rasagiline (ra-za-gileen)

**Indications**
Parkinson’s disease (monotherapy and adjunctive to levodopa).

**Action**
Irreversibly inactivates monoamine oxidase (MAO) by binding to it at type B (brain sites); inactivation of MAO leads to increased amounts of dopamine available in the CNS. Differs from selegiline by its nonamphetamine characteristics.

**Classifcation**
Therapeutic: antiparkinson agents
Pharmacologic: monoamine oxidase type B inhibitors

**Pharmacokinetics**
Absorption: 36% absorbed following oral administration.
Distribution: Readily crosses the blood-brain barrier.
Metabolism and Excretion: Extensively metabolized by the liver (CYP1A2 enzyme) to an inactive metabolite; less than 1% excreted in urine.
Half-life: 1.3 hr; does not correlate with duration of MAO-B inhibition.

**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>rapid 1 hr</td>
<td>40 days*</td>
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</table>

*Recovery of MAO-B function.

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity; Concurrent meperidine, tramadol, methadone, sympathomimetic amines, dextromethorphan, mirtazapine, cyclobenzaprine, cocaine, St. John’s wort, another MAO inhibitor. Moderate to severe hepatic impairment. Effective surgery requiring general anesthesia, allow 14 days after discontinuation; Phenothiazines, Psychotic disorder.

- **Use Cautiously:** in: Mild hepatic impairment (↑ blood levels), OB: Use only if maternal benefit outweighs fetal risk; Lactation: May inhibit lactation; Postpartum Safety not established.

**Adverse Reactions/Side Effects**

**Interactions**
Drug-Drug: Ciprofloxacin and other inhibitors of the CYP1A2 enzyme ↑ rasagiline levels; dose adjustment is recommended. Meperidine has resulted in life-threatening reactions when used with other MAO inhibitors; wait at least 14 days after discontinuation of rasagiline to initiate meperidine. Similar reactions may occur with tramadol, methadone; concurrent use should be avoided. Concurrent use with dextromethorphan may result in psychosis/behavioral changes and should be avoided. Risk of adverse reactions with mirtazapine and cyclobenzaprine; concurrent use should be avoided. Hypersensitive crisis may occur with sympathomimetic amine including amphetamines, cold products, and some weight loss products containing sympathomimetics such as pseudoephedrine, phenylephrine, or ephedrine; avoid concurrent use. Risk of serotonin syndrome with ciprofloxacin and other MAO inhibitors; risk of serotonin syndrome with tricyclic antidepressants, SNRIs, other MAO inhibitors; concurrent use should be discontinued ≥5 weeks prior to initiation of antidepressants (fluoxetine should be discontinued ≥4 weeks prior to rasagiline therapy). Hypersensitive crisis may also occur when rasagiline is used with other MAO inhibitors, allow at least 14 days between usage.

Drug-Natural Products: Risk of toxicity is ↑ with St. John’s wort.

**Route/Dosage**

<table>
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<tr>
<th>PO (Adults)</th>
<th>Monotherapy — 1 mg daily; Adjunct therapy — 0.5 mg daily; may ↑ to 1 mg daily; concurrent ciprofloxacin or other CYP1A2 inhibitors — 0.5 mg daily</th>
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</thead>
</table>
Hepatic Impairment

PO (Adults): Mild hepatic impairment — 0.5 mg daily.

NURSING IMPLICATIONS

Assessment

- Assess signs and symptoms of Parkinson's disease (tremor, muscle weakness and rigidity, visual disturbances) prior to and during therapy.
- Monitor BP periodically during therapy.
- Assess skin for melanomas periodically during therapy.
- Assess for serotonin syndrome (mental changes [agitation, hallucinations, delusions], hyperreflexia or hyperthermia, neuromuscular aberrations [hyperactive tendon reflexes], and/or GI symptoms [nausea, vomiting, diarrhea]), especially in patients taking other serotonergic drugs (SNRIs, SSRIs, tramadol).
- Lab Test Considerations: May cause albuminuria, leukopenia, and abnormal liver function tests.

Toxicity and Overdose: Concurrent ingestion of tyramine-rich foods and many medications may result in a life-threatening hypertensive crisis. Signs and symptoms of hypertensive crisis include chest pain, tachycardia or bradycardia, severe headache, neck stiffness or soreness, nausea and vomiting, sweating, photosensitivity, and enlarged pupils.

Potential Nursing Diagnoses

- Impaired physical mobility (Indications)
- Risk for injury (Indications) (Side Effects)

Implementation

- Do not confuse Azilect (rasagiline) with Aricept (donepezil).
- If used in combination with levodopa, a reduction in levodopa dose may be considered based on individual results.
- PO: Administer once daily.

Patient/Family Teaching

- Instruct patient to take rasagiline as directed. Missed doses should be omitted and next dose taken at usual time the following day. Do not double doses. Do not discontinue abruptly; may cause elevated temperature, muscular rigidity, altered consciousness, and autonomic instability.
- Caution patient to avoid alcohol, CNS depressants, and foods or beverages containing tyramine during and for at least 2 wk after therapy has been discontinued; they may precipitate a hypertensive crisis. Contact health care professional immediately if symptoms of hypertensive crisis or serotonin syndrome syndrome develop.
- Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, herbal products being taken and consult health care professional before taking any new medications. Caution patient to avoid use of St. John's wort and analgesics (ibuprofen, tramadol) or meperidine, over-the-counter medications, herbal products, and other serotonergic agents (SSRIs, SNRIs, tramadol).
- Caution patient to avoid elective surgery requiring general anesthesia, cocaine, or local anesthetics containing sympathomimetic vasoconstrictors within 14 days of discontinuing rasagiline. If surgery is necessary, consult health care professional before surgery.
- Male: May cause impotence or decreased libido. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Caution patient to change positions slowly to minimize orthostatic hypotension. Geriatric patients are at increased risk for this side effect.
- Advise patient to notify health care professional if any of the following occur: Severe headache, neck stiffness or soreness, nausea and vomiting, sweating, photosensitivity, and enlarged pupils.
- Advise patient to notify health care professional if new or increased gambling, sexual, or other intense urges occur.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.

Evaluation/Desired Outcomes

- Improvement in symptoms of Parkinson's disease, allowing increase in function.

Why was this drug prescribed for your patient?