

Adequate Hydration Eliminates Delayed Urethritis in Patients Receiving Stereotactic Body Radiotherapy (SBRT) for Low-Intermediate Risk Prostate Cancer

Gregg Dickerson ¹

1. Radiosurgery, Anova Cancer Care

✉ **Corresponding author:** Gregg Dickerson, gdickersonmd@gmail.com

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Abstract

Objectives: Delayed urethritis is a bothersome delayed side effect of robotic SBRT for prostate cancer. Efforts to decrease the urethral dose have been implemented on select low and intermediate-grade, low-stage patients to limit this late side effect. We have treated over 1100 patients with prostate cancer over the last 6 years. Delayed urethritis presented in approximately 8% of our patients. We found that viral infections, upper respiratory infections, poor tolerance of an influenza vaccination, road trips, air trips, heavy physical exertion, and other seemingly unrelated problems, were not related to this late toxicity. The common denominator was, in our analysis, clinical dehydration.

Methods: Action was taken first to modify SBRT treatment planning. The urethra and periurethral tissue was identified on the sagittal and axial MRI imaging. A "urethral corridor" was established and a dMax constraint of 43.75 Gy was applied during planning. 36.25 cGy continued to be prescribed to the PTV (commonly to the 76-80% isodose curves). The next action was to begin counseling the patients on maintaining adequate hydration, recommending the minimum consumption of 64 oz. of water daily.

Results: Since January 1, 2015 there have been only 2 instances of delayed urethritis in more than 200 patients that have been treated. Both of these patients reported concentrated urine (dark yellow/brown urine) preceding symptoms.

Conclusions: Additional follow-up is necessary but with the excellent freedom from delayed GU side effects the recommendations can be made to apply urethral corridor SBRT constraints and counsel all men treated for prostate cancer with SBRT to maintain adequate hydration.

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Abstract

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