Cureus

Rectal Spacer Impact on Erectile Function Following Prostate Stereotactic Body Radiotherapy

Open Access
Abstract
Published 03/04/2026

Nima Aghdam [1], Jaeden-Hans Yburan [2], Liana Dawson [3], Vianca Santos [4], Brianna Vizcaino [5], Christopher Mendez [6], Astrid Sanchez [7], Todd Carpenter [8], Moses Tam [9], Aaron Katz [10], Herbert Lepor [11], Jonathan Haas [12]

1. Radiation Oncology, NYCyberknife at New York University Perlmutter Cancer Center, New York City, USA 2. Radiation Oncology, NYU Langone Health - Long Island, Long Island, USA 3. NYU GLISOM, NYU Mineola, Mineola, USA 4. Radiation Oncology, Perlmutter Cancer Center Long Island-NYU Langone Health, Mineola , USA 5. Radiation Therapy, NYU Langone Health - Long Island, Long Island, USA 6. Radiation Oncology, Perlmutter Cancer Center at NYU Langone, Mineola, USA 7. Radiation Oncology, Winthrop University Hospital, New York, USA 8. Department of Radiation Oncology, Perlmutter Cancer Center, NYU Langone Long Island, Mineola, USA 9. Radiation Oncology, NYU Langone Health, New York, USA 10. Urology, Perlmutter Cancer Center at NYU Langone, Mineola, USA 11. Urology, Perlmutter Cancer Center at NYU Langone, Manhattan, USA 12. Radiation Oncology, Perlmutter Cancer Center at Nyu Winthrop Radiation Oncology, Mineola, USA

Corresponding author: Nima Aghdam, nima.aghdam@nyulangone.org

Categories: Radiation Oncology
Keywords: erectile function, prostate stereotactic body radiotherapy

How to cite this abstract
Aghdam N, Yburan J, Dawson L, et al. (March 04, 2026) Rectal Spacer Impact on Erectile Function Following Prostate Stereotactic Body Radiotherapy. Cureus 18(3): a1649

Abstract

Objectives: Rectal hydrogel spacers have become a key component of prostate radiotherapy planning, particularly with the growing use of hypofractionated and stereotactic body radiotherapy (SBRT). While the dosimetric and rectal toxicity benefits of spacing are well established, its effect on sexual function remains less well defined. This study evaluates longitudinal erectile function in patients treated with robotic SBRT with or without rectal spacing.

Methods: From 2020 to 2024, 209 patients with localized prostate cancer were treated with CyberKnife SBRT to a total dose of 36.25 Gy in 5 fractions. None received androgen deprivation therapy. Rectal spacers were placed by experienced urologists prior to simulation. Expanded Prostate Cancer Index Composite (EPIC) sexual function domain scores were collected at baseline, 4 months, and 12 months post-treatment. Changes from baseline, and rates of maintaining erections firm enough for intercourse were compared between spaced and non-spaced cohorts using two sample t-test at each time point.

Results: All patients had ⩾12 months of follow-up with median age 70 years and mean prostate volume of 44 cc. The spaced cohort (n=209) and non-spaced cohort (n=24) were comparable at baseline, with similar pretreatment EPIC erectile function score (3.17 vs 2.83; p = 0.139). Patients receiving a rectal spacer demonstrated smaller declines in EPIC erectile function at 4 months (3.02 vs 2.11; p = 0.0005) and 12 months (2.92 vs 2.26; p = 0.0082). The proportion of men maintaining erections sufficient for intercourse at 12 months was higher in the spacer group (65% vs 38%), although this was not statistically significant (p = 0.149).

Conclusion(s): Rectal spacer placement was associated with improved preservation of sexual function following SBRT, with smaller declines in sexual QOL across the first post-treatment year. Although some differences did not reach statistical significance, the overall trend suggests a potential protective effect of rectal spacing on sexual health in men undergoing prostate SBRT.