



Final Results of the Women's Health Initiative
Public Lecture by Dr. Cedric F. Garland
Department of Family & Preventive Medicine

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Garren Auditorium, Basic Science Building

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The Women's Health Initiative, the largest (160,000 women) and most comprehensive study of women's health ever conceived, was launched 15 years ago. It was designed to answer key questions in preventive medicine and public health, including whether use of hormone replacement therapy was beneficial, whether a low fat diet could help with risk of heart disease and breast cancer, and whether vitamin D and calcium could reduce the risk of colon and breast cancer.

Reports from the study include negative findings in two of the study arms: hormone replacement was risky, and moderately low fat diets (about 29% fat compared to 35%) did not help much with risk of heart disease or breast cancer. One arm of the study was stopped early due to excessive cardiovascular and breast cancer incidence due to hormone therapy.

While these findings were negative and contrary to the expectations of most experts, the study also has had some important positive findings: Women over 60 had a 20% reduction in risk of hip fracture if they took calcium and vitamin D, and those who consistently took the full assigned dose (400 IU of vitamin D and 1000 mg of calcium) had 29% decrease in risk. Not surprisingly, women who took vitamin D and calcium had 30% lower incidence of the disease than those who did not, aging women not assigned to hormone therapy. However, hormone therapy swamped the effect of calcium and vitamin D in some analyses, for reason that we will discuss.

Perhaps the most surprising finding, as is so often the case, was an incidental finding that women in the highest 25% of the population in terms of the key vitamin D compound in the blood had only a quarter the incidence of colorectal cancer as those in the lowest 25% of vitamin D in the blood. Although this was not an intended subject of the clinical trial, this may be the most compelling positive finding of the study preventive medicine. A high level of vitamin D in the blood was associated with a 75% lower rate of colorectal cancer. Colorectal cancer is one of the most common forms of cancer, and prevention of 75% of cases by maintaining a high but safe level of vitamin D compounds in the blood would result in prevention of tens of thousands of cases and deaths each year from the disease.