

Supplementary Online Content

DiVasta AD, Stamoulis C, Rubin CT, et al. Preservation of skeletal health in ambulatory female adolescents with anorexia nervosa: a randomized clinical trial. *JAMA Netw Open*. 2024;7(10):e2441779. doi:10.1001/jamanetworkopen.2024.41779

eTable 1. Demographic and clinical data for n = 21 participants with %mBMI \leq 85

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Demographic and clinical data for n = 21 participants with %mBMI ≤ 85

| | Participants with %mBMI ≤ 85 (n = 21) | |
|------------------------------------|--|--------------|
| | Median (IQR) | Min, Max |
| Age, y | 17.1 (5.2) | 12.6, 26.1 |
| Height, cm | 161.3 (6.1) | 154.9, 174.5 |
| Weight, kg | 43.3 (5.6) | 36.8, 51.9 |
| BMI, kg/m² | 16.4 (1.3) | 14.6, 18.2 |
| % of median BMI for age | 80.2 (5.1) | 68.5, 84.8 |
| Duration of AN, mos | 6.0 (39.5) | 0, 120.0 |
| Duration of amenorrhea, mos | 5.5 (4.0) | 0, 78.0 |
| Age at menarche, y | 12.0 (2.0) | 10.0, 14.0 |
| 25(OH)D, ng/mL | 37.5 (16.2) | 18.3, 68.1 |
| PTH, pg/mL | 17.0 (8.8) | 8.0, 36.0 |
| DXA MEASURES | | |
| Total body Z-score | -0.6 (1.3) | -3.3, 1.4 |
| Spine Z-score | -1.0 (1.1) | -2.8, 0.2 |
| Total hip Z-score | -0.7 (1.5) | -3.1, 1.8 |
| N (%) | | |
| DXA Total body: | | |
| Z ≤ -1 | 9 (42.9) | |
| Z ≤ -2 | 2 (9.5) | |
| DXA Spine: | | |
| Z ≤ -1 | 11 (52.4) | |
| Z ≤ -2 | 2 (9.5) | |
| DXA Total hip: | | |
| Z ≤ -1 | 10 (47.6) | |
| Z ≤ -2 | 2 (9.5) | |

%mBMI, % of median body mass index for age; LMMS, low-magnitude mechanical stimulation; IQR, interquartile range; BMI, body mass index; AN, anorexia nervosa; 25(OH)D, 25-hydroxy-vitamin D; PTH, parathyroid hormone; DXA, dual energy X-ray absorptiometry

eTable 2. Demographic and clinical data for n = 8 severely malnourished patients with %mBMI ≤ 80

| | Participants with %mBMI ≤ 80 (n = 8) | |
|----------------------------|---|--------------|
| | Median (IQR) | Min, Max |
| Age, y | 16.9 (2.3) | 14.2, 23.5 |
| Height, cm | 162.5 (8.8) | 154.9, 174.5 |
| Weight, kg | 40.2 (4.3) | 36.8, 49.6 |
| BMI, kg/m ² | 16.1 (1.3) | 14.6, 16.6 |
| % of median BMI for age | 77.5 (5.9) | 68.5, 79.1 |
| Duration of AN, mo | 2.5 (21.5) | 0, 88.0 |
| Duration of amenorrhea, mo | 6.0 (4.0) | 1.0, 78.0 |
| Age at menarche, y | 13.0 (1.8) | 11.0, 14.0 |
| 25(OH)D, ng/mL | 31.8 (14.2) | 18.3, 47.1 |
| PTH, pg/mL | 17.0 (9.6) | 8.0, 36.0 |
| DXA MEASURES | | |
| Total body Z-score | -0.5 (1.5) | -3.3, 1.4 |
| Spine Z-score | -1.1 (1.2) | -2.8, 0.2 |
| Total hip Z-score | -0.2 (1.3) | -3.1, 1.8 |
| N (%) | | |
| DXA Total body: | | |
| Z ≤ -1 | | 3 (37.5) |
| Z ≤ -2 | | 1 (12.5) |
| DXA Spine: | | |
| Z ≤ -1 | | 5 (62.5) |
| Z ≤ -2 | | 1 (12.5) |
| DXA Total hip: | | |
| Z ≤ -1 | | 2 (25.0) |
| Z ≤ -2 | | 1 (12.5) |

%mBMI, % of median body mass index for age; LMMS, low-magnitude mechanical stimulation; IQR, interquartile range; BMI, body mass index; AN, anorexia nervosa; 25(OH)D, 25-hydroxy-vitamin D; PTH, parathyroid hormone; DXA, dual energy X-ray absorptiometry

eTable 3. Measures of radial pQCT at baseline and after 6 months of LMMS treatment or placebo in young women with anorexia nervosa (N = 50)

| Radius 4% site (non-weight-bearing trabecular bone) | | | | | |
|--|---------|---------------|---------------|------|------|
| Total bone vBMD (mg/cm ³) | | | | | |
| | LMMS | 321.1 (67.4) | 332.8 (34.8) | 0.32 | 0.26 |
| | Placebo | 346.6 (46.2) | 337.8 (22.5) | 0.53 | |
| Trabecular vBMD (mg/cm ³) | | | | | |
| | LMMS | 215.7 (37.8) | 218.6 (19.4) | 0.90 | 0.40 |
| | Placebo | 211.9 (38.7) | 221.4 (14.3) | 0.50 | |
| Total bone CSA (mm ²) | | | | | |
| | LMMS | 253.4 (68.3) | 257.6 (32.3) | 0.85 | 0.88 |
| | Placebo | 258.1 (70.5) | 260.9 (21.9) | 0.80 | |
| Trabecular CSA (mm ²) | | | | | |
| | LMMS | 192.3 (58.2) | 180.5 (41.6) | 0.29 | 0.29 |
| | Placebo | 176.2 (74.5) | 181.0 (54.5) | 0.54 | |
| Cortical vBMD (g/cm ³) | | | | | |
| | LMMS | 583.0 (78.2) | 600.2 (89.3) | 0.60 | 0.13 |
| | Placebo | 631.9 (90.4) | 601.1 (71.3) | 0.19 | |
| Radius 66% site (non-weight-bearing cortical bone) | | | | | |
| Total bone vBMD (mg/cm ³) | | | | | |
| | LMMS | 731.5 (108.1) | 707.5 (28.8) | 0.20 | 0.12 |
| | Placebo | 711.7 (135.4) | 710.1 (25.8) | 0.57 | |
| Total bone CSA (mm ²) | | | | | |
| | LMMS | 109.3 (28.7) | 111.0 (10.6) | 0.42 | 0.68 |
| | Placebo | 114.2 (35.0) | 114.3 (10.5) | 0.60 | |
| Cortical vBMD (g/cm ³) | | | | | |
| | LMMS | 1093.4 (50.7) | 1096.3 (38.4) | 0.37 | 0.20 |
| | Placebo | 1080.4 (74.0) | 1082.3 (31.9) | 0.78 | |
| Cortical CSA (mm ²) | | | | | |
| | LMMS | 66.7 | 64.9 (6.7) | 0.97 | 0.91 |
| | Placebo | 62.8 | 66.4 (5.9) | 0.59 | |

| | | | | | |
|---|---------|----------------|----------------|------|------|
| Cortical thickness (mm) | LMMS | 2.18 (0.4) | 2.16 (0.2) | 0.52 | 0.48 |
| | Placebo | 2.11 (0.6) | 2.15 (0.2) | 0.50 | |
| Cortical section modulus (mm ³) | LMMS | 309.6 (81.2) | 314.2 (53.7) | 0.19 | 0.27 |
| | Placebo | 323.7 (143.2) | 316.9 (37.5) | 0.82 | |
| Max. muscle CSA (mm ²) | LMMS | 2063.0 (340.2) | 2204.2 (207.1) | 0.21 | 0.96 |
| | Placebo | 2113.8 (446.5) | 2245.6 (172.0) | 0.32 | |
| Strength-Strain Index (mm ³) | LMMS | 251.3 (78.3) | 253.8 (48.4) | 0.49 | 0.47 |
| | Placebo | 252.7 (78.8) | 256.1 (36.1) | 0.89 | |

* Estimates adjusted for patient age, duration of AN, and weight gain
LMMS, low-magnitude mechanical stimulation; vBMD, volumetric bone mineral density; CSA, cross-sectional area