

Lithium Policy
September 2013

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Signature		
Chief Executive	 Date	

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# **Lithium Policy & Clinical Guidelines**

#### 1.0 Background

Lithium is a naturally occurring element which has been used for more than 50 years in the treatment of psychiatric illness. In recent times lithium has been used almost exclusively for the treatment of bipolar affective disorder and as adjunctive treatment of psychoses or treatment of refractory depression. The mechanism of action of lithium is not wholly understood but the efficacy of lithium is well established, reducing attempted and suicide rates by 80% in those with bipolar disorder.

In December 2009 the National Patient Safety Agency (NPSA) issued a Patient Safety Alert<sup>1</sup>concerning the use of lithium. The NPSA responded to concerns that patients came to harm if there were failures in:

- a. Dose adjustments in response to lithium level test results.
- b. Patient counselling regarding known side effects or symptoms of toxicity.
- c. Management of lithium when interacting medicines were co-prescribed.
- d. Monitoring for potential long-term adverse effects of lithium.

These guidelines have been developed as part of the response to the NPSA Patient Safety Alert. The guidelines describe the minimum standards to which adherence is expected when dealing with patients who take lithium for any indication and requires that blood test results are available at the point when clinical decisions are made. In May 2012, standardised regional guidance was introduced throughout Northern Ireland for the initiation and monitoring of lithium therapy. This guidance also aimed to formalise arrangements for lithium monitoring between community mental health teams and Primary Care.

This protocol has been developed in support of the:

- National Patient Safety Rapid Response Report: NPSA/2009/PSA005, "Safer lithium therapy' available at <a href="http://www.npsa.nhs.uk">http://www.npsa.nhs.uk</a> and in line with current
- NICE Guidance: NICE Clinical Guideline 38 Bipolar Disorder; July 2006; NICE Clinical Guideline 23 – Depression amended April 2007<sup>2</sup>.

#### 2.0 Equality and Human Rights screening

This policy has been screened under the equality legislation (Section 75 of the Northern Ireland Act 1998), targeting social need initiative, disability discrimination and the human rights act 1998. No significant equality implications have been identified. Assessment attached.

#### 3.0 Scope of the Policy

This protocol applies to all healthcare professionals that are involved in the prescribing, administering and/or supply of lithium for use in adults. This protocol does not apply to the use of lithium in children.

#### 4.0 Clinical management of patient's who take lithium

#### 4.1 Before starting Lithium

Lithium is classified as an 'amber' list medication. This means that treatment is initiated by a specialist (usually in secondary care), and responsibility for monitoring remains with the specialist until the patient is stabilised on the optimum dose.

Before starting a patient on lithium the following baseline tests are mandatory:

- a. Urea & Electrolytes (U&Es) including eGFR, to check renal function.
- b. Thyroid Function Tests (TFTs).
- c. Body Mass Index (BMI)
- d. Waist Circumference.
- e. Blood pressure

In individuals where cardiac risk factors are present, an electrocardiogram is indicated. In women of child bearing age, pregnancy should be excluded. The patient should be advised to use suitable contraception during treatment.

Before starting a patient on lithium, the patient should receive written and verbal information outlining the following:

- The rationale for use of lithium
- How to take lithium e.g. the dose and frequency
- The need for monitoring of lithium levels
- The potential adverse effects of lithium
- The need for monitoring for possible adverse effects of lithium
- The need to maintain adequate hydration even when unwell WHSCT Lithium Policy – September 2013 Page 5 of 30

- The need to avoid interacting medicines particularly those directly available e.g. overthe-counter non-steroidal anti-inflammatory drugs
- The signs of possible lithium toxicity and how to seek help
- The importance of adherence and high risk of relapse on stopping
- The importance of effective contraception (in women of child-bearing potential)
- To avoid significant changes in diet that affect salt intake.

A dedicated Lithium pack (the "Purple Pack"), containing an information booklet, a dose record booklet and an alert card is available and should be provided to all patients taking Lithium. The doctor initiating lithium is responsible for issuing the patient with this pack, which is held by the patient. The doctor should explain to the patient the importance of carrying the alert card and monitoring booklet with them at all times, and keeping these documents up to date.

## 4.2 On-going monitoring

All patients taking lithium should continue to be monitored to ensure safe use. The specific monitoring requirements for lithium are summarised in:

- Appendix 3 Shared Care Guidance
- Appendix 4 Initiation and Monitoring Care Pathway.

Monitoring in the community is either:

- entirely within in the Recovery Team (Pathway 1),
- shared with Primary Care (Pathway 2) or
- entirely within Primary Care (Pathway 3).

#### 4.3 Communication with Primary Care

The results of initial assessment tests and all monitoring will be included with the referral documentation from consultant psychiatrist to primary care prescriber at the point of commencing the shared care agreement. In addition, any changes to patient's lithium treatment, or the commencement of interacting medication, should be communicated to the patients GP. This can be done on the appropriate proforma as per the care pathway (Appendix 2). Written results should be sent to the relevant GP within 2 weeks of blood testing.

#### 5.0 Responsibility / Roles of professional teams

#### 5.1 General Practitioners

All patients in the Western Trust on Lithium should be on the local Lithium register at both their GP practice and Community Mental Health Team. For those patients on Pathway 2, the G.P. should ensure that tests required under the shared care guidance are carried out and the results acted on appropriately and communicated to the consultant psychiatrist.

Patients should be reviewed regularly by their GP including, as a minimum:

- a. An annual physical health check to include recording of body mass index and blood pressure
- b. Monitoring on Pathway 1,2 or 3 as agreed with secondary care (Appendix 2)
- c. Consideration of possible interactions when issuing new prescriptions.

The GP should satisfy themselves that appropriate monitoring is being conducted and may opt to manage the blood monitoring as per Pathway 2.

#### **5.2 Community Pharmacy**

Community Pharmacists dealing with a prescription for lithium should satisfy themselves that it is safe to issue the medication before they do so. Where a potential interaction between lithium and a newly prescribed item is identified this should be discussed with the prescriber as a matter of urgency. Any medication should only be withheld from the patient where there is a clear and defined risk of patient harm. The Pharmacist should ask the patient if they are attending for regular blood testing and prompt the patient to do this if it is apparent that this is not in place.

#### **5.3 Hospital Pharmacy**

Hospital Pharmacists dealing with a prescription for lithium should satisfy themselves that it is safe to issue the medication before they do so. Where a potential interaction between lithium and a newly prescribed item is identified this should be discussed with the prescriber as a matter of urgency. This is of particular importance when a patient taking lithium is being managed in a non-specialist area e.g. a medical or surgical ward.

#### 6.0 Prescribing Lithium

For all patients taking lithium who are admitted to the Trust, lithium levels should be reviewed upon admission to ensure it is safe to continue therapy. If the patient has had a recorded lithium result within the target therapeutic range (0.4-1.0mmol/l) within the last three months, lithium levels do not need to be measured on admission unless:

- the dose has been changed
- renal function has deteriorated
- toxicity is suspected
- an interacting medication has been commenced
- poor concordance with medication is suspected.

All patients taking lithium should carry a record book which details dose and brand of lithium the patient takes, and results of blood tests (lithium level should be routinely done every 3 months, renal function and thyroid function should be done every 6 months). Ask to see this booklet when a patient is admitted.

Lithium levels should routinely be taken 12 hours post dose. Most patients take lithium in the evening, therefore samples should usually be taken in the morning (if a patient takes lithium at 22.00, levels can be checked at 10.00 the following morning).

Prescribe using brand name as well as generic name. Patients should be maintained on the same brand and dose of lithium (unless toxicity is suspected or proven) i.e. Lithium carbonate tablets (Priadel) 400mg nocte. If a brand or preparation of lithium is swapped, for example switching from tablets to liquid for a patient with swallowing difficulties, then weekly lithium levels should be recorded, similar to lithium initiation guidance.

Inform the patient of any changes in their lithium treatment and provide appropriate written and verbal information.

#### 7.0 Medicines that interact with lithium

Most cases of lithium intoxication occur as a complication of long-term therapy and are caused by reduced excretion of the drug due to a variety of factors including dehydration, deterioration of renal function, infection, and co-administration of interacting medication.

Diuretic medications, especially the thiazides (e.g. bendroflumethiazide), ACE inhibitors and angiotensin II inhibitors can significantly increase levels. If no alternative is available and an interacting medication is necessary then lithium levels and renal function should be monitored carefully (e.g. weekly until stabilised). Inform the patient of the interaction and the requirement for increased monitoring.

Non-steroidal anti-inflammatory drugs (NSAIDs) can increase lithium levels and risk of toxicity therefore should be avoided if possible. Patients should be advised to avoid over-the-counter NSAIDs and aspirin. Paracetamol can be recommended if simple analgesia is required. For a full list of interactions, refer to appendix 1 of the BNF or contact a pharmacist for advice.

#### 8.0 Pregnancy and Lactation

Due to the risk of teratogenicity the BNF recommends avoiding lithium in the first trimester of pregnancy. Dose requirements may be raised in the 2<sup>nd</sup> and 3<sup>rd</sup> trimester, returning to normal following delivery. There is some risk of toxicity in the neonate. In all cases discussion with consultant psychiatrist is advised to carry out a careful risk-benefit analysis of ongoing lithium therapy. Lithium is excreted in breast milk and should therefore be avoided.

# 9.0 Lithium toxicity and dehydration

The usual therapeutic range for lithium in adults is 0.4 – 1.0mmol/L (0.4-0.8mmol/L in older people). Symptoms of toxicity usually occur when the blood lithium concentration is greater than 1.5mmol/L and can include:

- Severe nausea, vomiting or diarrhoea
- Coarse tremor
- Myoclonus (unexplained involuntary jerks)
- Blurred vision
- Drowsiness
- Confusion
- Convulsions
- Renal failure
- Arrhythmias

If any of the symptoms of toxicity occur then plasma lithium levels should be checked and the patient re-hydrated with an increased sodium intake if necessary. Levels of 2mmol/L or more require urgent treatment, as detailed in the Emergency Treatment of Poisoning in the BNF. In the Western Trust, lithium levels of >1.0mmol/L will be urgently communicated to the referrer from the biochemistry laboratory.

## 10.0 Monitoring

#### 10.1 Renal function

Long term treatment with Lithium may result in impaired renal function, as a result of permanent changes in kidney histology and both reversible and irreversible kidney damage. Advice from renal physicians should be sought, and dose reduction should be considered.

#### **10.2 Thyroid Function**

With long term therapy, hypothyroidism is common and may return to normal on discontinuation of lithium. However, as hypothyroidism is straightforward to treat, it may be recommended to commence levothyroxine replacement therapy alongside lithium.

## 11.0 Lithium and Surgery

Lithium should be discontinued 24 hours prior to major surgery. Lithium need not be discontinued prior to minor surgery. However, careful monitoring of fluids and electrolytes is needed (see below). When considering whether surgery is major or minor take into account duration of anaesthesia, co-morbidities and anticipated fluid loss.

There is no evidence of significant interaction between lithium and anaesthetic agents, although lithium may prolong the action of muscle relaxants.

Lithium treatment can cause polyuria in some patients. If fluid intake is restricted this can lead to dehydration which reduces lithium clearance and increases the risk of toxicity. Patients who have lithium-induced polyuria should be given parenteral fluids the night before their operation, thus preventing dehydration and lithium toxicity.

Lithium should be recommenced post-operatively as soon as kidney function and fluidelectrolyte balances have normalised. The patient should usually be eating and drinking again normally at this point. It is possible to restart at the patient's usual dose if lithium has only been omitted for less than 5 days. The lithium level should be checked 5 – 7 days after restarting.

#### 12.0 Patient information and record books

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 Consultant or GP, when requesting a prescription or having one dispensed, or when admitted to hospital.

Any patient who is prescribed lithium but who does not have the information leaflet, record book or alert card should be issued one as soon as possible. Supplies of these materials can be obtained from the lithium clinic or BSO.

#### **REFERENCES**

- 1. NPSA (2009). Safer Lithium Therapy. NPSA/2009/PSA005. Available from <a href="http://www.nrls.npsa.nhs.uk/alerts">http://www.nrls.npsa.nhs.uk/alerts</a>.
- 2. National Institute for Health & Clinical Excellence (2006). The management of bipolar disorder in adults, children and adolescents, in primary and secondary care. CG38. Available from <a href="http://guidance.nice.org.uk/CG38">http://guidance.nice.org.uk/CG38</a>.
- 3. BMJ Group and Pharmaceutical Press. British National Formulary (BNF) always refer to the most current issue or access online at <a href="http://bnf.org/bnf/">http://bnf.org/bnf/</a>
- 4. Informa Healthcare (2012) Taylor, Paton & Kapur. *The South London and Maudesley NHS Foundation Trust Prescribing Guidelines*, 11<sup>th</sup> Edition. London 2012.

#### APPENDIX 1 - HSC Pathway 1,2,3



# LITHIUM CARE FLOWCHART

Lithium Initiation Preferably in Secondary Care.
Psycho-education included

Patients added to Lithium Register in both Secondary Care and Primary Care Lithium Blood Results Copied to Primary Care



#### Pathway 1

Patient remains in Secondary Care for review and monitoring. Lithium blood monitoring results copied to Primary Care.\*

# Pathway 2

Patient remains in Secondary Care for review but, with agreement between GP and Secondary Care, monitoring passes to Primary Care. Lithium blood monitoring results copied to Secondary Care.\*

# Pathway 3

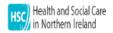
If patient stable or strong patient preference, with agreement between GP and Secondary Care, review and monitoring passes to Primary Care. Lithium blood monitoring results not copied to Secondary Care.\*

The regional lithium SCG requires blood monitoring results to be "copied to" the patient's GP/ consultant. This should continue to occur. This proforma aims to provide additional assurance that the required monitoring results are received by the patient's GP/consultant.

**HSCB Lithium Implementation Group April 13** 

<sup>\*</sup>A communication proforma from secondary care to primary care will advise of the pathway the patient will follow and responsibilities for review and monitoring. Primary and secondary care Lithium registers should be updated using this information.

#### **APPENDIX 2 – On-going Communication Proforma**



# **Ongoing Lithium Monitoring**

#### **Communication Proforma**

The Trust or GP practice responsible for a patient's ongoing lithium monitoring must use this proforma to

From Consultant to GP – for patien     From GP to Consultant - for patien		
To (name of GP/Consultant):		
Address (GP Practice/Trust site)		
		// H&C number
Address:		attended for lithium
monitoring* on (date)	at	(Name of GP Practice/Trust site)
Medical Lead**	Tele No:	Cipher No/Lab Code
This patient is following Pathway	<b>,</b>	(One/Two)

<sup>\*</sup> As per Regional Lithium Shared Care Guideline
\*\*Name of GP/Consultant responsible for the patient's monitoring, their contact details and their GP cipher no or consultant lab code

Monitoring	Results	Comments	Monitoring	Comments
Serum Lithium 0.4 – 1.0 mmol/l (elderly 0.4 – 0.8)			Side-effects? Eg observed /reported	
FreeT4 12 – 22 pmol/l				
TSH 0.3 – 4.2mU/l			Mood changes? Eg observed	
eGFR			/reported	
Urea 2.5 -7.8 mmol/L				
Creatinine Females: 45-84 umol/L Males: 59-104 umol/L			LMP/Contraception?	
BMI				
If monitoring above is	not carried out, a valid of documented eg not due			

A copy of the blood results may be attached to this proforma (rather than inserting manually).

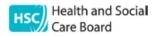
Please note: If lithium levels are abnormal or toxicity is suspected, medical staff must inform the patient's GP/consultant immediately (by telephone), in addition to sending this proforma.

The above lithium monitoring results have been reviewed:							
by:	(name of GP/ Consultant*)	on	(date)				
Action taken (if no action, please st	ate):						
Treatment plan:							
Additional comments:							
Signed (GP/ Consultant*) *Name and role of staff must be specified in		<b>3</b>					

The regional lithium SCG requires blood monitoring results to be "copied to" the patient's GP/ consultant. This should continue to occur. This proforma aims to provide additional assurance that the required monitoring results are received by the patient's GP/consultant.

**HS**CB Lithium Implementation Group April 13

#### **APPENDIX 3 - Shared Care Guideline**





# Lithium

#### Mental Health Shared Care Guideline

Using a printed guideline? Always check you are using the most up to date version. See www.ionsm.hscni.net

	Consultant Details	Patient Identifier						
	Name:	1						
	Location:							
	Tel:	Date:						
Introduction	Indications: Lithium is widely used in primary and secondary care for the following:							
	Prophylaxis and treatment of mania     Prophylaxis of bipolar disorder							
	Prophylaxis of recurrent depression where treatment with other antidepressants has failed     Augmentation of antidepressant therapy (unlicensed use).							
		prescribed by brand and pharmaceutical formulation (not	_					
Dosage & Administration	generically). Patients should be maintained on the same bra	and and presentation to ensure stable lithium levels. Change in						
	brand or presentation requires the same precautions as initi brand, stating the dose as the amount of lithium citrate to av							
	Lithium carbonate is currently available as:  • Camcolit® 250mg immediate release tablets and 400mg	modified release tablets						
	<ul> <li>Liskonum<sup>®</sup> 450mg modified release tablets</li> </ul>	induica recese assets						
	Priadel® 200mg and 400mg modified release tablets Lithium Citrate is currently available as:							
	Priadel® liquid 520mg/5ml	(One)(Earl should not be prescribed)						
	<ul> <li>Li-Liquid<sup>®</sup> 509mg/5ml (To avoid overdose, Li-Liquid 101 Particular care should be given to ensuring the correct dose</li> </ul>	and frequency of administration of lithium when prescribing or						
	administering lithium.		_					
Monitoring	Regular monitoring of serum levels is mandatory due to lithi 0.4 – 1.0 mmol/litre (elderly 0.4 – 0.8mmol/litre).	um's narrow therapeutic index. The normal therapeutic range is						
	Blood samples must be taken 12 hours after the previous time of the last dose must be noted on the lab request for	ous dose. The time of the sample, total daily dose and the						
	·	after changes of preparation						
	<ul> <li>in elderly patients</li> <li>if there is evidence of declining renal function.</li> <li>after changes in other medication which may affect lithium level (see interactions)</li> </ul>							
	(Take samples at least 5 days after changes in dose or changes to treatment affecting lithium levels.)							
		before sampling for the first lithium level. A target serum lithium						
	recommends serum lithium levels at weekly intervals until th	by the prescriber, if necessary, to achieve this target. The BNF le dose has remained unchanged for 4 weeks.						
	Long Term Monitoring Requirements (For patients with n • Every 3 months: serum lithium levels	o risk factors, no serious side effects and a stable mental state)						
	<ul> <li>Every 6 months: fT4, TSH and U&amp;E / eGFR</li> </ul>							
	Every 12 months: check weight & height (BMI)     Assess side effects at every visit. Consider referral to specialist renal or endocrinology services if appropriate.							
Mental Health	A Register of lithium patients should be maintained and	should clearly state who is responsible for routine review,						
Specialist Responsibilities	<ul> <li>monitoring and for acting on abnormal results</li> <li>Where the specialist is responsible for monitoring, they was a special strength</li> </ul>	will be responsible for acting on test results and informing the						
	<ul> <li>patient's GP immediately of abnormal Lithium levels toge</li> <li>Confirm the diagnosis and assess risk factors</li> </ul>	ether with action taken						
	<ul> <li>Pre-treatment tests – U&amp;E, eGFR, free T4, TSH, weight</li> </ul>							
	<ul> <li>Educate patient and/or carer. Provide "Lithium Therapy- monitoring record book with result of regular tests</li> </ul>	Important Information for Patients" pack and update patient						
	<ul> <li>Advise GP how to initiate treatment</li> <li>If GP agrees, responsibility for monitoring may pass to G</li> </ul>	3P - complete pathway referral proforma						
	<ul> <li>Communicate test results to GP (request "copy to" on la</li> </ul>	b form - state GP name and cipher code)						
	<ul> <li>Review patient at agreed regular intervals (as determine</li> <li>Advise GP on how and when to discontinue treatment.</li> </ul>	d by mental health specialist)						
Primary Care	A Register of lithium patients should be maintained and	should clearly state who is responsible for routine review,						
Responsibilities (continued overleaf)	-	patient with repeat prescriptions - specifying strength, brand						
	<ul> <li>and presentation</li> <li>Monitor mental state and refer to mental health specialis</li> </ul>	t for advice if treatment is ineffective						
	Check for side effects, altered risk factors and signs of li							

#### Primary Care Responsibilities (continued)

- Dose Adjustment where the GP is clear that this is necessary, any change must be communicated in writing to the mental health specialist - if in doubt, seek specialist's advice
- Temporarily reduce dose or discontinue lithium in serious diarrhoea, vomiting or intercurrent infection (especially if sweating profusely) - if in doubt, seek specialist's advice
- Review concomitant medication for possible interaction with lithium
- When responsibility for monitoring is transferred from mental health specialist, primary care will be responsible for monitoring and acting on: lithium levels, renal function, free T4, TSH, weight and height according to guidelines above and informing the specialist immediately of abnormal Lithium levels and action taken
- Inform the specialist immediately of any change in medication which could cause a potential interaction with lithium.
- Communicate relevant test results (request "copy to" on lab form specifying consultant's name and hospital) and action taken to mental health specialist including information on interacting medication
- Update patient monitoring record book with result of regular tests.

#### Precautions and Contraindications

The most common side effects of lithium include: GI disturbances (e.g. nausea, diarrhoea, dry mouth); fine tremor, thirst, polyuria; polydipsia; weight gain; oedema. These may be short term and can often be prevented or relieved by a moderate reduction in dose. Refer to the SPC for a full list of adverse effects.

#### Toxicity

It is vital to be alert for signs of lithium toxicity, which can be fatal. These include: blurred vision, muscle weakness, drowsiness, coarse tremor, slurred speech, ataxia, confusion, convulsions, nausea, vomiting and ECG changes. Toxicity can be associated with serum levels over 1.5mmol/litre but can occur without a rise in serum level. It is important to "treat the patient not the level".

A number of factors may increase the risk of lithium toxicity including: Drug interactions (see below); renal disease; concomitant diarrhoea or vomiting (dehydration); sodium depletion.

#### If toxicity is suspected:

- Stop lithium immediately
- Check lithium levels, serum creatinine, U&Es
- Refer to hospital / A&E if clinical condition warrants
- Seek advice from psychiatrist for re-initiation of lithium

#### Precautions

Abrupt cessation of lithium is strongly associated with manic relapse. For planned cessation of therapy, lithium should be withdrawn over two to four weeks.

Lithium should be stopped 24 hours prior to surgery and restarted as soon as renal function and fluid balance return to normal. Ensure specialist is informed of any such changes.

In order to maintain a stable electrolyte balance, diet and fluid intake should remain normal. This is especially important in hot weather or work environment. Avoid major dietary changes

#### Contraindications

Relative and absolute contraindications include: Pregnancy, breast-feeding, severe renal impairment, serious cardiac disease (e.g. cardiac failure, sick sinus syndrome), conditions with sodium imbalance such as Addison's disease.

#### Common Drug Interactions

#### Avoiding Drug Interactions

Patients should be advised to check with their doctor or pharmacist that any new medicine (in particular those to treat pain) that is prescribed by a doctor or bought in a pharmacy or other shop, is safe to take with lithium.

Effect of Interaction	Drug Group	Interacting drug	NPSA alert advises particular care
	antibiotics	metronidazole, tetracyclines, co-trimoxazole	
Increase in	NSAIDs	e.g. ibuprofen, diclofenac	!
Lithium Levels	ACE Inhibitors	All ACE inhibitors and angiotensin II antagonists	!
	diuretics	thiazide, loop and potassium sparing diuretics	!
	xanthines	aminophylline, theophylline, caffeine	
Decrease in Lithium Levels	sodium Salts	e.g. antacids containing sodium bicarbonate, urinary alkalinising agents	!
	diuretics	acetazolamide	
	antiepileptics	carbamazepine, phenytoin	
Other	methyldopa		
(No change in	calcium channel blockers	diltiazem, verapamil	
serum levels)	antidepressants	SSRIs and tricyclics	
	antipsychotics	e.g. clozapine, haloperidol, phenothiazines, sulpiride	

Many of these combinations can be used safely in clinical practice but additional monitoring may be needed especially on initiation, discontinuation or dose change. GPs should liaise with the mental health specialist for further advice

Communication For any queries relating to this patient's treatment with lithium, please contact the consultant named at the top of this document.

This information is not inclusive of all prescribing information and potential adverse effects.

Please refer to full prescribing data in the SPC or the BNF

The NPSA Alert on the Safer Use of Lithium can be found at: <a href="http://www.nrls.npsa.nhs.uk/alert">http://www.nrls.npsa.nhs.uk/alert</a>

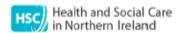
The Northern Ireland Lithium Pathway and Referral Proforma can be found at:

Date Prepared: June 2011 Date of review: June 2014

http://www.hscboard.hscni.net/medicinesmanag

#### **APPENDIX 4 – Lithium Initiation and Monitoring Care Pathway**

Prescriber = Blue Nursing Staff = Green



Write in CAPITAL LETTERS or use	addressograph
Surname:	
First Names:	
Hospital No:	ct-har
DOB:	check identity

# Northern Ireland Secondary Care Lithium Initiation and Monitoring Care Pathway

(Colour version - WHSCT May 2012)

#### Content:

- Contact details patient, GP, consultant, CPN
- Initial consultation monitoring checklist
- Patient information checklist
- Lithium brand and dose prescribed
- · Lithium monitoring requirements and record
- Side effect record
- Operational flow chart for secondary care initiation / monitoring
- Care Pathway signature sheet
- Variance recording sheet
- Primary Care communication proforma
- Appendix 1 HSC Lithium Care Flow Chart

WHSCT working group met on the 25<sup>th</sup> April 2012 and the following changes agreed:

- Change 'medical staff' to 'prescriber' as there are independent prescribers.
- Replace one of the side effects pages with an additional monitoring page.

HSC NI Secondary Care Initiation and Monitoring Lithium Care Pathway (Based on SEHSCT Pathway)
Version 1.0 December 2011

Date of Review: December 2012

LITHIUM CHART							
Consultant:				Use addressograph or write in CAPITAL LETTERS			
G.P – Name, Phone Number Cypher No.  C.P.N – Name & Contact Number:				Surname:  First names:  Hospital Number:  DOB:  Check Identity			
Person to	contact in Emergen			•		nt Telephone No.	
				TIAL CONSULTATI	ON		
	nvestigation		nents/Re	sults		Signature	
() V E E T T E U	Physical examination when appropriate). Weight Height BMI BP FFT F4 FSH Electrolyte profile Jrea & Creatinine EGFR ECG (if indicated) FBP (if indicated) The WCC Other – specify						
	INFORMA	TION GIV	EN TO E	ATIENTS OR CARI	ERS		
Information GIV			Date	Provided by (Signature)	Pa	tients / Carers gnature)	
NPSA Information leaflet, alert card & Monitoring Record Book							
Patient understands information							
Video (op							
Emergency contact –name and							
	umber of Dr. & Clinic						
				TAULO			
Likkins	LITHIUM DETAILS  Lithium Prescribed and Desage Prescriber Sign & Brint Date Commenced						

Review Current medication for potential interaction 

- refer to Shared Care Guidelines

	LITHIUM MONITORING – to be completed on Weeks 1 & 2 after Initial Consultation							
Week	Lithium Level taken	Date/Time Signature	Lithium Result	Side effects & Mood Check	Any further Questions	Management	Date/Time Signature	Results entered in Lithium book Y/N
1	Yes/No				Yes/No	Consultant informed of result Yes/No If dose altered by consultant Yes/No/NA Dosage (prescriber only) If necessary Patient to return on Wk 2   OR return to next routine Lithium Clinic  (√ as appropriate)		
2	Yes/No				Yes/No	Consultant informed of result Yes/No If dose altered by consultant Yes/No/NA Dosage (prescriber only) Request Patient to return to next routine Lithium Clinic □ (√ as appropriate)		

Lithium Monitoring Requirements								
Months 1 - 3 Lithium levels at least 6 weekly								
Month 3 onwards	Ionth 3 onwards Lithium levels – TFT - 6 monthly Renal Function If U&Es abnormal consult							
	3 monthly (If TSH raised check every 4-6 weeks) 6 monthly with medical staff							
If Lithium dose changed	If Lithium dose changed Monitor lithium weekly until stable							
NB: Cop	y all lithium monito	oring results to the GP, during initiation	and throughout tre	atment				

	Lithium Monitoring Record													
Date & A=Attend	Daily Dosage	Side Effects/	New Drug Commenced							Prescriber Signature	Nurse Signature	Enter in Li book		
D=DNA C=CNA		Comments		SL 0.4-1 mmol/I	0.4-1   12 - 22   0.3 - 4.2   e   6 mth   6mth   Specify   Specify								Y/N	

	Lithium Monitoring Requirements									
Months 1 - 3	Months 1 - 3 Lithium levels at least 6 weekly									
Month 3 onwards Lithium levels – TFT - 6 monthly Renal Function If U&Es abnormal consult										
	3 monthly	(If TSH raised check every 4-6 weeks)	6 monthly	with medical staff						
If Lithium dose changed	If Lithium dose changed Monitor lithium weekly until stable									
NB: Copy all lithium monitoring results to the GP, during initiation and throughout treatment										

	Lithium Monitoring Record													
Date & A=Attend	Daily Dosage	Side Effects/	New Drug Commenced		Tests  √ to request Nurse to insert result					Prescriber Signature	Nurses Signature	Enter in Li		
D=DNA C=CNA		Comments		SL 0.4-1 mmol/l	FreeT4 12 - 22 pmol/l	TSH 0.3 – 4.2 mU/l	eGFR	Weight 6 mth	BP 6 mth	Other- Specify	Other - Specify			book Y/N

Lithium Monitoring Requirements									
Months 1 - 3 Lithium levels at least 6 weekly									
Month 3 onwards Lithium levels – TFT - 6 monthly Renal Function If U&Es abnormal consult									
	3 monthly	(If TSH raised check every 4-6 weeks)	6 monthly	with medical staff					
If Lithium dose changed	If Lithium dose changed   Monitor lithium weekly until stable								
NB: Copy all lithium monitoring results to the GP, during initiation and throughout treatment									

	Lithium Monitoring Record													
Date & A=Attend	Daily Dosage	Side Effects/	New Drug Commenced		Tests √ to request Nurse to insert result				Prescriber Signature	Nurses Signature	Enter in Li			
D=DNA C=CNA		Comments		SL 0.4-1 mmol/l	FreeT4 12 - 22 pmol/l	TSH 0.3 – 4.2 mU/l	eGFR	Weight 6 mth	BP 6 mth	Other- Specify	Other - Specify			book Y/N
														$\vdash$

Lithium Monitoring Requirements									
Months 1 - 3 Lithium levels at least 6 weekly									
Month 3 onwards Lithium levels – TFT - 6 monthly Renal Function If U&Es abnormal consult									
	3 monthly	(If TSH raised check every 4-6 weeks)	6 monthly	with medical staff					
If Lithium dose changed	If Lithium dose changed   Monitor lithium weekly until stable								
NB: Copy all lithium monitoring results to the GP, during initiation and throughout treatment									

	Lithium Monitoring Record													
Date & A=Attend	Daily Dosage	Side Effects/	New Drug Commenced		Tests √ to request Nurse to insert result					Prescriber Signature	Nurses Signature	Enter in Li		
D=DNA C=CNA		Comments		SL 0.4-1 mmol/l	FreeT4 12 - 22 pmol/l	TSH 0.3 – 4.2 mU/l	eGFR	Weight 6 mth	BP 6 mth	Other- Specify	Other - Specify			book Y/N
														$\vdash$

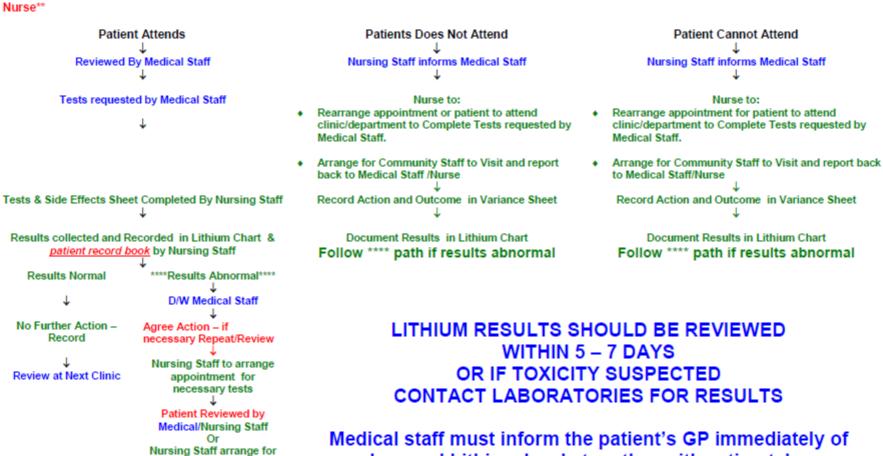
#### Side Effects

	SIDE	EFFECTS	– if yes ir	nsert√an	d comple	te commen	ts colum	n & cons	ult med	ical staff (where appr Comments	opriate).
Date	Weight Gain	Polyuria	Nausea	Oedema	Metallic Taste	Polydipsia	Loose bowels	Fine Tremor	Other	Comments (time medication taken & time blood sample taken)	Signature

#### Operational flowchart for secondary care induction / monitoring

Routine Outpatient appt → Lithium Work Up and Information → Monitoring Week 1 & 2 → Routine Clinic Appointment (Medical Staff / Nurse)

\*\*If any of the 'work up' tests shown are not within the normal range – Medical staff MUST be informed and action documented by Medical Staff and /or



CMHT to visit, report back &record in lithium chart/variance sheet abnormal Lithium levels together with action taken

## CARE PATHWAY SIGNATURE SHEET

All Staff using this Pathway MUST complete the details below.

Name (Block Capitals)	Designation	Full Signature	Initials	Date & Time.

#### VARIANCE RECORDING SHEET

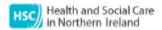
If a patients care does not follow the pathway for ANY reason – e.g. did not attend, cannot attend, results out of range, educational information not available – please record in variance section below.

Date/Time	Reason for Variance	Action Taken	Outcome	Signature and Designation

#### VARIANCE RECORDING SHEET

If a patients care does not follow the pathway for ANY reason – e.g. did not attend, cannot attend, results out of range, educational information not available – please record in variance section below.

Date/Time	Reason for Variance	Action Taken	Outcome	Signature and Designation

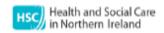


# Lithium Therapy Pathway Communication Proforma

Communication of Information from Consultant Psychiatrist to Primary Care (Must be completed by consultant at <u>Lithium initiation</u>, and <u>when pathway changes</u>.)

Na	lame: H&C number											
Ad	dress:							has been/is				
	•							hospital.				
Co	nsultant's (	Conta	ct telephon	e numb	er:			& Lab Code				
Add	d patient to or	r upda	te Primary Car	e Lithiun	n Regis	ter accor	ding to path					
								Please insert ✓ to indicate pathway patient will follow				
	Pathway 1 Remain in Secondary Care for review and monitoring*											
		Secondary Care is responsible for informing the patient's GP of all blood monitoring results (using 'copy to' GP cipher number on lab request form). The GP should be informed <a href="mailto:immediately">immediately</a> of abnormal lithium levels and action taken.										
	Pathway 2 Remain in Secondary Care for review, AND monitoring passes to Primary Care with GP agreement*.											
	Primary Care is responsible for informing Secondary Care of all blood monitoring results- using 'copy to' Consultant's name (and Lab Code if known) and hospital on lab request form.  Secondary care should be informed immediately of abnormal lithium levels and action taken.											
	Pathway 3	• Li C • If	ew and monitonement.  ithium blood restare in this instate patient is persionsider change refer back to, so	sults will r nce stently no to anothe	not be compon comp	opied to S	Secondary monitoring –					
*Re	fer to Lithium											
	Indication fo treatment											
	Recent bloo results	d	Serum Lithium	freeT4	TSH	eGFR	Creatinine	Other				
	////		Target Lithium	Level								
ı	Lithium											
	Lithium monitoring requirement		As per Shared				Other: (Plea	ase specify)				
	Educational information		Patient has: R Provided with Confirmed the	informatio	on on Li	thium the	rapy 🗆					
	Signed (Consultant)  Date//											

HSC NI Secondary Care Initiation and Monitoring Lithium Care Pathway (Based on SEHSCT Lithium Care Pathway) Version 1.0 December 2011 Date of Review: December 2012



# Lithium Therapy Pathway Communication Proforma

	Cor	nmun	ication	Info	rmation	from	Cons	ultant l	Psyc	hiati	rist to	Primary	Care	
(Mus	t be	comp	oleted b	у со	nsultant	at <u>Li</u>	thium	initiat	ion,	and	when	pathway	change	<u>s</u> .)

Name:						DOB// H&C number						
Address:								has been/is				
att	hospital.											
Со	Consultant's Contact telephone number: & Lab Code											
Add	Add patient to or update Primary Care Lithium Register according to pathway below											
								Please insert ✓ to indicate pathway patient will follow				
	Pathway 1	Rema										
		of all	ndary Care is re blood monitorin per on lab reque ediately of abno									
	Pathway 2		ain in Seconda es to Primary (									
	ruamay 2	Prima of all name form.	ary Care is respondent blood monitorin (and Lab Code									
			ndary care shou rmal lithium leve									
	Pathway 3  Pathway 3  Review and monitoring passes to Primary Care with GP agreement.  Lithium blood results will not be copied to Secondary Care in this instance  If patient is persistently non compliant with monitoring – consider change to another treatment and discuss with, or refer back to, Secondary Care											
*Refer to Lithium SCG												
	Indicatio treat	n for ment										
	Recent b	olood sults	Serum Lithium	freeT4	TSH	eGFR	Creatinine	Other				
	////		Target Lithium	Lovel								
	Lithium		Current Dose									
	Lit monite requirer	hium oring nent:	As per Shared	Care Gu		: (Please specify)						
	Educational   Patient has: Received Lithium book/pack											
	Signed (Con	sultan	t)					Date////				

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Appendix 1:

# LITHIUM CARE FLOWCHART

Lithium Initiation Preferably in Secondary Care.
Psycho-education included

Patients added to Lithium Register in both Secondary Care and Primary Care Lithium Blood Results Copied to Primary Care



# Pathway 1

Patient remains in Secondary Care for review and monitoring. Lithium blood monitoring results copied to Primary Care.\*

# Pathway 2

Patient remains in Secondary Care for review but, with agreement between GP and Secondary Care, monitoring passes to Primary Care. Lithium blood monitoring results copied to Secondary Care.\*

# Pathway 3

If patient stable or strong patient preference, with agreement between GP and Secondary Care, review and monitoring passes to Primary Care. Lithium blood monitoring results not copied to Secondary Care.\*

ersion 1.0 December 2011

Date of Review: December 2012

<sup>\*</sup>A communication proforma from secondary care to primary care will advise of the pathway the patient will follow and responsibilities for review and monitoring. Primary and secondary care Lithium registers should be updated using this information.