

# Levothyroxine (Thyroxine) – Intravenous

Newborn use only

2019

<b>Alert</b>	No registered intravenous product is available in Australia. L-Thyroxine-Serb <sup>®</sup> and L-Thyroxine Henning can be sourced as SAS products. <sup>1</sup> IV replacement – should be commenced at 50–80% of oral dose. <sup>4</sup> Intravenous levothyroxine is to be prescribed only after consultation with Endocrinologist and/or clinician experienced in its use.
<b>Indication</b>	Intravenous replacement therapy for hypothyroidism in whom oral levothyroxine is not possible, e.g. bowel resection or necrotising enterocolitis. Oral absorption of thyroxine occurs in jejunum-ileal area. <sup>2,3</sup>
<b>Action</b>	Levothyroxine (thyroxine) exerts effects on most organ systems and is particularly important in the development of the central nervous system. It increases the metabolic rate of body tissues and is also involved in the regulation of cell growth and differentiation.
<b>Drug Type</b>	Principal hormone of thyroid gland.
<b>Trade Name</b>	L-Thyroxine-Serb <sup>®</sup> , L-Thyroxine Henning <sup>®</sup>
<b>Presentation</b>	L-Thyroxine-Serb <sup>®</sup> 0.2 mg/mL Injection. Contains L-thyroxine sodium. L-Thyroxine Henning <sup>®</sup> 500 microgram Injection (pack of 1). Each pack includes a 5 mL vial of solvent for reconstitution.
<b>Dosage/Interval</b>	<b>IV:</b> 8 (6–12) microgram/kg/dose DAILY. <b>NOTE:</b> IV dosing should be commenced at 50–80% of oral dose. <sup>4</sup> Adjusted as per TSH and free T4 concentrations.
<b>Route</b>	IV
<b>Maximum Daily Dose</b>	
<b>Preparation/Dilution</b>	L-Thyroxine-Serb <sup>®</sup> 0.2 mg/mL Injection: Draw up 1 mL (0.2 mg) of levothyroxine (thyroxine) and add to 9 mL of sodium chloride 0.9% to make a volume of 10 mL with a concentration of 20 microgram/mL. Once prepared, use immediately. L-Thyroxine Henning <sup>®</sup> 500 microgram Injection: Add 5 mL of water for injection provided to the 500 microgram vial to make a 100 microgram/mL solution. Draw up 1 mL (100 microgram) of levothyroxine (thyroxine) solution and add 4 mL of sodium chloride 0.9% to make a final volume of 5 mL with a final concentration of 20 microgram/mL. Once prepared, use immediately.
<b>Administration</b>	Slow IV bolus over 2–3 minutes.
<b>Monitoring</b>	Close monitoring of TSH and free T4 as per the Endocrine team. Refer to ORAL thyroxine formulary for guidance on initiation and subsequent monitoring.
<b>Contraindications</b>	Known hypersensitivity to levothyroxine (thyroxine). Untreated hyperthyroidism Decompensated heart disease
<b>Precautions</b>	In pre-existing cardiac insufficiency or arrhythmias, may introduce levothyroxine (thyroxine) at 50% of the target replacement dose and increase after 2 weeks based on T4 levels.
<b>Drug Interactions</b>	Concurrent use of levothyroxine (thyroxine) and proton pump inhibitors (omeprazole, pantoprazole) may result in decreased levothyroxine (thyroxine) effectiveness. <sup>3</sup>
<b>Adverse Reactions</b>	Uncommon. Too high replacement therapy can cause manifestations of thyrotoxicosis.
<b>Compatibility</b>	Fluid: Sodium chloride 0.9% <sup>1,3,7</sup> Y-site: No information.
<b>Incompatibility</b>	No information.
<b>Stability</b>	L-Thyroxine-Serb <sup>®</sup> 0.2 mg/mL Injection: No stability data. <sup>1</sup> L-Thyroxine Henning injection: Diluted solution is stable for 2 hours at room temperature <sup>7</sup>
<b>Storage</b>	L-Thyroxine-Serb <sup>®</sup> 0.2 mg/mL Injection: No special storage requirements applicable. <sup>1</sup> L-Thyroxine 500 microgram injection: Store in a refrigerator (2–8°C). Protect from light.
<b>Special Comments</b>	
<b>Evidence summary</b>	Refer to full version.
<b>References</b>	Refer to full version.

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