

# Best Practice Message

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## Levothyroxine

- The *appearance* of 50mcg and 100mcg Eltroxin brand of levothyroxine is changing. The *formulation* of the 100 mcg tablet is also changing.
- Prescribe levothyroxine by brand name, not generic.
- Levothyroxine absorption is best on an empty stomach. However, if this reduces patient adherence, administration should be individualised to encourage routine daily administration.

### Eltroxin change

Aspen NZ is changing the appearance of both the 50 microgram (mcg) and 100 mcg tablets of Eltroxin brand of levothyroxine. The new Eltroxin tablets will have the same active and excipient ingredients, however there will be a slight formulation change to the 100mcg tablets<sup>1</sup>. There is no change to the 25mcg tablet.

### Monitoring

Recommended monitoring for patients taking Eltroxin<sup>3,4</sup>

<b>Patients new to Eltroxin</b>	Monitor as per usual practice and obtain a thyroid function test, typically at 6 to 8 weeks after the start of treatment.	Measure TSH annually once stabilised.
<b>Patients currently taking the Eltroxin 50 mcg tablet and changing to the new Eltroxin 50 mcg tablet</b>	No additional thyroid function testing unless clinically indicated.	
<b>Patients currently taking the 100 mcg tablet and changing to the reformulated Eltroxin 100 mcg tablet</b>	Thyroid function test is recommended 6 to 8 weeks after the transition.	
<b>Patients that require dosage adjustments</b>	Thyroid function test is recommended after approximately 6 to 8 weeks.	

All patients should be monitored for symptoms of over-treatment. These include; increased bowel movements, nervousness, agitation, insomnia, tremors, and new or worsened cardiac symptoms. If cardiac symptoms develop, consider performing an ECG; reduce dose *or* withhold for up to one week (until symptoms resolve) and restart at a lower dose<sup>4</sup>.

### Brands not interchangeable

Levothyroxine has a narrow therapeutic window and requires careful dose titration and monitoring<sup>2,3</sup>. The different brands of levothyroxine are not interchangeable. Indicate on each prescription the specific brand of levothyroxine to be dispensed, to ensure the same brand is dispensed each time.

### Administration before food

Following oral administration the absorption of levothyroxine is variable. It is therefore recommended that all brands of levothyroxine be administered on an empty stomach; traditionally levothyroxine has been recommended to be taken in the morning<sup>4</sup>. This dosing regime may not suit everyone and may lead to reduced patient adherence.

While there may be a variation in absorption and potential increase in TSH when levothyroxine is taken with food, studies have shown that when levothyroxine is taken with food, the TSH remained within the normal range<sup>5,6</sup>. Patients should be advised to take levothyroxine at a regular and routinely convenient time for them.

### CARM

Prescribers should continue to report adverse reactions to all levothyroxine brands to the Centre for Adverse Reactions Monitoring (CARM). This allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals can report any suspected adverse reactions via [this form](#).

## Tools:

- [Eltroxin health care professional letter](#)
- [Eltroxin tablet guide for healthcare professional](#)
- [Healthify: Levothyroxine patient information](#)
- [Health Pathways: Hypothyroidism](#)

## References:

1. Government P | TPW | N. Eltroxin (levothyroxine) 50 mcg and 100 mcg tablets: Medicine update [Internet]. Pharmac | Te Pātaka Whaioranga | NZ Government. 2024 [cited 2024 Jun 24]. Available from: <https://pharmac.govt.nz/medicine-funding-and-supply/medicine-notices/eltroxin>
2. Some medicines need to be prescribed by brand [Internet]. [cited 2024 Jun 24]. Available from: <https://www.medsafe.govt.nz/profs/PUArticles/December2019/Some-medicines-need-to-be-prescribed-by-brand.htm>
3. Aspen Pharmacy Retailing (NZ) Limited trading as Healthcare Logistics. ELTROXIN (levothyroxine) data sheet [Internet]. 2024. Available from: <https://www.medsafe.govt.nz/profs/datasheet/e/EltroxintabNEW.pdf>
4. NZF v144. levothyroxine sodium - New Zealand Formulary [Internet]. 2024 [cited 2024 Jun 24]. Available from: [https://nzf.org.nz/nzf\\_3781](https://nzf.org.nz/nzf_3781)
5. Perez CLS, Araki FS, Graf H, de Carvalho GA. Serum thyrotropin levels following levothyroxine administration at breakfast. *Thyroid*. 2013 Jul;23(7):779–84.
6. Ala S, Akha O, Kashi Z, Asgari H, Bahar A, Sasanpour N. Dose administration time from before breakfast to before dinner affect thyroid hormone levels? *Caspian J Intern Med*. 2015;6(3):134–40.

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