The Clinical Benefits of Proton Therapy
Compared to Conventional Radiation Treatments

Chordomas
- 49-56% Cancer Disease Control
- 153% Overall Survival (5Y)

Sinus/Nasal Cavity
- 38% Overall Survival (5Y)

Lung Cancer
- 57% Severe Lung Complications (G3)
- 64% Overall Survival (5Y)

Hepatocellular Cancer
- 58% Overall Survival (2Y)

Intrahepatic Cholangio CA
- 54% Overall Survival (4Y)

Gliomas/Brain
- Preservation of Cognitive Function
- Quality of Life

Nasopharynx Cancer
- 60% Feeding Tubes

Oropharynx Cancer
- 50% Feeding Tubes
- 74% Moderate–Severe Xerostomia

Breast Cancer
- Toxocities
- Cosmesis

Esophagus Cancer
- 41% Lung Complications
- 20% Hospitalization Rate
- 36% GI Toxicities

Prostate Cancer
- 39-62% Severe Rectal Toxicity (G3)
- 59% Biochemical Failure Risk

Sarcoma
- 49-75% Wound Complications

Pediatric Cancer
- Toxicities, IQ Decline, & Secondary Malignancies

Other Benefits
- 26-39% Secondary Cancer Risk

To schedule a consultation, please call 410-369-5200 or visit mdproton.com
Breast
- Locally advanced (requiring IMN treatment)
- Patients with genetic syndromes (Li-Fraumeni, ATM, BRCA1/2)
- Bilateral radiation (especially with comprehensive treatment)
- Anatomic challenge (pectus excavatum or frozen shoulder)
- Significant cardiopulmonary comorbidity with inability to reduce dose with photon techniques
- Reirradiation

Central nervous system
- Low-grade/IDH mutated high grade gliomas
- Skull base/pituitary axis primary tumors
- Complex Meningiomas
- Hemangiopericytomas
- Medulloblastoma/Ependymoma
- Recurrent high-grade gliomas
- Reirradiation

Gastrointestinal
- Esophagus, especially trimodality patients
- Primary liver cancers (eg HCC, Cholangio CA)
- Locally recurrent, previously irradiated pancreas cancer
- Anal canal cancer – Chemoradiation
- Reirradiation for locally recurrent rectal cancer

Genitourinary
- Low/favorable-intermediate risk prostate cancer (especially younger patients)
- High-risk prostate cancer
- Node-positive prostate cancer
- Adjuvant/Salvage post-prostatectomy radiation
- Seminoma
- Reirradiation (consider deep thermal therapy)

Gynecologic
- Gross nodal disease
- Medically inoperable sarcoma
- Patients requiring para-aortic treatment
- Reirradiation (consider deep thermal therapy)

Head and Neck
- Unilateral Head and Neck (Parotid, High Risk Cutaneous, Well Lateralized Tonsil, Etc.)
- Nasopharynx, Paranasal Sinuses, Nasal Cavity, Base of Skull
- Oropharyngeal (Definitive and Post-TORS)
- Benign (Paraganglioma, etc.)
- Reirradiation

Lymphomas
- Young patients, who have received chemotherapy, getting RT to eloquent normal tissue/at risk for RT induced malignances, with expected long life expectancy
- Reirradiation

Sarcomas
- Extremity/Trunk Sarcoma - Neoadjuvant/Preoperative RT
- Extremity/Trunk Sarcomas - Postoperative RT
- Retroperitoneal Sarcomas
- Spinal Tumors
- Chordoma/Chondrosarcoma of Base of Skull/Spine
- Candidates for Concurrent Hyperthermia/Radiotherapy
- Reirradiation

Thoracic
- Locally-advanced non-small/small cell lung cancer with bulky mediastinal disease
- Patients receiving pre-operative chemoradiation prior to lobectomy/pneumonectomy
- Post-operative non-small cell lung cancer patients requiring RT due to +N2 disease/positive margin
- Mesotheioma
- Ultra-central early-stage NSCLC patients (SBRT/hypofractionated treatment)
- Reirradiation