Clinical Policy: Sapropterin Dihydrochloride (Kuvan)
Reference Number: CP. PHAR.43
Effective Date: 02.01.10
Last Review Date: 05.20
Line of Business: Commercial, HIM, Medicaid

See Important Reminder at the end of this policy for important regulatory and legal information.

Description
Sapropterin dihydrochloride (Kuvan®) is a synthetic form of tetrahydrobiopterin (BH4), the cofactor for the enzyme phenylalanine hydroxylase.

FDA Approved Indication(s)
Kuvan is indicated to reduce blood phenylalanine (Phe) levels in adult and pediatric patients one month of age and older with hyperphenylalaninemia (HPA) due to BH4-responsive phenylketonuria (PKU). Kuvan is to be used in conjunction with a Phe-restricted diet.

Policy/Criteria
Provider must submit documentation (including such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.

It is the policy of health plans affiliated with Centene Corporation® that Kuvan is medically necessary when the following criteria are met:

I. Initial Approval Criteria
   A. Phenylketonuria (must meet all):
      1. Diagnosis of HPA due to PKU;
      2. Prescribed by or in consultation with a metabolic or genetic disease specialist;
      3. Recent (within 90 days) Phe blood level is > 360 µmols/L;
      4. Dose does not exceed 20 mg per kg per day.
   
   Approval duration: 3 months

   B. Other diagnoses/indications
      1. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): CP.CPA.09 for commercial, HIM.PHAR.21 for health insurance marketplace, and CP.PMN.53 for Medicaid.

II. Continued Therapy
   A. Phenylketonuria (must meet all):
      1. Currently receiving medication via Centene benefit or member has previously met all initial approval criteria;
      2. Member is responding positively to therapy as demonstrated by a reduction in Phe blood levels since initiation of therapy;
      3. If request is for a dose increase, new dose does not exceed 20 mg per kg per day.
Approval duration: 12 months

B. Other diagnoses/indications (must meet 1 or 2):
   1. Currently receiving medication via Centene benefit and documentation supports positive response to therapy.
      Approval duration: Duration of request or 6 months (whichever is less); or
   2. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): CP.CPA.09 for commercial, HIM.PHAR.21 for health insurance marketplace, and CP.PMN.53 for Medicaid.

III. Diagnoses/Indications for which coverage is NOT authorized:
   A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policies – CP.CPA.09 for commercial, HIM.PHAR.21 for health insurance marketplace, CP.PMN.53 for Medicaid, or evidence of coverage documents.

IV. Appendices/General Information
   Appendix A: Abbreviation/Acronym Key
   BH4: tetrahydrobiopterin
   HPA: hyperphenylalaninemia
   Phe: phenylalanine
   PKU: phenylketonuria

   Appendix B: Therapeutic Alternatives
   Not applicable

   Appendix C: Contraindications/Boxed Warnings
   None reported

   Appendix D: General Information
   • According to the Prescribing Information, if a 10 mg/kg per day starting dose is used, then response to therapy is determined by change in blood Phe following treatment with Kuvan at 10 mg/kg per day for a period of up to 1 month. Blood Phe levels should be checked after 1 week of Kuvan treatment and periodically for up to a month. If blood Phe does not decrease from baseline at 10 mg/kg per day, the dose may be increased to 20 mg/kg per day. Additionally, regardless of starting dose, patients whose blood Phe does not decrease after 1 month of treatment at 20 mg/kg per day are non-responders and treatment with Kuvan should be discontinued in these patients.

V. Dosage and Administration

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<tr>
<th>Indication</th>
<th>Dosing Regimen</th>
<th>Maximum Dose</th>
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<tbody>
<tr>
<td>BH4-responsive PKU</td>
<td>Age 1 month to ≤ 6 years (starting dose) 10 mg/kg PO QD</td>
<td>20 mg/kg/day</td>
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<td>Age ≥ 7 years (starting dose): 10 to 20 mg/kg PO QD</td>
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</tbody>
</table>
VI. Product Availability

Tablets: 100 mg
Powder for oral solution: 100 mg, 500 mg

VII. References


5. van Spronsen FJ. Mild hyperphenylalaninemia: to treat or not to treat. J Inherit Metab Dis. 2011; 34: 651-656.

<table>
<thead>
<tr>
<th>Reviews, Revisions, and Approvals</th>
<th>Date</th>
<th>P&amp;T Approval Date</th>
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<tbody>
<tr>
<td>Policy converted to new template.</td>
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<td>Initial criteria:</td>
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<tr>
<td>Removed requests for documentation; specialist criteria added given complexity of disease state and recommendation for multidisciplinary management; added max dose per PI.</td>
<td>03.01.16</td>
<td>04.16</td>
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<tr>
<td>Removed baseline Phe requirement of &gt;600 µmol/L if &gt;12 years; added contraindications, including two null mutations per guidelines.</td>
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<td>Changed initial approval duration to two months; changed requirement that Phe decrease to 120–360 µmol/l during the Kuvan trial period to “any Phe decrease.”</td>
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<td>Removed contraindication of anaphylaxis to Kuvan due to verification challenges; Added a time frame for which Phe level will be considered valid.</td>
<td>03.01.17</td>
<td>04.17</td>
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<td>1Q18 annual review:</td>
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<td>- The diagnostic description “BH4 responsive” in relation to PKU is deleted as it may not be determined until after a therapeutic trial.</td>
<td>11.17.17</td>
<td>02.18</td>
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<tr>
<td>- Use in conjunction with a Phe-restricted diet is removed.</td>
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<tr>
<td>- Initial approval duration increased from 2 to 3 months to allow adequate time for follow-up. Continuation criteria that refers to an increase in dietary Phe tolerance or improvement in neuropsychiatric symptoms is deleted leaving reduction of Phe levels per the PI.</td>
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<tr>
<td>- References reviewed and updated.</td>
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**Reviews, Revisions, and Approvals**

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<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>11.13.18</td>
<td>02.19</td>
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<tr>
<td>02.19.19</td>
<td>05.19</td>
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<tr>
<td>02.20.20</td>
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**Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

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**Note: For Medicaid members**, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

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