National Imaging Associates, Inc.*	
Clinical guideline **CERVICAL CANCER**	**Original Date: June 2013**
Radiation Oncology	**Last Revised Date: January 2022**
Guideline Number: NIA_CG_127	**Implementation Date: January 2023**

INDICATIONS FOR RADIATION THERAPY AND TREATMENT OPTIONS

Definitive/Preoperative Radiation Therapy[1]

- Stage IA –IA2– Brachytherapy (LDR or HDR) +/- 2D/3D-CRT (40-50 Gy; 28 fx max)
- Stage IB1 – Pelvic 2D/3D-CRT (40-50 Gy; 28 fx max) + brachytherapy boost
- Stage IB2-IIA – Pelvic radiation therapy 2D/3D-CRT (40-50 Gy; 28 fx max) + brachytherapy boost) and concomitant chemotherapy +/- adjuvant hysterectomy
- Stage IIB-IVA – Pelvic and/or paraortic 2D/3D-CRT + brachytherapy + concurrent chemotherapy.
- Stage IVB – 2D/3D-CRT +/- brachytherapy for palliation only (symptom control)

Grossly involved unresected nodes may be evaluated for boosting with an additional 10-15Gy

Post-operative (Adjuvant) Radiation Therapy[1]

- Patients found to have deep cervical stromal invasion, lymphovascular invasion and/or bulky primary tumors.
    - Pelvic 2D/3D-CRT/IMRT (45-50Gy; 28 fx max) +/-concurrent chemotherapy
- Patients with positive nodes, positive margins and/or parametrial invasion –
    - Pelvic 2D/3D-CRT/IMRT (45-50Gy; 28 fx max) + concurrent chemotherapy
    - Pelvic 2D/3D-CRT/IMRT (45-50Gy; 28 fx max) +/- vaginal brachytherapy boost (LDR or HDR) can be considered in women with a positive margin.
- *Grossly involved unresected nodes may be evaluated for boosting with an additional 10-15Gy.*
- *Unless otherwise indicated, standard radiation fractionation consists of 1.8 Gy to 2.0 Gy per day.*

Local /Regional Recurrence[1]

- No previous RT or outside previous RT fields
    - 2D/3D-CRT + chemotherapy +/- brachytherapy
- Previous RT
    - Intraoperative Radiation Therapy (IORT) for centralized disease

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- Possible Brachytherapy (LDR or HDR) for centralized disease < 2cm Tumor directed 2D/3D-CRT +/- chemotherapy if noncentral disease
- External Beam Radiation Therapy

TREATMENT OPTIONS REQUIRING ADDITIONAL CLINICAL REVIEW[1]:

Intensity modulated radiation therapy (IMRT)
IMRT is not indicated as a standard treatment option and should not be used routinely for the delivery of radiation therapy for cervical cancer. IMRT is strictly defined by the utilization of inverse planning modulation techniques. IMRT may be appropriate for circumstances in which radiation therapy is indicated and

- Non-IMRT techniques cannot adequately deliver the radiation prescription without exceeding normal tissue radiation tolerance. The non-IMRT delivery is anticipated to contribute to potential late toxicity
- Tumor volume dose heterogeneity from non-IMRT techniques is such that unacceptable hot or cold spots are created

Requests for IMRT treatment delivery to the cervix will be reviewed for medical necessity prior to authorization based on the above criteria. Clinical rationale and documentation for performing IMRT rather than non-IMRT techniques must be provided for review. This includes a statement of medical necessity from the requesting provider and a dosimetric comparison plan addressing the approval criteria above.

The plan will:
- Demonstrate how non-IMRT treatment planning cannot produce a satisfactory treatment plan (as stated above) via the use of patient-specific dose volume histograms and isodose plans.
- Provide tissue constraints for both the target and affected critical structures.

IMRT for Post-operative Radiation
IMRT for post-operative radiation therapy is approvable. If there is gross residual disease and the area(s) can be sufficiently utilized, a boost can be added to a total dose of 60-70Gy, respecting normal tissue sensitivity. For gross nodal disease, consider boost to 60-65Gy while respecting normal tissue constraints.[1-3]

Stereotactic Body Radiation Therapy (SBRT) Stereotactic Body Radiation Therapy is not a standard treatment option for the treatment of cervical cancer.

SBRT is an approach that allows for delivery of very high doses of focused EBRT in 1-5 fractions and may be applied to isolated metastatic sites, considering can be given for limited disease in the re-irradiation setting.[4, 5]

Proton Beam Radiation Therapy
Proton beam is not an approved treatment option for cervical cancer. Proton beam has not been proven superior treatment to conventional radiation therapy.

THE FOLLOWING APPLIES TO CMS (MEDICARE) MEMBERS ONLY:

For Proton Beam and Stereotactic Radiotherapy, refer to Local Coverage Determination (LCD), if applicable.

BACKGROUND
The role of radiation therapy in the treatment of cervical cancer has been long established through clinical trial, providing strong evidence of support as an effective cervical cancer treatment. The traditional approach utilizes external beam irradiation therapy to the pelvis ± periaortic lymph nodes, as well as some form of brachytherapy boost, based on clinical and pathologic factors. There have been improvements in radiation therapy technology, reducing dose to normal surrounding tissue (bladder, rectum, and small bowel), but the majority of the experience to date is based on a point A dosing system.

This guideline outlines several methods suitable for the employment of radiation therapy in conjunction with cervical cancer treatment. These include the use of three-dimensional conformal radiation therapy (3D-CRT), intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), and internal radiation (brachytherapy). Although intensity-modulated radiation therapy (IMRT) is becoming more widely available, the routine use in treating cervical cancer remains to be validated. IMRT may be useful when high doses are required to treat gross disease in regional lymph nodes. However, IMRT should not be used as routine alternatives to brachytherapy for treatment of central disease in patients with an intact cervix. Although there have been significant advances in imaging, planning, and treatment delivery, this must be tailored to a thorough understanding to the stage of disease, pathways for dissemination and recurrence risk. Most external beam treatments are delivered using a high-energy linear accelerator. Brachytherapy is generally delivered as either low dose permanent implant or high dose rate implant. Principles of radiation therapy for these guidelines closely follow what is recommended both by the American Brachytherapy Society (Cervical Cancer Brachytherapy Task Group), as well as in National Comprehensive Cancer Network Practice Guidelines for Cervical Cancer.

POLICY HISTORY:

Date	Summary
January 2022	• Added IMRT to Postoperative (Adjuvant) Radiation Therapy • Moved the following from Local/Regional Recurrence section to Postoperative (Adjuvant) Radiation Therapy section ○ Grossly involved unresected nodes may be evaluated for boosting with an additional 10-15Gy

	○ Unless otherwise indicated, standard radiation fractionation consists of 1.8 Gy to 2.0 Gy per day • Under Treatment Options Requiring Additional Clinical Review: ○ Added IMRT for Post-operation Radiation ○ Clarified that SBRT can be given for limited disease in the re-irradiation setting
February 2021	No Changes
February 2020	Updated references
February 2019	Added and updated references

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ADDITIONAL RESOURCES

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Reviewed / Approved by NIA Clinical Guideline Committee

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.