Medical Affairs Policy

**Service:** Magnetic Resonance Spectroscopy (MRS), Nuclear Magnetic Resonance Spectroscopy (NMRS)

*PUM 250-0025*

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<tr>
<th>Medical Policy Committee Approval</th>
<th>12/09/16</th>
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<tr>
<td>Effective Date</td>
<td>01/01/17</td>
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<tr>
<td>Prior Authorization Needed</td>
<td>Yes</td>
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**Disclaimer:**

This policy is for informational purposes only and does not constitute medical advice, plan authorization, an explanation of benefits, or a guarantee of payment. Benefit plans vary in coverage and some plans may not provide coverage for all services listed in this policy. Coverage decisions are subject to all terms and conditions of the applicable benefit plan, including specific exclusions and limitations, and to applicable state and federal law. Some benefit plans administered by the organization may not utilize Medical Affairs medical policy in all their coverage determinations. Contact customer services as listed on the member card for specific plan, benefit, and network status information.

Medical policies are based on constantly changing medical science and are reviewed annually and subject to change. The organization uses tools developed by third parties, such as the evidence-based clinical guidelines developed by MCG to assist in administering health benefits. This medical policy and MCG guidelines are intended to be used in conjunction with the independent professional medical judgment of a qualified health care provider. To obtain additional information about MCG, email [medical.policies@wpsic.com](mailto:medical.policies@wpsic.com).

**Description:**

Magnetic Resonance Spectroscopy (MRS) is a non-invasive diagnostic test used to evaluate metabolic changes in various organs, particularly in the brain. MRS provides an analysis of the types and quantities of chemicals (metabolites) in those organs and surrounding tissue. Analysis of the chemicals in an area of disease compared with adjacent, unaffected areas may assist in diagnosis. MRS is typically performed in conjunction with Magnetic Resonance Imaging (MRI). While an MRI provides an anatomic image of the organ, MRS provides a functional image related to underlying physiology. There are limited studies evaluating whether MRS has significant effect on decision-making or clinical outcomes.

**Indications of Coverage:**

A. MRS is considered medically necessary when imaging (MRI) or computed tomography (CT) is inadequate for:

1. Differentiating recurrent brain tumor from radiation necrosis following radiation treatment of a primary brain tumor;

2. Differentiating brain neoplasm from non-neoplastic lesions, including abscess.

- Note: Repeat study after treatment, procedure, intervention or surgery requires documentation of the medical reason necessitating the re-evaluation.
Limitations of Coverage:

A. Review contract and endorsements for exclusions and prior authorization or benefit requirements.

B. If used for a condition/diagnosis other than is listed in the Indications of Coverage, deny as experimental, investigational, and unproven to affect health outcomes.

C. If used for a condition/diagnosis that is listed in the Indications of Coverage, but the criteria are not met, deny as not medically necessary.

D. MRS is considered experimental, investigational, and unproven to affect health comes for:
   1. Evaluation of cancer in all organs or body sites other than the brain
   2. Evaluation of the grade of gliomas or cancer of the brain
   3. Evaluation of multiple sclerosis
   4. Evaluation of inborn errors of metabolism or rare metabolic disorders such as mitochondrial, lysosomal, or amino acid disorders
   5. CNS disease
   6. Cerebral ischemia
   7. Heart disease
   8. Temporal lobe epilepsy
   9. Traumatic brain Injury (TBI)

Documentation Required:

- Referring provider notes
- Radiology report

References:

1. American College of Radiology. Practice guideline for the performance and interpretation of magnetic resonance spectroscopy of the central nervous system.


**Review History:**

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<td>Medical Policy Committee Approval</td>
<td>06/13/14, 09/11/15, 9/16/16, 12/09/16</td>
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<td>06/13/14, 09/11/15, 9/16/16, 12/09/16 (no changes)</td>
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- Note: For review/revision history prior to 2014 see previous Medical Policy or Coverage Policy Bulletin

*Approved by the Medical Director*