Validation of an MRI-based Prostate Cancer Gleason Score Predictive Nomogram

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**Background**

**Aim**: To validate a previously derived nomogram that uses MRI and clinical patient characteristics to predict biopsy Gleason score.

**Original cohort**: 143 men between 8/2007 - 12/2012 (NIH)

**Independent cohort**: 235 men between 2015 - 2018 (UMMC)

*All men underwent 3.0 T MP-MRI and subsequent fusion biopsy, either at the NIH or University of Maryland Medical Center (UMMC).*
Results

Based on our analysis in the validation cohort, the nomogram correctly identified:

- Exact biopsy Gleason score 51% of the time
- Top 2 most likely biopsy Gleason scores 69% of the time
- Presence of clinically significant (Gleason 7 or greater) prostate cancer 69% of the time
- Malignant vs. non-malignant 63% of the time

This validation study could have an impact on future risk stratification, screening, and diagnosis of prostate carcinoma.