To be read in conjunction with the Summary of Product Characteristics (SPC) and the lithium agreement signature sheet.

Lithium Shared Care Agreement

(Priadel®, Camcolit®, Liskonum®, Li-Liquid®)

(TLS Amber)

For the treatment and prophylaxis of mania, bipolar disorder, and recurrent depression; aggressive or self-mutilating behaviour

AREAS OF RESPONSIBILITY FOR THE SHARING OF CARE

This shared care agreement outlines how responsibility for prescribing lithium might be shared between specialist and general practitioner (GP). GPs are invited to participate. If a specialist asks the GP to prescribe this drug, the GP should reply to this request within 3 weeks of receipt. If the GP is not confident to undertake these roles, then he or she is under no obligation to do so and must inform the specialist within 3 weeks. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist.

Sharing of care assumes communication between the specialist, GP and patient. The intention to share care is usually explained to the patient by the doctor initiating treatment. It is important that patients are consulted about treatment and are in agreement with it.

The doctor or non-medical prescriber who prescribes this medication legally assumes clinical responsibility for lithium and the consequences of its use.

ROLES AND RESPONSIBILITIES

General Practitioner (GP) responsibilities
1. Reply to the request for shared care within 3 weeks of receipt of request using the 'GP response to shared care form' sent with the lithium agreement signature sheet.
2. Be fully aware and understand the advice given as per the NPSA lithium alert issued in December 2009 http://www.nrls.npsa.nhs.uk/alerts/?entryid45=65426&p=2
3. Following initiation and first three months of treatment by the specialist team, prescribe lithium at the dose, formulation and brand recommended by the specialist.
4. Undertake monitoring as per monitoring schedule in section 5 of this document. The prescriber signing the prescription is responsible for ensuring that relevant tests and monitoring are complete as per NICE CG185
5. Ensure compatibility of lithium with other concomitant medication. See SPC and section 5 of this document for details of interactions. Inform the specialist team of any changes in the patient's medication that may interact with medicines prescribed by the specialist.
6. Re-enforce the use of the lithium therapy record book; re-issue if required (can be sourced from pharmacy or printed from http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=65431. They can also be ordered from 3M; telephone 0845 610 1112 or email nhsforms@mmm.com)
7. Refer promptly to specialist when any loss of clinical efficacy is suspected (e.g. worsening of disease-related symptoms, new symptoms suggestive of disease recurrence or progression) or intolerance to therapy occurs.
8. Report to and seek advice from the specialist on any aspect of patient care that is of concern to the GP and may affect treatment.
9. Stop treatment/adjust dose on the advice of the specialist. Please note that lithium should not be stopped suddenly (except in cases of toxicity). It should be discontinued over at least 4 weeks. If it is stopped suddenly there is a 50% chance of relapse within 3 months.
10. Review patient as agreed in the care plan and lithium agreement.

11. Monitor patient's overall health and compliance.
12. If patient refuses to engage or have the required blood test monitoring, seek advice from the Primary Care Liaison Service (PCLS) on whether to continue or discontinue lithium.
13. Report adverse events to the specialist and MHRA via the yellow card scheme.
14. Once the patient has been discharged from the specialist mental health services, advice may be sought from the Primary Care Liaison Service (contact details below) on any aspect of patient's mental health that is of concern.
15. Any verbal communication between primary and secondary care should be confirmed in writing.
16. If the GP decides not to prescribe lithium, it should still be added to the patients repeat medication as a "non issued' item for information and safety purposes. **For EMIS**, the quantity should be set to *0 or 1. On the dose line it should read: 'Hospital prescribing only. Do not prescribe'. **For TPP SystmOne**, it is entered using the red question mark icon on the medication screen. Once entered, this appears at the bottom of the repeat template screen in a separate in a separate section (and a different colour); however it does not appear on the repeat prescription screen which may be used by prescription clerks. **For Vision**, enter as a 1:1 repeat; put quantity as 1 tablet, on the dose line it should read: 'Hospital prescribing only. Do not prescribe'.

This process should also be done during the stabilisation period before the GP takes over the prescribing.

AWP Specialist Team Responsibilities

1. Assess patient, establish diagnosis and develop care plan. Ensure care plan contains correct contact details for care co-ordinator/ key worker and consultant psychiatrist; forward a copy of this care plan to the patients' GP.
2. Undertake or arrange a physical health screen and assessment prior to the start of medication, wherever possible.
3. Ensure that arrangements for appropriate blood tests are made and the GP is in agreement with this. Blood tests may be taken in primary care provided reliable systems are in place to ensure blood test results are communicated between the laboratories and prescribers.
4. Secondary care is responsible for the interpretation and monitoring of these blood test results for the first 3 months of treatment. Agree with the GP how the relevant tests are to be communicated between themselves and the patient.
5. Prescribe the first 3 months of lithium treatment, prescribing by brand name and specifying formulation.
6. Be fully aware and understand the advice given as per the NPSA lithium alert issued in December 2009 http://www.nrls.npsa.nhs.uk/alerts/?entryid45=65426&p=2
7. Ensure that the GP has a copy of this document, a signed copy of the 'Lithium agreement signature sheet' including a copy of the 'GP response to shared care' form. The dose, formulation and brand of lithium must be documented.
8. Provide written information on lithium to patient / carer so that an informed decision on taking lithium and consent to treatment can be made. Information on mental health conditions, treatments and medication can be found at: http://www.choiceandmedication.org/awp/
9. Inform patient of symptoms of toxicity and to report immediately any of these to doctor / healthcare professional. Treatment should be discontinued immediately on the first signs of toxicity.
10. Discuss the proposal of lithium agreement with the patient. If possible, obtain consent (verbal is fine) and document in notes. If patient declines then document this too.
11. Complete and record in the care plan that the 'Checklist' in Appendix 4 of the 'Procedure for the prescribing and monitoring of lithium in AWP' has been done. Record in progress notes that baseline monitoring has been done as per NICE guidance CG185 (see section on monitoring)
12. Issue a lithium therapy patient pack (can be sourced from pharmacy or printed from http://www.nrls.npsa.nhs.uk/alerts/?entryid45=65426. They can also be ordered from 3M (telephone 0845 610 1112 or email nhsforms@mmm.com) and ensure it is completed and explained to the patient.
13. Advise the patient to carry the lithium alert card at all times whilst on lithium treatment and to present the record book to healthcare professionals involved in the prescribing / dispensing of

lithium. Document this is done in patient records on RiO.
14. Check lithium level a week after initiation and one week after every dose change until a stable dose is reached.
15. Advise patients to tell community pharmacists that they take lithium before they purchase over the counter medicines
16. Discuss contraception with all women of child bearing potential including any plans they may have for pregnancy (as lithium is a known teratogen).
17. Advise patient to maintain adequate fluid intake and avoid dietary changes which reduce or increase sodium intake, particularly be aware of sweating (e.g. after exercise, hot climates, fever) or if they are immobile for long periods or in the case of the elderly, develop chest infections or pneumonia.
18. Advise patient to report any conditions leading to salt/water depletion e.g. vomiting or diarrhoea.
19. Review results of any baseline tests and relay any abnormal findings to the GP with appropriate advice
20. Monitor for response and adverse drug reactions(ADRs); and report any ADRs to MHRA (via the yellow card report scheme) & GP
21. Communicate promptly with the GP when treatment is changed, advising GP on when to adjust dose, stop treatment or seek specialist advice. Lithium should not be stopped abruptly except in an emergency such as toxicity.
22. Review the patient and treatment at least once a year until the patient is discharged from the mental health service where this is possible.
23. Provide support/ advice as requested by the GP or Primary Care Liaison Service. Ensure that clear backup arrangements exist for GPs to obtain advice and support (see 'Back-up advice and support' for contact details).
24. Inform GP of concurrent therapy (as this may interact with other medication patient gets from GP).
25. Inform GP if any appointments are not attended.
26. Any verbal communication between primary and secondary care should be confirmed in writing

Patient's role

1. Attend all appointments with GP and specialist, including appointments for blood tests and other monitoring.
2. Report to the specialist or GP if he or she does not have a clear understanding of the treatment.
3. Be aware of the risks and symptoms of toxicity associated with lithium treatment.
4. Read the Lithium Therapy Patient Pack, carry the 'Lithium Alert Card' at all times and present it to healthcare professionals involved in the dispensing or prescribing of any medications, including pharmacy staff if buying medicines over the counter.
5. Share any concerns in relation to treatment with lithium including adverse effects or warning symptoms with the GP or specialist team.
6. Inform specialist or GP of any other medication being taken, including over-the-counter products.
7. Maintain adequate fluid intake and avoid dietary changes which may affect salt/water intake. Notify the specialist and GP if any diarrhoea, vomiting, severe dieting or sweating occurs

Primary Care Liaison Service (PCLS) responsibilities

1. Accept referrals by registered GPs in line with Department of Health guidance
2. Advise the GP on appropriate action regarding any issues they may have on patients' management regarding shared care.
3. Try to resolve any issue(s) raised by the GP or to refer to the specialist team as appropriate.
4. Rapid and prioritised specialist mental health assessment with recommendation/s for care and treatment within multiple care pathways.
5. Determine the nature and severity of mental health needs with consequent sign posting and pathway facilitation.
6. Provide rapid and accessible ongoing support & advice to the non-specialist workforce.
7. Advise the GP on appropriate action regarding any issues they may have on patients' management regarding shared care.

Primarily, this 'shared care agreement for lithium' is between the Specialist consultant and the GP, with consent of the patient, but other healthcare professionals e.g. the community pharmacist, have roles in safe lithium therapeutic management:

Community Pharmacist responsibilities
1. Be fully aware and understand the advice given as per the NPSA lithium alert issued in December 2009 http://www.nrls.npsa.nhs.uk/alerts/?entryid45=65426&p=2 2. Pharmacy staff are responsible for taking reasonable steps to ensure that it is safe to dispense lithium to a service user prescribed this drug in accordance with the above NPSA advice 3. When a prescription for lithium is received, the pharmacist must ask the patient to see their lithium therapy record book and check that a lithium level has been done in the last three months and it is within the therapeutic range. This must be done prior to dispensing 4. Counsel patient on safe use of lithium, to include potential signs of toxicity and side effects and the need to maintain a consistent fluid intake 5. The NPSA alert states that as a principle, therapy should not be withheld, in the absence of lithium levels if the service user is fit and well.

BACK-UP ADVICE AND SUPPORT

Contact details	**Telephone No.**	**Email address:**
Specialist Consultant		
AWP Formulary Pharmacist		Awp.FormularyPharmacy@nhs.net
Care Coordinator		
PCLS – Swindon (8am – 8pm then intensive service)	01793 835787 Fax: 01793 36817	
PCLS – North Wiltshire (Green Lane Hospital) (8am – 8pm then intensive service)	01380 7311341 Fax: 01380 31295	
PCLS – South Wiltshire (Fountain Way) 8am- 8pm then intensive service)	01722 820372 Fax: 01722 20376	
PCLS – B&NES (8am – 8pm then intensive service)	01225 371480 Fax: 01225 62799	
PCLS – South Gloucestershire (8am – 8pm then intensive service)	01173 787960 Fax: 0117 787941	
PCLS – Bristol (8am – 8pm then intensive service)	0117 9195670 Fax: 0117 195625	
PCLS – North Somerset (8am – 8pm then intensive service)	01934 836406 Fax: 01934836405	

SUPPORTING INFORMATION

1. Indications

- Treatment and prophylaxis of mania
- Treatment and prophylaxis of bipolar disorder
- Treatment and prophylaxis of recurrent depression
- Control of aggressive or self-mutilating behaviour

2. Dosage and administration

- Dosage is adjusted based on serum-lithium concentration
- Lithium must be prescribed by **brand name** and **formulation** must be specified

3. Contra-indications and precautions for use

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

4. Side-effects

Nausea, general GI discomfort and vertigo may occur initially but frequently disappear after the first few days of treatment.

Symptoms of neurotoxicity include; paraesthesia, ataxia, vomiting diarrhoea, increasing anorexia, tremor, cognitive impairment, nausea, uncontrolled eye movement, slurred speech and coma. Neurotoxicity can occur at therapeutic levels.

Refer patient back to the specialist if any of these side-effects cause concern. Refer to the SPC for a full list of adverse effects & further information http://www.medicines.org.uk

This medicine does not have black triangle (▼) status. Serious suspected reactions (even if well recognised or causal link uncertain) should be reported to the MHRA.

5. Monitoring

Lithium levels – Patients on lithium once daily should be advised to take it in the evening. Blood samples for lithium plasma levels must be taken 12 hours post dose, otherwise clinical value is lost.

Lithium has a narrow therapeutic range necessitating blood levels between 0.4-1.2mmol/L. The lower end of this range is used for elderly and infirmed patients and the upper end for younger patients, particularly those being treated for an episode of mania.

Clinicians should aim for levels of 0.6-0.8 mmol/L, with higher levels possibly being of benefit for patients with predominantly manic symptoms. Rarely 1.2mmol/L may be used.

Parameter	**Frequency of monitoring**	**Action/ comments** ***See Appendix also***
Calcium, U&Es, TFT, eGFR, Weight/ BMI	**Pre-treatment**/ baseline and **every 6 months**	Monitor more frequently if there is impaired renal or thyroid function, or high Ca^{2+}
ECG	**Pre-treatment** for patients who have cardiovascular disease or risk factors for it	Repeat only if clinically indicated
FBC	**Pre-treatment** / baseline	Repeat only if clinically indicated
Lithium plasma level	**1 week after starting; 1 week after every dose change** until desired level is reached and is stable for 4 weeks. Then ➢ **Every 3 months** for the first year; **Every 6 months thereafter***	*3 monthly monitoring should be maintained for patients in certain groups – see SPC
Lipid profile (in all those over 40 even if no other indication or risk), plasma glucose, smoking status, alcohol use, pulse & BP as part of annual review (NICE CG185)	**Annually**	**See appendix**

Diet and concomitant minor illnesses which may increase lithium levels include nausea/vomiting or other conditions leading to salt water depletion, excessive sweating leading to sodium loss and retention of lithium by the renal system

6. Drug Interactions

Please note that some drug/drug interactions may result in lithium toxicity at therapeutic serum concentrations. Most common interactions which may increase lithium levels are**:**

ACE inhibitors	Can reduce thirst which can lead to mild dehydration and increase renal sodium loss causing increased sodium reabsorption by the kidney and hence increased Lithium levels - up to a 4 fold increase (7-fold in the elderly). Can take several weeks to develop. Risk increased in those with heart failure, dehydration and renal impairment
Angiotensin II receptor antagonists	Care is needed when co-prescribed with lithium
Diuretics	Can reduce renal clearance of lithium. Thiazides are worse culprits than the loop diuretics: Li levels usually rise within 10 days of a thiazide being prescribed. Risk with loop diuretics can take up to a month for Lithium levels to rise.
NSAIDs	NSAIDs inhibit the synthesis of renal prostaglandins hence reducing renal blood flow and possibly increasing renal reabsorption of sodium and hence lithium. Aspirin does not usually affect serum lithium levels.

NSAIDs	Warn people taking lithium not to take over-the-counter non-steroidal anti-inflammatory drugs and avoid prescribing these drugs for people with bipolar disorder if possible. If they are prescribed, this should be on a *regular* (not p.r.n.) basis; and the patient should be monitored monthly until a stable lithium level is reached and then every 3 months.

The following may also increase lithium levels: alcohol, dehydration, sodium chloride, systemic corticosteroids.

Drugs that may decrease lithium levels include: theophylline, caffeine, sodium bicarbonate containing products (e.g. non-prescription antacids) and diuretics.

Interactions which may cause neurotoxicity include: antipsychotics (although the combination may be useful and would be advised by a specialist), methyldopa, triptan derivatives, SSRIs (although the combination can be useful, as advised by a specialist), verapamil, diltiazem, carbamazepine.

See SPC for full list of interactions.

7. Cost

Priadel 400mg m/r tablets £4.02 x 100
Priadel 200mg m/r tablets £2.76 x 100
Camcolit 400 m/r tablets £48.18 x 100
Liskonium 450mg m/r tablets £2.88 x 60
Li-Liquid 509mg/5ml liquid £5.79 x 150ml
Li-Liquid 1.018g/5ml liquid £11.58 x 150ml
Lithium carbonate 520mg tablets £48.18 x 100
Priadel liquid 520mg/5ml £6.73 x 150ml

(NHS Indicative Prices June 2016, BNF online)

References

1. Procedure for the prescribing and monitoring of lithium in AWP
2. Patient Safety Alert, Safer Lithium Therapy, NPSA/2009/PSA005 http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=65431
3. NICE Clinical Guidance CG185 Bipolar disorder: assessment and management. Issue date: September 2014
4. NICE Clinical Guideline CG 182 Chronic kidney disease in adults: assessment and management. Last updated January 2015
5. Summary Product Characteristics www.medicines.org.uk
6. BNF online accessed 31st May 2016 https://www.medicinescomplete.com/mc/bnf/current/

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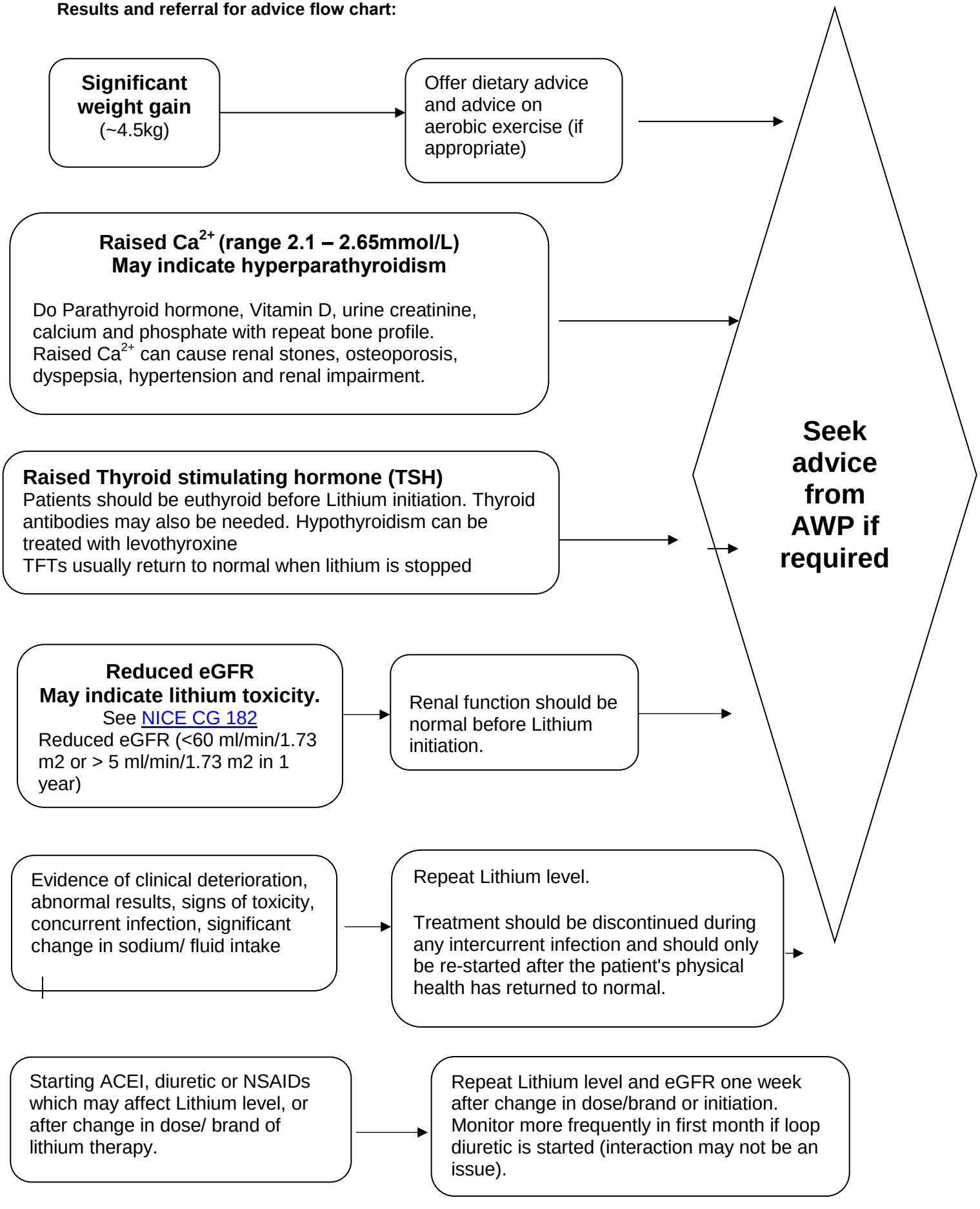
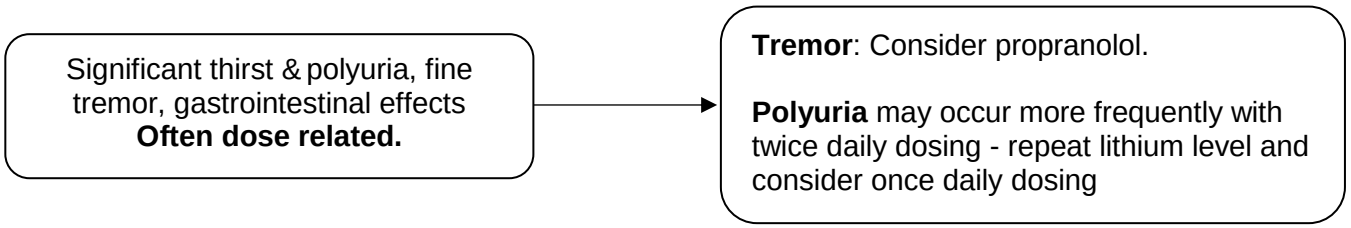
Appendix 1
Results and referral for advice flow chart:




Significant thirst & polyuria, fine tremor, gastrointestinal effects
Often dose related.
Tremor: Consider propranolol.
Polyuria may occur more frequently with twice daily dosing - repeat lithium level and consider once daily dosing