

Who can administer

May be administered by registered competent doctor or nurse/midwife

Available preparations

Liothyronine 20 micrograms (Mercury) powder for solution for injection

Triiodothyronine 20 micrograms powder for solution for injection

Reconstitution

Reconstitute with 1 or 2mL of water for injection

Infusion fluids

Not applicable

For Organ donation indication - see below

Methods of intravenous administration

Slow intravenous injection

- Administer over 3 to 5 minutes ^(ref 1)

Dose in adults

Myxedema coma

- Give 5 to 20 micrograms, repeated every 12 hours, or less if required.
- The minimum interval between doses is four hours
- An initial dose of 50 micrograms is used by some physicians, followed by further injections of 25 micrograms every eight hours until improvement occurs. The dosage may then be reduced to 25 micrograms twice daily
- In elderly patients with severe long-standing hypothyroidism, treatment with liothyronine sodium should be introduced with doses at the lower end of the dose range, with smaller increments and longer intervals between increases as necessary
- With regular dosing the peak therapeutic effect is usually achieved after 3 days; on withdrawal its effects may persist for 1 to 3 days ^(ref 2)
- As each vial is 20 micrograms and they are generally **in short supply please** consider a **dosage regimen** that **minimises wastage** of drug as well as efficiency and safety

Organ donation ^(ref 1,4)

- Dilute 20 micrograms (1ml) with 20ml Sodium chloride 0.9%
- Administer 4 microgram bolus dose, followed by a continuous infusion of 3 micrograms per hour

Switching from IV to oral therapy ^(ref 3)

- Oral therapy should be started as soon as the coma has been stabilised and the patient is able to take

oral medication

- When switching from **ORAL LEVOthyROXINE to LIOthyRONINE**, discontinue the levothyroxine, initiate a low dose of liothyronine and increase gradually according to response. Liothyronine has a rapid onset of action; residual effects of levothyroxine may persist for the first several weeks into therapy
- When switching from **IV LIOthyRONINE to oral LEVOthyROXINE** therapy, consider delay (several days) in onset of activity of levothyroxine and discontinue IV liothyronine gradually
- When switching **from IV LIOthyRONINE to oral LIOthyRONINE** therapy, discontinue IV liothyronine, then initiate oral liothyronine at low dosage and increase gradually according to patient's response.

Equivalent doses ^(ref 2,5)

- Liothyronine sodium 10.3microgram is equivalent to about 10micrograms of liothyronine.
- Liothyronine sodium 20 to 25 micrograms is generally considered to be equivalent in activity to about 100micrograms of levothyroxine sodium

Storage

Store below 25⁰C

References

SPC March 2019

1. Injectable Medicines Guide Medusa, downloaded 21/12/21
- 2: Martindale accessed online 21/12/21
- 3: Uptodate accessed online 31/01/22
- 4: [Organ Donation Transplant Ireland guidelines](#)
- 5: BNF accessed online 31/01/22

Therapeutic classification

Thyroid/Endocrine (Search term thyroxine)