First Glance-Quillivant XR (methylphenidate extended-release oral suspension)

Approved Indication
- Treatment of Attention Deficit Hyperactivity Disorder (ADHD) for patients 6 years of age and above.

Dosing Availability
- 25 mg per 5mL (5 mg/mL) oral suspension
  - Available in multiple sizes 300 mg, 600 mg, 750 mg, and 900 mg powder for reconstitution

Mechanism of Action
- Methylphenidate is a central nervous system (CNS) stimulant.
- Methylphenidate blocks dopamine carrier proteins blocking the uptake of dopamine of central adrenergic neurons.

Dosing
- Children:
  - Initiate therapy with 20 mg give once daily in the morning
  - Dose increases may be made if required in weekly increments of 10 to 20 mg/day.
  - Dose should not exceed 60 mg/day
- **Conversion from other forms of methylphenidate is not outlined in the package insert, but it is reasonable to convert total daily dose the same once daily suspension.**
  - Relative bioavailability compared to methylphenidate IR solution is 95%.

Pharmacokinetics
- Peak plasma concentration in approximately 4 hours.
- Comparison to other extended release methylphenidate products:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Release Mechanism</th>
<th>T&lt;sub&gt;max&lt;/sub&gt; (hours)</th>
<th>Administration</th>
<th>Available Generically</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quillivant XR</td>
<td>Sustained release</td>
<td>4</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Concerta</td>
<td>Tri-phasic</td>
<td>6-10</td>
<td>Should not be crushed or split</td>
<td>Yes</td>
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<tr>
<td>Metadate CD</td>
<td>30% IR / 70 % ER</td>
<td>IR: 1.5</td>
<td>Can be sprinkled over cold</td>
<td>Yes</td>
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</tbody>
</table>
Top Drug Interactions (for all inclusive list refer to the package insert)

- Similar to other methylphenidate products
- Do not administer concomitantly with monoamine oxidase inhibitors (MAOIs) or within 14 days after MAOI discontinuation.

Precautions and Adverse Drug Events

- Similar to other methylphenidate products
- Serious cardiovascular reactions including sudden death have occurred in rare circumstances in children and adolescents with structural cardiac abnormalities.
- Exacerbation of or new onset psychosis or induction of mania.
- Gastrointestinal upset including decreases in appetite, nausea, or vomiting.

Clinical Considerations

- No head to head trials conducted to show greater efficacy compared to other methylphenidate formulations
- Average monthly cost for maximum recommended dosing: $350
  - Daytrana: $460
  - Generic extended release methylphenidate products: $200
- Medication could be used for those patients that cannot swallow tablets or capsules and have failed treatment with other long-acting products opened over applesauce.

Full prescribing information can be found at: [http://www.quillivantxr.com/](http://www.quillivantxr.com/)