

‘CarePath’ for Clinical implementation of the EPI test in Cohort 2 of the Registration and Utility Trial.

McKiernan J¹, Donovan MJ², Margolis A³, Partin A⁴, Carter B⁴, Brown A⁵, Shore N⁶, Andriole G⁷, Etzioni R⁸, Thompson I⁹, Carroll P¹⁰

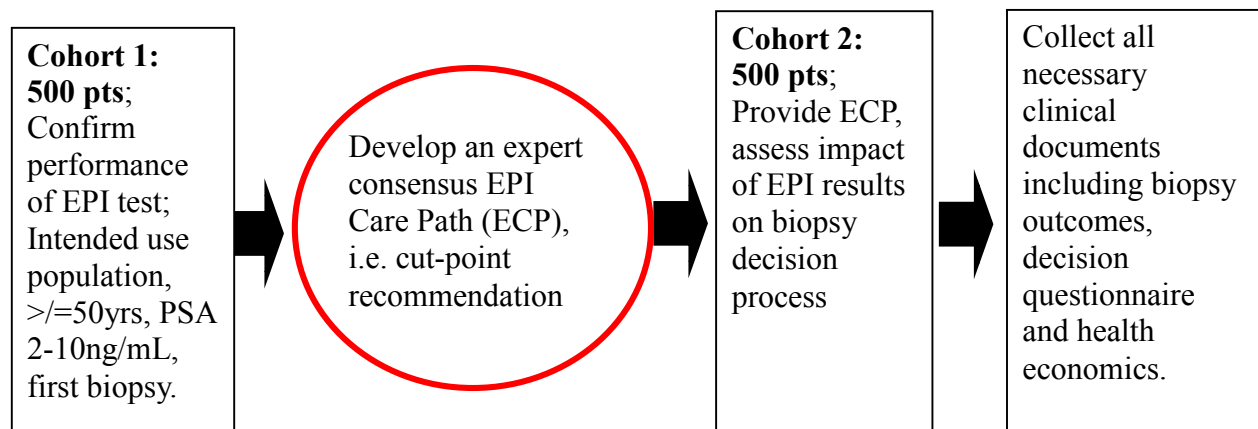
¹Columbia University Medical Center, NYC, NY; ²Icahn School of Medicine at Mt. Sinai, NYC, NY; ³Urology Center of Englewood, Englewood, NJ; ⁴Johns Hopkins Hospital, Baltimore, MD; ⁵Delaware Valley Urology, Voorhees, NJ; ⁶Atlantic Urology Clinics, Myrtle Beach, SC; ⁷Washington University, St. Louis, MO; ⁸Fred Hutchinson Cancer Research Center, Seattle WA; ⁹UT Health Science Center, San Antonio, TX; ¹⁰University of California at San Francisco, CA.

TRIAL: Clinical Evaluation of the ExoDx Prostate (IntelliScore) in men presenting for initial biopsy; additional confirmation study including impact on decision-making and health economics.

EPI TEST: ExoDx Prostate (IntelliScore), EPI, is a non-DRE urine-based liquid biopsy test indicated for men 50 years of age and older with a PSA 2-10ng/mL being considered for an initial biopsy. For this population, the test returns a risk score that predicts the presence of high grade (Gleason ≥ 7 , \geq ISUP2) prostate cancer (HGPCa). The cut-point values for other population, for instance, men less than 50 years of age or with previous biopsies, are unknown. The results of the test cannot be interpreted as absolute evidence of the absence of malignant disease and physicians should utilize this result in conjunction with other standard of care prognostic information and additional clinical factors to determine whether to proceed with a tissue biopsy.

Test results are reported as low or high risk for HGPCa on a subsequent biopsy using a cut-point of 15.6 (scale 0-100). At this cut-point, the EPI test in validation had a clinical sensitivity of 92% and a NPV of 91%. (McKiernan et al., JAMAONC, 2016)

Trial Schema:



Cohort 1 Results: Confirmed performance of EPI in cohort 1 (n=503) for men 50 years or older with PSA 2-10 ng/mL, scheduled for initial biopsy; EPI AUC 0.70 >Standard of Care AUC 0.62 and PSA alone AUC of 0.58 for discriminating \geq GS7 (\geq ISUP2) PCa from benign and GS6 (ISUP1) PCa disease.

Comparison with original validation cohort (n=519 patients, EPI AUC 0.71) and combined (n=1022 patients, EPI AUC 0.70) demonstrated good agreement. Using the previously validated cut-point of 15.6 (or alternative 20) would avoid 26% (or 40%) of unnecessary prostate biopsies and 20% (or 31%) of total biopsies, with an NPV of 89% for both cut-points, and missing only 7% (or 11%) of ISUP \geq 2, respectively.

EPI CarePath Recommendation:

EPI, is a non-DRE urine-based liquid biopsy test indicated for men 50 years of age and older with a PSA 2-10ng/mL being considered for an initial biopsy. Based on expert consensus review of the cohort 1 results including comparison with the original validation study and a meta-analysis of the validation and cohort 1 outcomes, the committee had the following recommendation:

The EPI test report is to be utilized at the original validated cut-point of 15.6 (scale 0-100) for all eligible patients enrolled in cohort 2. Patients with an EPI score < 15.6 are considered low risk for having HGPCa [\geq GS7/ \geq ISUP2] on a subsequent biopsy while patients with an EPI score \geq 15.6 are considered high risk for having HGPCa [\geq GS7/ \geq ISUP2] on a subsequent biopsy. The EPI test is not a diagnostic assay and therefore is designed to be used in conjunction with standard of care prognostic information (e.g. total PSA, age, race, and family history) and all possible available clinical factors including PSA velocity, PSA density, prostate volume, suspicious nodules on a DRE and irregularities on an MRI.