Where to Biopsy?
Patients with Barrett esophagus are at risk of developing carcinoma. Patients often undergo multiple repeat biopsies. Even using a 1 cm or 2 cm, four quadrant biopsy protocol, the rate of detecting dysplasia can be low and many unnecessary biopsies are taken.

Targeted Biopsies
Given the usual small size of the dysplastic areas, traditional screening is a shotgun approach to detection. IVM can help target higher-yield, more diagnostic sites.

IVM Optical Biopsy Guides Site Selection
An optical biopsy, using confocal laser endomicroscopy, for example, is a noninvasive in vivo microscopic assessment of tissue architectural and cellular morphology. It provides 2D images in a parallel tissue plane (en face) with 1 μm–2 μm resolution at a depth of 10 μm.

Traditional surgical biopsy, taken transverse to the tissue plane, shows malignant glands corresponding to the in vivo confocal image on the right.

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Traditional “white light” endoscopy shows Barrett-type epithelium in the distal esophagus. Surveillance requires numerous biopsies.