

Definition of Medical Event in Permanent Implant Brachytherapy

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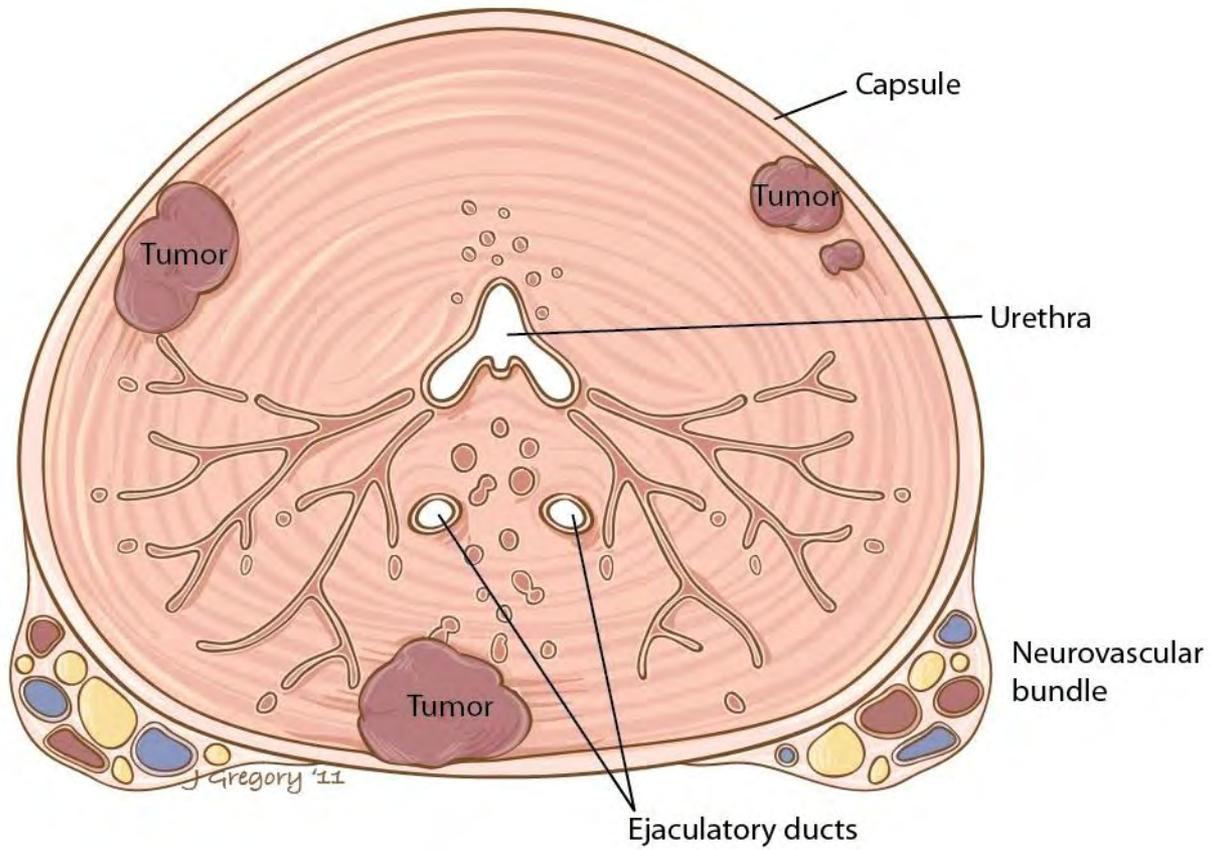
**On behalf of the American
Society for Radiation Oncology
(ASTRO)**

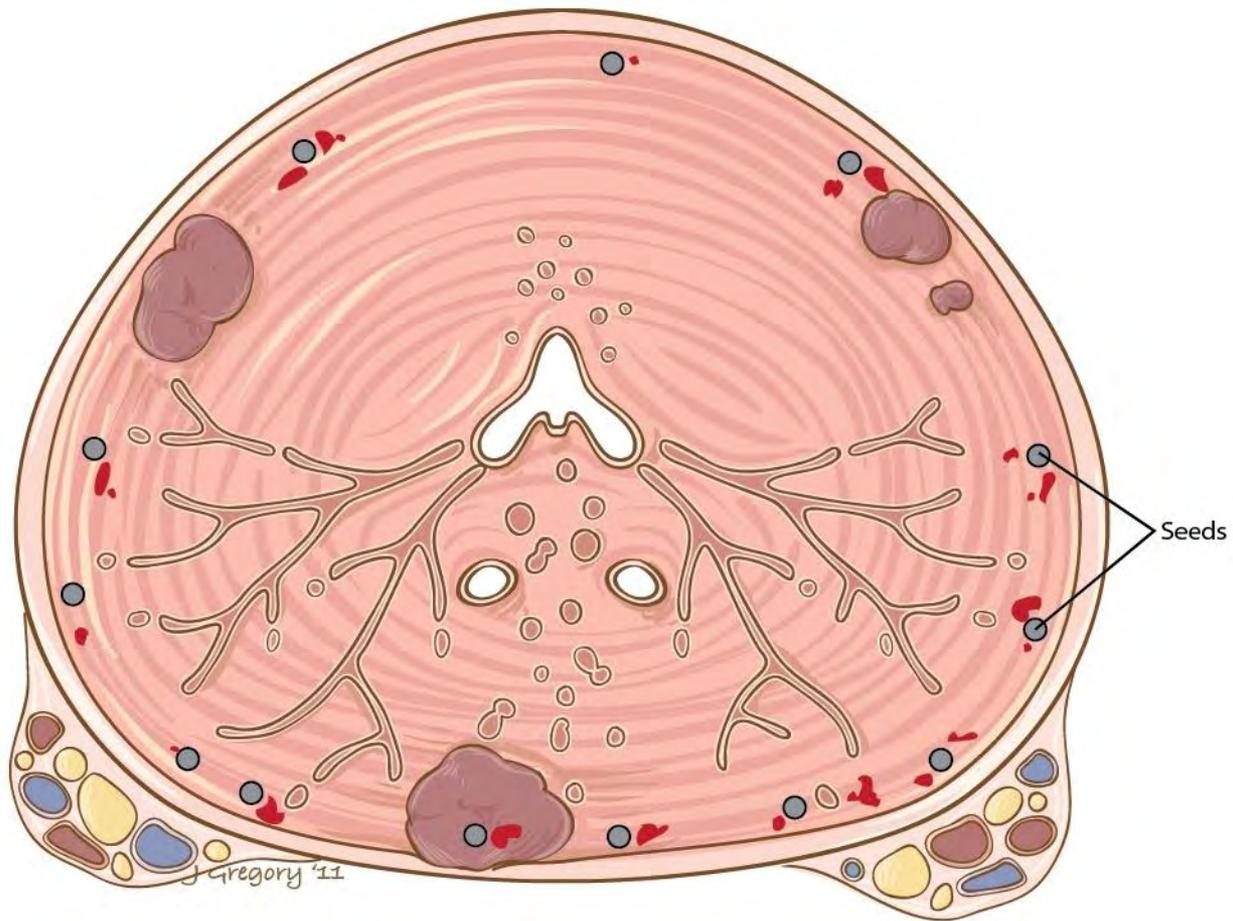
Current Definition

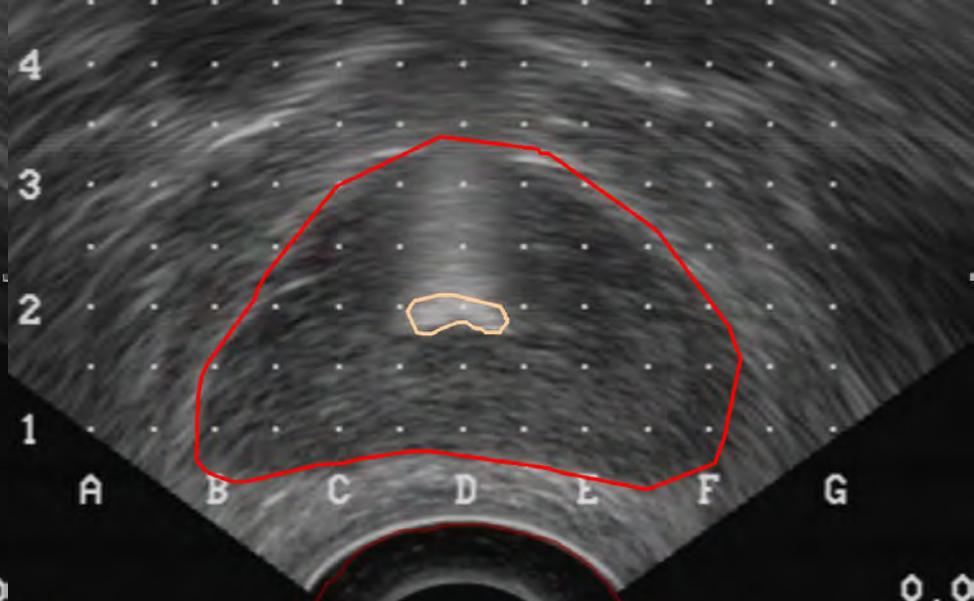
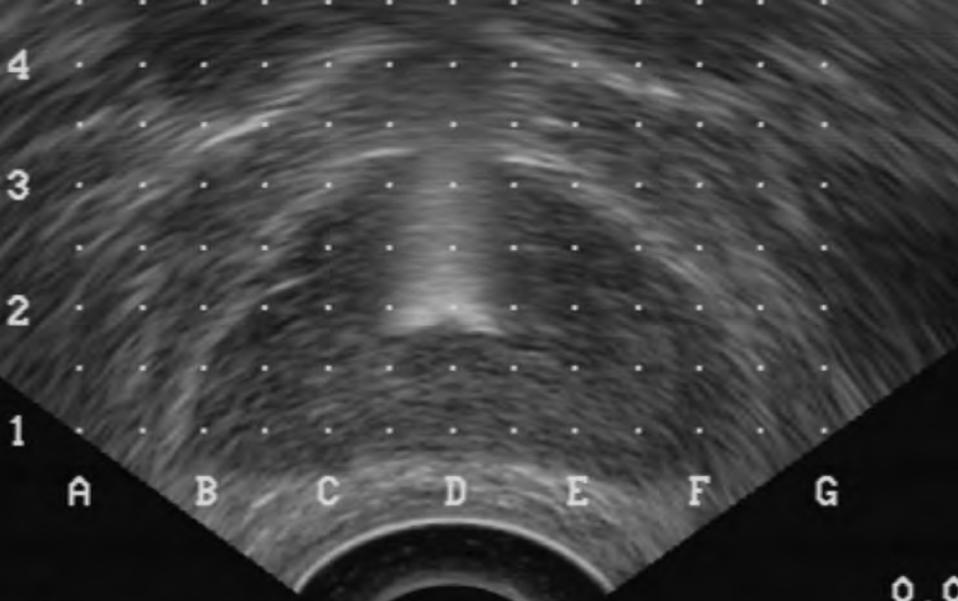
- **It is deemed to be a medical event if “the total dose delivered differs from the prescribed dose by 20% or more.”**
- **This definition relies on estimates of absorbed dose which is hard to quantify.**

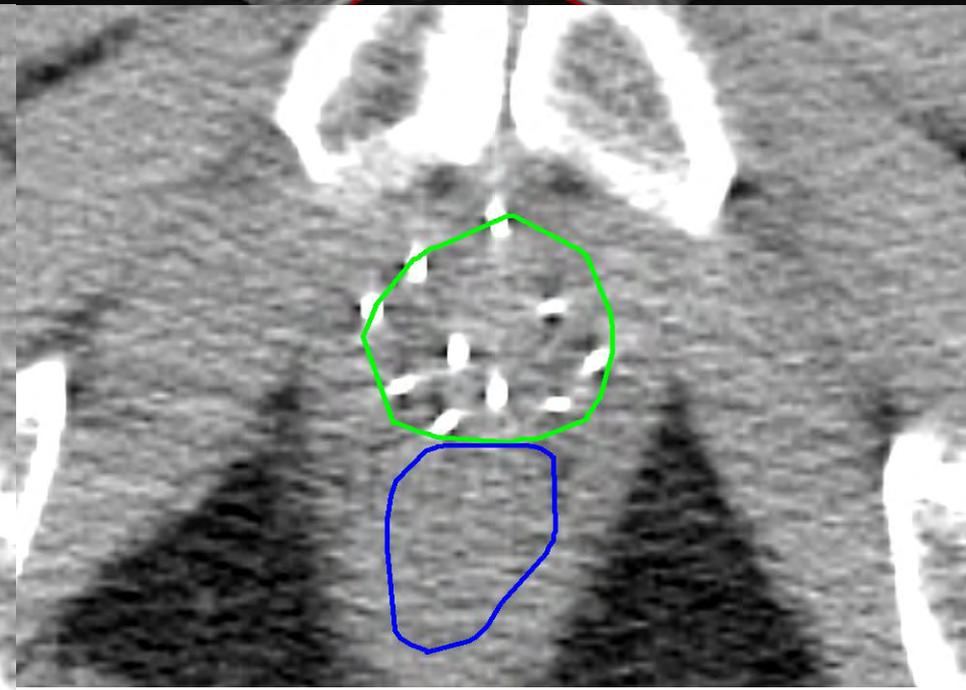
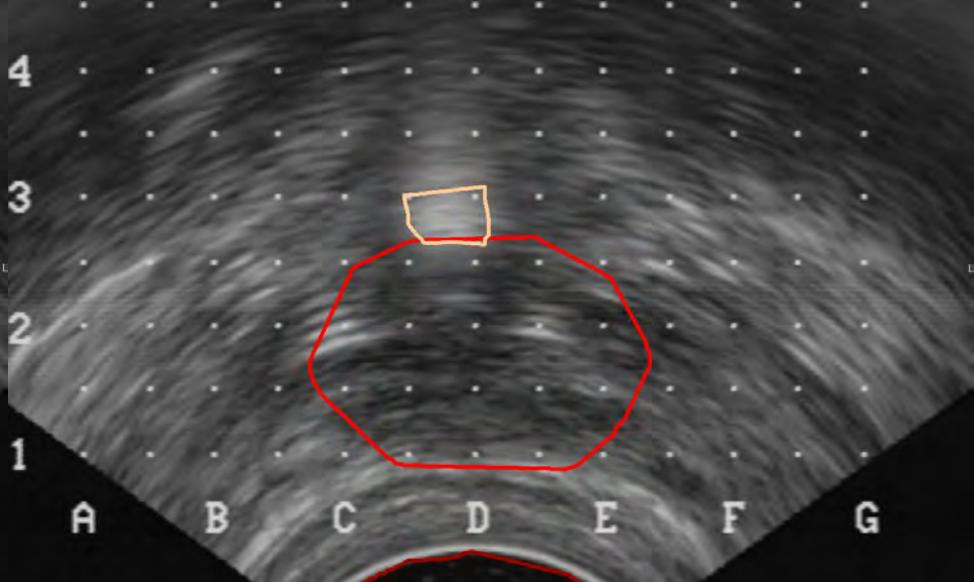
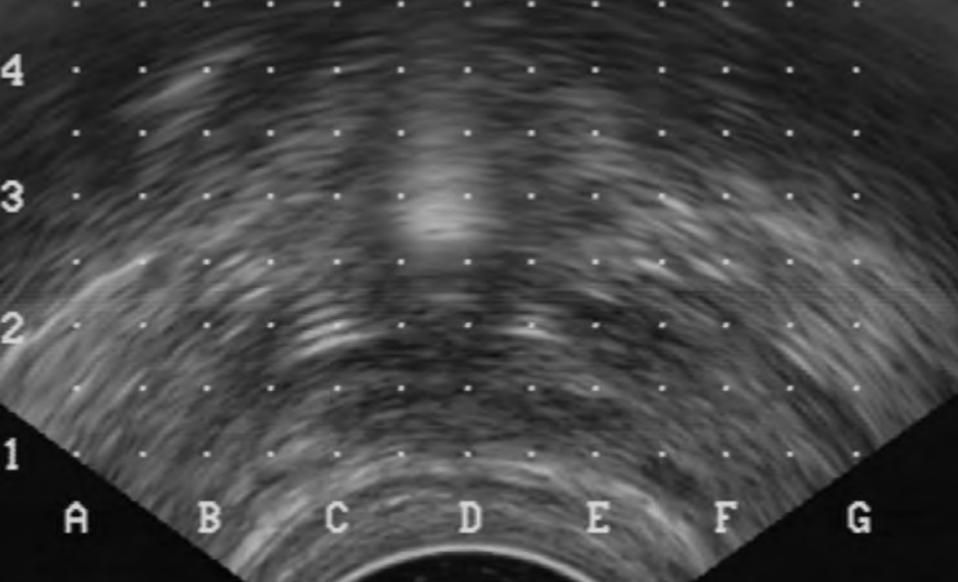
Problems with Definition

- **Permanent implant prostate brachytherapy is a dynamic procedure impacted by:**
 - **Changes in size and shape of prostate**
 - **Imaging modalities used --
Ultrasound and CT**









ASTRO Recommendation

- **Target-based definition**
 - **It is deemed to be a medical event if more than 20% of source strength is implanted outside the planning target volume**

Rationale

- **The total source strength implanted within and around the prostate is under control of the authorized user.**
- **The subsequent prostate volume and the resultant dose to the prostate is not.**

Conclusion

- **It is important to capture those events that could cause serious patient harm.**
- **Target-based definition would identify true errors and weed out medically acceptable implants.**