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## Application of the STRATified CANcer Surveillance criteria to the Michigan Urologic Surgery Improvement Collaborative Active Surveillance Cohort: a step towards risk stratified active surveillance

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### INTRODUCTION AND OBJECTIVE:

The STRATified CANcer Surveillance (STRATCANS) criteria were developed to risk stratify patients on active surveillance (AS) and prospectively tailor the intensity of surveillance testing according to their risk of biopsy upgrading. We tested applicability of the STRATCANS criteria to a diverse AS population, the Michigan Urologic Surgery Improvement Collaborative Active Surveillance (MUSIC) AS cohort.

### METHODS:

We reviewed the MUSIC AS cohort for men diagnosed with Cambridge Prognostic Group (CPG) 1 (GG1 and PSA <10ng/mL and cT stage 1-2) and CPG 2 (GG1 and PSA 10-20 ng/mL and cT Stage 1-2 or GG2 and PSA <10 ng/mL and cT stage 1-2) PC diagnosed from 2016 to 2022. Men were group by STRATCANS criteria (STRATCANS 1: CPG 1 and PSA density (PSAD) <0.15; STRATCANS 2: CPG2 and PSAD <0.15 or CPG 1 and PSAD ≥0.15; STRATCANS 3: CPG 2 and PSAD ≥0.15). The primary outcomes were time to biopsy upgrading to CPG 3 (GG3), any biopsy upgrading, and time on AS. Kaplan-Meier methods and log-rank tests were used to assess time-to-event outcomes.

### RESULTS:

7,578 men with CPG 1 (5,862) and CPG 2 (1,716) PC, were classified into STRATCANS 1 (4,009) STRATCANS 2 (2,732) and STRATCANS 3 (837). 3,981 men with a surveillance biopsy were included in the biopsy upgrading outcome (STRATCANS 1: 2,163; STRATCANS 2: 1,428; STRATCANS 3: 390). Biopsy upgrading to ≥CPG 3 (Figure 1, p<0.001) and any biopsy upgrading (p<0.001) were significantly different between STRATCANS groups. Probability of upgrading to ≥CPG3 within 3 years of diagnosis was 13%, 33%, and 53% for STRATCANS 1, 2, and 3, respectively. STRATCANS criteria was associated with duration on AS (Figure 2, p<0.001), with 24%, 42% and 46% for STRATCANS 1, 2, and 3 undergoing treatment within 5 years, respectively.

**CONCLUSIONS:** The STRATCANS criteria was associated with the risk of biopsy upgrading and treatment-free survival for men on AS in MUSIC. These data support the use of the STRATCANS criteria to risk stratify the intensity of active surveillance monitoring.

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Figure 1. Time to biopsy upgrading to CPS ≥3 stratified by STRATACANS criteria. Error bars display the 95% confidence intervals.

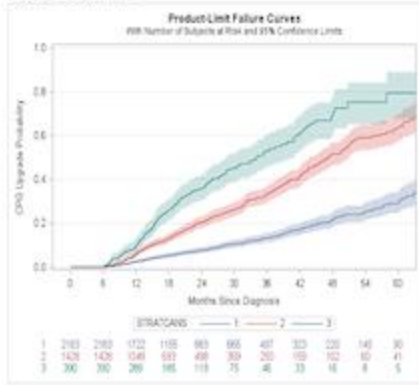
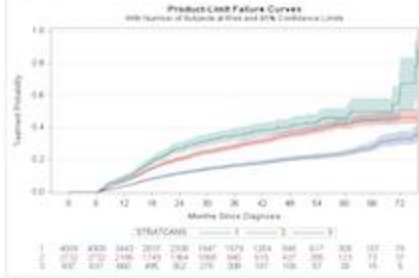


Figure 2. Time to treatment stratified by STRATACANS criteria. Error bars display 95% confidence intervals.



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