**repaglinide (re-pag-gli-nide)**

**Pharmacologic Class:** antidiabetics

**Therapeutic Class:** meglitinides

**Indications:**
- Type 2 diabetes mellitus, with diet and exercise; may be used with metformin, rosiglitazone, or pioglitazone.

**Action:**
Stimulates the release of insulin from pancreatic beta cells by closing potassium channels, which results in the opening of calcium channels in beta cells. This is followed by release of insulin.

**Therapeutic Effects:**
Lowering of blood glucose levels.

**Pharmacokinetics:**
- **Absorption:** Well absorbed (56%) following oral administration.
- **Distribution:** Unknown.
- **Protein Binding:** 98%.
- **Metabolism and Excretion:** Most metabolized by the liver; metabolites are excreted primarily in feces.
- **Half-life:** 1 hr.

**TIME/ACTION PROFILE**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>within 30 min</td>
<td>60–90 min</td>
<td>4 hr</td>
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**Contraindications/Precautions:**
- Hypersensitivity; Lactation: Lactation; Diabetic ketoacidosis; Type 1 diabetes; Concurrent use of gemfibrozil.

**Use Cautiously:**
- Impaired liver function (longer dosing intervals may be necessary); Severe renal impairment (dose recommended); Geri: Consider age-related cardiovascular function; OB, Pedi: Safety not established; insulin recommended to control diabetes during pregnancy.

**Adverse Reactions/Side Effects:**

**Interactions:**
- **Drug-Drug:** Ketoconazole, miconazole, gemfibrozil, itraconazole, clarithromycin, and erythromycin may inhibit metabolism and increase risk of hypoglycemia; concurrent use with gemfibrozil contraindicated. Levels and effects may also be increased by NSAIDs, cyclosporine, hormonal contraceptives, simvastatin, sulfonylureas, cholinesterase inhibitors, warfarin, probenecid, deltorphin, and beta blockers. Effects may be increased by corticosteroids, phenobarbital, thyroid preparations, estrogenic hormonal contraceptives, phenytoin, nico- tinic acid, sympathomimetics, isoniazid, and calcium channel blockers.

**Route/Dosage**
- **PO (Adults):**
  - 0.5–4 mg taken before meals (not to exceed 16 mg/day).

**NURSING IMPLICATIONS**

**Assessment:**
- **Observe patient for signs and symptoms of hypoglycemic reactions (abdominal pain, sweating, hunger, weakness, dizziness, headache, tremor, tachycardia, anxiety).** Hypoglycemia may be difficult to recognize in geriatric patients and in patients taking beta blockers. Hypoglycemia is more likely to occur with insufficient caloric intake, following intense prolonged exercise, or when alcohol or more than one hypoglycemic agent is used.

**Potential Nursing Diagnoses:**
- **Imbalanced nutrition: more than body requirements** (Indications)
- **Noncompliance** (Patient/Family Teaching)

**Implementation:**
- **Consider drug name.**
- **Genetic Implication:**
- **CPT coding:**

**Nursing Considerations:**
- Monitor fasting serum glucose and glycosylated hemoglobin periodically during therapy to evaluate effectiveness.

**Interactions:**
- **Drug-Natural Products:** Glucosamine may worsen blood glucose control.

**Prescribing Information: Discontinued.**
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Implementation

● Do not confuse Prandin (repaglinide) with Avandia (rosiglitazone).

● Patients stabilized on a diabetic regimen who are exposed to stress, fever, trauma, infection, or surgery may require administration of insulin. Withhold repaglinide and monitor after resolution of acute episode.

● Repaglinide therapy should be temporarily discontinued from patients requiring surgery involving restricted intake of food and fluids.

There is no fixed dose of repaglinide. Dose is based on periodic monitoring of blood glucose and long-term response is based on glycosylated hemoglobin levels. If adequate response is not achieved, metformin may be added to regimen. If combination therapy is unsuccessful, oral hypoglycemic therapy may need to be discontinued and replaced with insulin.

● When replacing other oral hypoglycemic agents, repaglinide may be started on the day following discontinuation of the other agent. Monitor blood glucose closely. Discontinuation of long-acting oral hypoglycemics may require monitoring for a week or more.

● Short-term repaglinide therapy may be used for patients well controlled with diet experiencing transient loss of control.

● PO: Administer up to 30 min before meals. Patients who skip a meal or add an extra meal should skip or add a dose, respectively, for that meal.

Patient/Family Teaching

● Instruct patient to take repaglinide before each meal, exactly as directed.

● Explain to patient that repaglinide helps control hyperglycemia but does not cure diabetes. Therapy needs to last long term.

● Encourage patient to follow prescribed diet, medication, and exercise regimen to prevent hyperglycemia or hypoglycemic episodes.

● Review signs of hypoglycemia and hyperglycemia with patient. If hyperglycemia occurs, advise patient to take a glass of orange juice or 2-3 tsp of sugar, honey, or corn syrup dissolved in water, and notify health care professional.

● Instruct patient in proper testing of blood glucose. These tests should be monitored closely during periods of stress or illness and a health care professional notified if significant changes occur.

● Advise patient in poor health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications and alcohol.

● Advise patient to inform health care professional of medication regimen prior to treatment or surgery.

● Insulin is the recommended method of controlling blood glucose during pregnancy. Counsel female patients to use a form of contraception other than oral contraceptives and to notify health care professional promptly if pregnancy is planned or suspected.

● Advise patient to carry a form of sugar (sugar packets, candy) and identification describing disease process and medication regimen at all times.

● Emphasize the importance of routine follow-up exams and regular testing of blood glucose and glycosylated hemoglobin.

Evaluation/Desired Outcomes

● Control of blood glucose levels without the appearance of hypoglycemic or hyperglycemic episodes.