The purpose of this study was to determine the effect of a 15-week diet and exercise intervention program on energy balance, hormonal profiles, body composition, and menstrual function of an amenorrheic endurance athlete. The intervention program reduced training 1 day/week and included the use of a sport nutrition beverage providing 360 kcal/day. Three eumenorrheic athletes served as a comparison group and were monitored over the same 15-week period. The amenorrheic athlete experienced a transition from negative to positive energy balance, increased body fat from 8.2 to 14.4%, increased fasting luteinizing hormone (LH) from 3.9 to 7.3 mIU/ml, and decreased fasting cortisol from 41.2 to 33.2 µg/dl. The eumenorrheic subjects showed a 0.4% reduction in body fat, a decrease in follicular phase levels of LH from 7.9 to 6.5 mIU/ml, and no change in cortisol. These results suggest that nonpharmacological treatment can contribute to reestablishing normal hormonal profiles and menstrual cyclicity in amenorrheic athletes.