SHP Iron Quantification with Magnetic Resonance Imaging

MCG Health
Ambulatory Care
26th Edition

AUTH: SHP Imaging 16 v5 (AC)

Link to Codes

Coverage

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

See the appropriate benefit document for specific coverage determination. Member specific benefits take precedence over medical policy.

Application to Products

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

- Policy is applicable to all products.

Authorization Requirements

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

Pre-certification by the Plan is required.

Description of Item or Service

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

Magnetic resonance iron quantification is a non-invasive imaging study that quantifies the concentration of iron within the liver and additional storage organs, a key indicator in the management of patients with hemochromatosis. Other names for Iron Quantification with Magnetic Resonance Imaging include but are not limited to, Liver iron concentration (LIC) imaging companion diagnostic, FerriScan, R2 MRI, liver iron concentration MRI, R2 Relaxometry, Liversmart, FerriSmart, Liver MRI T2 and LiverMultiScan.

Exceptions and Limitations

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

- There is insufficient scientific evidence to support the medical necessity of FerriScan R2 Magnetic Resonance Imaging (MRI) Analysis for uses other than those listed in the clinical indications for procedure section.

Clinical Indications for Procedure

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

- Iron Quantification with Magnetic Resonance Imaging is considered medically necessary with **1 or more** of the following :
    - Individual is under 21 years of age with **ALL** of the following:
        - Individual is a candidate for chelation therapy.
        - Laboratory tests (e.g. serum ferritin, serum transferrin, etc.) are not sufficient to determine an appropriate treatment plan and the results of the scan will directly impact the treatment provided to the individual.
        - Individual has diagnosis of **1 or more** of the following::
            - Hereditary Hemochromatosis with **1 or more** of the following:
                - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
                - Individual's transferrin saturation (TSAT) level is greater than 45%.
            - Myelodysplastic Syndrome with **ALL** of the following:
                - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
                - Individual has received more than 20 units of packed red blood cells from long term transfusion therapy.
            - Porphyrin metabolism disorder in which the serum ferritin level is greater than 25 ng/ml (demonstrated within the last 12 months).
            - Sickle Cell Disease with **ALL** of the following:
                - Individual is over the age of 2 years old.
                - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).

        - Individual has received more than 20 units of packed red blood cells from long term transfusion therapy.
      - Thalassemia Major with **ALL** of the following:
        - Individual is over the age of 2 years old.
        - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
        - Individual has received more then 10 units of packed red blood cells from long term transfusion therapy.
      - Thalassemia Intermedia with **ALL** of the following:
        - Individual is over the age of 4 years old.
        - Individual's serum ferritin level is greater than or equal to 400 ng/ml (demonstrated within the last 12 months).
  - Individual is 21 years of age or older with **ALL** of the following:
    - Individual has a documented contraindication to liver biopsy.
    - Individual is a candidate for chelation therapy.
    - Laboratory tests (e.g. serum ferritin, serum transferrin, etc.) are not sufficient to determine an appropriate treatment plan and the results of the scan will directly impact the treatment provided to the individual.
    - Individual has **1 or more** of the following:
      - Hereditary Hemochromatosis with **1 or more** of the following:
        - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
        - Individual's transferrin saturation (TSAT) level is greater then 45%.
      - Myelodysplastic Syndrome with **ALL** of the following:
        - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
        - Individual has received more then 20 units of packed red blood cells from long term transfusion therapy.
      - Porphyrin metabolism disorder in which the serum ferritin level is greater then 25 ng/ml (demonstrated within the last 12 months).
      - Sickle Cell Disease with **ALL** of the following:
        - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
        - Individual has received more then 20 units of packed red blood cells from long term transfusion therapy.
      - Thalassemia Major with **ALL** of the following:
        - Individual's serum ferritin level is greater than or equal to 1000 ng/ml (demonstrated within the last 12 months).
        - Individual has received more than 10 units of packed red blood cells from long term transfusion therapy.
      - Thalassemia Intermedia with a serum ferritin level greater than or equal to 400 ng/ml (demonstrated within the last 12 months).

Document History

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

- Revised Dates:
  - 2022: April, May
  - 2019: October
  - 2015: December
- Reviewed Dates:
  - 2023: March
  - 2021: May
  - 2020: June
  - 2019: January
  - 2018: January
  - 2017: February
  - 2016: March
  - 2015: November
  - 2013: November
- Effective Date: July 2013

Coding Information

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

- CPT/HCPCS codes covered if policy criteria is met:
  - CPT 0648T - Quantitative magnetic resonance for analysis of tissue composition (eg, fat, iron, water content), including multiparametric data acquisition, data preparation and transmission, interpretation and report, obtained without diagnostic MRI examination of the same anatomy (eg, organ, gland, tissue, target structure) during the same session; single organ
  - CPT 0649T - Quantitative magnetic resonance for analysis of tissue composition (eg, fat, iron, water content), including multiparametric data acquisition, data preparation and transmission, interpretation and report, obtained with diagnostic MRI examination of the same anatomy (eg, organ, gland, tissue, target structure); single organ (List separately in addition to code for primary procedure)
  - CPT 0697T - Quantitative magnetic resonance for analysis of tissue composition (eg, fat, iron, water content), including multiparametric data acquisition, data preparation and transmission, interpretation and report, obtained without diagnostic MRI examination of the same anatomy (eg, organ, gland, tissue, target structure) during the same session; multiple organs
  - CPT 0698T - Quantitative magnetic resonance for analysis of tissue composition (eg, fat, iron, water content), including multiparametric data acquisition, data preparation and transmission, interpretation and report, obtained with diagnostic MRI examination of the same anatomy (eg, organ, gland, tissue, target structure); multiple organs (List separately in addition to code for primary procedure)
  - CPT 76498 - Unlisted magnetic resonance procedure (eg, diagnostic, interventional)
- CPT/HCPCS codes considered not medically necessary per this Policy:
  - None

References

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

References used include but are not limited to the following:

Specialty Association Guidelines; Government Regulations; Winifred S. Hayes, Inc; Uptodate; Literature Review; Specialty Advisors; National Coverage Determination (NCD); Local Coverage Determination (LCD).

(2022, Aug 31). Retrieved Feb 13, 2023, from MCG: https://careweb.careguidelines.com/ed26/index.html

(2023). Retrieved Feb 09, 2023, from Hayes, Inc: https://evidence.hayesinc.com/search?q=%257B%2522text%2522:%2522hemochromatosis%2522,%2522title%2522:null,%2522termsource%2522:%2522searchbar%2522,%2522page%2522:%257B%2522page%2522:0,%2522size%2522:50%257D,%2522type%2522:%2522all%2522,%2522sources%2522:%

(2023). Retrieved Feb 09, 2023, from Centers for Medicare and Medicaid Services: https://www.cms.gov/medicare-coverage-database/search-results.aspx?keyword=MRI&keywordType=starts&areaId=s53&docType=NCA,CAL,NCD,MEDCAC,TA,MCD,6,3,5,1,F,P&contractOption=all&sortBy=relevance

(2023). Retrieved Feb 09, 2023, from National Comprehensive Cancer Network: https://www.nccn.org/search-result?indexCatalogue=nccn-search-index&searchQuery=LiverMultiScan

(2023). Retrieved Feb 13, 2023, from Department of Medical Assistance Services: https://vamedicaid.dmas.virginia.gov/manuals/provider-manuals-library#gsc.tab=0&gsc.q=LiverMultiScan&gsc.sort=

ADVANCED IMAGING - Appropriate Use Criteria: Imaging of the Abdomen and Pelvis. (2022, Mar 13). Retrieved Feb 09, 2023, from AIM Specialty Health: https://aimspecialtyhealth.com/wp-content/uploads/2021/09/RBM_abdomen-pelvis-imaging.pdf

ADVANCED IMAGING - Appropriate Use Criteria: Imaging of the Heart. (2022, Nov 06). Retrieved Feb 09, 2023, from AIM Specialty Health: https://aimspecialtyhealth.com/wp-content/uploads/2022/08/Cardiac-Imaging-11-06-22.pdf

Bacon, B., & Kwiatkowski, J. (2022, Jun 09). Approach to the patient with suspected iron overload. Retrieved Feb 09, 2023, from UpToDate: https://www.uptodate.com/contents/approach-to-the-patient-with-suspected-iron-overload?sectionName=Noninvasive%20imaging%20(MRI)&search=FerriScan&topicRef=3614&anchor=H404538&source=see_link#H404538

Bajre, M., Moawad, M., Shumbayawonda, E., Carolan, J., Hart, J., Culver, E., & Heneghan, M. (2022, Sep 08). LiverMultiScan as an alternative to liver biopsy to monitor autoimmune hepatitis in the National Health Service in England: an economic evaluation. Retrieved Feb 13, 2023, from PubMed: https://pubmed.ncbi.nlm.nih.gov/36691214/

Clinical Implementation of a Focused MRI Protocol for Hepatic Fat and Iron Quantification. (2019, Jul). Retrieved Feb 13, 2023, from American Journal of Roentgenology: https://www.ajronline.org/doi/pdf/10.2214/AJR.18.20947

MRI (Magnetic Resonance Imaging). (2018, Aug 29). Retrieved Feb 13, 2023, from Food and Drug Administration: https://www.fda.gov/radiation-emitting-products/medical-imaging/mri-magnetic-resonance-imaging

NCD: Magnetic Resonance Imaging (220.2). (2018, Apr 10). Retrieved Feb 13, 2023, from Centers for Medicare and Medicaid Services: https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=177&ncdver=6&

(2022). Retrieved Apr 12, 2022, from EncoderPro: https://www.encoderpro.com

(2022). Retrieved Apr 12, 2022, from FerriScan: https://ferriscan.com/

Comparison of liver MRI R2(FerriScan®) VS liver MRI T2* as a measure of body iron load in a cohort of beta thalassemia major patients. (2020, Jan 22). Retrieved Apr 12, 2022, from Orphanet Journal of Rare Diseases: https://ojrd.biomedcentral.com/articles/10.1186/s13023-020-1301-4

FERRISCAN R2-MRI ANALYSIS SYSTEM: Liver iron concentration imaging. (2015). Retrieved Apr 12, 2022, from FDA: https://www.accessdata.fda.gov/cdrh_docs/reviews/K124065.pdf#:~:text=The%20FerriScan%20R2-MRI%20Analysis%20System%20is%20a%20post-processing,liver%20iron%20concentration%20measurements%20using%20a%20calibration%20curve.

GUIDELINES FOR THE MANAGEMENT OF TRANSFUSION DEPENDENT THALASSAEMIA (TDT). (2021). Retrieved Apr 12, 2022, from Thalassemia International Federation: https://www.thalassemia.org/boduw/wp-content/uploads/2021/06/TIF-2021-Guidelines-for-Mgmt-of-TDT.pdf

Guidelines Supporting the Use of FerriScan R2-MRI to Measure Liver Iron Concentration. (2017, June). Retrieved Apr 12, 2022, from FerriScan: MRI Measurement of Liver Iron Concentration: https://www.resonancehealth.com/images/files/FerriScan/Guidelines_Supporting_The_Use_of_FerriScan_June_2017.pdf

LiverMultiScan for liver disease. (2019, Apr 26). Retrieved Apr 12, 2022, from National Institute for Health and Care Excellence (NICE): https://www.nice.org.uk/advice/mib181/resources/livermultiscan-for-liver-disease-pdf-2285963692990405

Methods to determine hepatic iron content. (2022, Jan 24). Retrieved Apr 12, 2022, from UpToDate: https://www.uptodate.com/contents/methods-to-determine-hepatic-iron-content?search=ferriscan&source=search_result&selectedTitle=1~2&usage_type=default&display_rank=1

Transfusional Iron Overload. (2018, Dec 3). Retrieved Apr 12, 2022, from DynaMed: https://www.dynamed.com/condition/transfusional-iron-overload#LIVER_IRON_CONCENTRATION

Codes

Return to top of *SHP Iron Quantification with Magnetic Resonance Imaging - AC*

CPT® : 0648T, 0649T, 0697T, 0698T, 76498

MCG Health
Ambulatory Care 26th Edition