Study	Phase I Dose Escalation Study using Proton Beam Therapy for Recurrent Chordomas, Chondrosarcomas, and Atypical or Malignant Meningiomas after Previous Radiotherapy
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Additional Info	
Institution	National Cancer Center Korea
Recruitment Status	1. Study Start Date: 2. Estimated Primary Completion Date: 3. Estimated Study Completion Date: 4. Estimated Enrollment:
Study Purpose	
Primary Aims	1. To define the MTD using established criteria of quantifying acute dose-limiting toxicity (DLT).
Secondary Aims	1. To determine failure patterns, tumor control rates, and toxicity
Methods	1. 50.4 CGE in 21 fractions to PGTV 2. 55.2 CGE in 23 fractions to PGTV 3. 60.0 CGE in 25 fractions to PGTV 4. 64.8 CGE in 27 fractions to PGTV
Eligibility	1. Previously irradiated chordomas (skull base to lumbo-sacral), chondrosarcomas and malignant meningiomas (If biopsy procedure is hazardous due to tumor location, it can be omitted.) 2. Patients should have gross tumor on imaging studies 3. Postoperative residual or recurrent tumor 4. ECOG performance status: 0-2 5. Signed study specific informed consent prior to study entry
Exclusion Criteria	1. No gross tumor 2. Tumors suitable for single large dose stereotactic photon or proton beam radiosurgery (which should be treated with stereotactic radiosurgery) 3. Evidence of distant metastases 4. Previous irradiation for the tumor in the same location (Please refer to other protocol for re-irradiation of recurrence)