Supplemental materials Table S1. Influence of various anthropometric and biological variables on whole-body aBMD variation at 12 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)]	N	% relative variation (Δ 12m-baseline/baseline) of the whole body aBMD					
		Univariate analysis			Multivariate analysis (n=68)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	71	-0.012	0.029	0.686			
Weight	71	-0.009	0.043	0.834			
BMI	71	-0.009	0.043	0.825			
Calcium	71	0.05	0.115	0.668			
Phosphorus	71	0.005	0.019	0.790			
iPTH	71	-0.023	0.011	0.038	-0.024	0.011	0.024
25(OH)D3	71	0.01	0.009	0.279			
Albumin	69	0.057	0.049	0.244			
Osteocalcin	71	-0.01	0.006	0.079	-0.009	0.005	0.085
CTX	70	-0.003	0.002	0.107			
Periostin	71	-0.029	0.016	0.086			
Sclerostin	71	-0.004	0.018	0.820			
Semaphorin	71	-0.015	0.021	0.469			
Categorical variables at baseline							
Gender Male Female	16/71 55/71	2.304 -	0.787 -	0.005	2.63	0.754	0.001
Hypertension Yes No	29/71 42/71	-0.122 -	0.709 -	0.864			
Type 2 diabetes mellitus Yes No	13/71 58/71	-0.003	0.901	0.997			
Sleep apnoea No Yes	27/71 44/71	-0.946 -	0.709 -	0.187			

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S2. Influence of various anthropometric and biological variables on whole-body aBMD variation at 24 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	N	% relative variation (Δ 24m-baseline/baseline) of the whole body aBMD					
		Univariate analysis			Multivariate analysis (n=55)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	58	-0.096	0.059	0.108	-0.086	0.051	0.096
Weight	58	-0.067	0.075	0.376			
BMI	56	-0.073	0.075	0.334			
Calcium	58	-0.136	0.221	0.542	-0.452	0.215	**0.041**
Phosphorus	58	0.037	0.038	0.329			
iPTH	58	-0.048	0.013	**0.001**	-0.046	0.0144	**0.003**
25(OH)D3	58	0.018	0.012	0.135	0.022	0.011	**0.044**
Albumin	56	0.051	0.085	0.551			
Osteocalcin	56	-0.043	0.012	**<0.001**	-0.031	0.011	**0.005**
CTX	57	-0.005	0.004	0.169			
Periostin	57	0.027	0.032	0.402			
Sclerostin	57	0.119	0.041	0.005	0.058	0.037	0.121
Semaphorin	53	-0.032	0.025	0.218			
Categorical variables at baseline							
Gender Male	14/58	-0.120	1.670	0.943			
Female	44/58	-	-	-			
Hypertension Yes	26/58	-2.013	1.411	0.159			
No	32/58	-	-	-			
Type 2 diabetes mellitus at baseline							
Yes	14/58	-1.652	1.655	0.323	3.275	1.602	0.047
No	44/58	-	-	-			
Sleep apnoea No	22/58	1.114	1.465	0.450			
Yes	36/58	-	-	-			

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S3. Influence of various anthropometric and biological variables on total hip aBMD variation at 12 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	N	% relative variation (Δ 12m-baseline/baseline) of the total hip aBMD					
		Univariate analysis			Multivariate analysis (n=71)		
		$_c\beta$	SE	P-value	$_a\beta$	SE	P-value
Age at baseline	74	0.030	0.041	0.461			
Weight	74	0.237	0.052	**<0.001**	0.178	0.056	**0.002**
BMI	74	0.236	0.052	**<0.001**			
Calcium	74	0.160	0.162	0.329			
Phosphorus	74	-0.007	0.026	0.790	0.038	0.024	0.119
iPTH	74	0.045	0.015	**0.004**	0.043	0.015	**0.005**
25(OH)D3	74	-0.003	0.012	0.793			
Albumin	72	0.040	0.069	0.570			
Osteocalcin	73	-0.01	0.008	0.231	-0.017	0.008	**0.025**
CTX	73	0.001	0.002	0.560			
Periostin	74	0.003	0.024	0.914			
Sclerostin	74	0.008	0.026	0.766			
Semaphorin	74	0.052	0.03	0.084	0.036	0.026	0.175
Categorical variables at baseline							
Gender Male	18/74	1.885	1.124	0.098	1.578	1.077	0.148
Female	56/74						
Hypertension Yes	31/74	-0.083	0.996	0.934			
No	43/74						
Type 2 diabetes mellitus Yes	14/74	1.063	1.248	0.397			
No	60/74						
Sleep apnoea No	27/74	0.908	1.015	0.374	1.673	0.941	0.080
Yes	47/74						

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S4. Influence of various anthropometric and biological variables on total hip aBMD variation at 24 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	N	% relative variation (Δ 24m-baseline/baseline) of the total hip aBMD					
		Univariate analysis			Multivariate analysis (n=53)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	60	0.02	0.051	0.703			
Weight	60	0.209	0.056	**<0.001**	0.170	0.054	**0.003**
BMI	58	0.206	0.057	**0.001**			
Calcium	60	-0.101	0.188	0.592			
Phosphorus	60	-0.014	0.032	0.675			
iPTH	60	-0.001	0.012	0.917			
25(OH)D3	60	0.009	0.01	0.385			
Albumin	58	-0.021	0.07	0.761			
Osteocalcin	58	-0.039	0.009	**<0.001**	-0.030	0.009	**0.001**
CTX	59	-0.004	0.003	0.227			
Periostin	59	-0.014	0.027	0.595			
Sclerostin	59	0.067	0.035	0.06	0.050	0.029	0.087
Semaphorin	55	0.051	0.021	**0.021**	0.043	0.017	**0.014**
Categorical variables at baseline							
Gender Male	16/60	0.906	1.346	0.504			
Female	44/60						
Hypertension Yes	27/60	-0.843	1.196	0.484			
No	33/60						
Type 2 diabetes mellitus Yes	15/60	-0.707	1.377	0.610			
No	45/60						
Sleep apnoea No	22/60	0.133	1.24	0.915			
Yes	38/60						

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S5. Influence of various anthropometric and biological variables on lumbar spine aBMD variation at 12 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	n	Univariate analysis			Multivariate analysis (n=68)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	72	-0.003	0.041	0.95			
Weight	72	0.193	0.054	**0.001**	0.173	0.048	**<0.001**
BMI	72	0.193	0.054	**0.001**			
Calcium	72	0.238	0.161	0.144	0.365	0.140	**0.012**
Phosphorus	72	-0.031	0.028	0.275	0.036	0.024	0.130
iPTH	72	-0.026	0.016	0.102			
25(OH)D3	72	0.002	0.012	0.846	0.016	0.001	0.099
Albumin	70	-0.159	0.067	**0.021**	-0.200	0.055	**0.0006**
Osteocalcin	71	-0.029	0.007	**<0.001**	-0.023	0.007	**0.0011**
CTX	71	-0.003	0.002	0.169	0.005	0.002	**0.0182**
Periostin	72	-0.014	0.024	0.542			
Sclerostin	72	0.03	0.025	0.241			
Semaphorin	72	-0.005	0.03	0.874			
Categorical variables at baseline							
Gender Male	16/72	2.348	1.151	**0.045**			
Female	56/72						
Hypertension Yes	29/72	0.192	1.004	0.849			
No	43/72						
Type 2 diabetes mellitus Yes	14/72	1.060	1.238	0.395	1.880	1.010	0.068
No	58/72						
Sleep apnoea No	27/72	-0.274	1.017	0.788			
Yes	45/72						

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S6. Influence of various anthropometric and biological variables on lumbar spine aBMD variation at 24 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	n	% relative variation (Δ 24m-baseline/baseline) of the lumbar spine aBMD					
		Univariate analysis			Multivariate analysis (n=56)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	59	0.002	0.056	0.975			
Weight	59	0.11	0.067	0.107	0.093	0.057	0.111
BMI	57	0.107	0.068	0.121			
Calcium	59	0.328	0.201	0.108	0.342	0.172	0.053
Phosphorus	59	-0.009	0.036	0.801			
iPTH	59	-0.032	0.013	**0.017**			
25(OH)D3	59	0.03	0.011	**0.007**	0.019	0.009	**0.044**
Albumin	57	0.11	0.079	0.166			
Osteocalcin	57	-0.041	0.011	**<0.001**	-0.048	0.009	**<.0001**
CTX	58	0.002	0.004	0.562			
Periostin	58	0.044	0.029	0.133	0.074	0.023	**0.002**
Sclerostin	58	0.062	0.038	0.110			
Semaphorin	54	-0.007	0.024	0.784			
Categorical variables at baseline							
Gender Male	15/59	2.449	1.477	0.103	2.315	1.171	0.054
Female	44/59						
Hypertension Yes	26/59	0.221	1.326	0.868			
No	33/59						
Type 2 diabetes mellitus Yes	15/59	1.828	1.493	0.226			
No	44/59						
Sleep apnoea No	22/59	-1.328	1.35	0.329			
Yes	37/59						

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S7. Influence of various anthropometric and biological variables on radius aBMD variation at 12 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	n	% relative variation (Δ 12m-baseline/baseline) of the radius					
		Univariate analysis			Multivariate analysis (n=74)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	74	0.013	0.015	0.387			
Weight	74	0.057	0.021	**0.008**	0.057	0.021	**0.008**
BMI	74	0.057	0.021	**0.008**			
Calcium	74	0.059	0.061	0.337			
Phosphorus	74	0.013	0.01	0.183			
iPTH	74	0.006	0.006	0.329			
25(OH)D3	74	0.004	0.005	0.334			
Albumin	72	-0.004	0.026	0.888			
Osteocalcin	73	0.002	0.003	0.452			
CTX	73	-0.0002	0.001	0.835			
Periostin	74	0.002	0.009	0.855			
Sclerostin	74	-0.005	0.01	0.607			
Semaphorin	74	0.008	0.011	0.466			
Categorical variables at baseline							
Gender Male	18/74	0.590	0.423	0.167			
Female	56/74						
Hypertension Yes	31/74	0.190	0.372	0.611			
No	43/74						
Type 2 diabetes mellitus Yes	14/74	0.853	0.458	0.067			
No	60/74						
Sleep apnoea No	27/74	-0.269	0.38	0.483			
Yes	47/74						

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis.

Supplemental materials Table S8. Influence of various anthropometric and biological variables on radius aBMD variation at 24 months.

Continuous variables expressed as % relative variation (Δ 12m-baseline/baseline)	n	% relative variation (Δ 24m-baseline/baseline) of the radius					
		Univariate analysis			Multivariate analysis (n=59)		
		$_c\beta$	SE	p-value	$_a\beta$	SE	p-value
Age at baseline	60	-0.003	0.027	0.916			
Weight	60	0.075	0.031	**0.021**	0.090	0.029	**0.003**
BMI	58	0.072	0.031	**0.025**			
Calcium	60	0.015	0.099	0.883			
Phosphorus	60	0.009	0.017	0.605			
iPTH	60	-0.018	0.006	**0.005**	-0.018	0.006	**0.006**
25(OH)D3	60	0.005	0.005	0.399			
Albumin	58	-0.052	0.038	0.172			
Osteocalcin	58	-0.009	0.006	0.101			
CTX	59	-0.002	0.002	0.284			
Periostin	59	0.003	0.014	0.807			
Sclerostin	59	0.054	0.017	**0.003**	0.033	0.017	**0.050**
Semaphorin	55	0.013	0.01	0.198			
Categorical variables at baseline							
Gender Male	16/60	1.008	0.698	0.154			
Female	44/60						
Hypertension Yes	27/60	-0.504	0.628	0.425			
No	33/60						
Type 2 diabetes mellitus Yes	15/60	0.055	0.725	0.940			
No	45/60						
Sleep apnoea No	22/60	-0.337	0.65	0.607			
Yes	38/60						

Legend: BMI: body mass index, iPTH: intact parathyroid hormone; 25(OH)D3: 25 vitamin D; CTX: type I-C telopeptide breakdown products. Δ 12m-baseline/baseline represents the % relative difference between values at 12 months and baseline. $_c\beta$: crude standardized coefficients; $_a\beta$: adjusted standardized coefficients; SE: standard error. P-values were from linear regression analysis