mecasermin (me-ca-ser-min)
Increlex

**Indications**
Long-term treatment of growth failure in children due to primary insulin-like growth factor-1 (IGF-1) deficiency or growth hormone gene deletion with antibodies to growth hormone.

**Action**
Under normal conditions, growth hormone attaches to receptors resulting in increased production of IGF-1. IGF-1 stimulates uptake of glucose, fatty acids and amino acids which support tissue growth. These processes signal and support statural growth. Therapeutic Effects: Replacement of IGF-1 in deficiency states resulting in achievement of optimal potential statural growth.

**Pharmacokinetics**
- **Absorption:** Well absorbed following subcutaneous administration.
- **Distribution:** Bound to various binding proteins.
- **Metabolism and Excretion:** Some metabolism in liver and kidney.
- **Half-life:** 5.8 hr.

**Contraindications/Precautions**
- Hypersensitivity;
- Pedi: Contains benzyl alcohol, avoid in neonates; Closed epiphyses; Active/suspected neoplasia.
- Use Cautiously in:
  - Adults (safety not established);
  - Pedi: Children ≤ 2 yr (safety not established);
  - OB, Lactation: Safety not established.

**Adverse Reactions/Side Effects**
- CNS: SEIZURES, dizziness, headache, intracranial hypertension.
- Resp: tonsillar hypertrophy, snoring.
- GI: vomiting.
- Endo: HYPOGLYCEMIA.
- Local: bruising, lipohypertrophy.
- MS: arthralgia, extremity pain.
- Misc: ANAPHYLAXIS, HYPERSENSITIVITY REACTIONS, thymus hypertrophy.

**Interactions**
- Drug-Drug: None noted.

**Route/Dosage**
**Subcut (Children):** 0.04–0.08 mg/kg twice daily; may be ↑ weekly by 0.04 mg/kg/dose up to 0.12 mg/kg twice daily.

**NURSING IMPLICATIONS**

**Assessment**
- Monitor bone age, annually and growth rate determinations, height, and weight every 3–6 mo during therapy.
- Assess tonsils for hypertrophy periodically during therapy. Signs may include (snoring, difficulty breathing or swallowing, sleep apnea, fluid in the middle ear).
- To assess for intracranial hypertension, fundoscopic examinations are recommended prior to and periodically during therapy. May cause headache with nausea and vomiting.
- Monitor patient for allergic reactions (rash, hives, angioedema, pruritus, urticaria, difficulty breathing). May require interruption of therapy.
- Monitor patients for thickening of subcutaneous fat which may progress to frank hypoglycemic episodes. May require dose adjustment.
- Lab Test Considerations: Monitor preprandial glucose levels during therapy. May cause mild ↑ in serum AST, ALT, and LDH.

**Potential Nursing Diagnoses**
Disturbed body image (Indications)

**Implementation**
- Administer within 20 min of a meal or snack; may have insulin-like hypoglycemic effects. Do not administer if meal or snack is omitted. If a dose is omitted, do not increase dose to make up for missed doses.
- Therapy should be initiated at a low dose and not increased until no hypoglycemic episodes have occurred for at least 7 days. If severe hypoglycemia occurs despite adequate food intake, consider dose reduction.
If using syringes measuring dose in units, convert dose in mg/kg to units using formula: Weight (kg) x Dose (mg/kg) x 1 mL/10 mg x 100 units/1 mL = units/injection.

Subcut: Administer twice daily in upper arm, thigh, abdomen, or buttocks. Rotate sites with each injection. Solution is clear; do not administer solution that is cloudy or contains a precipitate. Solution is stable for 30 days after opening vial if refrigerated. Keep out of reach of heat and direct light. Store and discard solution.

Patient/Family Teaching

- Instruct patients and/or their parents how to administer mecasermin, injection technique, and equipment disposal. Advise patient and/or parents to read Patient Information Package insert before starting therapy and with each prescription refill in case of changes.
- Advise patient and parents not to give mecasermin to any other person; may be harmful.
- Discuss the importance of a well-balanced diet including protein and fat such as meat and cheese. Advise parents to monitor for signs of hypoglycemia (dizziness, tremors, weakness, hunger, irritability, trouble concentrating, sweating, nausea, fast or irregular heartbeat). Severe hypoglycemia may result in unconsciousness, seizures, and death. A source of sugar such as orange juice, glucose gel, candy, or milk should be available at all times.
- Caution patients to avoid driving and other activities requiring alertness until response to medication is known.
- Teach patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult health care professional before taking any new medications.
- Advise parents to notify health care professional if signs of tonsillar hypertrophy, increased intracranial pressure, or allergic reaction occur.

Evaluation/Desired Outcomes

- Increase in statural growth.

Why was this drug prescribed for your patient?