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## Letter to the Editor

**Reply to Jai Prakash, Apul Goel and Manish Garg's Letter to the Editor re: Anobel Y. Odisho, Anna B. Berry, Ardalan E. Ahmad, Matthew R. Cooperberg, Peter R. Carroll, Badrinath R. Konety. Reflex ImmunoCyt Testing for the Diagnosis of Bladder Cancer in Patients with Atypical Urine Cytology. Eur Urol. In press. <http://dx.doi.org/10.1016/j.eururo.2012.04.019>**

We appreciate the comments by Dr. Goel and colleagues regarding our analysis of ImmunoCyt as a reflex assay for atypical cytology [1]. We agree that the assay has inherent limitations, including the potential for insufficient sample, technical difficulty, and expense.

As with any immunostaining assay interpreted by humans, there will be interobserver variability and varying test sensitivity/specificity based on cell-count cut-offs used. For our study, samples were evaluated by a single molecular cytopathologist (A.B.B.) according to manufacturer guidance. Not all positive assays must be repeated—only those with less than one stained cell noted. Although Vriesema and colleagues report high interobserver variability, 17% of their samples were rejected due to poor cellularity, leaving only 86 assays for analysis [2]. Our overall assay rejection rate, as reported in the paper [1], was 6.4%, which trended lower with increased institutional experience. Our results are also in line with a majority of the recently published literature, as previously discussed.

Although outside the scope of our original paper, we feel the low pretest probability from a negative cytology, the minimal consequence of delayed diagnosis of a low-grade noninvasive lesion, and the high cost of ImmunoCyt make it difficult to recommend routine reflex testing of all negative

cytologies. Further work with urinary biomarkers will allow us to improve our diagnostic accuracy and algorithms.

*Conflicts of interest:* The authors have nothing to disclose.

## References

- [1] Odisho AY, Berry AB, Ahmad AE, Cooperberg MR, Carroll PR, Konety BR. Reflex ImmunoCyt testing for the diagnosis of bladder cancer in patients with atypical urine cytology. *Eur Urol*. In press. <http://dx.doi.org/10.1016/j.eururo.2012.04.019>.
- [2] Vriesema J, Atsma F, Kiemeny L, Peelen W, Witjes J, Schalken J. Diagnostic efficacy of the ImmunoCyt test to detect superficial bladder cancer recurrence. *Urology* 2001;58:367–71.

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