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STEROIDS— FEW SIDE-EFFECTS IN BODYBUILDERS

FISH NOT GOOD FOR BUILDING MUSCLE

By Steve Blechman and Thomas Fahey, EdD

GPLC Increases Nitric Oxide in Bodybuilders

Nitric oxide (NO) is a chemical released by the cells lining the blood vessels that helps control blood flow in muscles and other tissues (i.e., the penis). Increasing NO might boost muscle blood flow in bodybuilders during weight training. Some athletes take NO-boosting supplements containing L-arginine, but these products have no proven benefits. A study from the University of Memphis, led by Richard Bloomer, found that glycine propionyl-L-carnitine (GPLC) supplements (GlycoCarn; 3 grams per day combined with 1,044 milligrams of glycine for four weeks) increased NO production in weight-trained men. They restricted blood flow to the arm with a blood pressure cuff for 6 minutes and then released cuff constriction. This caused a reflex increase in arm muscle blood flow that's caused partly by NO secretion by the blood vessels. Blood samples taken after releasing the cuff showed that NO levels (measured by an indirect marker, nitrate/nitrite) were greatest when they were taking GPLC. We don't know if increases in NO promote muscle growth in bodybuilders. You can get additional information about GPLC at healthscienceusa.com on the Internet. (*Journal International Society Sports Nutrition*, 4: 22, 2007; published online)

By Douglas S. Kalman, PhD, RD, FACN

GlycoCarn, NO?

Have you ever heard of glycine propionyl-L-carnitine hydrochloride? I am sure if you answered no that you are not alone. Thankfully, the pharmaceutical giant Sigma-Tau has renamed this biochemistry nomenclature to a more United States-friendly name of GlycoCarn. This is a name you should be looking for— especially if you are into taking products that are promoted to increase or enhance your circulating nitric oxide levels (NO₂). These "NO" products are typically comprised of arginine or some version of arginine (usually a salt form). If you ask (or do a Medline review) for support to the claims of these products, the return is not as robust as one would have hoped for. But now there is a definitive supplement (ingredient) that has been demonstrated under "real world" and critical research conditions and doses to actually increase the levels by a solid 15 percent to 17 percent while also enhancing intramuscular carnitine levels, reducing oxidative stress (free radical damage) and enhancing exercise endurance (anaerobic threshold) by ~10 percent. Not too shabby, right? The doses used in the studies aforementioned (mostly conducted by Richard Bloomer, PhD at the University of Memphis) were a realistic range of 1 to 3 grams per day for a minimum of 28 days. There are about four papers in press right now from various university clinical trials on GlycoCarn, all with support for the aforementioned. This is certainly an ingredient to look and watch for.