Rosiglitazone (roe-zi-gli-ta-zone)

**Classification**
Therapeutic: antidiabetics
Pharmacologic: thiazolidinediones

**Pregnancy Category C**

**Indications**
Type 2 diabetes mellitus (with diet and exercise); may be used with metformin, sulfonylureas, or insulin (patients should only be newly initiated on this drug if they are unable to achieve glucose control with other medications and are unable to tolerate pioglitazone).

**Action**
Improves sensitivity to insulin by acting as an agonist at receptor sites involved in insulin responsiveness and subsequent glucose production and utilization. Requires insulin for activity. **Therapeutic Effects:** Decreased insulin resistance, resulting in glycemic control without hypoglycemia.

**Pharmacokinetics**

- **Absorption:** Well absorbed (99%) following oral administration.
- **Distribution:** Unknown.
- **Protein Binding:** 99.8% bound to plasma proteins.
- **Metabolism and Excretion:** Entirely metabolized by the liver.
- **Half-life:** 3.2–3.6 hr (q in liver disease).

**Therapeutic Effects:**
Decreased insulin resistance, resulting in glycemic control without hypoglycemia.

**Contraindications/Precautions**

- **Contraindicated in:** Hypersensitivity; Diabetic ketoacidosis; Clinical evidence of active liver disease or increased ALT (2.5 times upper limit of normal); Renal dysfunction (creatinine over 1.5 mg/dL in males or 1.4 mg/dL in females; OB, Lactation: Potential for fetal or infant harm. Insulin monotherapy should be used; Pedi: Safety and effectiveness not established.

**Adverse Reactions/Side Effects**

- CNS: Strokes.
- CV: HF, Myocardial infarction, edema.
- EENT: New onset and worsening diabetic macular edema.
- Hem: Anemia.
- Metab: Total cholesterol, LDL and HDL, weight gain.

**Interactions**

- Drug-Drug: Concomitant use with rifampin (levels and may reduce effectiveness; Gemfibrozil levels and may reduce effect of rosiglitazone; Glucosamine may worsen blood glucose control.

**Route/Dosage**

**PO (Adults):**
- As a single dose once daily or 2 mg twice daily; after 8 wk, may be titrated to 8 mg once daily or 4 mg twice daily.

**NURSING IMPLICATIONS**

**Assessment**
- Observe patient taking concurrent insulin for signs and symptoms of hypoglycemia (sweating, hunger, weakness, dizziness, tachycardia, anxiety).
- Assess patient for edema and signs of HF (dyspnea, rales/crackles, peripheral edema, weight gain, jugular venous distention). May require discontinuation of rosiglitazone.
- Monitor CBC with differential periodically during therapy. May cause elevation in hematocrit, WBC, and platelet count; MBL, usually during the first 4–8 wk of therapy, then biweekly.
- Monitor LFTs with differential periodically during therapy to evaluate effectiveness.

**NURSING CONSIDERATIONS**

- Administer with food to reduce gastric irritation.
- Monitor for signs and symptoms of fluid retention, edema, HF.
- Monitor for signs and symptoms of liver dysfunction (jaundice, rash, dark urine).
- Monitor patient for weight gain, edema, HF, signs and symptoms of liver dysfunction.
- Monitor patient for signs and symptoms of HF, edema, weight gain.

**Patient/Family Teaching**
- Instruct patient to take medication as directed with food.
- Advise patient to notify health care professional promptly if signs and symptoms of infection occur.
- Advise patient to notify health care professional if joint pain occurs.
- Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking new medications.
- May cause dizziness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Caution patient to avoid exposure to direct sunlight. Instruct patient to use sunscreen and protective clothing to prevent skin reactions.

**Pharmacological Class:** Thiazolidinediones

**Therapeutic Class:** Antidiabetics
Monitor AST and ALT prior to initiating therapy and periodically thereafter or if jaundice or symptoms of hepatic dysfunction occur. May cause irreversible increase in AST and ALT or hepatic failure (rare). If ALT increases to >5 times the upper limit of normal, recheck ALT promptly. Discontinue rosiglitazone if ALT remains >5 times normal.

May cause increase in total cholesterol, LDL, and HDL and decrease in free fatty acids.

Monitor renal function tests prior to initiating therapy and periodically thereafter (BUN, creatinine, creatinine clearance), especially in older adults.

**Potential Nursing Diagnoses**
- Imbalanced nutrition: more than body requirements (Indications)
- Risk for injury (Indications)

**Implementation**
- Do not confuse Avandia (rosiglitazone) with Prandin (repaglinide) or Coumadin (warfarin).
- Rosiglitazone is available only through a restricted distribution program called the Rosiglitazone REMS Program. Both prescribers and patients need to enroll in the program. To enroll, call 1-800-AVANDIA or visit www.AVANDIA.com.
- Patients stabilized on a diabetic regimen who are exposed to stress, fever, trauma, infection, or surgery may require administration of insulin.
- PO: May be administered with or without meals.

**Patient/Family Teaching**
- Instruct patient to take medication as directed. If dose for 1 day is missed, do not double dose the next day. Explain the Rosiglitazone REMS Program to patient.
- Explain to patient that this medication controls hyperglycemia but does not cure diabetes. Therapy is long term.
- Review signs of hypoglycemia and hyperglycemia with patient. If hypoglycemia 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.
- Encourage patient to follow prescribed diet, medication, and exercise regimen to prevent hypoglycemic or hyperglycemic episodes.
- Instruct patient in proper testing of serum glucose and ketones. These tests should be closely monitored during periods of stress or illness and health care professional notified if significant changes occur.
- Advise patient to notify health care professional immediately if signs of hepatic dysfunction or HF occur.
- Insulin is the preferred method of controlling blood glucose during pregnancy. Counsel female patients that higher doses of oral contraceptives or forms of contraception other than oral contraceptives may be required and to notify health care professional promptly if pregnancy is planned or suspected.

**Evaluation/Desired Outcomes**
- Control of blood glucose levels.