

months (-1.0 vs +1.0, p = 0.02) and 12-24 months (+0.0 vs +3.0, p = 0.18). The EPIC-CP measure showed similar findings, with urinary QOL for IMRT patients recovering to baseline, while IMRT/BT patients had persistently elevated urinary incontinence (0.0 vs +1.0, p=0.05) and urinary irritation (0.0 vs +1.0, p=0.02) at 12-24 months. However, only a subset of the IMRT/BT group had elevated symptoms meeting the MID in IPSS (26%), EPIC-CP urinary irritation (21%), and urinary incontinence (18%). Bowel function remained stable across groups. On multivariable analysis that adjusted for race, baseline IPSS, and use of pelvic radiation, IMRT/BT was associated with higher odds of increasing urinary incontinence that met the MID threshold (OR=18.79, p=0.02). There was no difference between IMRT and IMRT/BT patients in IPSS or urinary irritation.

Conclusion: Both IMRT alone and IMRT/BT result in post-treatment QOL declines. IMRT patients recovered by 6-12 months, whereas IMRT/BT patients had mild but persistent urinary QOL declines at 12-24 months, with 1-2 points increases compared to baseline. These data inform patient decision-making balancing the disease control benefit vs mild increased urinary symptoms from adding BT.

Abstract 2376 – Table 1: Median IPSS and EPIC-CP scores (higher score = worse symptoms)

Domain	IMRT vs IMRT/BT			
	Baseline	0-6 Months	6-12 Months	12-24 Months
IPSS	6.5 vs 7.0	16.5 vs 16.0	5.0 vs 10.0	7.0 vs 9.0
Urinary Incontinence	1.0 vs 0.0	2.0 vs 2.0	0.0 vs 1.0	0.0 vs 1.0
Urinary Irritation	2.0 vs 2.0	5.0 vs 5.0	1.0 vs 2.0	1.0 vs 3.0
Bowel	0.0 vs 0.0	2.0 vs 2.0	0.0 vs 0.0	0.0 vs 0.0

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Optimizing Fractionation Strategies for Early-Stage NSCLC: Real-World Toxicity and Outcomes from a Statewide Consortium

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Purpose/Objective(s): Many acceptable radiation dose and fractionation regimens exist for definitive treatment of early-stage non-small cell lung cancer (NSCLC). Hypofractionated (HypoRT) regimens are favored over stereotactic body radiation therapy (SBRT) for central or large lesions; however, comparative toxicity and outcomes data are limited. We previously identified factors influencing the use of HypoRT over SBRT within a statewide quality consortium. Here, we report observed toxicity and oncologic outcomes by fractionation.

Materials/Methods: Patients with early-stage (T1-3N0M0) NSCLC were prospectively enrolled in a statewide quality consortium from September 2012 to January 2025. We defined SBRT as ≤5 fractions, HypoRT as 6-20 fractions, and conventional fractionation (cRT) as 1.8-2 Gy per fraction (Gy/Fx) for 25 or greater fractions. We excluded patients with multiple radiation plans or those not meeting definitions. Oncologic outcomes and physician-reported toxicities were collected prospectively. Fractionation and clinical factors were assessed for association with outcomes of interest.

Results: In total, 1,146 patients from 30 centers meeting inclusion criteria were enrolled: 848 received SBRT, 116 received HypoRT, and 182 received cRT. Among patients with T1 tumors, 93.6%, 4.6%, and 1.7% received SBRT, HypoRT, and cRT, respectively. This distribution was 52.9% SBRT, 22.3% hypoRT, and 24.8% cRT among T2 tumors and 10.4% SBRT, 18.2% hypoRT and 71.4% cRT among T3 tumors. Planning target volume was ≤ 2 cm from the heart for 120 (14.1%) and ≤ 2 cm from the esophagus for 64 (7.5%) SBRT patients. Cumulative incidence of lung and cardiac related hospitalization, accounting for death and hospice as competing risks, were similar across fractionations, although incidence of hospitalization for pneumonitis was lowest with SBRT (table 1). After adjusting for age and fractionation, only T-stage was associated with progression free survival (PFS) with a median follow up of 20 months. T2 tumors (HR 1.52) and T3 tumors (HR 1.83) demonstrated worse PFS than T1 tumors.

Conclusion: In a large prospective real-world dataset, incidence of lung or cardiac-related hospitalization was low following RT for early-stage lung cancer across fractionation regimens. PFS did not differ by fractionation after adjusting for T-stage. These findings highlight the safety of varied fractionation approaches within a statewide consortium.

Abstract 2377 - Table 1: Cumulative incidence fraction (CIF) of hospitalization events by fractionation

	12 months % CIF (95% CI)	24 months % CIF (95% CI)	Gray's test P-value
Any lung event			0.155
cRT	22.4 (13,33.4)	22.4 (13,33.4)	
HypoRT	22 (12.5,33.4)	24.1(13.9,35.7)	
SBRT	11.1 (8.6,14)	16.2 (13.1,19.6)	
Any cardiac event			0.51
cRT	6.4 (2.0,14.3)	8.1 (3.0,16.7)	
HypoRT	10 (4.0,19.2)	11.9 (5.2,21.7)	
SBRT	4.6 (3.1,6.6)	7.6 (5.5,10.2)	
Pneumonitis hospitalization			
cRT	4.8 (1.2,12.1)	4.8 (1.2,12.1)	0.0001
HypoRT	3.3 (0.6,10.3)	3.3 (0.6,10.3)	
SBRT	0	0.4 (0.1,1.5)	

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Evaluating Outcomes in NSCLC Patients Receiving Amivantamab and Intracranial Radiation

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