Fahey T, Pearl MS. **The hormonal and perceptive effects of phosphatidylserine administration during two weeks of resistive exercise-induced overtraining**. Biology of Sport 15(3):135-144·January 1998.

Abstract
A balanced order, double-blind, cross-over design study, measured the effects of 800 mg soybean-derived phosphatidylserine (PS) or placebo (C), administered daily during 2-week intense weight training, on cortisol (CT), ACTH, testosterone (TS), luteinising hormone (LH), creatine kinase (CK) activity, subjective well-being (WB) and muscle soreness (MS) in 11 trained males. Subjects did 5 sets of 10 repetitions for 13 exercises, 4 times a week, for two 2-week periods separated by a 3-week recovery. Resting morning venous blood was sampled 6 times during each 2-week period (T1-T6) and 15 min following the 8th training sessions (T7). WB and MS were estimated using 10-point scales. CT was similar between treatments in T1-T6. CT decreased between T6 and the post-exercise T7 in PS (15.6±1.7 to 10.0±0.9 µg/dl, $P<0.05$) but not in C. ACTH did not change in PS in T1-T7 but increased in C between T4 (40.6±5.1 pg/ml) and T5 (62.2±10.5 pg/ml), T6 (59.2±7.7 pg/ml), and T7 (63.7+6.1 pg/ml). TS increased in PS between T1 (3.3±0.3 ng/ml) and T3 (4.4±0.5 ng/ml) and fell in both treatments between T3 and T7 (3.3±0.3 ng/ml, PS; 3.3±0.4, C). LH increased significantly between T1 (1.5±0.1 mIU/ml) and T6 (2.2±0.3 mIU/ml) in PS but did not change in C. WB was greater in P than C in T2-T6. In C, WB at T3 was markedly depressed (4.9±0.8). MS increased in both treatments and was greater in C than PS at T2 (2.9±0.4, PS; 4.7±0.7 C) and T5 (2.0±0.5, PS; 3.6±0.9 C). Cortisol decreased in PS after exercise, possibly by depressing ACTH and might have attenuated the negative effects of intense weight training on perception of well-being and muscle soreness.