

# Conditional Progression Free Survival in Men on Active Surveillance for Prostate Cancer Stratified by NCCN Risk

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## Introduction and Objectives:

- Conditional survival measures the probability a patient will continue to survive some number of years, given that they have already survived a certain number without progression
- We evaluated our AS cohort to investigate overall and conditional progression free survival on AS, stratified by NCCN risk groups

## Methods:

- 1252 men enrolled in AS at the MGH (1996-2016)
- AS protocol includes: PSA and DRE every 4-6 months for 3 years, then annually. Mandatory confirmatory 12 core biopsy at 12-18 months. MpMRI or additional systematic or MRI-fusion biopsies done at the discretion of physician and patient
- Overall freedom from pathologic grade progression on follow-up biopsy and treatment free survival were estimated using the Kaplan-Meier method
- Survival curves were compared pairwise using the Log-rank test and adjusted for false discovery rates
- Three-year conditional survival estimates were derived for both outcomes from the Kaplan-Meier estimator

Figure 2: A) Pathologic grade free and B) treatment free survival given prior survival of varying number event free years on AS. C) Comparison of three-year conditional survival of both outcomes of interest.

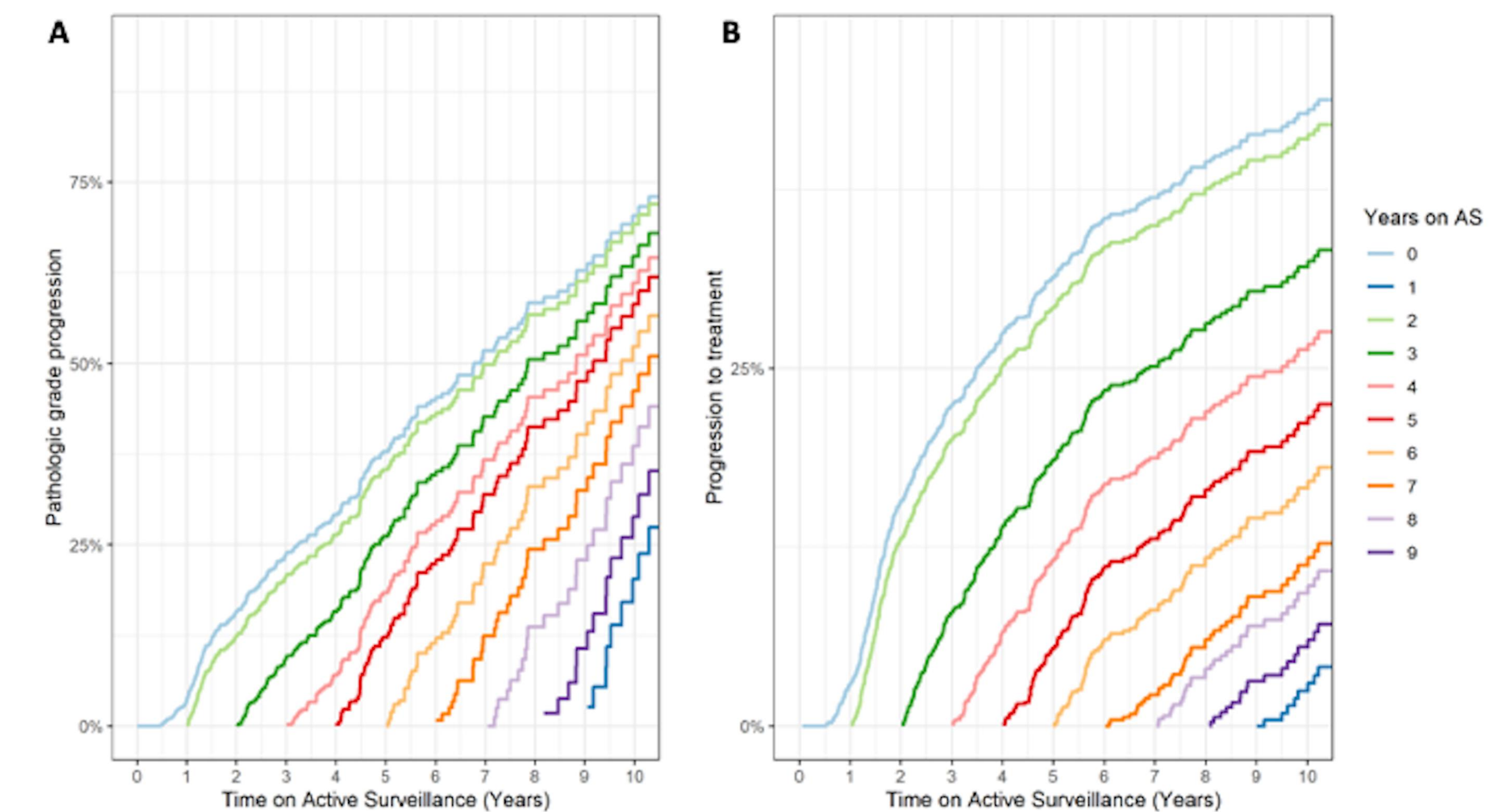
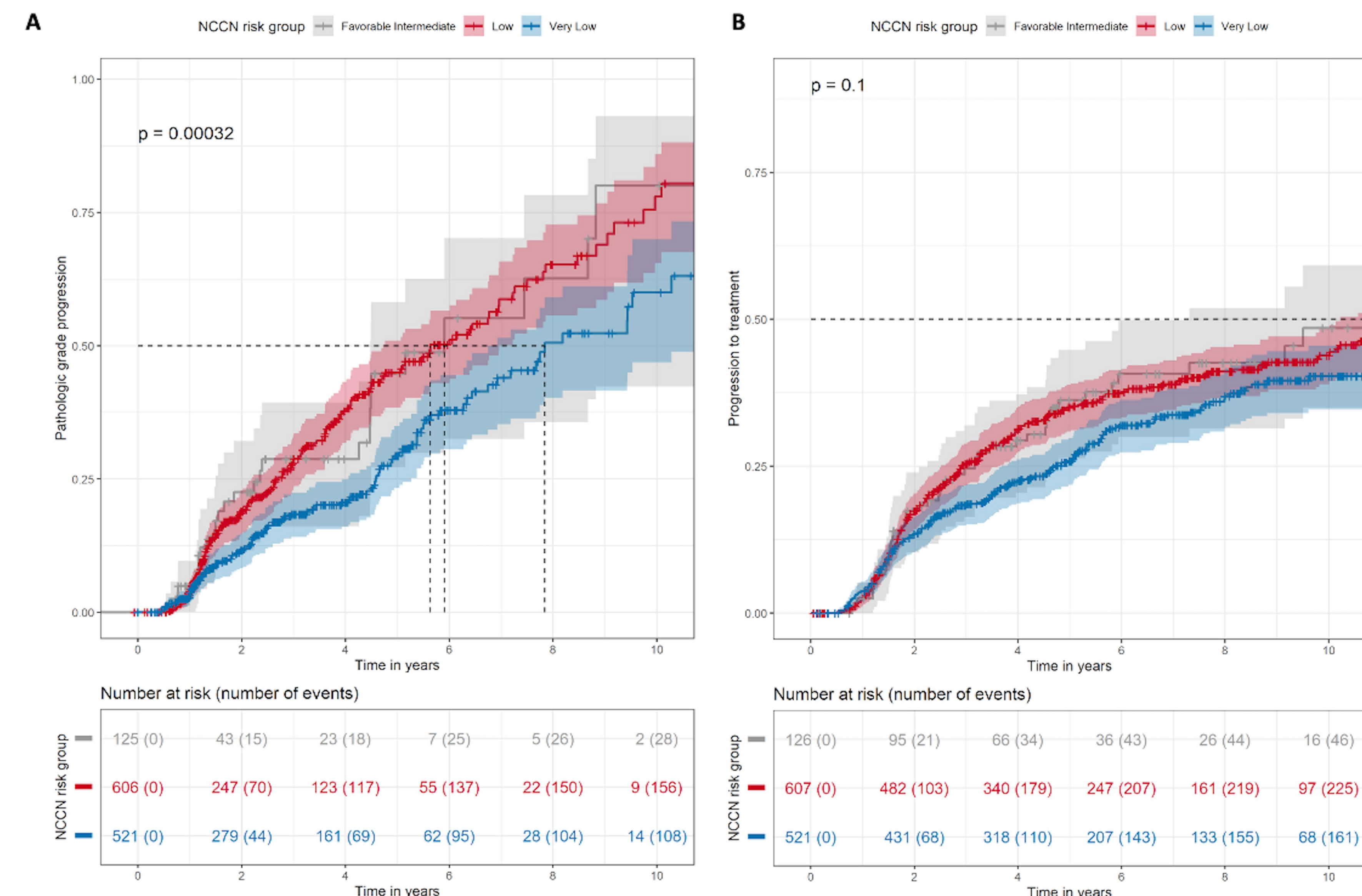


Figure 1: A) Overall pathologic grade progression free survival and B) overall treatment free survival stratified by NCCN risk at diagnosis. Dashed vertical lines represent median time to progression for individual risk groups.



## Results:

- Of 1252 men, 521 (41.6%) met criteria for very low, 607 (48.4%) for low, and 126 (10.0%) for favorable intermediate NCCN risk at diagnosis
- Median follow-up time was 6.5 years (IQR 4.1-9.4)
- Median pathologic grade progression free survival in years was longer for very low risk (7.8) compared to low risk men (5.6), however neither was significantly different from favorable intermediate risk men (5.9)
- There was no significant difference in treatment free survival between the three risk groups
- At diagnosis, the three-year risk for pathologic grade progression (24%, 95% CI 21-27) and progression to treatment (22%, 95% CI 20-25) were similar
- However, with increasing time of event-free AS, the conditional probability of pathologic grade progression increased, while that of progression to treatment decreased

## Conclusions:

- Despite a mild increase in pathologic progression free survival in very low risk men, there was no clear difference in overall treatment free survival between very low, low, and select favorable intermediate NCCN risk men
- Further, with increased time spent on AS, despite elevated rates of pathologic progression, patient progression to treatment decreased
- This trend may be indicative of changes in goals of care as men with PCa age and should be closely monitored during AS

