



*National Imaging Associates, Inc.	
Clinical guidelines: NON-CANCEROUS CONDITIONS	Original Date: March 2015
Radiation Oncology	Last Revised Date: May 2023
Guideline Number: NIA_CG_135	Implementation Date: January 2024

GENERAL INFORMATION

- *It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*
- *Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*

INDICATIONS FOR RADIATION THERAPY

2D or 3D Conformal (3D CRT) is considered medically necessary for several non-malignant conditions, including but not limited to:¹⁻¹²

- Prevention of keloid scars as an adjunctive therapy following excisional surgery: superficial x-ray, electron beam, or conventional isodose technique photon beam therapy in 4 or fewer fractions¹³
- Heterotopic ossification: 7 Gy to 8 Gy in a single fraction of 2D
- Pterygium in cases that cannot be medically managed: contact beta brachytherapy in 3 fractions
- Villonodular synovitis (recurrent after resection, or diffuse or bulky disease-causing bone destruction: 28 or fewer fractions of 2D/3D-CRT
- Pinealoma (pineal parenchymal tumors): Postoperative radiation for incomplete resection, 45-60 Gy in 25-30 fractions of 3D-CRT, and from 12-36 Gy of SRS/FSRT
- Pituitary adenoma for medically inoperable cases, recurrence after surgery, incomplete resection, or persistence of elevated hormones after resection of functional adenomas: 3D-CRT, SRS, or IMRT, 45-54 Gy up to 30 fractions
- Precancerous melanosis (lentigo maligna, Hutchinson's melanotic freckle, or circumscribed precancerous melanosis of Dubreuilh): for recurrence or more extensive lesions, superficial and orthovoltage therapy, 35–57 Gy in 5–23 fractions

- Rosai-Dorfman disease for lesions involving the airway not responding to more conservative measures, up to 22 fractions of 2D/3D
- Splenomegaly (hypersplenism): Very low doses of radiation on a less than daily basis, 10 or fewer fractions of 2D/3D
- Total body irradiation (TBI): For non-malignant, pre-malignant and quasi-benign marrow disorders such as aplastic anemia or myelodysplastic disorders^{14,15}
 - 12-15 Gy given in 6 to 12 fractions over 3-5 days, fractionated in 2 to 3 treatments per day
 - Low-dose TBI, with doses of 2-6 Gy given in 1 to 4 fractions in combination with chemotherapy, is an effective conditioning regimen for hematopoietic stem cell transplantation in patients who cannot tolerate myeloablation due to age or comorbidities
- Peyronie's disease (Morbus Peronie, Induratio penis plastica): 2D, orthovoltage, or electron beam radiation in 5 or fewer fractions
- Parotid adenoma: for > 4 cm, positive margin status, and multinodularity, up to 30 fractions
- Paraganglioma (chromaffin positive): for unresectable, recurrence, or as adjuvant therapy for incomplete resection, 25-28 fractions of 3D/IMRT, SRS 12-18 Gy
- Orbital pseudotumor (lymphoid hyperplasia): Up to 10 fractions of 2D/3D
- Orbital myositis (failed conservative therapy): up to 15 fractions of 2D/3D
- Non-cutaneous neurofibromas: for symptomatic unresectable non-cutaneous lesions, up to 30 fractions
- Lethal midline granuloma: for localized presentations or in conjunction with systemic therapy, 45-50 Gy up to 25 fractions
- Lymphangiomas (capillary, cavernous, cystic hygromas, and lymphangial): for refractory lesions with repeated recurrence after resection (, and chylothorax due to pleural involvement, 20-40 Gy in 10-20 fractions
- Langerhans cell histiocytosis (LCH): for localized growth, up to 28 fractions of 3D
- Inverted papilloma: for incomplete resection, or suspected malignant component, 45-70.4 Gy up to 39 fractions
- Hyperthyroidism/thyroiditis: systemic 131-I
- Hemangiomas (brain, spinal cord, subglottis, glottis, liver, GI tract, urinary tract, joints and orbit): Up to 30 fractions of IMRT
- Gynecomastia: up to 5 fractions of electron beam therapy
- Graves' ophthalmopathy: up 20 10 fractions of 2D/3D
- Gorham-Stout syndrome (disappearing bone syndrome): up to 25 fractions of 3D
- Giant cell tumor of bone (osteoclastoma): for unresectable, up to 30 fractions
- Dupuytren's contracture (fibromatosis) of hands/feet: up to 10 fractions of 2D or electron beam
- Aneurysmal bone cyst: as the last resort, up to 10 fractions
- Angiofibroma of nasopharynx (juvenile nasopharyngeal angiofibroma): for unresectable disease, up to 20 fractions
- Angiomatosis retinae (von Hippel Lindau syndrome): beta plaque

- Bowen's disease (squamous cell carcinoma in situ)/Erythroplasia of Queyrat: when typical alternatives (surgery, electrodesiccation and curettage, topical 5FU), are not possible, superficial radiation up to 20 fractions
- Desmoid tumor: for inoperable cases, up to 28 fractions of 3D
- Degenerative skeletal disorder: for symptomatic degenerative skeletal and joint disorders (i.e., plantar fasciitis, trochanteric bursitis) refractory to conventional treatments, up to 8 fractions of 2D
- Choroidal hemangioma: for diffuse lesions, especially if near the macula or papilla, and for those not responding to other treatments, LDR brachytherapy, or 2D/3D up to 20 fractions
- Castleman's disease (giant lymph node hyperplasia): for orbital pseudotumor and Waldeyer's ring, LDR brachytherapy, or 2D/3D up to 25 fractions
- Carcinoid tumors: for symptomatic unresectable non-secretory, or secreting tumors, up to 25 fractions
- Hypersalivation of amyotrophic lateral sclerosis (ALS): when other means of management are ineffective or impractical, up to 4 fractions

Stereotactic Radiation Therapy (SRS, SBRT) is considered medically necessary when used in the treatment of non-malignant cranial lesions including the following:^{16,17}

- Arteriovenous malformation (AVM) of the brain or spine
- Trigeminal neuralgia that has not responded to other, more conservative, treatments
- Non-cancerous brain tumors such as acoustic neuroma, benign schwannomas, meningioma, hemangioma, pituitary adenoma, craniopharyngioma, neoplasm of the pineal gland, and chordomas

Also refer to NIA Stereotactic Radiation Therapy Guideline.

Treatment for other non-malignant conditions utilizing proton beam, stereotactic radiation therapy (SBRT), or intensity modulated radiation therapy (IMRT) modalities will be reviewed on a case-by-case basis.

BACKGROUND

Radiation therapy may have appropriate use in several non-malignant conditions. The treatment goal in patients with non-malignant conditions is to achieve relief of the indicated condition with radiation therapy with minimal risk of radiation exposure to sensitive structures.

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POLICY HISTORY

Date	Summary
May 2023	<ul style="list-style-type: none">• Updated/expanded INDICATIONS FOR RADIATION THERAPY• Added criteria for SRS/SBRT therapy• Removed Additional Resources
January 2022	No significant changes

Reviewed / Approved by NIA Clinical Guideline Committee

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