

# HIGH RISK BREAST CANCER SCREENING PILOT STUDY

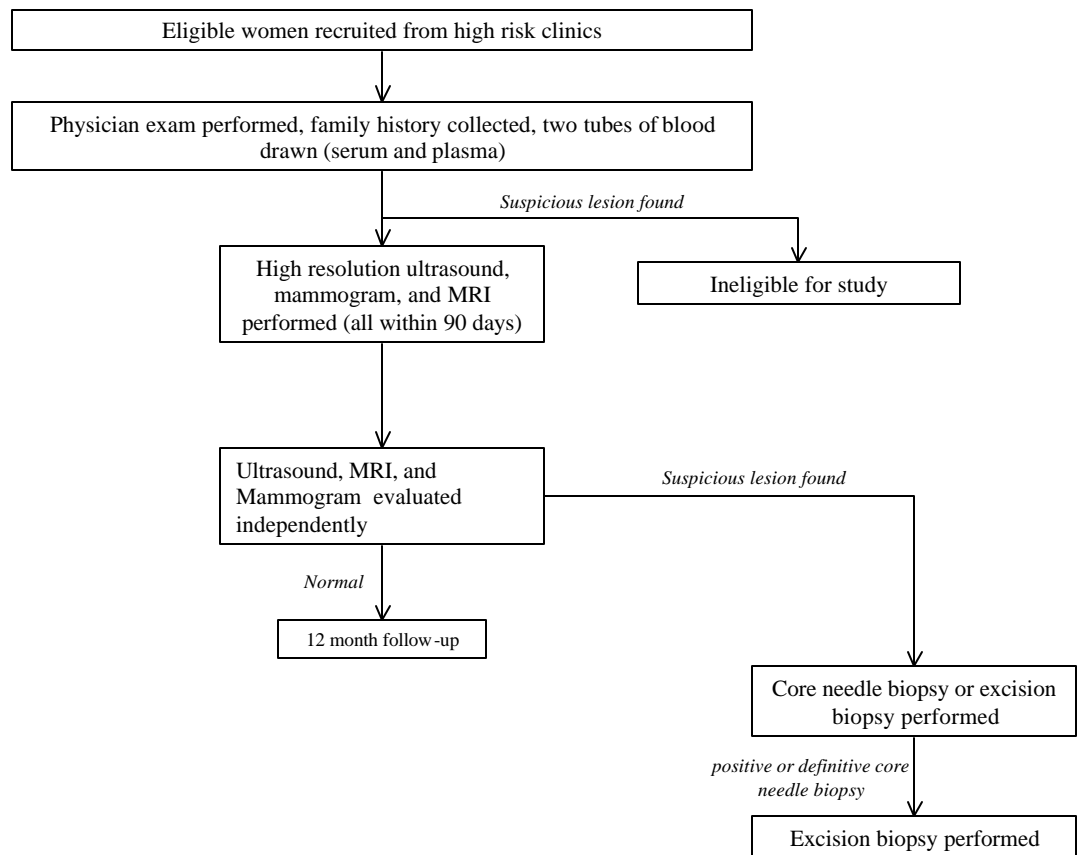
## IBMC 6884/CGN007

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**IBMC Statistician:** Constantine Gatsonis Ph.D.  
**Participating Groups:** CGN, IBMC

**Study Start Date:** 12/2002  
**Accrual End Date:** 4/15/2003  
**Study End Date:**  
**Data Cut-off for this Report:** 9/26/2003

**Goal:** To compare the diagnosis yield of three imaging modalities and combination of modalities

### Schema:



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### Study Objectives

- Aim 1* To estimate the diagnostic yield and positive predictive value of breast ultrasound and MRI for the detection of cancer in women who are members of hereditary breast cancer families.
- Aim 2* Within the context of conventional screening (mammo and PE) to compare the sensitivity, specificity, and PPV of MRI and U/S for women who are members of HBC families
- Aim 3* To determine the feasibility of carrying out a multicenter prospective trial of breast cancer screening employing mammography, MRI, and high-resolution ultrasound in women who are at increased risk of breast cancer because they are known to carry a mutation in BRCA1 or BRCA2 or who have a strong family history of breast or ovarian cancer
- Aim 4:* To determine the feasibility of collecting serum and plasma in genetically high risk

### Hypothesis

*Hypothesis 1:* In patients who have an estimated lifetime risk for breast cancer of 25% or greater, contrast enhanced MRI has a higher diagnostic yield than mammography

*Hypothesis 2:* In women with non-fatty breast tissue, who are at increased risk of breast cancer because they are known to carry a mutation in BRCA1 or BRCA2 or who have a strong family history of breast or ovarian cancer, ultrasound will increase the diagnostic yield of mammography.

### Eligibility

- $\geq 25$  years of age
  - Women who are carriers of BRCA1/2 mutations or women whose first or second degree relative has tested positive for a BRCA1/2 mutation
- OR
- The family contains at least two ovarian or breast cancers among the subject and first and second degree relatives of the subject within the same lineage. This condition is satisfied by multiple primary cancers in the same person. Where breast cancer is required to meet this criterion, at least one breast cancer must be pre-menopausal (age at diagnosis  $< 50$  if age at menopause unknown).
- OR
- The subject is of Ashkenazi Jewish ethnicity with one first degree or two second degree relatives with breast or ovarian cancer, or subject is of Ashkenazi ancestry and has had breast cancer. Where breast cancer is required to meet this criterion, at least one breast cancer must be pre-menopausal (age at diagnosis  $< 50$  if age at menopause unknown).
- OR
- Probability of carrying a BRCA1/2 mutation given family pedigree of breast and ovarian cancers as calculated by BRCAPRO exceeds 20%.
  - Women with a prior history of breast cancer are eligible to enter for screening of both breasts provided they meet the above criteria. For women screened within 5 years of initial cancer diagnosis, lesions 2 cm from the center of tumor bed or 1 cm from the border of the seroma will be excluded from analysis.

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### **Data Management and Statistical Support**

The Data and Statistics Center is located at Brown University under the Direction of Dr. Constantine Gatsonis who is responsible for the establishment of methods for data collection, management, analysis, and monitoring. The Data and Statistics Center is composed of a Statistics Center at Brown and a Data Management Center at the Philadelphia Offices of the American College of Radiology.

The CGN Statistical Coordinating Center (Dr. Steven Skates) and the Data and Statistics Center at Brown University (Dr. Gatsonis) is coordinating activities for analyses of the CGN/IBMC pilot study data.

### **Participating Institutions**

Duke University  
Georgetown University  
Johns Hopkins  
University Of North Carolina  
University Of Pennsylvania  
University Of Texas Southwestern  
University Of Washington

### **Total Accrual**

196 participants