Protocol Synopsis

Protocol Title: Prospective Evaluation of CyberKnife® as Monotherapy or Boost Stereotactic Body Radiotherapy for Intermediate or High Risk Localized Prostate Cancer: An Observational Study

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CyberKnife® Stereotactic Body Radiation Therapy (CK SBRT) has become a standard treatment alternative to other treatment options such as laparoscopic-assisted robotic prostatectomy, intensity-modulated radiation therapy (IMRT) and brachytherapy in the management of low-risk prostate cancer. CyberKnife® is a noninvasive radiotherapy system, which delivers targeted radiation doses to a tumor. It offers real-time target tracking, while limiting radiation exposure to the surrounding healthy tissue, employing a small number of high-dose fractions, and capitalizing on the unique radiobiology of prostate cancer. Potential advantages of CK SBRT are: fewer morbidities, shorter treatment time, faster recovery from side effects, etc. The efficacy and risk profile of CK SBRT in the setting of intermediate and high-risk prostate cancer are less well studied. The purpose of this project is to evaluate the efficacy and Health-Related Quality of Life (HRQOL) in intermediate and high-risk prostate cancer patients treated with CK SBRT.

Intermediate risk patients will be treated with either CK SBRT monotherapy or CK SBRT boost followed by IMRT. High risk patients will be treated with CK SBRT boost followed by IMRT. Treatment will last 4-7 days. Patients will complete the QOL questionnaires before treatment. Questionnaires will also be completed during follow-up visits at 1, 3, 6, 12, 18, 24, 30 and 36 months then every 12 months until year 5.