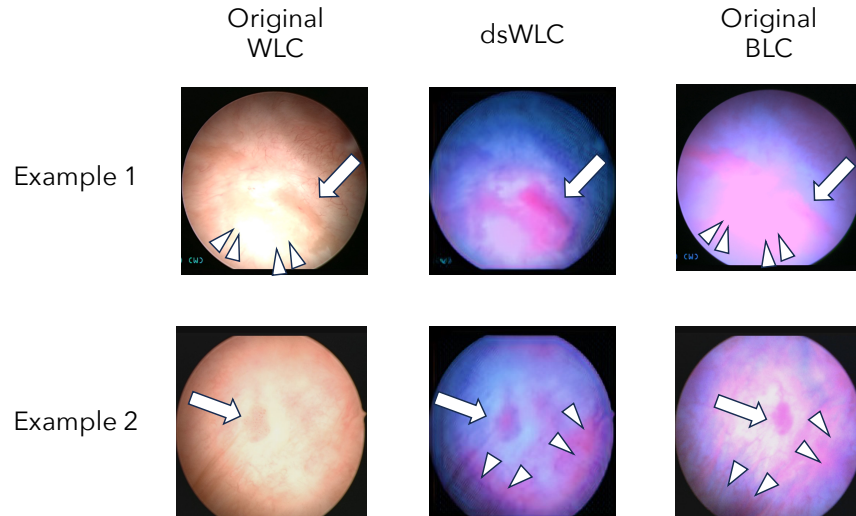




Supplementary Figure 1. Two examples of unregistered WLC, dsWLC, BLC image pairs showing the staining performance of digital staining on possible flat tumors (without histology confirmation). Example 1 shows a flat lesion that is easy to miss under WLC due to image saturation and lack of contrast, but visible under dsWLC and BLC imaging. The original BLC image shows a large fluorescent area near the bottom left corner, which could be a saturation artifact. Example 2 shows a flat lesion surrounded by inflammation, lacking contrast in WLC but visible under dsWLC and BLC. White arrows = concern for CIS (flat lesions). White triangles = likely benign findings, such as inflammation or saturation artifact. WLC: white light cystoscopy; dsWLC: digitally stained white light cystoscopy; BLC: blue light cystoscopy; CIS: carcinoma in situ.



Supplementary Figure 2. Example of inaccurate digital staining results. Inflamed bladder tissue was highly fluorescent under BLC but lacking sufficient contrast and fluorescence in dsWLC. Example BLC shown here is original cystoscopy frames without green hue correction. The differences in colors that can be observed here are resulting from the green hue correction step in the preprocessing pipeline, where we color-correct BLC images with such artifacts to the reference color palette. WLC: white light cystoscopy; dsWLC: digitally stained white light cystoscopy; BLC: blue light cystoscopy.