Screened for eligibility (n = 626)

Ineligible based on screen (n= 423)
- Age < 50 years old, n=10
- Patient approached >1 week post-operative period, n=37
- Bisphosphonate use <24 months ago, n=128
- Calcitonin use <24 months ago, n=2
- Hormone therapy use <24 months ago, n=5
- Corticosteroid use >3 months at 2.5mg/day, n=5
- Stroke <3 months ago, n=2
- Metastatic cancer <5 years ago, n=27
- Pathological fracture, n=17
- Abnormally elevated Creatinine (weight unknown), n=6
- Renal Insufficiency (CrCl<30 ml/min), n=26
- Renal stones in <10 years ago, n=2
- Patient admitted from a long-term care facility, n=128
- Traumatic fracture, n=17
- Male, n=11*

* exclusion criteria was modified to include males on October 11, 2007

Eligible based on screen (n=203)
- Patient approached to participate in study, n=110

Not approached to participate (n=93)
- Post-operative standard orders filled, n=50
- Severe cognitive illness (ie: dementia, delerium), n=8
- Advised not to approach due to violent episodes, n=1
- Unable to communicate (hearing impaired, language barrier), n=5
- Not eligible fracture (ie:acetabular), n=11
- Not from greater Hamilton area, n= 9
- Post-operative life-threatening complications prevented contact with patient, n=6
- Multiple comorbidities, unlikely to make 3-month timepoint, n=1
- Death prior to approach, n=2

Randomized (n= 65)

Allocated to Group A
Placebo (n=21)
- Completed 4-week/discharge assessment (n= 17)
- Completed follow-up assessment n= 17

Allocated to Group B
50,000 IU vitamin D₂ (n=22)
- Completed 4-week/discharge assessment (n= 18)
- Completed follow-up assessment n= 12

Allocated to Group C
100,000 IU vitamin D₂ (n=22)
- Completed 4-week/discharge assessment (n= 17)
- Completed follow-up assessment n= 18

Deny consent (n=45)
- Not interested, n=26
- Too overwhelmed, n=4
- Cannot communicate well enough to provide consent, n=10
- Does not like research, or unsure about safety, n=2
- This study is a burden on care-providers, n=1
- Patient does not want to take another pill, n=2