

Radiation and Oncologic Procedures

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[Instructions for Use](#)

| Table of Contents | Page |
|---|------|
| Coverage Rationale | 1 |
| Applicable Codes | 3 |
| CMS Related Documents | 4 |
| References | 5 |
| Policy History/Revision Information | 5 |
| Instructions for Use | 5 |

| Related Commercial Policies |
|---|
| <ul style="list-style-type: none"> Intensity-Modulated Radiation Therapy Proton Beam Radiation Therapy Radiation Therapy: Fractionation, Image-Guidance, and Special Services Stereotactic Body Radiation Therapy and Stereotactic Radiosurgery Transarterial Radioembolization (TARE)/Selective Internal Radiation Therapy (SIRT) for the Treatment of Malignant Cancers of the Liver |

Coverage Rationale

Implantable Beta-Emitting Microspheres for Treatment of Malignant Tumors

Medicare has a general [National Coverage Determination \(NCD\) for Therapeutic Embolization \(20.28\)](#). Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) do not exist.

For coverage guidelines, in addition to the general Medicare guidelines in the NCD referenced above, refer to the UnitedHealthcare Commercial Medical Policy titled [Transarterial Radioembolization \(TARE\)/Selective Internal Radiation Therapy \(SIRT\) for the Treatment of Malignant Cancers of the Liver](#).

UnitedHealthcare uses the criteria noted above to supplement the Medicare criteria within the NCD in order to ensure consistency in reviewing the conditions to be met for coverage of TARE/SIRT using implantable beta-emitting microspheres for treatment of malignant tumors, as well as reviewing when such services may be reasonable and necessary. Use of this criteria to supplement the general provisions noted above provides clinical benefits by helping ensure TARE/SIRT using implantable beta-emitting microspheres for treatment of malignant tumors is not incorrectly denied when medically appropriate for a particular individual nor incorrectly approved when not reasonable and necessary. The potential clinical harms of using these criteria may include inappropriately denying TARE/SIRT using implantable beta-emitting microspheres for treatment of malignant tumors when it is otherwise indicated, which could lead to a clinically significant probability of complications from disease progression. The benefits to using these criteria may include a decrease of inappropriate denials by creating a consistent set of review criteria and will provide clinical benefits in helping ensure that the individual obtains an appropriate procedure for the requested indication. Further, use of the criteria should limit the circumstances where TARE/SIRT using implantable beta-emitting microspheres for treatment of malignant tumors is incorrectly approved, which itself provides benefits because it prevents unnecessary development of adverse events (e.g., fatigue, stomach discomfort, nausea, vomiting, and fever). Additionally, individuals undergoing TARE/SIRT using implantable beta-emitting microspheres for treatment of malignant tumors may be at risk that some of the microspheres could go to other organs, resulting in injuries such as radiation damage to the lungs, fluid collection around the lungs, injury or radiation to the gallbladder, stomach or intestinal ulcer, bleeding from the stomach or intestines and kidney damage. Overall, based on the information above, the clinical benefits of using these criteria are highly likely to outweigh any clinical harms, including from delayed or decreased access to services.

Transarterial Therapy of the Liver

Medicare has a general [NCD for Therapeutic Embolization \(20.28\)](#). LCDs/LCAs do not exist.

For coverage guidelines, in addition to the general Medicare guidelines in the NCD referenced above, refer to the InterQual® CP: Procedures, Ablative or Transarterial Therapy, Liver.

[Click here to view the InterQual® criteria.](#)

UnitedHealthcare uses the criteria noted above to supplement the Medicare criteria within the NCD in order to ensure consistency in reviewing the conditions to be met for coverage of Transarterial Bland Embolization (TAE) or Transarterial Chemoembolization (TACE), as well as reviewing when such services may be reasonable and necessary. Use of this criteria to supplement the general provisions noted above provides clinical benefits by helping ensure TAE/TACE is not incorrectly denied when medically appropriate for a particular individual nor incorrectly approved when not reasonable and necessary for an individual. The potential clinical harms of using these criteria may include inappropriately denying TAE/TACE when it is otherwise indicated, which could lead to a clinically significant probability of complications from disease progression, significant morbidity and potential mortality. This may impact the individual's functional independence, activities of daily living, and overall quality of life. The benefits to using these criteria may include a decrease of inappropriate denials by creating a consistent set of review criteria and will provide clinical benefits in helping ensure that the individual obtains an appropriate procedure for the requested indication. Further, use of the criteria should limit the circumstances where TAE/TACE is incorrectly approved, which itself provides benefits because it prevents unnecessary development of adverse events (e.g., abdominal pain, fever and elevated liver function tests). Additionally, individuals undergoing TAE/TACE may be at risk of deterioration of liver function with development of ascites and potentially liver failure. Overall, based on the information above, the clinical benefits of using these criteria are highly likely to outweigh any clinical harms, including from delayed or decreased access to services.

Image Guided Radiation Therapy (IGRT)

Medicare does not have an NCD for IGRT. LCDs/LCAs do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Radiation Therapy: Fractionation, Image-Guidance, and Special Services](#).

Radiation Therapy Special/Associated Services

Medicare does not have an NCD for special/associated services. LCDs/LCAs do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Radiation Therapy: Fractionation, Image-Guidance, and Special Services](#).

Radiation Treatment Delivery; Level 1, 2, 3 (When Reported for 2D/3D)

Medicare does not have an NCD for Radiation Treatment Delivery. LCDs/LCAs do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policy titled [Radiation Therapy: Fractionation, Image-Guidance, and Special Services](#).

Proton Beam Therapy (PBT)

Medicare does not have an NCD for PBT. LCDs/LCAs exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for [Proton Beam Therapy/Proton Beam Radiotherapy](#).

For coverage guidelines for states/territories with no LCDs/LCAs, refer to the UnitedHealthcare Commercial Medical Policy titled [Proton Beam Radiation Therapy](#).

Radiation Treatment Delivery; Level 2 or 3 [When Reported for Intensity Modulated Radiation Therapy (IMRT)]

Medicare does not have an NCD for IMRT. LCDs/LCAs exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for [Intensity Modulated Radiation Therapy \(IMRT\)](#).

For coverage guidelines for states/territories with no LCDs/LCAs, refer to the UnitedHealthcare Commercial Medical Policy titled [Intensity-Modulated Radiation Therapy](#).

Combined Use of Proton Beam Therapy (PBT) and Intensity-Modulated Radiation Therapy (IMRT)

Medicare does not have an NCD for combined use of PBT and IMRT. LCDs/LCAs do not exist.

For coverage guidelines, refer to the UnitedHealthcare Commercial Medical Policies titled [Proton Beam Radiation Therapy](#) and [Intensity-Modulated Radiation Therapy](#).

Stereotactic Radiosurgery (SRS)/Stereotactic Body Radiation Therapy (SBRT)

Medicare does not have an NCD for SRS/SBRT. LCDs/LCAs exist and compliance with these policies is required where applicable. For specific LCDs/LCAs, refer to the table for [Stereotactic Radiosurgery \(SRS\)/Stereotactic Body Radiation Therapy \(SBRT\)](#).

For coverage guidelines for states/territories with no LCDs/LCAs, refer to the UnitedHealthcare Commercial Medical Policy titled [Stereotactic Body Radiation Therapy and Stereotactic Radiosurgery](#).

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service; however, language may be included in the listing below to indicate if a code is non-covered. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

| CPT Code | Description |
|---|--|
| Implantable Beta-Emitting Microspheres for Treatment of Malignant Tumors | |
| 37243 | Vascular embolization or occlusion, inclusive of all radiological supervision and interpretation, intraprocedural roadmapping, and imaging guidance necessary to complete the intervention; for tumors, organ ischemia, or infarction |
| 79445 | Radiopharmaceutical therapy, by intra-arterial particulate administration |
| Transarterial Therapy of the Liver | |
| 37243 | Vascular embolization or occlusion, inclusive of all radiological supervision and interpretation, intraprocedural roadmapping, and imaging guidance necessary to complete the intervention; for tumors, organ ischemia, or infarction |
| Image Guided Radiation Therapy (IGRT) | |
| 77387 | Guidance for localization of target volume for delivery of radiation treatment, includes intrafraction tracking, when performed |
| Radiation Therapy Special/Associated Services | |
| 77331 | Special dosimetry (e.g., TLD, microdosimetry) (specify), only when prescribed by the treating physician |
| 77370 | Special medical radiation physics consultation |
| 77399 | Unlisted procedure, medical radiation physics, dosimetry and treatment devices, and special services |
| 77470 | Special treatment procedure (e.g., total body irradiation, hemibody radiation, per oral or endocavitary irradiation) |
| Radiation Treatment Delivery; Level 1, 2, 3 (When Reported for 2D/3D) | |
| 77402 | Radiation treatment delivery; Level 1 (e.g., single-electron field, multiple-electron fields, or 2D photons), including imaging guidance, when performed |
| 77407 | Radiation treatment delivery; Level 2, single-isocenter (e.g., 3D or IMRT), photons, including imaging guidance, when performed |
| 77412 | Radiation treatment delivery; Level 3, multiple isocenters with photon therapy (e.g., 2D, 3D, or IMRT) or a single-isocenter photon therapy (e.g., 3D or IMRT) with active motion management, or total skin electrons, or mixed-electron/photon field(s), including imaging guidance, when performed |
| Proton Beam Therapy (PBT) | |
| 77520 | Proton treatment delivery; simple, without compensation |
| 77522 | Proton treatment delivery; simple, with compensation |
| 77523 | Proton treatment delivery; intermediate |

| CPT Code | Description |
|--|--|
| Proton Beam Therapy (PBT) | |
| 77525 | Proton treatment delivery; complex |
| Radiation Treatment Delivery: Level 2 or 3 [When Reported for Intensity Modulated Radiation Therapy (IMRT)] | |
| 77301 | Intensity modulated radiotherapy plan, including dose-volume histograms for target and critical structure partial tolerance specifications |
| 77407 | Radiation treatment delivery; Level 2, single-isocenter (e.g., 3D or IMRT), photons, including imaging guidance, when performed |
| 77412 | Radiation treatment delivery; Level 3, multiple isocenters with photon therapy (e.g., 2D, 3D, or IMRT) or a single-isocenter photon therapy (e.g., 3D or IMRT) with active motion management, or total skin electrons, or mixed-electron/photon field(s), including imaging guidance, when performed |
| Stereotactic Radiosurgery (SRS)/Stereotactic Body Radiation Therapy (SBRT) | |
| 77371 | Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; multi-source Cobalt 60 based |
| 77372 | Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; linear accelerator based |
| 77373 | Stereotactic body radiation therapy, treatment delivery, per fraction to 1 or more lesions, including image guidance, entire course not to exceed 5 fractions |

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| HCPCS Code | Description |
|---|--|
| Stereotactic Radiosurgery (SRS)/Stereotactic Body Radiation Therapy (SBRT) | |
| G0339 | Image guided robotic linear accelerator-based stereotactic radiosurgery, complete course of therapy in one session or first session of fractionated treatment |
| G0340 | Image guided robotic linear accelerator-based stereotactic radiosurgery, delivery including collimator changes and custom plugging, fractionated treatment, all lesions, per session, second through fifth sessions, maximum five sessions per course of treatment |

Centers for Medicare and Medicaid Services (CMS) Related Documents

After checking the table below and searching the [Medicare Coverage Database](#), if no NCD, LCD, or LCA is found, refer to the criteria as noted in the [Coverage Rationale](#) section above.

| NCD | LCD | LCA | Contractor Type | Contractor Name |
|---|---|---|------------------|-----------------|
| Proton Beam Therapy (PBT) | | | | |
| N/A | L36658 Proton Beam Therapy | A55315 Billing and Coding: Proton Beam Therapy | Part A and B MAC | CGS |
| | L33937 Proton Beam Radiotherapy | A57669 Billing and Coding: Proton Beam Radiotherapy | Part A and B MAC | First Coast |
| | L35075 Proton Beam Therapy | A56827 Billing and Coding: Proton Beam Therapy | Part A and B MAC | NGS |
| Intensity Modulated Radiation Therapy (IMRT) | | | | |
| N/A | L39553 Radiation Therapies | A59350 Billing and Coding: Radiation Therapies | Part A and B MAC | Palmetto** |

| NCD | LCD | LCA | Contractor Type | Contractor Name |
|---|---|---|------------------|-----------------|
| Stereotactic Radiosurgery (SRS)/Stereotactic Body Radiation Therapy (SBRT) | | | | |
| N/A | L35076 Stereotactic Radiation Therapy: Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiation Therapy (SBRT) | A56874 Billing and Coding: Stereotactic Radiation Therapy: Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiation Therapy (SBRT) | Part A and B MAC | NGS |
| | L39553 Radiation Therapies | A59350 Billing and Coding: Radiation Therapies | Part A and B MAC | Palmetto** |

| Medicare Administrative Contractor (MAC) With Corresponding States/Territories | |
|--|--|
| MAC Name (Abbreviation) | States/Territories |
| CGS Administrators, LLC (CGS) | KY, OH |
| First Coast Service Options, Inc. (First Coast) | FL, PR, VI |
| National Government Services, Inc. (NGS) | CT, IL, ME, MA, MN, NH, NY, RI, VT, WI |
| Noridian Healthcare Solutions, LLC (Noridian) | AS, AK, AZ, CA, GU, HI, ID, MT, NV, ND, Northern Mariana Islands, OR, SD, UT, WA, WY |
| Novitas Solutions, Inc. (Novitas) | AR, CO, DC, DE, LA, MD, MS, NJ, NM, OK, PA, TX, VA** |
| Palmetto GBA (Palmetto) | AL, GA, NC, SC, TN, VA**, WV |
| Wisconsin Physicians Service Insurance Corporation (WPS)* | IA, IN, KS, MI, MO, NE |
| Notes | |
| *Wisconsin Physicians Service Insurance Corporation: Contract Number 05901 applies only to WPS Legacy Mutual of Omaha MAC A Providers. | |
| **For the state of Virginia: Part B services for the city of Alexandria and the counties of Arlington and Fairfax are excluded for the Palmetto GBA jurisdiction and included within the Novitas Solutions, Inc. jurisdiction. | |

References

American College of Radiology (ACR) Appropriateness Criteria. Management of Liver Cancer. 2022. Available at: <https://acsearch.acr.org/docs/69379/Narrative/>. Accessed November 25, 2025.

Tsochatzis EA, Fatourou E, O'Beirne J, et al. Transarterial chemoembolization and bland embolization for hepatocellular carcinoma. World J Gastroenterol. 2014 Mar 28;20(12):3069-77.

U.S. Food and Drug Administration. Patient information guide understanding your treatment TheraSphere™ yttrium-90 glass microspheres. [Internet] Marlborough (MA): U.S. Boston Scientific Corporation. 2021. Available at https://www.accessdata.fda.gov/cdrh_docs/pdf20/P200029D.pdf. Accessed October 22, 2025.

Policy History/Revision Information

| Date | Summary of Changes |
|------------|--|
| 03/01/2026 | <p>Applicable Codes</p> <ul style="list-style-type: none"> Added HCPCS codes G0339 and G0340 <p>Supporting Information</p> <ul style="list-style-type: none"> Archived previous policy version MMP077.15 |

Instructions for Use

The Medicare Advantage Policy documents are generally used to support UnitedHealthcare coverage decisions. It is expected providers retain or have access to appropriate documentation when requested to support coverage. This document may be used as a guide to help determine applicable:

- Medical necessity coverage guidelines; including documentation requirements, and/or
- Medicare coding or billing requirements.

Medicare Advantage Policies are applicable to UnitedHealthcare Medicare Advantage Plans offered by UnitedHealthcare and its affiliates. This Policy is provided for informational purposes and does not constitute medical advice. It is intended to serve only as a general reference and is not intended to address every aspect of a clinical situation. Physicians and patients should not rely on this information in making health care decisions. Physicians and patients must exercise their independent clinical discretion and judgment in determining care. Treating physicians and healthcare providers are solely responsible for determining what care to provide to their patients. Members should always consult their physician before making any decisions about medical care.

Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The member specific benefit plan document identifies which services are covered, which are excluded, and which are subject to limitations. In the event of a conflict, the member specific benefit plan document supersedes this policy. For more information on a specific member's benefit coverage, call the customer service number on the back of the member ID card or refer to the [Administrative Guide](#).

Medicare Advantage Policies are developed as needed, are regularly reviewed, and updated, and are subject to change. They represent a portion of the resources used to support UnitedHealthcare coverage decision making. UnitedHealthcare may modify these Policies at any time by publishing a new version on this website. Medicare source materials used to develop these policies may include, but are not limited to, CMS statutes, regulations, National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), and manuals. This document is not a replacement for the Medicare source materials that outline Medicare coverage requirements. The information presented in this Policy is believed to be accurate and current as of the date of publication. Where there is a conflict between this document and Medicare source materials, the Medicare source materials apply. Medicare Advantage Policies are the property of UnitedHealthcare. Unauthorized copying, use, and distribution of this information are strictly prohibited.

UnitedHealthcare follows Medicare coverage guidelines found in statutes, regulations, NCDs, and LCDs to determine coverage. The clinical coverage criteria governing certain items or services referenced in this Medical Policy have not been fully established in applicable Medicare guidelines because there is an absence of any applicable Medicare statutes, regulations, NCDs, or LCDs setting forth coverage criteria and/or the applicable NCDs or LCDs include flexibility that explicitly allows for coverage in circumstances beyond the specific indications that are listed in an NCD or LCD. As a result, in these circumstances, UnitedHealthcare applies internal coverage criteria as referenced in this Medical Policy. The internal coverage criteria in this Medical Policy was developed through an evaluation of the current relevant clinical evidence in acceptable clinical literature and/or widely used treatment guidelines. UnitedHealthcare evaluated the evidence to determine whether it was of sufficient quality to support a finding that the items or services discussed in the policy might, under certain circumstances, be reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.

Providers are responsible for submission of accurate claims. Medicare Advantage Policies are intended to ensure that coverage decisions are made accurately. UnitedHealthcare Medicare Advantage Policies use Current Procedural Terminology (CPT®), Centers for Medicare and Medicaid Services (CMS), or other coding guidelines. References to CPT® or other sources are for definitional purposes only and do not imply any right to reimbursement or guarantee claims payment.

For members in UnitedHealthcare Medicare Advantage plans where a delegate manages utilization management and prior authorization requirements, the delegate's requirements need to be followed.