

## SCI/MED BOARD ARTICLES



**Carl Keen, Ph.D.** is a professor and Chair, Department of Nutrition, University of California at Davis; former National Institute of Dental Research postdoctoral fellow, Proctor and Gamble postdoctoral fellow; member, California's Scientific Advisory Board for the Office of Environmental Health Hazard Assessment; reviewer, USDA Human Nutrient Requirements Study Section; member, EPA Environmental Health Grant Review Panels; member, numerous NIH panels; past president, California Nutrition Council.

### Exceptional Nutrition for Expecting Moms

Nutrition can have a huge impact on the growth and development of children. Great nutrition for children starts in the womb. Nutrients must travel from the mother to the developing baby, and the supply (or lack) of nutrients can have a life-long impact on the health and well-being of children.

For the past 25 years, my colleagues and I at the University of California, Davis have studied the relationship between nutrition and development. Exciting new discoveries linking good nutrition to improved fetal growth and development helps result in better pregnancies and may boost child health and potentially even their intelligence.

A recent study compared the mental processing of four-year-olds whose mothers had taken either a corn oil (placebo) supplement or a mixed omega-3 fatty acid supplement (about 2,000 mg/day of a mixture of DHA and EPA) during the second half of pregnancy and the first three months of breast-feeding. Children of mothers who took the omega-3 supplement scored significantly higher on the intelligence test than those who took the corn oil (*Pediatrics* 111:e39-44, 2001). These exciting results must be repeated in order to better verify the findings, but the message is clear – good nutrition during pregnancy and breastfeeding can make a huge difference on the health and functioning of children.

Of course, nothing replaces a well-balanced diet rich in whole grains, fruits, vegetables, lean protein and plenty of fluid. But let's face it – most of us don't eat that well, so high quality, scientifically based dietary supplements may help "fill in the gaps."

In our laboratory, we study the role of zinc, an essential trace element, and its role in normal and abnormal embryo and fetal development. Research has shown that low dietary zinc intake (a "gap" in the diet) can cause serious birth defects, which can be prevented with dietary zinc supplementation (*Journal of Nutrition* 133:1597-1605, 2003). But it's not just zinc that you need. A full complement of nutrients, including zinc, iron, B-vitamins and antioxidants are essential during pregnancy. Well-balanced nutrition supplements designed from the latest research are an important part of a comprehensive and healthy lifestyle during pregnancy.



According to Dr. Sid Stohs, Senior Vice President for Research & Development, **ADVOCARE's OmegaPlex®** is a truly outstanding source of the omega-3 fatty acids, DHA and EPA which are essential for brain development as well as development of our immune and cardiovascular systems. OmegaPlex meets the highest standards for safety, purity, potency and freshness. Flaxseed oil is a good source of  $\alpha$ -linoleic acid (ALA), another omega-3 fatty acid. However, in order for the body to utilize ALA, it must first be converted to EPA and DHA, the forms present in OmegaPlex. The body only converts 10 percent ALA into EPA and DHA, and therefore, 10 times more ALA must be consumed than the omega-3 fatty acids present in OmegaPlex. OmegaPlex contains the right omega-3 fatty acids in the right proportions.