Postoperative Radiotherapy (PORT)

Postoperative Radiotherapy (PORT) refers to the administration of **radiation therapy after surgical resection** of a tumor to eliminate residual microscopic disease and reduce the risk of local recurrence.

Purpose

- To improve **local control** by eradicating microscopic tumor remnants.
- To reduce the **risk of recurrence**, especially in cases with:
  - Incomplete (subtotal) resection
  - High-grade or aggressive histology
  - Positive surgical margins
  - Known radiosensitive tumors

Timing

- Typically initiated **within weeks after surgery**, once wound healing is adequate.
- Can be part of a **multimodal treatment plan** alongside chemotherapy and systemic therapies.

Common Indications

- High-grade gliomas
- Brain metastases (after resection)
- Meningiomas with atypical or malignant features
- Solitary fibrous tumors (SFT/HPC), especially WHO Grade II–III
- Head and neck, breast, and rectal cancers

Techniques

- **External Beam Radiotherapy (EBRT)**
- **Stereotactic Radiosurgery (SRS)** or **Stereotactic Radiotherapy (SRT)** for focal lesions
- Dose and fractionation depend on tumor type, location, and resection extent.

Risks and Side Effects

- Fatigue, alopecia, dermatitis
- Cognitive effects (especially with brain irradiation)
- Radiation necrosis (rare but serious)
- Long-term endocrine or vascular effects (in specific regions)

Related Terms

- Adjuvant Therapy
- Gross Total Resection (GTR)
- Local Control
- Radiation Therapy