**INDICATIONS AND USAGE**

Levothyroxine Sodium Injection is indicated for:

1. Replacement Therapy in Patients with Hypothyroidism (e.g., Primary or Secondary)

2. Treatment of Myxedema

3. Replacement Therapy in Patients with TSH Suppression

4. Unlabeled Use: Replacement therapy in patients who have undergone a subtotal or total thyroidectomy and in patients with radiation induced hypothyroidism

**WARNING:** NOT FOR TREATMENT OF OBESITY OR FOR WEIGHT LOSS

Thyroid hormones, including Levothyroxine Sodium Injection, should not be used for the treatment of obesity or for weight loss.

**DOSE AND ADMINISTRATION**

**Concomitant Adrenal Insufficiency**

- Patients with adrenal insufficiency should be treated with glucocorticoids prior to initiating treatment with Levothyroxine Sodium Injection. Initiation of thyroid hormone therapy in patients with adrenal insufficiency may result in myxedema coma, which can be fatal.

**Plasma Exchange**

- Patients with increased thyroid hormone requirements due to plasma exchange may require an increase in dose of Levothyroxine Sodium Injection.

**Concomitant Use of Beta-blockers**

- Beta-blockers may be impaired when the hypothyroid patient is converted to the euthyroid state.

**Central Nervous System Protection**

- Antihypertensive treatment following thyroid hormone replacement therapy in patients with severe symptomatic hypothyroidism may prevent cerebral ischemia.

**Asthma**

- Levothyroxine Sodium Injection may be prescribed in the treatment of hypothyroidism in patients with asthmatic episodes, and exacerbation of hypothyroidism may cause asthma.

**Drug Interactions**

- Certain drugs, including salicylates, may decrease serum TBG concentration.

**Diabetic Control and Euthyroidism**

- Patients with diabetes mellitus may require increased medication (e.g., Propranolol > 160 mg/day).

**Calcium and Phosphate**

- Increased intestinal absorption of calcium and phosphate may occur in patients treated with Levothyroxine Sodium Injection.

**Hypertensive Crisis**

- Hypertensive crisis has been reported rarely with the use of Levothyroxine Sodium Injection.

**Hypothyroid State**

- Myxedema coma may occur in patients with hypothyroidism who are treated with large doses of Levothyroxine Sodium Injection.

**Bradycardia and Cardiac Arrest**

- Bradycardia and cardiac arrest have been reported in patients treated with large doses of Levothyroxine Sodium Injection.

**Pregnancy and Breastfeeding**

- Levothyroxine Sodium Injection is not indicated for use during pregnancy or breastfeeding.

**LACTATION**

- Levothyroxine Sodium Injection is not indicated for use during lactation.

**ADVERSE REACTIONS**

1. **Injection Site Reactions**

- Injection site reactions may occur in patients treated with Levothyroxine Sodium Injection.

2. **Hypothyroidism**

- Hypothyroidism may occur in patients treated with Levothyroxine Sodium Injection.

3. **Hyperthyroidism**

- Hyperthyroidism may occur in patients treated with Levothyroxine Sodium Injection.

**OVERDOSAGE**

**Treatment**

- MANAGEMENT: Supportive care, i.e., treatment of the patient's underlying medical condition.

**Full Prescribing Information**

See full prescribing information for Levothyroxine Sodium Injection.
10.1 Mechanism of Action

Thyroid hormones exert their physiologic actions through a complex mechanism. Since the thyroid hormones T3 and T4 diffuse into the cell nucleus, the binding to the thyroid hormone receptor (TR) results in gene transcription and expression of specific proteins, which are involved in various cellular functions. The process includes the following steps:

1. Binding of T3 or T4 to the TR
2. Formation of a T3- or T4-TR heterodimer
3. Translocation of the TR complex into the cell nucleus
4. Interaction with specific DNA sequences (thyrone responsive elements)
5. Activation of gene transcription

These actions are involved in the regulation of diverse physiological processes, including energy metabolism, growth, and development. The interaction with DNA is crucial for the realization of the biological effects of thyroid hormones.