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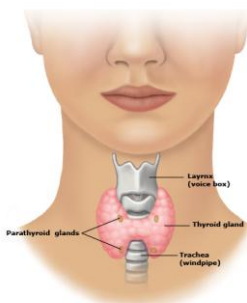
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Issue No. 85

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## Levothyroxine is treatment of choice for hypothyroidism



A recent review of medicines prescribed for endocrine disorders carried out by the NHS Lothian Primary Care Pharmacy Team highlighted the increasing costs of liothyronine.

### Levothyroxine

(thyroxine) is the first choice treatment for hypothyroidism in the LJF 6.2.1. The Royal College of Physicians, the British Thyroid Association (BTA) and the European Thyroid Association all recommend that levothyroxine alone is the treatment of choice for hypothyroidism due to underactivity of the thyroid gland.<sup>1</sup>

Liothyronine is included in the PrescQIPP DROP-List as a medicine which is considered poor value for money with limited clinical value.<sup>2</sup> It is not included in the LJF.

The BTA acknowledges that some patients on levothyroxine continue to have symptoms despite adequate biochemical correction and may be treated with liothyronine. It does not support sudden withdrawal of liothyronine and has advised that the decision to continue or stop liothyronine should be based on clinical need above other considerations. It also recommends that combination treatments of liothyronine and levothyroxine should only be initiated and supervised by accredited endocrinologists.<sup>3</sup>

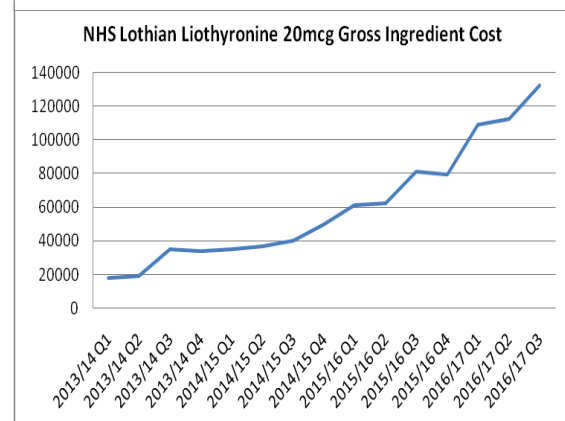
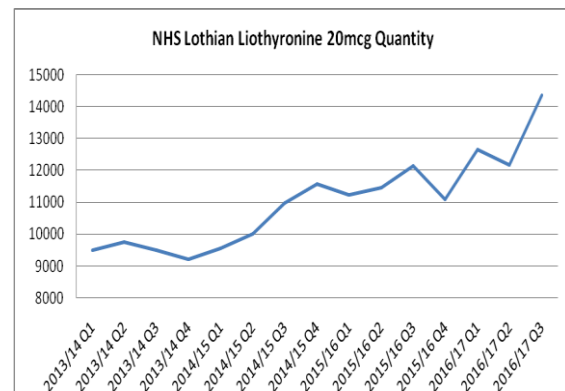
Liothyronine is available as licensed 20microgram tablets and unlicensed 5microgram tablets and is more expensive than levothyroxine. Prescribing of liothyronine has grown since 2005 and its price has increased rapidly since 2013 from £52.46 to £258.20 for 28 tablets.<sup>4</sup> The cost to NHS Lothian during 2016 was close to £450,000. Levothyroxine costs £1.98 to £2.87 for 28 tablets depending on strength.<sup>5</sup> Many other liothyronine-containing preparations (such as Armour thyroid) are also unlicensed, and the safety and quality of these products cannot be assured.<sup>2</sup>

### Key messages

- 🔑 **Levothyroxine is the only medicine in the LJF for hypothyroidism.**
- 🔑 **Liothyronine should not be stopped suddenly when patients are reviewed.**
- 🔑 **Liothyronine preparations are more expensive than levothyroxine and some are unlicensed.**

### References

1. What clinical evidence is there to support the use of Armour thyroid or other desiccated thyroid extract products? Q&A 56.7. UKMi. Updated March 2016. [www.sps.nhs.uk/articles/what-clinical-evidence-is-there-to-support-the-use-of-oarmour-thyroido-or-desiccated-thyroid-extract/](http://www.sps.nhs.uk/articles/what-clinical-evidence-is-there-to-support-the-use-of-oarmour-thyroido-or-desiccated-thyroid-extract/)
2. Switching liothyronine (L-T3) to levothyroxine (L-T4) in the management of primary hypothyroidism. PrescQIPP Bulletin 121. February 2016. [www.prescqipp.info/liothyronine/category/225-liothyronine](http://www.prescqipp.info/liothyronine/category/225-liothyronine)
3. Committee information for members on prescribing liothyronine (L-T3). British Thyroid Association Executive Committee. December 2016. [www.british-thyroid-association.org/sandbox/bta2016/information\\_for\\_endocrinologists.pdf](http://www.british-thyroid-association.org/sandbox/bta2016/information_for_endocrinologists.pdf)
4. British National Formulary. [www.medicinescomplete.com](http://www.medicinescomplete.com) Accessed 26.04.17.
5. Scottish Drug Tariff. Part 7. [www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Scottish-Drug-Tariff/Drugs-and-Preparations-with-Tariff-Prices.asp](http://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Scottish-Drug-Tariff/Drugs-and-Preparations-with-Tariff-Prices.asp)



## Advising patients – keep your medicines safe



The Lothian Local Medical Committee recently discussed the GP standard operating procedure for controlled drugs (CDs) and highlighted some areas where increased awareness would be beneficial. Prescribers and pharmacists need to ensure that patients are counselled on the appropriate storage of all medicinal products supplied to them. Patients should not only be advised on the appropriate storage conditions for the medicine but should also be reminded of the importance of storing medicines out of the sight and reach of children. Particular care must be exercised when medicines, which are potentially dangerous even in small quantities, are being stored in a patient's home.

As with all prescribed medicines, dispensers should ensure that CDs are normally dispensed in child resistant containers, or with child-resistant closures. Medicines deemed suitable for supply in compliance aids should be appropriately labelled. Patients' medicines are their property but key messages to promote to patients, their representatives and carers include:

- ✓ Due to the potent nature of CDs instructions should be given to store the medicines securely within the home, where they are not on display to others so reducing the risk of misuse or diversion.
- ✓ Keep medicines in a cool, dark place away from light, heat (including steam) or as directed on instructions, e.g. in the fridge and out of the sight and reach of children.
- ✓ Always read the medicine information label for storage directions.
- ✓ Keep in original container as it has instructions, expiry date, etc.
- ✓ All unused medicines, including CDs, should be returned to a community pharmacy for safe disposal.

*Thanks to Judie Gajree, Lead Pharmacist, Controlled Drugs Governance Team for contributing this article.*



## Travel supply of opiate replacement therapies

The Substance Misuse Directorate has updated its [local guidelines](#) [link to Intranet] on prescription management options for patients going on holiday.

Any person travelling for a period up to and including 3 months will not require a Home Office licence regardless of the drug(s) and amount(s) being carried.

The Home Office advises that travellers are allowed to carry essential medicines of more than 100mL in hand luggage with supporting documentation from the prescriber. Airlines may also have their own policies so it is advisable to check with the airline.

The circumstances of each individual must be taken into account and the onus is on the patient to ensure that their airline and destination country allow the medication they are carrying.

*Thanks to David Ewart, Medical Facilitator and Chris Miller, Lead Pharmacist for Substance Misuse and Prison Services for contributing this article.*



## Chill out with your vaccines

*Each year in NHS Lothian, thousands of pounds worth of vaccines are wasted due to storage at the wrong temperature. Sometimes circumstances are unavoidable, for instance due to power or equipment failures. Often errors resulting in wastage are preventable, such as leaving the fridge door open or switching the fridge off accidentally.*

How can you make sure vaccines are stored safely and avoid waste? Help is at hand...

1. NHS Lothian [Guidance for the Handling and Storage of Vaccines](#) was revised and re-issued in May 2016 to provide best practice information on handling and storing vaccines. Please remove all copies of the superseded guidance from circulation and highlight the new guidance to staff.
2. In addition to the revised guidance a [Cold Chain](#) page is now on the NHS Lothian Intranet which includes handy reference documents on buying fridges, cool bags, data loggers/thermometers and various templates.
3. The new 'Keep your vaccines healthy' poster is being provided to all GP Practices soon. This will also be available on the [Cold Chain Intranet page](#) to download.

Mandy Canning, Specialist Pharmacy Technician, can respond to enquiries regarding the handling and storage of vaccines.

### Contact:

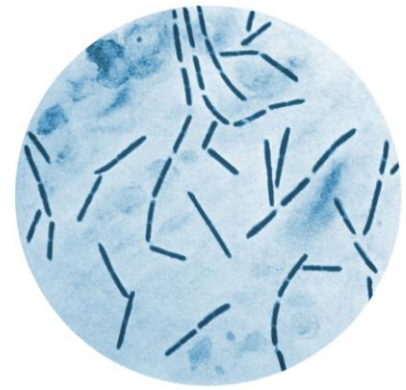
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# Improving management of *Clostridium difficile* infection

All patients testing positive for *Clostridium difficile* (CDI) toxin undergo a review to assess the clinical context of laboratory results as part of the national CDI surveillance programme. Recently some patients with toxin positive CDI stool samples had their medicines reviewed.

Recommendations emerging from this review include:

- All laxatives should be stopped to assess whether the patient has loose stool or diarrhoea that is or is not attributable to their laxatives.
- Noting that the use of loperamide and constipating drugs (e.g. codeine, tramadol) is dangerous in patients who are CDI toxin positive due to the risk of toxic megacolon which can be fatal.
- Prescribe metronidazole and vancomycin for 10 days.
- State any underlying bowel condition, e.g. Crohn's disease, on the laboratory request when sending stool samples.
- If possible, indicate whether the patient was passing > 3 loose stools in the 24-hour period when the sample was obtained.
- Stool samples should not be sent to look for 'clearance' of CDI or to look for a negative toxin result. Stool frequency and consistency should guide the further management of the patient as CDI may be carried in the bowel without causing disease and toxin production can be intermittent and its absence from a sample does not correlate with resolution of disease.



[Guidance on Prevention and Control of Clostridium difficile infection \(CDI\) in Care Settings in Scotland Health Protection Network](#), revised October 2014 (Version 2.1).

*Thanks to Carol Philip, Lead Antimicrobial Pharmacist for contributing this article.*

## Levetiracetam oral solution - risk of overdose in children

There is a risk of overdose with levetiracetam oral solution, used to treat epilepsy. Case reports relate to confusion between the 1-mL and 10-mL syringe and misunderstanding by the caregiver about how to properly measure the dose. All bottles contain the same concentration of levetiracetam of 100mg/mL.



Image by the European Medicines Agency

A range of packs with appropriate sized syringes is available, depending on the age of the patient. Manufacturers are expected to use different colours to identify presentations and should clearly indicate on the package and label the age range of the child for whom the medication is intended as well as which syringe should be used.

**Physicians** should prescribe the dose in milligrams, with millilitre equivalents, according to the patient's age. **Healthcare professionals** should check that the prescribed dose can be measured with the graduations on the syringe provided in the pack. If this is not the case, the prescription should be changed to an appropriate measurable dose. **Patients and/or carers** should be advised how to measure the dose using the syringe provided.

### Further information

- Press Release. European Medicines Agency. October 2016. [www.ema.europa.eu/ema/index.jsp?curl=pages/news\\_and\\_events/news/2016/10/news\\_detail\\_002622.jsp&mid=WC0b01ac058004d5c1](http://www.ema.europa.eu/ema/index.jsp?curl=pages/news_and_events/news/2016/10/news_detail_002622.jsp&mid=WC0b01ac058004d5c1)
- Direct Healthcare Professional Communication. UCB Pharma. December 2016. <https://assets.publishing.service.gov.uk/media/587f5894e5274a130300016c/Levetiracetam.pdf>



# ScriptSwitch

ScriptSwitch is a prescribing support tool that intervenes at the point of prescribing by displaying a product switch pop up message that can be accepted or rejected. It supports quality and cost-effective prescribing in line with the LJJ. Lothian's profile is created and maintained by the ScriptSwitch team.

During 2014/15 a pilot was launched in which 27 GP practices in Edinburgh trialled ScriptSwitch. Since then the support tool has been installed and is being used in 113 practices across Lothian. The message acceptance rate is just above the national average at 33% and 22% for acute and repeat prescriptions respectively.

LJJ updates, MHRA safety alerts, medicine price changes, short supply issues, SMC updates and hyperlinks to local guidelines are regularly added.

The reporting tool is an important feature. Data are updated every 24 hours to give real time reporting. This is used to help edit and improve the profile, and support practices. Each practice is able to log in and look at their data and see how they are performing. The team can help with any data access issues.

From 2017 the ScriptSwitch Team will also be supporting the Medicines Management Team to update the eLJJ. This will provide the resource required to allow more frequent updates to the eLJJ and further assurance that all prescribing support tools are aligned.



If you have any questions and or feedback about ScriptSwitch feel free to contact the team on [scriptswitchteam@nhslothian.scot.nhs.uk](mailto:scriptswitchteam@nhslothian.scot.nhs.uk)

You can also find information on the intranet at <http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/PharmacyServices/HSCP/Pages/ScriptSwitch.aspx>

*Thanks to Michelle Tierney, ScriptSwitch Technician for contributing this article.*

## Thank you Richard

We are going to miss Dr Richard Williams as he leaves the LPB editorial team. Richard has been providing a GP perspective on prescribing since the first issue was published in March 2003.

Richard's expertise and experience has been significant across a wide range of topics, delivered with a healthy dose of humour!

**"Thank you Richard for your valuable time; we hope you will continue to read the LPB and recommend it to colleagues."**



### Supplements:

**Recent SMC and Lothian Formulary Committee Recommendations Prescribing Indicators 2017/18 in general practice**

The supplements can be accessed via the LJJ website [www.ljf.scot.nhs.uk](http://www.ljf.scot.nhs.uk) in 'Prescribing Bulletins'.

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