

# PI-RADS V2: New Recommendations for Multi-Parametric MRI

By Dan Margolis, MD

Assistant Professor of Radiology at University of California Los Angeles.

The American College of Radiology (ACR) recently released the new guidelines for the performance and interpretation of prostate MRI with the European Society of Uroradiology (ESUR). The accompanying reporting guidelines, known as “Prostate Imaging Reporting and Data Systems” or “PI-RADS” is given the “v2” designation as the first version was released two years ago by the ESUR. Our understanding of the utility of prostate MRI has improved markedly in the interim. The guidelines are now streamlined, and in many ways simplified, while taking into account a deeper understanding of how each of the components of multi-parametric magnetic resonance imaging (mpMRI) influence the overall assessment, which is given as a “score,” from 1-5. (see table below)

These new guidelines include recommendations for the scanners used to perform mpMRI scans and the protocols

utilized for the scan in addition to standardizing evaluation and reporting. This should provide more uniform reports regardless of the reporting institution. A number of medical articles have shown that using the older recommendations for performance and reporting improve the diagnostic accuracy for less experienced readers. The new recommendations should improve this further.

What does this mean for patients? It is unlikely to have an obvious impact on the experience in the scanner, or in the physician’s office or examination room, since the effects of PI-RADS would largely take place behind the scenes. The major change will be that scans performed at less experienced centers might now adhere to protocols that will make scans more universally interpretable, increasing availability of quality mpMRI scans. At sites where mpMRI is well-established, however, it is unlikely to result in a significant change, since many of these

sites have already adapted reporting to their optimized scanner protocols based on correlation with clinical factors. At more experienced sites, the reporting can be refined based on correlation with pathology and outcomes, potentially improving upon the benefits achieved by standardized reporting.

The hope is that as these performance and reporting protocols are put into practice, the understanding of how well these evaluation criteria correlate with pathology and outcomes will improve beyond single-site experience. We currently do not know with certainty how well each of the overall assessment levels correlates with the likelihood of finding significant disease, as this will depend on the patient population being studied in addition to technical factors. It is straightforward to determine the performance of the standardized assessment criteria at a single center, but slight variations from site to site make generalization complex. The ACR is planning to establish a network to do just that, but it will take time to perform the analysis. In the meantime, the reporting recommendations will at least improve the performance at less experienced centers. □

PIRADS 1	Clinically significant cancer <b>highly unlikely</b> to be present
PIRADS 2	Clinically significant cancer <b>unlikely</b> to be present
PIRADS 3	Clinically significant cancer <b>equivocal</b> to be present
PIRADS 4	Clinically significant cancer <b>likely</b> to be present
PIRADS 5	Clinically significant cancer <b>highly likely</b> to be present