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## **Prostate Cancer and External Beam Therapy**

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### **ABSTRACT**

The Prostate is an exocrine gland of the male reproductive system. Prostate cancer is a malignancy that begins in the prostate gland and has the potential to spread to other parts of the body. The cancerous tumors are most commonly diagnosed through a biopsy of the prostate or medical imaging. Prostate cancer can be treated with surgery, brachytherapy or external beam therapy. External beam therapy is a method of delivering a beam or multiple beams of high energy x-rays to a tumor. Proper treatment planning of external beam therapy allows for the beams to be placed precisely in order to destroy the tumor cells and spare the nearby healthy cells.

By using Vairan Eclipse Software, we are able to make a six field external beam plan for a mock prostate cancer patient. With this software, we will plan the external beam therapy using the patients CT scan to target the tumor. The plan allows us to see exactly where each beam of radiation will come in contact with the tumor and the surrounding cells, so that we can irradiate the tumor while minimizing the damage to the healthy cells. External beam therapy is a valuable treatment option for prostate cancer patients because it localizes the radiation and allows for the non-tumor cells to be unaffected by radiation.

**Keywords:** Prostate Cancer, External Beam Therapy

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