### Rivastigmine (rye-va-stig-meen)

**Exelon**

#### Classification
- Therapeutic: anti-Alzheimer's agents
- Pharmacologic: cholinergics (cholinesterase inhibitors)

#### Pregnancy Category
- **B**

### Indications
- **PO:** Mild to moderate dementia associated with Alzheimer's disease.
- **Transdermal:** Treatment of mild, moderate, or severe dementia associated with Alzheimer's disease and mild to moderate dementia associated with Parkinson's disease.

#### Action
- Enhances cholinergic function by reversible inhibition of cholinesterase. Does not cure the disease.

#### Therapeutic Effects:
- Decreased dementia (temporary) associated with Alzheimer's disease and Parkinson's disease. Enhanced cognitive ability.

### Pharmacokinetics
- **Absorption:** Well absorbed following oral administration. Transdermal patch is slowly absorbed over 8 hr.
- **Distribution:** Widely distributed.
- **Metabolism and Excretion:** Rapidly and extensively metabolized by the liver; metabolites are excreted by the kidneys.
- **Half-life:** PO—1.5 hr; Transdermal—24 hr.

#### TIME/ACTION PROFILE (improvement in dementia)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>up to 2 wk</td>
<td>up to 12 wk</td>
<td>unknown</td>
</tr>
<tr>
<td>Transdermal</td>
<td>unknown</td>
<td>unknown</td>
<td>unknown</td>
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</tbody>
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### Contraindications/Precautions
- Contraindicated in: Hypersensitivity to rivastigmine or other carbamates; History of application site reactions with transdermal product suggestive of allergic contact dermatitis.
- **Use Cautiously in:** History of asthma or obstructive pulmonary disease; History of GI bleeding; Sick sinus syndrome or other supraventricular cardiac conduction abnormalities; Renal or hepatic impairment (dose may be needed); Patients weighing <50 kg; at risk for adverse reactions; OR, Lactation, Pedi: Safety not established.

#### Adverse Reactions/Side Effects
- **CNS:** Weakness, dizziness, drowsiness, headache, delirium (unusual). CV: Edema, heart failure, arrhythmias, hypertension, hypotension, palpitations.
- **GI:** Anorexia, nausea, vomiting, abdominal pain, diarrhea, flatulence, weight gain (unusual).
- **Derm:** Allergic contact dermatitis.
- **Neuro:** Tremor.
- **Misc:** Fever, weight loss, application reactions (for transdermal patch only).

#### Interactions
- **Drug-Drug:** Nicotine may metabolize and levels.

### Route/Dosage
- **PO (Adults):** 1.5 mg twice daily initially; after at least 2 wk, dose may be 3 mg twice daily. Further increments may be made at 2-wk intervals up to 6 mg twice daily.
- **Transdermal (Adults):** Initial dose—4.6 mg/24-hr transdermal patch initially; may to 9.5 mg/24-transdermal patch if needed (is recommended effective dose for patients with severe Alzheimer's disease).

#### Hepatic Impairment
- **Transdermal (Adults):** Mild-Moderate Hepatic Impairment—Do not exceed dose of 4.5 mg/24 hr.

### Nursing Implications
- **Assessment:**
  - Assess cognitive function (memory, attention, reasoning, language, ability to perform simple tasks) periodically throughout therapy.
  - Monitor patient for nausea, vomiting, anorexia, and weight loss. South health care professional if these side effects occur.
  - Monitor for hypersensitivity skin reactions. If allergic contact dermatitis is suspected after transdermal use, may switch to oral rivastigmine if negative allergy testing. If disseminated hypersensitivity reaction of the skin occurs, discontinue therapy.

#### Use Cautiously in:
- History of asthma or obstructive pulmonary disease; History of GI bleeding; Sick sinus syndrome or other supraventricular cardiac conduction abnormalities; Renal or hepatic impairment (dose may be needed); Patients weighing <50 kg; at risk for adverse reactions; OR, Lactation, Pedi: Safety not established.
Potential Nursing Diagnoses

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Disturbed thought process (Indications)

Impaired environmental interpretation syndrome (Indications)

Imbalanced nutrition: less than body requirements (Side Effects)

Implementation

● Rivastigmine oral solution and capsules may be interchanged at equal doses.

● Patients switching from oral doses of 6 mg–12 mg may be converted directly to 4.6 mg/24 hr patch. Apply patch on the day following the last oral dose.

● PO: Administer in the morning and evening with food.

● Oral solution may be administered directly from syringe provided or mixed with a small glass of water, cold fruit juice, or soda. Mixes should be stirred prior to drinking. Faster patient drinks entire mixture. Oral solution is stable for 4 hours at room temperature when mixed with cold fruit juice or soda. Do not mix with other solutions.

● Transdermal: Apply patch to clean, dry, hairless area that will not be rubbed by tight clothing. Upper or lower back is recommended, may also use upper arm or chest. Do not use on red, irritated or cut skin. Rotate sites to prevent irritation, do not use same site within 2 weeks. Remove adhesive liner and apply by pressing patch firmly until edges stick well. May be worn during bathing and hot weather. Each 24 hr, remove old patch and discard by folding in half and apply new patch to a new area.

Patient/Family Teaching

● PO: Emphasize the importance of taking rivastigmine at regular intervals as directed.

● Explain to patient and caregiver how to use oral dosing syringe provided with oral solution. Remove syringe from protective case and push down and twist child-resistant closure to open bottle. Insert syringe into opening in white stopper in bottle. Hold syringe and pull plunger to the level corresponding to the prescribed dose. Before removing syringe from bottle, push out larger bubbles (small bubbles will not alter dose) by moving plunger up and down a few times. After large bubbles are gone, move plunger to level of dose. Remove syringe from bottle.

● Caution patient and caregiver that rivastigmine may cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.

● Advise patient and caregiver to notify health care professional if nausea, vomiting, anorexia, or weight loss occur. If adverse effects become intolerable during treatment with transdermal patch, instruct patient to discontinue patches for several days and then restart at same or next lower dose level. If treatment is interrupted for more than several days, lowest dose level should be used when restarting and titrate according to Route and Dosage section.

● Advise patient and caregiver to notify health care professional of medication regimen prior to treatment or surgery.

● Inform patient and caregivers that improvement in cognitive functioning may take weeks to months and that the degenerative process is not reversed.

● Advise patient in nursing health care professional if pregnancy is planned or suspected or breast feeding.

● Advise patient and caregiver to avoid contact with eyes and to wash hands after applying patch. Avoid exposure to heat sources (excessive sunlight, saunas, heating pads) for long periods.

● Advise patient and caregiver to notify health care professional if skin reactions occur.

● Advise patient referred for MRI test to discuss patch with referring health care professional and MRI facility to determine if removal of patch is necessary prior to test and for directions for replacing patch.

Evaluation/Desired Outcomes

● Temporary improvement in cognitive function (memory, attention, reasoning, ability to perform simple tasks) in patients with Alzheimer’s disease.

● Improvement in cognitive function and overall functioning in patients with Parkinson’s disease.

Why was this drug prescribed for your patient?