Supplemental Figure 1:

Flowchart of patients enrollment. Patients eligible for the study were seen at the outpatient clinic of the Center for Bone Quality of the Leiden University Medical Center by different physicians. Those attending the clinics of the investigators of the present study were enrolled. There was no difference in demographics between patients assessed by the investigators compared to those assessed by the other physicians (age: 61.7 years ± 9.7 vs. 61.9 years ± 9.1, p = 0.889; gender: 67% female vs. 69% female, p = 0.797).
Patients with low bone mass n=520

Excluded n=264
- 25-OH vitamin D <25 n=23
- Treatment with bone modifying agents n=98
- Bilateral hip replacement n=4
- Participation other study n=11
- Unable to provide consent n=21
- Refused any treatment n=8
- Comorbidities n=99

Eligible patients n=256

Did not attend investigators’ outpatient clinic n=131

Attended investigators’ outpatient clinic n=125

No consent n=35

Enrolled n=90
### Supplemental Table 1. Unadjusted and adjusted BMS values

<table>
<thead>
<tr>
<th></th>
<th>Osteoporosis Fx+</th>
<th>Osteoporosis Fx-</th>
<th>Osteopenia Fx+</th>
<th>Osteopenia Fx-</th>
<th>Fracture</th>
<th>No fracture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unadjusted BMS</strong></td>
<td>77.6 ± 1.4</td>
<td>83.2 ± 1.7</td>
<td>80.3 ± 0.7</td>
<td>83.9 ± 1.3</td>
<td>79.4 ± 0.7</td>
<td>83.6 ± 1.1</td>
</tr>
<tr>
<td><strong>Adjusted BMS</strong></td>
<td>79.3 ± 1.3</td>
<td>80.7 ± 1.6</td>
<td>80.3 ± 0.7</td>
<td>83.9 ± 1.2</td>
<td>79.9 ± 0.6</td>
<td>82.4 ± 1.0</td>
</tr>
</tbody>
</table>

Values are expressed as mean ± SEM.
Fx+ fracture patients; Fx- non-fracture patients; BMS Bone Material Strength.