ONLINE APPENDIX FIGURE. Spline regression models examining the possible non-linear relation between plasma 25-OHD concentration and incident type 2 diabetes. Odds ratios are adjusted for the same variables as in the multivariate model of the Table, including body mass index. Women with extremely low or high plasma 25-OHD concentrations (>1st or 99th percentile) were excluded from the analyses. Solid lines represent odds ratios, and dotted lines represent 95% CI. To convert 25-OHD concentration from ng/mL to nmol/L multiply by 2.459.
## ONLINE APPENDIX TABLE. Odds ratio for incident type 2 diabetes in women, according to plasma 25-hydroxyvitamin D (25-OHD) concentration by baseline body mass index, age and calcium intake

| 25-OHD Quartile | 1 (Lowest) | 2 | 3 | 4 (Highest) | P for trend | P for interaction |
|-----------------|------------|---|---|-------------|------------|------------------|
| Plasma 25-OHD concentration, Median (range), ng/ml | 14.4 (6.7 – 17.8) | 20.8 (17.9 – 23.1) | 25.9 (23.2 – 28.9) | 33.4 (29.1 – 87.6) | 0.20 | 0.21 |
| Body Mass Index (kg/m²) | | | | | 0.20 | 0.21 |
| BMI < 25 | 1.00 (reference) | 1.35 (0.60, 3.05) | 1.07 (0.47, 2.49) | 0.63 (0.25, 1.56) | 0.24 | 0.042 |
| BMI ≥ 25 | 1.00 (reference) | 0.99 (0.61, 1.59) | 0.88 (0.51, 1.49) | 0.46 (0.25, 0.83) | 0.016 | 0.066 |
| Age (median, years) | | | | | 0.21 | 0.21 |
| < 57 | 1.00 (reference) | 1.00 (0.56, 1.80) | 0.89 (0.48, 1.65) | 0.46 (0.23, 0.93) | 0.042 | 0.043 |
| ≥ 57 | 1.00 (reference) | 1.22 (0.69, 2.16) | 1.05 (0.56, 1.94) | 0.53 (0.27, 1.04) | 0.066 | 0.022 |
| Calcium intake (median, mg/day) | | | | | 0.21 | 0.21 |
| < 700 | 1.00 (reference) | 1.01 (0.58, 1.74) | 0.83 (0.46, 1.51) | 0.50 (0.25, 0.98) | 0.043 | 0.043 |
| ≥ 700 | 1.00 (reference) | 1.07 (0.56, 2.04) | 1.09 (0.55, 2.20) | 0.39 (0.18, 0.83) | 0.022 | 0.022 |

1 All data presented as Odds ratio (95% confidence interval). All models adjusted for matching variables (age, race, fasting status, month of blood draw and laboratory batch for plasma 25-hydroxyvitamin D) plus latitude (residence in southern states [<40°N; California, Florida and Texas] or northern states [≥40°N; Connecticut, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio and Pennsylvania]), history of hypercholesterolemia (yes or no), history of hypertension (yes or no), family history of diabetes (yes or no), smoking status (never, past or currently smoking), physical activity (metabolic equivalent/week, in quartiles), alcohol consumption (grams/day, in quartiles) and multivitamin use (yes or no), plus dietary variables in quartiles (caffeine [mg/day], trans fat [g/day], cereal fiber [g/day], heme iron [mg/day], magnesium [mg/day], fish [servings/day] and calcium intake [mg/day]) and body mass index.

2 To convert 25-OHD concentration from ng/mL to nmol/L multiply by 2.459.

3 Model for BMI<25 kg/m² includes 97 cases and 339 controls; model for BMI≥25 kg/m² includes 510 cases and 230 controls

4 Model for age<57 years includes 312 cases and 288 controls; model for age≥57 years includes 296 cases and 281 controls

5 Model for calcium intake<700 includes 343 cases and 310 controls; model for calcium intake≥700 includes 265 cases and 259 controls

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