

## Dosimetric Feasibility of Neurovascular Bundle-Sparing Stereotactic Body Radiotherapy with Periprostatic Hydrogel Spacer for Localized Prostate Cancer to Preserve Erectile Function

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### Limitations of this report include:

- Study was retrospective in nature.
- The SpaceOAR™ Hydrogel pivotal study did not use SBRT so the results may not be comparable.
- This study was not designed or powered to make definitive claims about the benefits of a spacer.
- These results may not be achieved with other SBRT protocols.
- Contours of the NVB were performed by a single expert prostate radiologist.
- This NVB-sparing technique is limited to men with visible NVB classically located posterolateral to the prostate, accounting for approximately half to two-thirds of men with prostate cancer.
- Day-to-day variation in dose per fraction is more likely to affect the NVB than other organs-at-risk. This variability cannot be evaluated from the treatment plan. Comparison of planned NVB dose with delivered NVB dose will therefore be of clinical interest moving forward.

**Reference**  
Hwang ME, Mayeda M, Shaish H, Elliston CD, Spina CS, Wenske S, et al. Dosimetric feasibility of neurovascular bundle-sparing stereotactic body radiotherapy with periprostatic hydrogel spacer for localized prostate cancer to preserve erectile function. *Br J Radiol* 2021; 94: 20200433.

**Disclaimers**  
SBRT was not the method used in the SpaceOAR Hydrogel single-blind Phase III trial performed to evaluate dosimetric and clinical effects of SpaceOAR Hydrogel. IG-IMRT delivered at 79.2 Gy in 1.8-Gy fractions was the method used.

Results from case studies are not necessarily predictive of results in other cases. Results in other cases may vary.

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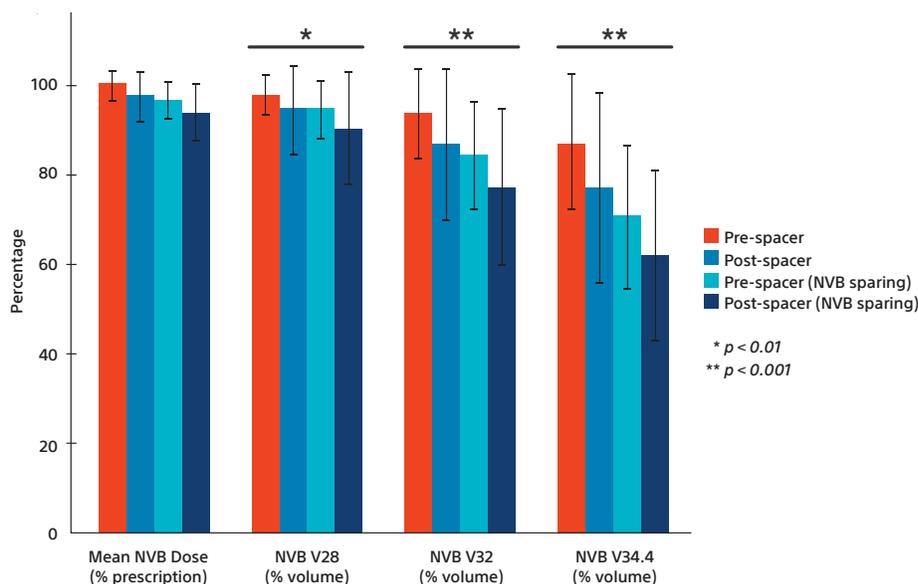
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Thirty-five men with low- and intermediate-risk prostate cancer who underwent rectal hydrogel spacer placement and pre-, post-spacer prostate MRI studies were treated with prostate SBRT (36.25 Gy in five fractions). A prostate radiologist contoured the neurovascular bundles (NVB) for NVB-sparing radiation treatment planning. Three SBRT treatment plans were developed for each patient: (1) no NVB sparing, (2) NVB-sparing using pre-spacer MRI, and (3) NVB-sparing using post-spacer MRI.



**“ NVB-sparing SBRT with hydrogel spacer placement has the potential to significantly reduce the high dose delivered to the NVB. The spacer contributes to this effect by inducing a small but dosimetrically meaningful NVB displacement in the posterior direction. We believe that the described approach to offer clinically meaningful reductions in RiED warrants prospective clinical trials.”**

Link to full article: <https://doi.org/10.1259/bjr.20200433>

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