

Biomarkers play a useful role in the diagnosis and treatment of cancer. The use of prostate specific antigen (PSA), along with a digital rectal exam, can detect prostate cancer as much as 5-10 years earlier than a digital rectal exam alone. However, the current PSA test is limited in both sensitivity and specificity, resulting in both missed cancers and unnecessary biopsies. This seminar discusses the current utility of PSA testing, along with newer methods to improve specificity and sensitivity, including ratio testing with free to total PSA, 3rd Gen PSA and direct detection of the complexed PSA isoform. The role of HER-2/neu in the diagnosis and monitoring of breast cancer is also reviewed, including tests that utilize either tissue or serum samples.

At the conclusion of the seminar, attendees should be able to:

- 1) Describe the role PSA plays in the diagnosis and monitoring of prostate cancer.
- 2) Understand the value that ratios and isoforms can play in improving PSA testing.
- 3) Describe the HER2/neu protein in breast cancer and the value of both tissue and serum - based HER2/neu tests.