Account Number	Cost Center Title
7360	Radiology Therapeutic

Approach

Therapeutic Radiology Relative Value Units were developed by an industry task force under the auspices of the Maryland Hospital Association. The descriptions of codes in this section of Appendix D were obtained from the 2015 edition of the Current Procedural Terminology (CPT) manual and the 2015 edition of the Healthcare Common Procedure Coding System (HCPCS). In assigning RVUs the group used the 2015 Medicare Physician Fee schedule (MPFS). RVUs were assigned using the following protocol ("RVU Assignment Protocol").

The RVUs reported in the 2015 MPFS include 2 decimal points. In order to maintain whole numbers in Appendix D, while maintaining appropriate relative value differences reported in the MPFS, the RVU work group agreed to remove the decimals by multiplying the reported RVUs by ten and then rounding the product of the calculation, where values less than X.5 are rounded down and all other values are rounded up.

1. CPT codes with RVUs listed in the MPFS.
    a. For CPT codes with RVUs that include both professional (modifier 26) and technical (modifier TC) components, use only the technical (TC) component RVU.
    b. CPT codes with only a single RVU listed
        a. CPT codes that are considered technical only (such as treatment codes), the single RVU reported will be used.
        b. CPT codes considered professional only (such as weekly treatment management and physician planning), are not listed in Appendix D.
2. CPT codes that do not have RVUs listed in the MPFS.
        a. CPT 77387 did not have a published RVU in the MPFS. The RVU work group agreed the work activity associated with this code is similar to CPT 77014. Given the similarity of the work activity, it was determined the same RVU should be applied to CPT 77387.
        b. CPT codes 77424 and 77425 did not have published RVUs in the MPFS. The RVU work group agreed the work activity associated with these codes is similar to CPT 77787. Given the similarity of the work activity, it was determined the same RVU should be applied to CPTs 77424 and 77425.
        c. CPT 77520 did not have a published RVU in the MPFS. The code does have an OPPS APC relative value weight, and it is valued the same as CPTs 77385 and 77386. It was determined the RVUs for 77385 and 77386 should be applied to CPT 77520.
        d. CPT 77522, 77523, and 77525 did not have published RVUs in the MPFS. These codes are in the same family of services as CPT 77520. The codes have an OPPS APC with a relative value weight 2.112 times greater than the APC for CPT 77520. It was determined CPT codes 77522, 77523, and 77525 should each have the same RVU which is calculated by multiplying 2.112 to the RVU of CPT 77520.
        e. CPT 77402 did not have a published RVU in the MPFS. This is a code where Medicare's hospital based fee schedule and physician fee schedule

differ. Since the 2015 MPFS is being used as the source for RVUs, the corresponding CPT value is G6003. The RVU work group used the same RVU for G6003 for CPT 77402.

f. CPT 77407 did not have a published RVU in the MPFS. This is a code where Medicare's hospital based fee schedule and physician fee schedule differ. Since the 2015 MPFS is being used as the source for RVUs, the corresponding CPT value is G6007. The RVU work group used the same RVU for G6007 for CPT 77407.

g. CPT 77412 did not have a published RVU in the MPFS. This is a code where Medicare's hospital based fee schedule and physician fee schedule differ. Since the 2015 MPFS is being used as the source for RVUs, the corresponding CPT value is G6011. The RVU work group used the same RVU for G6011 for CPT 77412.

h. CPT 77371 did not have a published RVU in the MPFS, and it was determined there was not a similar CPT for benchmarking. Table 1 provides the methodology employed to assign RVUs of 378 to CPT 77371.

Table 1: CPT 77371 RVU Assessment

CPT 77371 Gamma Knife Treatment Delivery RVU Assignment

a. Step One, Determine a base CPT: CPT 77385 and 77386 were used as a base to which the work associated with CPT 77371 could be compared and extrapolated. CPT 77385 and 77386 each have a RVU of 11.15

b. Step Two, Determine the comparative work components for the CPT in question (77371). These are the work components for which the relative workload will be evaluated against the base CPTs 77385 and 77386.

Component	Weighting	Weighting Methodology
Initial Set-up	65%	The setup for SRS treatment is 4Xs the work effort of an IMRT setup - criticality of coordinate system - application of frame
Treatment	20%	It takes on average 3Xs the amount of time to deliver an SRS Cobalt Based treatment vs. IMRT
QA	7.50%	The QA process is 50% less work effort than with IMRT
Resources	7.50%	The treatment delivery is managed by the Medical Physics personnel as compared to therapists for IMRT delivery. Physicists are 2Xs the resource intensity as IMRT therapists

c. Step Three, Extrapolate the RVU value

	Initial S/U	Treatment	QA	Resources			
Weighting	65%	20%	7.50%	7.50%			
Base RVU	11.15	11.15	11.15	11.15			
Multiplier	4	3	0.5	2	**Sum**	**Multiplier**	**RVUs**
Total RVUs	28.99	6.69	0.42	1.67	**37.77**	**10**	**378**

3. CPT codes for which the published RVU did not make sense,
    a. CPT 77333 had a RVU that did not seem reasonable as compared to CPT 77332 and 77334, which are in the same family of codes and clinical services. It was determined the RVU for CPT 77333 should be the average value of CPT codes 77332 and 77334.

CPT Codes without an Assigned RVU Value

An effort was made to assign RVUs to all codes that were effective in 2015. In the case of CPT codes listed as 'By Report', hospitals should assign RVUs based on the time and resource intensity of the service provided compared to like services in the department.

For new codes developed and reported by CMS after the 2015 reporting, these codes are considered to be "By Report". When assigning RVUs to these new codes, hospitals should use the RVU Assignment Protocol described above where possible. Documentation of the assignment of RVUs to codes not listed in Appendix D should always be maintained by the hospital.

CPT Code	Procedure	RVU
77014	Computed tomography guidance for placement of radiation therapy fields	20
77280	Therapeutic radiology simulation-aided field setting; simple	66
77285	Intermediate	104
77290	Complex	120
77293	Respiratory motion management (list separately in addition to code for primary procedure)	101
77295	3-Dimensional radiotherapy plan, including dose-volume histograms	74
77299	Unlisted procedure, therapeutic radiology clinical treatment planning	By Report
	MEDICAL RADIATION PHYSICS, DOSIMETRY, TREATMENT DEVICES AND SPECIAL SERVICES	
CPT Code	Procedure	RVU
77300	Basic radiation dosimetry calculation, central axis depth dose, 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	9
77306	Teletherapy isodose plan; simple (1 or 2 unmodified ports directed to a single area of interest), includes basic dosimetry calculation(s)	20
77307	Teletherapy isodose plan; complex (multiple treatment areas, tangential ports, the use of wedges, blocking, rotational beam, or special beam considerations), includes basic dosimetry calculation(s)	37
77316	Brachytherapy isodose plan; simple (calculation[s] made from 1 to 4 sources, or remote afterloading brachytherapy, 1 channel), includes basic dosimetry calculation(s)	32
77317	Brachytherapy isodose plan; intermediate (calculation[s] made from 5 to 10 sources, or remote afterloading brachytherapy, 2-12 channels), includes basic dosimetry calculation(s)	41
77318	Brachytherapy isodose plan; complex (calculation[s] made from over 10 sources, or remote afterloading brachytherapy, over 12 channels), includes basic dosimetry calculation(s)	56
77321	Special teletherapy port plan, particles, hemibody, total body	10

STANDARD UNIT OF MEASURE REFERENCES

CPT Code	Procedure	RVU
77331	Special dosimetry (e.g., TLD, microdosimetry) (specify), only when prescribed by the treating physician	5
77332	Treatment devices, design and construction; simple (simple block, simple bolus)	15
77333	Treatment devices, design and construction; intermediate, (multiple blocks, stents, bite blocks, special bolus)	20
77334	Treatment devices, design and construction; complex (irregular blocks, special shields, compensators, wedges, molds or casts)	25
77336	Continuing medical physics consultation, including assessment of treatment parameters, quality assurance of dose delivery, and review of patient treatment documentation in support of therapeutic radiologist	21
77370	Special medical radiation physics, consultation	32
77371	Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; multi-source Cobalt 60 based	378
77372	Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; linear accelerator based	297
77373	Stereotactic body radiation therapy, treatment delivery, per fraction to 1 or more lesions, including image guidance, entire course not to exceed 5 fractions	377
77385	Intensity modulated radiation treatment delivery (IMRT), includes guidance and tracking, when performed; simple	112
77386	Intensity modulated radiation treatment delivery (IMRT), includes guidance and tracking, when performed; complex	112
77387	Guidance for localization of target volume for delivery of radiation treatment delivery, includes intrafraction tracking, when performed	20
77399	Unlisted procedure, medical radiation physics, dosimetry and treatment devices	By Report

STANDARD UNIT OF MEASURE REFERENCES

RADIATION TREATMENT DELIVERY

Radiation Treatment delivery (77401–77416) recognizes the technical component and the various energy levels.

CPT Code	Procedure	RVU
77401	Radiation treatment delivery, superficial and/or ortho voltage, per day	6
77402	Radiation treatment delivery, > MeV; simple	45
77407	Radiation treatment delivery, >1 MeV; intermediate	72
77412	Radiation treatment delivery, >1 MeV; complex	77

CLINICAL TREATMENT MANAGEMENT

CPT Code	Procedure	RVU
77417	Therapeutic radiology port film(s)	3
77422	High energy neutron radiation treatment delivery; single treatment area using a single port or parallel-opposed ports with no blocks or simple blocking	9
77423	High energy neutron radiation treatment delivery; 1 or more isocenter(s) with coplanar or non-coplanar geometry with blocking and/or wedge, and/or compensator(s)	18
77424	Intraoperative radiation treatment delivery, x-ray, single treatment session	147
77425	Intraoperative radiation treatment delivery, electrons, single treatment session	147
77470	Special treatment procedure (e.g., total body irradiation, hemibody irradiation, per oral, vaginal cone irradiation)	13
77999	Unlisted procedure, therapeutic radiology treatment management	By Report

PROTON TREATMENT DELIVERY

CPT Code	Procedure	RVU
77520	Proton treatment delivery, simple, without compensation	112
77522	Proton treatment delivery, simple, with compensation	235
77523	Proton treatment delivery, intermediate	235
77525	Proton treatment delivery, complex	235

HYPERTHERMIA

Hyperthermia treatments as listed in this section include external (superficial and deep), interstitial and intracavitary. Radiation therapy when given concurrently is listed separately.

Hyperthermia is used only as an adjunct to radiation therapy or chemotherapy. It may be induced by a variety of sources, e.g., microwave, ultrasound, low energy radio-frequency conduction, or by probes.

Physics planning and interstitial insertion of temperature sensors, and use of external or interstitial heat generating sources are included.

CPT Code	Procedure	RVU
77605	Hyperthermia, externally generated; deep (i.e., heating to depths greater than 4 cm)	183
77610	Hyperthermia generated by interstitial probe(s); 5 or fewer interstitial applicators	266
77615	Hypothermia generated by interstitial probe(s); more than 5 interstitial applicators	252
77620	Hyperthermia generated by intracavitary probe(s)	105

CLINICAL BRACHYTHERAPY

Clinical brachytherapy requires the use of either natural or manmade radioelements applied into or around a treatment field of interest. The supervision of radioelements and dose interpretation are performed solely by the therapeutic radiologist.

Definitions

(Sources refer to intracavitary placement or permanent interstitial placement; ribbons refer to temporary interstitial placement.)

Simple	Application with one to four sources/ribbons.
Intermediate	Application with five to ten sources/ribbons.
Complex	Application with greater than ten sources/ribbons.

STANDARD UNIT OF MEASURE REFERENCES

CPT Code	Procedure	RVU
77750	Infusion or instillation of radioelement solution	31
77761	Intracavitary radiation source application; simple	53
77762	Intracavitary radiation source application; intermediate	61
77763	Intracavitary radiation source application; complex	79
77776	Interstitial radiation source application; simple	64
77777	Interstitial radiation source application; intermediate	54
77778	Interstitial radiation source application; complex	80
77785	Remote afterloading high dose rate radionuclide brachytherapy; 1 channel	46
77786	Remote afterloading high dose rate radionuclide brachytherapy; 2-12 channels	90
77787	Remote afterloading high dose rate radionuclide brachytherapy; over 12 channels	147
77789	Surface application of radioelement	17
77790	Surface application of radiation source	12
77799	Supervision, handling, loading of radiation source	By Report