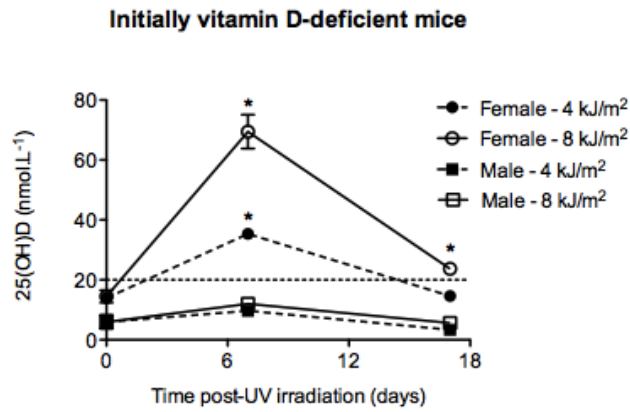


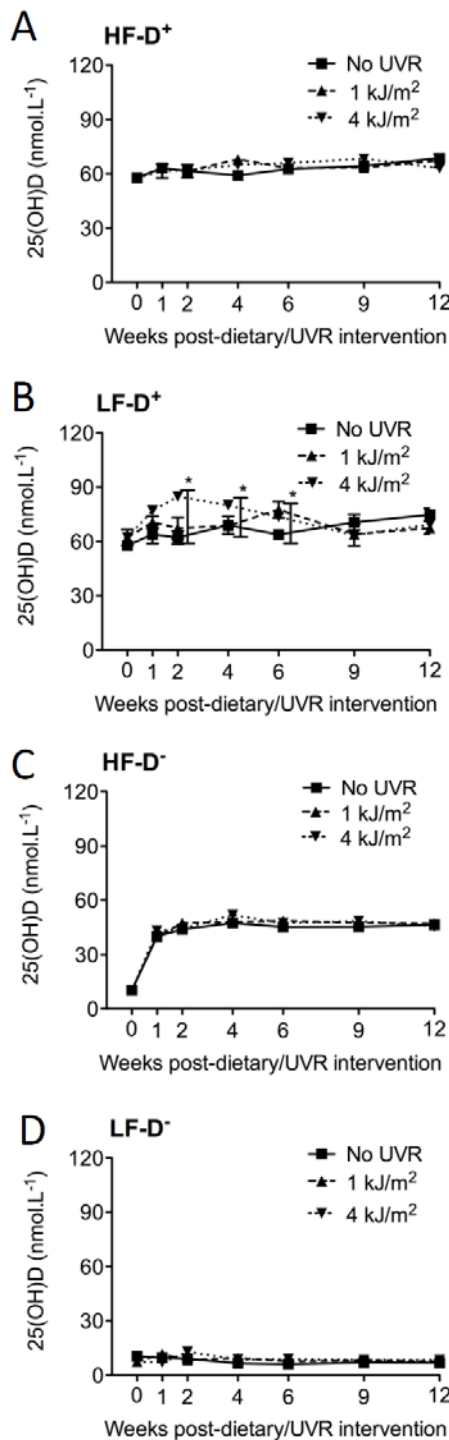
SUPPLEMENTARY DATA

Supplementary Figure 1. Erythemal UVR increased serum 25(OH)D levels in initially vitamin D-deficient female but not male mice. Four week-old C57Bl/6 mice were fed a low fat diet not supplemented with vitamin D for four weeks to reduce serum 25(OH)D levels to less than 20 nmol.L⁻¹ (dotted line). Serum 25(OH)D levels were measured following the exposure of the shaved dorsal skin of the initially vitamin D-deficient mice to 4 or 8 kJ/m² UVR. Data is shown as mean ± SEM (n=4-8 mice/treatment/time point, *p<0.05 relative to initial serum 25(OH)D levels).



SUPPLEMENTARY DATA

Supplementary Figure 2. *The effects of chronic skin exposure to UVR, dietary vitamin D and a high fat diet on serum 25(OH)D.* Data from Figure 2 are shown in an alternate fashion, comparing the effects of no UVR, or, chronic skin exposure to sub-erythemal UVR (biweekly, 1 kJ/m²) or erythemal UVR (fortnightly, 4 kJ/m²) on serum levels of 25(OH)D for mice fed a (A) high (HF-D⁺) or (B) low fat (LF-D⁺) diet supplemented with vitamin D, or, (C) high (HF-D⁻) or (D) low fat (LF-D⁻) diet not supplemented with vitamin D. Data are shown as mean \pm SEM for n=4-9 mice at each time, pooled from two independent experiments (*p<0.05).



SUPPLEMENTARY DATA

Supplementary Figure 3. Dietary vitamin D did not affect weight gain or the development of glucose tolerance or insulin resistance for mice fed a high or low fat diet. Four week-old C57Bl/6 male mice were fed a low fat diet supplemented with vitamin D (LF-D⁺) or not (LF-D⁻) for four weeks. At eight weeks of age (week 0 for Suppl. Fig. 3A), mice were either continued on these diets or switched to a diet that was high in fat and supplemented (HF-D⁺) or not (HF-D⁻) with vitamin D. At the same time, each dietary group was further divided into three treatments of mice that were chronically irradiated with no UVR, sub-erythemal UVR (biweekly, 1 kJ/m²), or erythemal UVR (fortnightly, 4 kJ/m²) for 12 weeks until 20 weeks of age. In (A), percentage weight gain is shown (n=18 mice/treatment) for mice fed the HF-D⁺ or LF-D⁺. In (B), a glucose tolerance test was performed after 10 weeks of the UVR/dietary interventions (at 18 weeks of age, n=8 mice/treatment), with data shown for non-irradiated mice. In (C), an insulin tolerance test was performed after 11 weeks of the UVR/dietary interventions (at 19 weeks of age, n=8 mice/treatment) with data shown for non-irradiated mice. Data are shown as mean ± SEM from a representative of two independent experiments (*p<0.05).

