Livewell Southwest

Lithium: Policy for the Safe Initiation, Prescribing, Dispensing and Monitoring of Lithium Preparations

Version No: 3.1
Review: November 2022

Notice to staff using a paper copy of this guidance

The policies and procedures page of Intranet holds the most recent version of this guidance. Staff must ensure they are using the most recent guidance.

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Reader Information

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Author	Amy Rice, Advanced Clinical Pharmacist
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Target audience (who policy is applicable to)	All LSW staff involved in any aspect of lithium therapy
Circulation List	Electronic: Livewell Southwest (LSW) intranet and website (if applicable) Written: Upon request to the Policy Coordinator at **livewell.livewellpolicies@nhs.net** Please contact the author if you require this document in an alternative format.
Stakeholders	All LSW staff involved in any aspect of lithium therapy Derriford Combined Laboratories UHP Pharmacy Department Prescribers of lithium in primary care (under Devon CCG shared care agreement)
Consultation process	Expert group identified with representatives from inpatient and community mental health services for adults and for older people.
References/sources of information	1. National Patient Safety Agency alert NPSA/2009/PSA005 (1st December 2009) 2. NPSA 2009/PSA005 “Supporting Information” 3. NPSA 2009/PSA005 “Lithium Therapy – Important Information for Patients” 4. National Institute for Health & Clinical Excellence (NICE):

	Bipolar disorder: Assessment and Management *Clinical Guideline* 185, 2014. http://www.nice.org.uk/guidance/cg185/chapter/introduction <accessed 24.09.19> 5. National Institute for Health & Clinical Excellence (NICE): Depression in adults: recognition and management *Clinical Guideline* 90, 2009. https://www.nice.org.uk/guidance/cg90 [Accessed on 24.09.19] 6. LSW Medicines Policy 7. South and West Devon Formulary and Referral, http://www.southwest.devonformularyguidance.nhs.uk/ Chapter 4 and shared care link: http://www.newdevonccg.nhs.uk/who-we-are/medicines-and-treatments/shared-care-guidelines/western-devon-shared-care-guidelines/central-nervous-system/101099 8. Joint Formulary Committee. British National Formulary (online) London: BMJ Group and Pharmaceutical Press <http://www.medicinescomplete.com> [Accessed on 24.09.19] 9. Paediatric Formulary Committee. BNF for Children (online) London: BMJ Group, Pharmaceutical Press, and RCPCH Publications <http://www.medicinescomplete.com> [Accessed on 24.09.19] 10. Taylor, D; Paton, C; Kapur, S: Maudsley Prescribing Guidelines in Psychiatry 13th edition 2018 11.
Equality analysis checklist completed	Yes
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Associated documentation	Devon CCG Specialised Medicines Service Guidelines and Share Care agreement for Lithium (Priadel®): https://devonccg.nhs.uk/documents?wpdmc=shared-care-guidelines
Supersedes document	Version 3.0
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Document review history

Version no.	Type of change	Date	Originator of change (Name and job title)	Description of change
0.1	New draft document	Nov 2010	Steve Cooke	
0.2		Dec 2010	D. Reeves	Comments on initial draft
0.3		Jan 2011	S. Cooke	Comments following consultation
1.0		Feb 2011	D Reeves	Removal of Action Plan and Shared Care Guidelines
1.1	Reviewed	Feb 2014	S. Cooke	Re-formatted and presented to MGG 7/3/14
1.2	Published	Mar 2014	S Cooke	Following MGG
2.0	Reviewed	Mar 16	S. Cooke	Changes as agreed by MGG
2.1	Updated	Apr 16	A Hawke	Formatted to LSW
2.2	Ratified	May 16	S. Cooke	Following MGG 6/5/16
2.3	Extended	May 2019	Governance and patient Safety Pharmacist	Extended no changes.
2.4	Updated (not published)	September 2019	A Rice Advanced Clinical Pharmacist	Review and update.
3.0	Reviewed	November 2019	A Rice Advanced Clinical Pharmacist	Full review and transfer to current template. Added advice for elderly/frail patients. Increased prominence of Shared Care Guidelines. Removed LSW GP practice guidance.
3.1	Minor Amendment	August 2020	Governance & Patient Safety Pharmacist	Update to link for CCG Shared Care Guideline

Lithium: Policy for the Safe Initiation, Prescribing, Dispensing and Monitoring of Lithium Preparations

1 Introduction

1.1 Lithium therapy is supported by NICE guidance, [4, 5] as an effective treatment for acute mania, prophylaxis of bipolar disorder and as augmentation of antidepressants in refractory depression. However lithium blood levels need to be maintained within a narrow range; if too low there may be a lack of therapeutic effect; if too high symptoms of toxicity occur which can be serious or even fatal in extreme cases. Lithium at therapeutic levels can also have some long term adverse effects, particularly on kidney and thyroid function. As lithium usually has to be taken for long courses, monitoring of thyroid and kidney function is also very important.

1.2 The National Patient Safety Agency alert NPSA/2009/PSA005: Safer Lithium Therapy [1] identified that some patients taking lithium have been harmed because their dosage has not been adjusted based on regular blood tests. The NPSA received 567 incident reports relating to lithium between October 2003 and December 2008, two of which were 'severe harm' and 34 of 'moderate harm' (see appendix 2 for definitions of harm). In addition the NHS litigation Authority (NHSLA) has dealt with two fatal and 12 severe harm incidents (between 1995 and 2004) and the Medical Defence Union (MDU) has been involved with 15 incidents directly related to lithium toxicity and monitoring.

1.3 An audit by the Prescribing Observatory for Mental Health (POMH-UK) in 2009 has shown that in 70% patients the NICE standard for lithium monitoring was not met and monitoring of renal function and thyroid function was similarly poor (46% and 51% respectively not met).

1.4 The NPSA alert required all organisations (NHS and private) where lithium therapy is initiated, prescribed, dispensed and monitored to complete five actions by the deadline of 31st December 2010.[1]

2 Purpose

2.1 The aim of this policy is to provide robust and safe systems within LSW to manage the inherent risks to patients from the use of lithium therapy based on the recommendations of the NPSA alert and current NICE guidelines. The policy aims to define the local systems in place and direct the reader to other resources available where appropriate.

2.2 Adoption of this policy by clinicians and other healthcare professionals will help to provide the assurance required of compliance with the NPSA alert which includes

five main actions:

2.2.1 **Patients prescribed lithium are monitored in accordance with NICE guidance**. This is to be achieved principally by increasing awareness of the advice included in the Western Locality "Shared care information on the prescribing of lithium (Priadel®)"[7], which defines the responsibilities of primary and secondary care. Assurance of compliance with this guidance will be provided by audit (see section 7).

2.2.2 There are reliable systems to ensure blood test results are communicated between laboratories and prescribers.

2.2.3 At the start of lithium therapy and throughout their treatment patients receive appropriate ongoing verbal and written information and a record book to track lithium blood levels and relevant clinical tests (see section 5.5).

2.2.4 Prescribers and pharmacists check that blood tests are monitored regularly and that it is safe to issue a repeat prescription and / or dispense the prescribed lithium (see section 5.6).

2.2.5 Systems are in place to identify and deal with medicines that might adversely interact with lithium (see section 5.7).

3 Definitions

Acronym	Definition
BNF	British National Formulary
BNF-C	British National Formulary for Children
LMC	Local Medical Committee
LPC	Local Pharmaceutical Committee
NICE	National Institute for Health & Clinical Excellence
NPSA	National Patient Safety Agency
NRLS	National Reporting and Learning Service
LSW	LSW
POMH-UK	Prescribing Observatory for Mental Health (United Kingdom)
SPC	Summary of Product Characteristics
SWDF	South and West Devon Formulary and Referral
UHP	University Hospitals Plymouth

4 Duties & responsibilities

4.1 The **Chief Executive** is ultimately responsible for the content of all policies, implementation and review.

4.2 The **Director of Safety and Quality / Medical Director** are responsible for ensuring an adequate response to all safety alerts including the requirement for policy production and review.

4.3 The **Medicines Governance Group** is responsible for:

- Ensuring the policy is reviewed before the review date, or when there are any changes to the recommendations
- Monitoring incidents and errors arising from the use of depot medication

4.4 **Line managers** are responsible for:

- Ensuring that staff are working to the guidance of the policy
- Including this policy in the induction of new staff
- Following up prescribing/medication errors or incidents

4.5 **Consultant Psychiatrists** (or in CMHT the patient's lead psychiatrist) are responsible for all the points listed under "Secondary Care Doctor" responsibilities in the Western Locality Shared Care Information[7]. Some of these actions may be delegated to other prescribers but the responsibility to ensure they are completed remains with the consultant.

4.6 **Doctors/non-medical prescribers working on inpatient units (including community & rehab) or working under consultant psychiatrists** are responsible for prescribing and monitoring lithium in accordance with the Western Locality Shared Care Information[7]. They are also responsible for ensuring the patient has a monitoring booklet that is up to date.

4.7 **Nurses on inpatient units** are responsible for ensuring that patients receive their lithium as prescribed; to check that the patient has a monitoring booklet and that this is kept up to date; the monitoring booklet is enclosed with the patient's TTAs on discharge; patients are provided with appropriate verbal and written information on lithium; blood tests are performed 12 hours post dose; and that patients are monitored for potential adverse effects[7].

4.8 **LSW Pharmacists on inpatient units** are responsible for clinically screening medication charts and ensuring that the lithium Western Locality Shared Care Information[7] is followed, in particular: the indication and dose are appropriate and the dose is normally given at night; the brand of lithium previously taken by the patient is maintained or the dose is re-titrated; the patient has a lithium

monitoring booklet that is up to date; blood tests and biochemical tests have been performed; and that any potential drug interactions / adverse reactions or toxic effects are brought to the attention of the prescriber with recommendations for corrective action.

4.9 **CMHT care coordinators** are responsible for checking the following for patients on their caseload prescribed lithium: that they have adequate supplies of the preparation of lithium prescribed; that they are taking lithium as prescribed; that they have a patient booklet that has been kept up to date; blood tests and biochemical tests have been performed in line the Western Locality Shared Care Information[7]; and reporting of any suspected adverse effects / toxic effects or non-concordance with treatment to the patient's lead psychiatrist and / or GP.

4.10 **Community / District Nurses** who come into contact with patients prescribed lithium should ensure that patients are concordant with treatment and have a patient booklet that has been kept up to date. Any suspected adverse effects / toxic effects or non-concordance with treatment should be reported to the patient's lead psychiatrist and / or GP.

4.11 **Pharmacists at UHP:** Check that a pharmacist clinical screen has been done at ward level before supplying lithium against in-patient / discharge prescription. If this is not the case proceed as in section 5.6. Do not withhold lithium. If lithium has been stopped on admission check that this is appropriate i.e. due to toxicity (see section 5.6) or other clinical reason. If not then the prescriber should be asked to discuss the decision with the patient's consultant psychiatrist. A LSW pharmacist should be informed.

5 Initiation, prescribing, dispensing and monitoring of Lithium

5.1 Shared Care Guideline

5.1.1 Whilst lithium should be initiated in secondary care, ongoing management can be shared with the patient's GP under a shared care agreement. This is not a compulsory scheme. If a GP is not confident to undertake these roles, then they are under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the psychiatry specialist.

5.1.2 To ensure consistent practice across services, practice should follow the advice set out in the Western Locality Specialised Medicines Service Guidelines (hereafter referred to as shared care guidelines). This includes:

- Monitoring requirements
- Lithium toxicity
- Dosage and administration
- Discontinuation
- Significant drug interactions

- Arrangements for shared care including the responsibilities of the Psychiatrist, GP and patient in addition to the Shared Care Agreement letter.

5.1.3 If transfer of care to local GP is appropriate then the psychiatrist should complete the Shared Care Agreement Letter in the guidelines and send these to the GP.

5.1.4 The Shared Care guideline can be accessed via the South and West Devon Formulary website:
https://devonccg.nhs.uk/documents?wpdmc=shared-care-guidelines

5.2 Initiation of Lithium

5.2.1 Refer to the current BNF and/or SPC for Priadel for current advice on dosing, administration, cautions and contraindication and drug interactions.

5.2.1 Initiation of lithium should be carried in accordance with the shared care guidelines[7]. Initiation is normally the responsibility of the lead psychiatrist. In exceptional circumstances a GP may initiate with specialist advice.

5.2.2 Prior to starting lithium, patients require a baseline assessment including renal function (U&Es, eGFR), calcium, thyroid function, cardiac function (ECG recommended in those with risk factors or existing problems), full blood count and weight or BMI. For female patients of child bearing potential, pregnancy should be excluded and contraception considered as appropriate.

5.2.3 Serum lithium levels should be checked between 4 to 7 days following initiation and the dose adjusted accordingly. Serum levels should be repeated after every dose change and then every week until dosage has remained constant for 4 weeks.

5.2.3 Ongoing monitoring as per NICE guidance / shared care information will be performed initially by secondary care then transferred to primary care after the patient has been stabilised on a suitable dose for a minimum of one month.

5.2.4 Prior to starting lithium, patients should be given full information about the risks and benefits of treatment so that they have the opportunity to make an informed choice. In particular patients need to be informed of the side effects of lithium, signs and symptoms of toxicity and risk factors for toxicity. This can be achieved by verbal reinforcement of the information contained in the Lithium Therapy Information Pack (Purple book) (see section 5.5).

5.2.5 The doctor initiating lithium is responsible for ensuring a Lithium Therapy Information Pack (Purple book) is issued to the patient. The doctor should explain to the patient the importance of carrying the alert card with them at all times, and keeping the monitoring booklet up to date (see section 5.5).

5.2.6 Lithium **should be prescribed by brand name** because of its narrow therapeutic range, toxicity in overdose, and differences in product bioavailability. Only Priadel® preparations are supported by the Devon joint formularies. Priadel® MR 200mg and Priadel® MR 400mg tablets both contain lithium carbonate; Priadel® 520mg/5ml SF liquid contains lithium citrate.

5.2.7 **Different brands/formulations of lithium are not bioequivalent and should not be interchanged**; any change of product should be regarded as initiation of new treatment.

5.3 Monitoring of Lithium

5.3.1 All patients prescribed lithium should be monitored according to NICE clinical guideline no. 185: Bipolar Disorder, assessment and management [4] a summary of which is included in the Shared Care Guideline[7].

5.3.2 Initial monitoring is the responsibility of the psychiatrist however, once the patient has been stabilised on a suitable dose for at least once month a request can be made for the GP to continue ongoing monitoring under a Shared Care Agreement (see 5.1). If the GP declines to accept a patient under a Shared Care Agreement, the psychiatrist must continue to undertake all monitoring.

5.3.3 Patients under a Shared Care Agreement who do not attend for planned blood tests must be followed up by the GP and referred back to the psychiatrist if still non-compliant with their monitoring.

5.3.4 Wherever possible a recent lithium blood level should be available **before** any change in dose or review of treatment is planned. Patients on lithium admitted to an inpatient unit should have their lithium levels checked on admission.

5.3.5 Prior to prescribing or dispensing **every** prescription for lithium, prescribers and pharmacists should check the scheduling of blood tests to reassure themselves that, given the test results, no patient harm will result (see section 5.6).

5.3.6 Guidance on of monitoring of lithium therapy can be obtained from the laboratory; please contact the Duty Biochemist on 01752 517936 (or via switchboard outside routine working hours) or alternatively Pharmacy Services 01752 434723). (ext. 34723)

5.3.8 Compliance with NICE monitoring guidelines will be demonstrated by audit as per audit tool (see appendix 1) and corporate audit plan.

5.4 Communication of test results

5.4.1 The results of initial assessment tests and all monitoring to date must be included with the referral documentation from psychiatrist to primary care doctor at the point of commencing the shared care agreement.

5.4.2 All test results will be recorded in the patient monitoring booklet by the healthcare professional responsible or by the patient if assessed as reliable to do so.

5.4.3 GPs receive test results electronically from Derriford combined laboratories; however results of blood tests should always be included in discharge summaries and letters. For reasons of patient safety we do not advocate verbal transmission of results.

5.4.4 When requesting lithium levels for outpatients secondary care doctors should complete the GP details in the appropriate box on the form so that the results will automatically be sent electronically to the GP.

5.4.5 Effective communication between providers is important to achieve adequate, but not excessive, monitoring.

5.4.6 Compliance with agreed standards for communication of monitoring results will be demonstrated by audit (see appendix 1)

5.5 Patient information and record books

5.5.1 At the start of lithium treatment the doctor will discuss with the patient the benefits and risks of lithium therapy and the need for regular blood tests.

5.5.2 At the start of treatment the patient will be issued with a Lithium Therapy Information Pack (Purple book), consisting of an outer wallet containing an A5 patient information booklet, A6 lithium therapy record book and a lithium alert card. The details required in the first three pages of each booklet and on the alert card should be completed with the patient. A record should be made in the patient notes of the supply of the booklet.

5.5.3 The information booklet should form the basis of the discussion with the patient so that they fully understand the risks and benefits of treatment and the need for close monitoring.

5.5.4 Patients should be instructed to carry the alert card with them at all times and to ensure they have the record book with them whenever they see their psychiatrist or GP, when requesting a prescription or having one dispensed, or when admitted to hospital.

5.5.5 Booklet supplies may be obtained from Derriford Pharmacy Services 34725 (ext.:

01752 434725).

5.5.6 Compliance with agreed standards to confirm that patients have been issued with patient booklets and that the record book has up-to-date records of blood test results and health checks will be demonstrated by audit (see appendix 1). It is recognised that patients on lithium are often unreliable in retention and use of patient booklets.

5.6 Checks at the point of prescribing, dispensing and administration

5.6.1 Prior to prescribing or dispensing **every** prescription for lithium, prescribers and pharmacists should check the scheduling of blood tests to reassure themselves that, given the test results, no patient harm will result.

5.6.2 There should be a process in place to ensure that repeat lithium requests are brought to the attention of the doctor so they can be assured that the necessary monitoring has taken place before signing the prescription. This might be similar to the system in place for warfarin requests.

5.6.3 For clarity, prescriptions should not be issued if **any** of the following apply:

- If the current blood level is above 2mmol/L or above 1.5mmol/L and the patient has symptoms of toxicity (see shared care guideline) - arrange for the patient to be transferred to Accident and Emergency.
- For elderly patients if the current blood level is above 1mmol/L and the patient has symptoms of toxicity - arrange for the patient to be transferred to Accident and Emergency.
- If the current blood level is above the target range and the patient has symptoms of toxicity - refer the patient immediately to their lead psychiatrist or, if the patient is unlikely to be seen promptly, to Accident and Emergency.

5.6.4 If any of the following apply the prescription may be issued but the remedial action indicated must be taken:

- If the current blood level is below the target range or above the target range but the patient has no symptoms of toxicity - inform the lead psychiatrist at the earliest opportunity.
- If the lithium blood level has not been checked within the last three months (or within one week following a dose change) – ensure a repeat blood test is performed without delay and make any dosage adjustment necessary.
- If the patient refuses to cooperate with blood tests – refer to lead psychiatrist.
- If additional routine tests (renal function, thyroid function, weight/BMI, calcium and ECG) are overdue – ensure they are performed without delay.

5.6.5 Pharmacists on inpatient wards when clinically screening prescriptions should ensure that lithium levels have been performed appropriately and are within the range for the patient. They should also ensure that additional routine tests (renal function, thyroid function, weight/BMI, calcium and ECG) have been performed according to schedule and that all results are entered in the patient booklet. Any discrepancies or problems should be brought to the attention of the duty doctor or consultant psychiatrist.

5.6.6 **Pharmacists at UHP:** Check that a pharmacist clinical screen has been completed at ward level before supplying lithium against in-patient / discharge prescriptions. When this does not appear to have taken place on the ward, the pharmacist should make the supply and then telephone LSW Pharmacy Services on 34723 (or 39006 for Glenbourne) to inform us that a supply has been made without the appropriate assurance of monitoring being available. If there is no reply on this number a voicemail message should be left to include: the supplying pharmacist's name; patient's name; NHS / Hospital number; ward; strength, preparation and quantity of lithium supplied; and the date of supply. Lithium should not be withheld unless the pharmacist has reason to believe that the patient has toxic lithium levels (see section 13).If lithium has been stopped on admission check that this is appropriate i.e. due to toxicity (see section 12.3) or other clinical reason. If not then the prescriber should be asked to discuss the decision with the patient's consultant psychiatrist (or if not available contact the Derriford Liaison Psychiatry Team).
A LSW Pharmacist will pick up this message on the next working day and ensure the appropriate checks are made and the supplying pharmacist at UHP is informed.

5.6.7 Nurses should not administer lithium to any patient who is showing signs of toxicity and / or for whom the current blood level is above 1.5mmol/L (or above 1mmol/L in elderly patients). The duty doctor or consultant psychiatrist should be contacted immediately for advice.

5.6.8 Where patients are unwilling to accept and use a record system for personal monitoring, and it is not possible to otherwise perform this check, the patient should be referred back to the psychiatrist for a review of lithium therapy. In this situation shared care may not possible and consideration should be given to whether lithium is still the most appropriate treatment for the patient.

5.6.9 Notwithstanding the above, patients stabilised on lithium should not have their lithium withheld due to insufficient monitoring or lack of information (e.g. patient forgets to bring in record book). Action should instead be taken to ensure that the correct monitoring is achieved as soon as possible.

5.6.10 The audit tool (see appendix 1) will monitor the checking process and identify

where this has not been possible.

5.7 Identification of adverse reactions, toxicity and drug interactions

5.7.1 Please refer to the shared care guidelines[7] for information regarding adverse drug reactions, symptoms of toxicity and potential drug interactions.

5.7.2 Chronic lithium toxicity has been reported to have 9% mortality, whilst acute toxicity has 25% mortality. However, patients with chronic lithium toxicity are more likely to experience severe symptoms at lower serum levels. Concurrent medication, older age and prior neurological illness may increase susceptibility to lithium toxicity.[10]

5.7.3 Many of the interactions involving lithium occur because of altered serum lithium concentrations related to its excretion by the kidney. Therefore drugs that affect renal excretion, e.g. diuretics, or those affecting electrolyte balance, e.g. sodium compounds, are likely to interact. [10] In many cases these interactions can be managed by close monitoring, but where possible alternative drugs that do not interact should be used.

5.7.4 In addition there are several lithium neurotoxicity interactions with centrally active drugs e.g. antipsychotics, antidepressants and carbamazepine. Importantly these can occur when serum lithium concentrations are within the normal range. [10]

5.7.5 If side effects or symptoms of toxicity are suspected the patient should be referred to their lead psychiatrist, or in an emergency situation, e.g. serum levels 2mmol/L or more, to Accident and Emergency.

5.7.6 If a new drug (or change in dosage) is to be prescribed for a patient on lithium, the potential for drug interaction should be checked in the shared care guidelines[7] and the latest version of the BNF[8]. If an interaction is listed then advice on management should be sought from either the psychiatrist, Pharmacy Services (int.: 34723; ext.: 01752 434723) or Medicines Information, Derriford Pharmacy (int. 39976, ext.: 01752 439976).

5.7.7 Community pharmacists and secondary care pharmacists will inform the prescriber (GP or psychiatrist as appropriate) if an interacting drug is prescribed, and advise on management strategies if required.

5.7.8 If an interacting drug is to be used then all involved (patient, psychiatrist, GP, pharmacist and nurse as appropriate) should be informed of the additional monitoring requirements and who to contact should the patient develop symptoms of toxicity or worsening mental state.

5.7.9 Patients should be warned to check with their doctor or pharmacist before taking

any additional medication ‘over the counter’ and to follow the advice in section 6 and 7 of the patient booklet with regard to diet, dehydration and signs of toxicity.

5.7.10 The audit tool (see appendix 1) will monitor communications and subsequent actions where clinically important interactions are identified.

5.8 Additional considerations in elderly or frail patients

5.8.1 Elderly or frail patients can be more susceptible to the effects of lithium due to an increased risk of accumulation (through worsening renal function and increasing volume of distribution), increased sensitivity to adverse effects and increased risk of drug interactions.

5.8.2 This patient group is particularly liable to lithium toxicity and may exhibit adverse reactions at serum levels ordinarily tolerated by younger patients. Some sources recommend using a lower target lithium range, particularly when used for prophylaxis (e.g. 0.4-0.8 mmol/L)[10]

5.8.3 Lithium levels must be checked more frequently (every 3 months) in elderly patients and a greater degree of caution is required when interpreting raised lithium levels with further action recommended at much lower levels (see section 5.6).

5.8.4 When reviewing ongoing prescriptions for lithium, prescribers should consider the potential for worsening renal function which can in turn increase the risk of lithium toxicity. Other considerations include thyroid and cardiac effects which can have more significant consequences in this patient group.

5.8.5 When treating frail patients (of all ages), the potential for electrolyte disturbances and/or dehydration should always be considered as this will increase the risk of lithium toxicity. Close monitoring of U&Es and eGFR alongside additional serum lithium levels may be required. Effects can also be worsened by concomitant use of drugs that affect renal excretion, e.g. diuretics, or those affecting electrolyte balance, e.g. sodium compounds which may need to be temporarily withheld.

6 Training implications

6.1 Training on the actions within this policy will be included in the following programme:

- Mental Health Junior Doctor induction training – Pharmacy sessions now include lithium prescribing & monitoring.

6.2 Clinical supervision of new or less experienced staff in these procedures by

senior staff will occur as part of the routine clinical supervision in operation. The nurse in charge of each ward or unit is responsible for ensuring this occurs in respect of the specific circumstances of their ward or unit.

7 Monitoring compliance

7.1 A baseline audit of lithium monitoring was performed in one locality of Plymouth in 2006-7 then repeated in 2008-9 and 2014 (see appendix 1). This showed improved lithium blood level monitoring over this period but reduced monitoring of thyroid and renal function.

7.2 An audit tool has been developed (appendix 1) that includes aspects of each of the five action points required by the NPSA alert.

All policies/protocols are required to be signed/electronically signed by the Lead Director. Proof of the electronic signature is stored in the policies database.

The Lead Director approves this document and any attached appendices. For operational policies this will be the Head of Service.

The Executive signature is subject to the understanding that the policy owner has followed the organisation process for policy Ratification.

Organisational Approval		
Board Approval	**Title**	Clinical Director General Medicine
	Organisation	Livewell Southwest
	Name	
	Signature	
	Date	

Appendix A: Audit Tool

NPSA Patient Safety Alert 2009/PSA005; Safer Lithium Therapy Audit Tool: For period …….. to ……

First 2 letters of Surname……. Initial of first name…… Hospital Number…….. DoB……

1. Monitoring has been performed in accordance with NICE CG 185:	Yes	No	N/A	Comments:
1.1 Initial plasma level within 7 days of starting treatment and each dose change				
1.2 Plasma lithium level every 3 months for 1st year then 6 monthly except at risk groups to continue 3 monthly (see guideline)				
1.3 Additional plasma lithium level if interacting drug added or stopped				
1.4 U&E/Renal function at initiation then every 6 months				
1.5 TFT at initiation then every 6 months				
1.6 Weight and Height at the start of treatment then if patient gains weight rapidly				
1.7 ECG prior to initiation if CVD or risk factors present				
2. Timeliness of communication of test results	No. days:			Comments:
2.1 Time lapse between lithium plasma level request and result issued	Yes	No	N/A	
2.2 Test results communicated between secondary and primary care				
2.3 Time lapse between test results received in secondary care and communicated to primary care	No. Days:			
3. Patient Information/Booklets	Yes	No	N/A	Comments:
3.1 Patient has been issued with a lithium booklet				

3.2 Patient details / treatment pages completed				
3.2 Patient's lithium booklet is up-to-date with test results				
. Blood tests are checked before prescribing/dispensing lithium	Yes	No	N/A	Comments:
4.1 There is evidence that blood tests have been checked before prescribing				
4.2 There is evidence that blood tests have been checked before dispensing (in Secondary Care)				
4.3 There is evidence that appropriate action has been taken when serum levels are found to be out of range.				

5. Interacting Medicines	Yes	No	N/A	Comments:
5.1 Significant potential interactions have been communicated to prescriber				
5.2 Correct action taken and documented				
5.3 Changes to monitoring frequency or blood level range communicated to patient, GP, pharmacist and nurse as appropriate				

Completed by:…… Date…….