PROJECT TITLE

A Precision Medicine Strategy for Breast Cancer Detection

PRINCIPAL INVESTIGATOR
Dr. Martin Yaffe – Sunnybrook Research Institute

SCIENTIFIC SUMMARY

There is solid evidence that earlier detection of breast cancer through the routine screening of women ages 40 – 74 contributes to a reduction in deaths due to breast cancer. But mammography, the most widely used screening technique, loses accuracy in women with very dense breasts where signs of disease may be masked or create false alarms for breast cancer. If we can identify those women for whom the potential for cancer masking is highest, they can be offered supplemental or alternative screening with imaging tools whose performance will not be impaired by dense tissue. The Yaffe team has developed an automatic computer technique based on image analysis and artificial intelligence to determine which women should be offered alternative screening. In this study, they will complete the technique's optimization and test its performance in allowing a precision medicine strategy for breast cancer detection. They will evaluate the effect of different precision screening regimens on reducing missed cancers and on the type of additional cancers found. They will determine the best balance between the number of women who would be offered supplemental screening and the number of previously missed cancers that would be picked up.