

AS181 used the same cases and controls as AS90 - Biomarkers and Hip Fracture case -control criteria. See below.

## **AS90 – Biomarkers and Hip Fracture case -control criteria**

### **Identifying Cases**

Cases will include all eligible postmenopausal women participating in the WHI-OS, aged 55 to 79 years at baseline, who had a first hip fracture between August 1994 and August 2003.

Exclusion criteria include absence of baseline serum and DNA samples, the use of hormone replacement therapy or bisphosphonates within one year of WHI-OS baseline, and ever usage of selective estrogen receptor modulators including Tamoxifen. Hip fractures are defined as non-pathologic fractures of the proximal femur, including fractures of the femoral neck, intertrochanteric region and greater trochanter.

### **Identifying Controls**

For each case of hip fracture, one control will be selected at random from among eligible participants, individually matched to the index case on age ( $\pm 1$  year), time of serum collection ( $\pm 3$  months, which is the same as time of entry into WHI-OS), and clinical center (because of regional variations in rates of hip fracture). We considered additional matching and exclusion criteria, such as history of fracture, but judged that this would add additional complexity and interfere with our ability to analyze associations with those variables.