

**Study Title:**  
**Preventing Anthracycline Cardiovascular Toxicity with Statins (PREVENT)**

ClinicalTrials.gov: [Preventing Anthracycline Cardiovascular Toxicity with Statins](#)

For Clinical Research Sites interested in participating in this study, please contact Robin Rosdhal by e-mail ([rosdhal@wakehealth.edu](mailto:rosdhal@wakehealth.edu)) or by phone (336.713.6519).

**PURPOSE:**

The purpose of this research study is to see if Atorvastatin (Lipitor) 40mg by mouth daily decreases the chance of developing heart problems in women receiving adjuvant anthracycline-based chemotherapy for breast cancer.

**Study Type:**

Interventional

**Study Design:**

- *Allocation:* Randomized
- *Endpoint Classification:* Efficacy Study
- *Intervention Model:* Parallel Assignment
- *Masking:* Double Blind (Subject, Caregiver, Investigator, Outcomes Assessor)
- *Primary Purpose:* Prevention

**Estimated Enrollment:** 250  
**Study Start Date:** February 2014  
**Estimated Study Completion Date:** March 2017  
**Estimated Primary Completion Date:** October 2016 (Final data collection date for primary outcome measure)

**Primary Outcome Measures:**

- Determine if Atorvastatin (Lipitor) administration preserves LV function:
  - Clinical measurements obtained from cardiac MRI:
    - Left Ventricular Ejection Fraction
    - Left Ventricular Volume Strain
    - Fibrosis
    - Wall Thickness
    - Pulse Wave Velocity
  - *Time Frame:* 24 Months
  - *Designated as safety issue:* No

**Secondary Outcome Measures:**

- Document the effect of atorvastatin on cognitive function:
  - Measured by:
    - Controlled Oral Word Association Test
    - Hopkins Verbal Learning Test – revised
    - Trail Making Test (A and B)
    - Rey-Osterrieth Complex Figure – modified
    - Digit Span Test
    - Grooved Pegboard

- *Time Frame: 24 Months*
- *Designated as safety issue: No*
- Document effect of atorvastatin on self-reported quality of life:
  - Patient reported quality of life outcomes obtained from:
    - PROMIS Questionnaires
    - Cognitive Concerns
    - Cognitive Abilities
    - Fatigue
    - Mood
    - Pain Intensity and Interference
    - Sleep Disturbance and Physical Function
  - *Time Frame: 24 Months*
  - *Designated as safety issue: No*

### Detailed Description:

#### Primary Objectives:

Specific Aim 1: To determine if Atorvastatin(Lipitor) administration preserves LVEF 24 months after initiation of Anthracycline-based adjuvant therapy for adjuvant treatment of breast cancer.

Specific Aim 2: To determine if baseline to 6-month differences in LVEF predict baseline to 24-month differences in LVEF after Anthracycline-based adjuvant therapy and concomitant atorvastatin therapy.

To achieve these aims, we will perform a double-blind, placebo-controlled, randomized clinical trial of 0 or 40 mg of atorvastatin/day in 250 women scheduled to receive Anthracycline-based adjuvant therapy for treatment of adjuvant breast cancer. We will use innovative noninvasive magnetic resonance imaging (MRI) procedures to accurately measure LVEF. In addition, we will measure LV volumes, myocardial strain, fibrosis, aortic pulse wave velocity (PWV) and wall thickness, all factors that can influence LVEF by altering LV pre-load, after-load, and contractility.<sup>19,20</sup> Advanced serum biomarkers will be measured that assess for the presence of oxidative/nitrosative stress, systemic inflammation and circulating neurohormones that also may influence LVEF.

This study will test a new clinical paradigm to manage breast cancer: primary prevention of Anthracycline-based adjuvant therapy-related LV dysfunction using pre-treatment with low-cost statins. In addition, this trial will be the first systematic collection of data regarding the mechanism(s) and time course by which LV dysfunction and subsequent CHF evolve in women given Anthracycline-based adjuvant therapy for adjuvant breast cancer. These data will be useful to physicians trying to determine the optimal cardiac protection strategies when administering adjuvant chemotherapeutic regimens to their breast cancer patients. The objective of this research is to use inexpensive medications to preserve CV health and thereby improve overall survival in the growing number of breast cancer patients.

#### Secondary Objectives

Specific Aim 1: To document the effect of Atorvastatin (Lipitor) on cognitive function using a battery of neurocognitive tests (HVLIT, Rey-Osterreith Figure, COWA, Trail-making Parts A and B, Digit Span and Grooved Pegboard) in breast cancer patients receiving an anthracycline.

Specific Aim 2: To document the effect of Atorvastatin(Lipitor) on self-reported quality of life using validated questionnaires (PROMIS including: General form, Cog Concerns, Cog Abilities, Fatigue, Pain intensity and interference, Sleep Disturbance, Physical Functioning and Social Functioning) in breast cancer patients receiving an anthracycline.

***\*For more information, please follow the [ClinicalTrials.gov](#) link provided at the top of page 1\****