

NYY Care Group (Humber and North Yorkshire ICB)
DTVF Care Group (North East and North Cumbria ICB)

Initiation checklist

Please use this checklist in conjunction with relevant shared care protocol

Pre-Treatment screening

- ❑ Patient education and information provision
- ❑ Baseline investigations (please refer to relevant shared care protocol and Trust Psychotropic Monitoring Guide)
- ❑ Review existing medication to check for potential drug interactions

Initiation

- ❑ Prescribe lithium – once daily dosing between 8-10pm preferred
- ❑ Inform GP that lithium has been initiated and is being prescribed and monitored
- ❑ Complete Lithium initiation form and email lithium register team

Initial Monitoring

- ❑ Lithium levels:
- ✓ 5-7 days after initiation or dose changes
- ✓ Blood sampling 12 hours post dose
- ✓ **Weekly** monitoring until stable (2 consecutive levels in target range at same dose)
- ✓ Therapeutic range: 0.4-1.0mmol/L; aim for 0.6-0.8 mmol/L initially*

Transfer of monitoring and prescribing

- ❑ Lithium levels and dose are optimised and stabilised
- ❑ Patient's condition is stable
- ❑ 3-month monitoring completed
- ❑ Complete and send shared care request letter as per relevant shared care protocol
- ❑ Issue prescription for 28-days supply
- ❑ Primary care confirmed acceptance of request

**A narrower range should be defined for most patients. Elderly are more sensitive to side effects so aim for lower end of this range. Higher target plasma levels (0.8–1.0 mmol/L) may be used for treatment resistance, relapse or acute mania. For a given total daily dose, 12-hour plasma levels will differ for once- versus twice-daily dosing*

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Ongoing monitoring

Please refer to relevant shared care protocol Trust Psychotropic Monitoring Guide for precise requirements

- **At every clinical contact** – signs of toxicity; adherence to treatment
- **Every 3 months** – lithium levels (may be extended to 6-monthly in low-risk patients – see relevant shared care protocol)
- **Every 6 months** - U&Es including eGFR, Calcium, TFTs, weight or BMI [more frequent monitoring (particularly renal function) may be necessary in higher risk patients]
- **Every 12 months** - diet, nutritional status and levels of physical activity; cardiovascular status including pulse and BP, metabolic status including fasting blood glucose, HbA1c and blood lipid profile; LFTs

Patient should be reviewed by a specialist at least annually – at each review, monitor clinical condition, review monitoring tests and consider appropriateness of lithium therapy. Record the review on the EPR and provide a comprehensive report of the review to the GP

Patient information

NPSA Lithium Therapy Patient Packs

- The “purple” booklet, alert card and record book developed by the NPSA should be made available to all patients initiated on lithium.
- Patient details, essential information on the patient’s therapy and contacts must be completed when issuing the lithium therapy pack to patients – **for new patients, this is the responsibility of the TEWV team.**
- Essential details to be completed:
  - Brand, form, strength and dose of lithium
  - Individual target lithium level / range indicating maximum and minimum plasma levels
  - Name of people managing lithium therapy
  - Dates and results of lithium levels, e-GFR, TFTs and weight/BMI
  - Date of next check
  - Any amendments to plasma level range or dose (details in the booklet and alert card must also be amended)
- Confirmation that the patient has received written information and verbal advice, and the necessary details have been transferred to the booklet, alert card and record book must be noted in the EPR and communicated to GP when prescribing transfers

Information Provision

Patients must receive ongoing verbal and written information about minimising the risks of toxicity. This should cover:

- The importance of regular blood tests, and of blood samples for lithium levels being taken 12-14 hours after the last dose;
- The signs and symptoms of toxicity; why they might occur and what to do if they do occur
- The importance of maintaining an adequate fluid intake and informing their GP or TEWV team if acute infection occurs
- Avoidance of big changes in dietary salt intake
- Emphasising good compliance and not to “double up” if they miss a dose
- Interactions with over-the-counter medicines e.g. non-steroidal anti-inflammatory drugs, herbal diuretics and sodium bicarbonate containing antacids or urinary alkalinising agents
- The importance of continuously taking the same brand of lithium
- Women of childbearing age should be advised to use reliable contraception. Should there be a concern about them being pregnant they should immediately seek professional advice about continuing treatment
- The importance of using the record book and taking it whenever they visit their GP, clinic or hospital, when a new prescription is requested or when collecting a prescription from the dispensing pharmacy / GP surgery

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Lithium Register

Addition to Lithium Register

After initiation of lithium, the initiating TEWV team should complete the initiation/discontinuation template with the patient's details and email this to the Lithium Registers Team so that the patient can be added to the relevant team register.

Lithium initiation form can be found here

Lithium register team email: TEAWVNT.LithiumRegisters@nhs.net

Utilising Lithium Register

TEWV maintain a register of lithium patients and the lithium registers team will routinely check WebICE for monitoring results, alerting the TEWV team if monitoring is overdue or if lithium levels indicate that action is required.

Lithium Register can be accessed via Trust wide Shared Drive.

Brand and Formulations

Brand

- Different brands and formulations of lithium are not bioequivalent, and care must be taken to make sure that the patient receives the same preparation each time a prescription is supplied.
- Lithium should always be prescribed using the brand name. The brand and formulation of lithium taken by the patient must be recorded in the patient record book and on the alert card.
- **Priadel** is the preferred brand in TEWV.

Lithium Carbonate vs Lithium Citrate

Li-Liquid® oral solution

Lithium citrate 509 mg in 5 mL = Lithium carbonate 200 mg

Lithium citrate 1.018 g in 5 mL = Lithium carbonate 400 mg

Priadel® liquid

Lithium citrate 520 mg in 5 mL = Lithium carbonate 204 mg

Formulation

- Particular care should be taken if there is need to switch from a tablet to a liquid formulation as different lithium salts are used in each type of formulation – see SPS guidance
- As most lithium tablets are modified-release, when being given as a liquid the total daily dose will need to be given in divided doses.
- Some brands of modified-release tablets can be **halved** (i.e. Priadel) to achieve the desired dose.
- A change in lithium preparation usually requires the same precautions as initiation of treatment.
- There is significant absorption of lithium in the jejunum and ileum. Therefore administration of lithium through enteral tubes terminating in the jejunum is not anticipated to cause absorption problems, though monitoring of levels is still advised.

Potentially serious interactions

ACE inhibitor / Angiotensin-2 receptor agonist

Up to 4-fold increase in lithium levels developed over several weeks

Thiazide Diuretics

Up to 4-fold increase in lithium levels

NSAIDs (including OTC anti-inflammatory)

From 10% to >4-fold increase in lithium levels.

While these medications can increase the risk of lithium toxicity, their concurrent use isn't an absolute contraindication. If unavoidable, careful monitoring of lithium levels and renal function is required.

For other interactions, please consult BNF.

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Out of range lithium levels

Responsibility

Whoever initiates tests for plasma lithium levels is responsible for acting on levels which fall outside the patient's target range. GPs should always discuss treatment options with mental health services. However, the TEWV team should proactively advise GPs if abnormal levels are observed when routinely checking the lithium register.

Local pathology labs will immediately notify all levels above 1 mmol/L (1.2 mmol/L in York & Scarborough) by phone as follows:

- During normal working hours – to the TEWV team or GP Practice sending the sample
- Out of hours – to the relevant Crisis Team or the relevant Emergency Care Centre (further assistance may then be sought from the local Crisis Team).

Subtherapeutic or below target level	Higher than target range	Toxicity suspected
LEVEL 1 actions: Check • blood sampling time (ideal 12-14 hours after last dose) • adherence to prescribed dose (non-compliance or overdose) • Recent trend in lithium levels Re-check levels (as soon as possible and/or after at least 5 days if dose adjusted or re-started) Refer to / seek advice from mental health team Adjust dose (if repeat levels out of range AND compliance / sampling time correct, OR deteriorating renal function)	**LEVEL 2** actions: Level 1 actions + Renal function or trend of renal function Check for symptoms / signs of toxicity	**LEVEL 3** actions: Level 1 & 2 actions + Advise patient to attend A&E (if signs / symptoms of toxicity present) Advise patient to WITHHOLD taking lithium

The target range and toxicity levels should be individualised for each patient.

Discontinuation

Risk of discontinuation

Intermittent treatment with lithium may worsen the natural course of bipolar illness. A much greater than expected incidence of manic relapse is seen in the first few months after abruptly discontinuing lithium.

Rate of attempted and completed suicides may rise up to 20-fold in the first year after discontinuation. Rapid lithium discontinuation increases the 12-month risk 2-fold compared to a more gradual taper over 15-30 days

Stopping lithium

Reduce slowly over at least 1 month and preferably 3 months. Avoid reductions in plasma levels of greater than 0.2mmol/L at a time

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Other lithium resources

TEWV guidelines

- Medicine Safety Series 2 - Lithium for inpatients

This summaries the key information (admission, initiation and discharge) for management of lithium during inpatient admission.

- Medicine Safety Series 29 – Management medicines safely in hot weather
- Mental Health Medicines: Safety Guidance for Acute Hospital Teams

Supporting acute trust on how to manage patient taking lithium are admitted to an acute hospital

- Psychotropic Medication Monitoring Guide

Summarise the monitoring requirements for Lithium

Patient information

Choice and Medication

Patient information leaflets (Available in different languages including Arabic, Bengali, Farsi, French, Hindi, Lithuanian, Mandarin, Polish, Portuguese, Punjabi, Romanian, Russian, Somali, Spanish, Tagalog, Turkish, Ukrainian, Urdu, Vietnamese and Welsh)

Handy fact sheet (Some available as full or highlights versions, Link below to full version)

- Taking lithium and avoiding the effects of hot weather and dehydration
- Lithium and hypothyroidism
- Staying well on lithium
- Lithium in pregnancy and breastfeeding

Safety Alerts

- Lithium – Not Acting on a high level
- Lithium Monitoring - Timing of Lithium Serum Levels: SBARD
- Lithium NSAIDs Interaction - Potentially Dangerous Interaction Between Lithium and NSAIDs