



# CIGNA MEDICAL COVERAGE POLICY

The following Coverage Policy applies to all health benefit plans administered by CIGNA Companies including plans formerly administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Inpatient Admission for Radiation Therapy**

**Effective Date ..... 8/15/2011**  
**Next Review Date ..... 8/15/2012**  
**Coverage Policy Number ..... 0408**

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## Hyperlink to Related Coverage Policies

- Brachytherapy for Breast Cancer
- Brachytherapy for Gynecological Cancers
- Brachytherapy for Prostate Cancer
- Intraoperative Radiation Therapy

### INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations. Proprietary information of CIGNA. Copyright ©2011 CIGNA

## Coverage Policy

**CIGNA covers inpatient admission for radiation therapy as medically necessary when the patient requires a form of internal radiation therapy that precludes discharge per the U.S. Nuclear Regulatory Commission (NRC) guidelines.**

## General Background

Radiation therapy is the specific use of high-energy radiation from x-rays, gamma rays, neutrons and other sources to treat cancer. Radiation may be delivered from an external source or from radioactive materials that are placed inside the body. It may also be referred to as radiotherapy. Radiation therapy injures or destroys cells in the area being treated by damaging their genetic material, making it impossible for these cells to continue to grow and divide. The goals of radiation therapy are to damage as many cancer cells as possible, while limiting harm to nearby healthy tissue (National Cancer Institute [NCI], 2010).

Radiation therapy is typically provided on an outpatient basis. In unusual circumstances, there may be situations in which it is necessary that radiation therapy be administered during an inpatient confinement. Inpatient admission may be required by certain types and levels of radiation therapy or prompted by complications of the cancer condition or an underlying or comorbid medical condition.

Brachytherapy, also referred to as internal radiation therapy, utilizes radiation that is placed internally very close to or inside the tumor. The radiation source is sealed in a holder called an implant. The implant may be in the form of a thin wire, a catheter, a capsule, or seeds. This type of radiation therapy may require an inpatient stay when it is administered (NCI, 2010). This form of radiation therapy can be used to deliver high radiation doses to nearby tumor tissue, while sparing normal tissues located at more distant locations. A temporary intracavitary applicator may be used in this treatment. The device is surgically positioned in a body cavity and then afterloaded with radioactive material. Interstitial implantation represents another form of brachytherapy. This is performed with surgical placement of temporary catheters which are then afterloaded with radioactive material. Radioactive seeds may also be implanted. Internal radiation has been used in the treatment of cancers of the head and neck, breast, uterus, thyroid, cervix and prostate (NCI, 2010).

In certain situations, an inpatient admission may be required when internal radiation methods are utilized. This is dependent on the type of radiation being used, and the dose and amount of radiation. Generally, low-dose rate brachytherapy requires hospitalization for the length of time the radiation is used, while high-dose rate brachytherapy may be performed on an outpatient basis, since the radioactive source is removed after each treatment.

The U.S. Nuclear Regulatory Commission (NRC) published guidelines regarding release of patients from the hospital who have been administered radioactive material. A hospital's policies regarding release of patients who have been administered radioactive material should conform to the NRC regulations. The guidelines state that "Licensees should use one of the following options to release a patient to whom unsealed byproduct material or implants containing byproduct material have been administered in accordance with regulatory requirements" (NRC, 2008). The options regarding release of the patient, which are referred to in the regulations include:

- The patient may be released if the activity administered is no greater than the activity for the specific radionuclide listed in Table U.1 Activities and Dose Rates for Authorizing Patient Release\* in the regulations.
- The patient may be released in whom radionuclides have been administered in amounts greater than that listed in the chart\* in the regulations provided that the measured dose rate at one meter from the surface of the patient is not greater than the value in column 2 of the chart for that radionuclide.
- The patient may be released based on dose calculations using patient-specific parameters. The licensee must calculate the maximum likely dose to an individual exposed to the patient on a case-by-case basis. If the calculated maximum likely dose to an individual is no greater than 5 millisievert (0.5 rem), the patient may be released. These calculations take into account the effective half-life of the radioactive material and other factors that may be relevant to the particular case. The guidelines include procedures for performing patient-specific dose calculations and describe how various factors may be considered in the calculations.

\*Refer to the chart in Appendix A, page 4

The regulations also contain guidelines regarding instructions for the institution to provide to patients who are released after administration of radioactive materials. The hospital may use these instructions or develop their own instructions that meet the requirements listed in the regulations. Additional instructions are needed for patients who are breast-feeding an infant or a child.

Conditions that may require inpatient hospitalization may be related to the radiation therapy or an underlying medical condition. This may occur when the treatment of the patient's medical condition cannot be managed in a less intensive setting such as outpatient or at home. These conditions may include, but are not limited to, the following:

- The patient has severe nausea and vomiting or fluid/electrolyte imbalance that is severe enough to result in dehydration that is not manageable in an outpatient or home setting.
- The patient may require inpatient hospitalization if pain is uncontrolled and cannot be managed in an outpatient or home setting.
- The patient has an infection that requires hospital level of care to treat.

- The patient has had recent surgery and continues to require hospital level of care and will be starting radiation therapy.
- The patient is receiving chemotherapy which requires inpatient hospitalization, along with radiation therapy.

### Professional Societies/Organizations

The American Thyroid Association (ATA) published practice recommendations regarding radiation safety in the treatment of patients with thyroid diseases by radioiodine (<sup>131</sup>I) (American Thyroid Association Taskforce On Radioiodine Safety, 2011). The recommendations comply with NRC regulations. It is noted that the NRC guidelines, allows release of treated patients from control of the treating facility with higher levels of radioactivity than previously permissible (before 1997). This removed the restrictions that mandated a hospital stay in isolation for patients treated with 33 mCi (1221 MBq) of <sup>131</sup>I. The ATA recommendations note that it is apparent that it is not necessary for most patients treated with <sup>131</sup>I to be admitted as inpatient and "the current NRC patient Release Criteria allow most patients to be treated with <sup>131</sup>I as outpatients".

The ATA guidelines include recommendations to consider <sup>131</sup>I therapy as an inpatient and consult RSO (Radiation Safety Officer) when:

- The proposed <sup>131</sup>I dose is either:
  - ≥200 mCi (7400 MBq)
  - TEDE (total dose effective equivalent in mrem or mSv), despite written instructions, is likely to exceed, 0.5 rem (5 mSv) to an adult family member or caregiver, or to exceed 0.1 rem (1 mSv) to a pregnant woman, child or a member of the general public.
- The patient is unable to comply with oral and written instructions and therefore will require special planning because of:
  - incontinence issues
  - requires help with devices (e.g., Foley catheters, peritoneal dialysis equipment, feeding tubes)
  - cognitive/psychiatric limitations
  - travel/housing limitations

### Summary

Radiation therapy is the use of high-energy radiation to treat cancer. Generally, radiation therapy is administered on an outpatient basis. There are unusual situations that may require a patient to be hospitalized when receiving radiation therapy. Patients may require inpatient level of care due to complications of cancer or their underlying medical condition. Patients receiving an internal form of radiation therapy may require inpatient level of care depending on the type, dose of radiation and the administration method that is used. The policies of the inpatient facility regarding release of patients should conform to the regulations published by the U.S. Nuclear Regulatory Commission (NRC, 2008).

### Coding/Billing Information

**Note:** This list of codes may not be all-inclusive.

**Covered when medically necessary:**

Revenue Codes*	Description
0333	Radiation Therapy
0344	Diag Radiopharmaceuticals

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## Appendix A

### U.S Nuclear Regulatory Commission Table Activities and Dose Rates for Authorizing Patient Release

Reference: U.S. Nuclear Regulatory Commission (NRC). Consolidated guidance about materials licenses NUREG-1556, Vol.9, Rev 2. Program-specific guidance about medical use licenses final report. Jan 2008. Accessed June 23, 2011. Available at URL address: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v9/r2/>

Radionuclide	COLUMN 1 Activity At or Below Which Patients May Be Released		COLUMN 2 Dose Rate at 1 Meter, At or Below Which Patients May Be Released*	
	(GBq)	(mCi)	(mSv/hr)	(mrem/hr)
Ag-111	19	520	0.08	8
Au-198	3.5	93	0.21	21
Cr-51	4.8	130	0.02	2
Cu-64	8.4	230	0.27	27
Cu-67	14	390	0.22	22
Ga-67	8.7	240	0.18	18
I-123	6	160	0.26	26
I-125	0.25	7	0.01	1
I-125 implant	0.33	9	0.01	1
I-131	1.2	33	0.07	7
In-111	2.4	64	0.2	20
Ir-192 implant	0.074	2	0.008	0.8
P-32	**	**	**	**
Pd-103 implant	1.5	40	0.03	3
Re-186	28	770	0.15	15
Re-188	29	790	0.2	20
Sc-47	11	310	0.17	17
Se-75	0.089	2	0.005	0.5
Sm-153	26	700	0.3	30
Sn-117m	1.1	29	0.04	4
Sr-89	**	**	**	**
Tc-99m	28	760	0.58	58
Tl-201	16	430	0.19	19
Y-90	**	**	**	**
Yb-169	0.37	10	0.02	2

Footnotes for Table U-1:

† The activity values were computed based on 5 millisieverts (0.5 rem) total effective dose equivalent.

\* If the release is based on the dose rate at 1 meter in Column 2, the licensee must maintain a record as required by 10 CFR 35.75(c), because the measurement includes shielding by tissue. See Item U.3.1, "Records of Release," for information on records.

\*\* Activity and dose rate limits are not applicable in this case because of the minimal exposures to members of the public resulting from activities normally administered for diagnostic or therapeutic purposes.

Notes:

The millicurie values were calculated using Equations U.2 or U.3 and the physical half-life. The gigabecquerel values were calculated using the millicurie values and the conversion factor from millicurie to gigabecquerels. The dose rate values are calculated using the millicurie values and the exposure rate constants.

In general, the values are rounded to two significant figures; however, values less than 0.37 gigabecquerel (10 millicuries) or 0.1 millisievert (10 millirems) per hour are rounded to one significant figure. Details of the calculations are provided in NUREG-1492.

Although non-byproduct materials are not regulated by NRC, information on non-byproduct material is included for the convenience of the licensee.

Agreement State regulations may vary. Agreement State licensees should check with their State regulations before using these values.

## References

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2. American Thyroid Association (ATA), Endocrine Society (TES), Society of Nuclear Medicine (SNM), American Association of Clinical Endocrinologists (AACE). Joint Statement on Radioactive Precautions Following Radioactive Iodine Therapy. October 20, 2010. Accessed June 27, 2011. Available at URL address: [http://www.thyroid.org/professionals/publications/statements/10\\_10\\_20\\_joint\\_statement.html](http://www.thyroid.org/professionals/publications/statements/10_10_20_joint_statement.html)
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12. U.S. Nuclear Regulatory Commission (NRC). Advisory Committee on the Medical Use of Isotopes (ACMUI). Patient Release Report. December 13, 2010. Accessed June 29, 2011. Available at URL address: <http://pbadupws.nrc.gov/docs/ML1034/ML103481099.pdf>

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## Policy History

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<u>Pre-Merger Organizations</u>	<u>Last Review Date</u>	<u>Policy Number</u>	<u>Title</u>
CIGNA HealthCare	8/15/2007	0408	Inpatient Admission for Radiation Therapy

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