

## IMAGE GUIDED RADIATION THERAPY CODING AND PHYSICIAN SUPERVISION GUIDELINES

Image guided radiation therapy (IGRT) involves the use of imaging technology to localize the intended target volume immediately prior to the administration of radiation therapy. In IGRT, the external beam radiation treatment setup is facilitated via an ultrasound, X-ray, or other image of the target volume, implanted fiducial markers and/or adjacent anatomical structure(s). These guidance images are compared to the images expected to be seen based on the planning scans obtained at the time of initial simulation. An adjustment in table position and/or patient orientation may then be required to deliver the radiation dose accurately within the target volume inside the patient.

IGRT is typically used in patients whose tumors are directly adjacent to critical structures and where conventional means of targeting are deemed to be inadequate. IGRT must be performed by the radiation oncologist, medical physicist or trained radiation therapist under the supervision of the radiation oncologist. The physician must supervise and review the procedure, as the guidance may show a shift beyond standard tolerances.

Stereotactic treatments, such as stereotactic radiosurgery (SRS), or stereotactic body radiation therapy (SBRT) require the use of IGRT with each treatment for the precise localization of the intended treatment target. IGRT is considered to be an inherent part of the SRS and SBRT procedure; for that reason, IGRT guidance should not be billed with SRS or SBRT treatments.

### COMMON CLINICAL INDICATIONS

IGRT may be performed when using the following types of radiation treatment delivery:

- Three-dimensional conformal therapy.
- Intensity modulated radiation therapy (IMRT).
- Particle beam therapy (Proton beam therapy or Neutron beam therapy).
- Brachytherapy.

In the absence of rigid external patient immobilization that fixes the target in a known location within a three-dimensional reference space, IGRT is clinically indicated when using the following types of radiation treatment delivery; image guidance is considered part of the procedure for these delivery techniques and cannot be billed separately:

- Stereotactic radiosurgery (SRS).
- Stereotactic body radiation therapy (SBRT).

IGRT allows radiation oncologists to ensure that the target volume is treated with the planned dose of radiation. Whenever a target volume is located near or within critical structures and/or in tissue with inherent setup variation, IGRT may be indicated to further the therapeutic ratio. Such situations include where:

- The target volume is in close proximity to a critical organ at risk.
- The volume of interest must be covered with narrow margins to adequately protect immediately adjacent structures.
- Previous radiation has been delivered adjacent to the target volume and high precision is required to avoid overlapping.
- Dose escalation is required above and beyond that which is commonly used for the same tumors with conventional fractionation.
- The clinical target volume is expected to vary in its location within the patient beyond what would be appropriately covered with a standard planning target volume.

### CLINICAL EXAMPLES OF IGRT BY TREATMENT MODALITY

The scenarios below are offered as examples and should not be considered a comprehensive list of all possible clinical scenarios.

<p>Three-dimensional conformal therapy</p>	<p>Extremely obese patient: morbidly obese patients with deep-seated tumors in the abdomen, pelvis or mediastinum may require daily IGRT for setup. For example, an obese patient receiving treatment to the para-aortic nodes may need IGRT for daily set-up in order to avoid treatment of the kidneys – the skin markings may not be sufficient to localize the fields.</p>
<p>IMRT</p>	<p>IMRT involves the use of multiple small beamlets directed to a target; because these beamlets may be very small (&lt; 1 cm), it is necessary to ensure that the targeted volume is accurately positioned and localized. This is especially important when the treatment is given near organs with significant movement from day to day. For example, with cervical cancer, the position of the cervix may vary daily because of the position/fill of the bladder, small bowel or rectum. The same is true for prostate cancer: when using IMRT it is necessary to ensure that the prostate is accurately targeted. Therefore, IGRT is required to precisely position the radiation fields by localizing the treatment to the prostate, the desired treatment volume. This procedure is undertaken by visualizing implanted fiducial markers, aligning to bony anatomy, or visualizing the target by ultrasound or cone beam CT imaging.</p>
<p>Particle beam therapy</p>	<p>When using proton beam therapy it is necessary to ensure accurate localization of the target before every treatment. Small variations in patient setup may cause significant differences in dose delivered to the tumor. Therefore, IGRT is required to precisely position the radiation fields by localizing the treatment to the desired treatment volume for all patients prior to each treatment. This procedure is undertaken by visualizing implanted fiducial markers, aligning to bony anatomy, or visualizing the target (e.g. prostate) by ultrasound or cone beam CT imaging.</p>
<p>Brachytherapy</p>	<p>Prostate brachytherapy for prostate cancer requires very precise placement of radioactive seeds at planned positions within the prostate gland to ensure accurate dose coverage. This is typically accomplished with IGRT using real time transrectal ultrasonic guidance for interstitial radioelement application (CPT® code 76965).</p>
<p>SRS <i>(IGRT is considered part of the SRS procedure and cannot be billed separately.)</i></p>	<p>CNS primary/secondary: SRS requires precise localization of the target volume within the brain because of the high radiation doses coupled with the close proximity of critical structures. The radiation oncologist utilizes IGRT to ensure that the target volume, or tumor, is accurately targeted prior to the delivery of each course of SRS. This can be achieved by CT imaging, as well as fiducial marker or bony anatomy matching.</p>
<p>SBRT <i>(IGRT is considered part of the SBRT procedure and cannot be billed separately.)</i></p>	<p>SBRT utilizes very high doses of radiation with highly accurate anatomic targeting. IGRT ensures that the treatment is precisely localized to the target volume within the lung, liver, spine or other targeted site. The localization of implanted fiducial markers, bony anatomy, and/or CT images is evaluated by the radiation oncologist prior to the delivery of each fraction of SBRT.</p>

## CORRECT CODING AND PHYSICIAN SUPERVISION REQUIREMENTS

The following CPT codes are used to report IGRT with other radiation oncology therapy treatments. The current Centers for Medicare and Medicaid Services (CMS) physician supervision requirements for these codes are provided as well.

CPT CODE	DESCRIPTION	SUPERVISION LEVEL
76950	Ultrasonic guidance for placement of radiation therapy fields	General Supervision
76965	Ultrasonic guidance for interstitial radioelement application	Personal Supervision
77014	Computed tomography guidance for placement of radiation therapy fields	Direct Supervision
77421	Stereoscopic X-ray guidance for localization of target volume for the delivery of radiation therapy	Direct Supervision*
0197T	Intra-fraction localization and tracking of target or patient motion during delivery of radiation therapy	Category III CPT

\* Effective January 1, 2009. Updated in CMS transmittal 1748

All guidance procedures have both a professional and a technical component. The technical component of all IGRT codes (CPT codes 76950, 76965, 77014 and 77421) performed in the hospital setting under the Outpatient Prospective Payment System (OPPS) has been packaged with the service for which it is provided; there is no separate payment for IGRT in the OPPS environment.

### Ultrasound-based 2- and 3-D systems (CPT code 76950; ultrasonic guidance for placement of radiation therapy fields)

Ultrasonic guidance for placement of radiation therapy fields for prostate has been done with daily ultrasound localization for some time now. The physician work and practice expense costs for 76950 are not bundled into CPT code 77427 (Radiation treatment management) or CPT codes 77401-77418 (Radiation treatment delivery). CPT code 76950 may be reported whenever trained personnel (e.g. therapist or medical physicist) perform the procedure in the physician's office for ultrasound localization of the target volume under the direct supervision of the radiation oncologist.

### Ultrasound based 2- and 3-D systems (CPT code 76965; ultrasonic guidance for the interstitial radioelement application)

This code may be used during the low-dose-rate and high-dose-rate brachytherapy courses of treatment. Documentation for this code consists of a guidance procedure note or image record. Even though this code is not paid separately in the hospital outpatient setting, it is important that hospitals report CPT code 76965 because it is tracked and used in subsequent years to set payment rates for the primary services. CPT code 76965 must be performed under the personal supervision of a radiation oncologist.

### CT-based systems (CPT code 77014; computed tomography guidance for placement of radiation therapy fields)

This code is used with CT-based systems (i.e. integrated cone beam CT, CT/linear accelerator on rails, helical tomotherapy). Three-dimensional CT (MV or kV CT) images are acquired on the treatment system for image-guided patient localization prior to the delivery of each fraction. A fusion application is used to register the reference treatment planning CT image set with the CT data set taken on the delivery system. A radiation oncologist, or a medical physicist or trained therapist under the direct supervision of the radiation oncologist, reviews the automated image fusion and makes manual or automatic adjustments as necessary.

### Stereoscopic X-ray guidance (CPT code 77421; stereoscopic X-ray guidance for localization of target volume for the delivery of radiation therapy)

The various related technologies described as stereoscopic X-ray based (kV and MV) are well developed and in general use. CPT code 77421 can be used for imaging, localizing and correcting target volume location immediately prior to 3-D or IMRT delivery. Locating the target volume on orthogonal X-rays with fiducial markers (when targets cannot be well seen on X-rays) or without them (if the target volume or adjacent anatomical structures can be seen on X-rays) ensures accurate treatment of the target and sparing of normal tissues. This imaging is done in the treatment room, and based on this imaging adjustments are made to bring the target volume to the desired location prior to starting that day's treatment. The use of orthogonal portal imaging to locate fiducial markers in and of itself would not fulfill the required criteria to use the 77421 code. The stereoscopic images have to be fused and registered with the pretreatment digitally

reconstructed radiographs and the required shifts calculated. A radiation oncologist, or a medical physicist or trained therapist under the direct supervision of the radiation oncologist, reviews the automated image fusion and makes manual or automatic adjustments as necessary.

**Intra-fraction localization and tracking (CPT code 0197T; intra-fraction localization and tracking of target or patient motion during delivery of radiation therapy (e.g. 3-D positional tracking, gating, 3-D surface tracking, each fraction of treatment)**

Category III CPT code 0197T is carrier priced, meaning that that physicians and freestanding centers will need to contact their Medicare contractor to negotiate coverage and payment. No relative value units or payment has been assigned under the Medicare Physician Fee Schedule. In the hospital outpatient setting, 0197T is considered image guidance and is packaged into the primary service payment.

These IGRT codes describe the work performed by the physician and radiation staff prior to therapy to assure accuracy of localization of the target volume. ASTRO coding guidelines indicate that image fusion is required for the accurate superposition of the daily image over the treatment planning derived image to calculate the position adjustments.

Supervision guidelines are dictated by CMS. ASTRO has published a white paper on physician supervision that is available on the ASTRO website with regard to physician involvement in the clinic, “Incident to” services and with IGRT. In general, there are three levels of supervision: general, direct and personal.

The current definitions set by CMS in the National Coverage Provision (NCP) PHYS-04 are as follows:

**General Supervision:** The procedure is furnished under the physician’s overall direction and control, but the physician’s presence is not required during the performance of the procedure.

**Direct Supervision:** The physician must be present and immediately available to furnish assistance and direction throughout the performance of the procedure. It does not mean that the physician must be present in the room when the procedure is performed.

**Personal Supervision:** A physician must be in attendance in the room during the performance of the procedure.

IGRT can only be billed once per fraction, regardless of the number of images taken and corrections made. The physician work supporting the fee for the professional component is the review of the stereoscopic images obtained prior to treatment to guide the radiation therapy administered. This review can be performed by the physician or by personnel trained and supervised by the physician, following explicit guidelines set by the physician. The physician is responsible for the integrity of the image review performed by these personnel. The physician must be available at the time of treatment to personally direct any patient position adjustments if necessary. It may be performed as medically appropriate and billed whenever the service is provided. This evaluation should still be documented and signed by the physician prior to the next treatment (and preferably the same day the stereoscopic images were obtained) in a note that includes any adjustments, if necessary, to the image guidance process or patient setup as suggested by the stereoscopic images.

**NATIONAL CORRECT CODING INITIATIVE (NCCI) EDITS**

The current NCCI edits are also described for each IGRT code. These edits preclude payment for IGRT when it is billed with certain other procedures on the same date of service.

CPT CODE	ALLOWED WITH MODIFIER	NO MODIFIER ALLOWED
76950	0197T, 76000, 76001, 77012, 77014, 77371, 77372, 77373	77301, 77421, 77431
76965	0073T, 19296, 19297, 19298, 55873, 76000, 76001, 76872, 76873, 76942, 76970, 76998, 77001, 77002, 77012, 77021, 77418	00860
77014	0197T, 76380, 76950, 77371, 77372, 77373, 77421	77295, 77301, 77305, 77310, 77315
77421	0197T, 77014, 99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99221, 99222, 99223, 99231, 99232, 99233, 99234, 99235, 99236	G0173, G0251, G0339, G0340, 76950, 77301, 77371, 77372, 77373, 77432, 77435
0197T	76950, 77014, 77421	77371, 77372, 77373

**REFERENCES:**

ASTRO/ACR Guide to Radiation Oncology Coding 2010 (including 2013, 2012 and 2011 updates). Fairfax, VA and Reston, VA: American Society for Radiation Oncology and the American College of Radiology; 2010.

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