
Medical Policy



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***Current Policy Effective Date: 7/1/26**
(See policy history boxes for previous effective dates)

Title: Magnetic Resonance Spectroscopy

Description

Magnetic resonance spectroscopy (MRS) is an application of magnetic resonance imaging (MRI). It is a non-invasive diagnostic test that uses strong magnetic fields to measure and analyze the chemical composition of human tissues.

Medical Policy Statement

Magnetic resonance spectroscopy has been established for individuals who meet specific selection criteria.

Inclusionary and Exclusionary Guidelines

Inclusions:

Magnetic resonance spectroscopy (MRS) is an appropriate clinical tool for diagnosing:

- Disorders of creatine metabolism
- Presence of mitochondrial disease
- MRS may be used to assist in distinguishing radiation-induced tumor necrosis from persistent or recurrent brain tumor as an alternative to invasive brain biopsy

Exclusions:

Use of MRS for any of the following:

- Breast cancer
- Discogenic pain (cervical, thoracic, or lumbar)

- Dementia
- Disease tracking of diagnosis including:
 - Systemic lupus erythematosus,
 - Assessing carotid plaque morphology,
 - Identifying biomarkers of traumatic brain injury
 - Predicting long-term neurodevelopmental outcome after neonatal encephalopathy
 - Evaluation of neuroinhibitory and neuroexcitatory processes relating to pain
- Liver disease
- Multiple sclerosis
- Prostate cancer
- Psychiatric disorders including but not limited to:
 - Depression
 - Bipolar disorder
 - Schizophrenia
 - Post-traumatic stress disorder
- Any condition other than those listed in the Inclusions section.

CPT/HCPCS Level II Codes *(Note: The inclusion of a code in this list is not a guarantee of coverage. Please refer to the medical policy statement to determine the status of a given procedure)*

Established codes:

76390

Other codes (investigational, not medically necessary, etc.):

0609T

0610T

0611T

0612T

Note: Code(s) may not be covered by all contracts or certificates. Please consult customer or provider inquiry resources at BCBSM or BCN to verify coverage.

Background

MRS can be performed with existing MRI equipment and modified with additional software and hardware. Imaging time in the scanner is increased by 15 to 30 minutes. Single-voxel MRS is available on all modern magnetic resonance scanners. MRS adds to the MRI image, with the development of spectra at the site of interest, termed the voxel, and provides a measurement of the chemical metabolism of a suspected tumor. Molecules such as hydrogen ions or protons are analyzed and grafted. Plotting these molecules and then comparing them to normal body tissue, allows the specialist to determine the type of tissue present. The theory is that with MRS, the clinician will have greater ability to distinguish normal tissue from diseased tissue, tumor type, aggressiveness and tumor recurrence from radiation necrosis based on cellular changes, which prevents the need for a more invasive procedure such as a biopsy; thus, allowing for more effective management of the individual. There are some rare conditions for which this test is thought to be useful; however, these conditions are too rare for large, randomized clinical trials. The best evidence that can be obtained supports the use of MRS for these rare conditions.

MRS, also known as nuclear magnetic resonance spectroscopy, is a non-invasive diagnostic test that may be used for measuring biochemical changes in the body, especially in the presence of tumors. The study is based on the same physical principles as MRI and the detection of energy exchange between external magnetic fields and specific nuclei within atoms. The principal difference between MRI and MRS is that an MRI identifies the anatomical location of a tumor, whereas MRS compares the chemical composition of normal tissue with abnormal tumor tissue. MRS is displayed graphically as a spectrum with peaks consistent with the various chemicals detected and may be performed as an adjunct to MRI. While an MRI provides an anatomic image, MRS provides a functional image related to underlying dynamic physiology.

MRS has been studied most extensively in a variety of brain disorders. Different patterns of the spectra in both the healthy and diseased brain are the basis of clinical applications of MRS. MRS has been investigated in a variety of clinical situations, including as an adjunct to other noninvasive imaging techniques to study the effects of gene expression on metabolism.

MRS technologies may be applied to answer research questions in the field of inborn errors of metabolism by providing information about brain function under pathological conditions and correlating this with related disease states. Neuroimaging studies show a characteristic pattern in most individuals with diseases affecting primarily white matter or both gray and white matter. Hypomyelination and white matter attenuation on brain imaging, associated with an increased choline peak on proton MRS, may suggest serine biosynthesis defects in individuals with mental retardation, congenital microcephaly and seizures. Individuals presenting with psychomotor retardation, acquired microcephaly and autistic features, with or without seizures, may have a disorder of purine/pyrimidine metabolites. The diagnostic metabolites of such disorders can be detected by MRS.

Brain and muscle metabolism measured by in vivo MRS can provide helpful clinical information, both for diagnosis and treatment of metabolic disorders. The combined study of brain and muscle may result in a better understanding of the biochemistry of metabolic disorders and in finding more suitable parameters for diagnosis and follow-up of these diseases.

Peripheral applications of MRS include the study of myocardial ischemia, peripheral vascular disease, and skeletal muscle. Applications in non-central nervous system oncologic evaluation have also been explored. Nomograms for prostate cancer are being developed that incorporate MRI and MRS results.

Nociscan is a proprietary software-as-a-service (SaaS) medical device using a secure cloud-based web application for post-processing MRS data acquired from lumbar intervertebral discs. It consists of the following components: MRS signal post-processing software to generate frequency-domain spectra and calculate spectra characteristics, and report generation software to display the calculated results of the post-processing software and calculate related scores and classification results. Nociscan is not currently FDA approved.

Summary of Evidence

Magnetic resonance spectroscopy (MRS) use for disorders of creatine metabolism provides a painless, non-invasive scan that can measure the amount of creatine and its precursors

directly inside the brain. By comparing the brain's creatine levels (using 1H-MRS) with abnormal levels of guanidinoacetate found in urine, blood, or spinal fluid, clinicians can accurately diagnose guanidinoacetate methyltransferase (GMAT) deficiency, L-arginine:glycine amidinotransferase (AGAT), and creatine transporter (CRTR) deficiency and monitor how well creatine supplements are working overtime. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

Magnetic resonance spectroscopy (MRS) is a useful clinical tool in the diagnosis and management of individuals with mitochondrial disorders as it is non-invasive and provides information about the chemical composition of scanned tissue. The ability of MRS to detect early yet subtle changes of neuron chemicals in vivo has permitted the use of this technology for the study of cerebral metabolism in selected physiological and pathological conditions. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

Magnetic resonance spectroscopy (MRS) aids in brain tumor management by non-invasively analyzing tissue chemical composition, offering metabolic insights beyond conventional MRI. It helps identify tumor type (e.g., glioma vs. metastasis), grade malignancy, distinguish recurrence from radiation necrosis, and guide biopsy or surgical planning by analyzing metabolites like choline and N-acetylaspartate. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

MRS in individuals who have other diseases (e.g., breast cancer, discogenic back pain, prostate cancer, dementia, liver disease, multiple sclerosis, various psychiatric disorders, systemic lupus erythematosus, assessing carotid plaque morphology, identifying biomarkers of traumatic brain injury, predicting long-term neurodevelopmental outcome, pediatric seizures) the cumulative evidence remains uncertain. Data comparing the diagnostic accuracy of MRS with alternative imaging strategies are limited. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Rationale

Evidence reviews assess the clinical evidence to determine whether the use of a technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function—including benefits and harms. Every clinical condition has specific outcomes that are important to patients and to managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms. The following is a summary of the key literature to date.

Disorders of Creatine Metabolism

Inborn errors of creatine metabolism and transport, include 3 disorders: the creatine biosynthesis disorders guanidinoacetate methyltransferase (GMAT) deficiency, and L-arginine:glycine amidinotransferase (AGAT) deficiency; and creatine transporter (CRTR) deficiency. Developmental delay, cognitive dysfunction, and intellectual disability are common to all 3 CDDs. Speech-language disorders with variable expressive language defects,

seizures, and movement disorders have been reported in GAMT deficiency. AGAT deficiency has the added characteristics of a single seizure (with or without a fever), and muscle weakness/myopathy. Males affected with CRTR deficiency have risk factors for speech-language disorders, semantic-pragmatic language disorders (difficulty understanding the meaning of words) with oral dyspraxia, seizures, movement disorders, dysmorphic features, gastrointestinal findings, and cardiac issues. Whereas females with CRTR are typically asymptomatic or have mild intellectual disabilities. All disorders are treated with creatine monohydrate. Mercimek-Andrews et al (2008) specifies that ^1H -MRS and abnormal urine, plasma, or cerebral spinal fluid guanidinoacetate and creatine levels compared to GAMT and AGAT activity measurements in fibroblasts or in lymphocytes are required to confirm biochemical diagnosis of GAMT or AGAT deficiency. They also recommend periodic determination of cerebral creatine by level in vivo ^1H -MRS for those who are treated with creatine monohydrate.

Mitochondrial Disorders

Klopstock et al (2021) indicates that although mitochondrial disorders are among the most common heritable disease (1:1500) the diagnosis is often missed due to their extreme phenotypic and genotypic heterogeneity. The most severely involved organs are generally those with the highest energy requirements, including the brain, the sensory epithelia, and the extraocular, cardiac, and skeletal musculature. Typical manifestations include epileptic seizures, stroke-like episodes, hearing loss, retinopathy, external ophthalmoparesis, exercise intolerance, and diabetes mellitus. Due to the highly varied manifestations of the disease, affected individuals may present to providers in any branch of medicine. A correct diagnosis is required for the proper genetic testing, genetic counseling and treatment. Magnetic resonance spectroscopy (MRS) is a useful clinical tool in the diagnosis and management of individuals with these disorders as it is non-invasive and provides information about the chemical composition of scanned tissue. The ability of MRS to detect early yet subtle changes of neuron chemicals in vivo has permitted the use of this technology for the study of cerebral metabolism in selected physiological and pathological conditions.

Brain Tumors

The purpose of magnetic resonance spectroscopy MRS in individuals with brain tumors is to differentiate malignant from nonmalignant tumors, evaluate tumor grade, and distinguish metastatic from primary brain tumors.

Aseel et al (2023) reviewed the use of MRS to determine the radiological accuracy and efficacy in distinguishing recurrent brain tumor from radiation-induced necrosis by identifying pseudoprogression. Nine studies were enrolled in the meta-analysis with a total of 354 patients (203 male and 151 female) whose average age ranged from 4 to 74 years. The meta-analysis revealed that Cho/NAA, Cho/Cr, and NAA/Cr ratios were significantly better predictor of detected recurrent tumor. Authors concluded that MR spectroscopy is effective in distinguishing recurrent brain tumors from necrosis.

Several systematic reviews have evaluated the performance of MRS for diagnosis and evaluation of brain tumors. A number of small studies have assessed detection, characterization, grading, prognosis, and differentiation of tumor recurrence versus necrosis. Most studies included in the meta-analyses were small, retrospective, and used various ratios of MRS spectra. The largest prospective study found that combining MRS with MRI resulted in

a greater percentage of correct diagnoses of pediatric brain tumor type. This report had limited information on the specific MRS spectra associated with the different tumor types.

Other Indications

The evidence for MRS in individuals who have other diseases (e.g., breast cancer, discogenic back pain, prostate cancer, dementia, liver disease, or multiple sclerosis) includes prospective studies on diagnostic accuracy and systematic reviews. Relevant outcomes are test accuracy, change in disease status, morbid events, and functional outcomes. A number of studies have examined the use of MRS for localizing prostate cancer for biopsy and for monitoring of individuals with prostate cancer. However, the cumulative evidence remains uncertain. Data comparing the diagnostic accuracy of MRS with alternative imaging strategies are limited. A study of MRS as a noninvasive alternative to liver biopsy indicated that dual-gradient echo MRI outperforms MRS. Data on use of MRS in multiple sclerosis indicated that the measure is not sufficiently reliable to predict the future disease course. The evidence is insufficient to determine the effects of the technology on health outcomes.

Research use of MRS continues to evolve and test correlations between brain biomarker levels and various psychiatric disorders (e.g., depression, bipolar disorder, schizophrenia, post-traumatic stress disorder, and others) to inform diagnosis or patient management. Although a number of studies have examined the use of MRS for identifying and understanding psychiatric disorders, the present evidence does not support any role for MRS outside of the research setting. Numerous methodologies for the use of MRS in this setting have been documented, with inconsistent diagnostic validity results. Additionally, preliminary studies have thus far failed to demonstrate the successful application of MRS for the prediction of treatment response. The impact of MRS on health outcomes for this indication is unknown.

MRS has also been evaluated for other uses, such as tracking disease changes among individuals with systemic lupus erythematosus, assessing carotid plaque morphology, identifying biomarkers of traumatic brain injury, discogenic back pain, and predicting long-term neurodevelopmental outcome after neonatal encephalopathy. MRS has also been used to evaluate pediatric patients with seizures, and other applications in children. Additional evidence on these applications is needed.

A meta-analysis by Cruz-Almeida et al (2021) reviewed the efficacy of proton magnetic resonance spectroscopy in the evaluation of neuroinhibitory and neuroexcitatory processes in humans. Authors determined that when used to understand changes across chronic pain conditions, the lack of consideration of differential brain aging processes across heterogeneous pain conditions introduced a significant source of bias. Authors concluded that future studies are needed to address the interactions between pain and brain aging processes, across heterogeneous pain conditions.

Zhao et al (2016) discussed the use of MRS to evaluate brain chemical changes in individuals with chronic low back pain. The review identified 9 studies that met the inclusion criteria, comprised of data on 135 chronic low back pain subjects and 137 healthy controls. Seven of these studies reported statistically different neurochemical alterations in patients with chronic low back pain. The results showed that compared to controls, chronic low back pain patients showed reductions of 1) N-acetylaspartate (NAA) in the dorsolateral prefrontal cortex (DLPFC), right primary motor cortex, left somatosensory cortex (SSC), left anterior insula and anterior cingulate cortex (ACC); 2) glutamate in the ACC; 3) myo-inositol in the ACC and thalamus; 4)

choline in the right SSC; and 5) glucose in the DLPFC. Authors concluded that alterations occurred in the biochemical profile of the brain in patients with chronic low back pain, suggesting that biochemical changes may play a significant role in the development and pathophysiology of chronic low back pain and shed light on the development of new treatments. Several limitations were noted in the study. There were relatively few subjects in each cohort, and confounding factors, such as anxiety and depression, which made it difficult to identify specific biochemical markers of chronic low back pain. In 8 studies, almost half of the patients had received prior treatment for chronic low back pain. Although some of the patients refrained from medications for at least 24 h before the study, it was not clear if this eliminates the influence caused by long-term medication use. Finally, authors indicated that although these MRS studies have detected neurochemical alterations in these brain regions, the underlying causes of the metabolic changes are not fully understood. Therefore, further investigation is needed to explore the pathophysiological relationship between the neurochemical alterations and chronic low back pain.

Gornet et al (2019) refined clinical MRS to optimize performance and then determine whether MRS-derived biomarkers reliably identify painful discs, quantify degeneration severity, and forecast surgical outcomes for chronic low back pain patients. Six-hundred and twenty-three discs in 139 patients were scanned using MRS. MRS data were used to quantify spectral features related to disc structure (collagen and proteoglycan) and acidity (lactate, alanine, propionate). Ratios of acidity to structure were used to calculate pain potential. MRS-SCOREs were compared to PD and Pfirrmann grade. Clinical utility was judged by evaluating surgical success for 75 of the subjects who underwent lumbar surgery. Authors concluded that noninvasive MRS is a potentially valuable approach to clarifying pain mechanisms and designing chronic low back pain therapies that are customized to the patient. However, conflicts of interest exist as some authors had a financial relationship with the sponsor of the study. It was noted that future studies are being planned to investigate MRS applications in the cervical and thoracic spines and that this will likely require further technical improvements to accommodate the challenges associated with smaller discs along these regions.

Gornet et al (2023) evaluated 78 individuals with discogenic low back pain to determine if MRS would be reliable to quantify relative levels of degenerative pain biomarkers and improve surgical outcomes at 6-, 12- and 24 months. Custom post-processing (NOCISCAN-LS®; Aclarion Inc.) calculated disc-specific NOCISCORES® that reflect relative differences in degenerative pain biomarkers for diagnosing chemically painful discs. Outcomes were evaluated using Oswestry Disability Index (ODI) scores. All study subjects included in this analysis received lumbar spine surgery by a single surgeon (co-author of this article). Surgical success (≥ 15 -point ODI improvement) was compared between surgeries that were “Concordant” (Group C) versus “Discordant” (Group D) with NOCISCORE-based diagnosis for painful discs. Success rates were higher for Group C versus Group D: 6 months (88% vs. 62%; $p = 0.01$), 12 months (91% vs. 56%; $p < 0.001$), and 24 months (85% vs. 63%; $p = 0.07$). Success rates for Group C surgeries were also higher than Group D surgeries in a variety of sub-group comparisons. Group C had a greater reduction in ODI from pre-operative to follow-up than Group D [absolute change (% change), (p)]: 6 months: – 35 (– 61%) versus – 23 (– 39%), ($p < 0.05$); 12 months: – 39 (– 69%) versus – 22 (– 39%), ($p < 0.01$); and 24 months: – 38 (– 66%) versus – 26 (– 48%), ($p < 0.05$). Authors concluded that more successful, sustained outcomes were obtained when surgically treating chemically painful discs identified by NOCISCAN-LS post-processed disc MRS exams.

Gornet et al (2024) discussed the use of lumbar MRS and software-based postprocessing (NOCISCAN-LS, (Aclarion Inc.) in 44 discs (14 subjects) (prospective cohort [PC]). PC data was compared to prior data used to establish the NOCISCORE (training cohort [TC]). The NOCISCORE was converted to an ordinal value (high/intermediate/low; NOCI+/mild/–) and compared against painful (P) versus nonpainful (NP) control diagnosis (PD) for 19 discs where PD was performed in the PC (12 NP; 7 P). Sensitivity, specificity, and positive and negative predictive values were calculated. The SI-SCORE was compared against MRI Pfirrmann Grades for 465 discs in 126 patients (PC plus TC). For the PC, MRS (NOCI+/–) compared to PD (P/NP) with an accuracy of 87% and sensitivity and specificity of 100%. The positive and negative predictive values of MRS were 100%. NOCISCORES were significantly higher for PD+ versus PD– discs for PC and TC ($P < 0.05$), and the NOCISCORE distributions for PD+/- group were not statistically different between the PC and TC ($P > 0.05$). SI-SCORES differed between Pfirrmann Grades 1 and 2 (less degenerated) versus Grades 3 and 4 (more degenerated; $P < 0.05$), with a progressively decreasing trend with Pfirrmann Grades 1–5. Authors concluded that the current data provides prospective confirmation of the predictive value of disc MRS for distinguishing painful discs and for assessing the disc structural integrity. There is a need for standardization and further studies in order for MRS to become widely used as a routine clinical tool.

Supplemental Information

PHYSICIAN SPECIALTY SOCIETY AND ACADEMIC MEDICAL CENTER INPUT

In 2008, in response to requests, Blue Cross Blue Shield Association received input from 3 physician specialty societies and 1 academic medical center. While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted. The input received from these reviewers supported the use of MRS in differentiating radiation necrosis from recurrent tumor and in the differential diagnosis of certain CNS tumors from non-tumors.

PRACTICE GUIDELINES AND POSITION STATEMENTS

American College of Radiology et al

The American College of Radiology (ACR) updated its practice guideline on MRS of the central nervous system in 2019. Most of the guideline is devoted to the actual performance of MRS, but it also lists 25 possible indications for MRS when MRI or computed tomography is inadequate for answering specific clinical questions.

ACR appropriateness criteria for prostate cancer, last reviewed in 2022, does not mention the use of MRS in the pretreatment detection, surveillance and staging of prostate cancer.

ACR appropriateness criteria for imaging for cerebrovascular disease, dementia, and movement disorders (updated in 2024) considers MRS to be usually inappropriate.

National Comprehensive Cancer Network

The National Comprehensive Cancer Network's (NCCN) clinical practice guidelines on central nervous system cancers identifies MRS as a modality that can be considered to distinguish

radiation necrosis from active tumor. The guidelines also state that MRS allows detection and measurement of some specific metabolites within tumors and normal brain tissue. It has been successfully used in neuro-oncology for prediction of tumor grade, selection of biopsy sites, and differentiation of viable/progressive tumors from treatment-related changes or assessing response and that the most abnormal area on MRS would be the best target for biopsy. It is currently not used or recommended for routine brain tumor imaging, mainly due to its additional imaging time requirements, variability of data acquisition, and interpretation, which limits its more widespread use. The limitations include tumors near vessels, air spaces, or bone; the extra time required in a magnetic resonance imaging (MRI) machine. It also provides limited results in small, hemorrhagic or cystic/necrotic lesions. MRS is currently used mainly to provide additional diagnostic information in selected cases when other imaging modalities are inconclusive, and MRS results should be interpreted with caution, taking account other clinical and imaging findings.

The NCCN clinical guidelines on prostate cancer list “MR spectroscopy” as an imaging technique but make no recommendations for its use.

NCCN clinical guidelines on breast cancer do not mention MRS.

National Institute for Health and Care Excellence

The National Institute for Health and Care Excellence (NICE) guidance on primary brain tumors and brain metastases in adults, updated in 2021, includes the following recommendations regarding the use of MRS:

- In patients undergoing imaging for suspected glioma, advanced magnetic resonance imaging (MRI) techniques, such as MR perfusion and MRS may be considered to assess the potential of a high-grade transformation in a tumor appearing to be low grade on standard structural MRI.
- In patients undergoing follow-up for glioma or brain metastases, advanced MRI techniques such as MR perfusion, diffusion tensor imaging and MRS may be considered if findings from standard imaging are unclear regarding whether there is recurrence and early identification is potentially clinically useful.

The NICE guidance on Parkinson's disease in adults, published in 2017, states that MRS should not be used in the differential diagnosis of parkinsonian syndromes

U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATIONS

Not applicable.

Regulatory Status:

Multiple software packages for performing proton MRS have received clearance by the U.S. Food and Drug Administration (FDA) through the 510(k) process since 1993. Single-voxel MRS is available on all modern magnetic resonance imaging scanners. FDA product code: LNH and LNI

Government Regulations National:

There is no local coverage determination.

Local:

There is no local coverage determination.

(The above Medicare information is current as of the review date for this policy. However, the coverage issues and policies maintained by the Centers for Medicare & Medicare Services [CMS, formerly HCFA] are updated and/or revised periodically. Therefore, the most current CMS information may not be contained in this document. For the most current information, the reader should contact an official Medicare source.)

Related Policies

- Magnetic Resonance Angiography/Magnetic Resonance Venography
 - Magnetic Resonance Imaging for Detection and Diagnosis of Breast Cancer
 - Magnetic Resonance Imaging, Low-Field
 - Magnetic Resonance Neurography
 - Magnetoencephalography and Magnetic Source Imaging
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The articles reviewed in this research include those obtained in an Internet based literature search for relevant medical references through 3/5/26, the date the research was completed.

Joint BCBSM/BCN Medical Policy History

Policy Effective Date	BCBSM Signature Date	BCN Signature Date	Comments
7/2/02	7/2/02	7/2/02	Joint policy established
12/19/03	12/19/03	1/16/04	Routine Maintenance
2/8/05	2/8/05	1/14/05	Routine Maintenance
3/14/06	3/14/06	3/17/06	Maintenance review-policy changed to “established” for mitochondrial disorders and disorders of creatine metabolism
5/1/07	3/1/07	5/1/07	Routine maintenance
5/1/08	2/19/08	5/1/08	Routine maintenance
5/1/10	2/16/10	2/16/10	Routine maintenance
11/1/11	8/16/11	8/16/11	Routine maintenance. No change in status.
5/1/13	2/19/13	3/4/13	Routine maintenance. Added inclusion for distinguishing tissue necrosis from brain tumors
7/1/14	6/20/14	6/23/14	Routine maintenance. No change in status.
9/1/15	6/19/15	7/16/15	Routine maintenance. Updated references and rationale.
9/1/16	6/21/16	6/21/16	Routine maintenance
9/1/17	6/20/17	6/20/17	Routine maintenance. Updated related policies and background
9/1/18	6/19/18	6/19/18	Routine maintenance
7/1/19	4/16/19		Routine maintenance
7/1/20	4/14/20		Routine maintenance
7/1/21	4/20/21		0609T – 0612T added as EI per code update
7/1/22	4/19/22		Routine maintenance
7/1/23	4/26/23		Routine maintenance (slp) Vendor Managed: N/A
7/1/24	4/16/24		Routine maintenance (slp) Vendor Managed: Carelon

7/1/25	4/15/25		Routine maintenance (slp) Vendor Managed: Carelon
7/1/26	4/21/26		Routine maintenance (slp/no) Vendor Managed: Carelon Policy reformatted

Next Review Date: 2nd Qtr, 2027

BLUE CARE NETWORK BENEFIT COVERAGE
POLICY: MAGNETIC RESONANCE SPECTROSCOPY

I. Coverage Determination:

Commercial HMO (includes Self-Funded groups unless otherwise specified)	Covered for indications noted in the policy Inclusion section
BCNA (Medicare Advantage)	Refer to the Medicare information under the Government Regulations section of this policy.
BCN65 (Medicare Complementary)	Coinsurance covered if primary Medicare covers the service.

II. Administrative Guidelines:

- The member's contract must be active at the time the service is rendered.
- Coverage is based on each member's certificate and is not guaranteed. Please consult the individual member's certificate for details. Additional information regarding coverage or benefits may also be obtained through customer or provider inquiry services at BCN.
- The service must be authorized by the member's PCP except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Services must be performed by a BCN-contracted provider, if available, except for Self-Referral Option (SRO) members seeking Tier 2 coverage.
- Payment is based on BCN payment rules, individual certificate and certificate riders.
- Appropriate copayments will apply. Refer to certificate and applicable riders for detailed information.
- CPT - HCPCS codes are used for descriptive purposes only and are not a guarantee of coverage.