Kidney Cancer

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For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Please refer to the CMS website at http://www.cms.gov for additional information.

For Medicaid members/enrollees, circumstances when state Medicaid coverage provisions conflict with the coverage provisions within 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.

Discussion

Kidney cancer, including malignancies of the renal pelvis, represents approximately 4% of all newly diagnosed cancers each year in the United States. The median age at diagnosis is 65 years. An estimated 80,450 new cases are expected to be diagnosed in 2026. Approximately 66% of patients present with localized disease, and the overall 5-year survival rate for individuals diagnosed between 2015 and 2021 is 79%. Key prognostic factors influencing 5-year survival include tumor stage, grade, the extent of local tumor invasion, the presence of regional lymph node involvement, and evidence of distant metastatic disease at the time of diagnosis. The most common sites of metastasis include the adrenal glands, brain, bone, liver, lung, and lymph nodes.

Renal cell carcinoma (RCC) accounts for the majority of kidney cancers, with clear cell renal cell carcinoma (ccRCC) comprising approximately 80%–90% of RCC cases. Less common histologic subtypes include papillary, chromophobe, and oncocytic RCC, as well as molecularly defined variants such as TFE3-rearranged and TFEB-altered (translocation) RCC and collecting duct carcinoma. A particularly rare and highly aggressive subtype is SMARCB1-deficient renal medullary carcinoma, which occurs almost exclusively in individuals with sickle cell trait or hemoglobin sickle cell disease, and only rarely in patients with sickle cell disease.[1]

Complete surgical resection remains the only treatment with curative potential for RCC.[2] Radiation therapy may be considered for patients who are not suitable surgical candidates or who have a solitary functioning kidney. It can also be used in select patients with limited metastatic disease, particularly when only a small number of metastatic lesions are present. In addition, radiation therapy plays an important palliative role by relieving symptoms such as pain, stabilizing bones weakened by osseous metastases, controlling bleeding, and managing other complications associated with metastatic disease. It may also be considered for patients who experience a localized recurrence characterized by a single recurrent tumor.[3]

Palliative Radiation Therapy

Recent NCCN guidelines recommend that palliative radiation should be given in the metastatic or recurrent setting. More robust and durable palliation has been found with the use of higher doses and/or hypofractionated regimens. Stereotactic body radiation therapy (SBRT) fractionation and dosing is the preferred method.[1]

Definitions

- **Brachytherapy (BT) -** Brachytherapy is a procedure that involves placing radioactive material inside your body. Brachytherapy is sometimes called internal radiation.[4]
- **Definitive Radiation -** Radiation therapy used with curative intent.[5]
- **Fractions -** A way of dividing a total dose of radiation into separate doses to be administered over a period of time.[6]
- **Gray (Gy) -** One of the two units used to measure the amount of radiation absorbed by an object or person, known as the absorbed dose. One gray (Gy) is the international system of units (SI) equivalent of 100 rads, which is equal to an absorbed dose of 1 Joule/kilogram.[7]
- **Image-Guided Radiation Therapy (IGRT) -** Image-guided radiation therapy (IGRT) is the use of imaging during radiation therapy to improve the precision and accuracy of treatment delivery. IGRT is used to treat tumors in areas of the body that move, such as the lungs. Radiation therapy machines are equipped with imaging technology to allow your doctor to image the tumor before and

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during treatment. By comparing these images to the reference images taken during simulation, the patient's position and/or the radiation beams may be adjusted to more precisely target the radiation dose to the tumor. To help align and target the radiation equipment, some IGRT procedures may use fiducial markers, ultrasound, MRI, X-ray images of bone structure, CT scan, 3D body surface mapping, electromagnetic transponders, or colored ink tattoos on the skin.[8]

- **National Comprehensive Cancer Network® (NCCN) -** An alliance of 33 leading cancer centers devoted to patient care, research, and education. The NCCN guidelines are utilized for Radiation Therapy and Medical Oncology standards.[9]
- **Palliative Radiation -** Treatment given to help relieve the symptoms and reduce the suffering caused by cancer or other life-threatening diseases. Palliative therapy may help a person feel more comfortable, but it does not treat or cure the disease. Palliative therapy may be given with other treatments from the time of diagnosis until the end of life.[10]
- **Stereotactic Body Radiation Therapy (SBRT) -** A type of external radiation therapy that uses special equipment to position a patient and precisely deliver radiation to tumors in the body (except the brain). The total dose of radiation is divided into smaller doses given over several days. This type of radiation therapy helps spare normal tissue. Also called SABR, SBRT, and stereotactic ablative body radiation therapy.[11]
- **Three-Dimensional Conformal Radiation Therapy (3D-CRT) -** A procedure that uses a computer to create a three-dimensional picture of the tumor. This allows doctors to give the highest possible dose of radiation to the tumor while sparing the normal tissue as much as possible.[12]

Policy

Prior authorization requests for radiation therapy must include documentation supporting medical necessity, including:

- Relevant clinical records (e.g., history, physical exam findings, pathology, imaging, laboratory results, and prior treatments, as applicable).
- The treating radiation oncologist's consultation note with evaluation, assessment, and treatment recommendation.

The following table outlines the criteria that must be met for the number of fractions and dosing relative to kidney cancer radiation treatments. Definitive radiation management patients receive concurrent chemotherapy. This dosing table represents evidence-based doses and fractions for the designated type of cancer treatment. Variations outside of the ranges may indicate a deviation from standard treatment.

Kidney Cancer	Number of Fractions	Total Dose	Technique
Definitive Radiotherapy (Non-Surgical Candidates)	1-5	25-50 Gy	SBRT
Palliative Oligometastatic Disease	1-5	16-60 Gy	SBRT
Palliative	1-10	8-30 Gy	Simple, Intermediate, Complex, SBRT

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Please see all related radiation therapy treatment policies for additional information on the treatment modalities. (3D-CRT, EBRT, IGRT, SBRT, and IMRT)

Coding (CPT®, ICD-10, and HCPCS)

Procedure codes appearing in medical policy documents are only included as a general reference. This list may not be all-inclusive and is subject to updates. In addition, the codes listed are not a guarantee of payment. CPT codes are available through the AMA.

Code	Description
C64	Malignant neoplasm of kidney, except renal pelvis
C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis
C65	Malignant neoplasm of renal pelvis
C65.9	Malignant neoplasm of unspecified renal pelvis
77293	Respiratory motion management simulation (List separately in addition to code for primary procedure). This is an add-on code and cannot be billed on its own. It should be billed with either CPT code 77295 or 77301.
77300	Basic radiation dosimetry calculation central axis depth dose calculation, TDF, NSD, gap calculation, off axis factor, tissue inhomogeneity factors, calculation of non-ionizing radiation surface and depth dose, as required during course of treatment, only when prescribed by the treating physician. This code can generally be billed once for each IMRT beam or arc up to a limit of ten. This code is used to report dosimetry calculations that arrive at the relationship between monitor units (or time) and dose, and the physician's verification, review, and approval. The documentation should contain the independent check of each field, separate from the computer-generated IMRT plan.
77332	Treatment devices, design and construction; simple treatment devices include simple multi-use shaped blocks, bolus and passive, multiuse devices.
77333	Treatment devices, design and construction; intermediate treatment devices include pre-cast or pre-made standard-shaped blocks, stents, and special bolus and bite blocks.
77334	Treatment devices, design and construction; complex treatment devices include custom-fabricated cast blocks, immobilization devices, wedges, compensators and eye shields.
77373	Stereotactic body radiation therapy (SBRT), treatment delivery, including image guidance
77387-26	Image-guided radiation therapy (IGRT) – professional component
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

Revision and Review History

No.	Description	Date(s)
1	Original Effective Date:	9/1/26
2	Policy Annual Review Dates:	
3	Department Owner:	Medical Affairs
4	NH Advisory Committee Approval Dates:	9/1/26, 10/23/25

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5	Revision Changes:	10/23/26 Replaced company logo with new logo, and adjusted any reference of Nanthealth to NantIQ; v.1.1

References

[1] National Comprehensive Cancer Network. NCCN Guidelines: Kidney Cancer. https://www.nccn.org/professionals/physician_gls/pdf/kidney.pdf. Accessed August 17, 2026.

[2] Tselis N, Chatzikonstantinou G. Treating the Chameleon: Radiotherapy in the management of Renal Cell Cancer. *Clin Transl Radiat Oncol*. 2019;16:7-14. https://pmc.ncbi.nlm.nih.gov/articles/PMC6403071/pdf/main.pdf. Accessed August 17, 2026.

[3] Kidney cancer: Radiation therapy. Cedars Sinai. https://www.cedars-sinai.org/health-topics/kidney-cancer-radiation-therapy. Accessed August 17, 2026.

[4] Brachytherapy to Treat cancer. National Cancer Institute. https://www.cancer.gov/about-cancer/treatment/types/radiation-therapy/brachytherapy. Accessed August 17, 2026.

[5] Definitive Radiation Therapy. American Cancer Society Journals. https://acsjournals.onlinelibrary.wiley.com/doi/pdf/10.3322/canjclin.26.5.269. Accessed August 17, 2026.

[6] Fractionation and radiation. OncoLink.. https://www.oncolink.org/cancer-treatment/radiation/support/fractionation-and-radiation. Accessed August 17, 2026.

[7] Gray (Gy). US Nuclear Regulatory Commission. https://www.nrc.gov/reading-rm/basic-ref/glossary/gray-gy.html. Accessed August 17, 2026.

[8] Goyal S, Kataria T. Image guidance in radiation therapy: techniques and applications. *Radiol Res Pract*. 2014;2014:705604. https://pmc.ncbi.nlm.nih.gov/articles/PMC4281403/. Accessed August 17, 2026.

[9] National Comprehensive Cancer Network. https://www.nccn.org/. Accessed August 17, 2026.

[10] Palliative therapy. National Cancer Institute. https://www.cancer.gov/publications/dictionaries/cancer-terms/def/palliative-therapy. Accessed August 17, 2026.

[11] Stereotactic body radiation therapy. National Cancer Institute. https://www.cancer.gov/publications/dictionaries/cancer-terms/def/stereotactic-body-radiation-therapy. Accessed August 17, 2026.

[12] 3-dimensional conformal radiation therapy. National Cancer Institute. https://www.cancer.gov/publications/dictionaries/cancer-terms/def/3-dimensional-conformal-radiation-therapy. Accessed August 17, 2026.

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