

Radiation Therapy for Prostate Cancer

Chul S. Ha, M.D.
Department of Radiation Oncology
UT Health San Antonio

Radiation Therapy for Prostate Cancer

1. How do you use radiation to treat prostate cancer?
 - Different modalities
2. What do you expect from radiation treatments?
 - Acute vs. Late effects

How do you use radiation to treat prostate cancer?

1. Linear Accelerator (External Beam Radiation Therapy)
 - Sometimes in combination with Androgen Deprivation Therapy (Hormone Therapy)
2. Radioactive Seeds (Brachytherapy)
3. Radioactive Radium Injection (Xofigo)

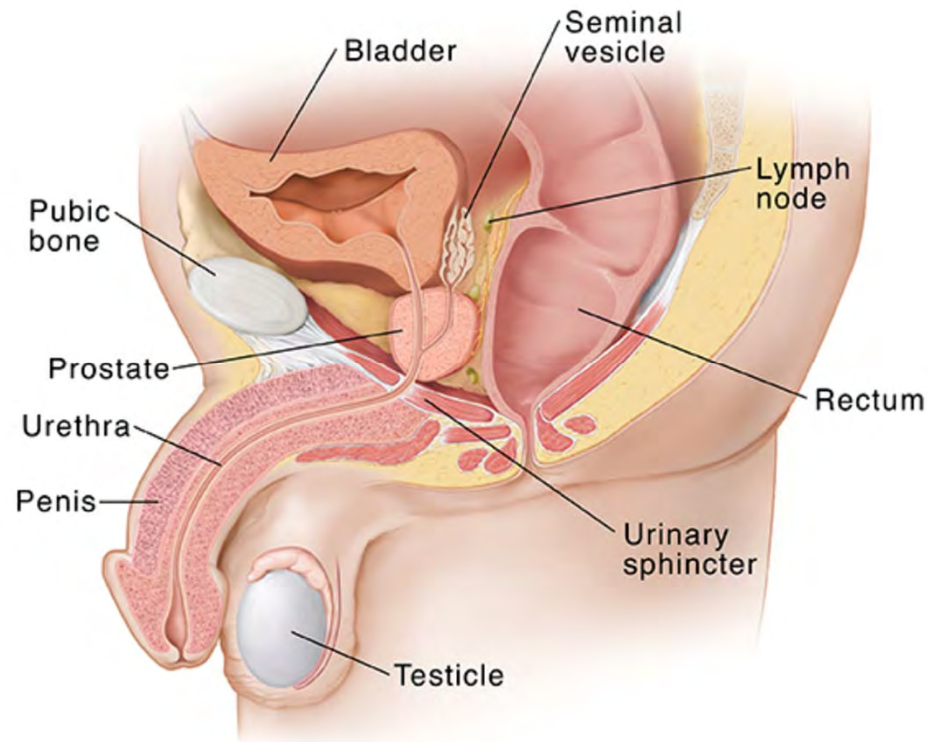
Linear Accelerator



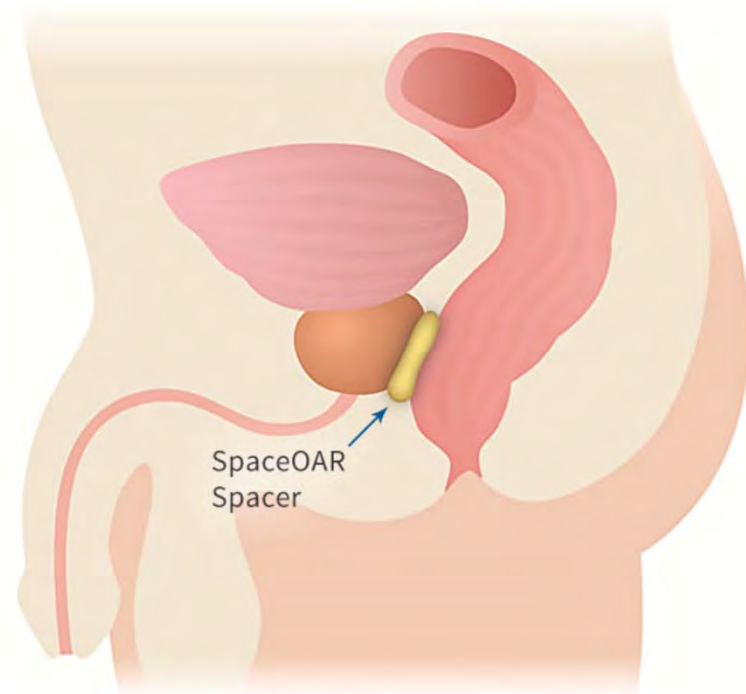
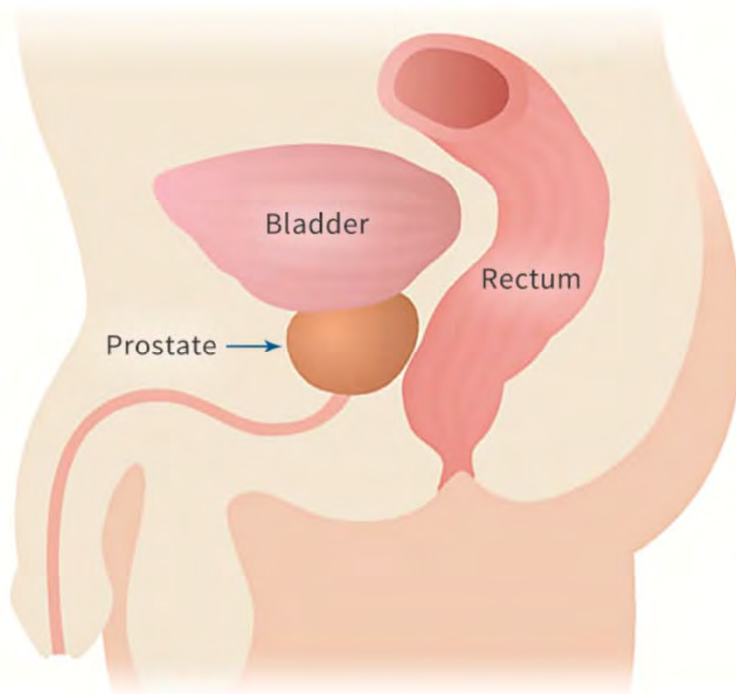
Simulation for Prostate Cancer Treatment



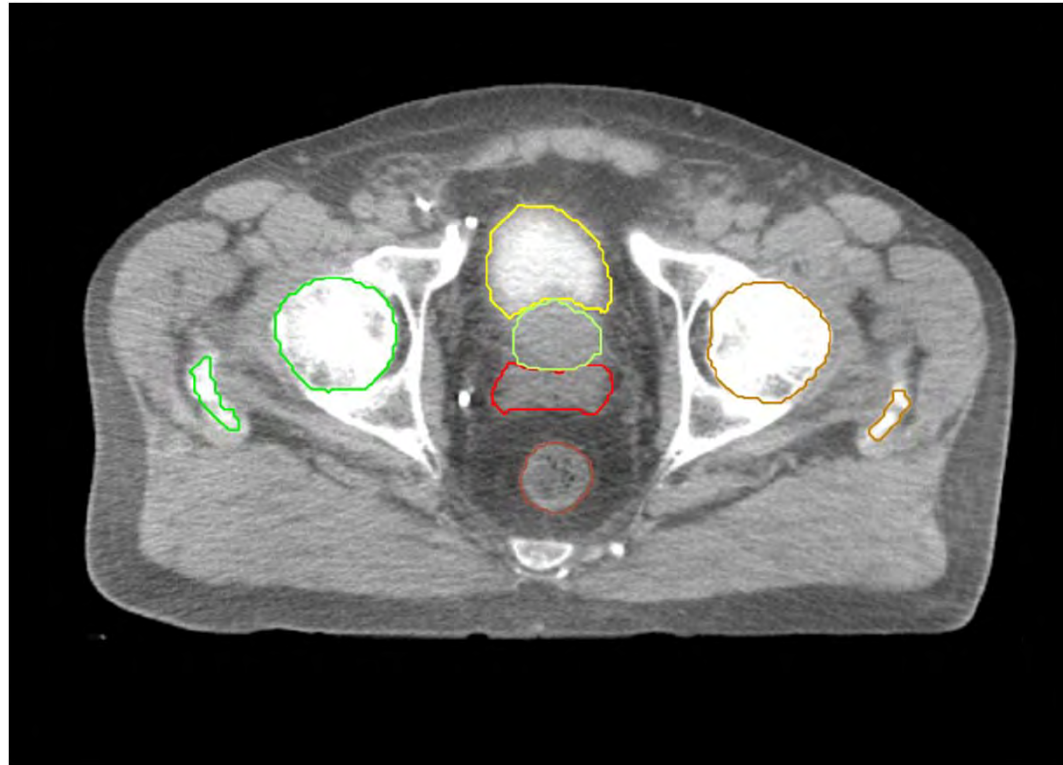
Anatomy of the Prostate



Space OAR



Treatment Planning

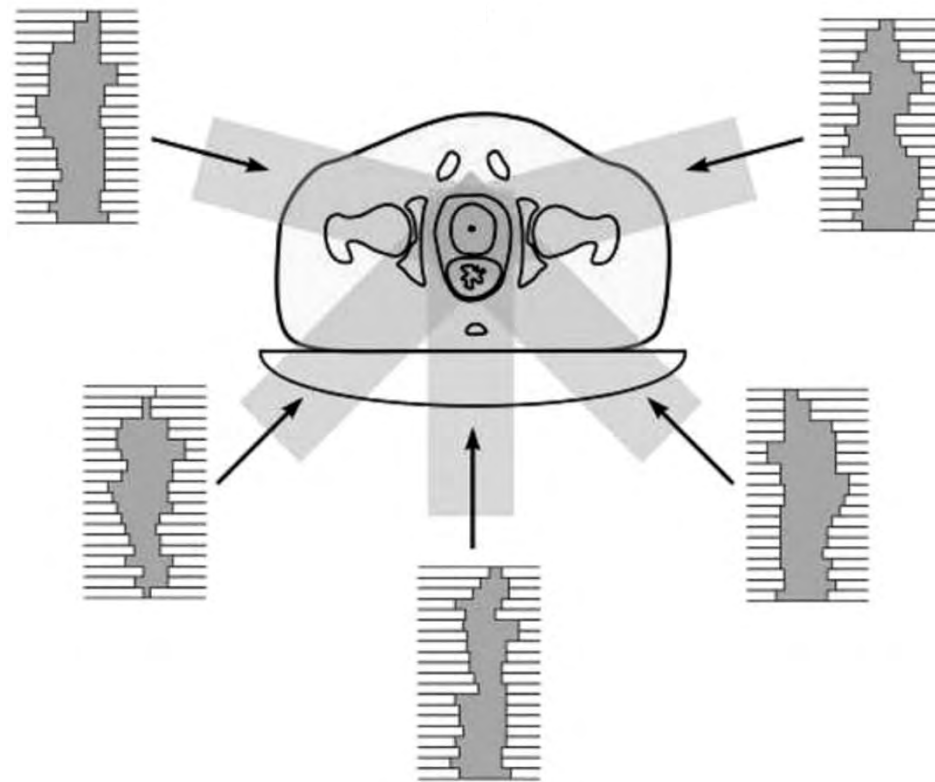


Treatment Planning

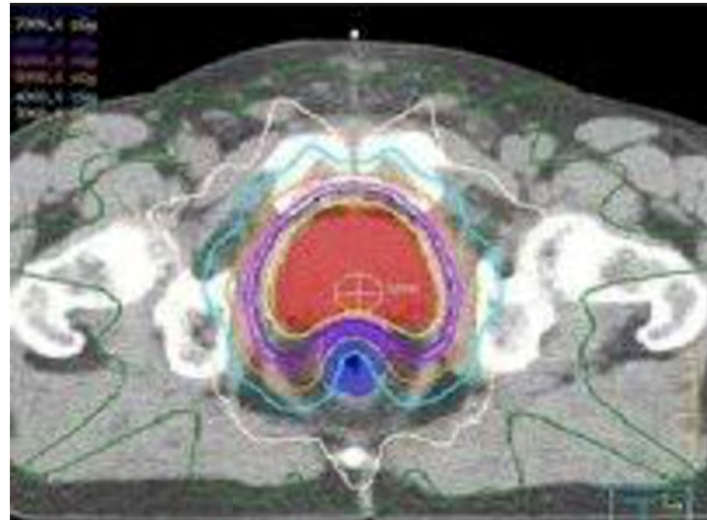
Team Work

- Radiation Oncologists
- Dosimetrists
- Medical Physicists

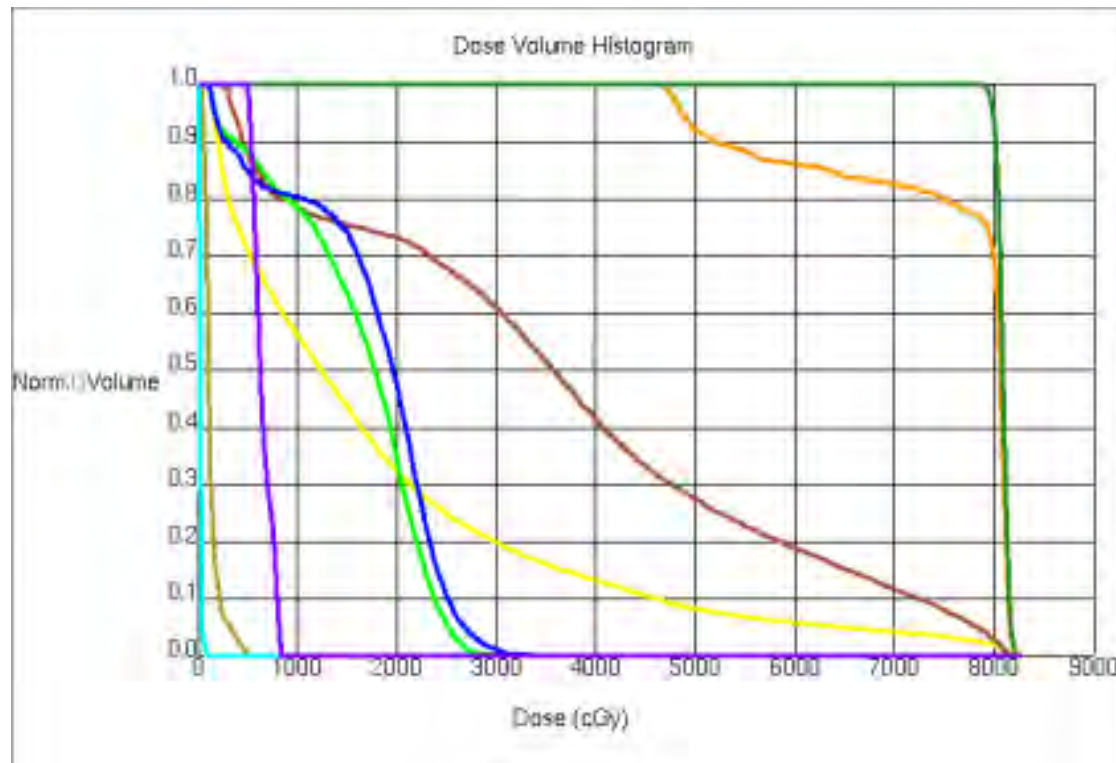
Intensity Modulated Radiation Therapy for Prostate Cancer



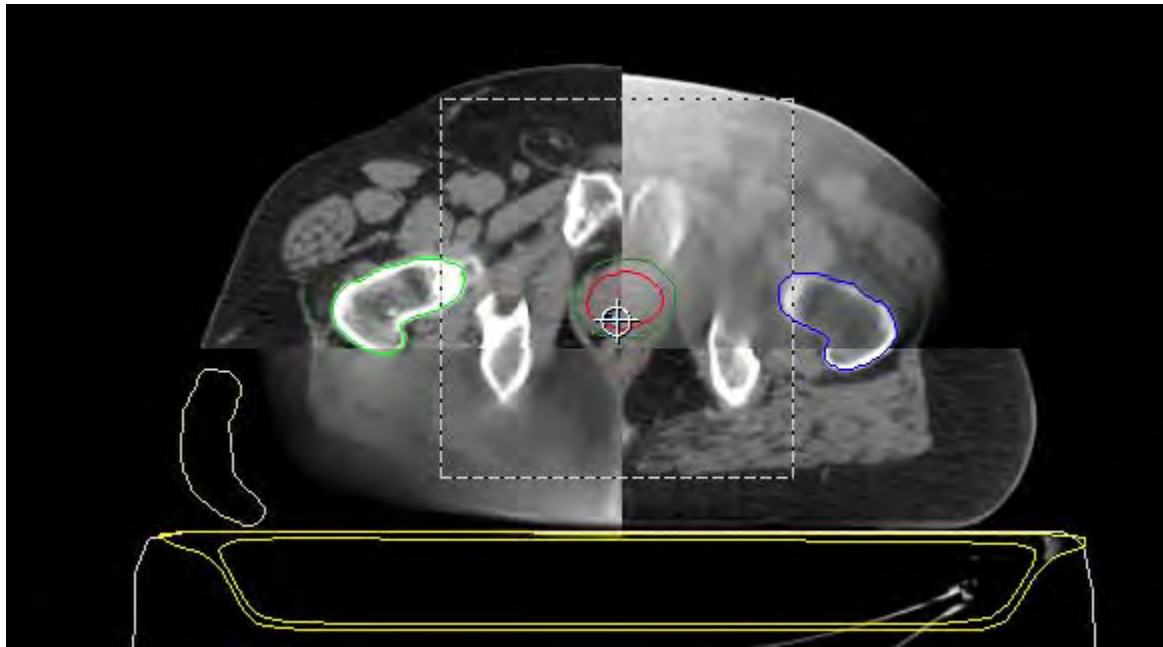
Treatment Plan for Prostate Cancer



Dose-Volume Histogram



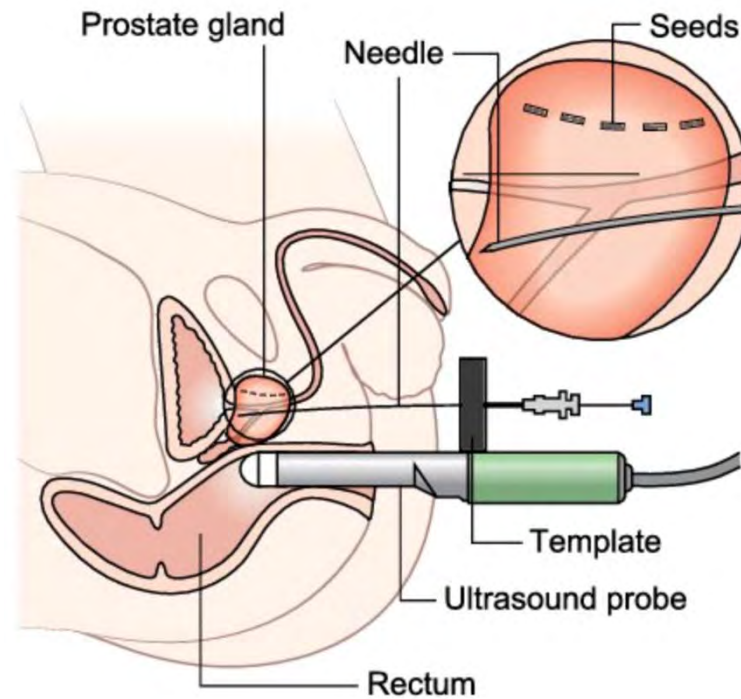
Daily Administration of Radiation



Different Regimens of Radiation Therapy

1. Standard regimen
2. Moderately hypofractionated regimen
3. Hypofractionated regimen
4. SBRT (Stereotactic Body Radiation Therapy)

Radioactive Seeds (Brachytherapy)



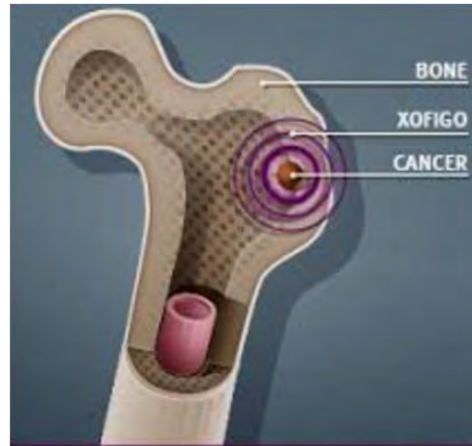
Radioactive Seeds (Brachytherapy)



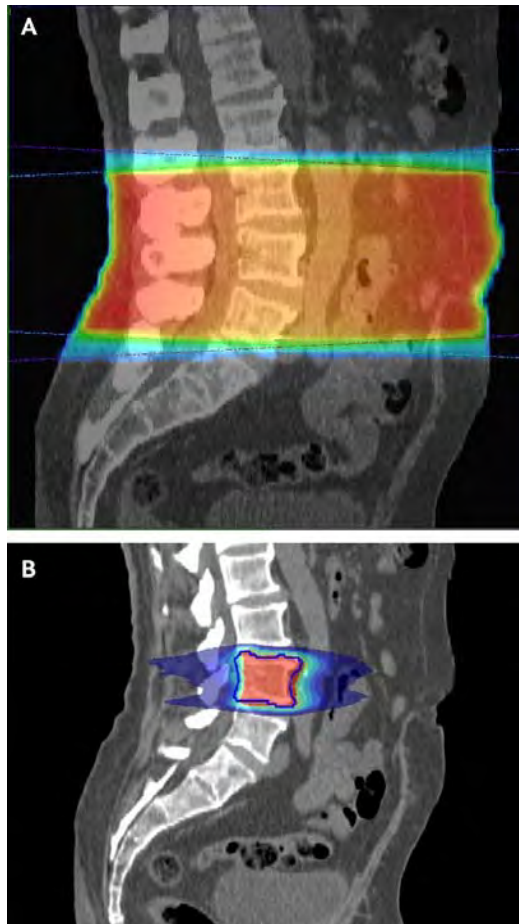
Radioactive Radium Injection (Xofigo)



Radioactive Radium Injection (Xofigo)



Palliative Radiation Therapy



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What do you expect from external beam radiation therapy?

Acute

- Fatigue
- Painful or difficult urination
- Slow urination
- Frequent urination
- Urgency with urination
- Getting up more often at night for urination
- Blood in urine
- Loose bowel movement
- Frequent bowel movement
- Painful or difficult bowel movement
- Worsening hemorrhoids
- Sexual dysfunction

Late

- Blood from bladder
- Blood from bowel/rectum
- Sexual dysfunction
- Bladder dysfunction
- Rectal dysfunction
- Secondary Cancer

What do you expect from brachytherapy?

Acute

- Painful or difficult urination
- Slow urination
- Frequent urination
- Urgency with urination
- Getting up more often at night for urination
- Loose bowel movement
- Frequent bowel movement
- Sexual dysfunction

Late

- Blood from bladder
- Blood from bowel/rectum
- Sexual dysfunction
- Bladder dysfunction
- Rectal dysfunction
- Secondary Cancer

What do you expect from radioactive radium injection treatment?

- Nausea/Vomiting
- Diarrhea
- Swelling in the legs and feet
- Low blood counts
- Secondary Cancer (?)