# Poster Session 1: Oncology–Prostate
# Thursday, October 9, 2025 • 7:00–8:00 am

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## Abstract #1

### Impact of testosterone recovery on oncologic outcomes after prostatectomy and ADT in high- risk, localized prostate cancer

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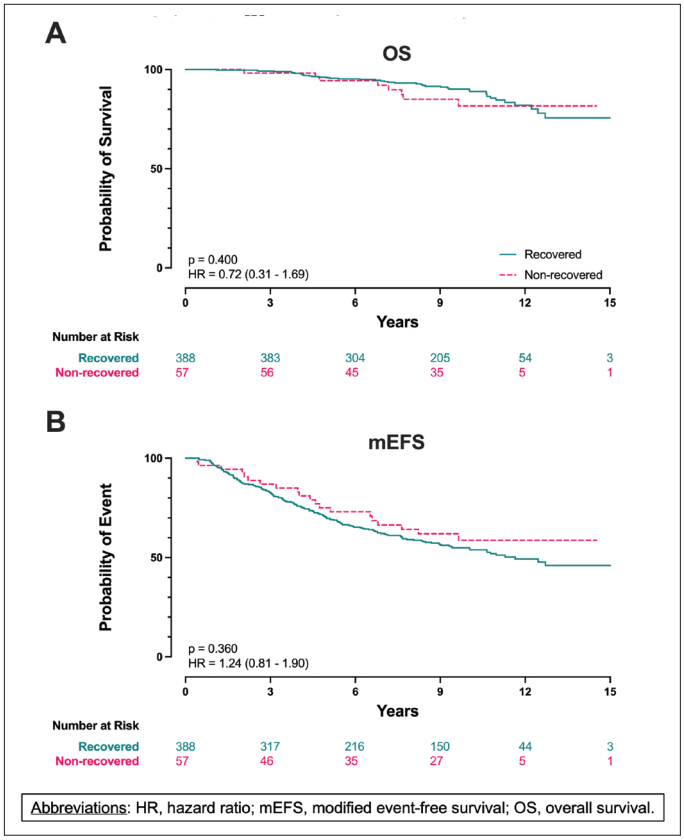
**Introduction:** Prostate cancer (PCa) is the only cancer in men to exhibit androgen sensitivity at diagnosis, which has allowed for the development of androgen deprivation therapy (ADT); however, outcomes in high-risk PCa (HRPCa) remain significantly worse than low-risk disease, and the use of ADT varies among treatment algorithms and medical specialties. In men treated with radiation, testosterone recovery after completing ADT has been associated with oncologic outcomes; however, the relationship between testosterone recovery and oncologic outcomes following ADT in surgically managed HRPCa remains unexplored.

**Methods:** Using pooled data from two large, phase 3 clinical trials (CALGB 90203 and SWOG S9921), we performed a retrospective analysis of men with HRPCa treated with ADT and RP. Subjects were classified as recovered or non-recovered based on study protocol-defined testosterone recovery thresholds. Primary and secondary outcomes were overall survival (OS) and modified event-free survival (mEFS), analyzed using time-to-event Kaplan-Meier estimates and Cox proportional hazards models. Additional secondary analyses repeated this on an unpooled, per-trial basis and also looked at speed of testosterone recovery using early (≤6 months) and late (≤12 months) recovery subgroups.

**Results:** Among 445 eligible patients meeting our inclusion criteria, with 224 (50.4%) from the SWOG trial and 221 (49.6%) from the CALGB trial, 388 (87.2%) achieved protocol-defined testosterone recovery. No significant differences in OS (HR 0.72, 95% CI 0.31–1.69, p=0.400) or mEFS (HR 1.24, 95% CI 0.81–1.90, p=0.360) were observed between the recovered and non- recovered groups (Figure 1). Similarly, no significant differences were present when OS and mEFS were analyzed separately in each individual trial's cohort. Finally, we also saw no differences in oncologic outcomes between the early and late testosterone recovery subgroups.

**Conclusions:** Testosterone recovery status and speed were not significantly associated with oncologic outcomes in HRPCa patients treated with RP and ADT. These findings, the first to assess this question in a surgical cohort, provide a foundation for further research into treatment strategies, including intermittent ADT and optimization of patient quality of life while maintaining oncologic efficacy.




**Abstract #1. Figure 1.** Pooled analysis of oncologic outcomes by testosterone recovery status.

## Abstract #2

### Comparative cost analysis of stereotactic body radiation therapy vs. intensity-modulated radiotherapy for treatment of localized prostate cancer

*Vanessa Pena[1], Shan Wu[1], Oluwaseun Orikogbo[1], Mitchell Alameddine[1], Peyton Skupin[1], Jonathan Yabes[2], Daniel Beichner[3], Adam Olson[3], Benjamin Davies[1], Lindsay Sabik[4], Bruce L. Jacobs[1]*

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**Introduction:** Stereotactic body radiation therapy (SBRT) is a novel form of radiotherapy for prostate cancer that uses ultrahypofractionated radiation and allows for fewer treatment sessions compared to moderately hypofractionated regimens, including intensity-modulated radiation therapy (IMRT), with comparable oncologic outcomes. We sought to compare the cost of SBRT and IMRT for localized prostate cancer.

**Methods:** We identified men over age 66 diagnosed with intermediate-risk prostate cancer who underwent IMRT or SBRT from 2008–2017 using the Surveillance, Epidemiology, and End Results-Medicare Linked Database to compare per-patient radiation-specific costs. Patients who received a therapeutic regimen, defined as ≥20 fractions of IMRT and ≥2 fractions of SBRT within 90 days, were included. Additionally, only patients treated in one locality were included to account for geographic variability in healthcare costs. Linear mixed-effects regression was used to compare cost per patient for each treatment type, accounting for age, race, ethnicity, marital status, comorbidities, tumor stage, and other demographic variables. Diagnosis year was a fixed effect, and tax identification number with carrier locality code combination was a random effect. Sensitivity analysis was performed to compare costs for patients who received ≥20 fractions of IMRT to patients who received five fractions of SBRT, the gold standard treatment.

**Results:** The final cohort included 934 IMRT patients and 237 SBRT patients. Among the SBRT patients, 36 patients received five fractions and were included in the sensitivity analysis. Our adjusted model (Table 1) showed that the estimated

**Abstract #2. Table 1. Linear mixed-effects regression model estimating cost differences**

| Fixed effect | Estimated cost difference (95% CI) | Pr(>\|t\|) |
|---|---|---|
| (Intercept) | 20130.47 (17271.37, 22989.57) | <0.01 |
| Treatment type | | |
| IMRT (≥20 fractions, reference) | | |
| SBRT (2–5 fractions) | -10871.5 (-12019.53, -9723.46) | <0.01 |
| Age at diagnosis | 119.11 (-51.14, 289.35) | 0.17 |
| Race | | |
| White (reference) | | |
| Black | -352.28 (-923.5, 218.94) | 0.23 |
| Other/unknown | 52.37 (-712.77, 817.51) | 0.89 |
| Ethnicity | | |
| Non-Hispanic (reference) | | |
| Hispanic | 835.55 (46.12, 1624.99) | 0.04 |
| Marital | | |
| Married (reference) | | |
| Unmarried and unknown | 38.35 (-337.81, 414.52) | 0.84 |
| Comorbidity score | | |
| 0 (reference) | | |
| 1 | 211.89 (-192.15, 615.92) | 0.30 |
| 2 or more | -201.41 (-613.02, 210.19) | 0.34 |
| Tumor stage | | |
| ≤ T1 (reference) | | |
| T2 | -297.56 (-674.25, 79.14) | 0.12 |
| T3/T4 | -91.22 (-1268.9, 1086.45) | 0.88 |
| Population density | | |
| <250 000 (reference) | | |
| 250 000–999 999 | 694.82 (-14.49, 1404.13) | 0.06 |
| ≥1 million | 1560.67 (809.29, 2312.04) | <0.01 |
| Education attainment | | |
| Low (0–75) (reference) | | |
| High (>75) | -1063.35 (-1698.45, -428.25) | <0.01 |
| Median household income | | |
| ≤40 000 (reference) | | |
| 40 001–60 000 | 605.15 (58.97, 1151.32) | 0.03 |
| >60 000 | 663.99 (10.14, 1317.85) | 0.05 |

total cost per patient for IMRT was $20 130, while SBRT was associated with a significantly lower estimated cost of $9259 per patient (p<0.01). Additional predictors of significantly higher cost included residing in high-density areas (population over one million), higher education levels, a median household income over $40 000, and earlier years of radiation treatment. Sensitivity analysis demonstrated cost saving of $8725 for patients undergoing five fractions of SBRT compared to patients receiving ≥20 fractions of IMRT.

**Abstract #2. Table 1 (cont'd). Linear mixed-effects regression model estimating cost differences**

| Fixed effect | Estimated cost difference (95% CI) | Pr(>\|t\|) |
|---|---|---|
| Region | | |
| Midwest (reference) | | |
| Northeast | 734.07 (-2074.28, 3542.43) | 0.61 |
| South | 2181.24 (-289.17, 4651.66) | 0.09 |
| West | 1068.95 (-1380.25, 3518.14) | 0.39 |
| Year of radiation | | |
| 2008 (reference) | | |
| 2009 | -715 (-2418.61, 988.62) | 0.41 |
| 2010 | -584.88 (-2294.57, 1124.82) | 0.50 |
| 2011 | 76.88 (-1627.27, 1781.04) | 0.93 |
| 2012 | -1882.54 (-3619.07, -146) | 0.03 |
| 2013 | -3844.16 (-5601.27, -2087.06) | <0.01 |
| 2014 | -3400.21 (-5178.41, -1622) | <0.01 |
| 2015 | -2808.69 (-4834.18, -783.21) | 0.01 |
| 2016 | -3109.83 (-5029.8, -1189.87) | <0.01 |
| 2017 | -3525.31 (-5429.49, -1621.13) | <0.01 |
| Number of patients | 1171 | |
| Number of TIN1: Carrier locality combinations | 108 | |

**Conclusions:** SBRT is associated with significantly lower cost compared to IMRT for treatment of intermediate-risk prostate cancer. Our findings support the adoption of SBRT for the treatment of localized prostate cancer as a means to lower healthcare costs while maintaining quality prostate cancer care.

**Funding:** Bruce L. Jacobs is supported by the American Cancer Society (RSG-21-045-01-CPHPS).

## Abstract #3

### Prevalence and predictors of clinically significant prostate cancer in PI-RADS 1 and 2 MRI lesions

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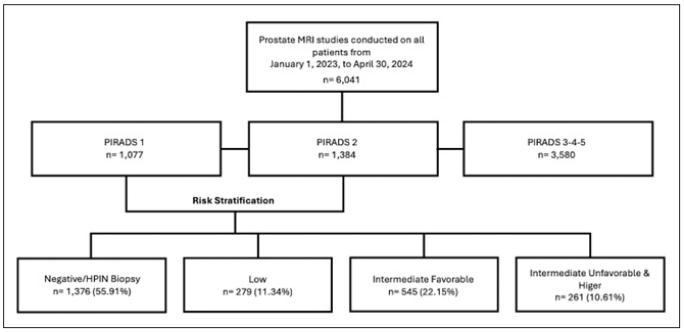
**Introduction:** The Prostate Imaging-Reporting & Data System (PI-RADS) stratifies prostate cancer (PCa) risk, with PI-RADS 1 and 2 generally indicating a low likelihood of clinically significant cancer. Clinically significant PCa is defined here as unfavorable intermediate-risk or higher, per National Comprehensive Cancer Network (NCCN) guidelines. This study aimed to validate previously reported findings on the prevalence of clinically significant PCa in PI-RADS 1/2 MRI lesions and identify predictive factors for clinical decision-making.

**Methods:** This retrospective review included 6041 patients who underwent prostate MRI between January 2013 and April 2024, 2461 classified with PI-RADS 1 or 2 lesions (Figure 1). Biopsy results, PSA levels, and demographic data were extracted from electronic medical records. Statistical analyses included Chi-squared tests to assess PI-RADS categories and biopsy outcomes, odds ratios (ORs), and logistic regression to evaluate predictive factors.

**Results:** Among patients with PI-RADS 1 and 2 lesions, 44.1% had findings of PCa on biopsy. PI-RADS 1 and 2 comprised 17.8% and 22.9% of positive findings,

with PSA levels in these groups ranging from <0.01–419.81 ng/mL (median 2.7 ng/mL). Of this population, 55.9% had negative or HPIN biopsy results, 11.3% low-risk, 22.2% intermediate favorable-risk, and 10.6% intermediate unfavorable- or higher-risk. Chi-squared analysis showed a significant association between PI-RADS category (1–2 vs. 3–5) and positive biopsy results ($\chi^2$[1, N=6041=527.00, p<0.01). The OR for clinically significant PCa in PI-RADS 1–2 vs. PI-RADS 3–5 was 0.35 (95% CI 0.31–0.39), indicating a lower but notable likelihood of significant PCa in PI-RADS 1–2. Logistic regression identified no strong predictors beyond PI-RADS score, with an R-squared of 0.039, indicating limited predictive power of other variables.

**Conclusions:** In this large cohort, PI-RADS 1 and 2 lesions demonstrated PCa prevalence of 44.1%, with 10.6% of patients identified as having intermediate unfavorable- or higher-risk disease, challenging prior reported findings of 15% prevalence of any cancer and 4–6% prevalence of clinically significant PCa in this patient population. These findings suggest the need for careful evaluation and biopsy consideration in PI-RADS 1/2 patients, suggesting that PI-RADS 1/2 lesions require a more nuanced approach to improve PCa outcomes.




**Abstract #3. Figure 1.** Risk stratification of patients undergoing prostate MRI based on PI-RADS scoring.

## Abstract #4

### PEACE-III: A phase 3 trial comparing enzalutamide vs. a combination of radium-223 and enzalutamide in asymptomatic or mildly symptomatic patients with bone mCRPC

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**Introduction:** PEACE-III (NCT02194842) is a randomized, multicenter, phase 3 EORTC/CTI/CUOG/LACOG/UNICANCER cooperative study. In this interim analysis, enzalutamide, in combination with radium-223 (Ra223), was studied to see whether it improves cancer progression compared with enzalutamide alone in patients with bone metastatic castration- resistant prostate cancer (mCRPC).

**Methods:** Patients with mCRPC and bone metastases were randomized 1:1 to enzalutamide or enzalutamide + Ra223. As of March 2018, co-administration of zoledronic acid or denosumab was obligatory. The primary endpoint was radiologic progression-free survival (rPFS). Secondary endpoints included overall survival (OS), time to subsequent systemic anti-neoplastic therapy, time to pain progression, and time to first symptomatic skeletal event.

**Results:** From November 2015 to March 2023, 446 patients were enrolled. The median (interquartile range) age was 70 (65–76) years. The median followup duration was 42.2 months; 87.9% of patients in the enzalutamide + Ra223 arm who started Ra223 completed the scheduled six cycles. The hazard ratio (HR) for rPFS was 0.69 (95% confidence interval [CI] 0.54–0.87, p=0.0009), with a median rPFS of 16.4 (95% CI 13.8–19.2) months in the enzalutamide arm and 19.4 (95% CI 17.1–25.3) months in the enzalutamide + Ra223 arm. The HR for OS was 0.69 (95% CI 0.52–0.90, p=0.00031), with median OS in the preplanned interim analysis, performed at 80% of events, of 35.0 (95% CI 28.8–38.9) months in the enzalutamide arm and 42.3 (95% CI 36.8–49.1) months in the enzalutamide + Ra223 arm. The study will proceed to final OS analysis because of non-proportionality. Treatment-emergent adverse events (TEAEs) ≥grade 1 were reported in 96.4% and 100% of patients in the enzalutamide and enzalutamide + Ra223 arms, respectively. TEAEs ≥grade 3 were reported in 55.8% and 65.6% of patients, respectively. The most common ≥grade 3 TEAEs in the enzalutamide + Ra223 arm were hypertension (34%), fatigue (6%), anemia (5%), and neutropenia (5%). No TEAE ≥grade 3 was increased by more than 5% in the enzalutamide + Ra223 arm vs. the enzalutamide arm.

**Conclusions:** In PEACE-3, six cycles of Ra223 in combination with enzalutamide as first-line therapy significantly improved rPFS in patients with mCRPC. This interim analysis demonstrated a statistically significant OS benefit favoring the combination of Ra223 with enzalutamide. A final OS analysis will be performed for further confirmation of these results.

**Funding:** Bayer.

## Abstract #5

### Prostate-specific antigen response with darolutamide plus androgen deprivation therapy in patients with metastatic hormone-sensitive prostate cancer in ARANOTE

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**Introduction:** In ARANOTE, darolutamide + androgen deprivation therapy (ADT) reduced risk of radiologic progression or death vs. placebo + ADT by 46% (HR 0.54, 95% CI 0.41–0.7, p<0.0001) in patients with metastatic hormone-sensitive prostate cancer (mHSPC). We report ARANOTE post-hoc analyses correlating PSA response with outcomes overall and by baseline PSA level.

**Methods:** Patients with mHSPC were randomized 2:1 to darolutamide 600 mg twice daily + ADT or placebo + ADT. Achievement of undetectable PSA (<0.2 ng/mL) at any time was evaluated. Radiologic progression-free survival (rPFS), time to metastatic castration-resistant prostate cancer (mCRPC), and time to PSA progression were evaluated in patients who did/did not achieve PSA <0.2 ng/mL, and by baseline PSA group defined as <first quartile (Q1, <4.1 ng/mL), between Q1 and median (4.1–<21.3 ng/mL), and ≥median (≥21.3 ng/mL).

**Results:** In 669 patients (darolutamide: 446; placebo: 223), the median baseline PSA was 21.4 and 21.2 ng/mL, respectively. More patients on darolutamide achieved PSA <0.2 ng/mL at any time (62.6%) vs. placebo (18.5%). Patients achieving PSA

<0.2 ng/mL at any time in both groups had lower ECOG performance status and baseline PSA values vs. those who did not. Patients receiving darolutamide achieving PSA <0.2 ng/mL vs. those who did not had lower risk of radiologic progression or death (81%, HR 0.19, 95% CI 0.13–0.27), progression to mCRPC (84%, HR 0.16, 95% CI 0.12–0.23), and PSA progression (92%, HR 0.08, 95% CI 0.05–0.12), indicating a durable response. Regardless of baseline PSA group, more patients receiving darolutamide vs. placebo achieved PSA <0.2 ng/mL at any time, with higher rates of PSA <0.2 ng/mL in patients with low baseline PSA <4.1 ng/mL: darolutamide, 87.6% vs. placebo, 43.5%; 4.1–<21.3 ng/mL: 64.8% vs. 14.0%; ≥21.3 ng/mL: 50.5% vs. 10.2%. Patients receiving darolutamide with low baseline PSA (<4.1 ng/mL) had a longer time to radiologic progression or death, time to mCRPC, and time to PSA progression vs. patients with baseline PSA ≥21.3 ng/mL; outcomes were similar for patients with baseline PSA of 4.1–<21.3 ng/mL vs. ≥21.3 ng/mL. Safety with darolutamide was consistent with previous data and independent of PSA response/baseline PSA. Darolutamide showed lower rates of discontinuation due to TEAEs vs. placebo.

**Conclusions:** More patients receiving darolutamide achieved undetectable PSA at any time vs. placebo, regardless of baseline PSA. Undetectable PSA response with darolutamide correlated with clinical benefit in terms of radiologic progression or death and longer times to mCRPC and PSA progression.

**Funding:** Bayer.

## Abstract #6

### Assessing the prevalence and risk factors of contralateral clinically significant disease in patients with unilateral lesions on prostate MRI

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**Introduction:** Prostate MRI has become a valuable test to reduce unnecessary prostate biopsies, as few patients without MRI-visible lesions are found to have clinically significant disease; however, in the presence of a unilateral lesion on prostate MRI, the benefit of sampling the contralateral prostate lobe remains unknown and warrants investigation, given the potential harms of additional biopsy cores. This study aimed to determine the prevalence and predictors of contralateral clinically significant prostate cancer (csPCa) in patients with a unilateral lesion on prostate MRI and the impact of contralateral biopsy findings on National Comprehensive Cancer Network (NCCN) risk stratification.

**Methods:** We conducted a retrospective cohort study across a large tertiary academic center, identifying men who underwent mpMRI, were found to have a unilateral PI-RADS ≥3 lesion, and subsequently underwent prostate biopsy from 2011–2024. Demographic, clinical, and imaging data were extracted. The primary outcome was detection of contralateral csPCa (grade group ≥2). Secondary outcome included change in NCCN risk stratification. Logistic regression identified predictors of contralateral csPCa, and weighted kappa assessed concordance between NCCN risk assignments using ipsilateral vs. all biopsy cores.

**Results:** Among 1691 eligible men (median age 65 [IQR 60–71]), contralateral csPCa was detected in 13.8%. Contralateral cores were benign or GG1 in most cases (86.2%). Multivariable analysis identified older age (OR 1.03, 95% CI 1.01–1.05), higher PI-RADS score (OR 1.80, 95% CI 1.50–2.10), larger lesion area (OR 1.02, 95% CI 1.01–1.03), smaller prostate volume (OR 0.80, 95% CI 0.79–0.91), and Black race (OR 2.40, 95% CI 1.70–3.30) as significant predictors. Including contralateral biopsy altered NCCN risk stratification in 6.8% of patients with a high degree of concordance between ipsilateral-only and overall sampling-based NCCN risk stratification (weighted kappa=0.91).

**Conclusions:** In this cohort of patients with a unilateral lesion on prostate MRI, we found that contralateral csPCa was present in a minority, and contralateral sampling infrequently changed risk stratification; however, certain risk factors may increase the risk of contralateral csPCa and these warrant further investigation to determine if they can support a risk-adapted approach that maintains oncologic safety while balancing diagnostic yield with procedural burden.

## Abstract #7

### The association between positive surgical margins and biochemical recurrence: Developing a risk stratification model for biochemical recurrence after radical prostatectomy

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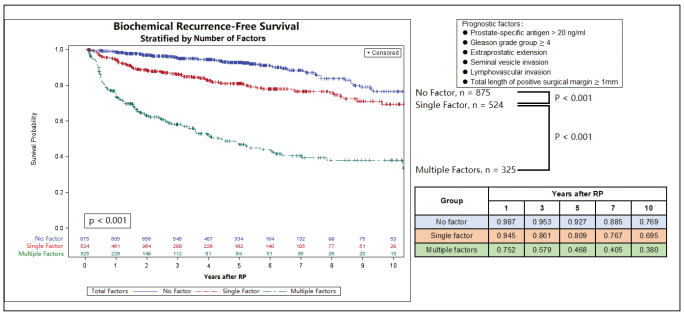
**Introduction:** We investigated the association between positive surgical margin (PSM) status and biochemical recurrence (BCR) after radical prostatectomy (RP) to develop a risk stratification model based on prognostic factors for BCR.

**Methods:** We analyzed the data of 3010 patients who underwent RP at our hospital between 2000 and 2024. The BCR-free survival rate was determined using Kaplan-Meier analysis. Effects of the PSM status (including the number of PSM sites and the total PSM length for BCR) were investigated using Cox regression analysis. A prognostic model was developed to include the total PSM length based on prognostic factors for BCR, where patients were classified into good-, intermediate-, and poor-risk groups based on number of risk factors they have.

**Results:** Final cohort included 1865 patients. BCR was confirmed after RP in 346 patients (19%), and PSM was confirmed in 377 patients (20%). The median number of PSMs was 1 (IQR 1–2), and the median total length of PSM was 1.0 mm (39.5% patients 0–<1 mm, 27% patients 1 –<3 mm, 24% patients 3–< 10 mm, and 9.5% patients 10/10+ mm). Multivariable regression analysis revealed that a preoperative PSA level >20 ng/ml (HR 2.54, 95% CI 1.77–3.65, p<0.001), Gleason score at RP (HR 2.40, 95% CI 1.77–3.26, p<0.001), extraprostatic extension (HR 1.93, 95% CI 1.51–2.47, p<0.001), seminal vesicles invasion (HR 2.01, 95% CI 1.48–2.72, p<0.001), lymphovascular invasion (HR 1.57, 95% CI 1.12–2.21, p=0.010), and total length of PSM ≥1 mm (HR 2.50, 95% CI 1.92–3.26, p<0.001) were significantly associated with BCR (Table 1). Patients were classified into good-, intermediate-, and poor-risk groups according to these prognostic factors (presence of 0, 1, and 2 or more factors) and rates of five-year BCR-free survival (93%, 81%, and 47%, respectively) (Figure 1).

**Conclusions:** We were able to develop a prognostic model for BCR after RP, including preoperative PSA level >20 ng/ml, Gleason score at RP, extraprostatic extension, seminal vesicles invasion, lymphovascular invasion, and total length of PSM ≥1 mm. Our findings may be useful for patient counseling and selection of optimal adjunctive therapy after RP.

**Funding:** Roswell Park Alliance Foundation.




**Abstract #7. Figure 1.** Biochemical recurrence-free survival stratified by number of factors.

**Abstract #7. Table 1. MV model investigating variables associated with BCR**

| Predictor | Hazard ratio | 95% confidence interval | p |
|---|---|---|---|
| PSA >20 ng/ml | 2.54 | (1.77–3.65) | <0.0001 |
| Gleason grade ≥8 | 2.40 | (1.77–3.26) | <0.0001 |
| Total length of PSM <1 mm | 1.40 | (0.99–1.99) | 0.0591 |
| Total length of PSM ≥1 mm | 2.50 | (1.92–3.26) | <0.0001 |
| Lymphovascular invasion | 1.57 | (1.12–2.21) | 0.0097 |
| Extraprostatic extension | 1.93 | (1.51–2.47) | <0.0001 |
| Seminal vesicle invasion | 2.01 | (1.48–2.72) | <0.0001 |

## Abstract #9

### Long-term survival after robotic prostatectomy: When do positive margins matter?

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**Introduction:** Current guidelines categorize positive surgical margins (SM+) as a binary factor when considering adjuvant treatment, despite potential variability in their impact on long-term survival depending on disease-related risk factors. This study aimed to evaluate the impact of positive surgical margins (SM+) and associated clinicopathologic features on long-term oncologic outcomes following robotic-assisted radical prostatectomy (RARP).

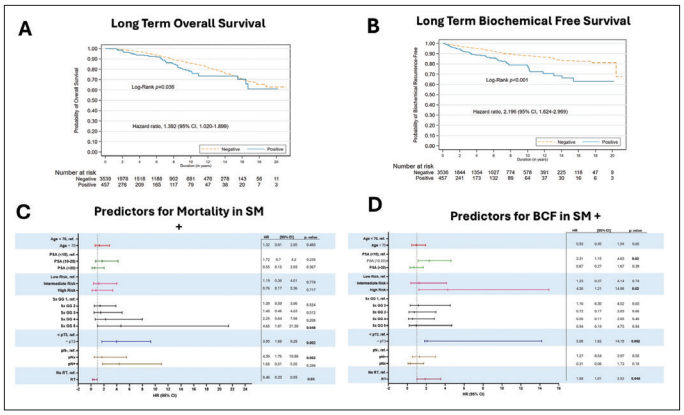
**Methods:** We analyzed prospectively maintained data from 4010 prostate cancer patients who underwent RARP between July 2003 and June 2023 by a single surgeon at our tertiary care center. Demographic, clinicopathologic, and oncologic outcome data were collected. Co-primary endpoints were overall survival (OS) and biochemical recurrence-free survival (BCR-FS), assessed using Kaplan-Meier analysis. Secondary analyses assessed clinicopathologic predictors of oncologic outcomes within the SM+ cohort using multivariable Cox proportional hazards models.

**Results:** Positive surgical margins were identified in 11.4% of patients. On univariate analysis, SM+ was associated with worse OS (unadjusted HR 1.39, p=0.036) and BCR-FS (unadjusted HR 2.20, p<0.001). The estimated five-, 10-, and 15-year OS rates for the SM+ group were 93.3%, 78.0%, and 73.5%, respectively, while the corresponding rates for the SM− group were 95.1%, 85.7%, and 73.6% (Table 1). The median OS was not reached in either group (Figures 1A, 1B); however, on multivariable analysis, SM+ was not independently associated with OS (adjusted HR[aHR] 1.16, p=0.377) or BCR-FS (HR 0.86, p=0.343). Within the SM+ cohort, adverse predictors of OS included GGG 5 (aHR 4.65, 95% CI 1.01– 21.39, p=0.048), pathologic stage ≥pT3 (aHR 3.95, 95% CI 1.68–9.28, p=0.002), and nodal positivity (aHR 4.39, 95% CI 1.75–10.89, p=0.002). Adjuvant or salvage radiotherapy remained associated with improved survival (aHR 0.46, 95% CI 0.23–0.93, p=0.03). Biochemical recurrence was independently associated with PSA 10–20 ng/mL, high-risk D'Amico classification, and pathologic stage pT3+ (Figures 1C, 1D).

**Conclusions:** While SM+ status was associated with worse OS and BCR-FS on univariate analysis, it did not independently predict these outcomes after adjusting for tumor and treatment- related variables. Among patients with SM+, specific clinicopathologic factors were key determinants of long-term outcomes. Although our findings are prognostic and require external validation, they suggest that post-RALP management of SM+ patients could be optimized through individualized risk stratification.

**Abstract #9. Table 1. Patient clinicopathologic characteristics by surgical margin status**

| Variable | Surgical margins | | |
|---|---|---|---|
| | Negative | Positive | Total |
| N | 3551 (88.6%) | 459 (11.4%) | 4010 (100.0%) |
| Age at surgery, median [IQR] | 62.000 [57.0–66.5] | 63.000 [58.0–68.0] | 62.000 [57.0–66.8] |
| BMI, median [IQR] | 28.340 [25.7–31.7] | 28.330 [25.7–31.8] | 28.340 [25.7–31.7] |
| PSA (ng/ml), median [IQR] | 5.400 [4.2–7.5] | 6.500 [4.9–9.56] | 5.510 [4.3–7.8] |
| Biopsy Gleason grade groups, n (%) | | | |
| 1 | 1694 (47.7%) | 169 (36.8%) | 1863 (46.5%) |
| 2 | 1092 (30.8%) | 135 (29.4%) | 1227 (30.6%) |
| 3 | 439 (12.4%) | 60 (13.1%) | 499 (12.4%) |
| 4 | 242 (6.8%) | 63 (13.7%) | 305 (7.6%) |
| 5 | 84 (2.4%) | 32 (7.0%) | 116 (2.9%) |
| D'Amico risk classification, n (%) | | | |
| Low | 1486 (41.8) | 128 (27.9) | 1614 (40.2) |
| Intermediate | 1639 (46.2) | 213 (46.4) | 1852 (46.) |
| High | 426 (12.0) | 118 (25.7) | 544 (13.6) |
| Approach, n (%) | | | |
| Extraperitoneal | 1604 (45.2) | 175 (38.1) | 1779 (44.4) |
| Transperitoneal | 1947 (54.8) | 284 (61.9) | 2231 (55.6) |
| Pathologic tumor stage, n (%) | | | |
| <T3 | 2544 (72.1) | 158 (34.6) | 2702 (67.8) |
| ≥T3 | 985 (27.9) | 298 (65.4) | 1283 (32.2) |
| Pathologic grade group, n (%) | | | |
| 1 | 1152 (32.4) | 70 (15.3) | 1222 (30.5) |
| 2 | 1526 (43.0) | 182 (39.7) | 1708 (42.6) |
| 3 | 603 (17.0) | 111 (24.2) | 714 (17.8) |
| 4 | 135 (3.8) | 44 (9.6) | 179 (4.5) |
| 5 | 100 (2.8) | 48 (10.5) | 148 (3.7) |
| Other, not graded, or missing | 35 (1) | 4 (0.9) | 39 (1) |
| Lymph node positivity, n (%) | | | |
| Negative | 2344 (66.0) | 311 (67.8) | 2655 (66.2) |
| Positive | 86 (2.4) | 50 (10.9) | 136 (3.4) |
| pNx | 1121 (31.6) | 98 (21.4) | 1219 (30.4) |
| Requirement for radiotherapy, n (%) | | | |
| No radiation | 3301 (93.0) | 360 (78.4) | 3661 (91.3) |
| Radiation | 250 (7.0) | 99 (21.6) | 349 (8.7) |




**Abstract #9. Figure 1.** (A) Long-term overall survival. (B) Long-term biochemical-free survival. (C) Predictors for mortality in SM. (D) Predictors for BCF in SM+.

## Abstract #10

### Age-related differences in prognostic indices of localized prostate cancer

*Sibtain Mustafa[1], Michael Basin[1], Seethram Bhat[2], Alina Basnet[3], Jeffrey Bogart[4], Gennady Bratslavsky[1], Hanan Goldberg[1]*

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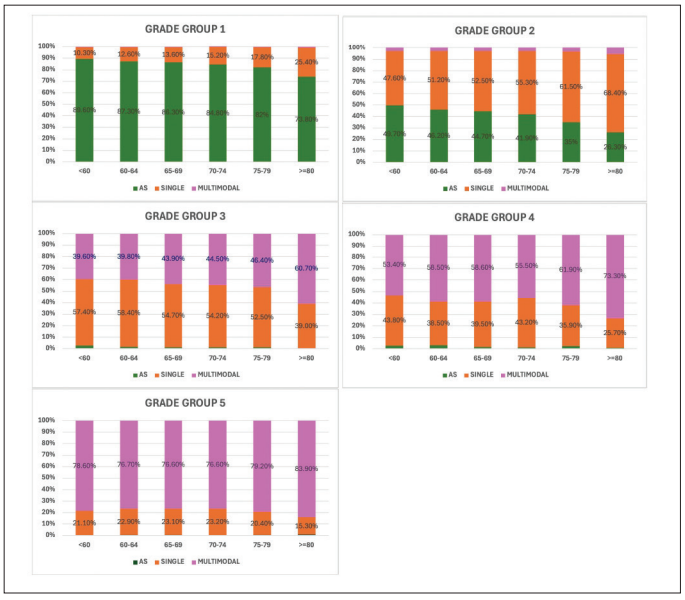
**Introduction:** The prevalence of prostate cancer increases with age, with the majority of patients over 65 estimated to harbor the disease. Current guidelines emphasize risk stratification and life expectancy in choosing next steps in management. In the growing elderly population, further biomarkers are needed to predict outcomes beyond chronologic age to tailor treatment strategies. We evaluated age-related differences in clinic-genomic prognostic indices of aggressiveness in localized prostate cancer.

**Methods:** Clinical and genomic data for 107 471 patients from the Myriad Prolaris Prostate Cancer Database was obtained. Conventional and genomic prognostic indices were analyzed, including Prolaris treatment grouping (active surveillance [AS] vs. single treatment vs. multimodal treatment), cell cycle risk (CCR) scores, NCCN risk groups, tumor stage, and Gleason groups (GG). Multivariable logistic regression analyses were performed to evaluate the association of age (less than vs. greater than 75), prostate-specific antigen level (PSA), tumor stage (T1a–T1c vs. T2a–T2c vs. T3a), positive biopsy cores (less than vs. greater than 50%), and GG (1–2 vs. 3–5) with Prolaris treatment scores (AS and single treatment vs. multimodal treatment).

**Results:** With increasing age, we observed a higher proportion of high GG and more aggressive Prolaris treatment grouping. Even within the same prostate cancer GG, the suggested treatment increased in aggressiveness by age (Figure 1). On multivariable analysis, there was a statistically significant increase in Prolaris treatment scores with increasing age groups (60–65: HR 1.15, 95% CI 1.04–1.28; 65–70: HR 1.30, 95% CI 1.18–1.43; 70–75: HR 1.39, 95% CI 1.26–1.54; 75–80: HR 1.56, 95% CI 1.40–1.74; >80: HR 1.83, 95% CI 1.60–2.08). Additionally, higher PSA levels (HR 1.21, 95% CI 1.20–1.21), GG (HR 105.70, 95% CI 96.75–115.47), tumor stages (T2a–T2c HR 1.27, 95% CI 1.17–1.39), T3a (HR 9.94, 95% CI 6.25–15.82), and number of positive biopsy cores (HR 4.02, 95% CI 3.79–4.27) was associated with more aggressive Prolaris treatment scores.

**Conclusions:** Older men tend to harbor worse disease based on genomic risk models compared to their younger counterparts. Using chronologic age can cause significant undertreatment in this population. Using clinical-genomic characterization can provide better treatment individualization decisions.




**Abstract #10. Figure 1.** Prolaris treatment recommendation by Gleason grade group and age.

## Abstract #11

### Darolutamide plus androgen deprivation therapy in patients with metastatic hormone-sensitive prostate cancer: Efficacy and safety by disease volume in the phase 3 ARANOTE study

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**Introduction:** In the phase 3 ARANOTE study, patients with metastatic hormone-sensitive prostate cancer (mHSPC) receiving darolutamide + androgen deprivation therapy (ADT) experienced a 46% reduction in radiologic progression or death when compared with those receiving placebo + ADT (HR 0.54, 95% CI 0.41–0.71, p<0.0001). Here, we report the efficacy and safety by disease volume.

**Methods:** Patients were randomized 2:1 to darolutamide 600 mg twice daily + ADT or placebo + ADT. High-volume disease was defined by CHAARTED criteria (>4 bone metastasis with at least one beyond the axial skeleton or any visceral metastases). The primary endpoint was radiologic progression-free survival (rPFS). Secondary endpoints included time to metastatic castration-resistant prostate cancer (mCRPC), time to prostate-specific antigen progression, and safety.

**Results:** Of 669 patients, 472 (71%; darolutamide n=315, placebo n=157) had high-volume disease (HV) and 197 (29%; darolutamide n=131, placebo n=66) had low-volume disease (LV). Baseline demographics and patient characteristics were generally balanced between the treatment arms in HV and LV subgroups. Patients with LV disease had better prognostic factors, including a higher proportion of patients with ECOG PS 0, Gleason <8, having received prior local therapy, and lower baseline median PSA levels. Darolutamide + ADT improved rPFS and secondary endpoints vs. placebo+ADT in both HV and LV subgroups. In the LV subgroup, darolutamide + ADT reduced the risk of radiologic progression or death by 70% (HR 0.30, 95% CI 0.15–0.60); median rPFS was not reached in either group. In the HV subgroup, darolutamide + ADT reduced the risk of radiologic progression or death by 40% (HR 0.60, 95% CI 0.44–0.80), with median rPFS of 30.2 months with darolutamide vs. 19.2 months with placebo. For the secondary endpoints, darolutamide delayed time to CRPC (HV: HR 0.46, 95% CI 0.36–0.60; LV: HR 0.21, 95% CI 0.12–0.37) and time to PSA progression (HV: HR 0.34, 95% CI 0.25–0.46; LV: HR 0.19, 95% CI 0.10–0.37), and a higher proportion of patients

achieved PSA <0.2 ng/mL with darolutamide vs. placebo in the HV subgroup (54.6% vs. 15.5%, respectively) and the LV subgroup (82.6% vs. 25.4%, respectively). Incidences of severe treatment-emergent adverse events (TEAEs) were similar between treatment groups in the HV and LV subgroups. Lower rates of treatment discontinuation due to TEAEs with darolutamide (3.1%) vs. placebo (10.8%) were observed in the LV subgroup.
**Conclusions:** Darolutamide + ADT improved oncologic outcomes for men with mHSPC vs. placebo + ADT regardless of disease volume and with a tolerable safety profile.
**Funding:** Bayer.

## Abstract #12

### Development of a nomogram to predict Gleason grade progression in prostate cancer patients on active surveillance

*Mohammad Khan, Zachary Winnegrad, Anthony Buscaglia, Benjamin Coffey, Gaybrielle James, Zhe Jing, Bradley Webster, Khurshid A. Guru, Ahmed A. Hussein*
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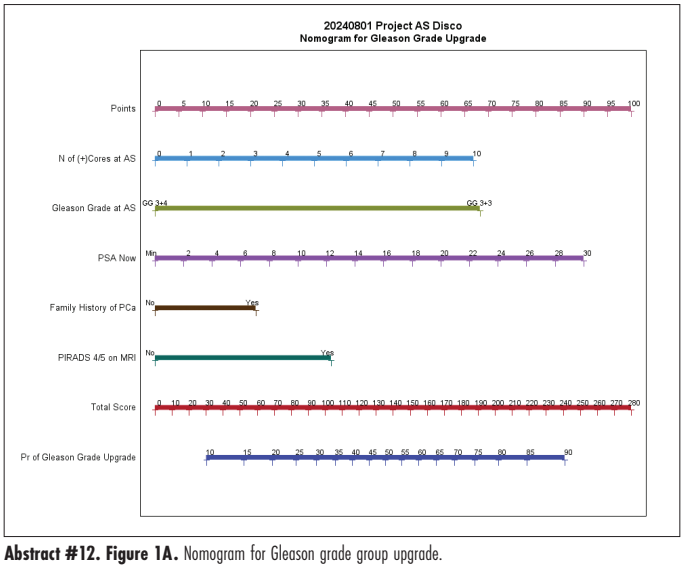
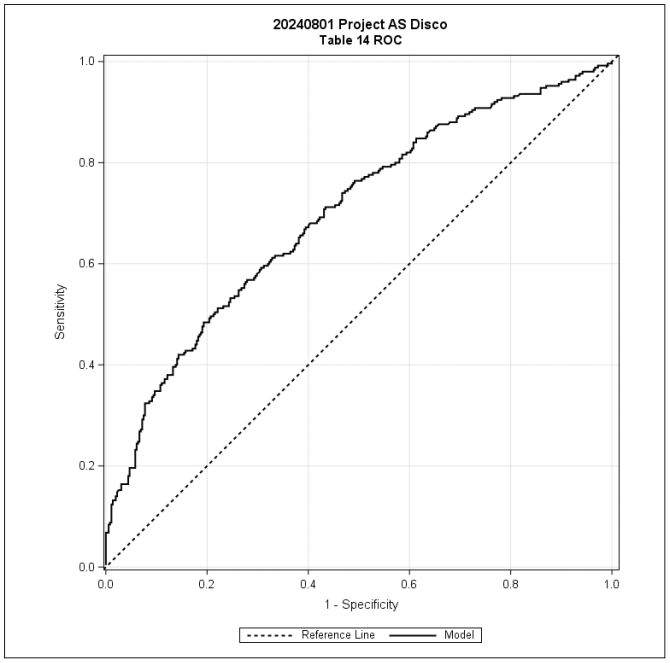
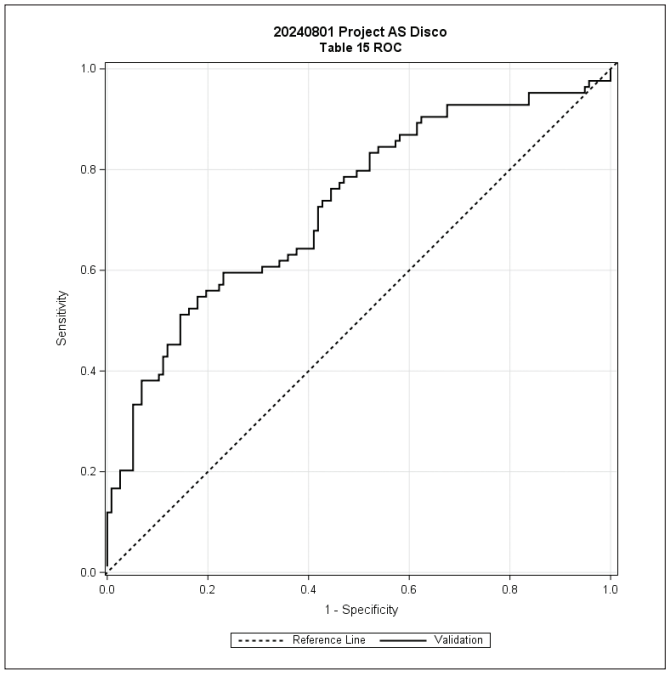
**Introduction:** Current guidelines for prostate cancer (PCa) prognosis lack precise criteria for transitioning from active surveillance (AS) to curative treatment. This study examines risk factors for Gleason grade upgrade upon repeat biopsy in patients with localized PCa on AS through the development of a nomogram.
**Methods:** We conducted a retrospective analysis of AS patients with biopsy-confirmed PCa from 1995–2024. Multivariate logistic regression analyses were performed to identify variables associated with Gleason grade upgrade; 25% of the cohort was used for validation. Receiver operating characteristic (ROC) curves and calibration plots were produced. Critical parameters on multivariate analysis were implemented into the nomogram on a 100-point scale.
**Results:** A total of 1446 patients on AS for localized PCa were identified, of whom 1000 were found to have repeat biopsies. Gleason grade progression was observed in 297 (40%) of patients upon repeat biopsy. Multivariate analysis demonstrated that family history, number of positive cores, PSA at re-biopsy, and presence of significant lesion at MRI were associated with Gleason grade upgrade (Table 1). These variables were used to construct the nomogram. Model performance and external validation were evaluated, with area under the ROC curve values of 69.8% and 72.8%, respectively (Figures 1A, 1B). The calibration plot (Figure 1C) produced reliably accurate predictions from the nomogram (Figure 1D).
**Conclusions:** We developed and validated a nomogram to assess risk factors for Gleason grade progression on repeat biopsy in patients with localized PCa on AS. Urologists could use this nomogram to facilitate the management of AS patients.
**Funding:** Roswell Park Alliance Foundation.



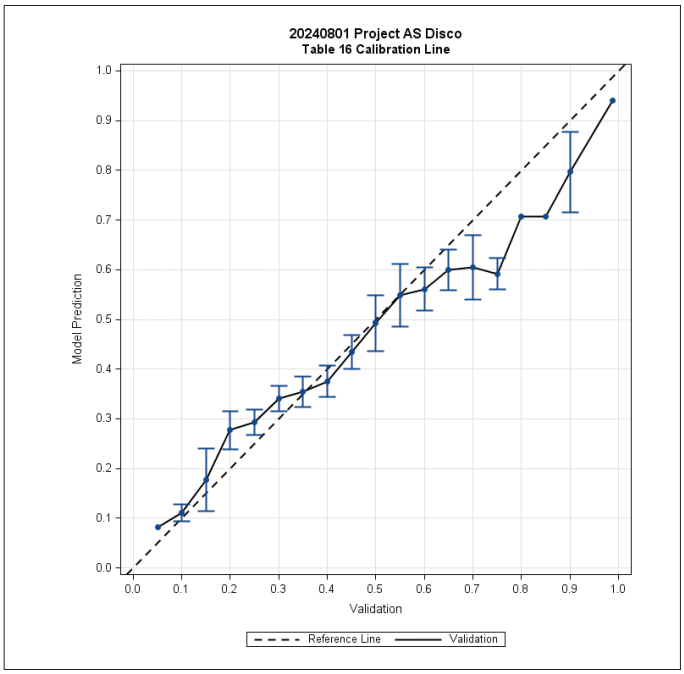

**Abstract #12. Figure 1A.** Nomogram for Gleason grade group upgrade.




**Abstract #12. Figure 1B.** Table 14 ROC.




**Abstract #12. Figure 1C.** Table 15 ROC.




**Abstract #12. Figure 1D.** Table 16 calibration line.

**Abstract #12. Table 1**

| Effect | Odds ratio | 95% confidence interval | p |
|---|---|---|---|
| Family history | 1.555 | 1.074–2.250 | 0.0194 |
| Number of positive cores | 1.150 | 1.039–1.272 | 0.0068 |
| PSA at re-biopsy | 1.065 | 1.031–1.099 | 0.0001 |
| Gleason grade 3+4 at initial biopsy | 0.241 | 0.145–0.401 | <0.0001 |
| Significant lesion on MRI | 2.162 | 1.484–3.151 | <0.0001 |

## Abstract #13

### Evaluating the ExoDx prostate test in men with low-grade prostate cancer on active surveillance: A multicenter, prospective trial

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*Presenter: David Albala, Associated Medical Professionals*

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**Introduction:** The ExoDx™ Prostate Test (ExoDx) is a unique genomic urine liquid biomarker test that can be collected at home or in the office to inform initial and repeat prostate biopsy decisions. The test was validated in multiple prospective, multicenter trials. For men on active surveillance (AS), NCCN recommends a repeat confirmatory biopsy and mpMRI, usually within one year of diagnosis, to confirm eligibility for AS. The guidelines acknowledge that a negative mpMRI does not exclude the possibility of prostate cancer, and biomarkers could be considered in the decision process to biopsy this population. Biomarkers can provide an orthogonal risk assessment and complementary information for the biopsy decision. The ExoDx cutpoint was developed for men being considered for an initial or repeat biopsy. In this study, we evaluated the existing 15.6 cutpoint and examined the benefit of incorporating the ExoDx prostate biomarker in an AS setting.

**Methods:** Patients with grade group 1 (GG1) on a diagnostic biopsy consented to provide a urine sample within a month prior to a subsequent confirmatory biopsy. The clinical data captured included demographics, PSA, DRE, mpMRI, and pathology data from both diagnostic and confirmatory biopsies. An interim analysis was performed on 257 patients, with enrollment currently ongoing. Metrics were calculated based on the highest GG between the diagnostic and confirmatory biopsies.

**Results:** In this cohort (n=257), 38.9% upgraded from GG1 to ≥GG2. When evaluated independently, ExoDx (at the validated cutpoint of 15.6) and mpMRI performed similarly, with NPVs of 76.9% vs. 77.4%, respectively. In a subset of men with PI-RADS 1–2, the NPV for ExoDx was 100%. Moreover, in a subset of men with PI-RADs 3, the NPV for ruling out an upgrade to GG≥ 2 and GG ≥3 was 88.9% and 100%, respectively.

**Conclusions:** ExoDx provides an objective risk assessment combined with home/office sample collection. Our interim results suggest that ExoDx is valuable in two ways for men on AS protocols: 1) as a standalone tool with a comparable NPV to mpMRI; and 2) as a valuable complement to mpMRI results in specific PI-RADs groups.

**Funding:** Exosome Diagnostics, Inc. A Bio-Techne brand.