Table S1. Unadjusted baseline total hip and femoral neck BMD values by sex stratified by machine type.

Lunar	Men (n=97)	Women (n=101)	P Value
Total Hip BMD	0.8126 ± 0.1419	0.72 ± 0.1349	<0.0001
Femoral Neck BMD	0.7679 ± 0.129	0.7094 ± 0.1281	0.0016
Hologic Machine	Men (n=26)	Women (n=29)	P Value
Total Hip BMD	0.7818 ± 0.1453	0.6955 ± 0.119	0.019
Femoral Neck BMD	0.6319 ± 0.1117	0.5781 ± 0.0964	0.0607
Lunar	Men (n=97)	Women (n=101)	P Value
Total Hip sBMD	0.7738 ± 0.1345	0.6825 ± 0.1279	<0.0001
Femoral Neck sBMD	0.7034 ± 0.1181	0.6498 ± 0.1174	0.0016
Hologic Machine	Men (n=26)	Women (n=29)	P Value
Total Hip sBMD	0.7928 ± 0.1473	0.7053 ± 0.1207	0.019
Femoral Neck sBMD	0.6989 ± 0.1235	0.6394 ± 0.1066	0.0607

Table S2. Baseline medication profiles among men and women hip fracture participants that reported ever taking bone-active drugs.

	Men (n=12)		Women (n=60)	
Medication (n, %)	Past (n=1)	Current (n=11)	Past (n=21)	Current (n=39)
Etidronate	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Alendronate	1 (100%)	8 (72.7%)	20 (95.2%)	31 (79.5%)
Risedronate	0 (0%)	1 (9.1%)	5 (23.8%)	14 (35.9%)
Ibandronate	0 (0%)	0 (0%)	2 (9.5%)	4 (10.3%)
Teriparatide	0 (0%)	1 (9.1%)	1 (4.8%)	2 (5.1%)
Calcitonin	0 (0%)	0 (0%)	2 (9.5%)	6 (15.4%)
Zoledronic Acid	0 (0%)	1 (9.1%)	0 (0%)	0 (0%)

Table S3. Unadjusted and adjusted absolute change (grams per centimeter squared) and percent change in total hip sBMD between men and women following hip fracture patients at 2, 6, and 12 months.

Time Point	Men			Women			
Unadjusted	BMD Change	95% CI	*P	BMD Change	95% CI	*P	**P
Baseline	0.7794	(0.7538, 0.8050)	REF	0.6870	(0.6646, 0.7094)	REF	*0.88
Δ T2	-0.0044	(-0.0237, 0.0149)	0.65	-0.0021	(-0.0215, 0.0172)	0.83	0.86
Δ T6	-0.0020	(-0.0298, 0.0257)	0.88	-0.0049	(-0.0279, 0.0181)	0.68	0.87
Δ T12	-0.0178	(-0.0441, 0.0085)	0.18	-0.0048	(-0.0305, 0.0209)	0.71	0.48
Unadjusted	% Change	95% CI	*P	% Change	95% CI	*P	**P
Baseline	REF	REF	REF	REF	REF	REF	*0.88
Δ T2	-0.57	(-3.04, 1.91)	0.65	-0.31	(-3.13, 2.51)	0.83	0.86
Δ T6	-0.26	(-3.83, 3.30)	0.88	-0.71	(-4.06, 2.63)	0.68	0.87
Δ T12	-2.28	(-5.66, 1.10)	0.18	-0.70	(-4.44, 3.04)	0.71	0.48
Adjusted	BMD Change	95% CI	*P	BMD Change	95% CI	*P	**P
Baseline	0.7541	(0.7270, 0.7812)	REF	0.7172	(0.6894, 0.7450)	REF	*0.91
Δ T2	-0.0076	(-0.0241, 0.0089)	0.36	-0.0031	(-0.0185, 0.0124)	0.69	0.68
Δ T6	-0.0151	(-0.0356, 0.0055)	0.15	-0.0104	(-0.0273, 0.0064)	0.22	0.72
Δ T12	-0.0181	(-0.0422, 0.0061)	0.14	-0.0068	(-0.0275, 0.0139)	0.51	0.49
Adjusted	% Change	95% CI	*P	% Change	95% CI	*P	**P
Baseline	REF	REF	REF	REF	REF	REF	*0.91
Δ T2	-1.01	(-3.20, 1.18)	0.36	-0.43	(-2.58, 1.72)	0.69	0.68
Δ T6	-2.00	(-4.73, 0.73)	0.15	-1.46	(-3.81, 0.90)	0.22	0.72
Δ T12	-2.40	(-5.60, 0.80)	0.14	-0.95	(-3.84, 1.94)	0.51	0.49

*P values for the sex- and time-specific changes.

**P values for the *global test of the sex by time interaction and time specific sex differences.

Adjusted for potential confounders: race, age, weight, height, smoking, alcohol use, bisphosphonates, glucocorticoids, hormone therapy, calcium supplements, comorbidity count, instrumental activities of daily living, center for epidemiologic studies depression scale, and DXA measurement site.

Table S4. Unadjusted and adjusted absolute change (grams per centimeter squared) and percent change in femoral neck sBMD between men and women following hip fracture patients at 2, 6, and 12 months.

Time Point	Men			Women			
Unadjusted	BMD Change	95% CI	*P	BMD Change	95% CI	*P	**P
Baseline	0.7040	(0.6812, 0.7267)	REF	0.6485	(0.6281, 0.6690)	REF	*0.43
Δ T2	0.0005	(-0.0163, 0.0174)	0.94	-0.0047	(-0.0216, 0.0122)	0.58	0.66
Δ T6	-0.0028	(-0.0266, 0.0210)	0.81	-0.0015	(-0.0233, 0.0202)	0.89	0.93
Δ T12	-0.0280	(-0.0525, -0.0033)	0.02	-0.0044	(-0.0291, 0.0203)	0.72	0.18
Unadjusted	% Change	95% CI	*P	% Change	95% CI	*P	**P
Baseline	REF	REF	REF	REF	REF	REF	*0.43
Δ T2	0.08	(-2.32, 2.47)	0.94	-0.73	(-3.34, 1.89)	0.58	0.66
Δ T6	-0.40	(-3.79, 2.98)	0.81	-0.24	(-3.60, 3.12)	0.89	0.93
Δ T12	-3.97	(-7.46, -0.47)	0.02	-0.67	(-4.48, 3.13)	0.72	0.18
Adjusted	BMD Change	95% CI	*P	BMD Change	95% CI	*P	**P
Baseline	0.6771	(0.6520, 0.7022)	REF	0.6838	(0.6587, 0.7088)	REF	*0.41
Δ T2	-0.0034	(-0.0181, 0.0113)	0.65	-0.0074	(-0.0214, 0.0066)	0.30	0.69
Δ T6	-0.0177	(-0.0360, 0.0006)	0.05	-0.0093	(-0.0256, 0.0071)	0.26	0.48
Δ T12	-0.0316	(-0.0532, -0.0098)	0.005	-0.0126	(-0.0326, 0.0074)	0.21	0.20
Adjusted	% Change	95% CI	*P	% Change	95% CI	*P	**P
Baseline	REF	REF	REF	REF	REF	REF	*0.41
Δ T2	-0.50	(-2.67, 1.67)	0.65	-1.08	(-3.13, 0.97)	0.30	0.69
Δ T6	-2.61	(-5.32, 0.10)	0.05	-1.36	(-3.75, 1.03)	0.26	0.48
Δ T12	-4.66	(-7.87, -1.45)	0.005	-1.85	(-4.78, 1.08)	0.21	0.20

*P values for the sex- and time-specific changes.

**P values for the *global test of the sex by time interaction and time specific sex differences.

Adjusted for potential confounders: race, age, weight, height, smoking, alcohol use, bisphosphonates, glucocorticoids, hormone therapy, calcium supplements, comorbidity count, instrumental activities of daily living, center for epidemiologic studies depression scale, and DXA measurement site.

Appendix A

The inverse probability of observation weights consisted of three component parts: (1) time-invariant likelihood of response for baseline covariate data; (2) time specific likelihood of survival conditional on response for baseline covariate data that was used to calculate cumulative survival probabilities over follow-up; and (3) time-varying likelihood of response for outcome data conditional on fully observed baseline covariates and survival. Probabilities were calculated using logistic regression modeling conditioning on fully observed baseline measures: sex, age, height, weight, comorbidity, and bone-active drugs. Component inverse probability of observation weights were stabilized using the observed time-specific sampling fractions for response and survival, and the final weights for participants included in outcome models was the cross product of the three constituents at each visit. The general form of the described weights is shown below, where the subscripts *i* and *j* correspond to individual *i* at time point *j*.

$$(\mathbf{R}_{\downarrow}X\ \mathbf{R}_{\downarrow}y\ \mathbf{S})/(\boldsymbol{P}(R_{\downarrow}x = \mathbf{1})\ \ \boldsymbol{P}(S_{\downarrow}(i,j) = \mathbf{1} \dashv |\ R_{\downarrow}x = \mathbf{1})\,\boldsymbol{P}(R_{\downarrow}(i,j)^{\uparrow}y = \mathbf{1} \dashv |\ S = \mathbf{1}, R_{\downarrow}x = \mathbf{1}\ ))$$