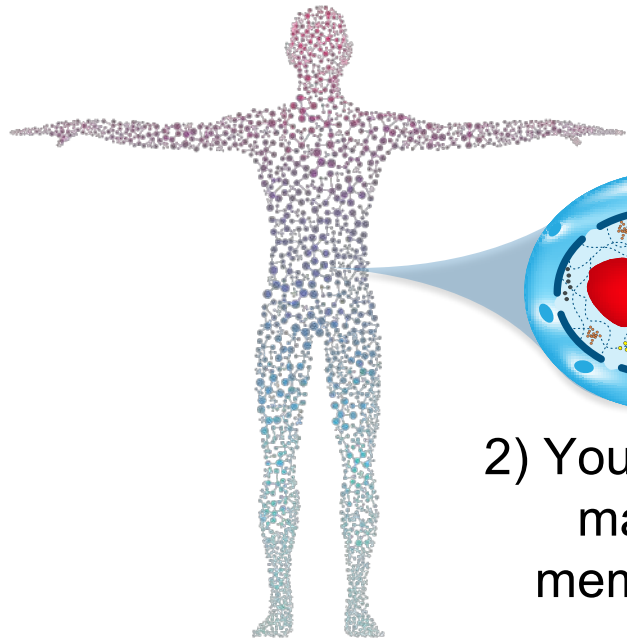


**BRAINSPAN**<sup>TM</sup>

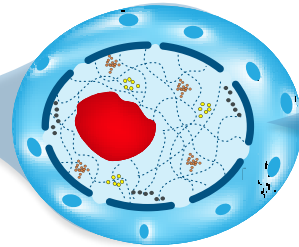
LABORATORIES

**Patient Presentation**

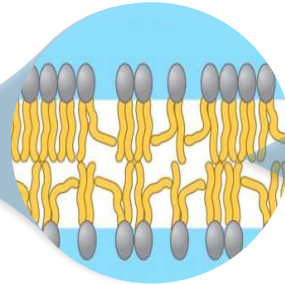
1) Your body is made up of billions of cells



2) Your cells are made of membranes



3) Your membranes are made of fatty acids

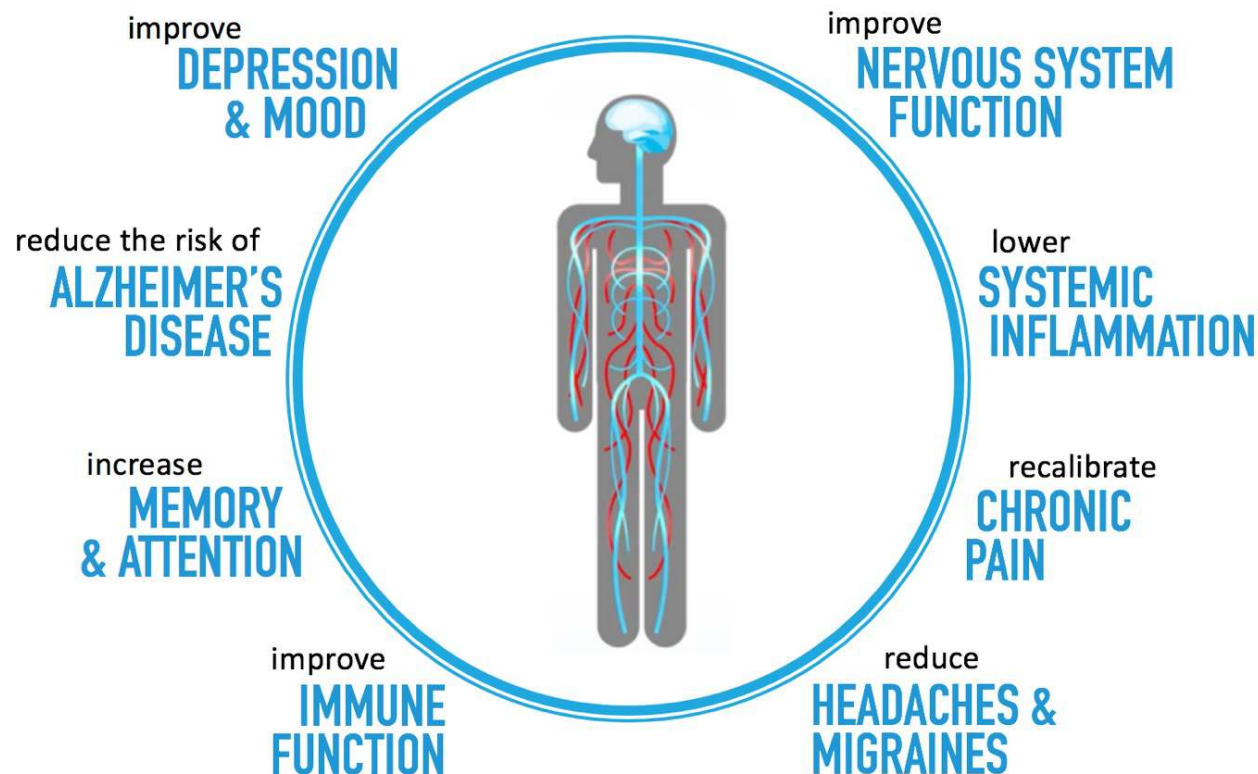


4) This assessment measures the health of your fatty acids

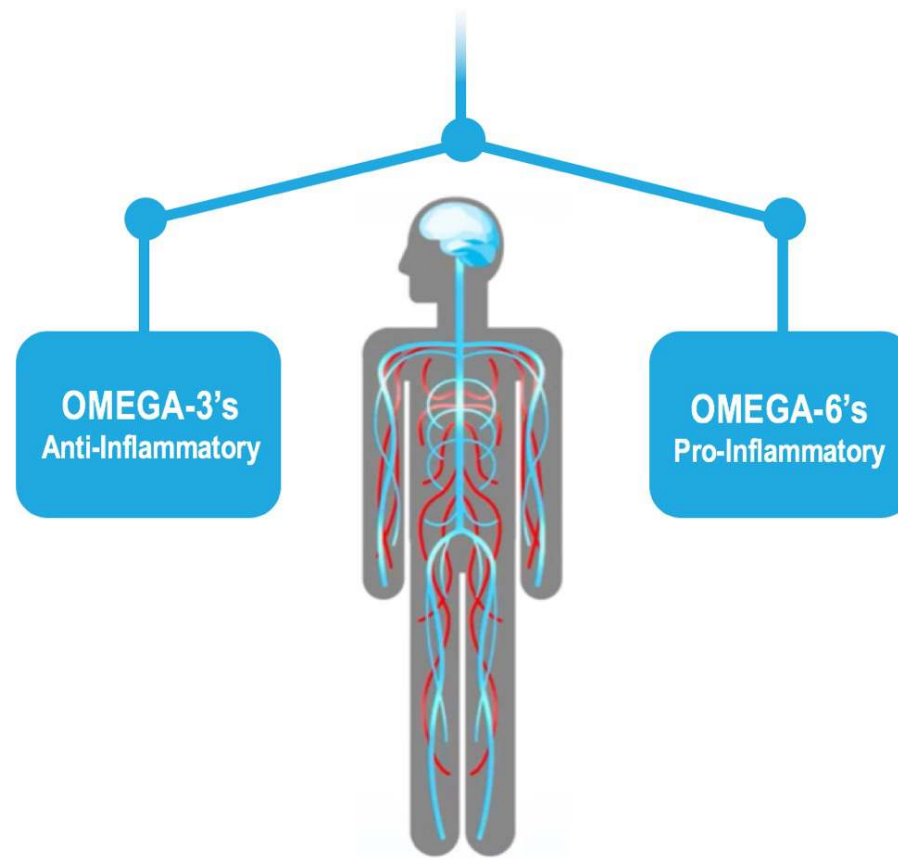


The health of your brain & body is determined by the health of your essential fatty acids

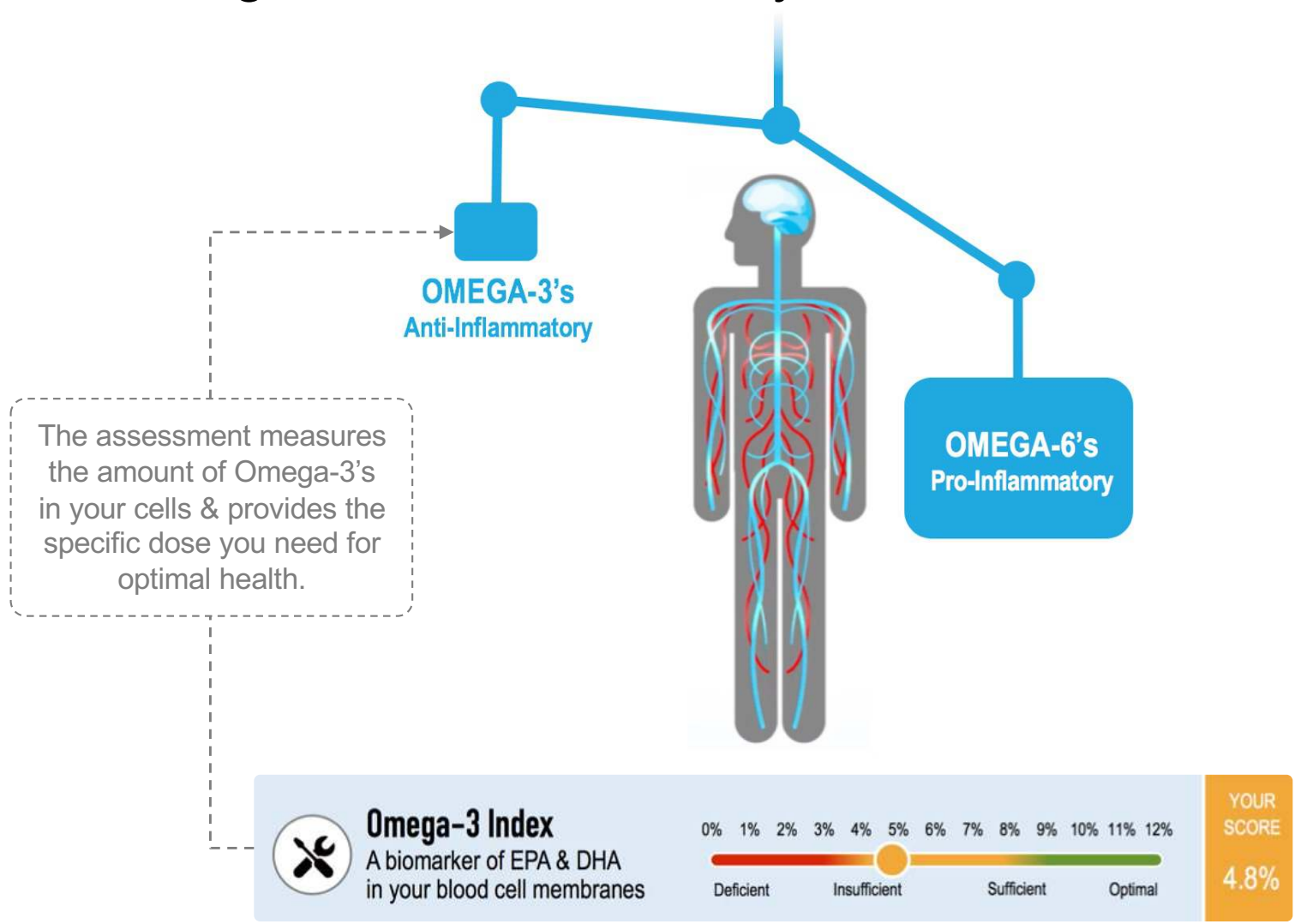
The NeuroHealth Assessment addresses the nutritional health underpinning many clinical conditions



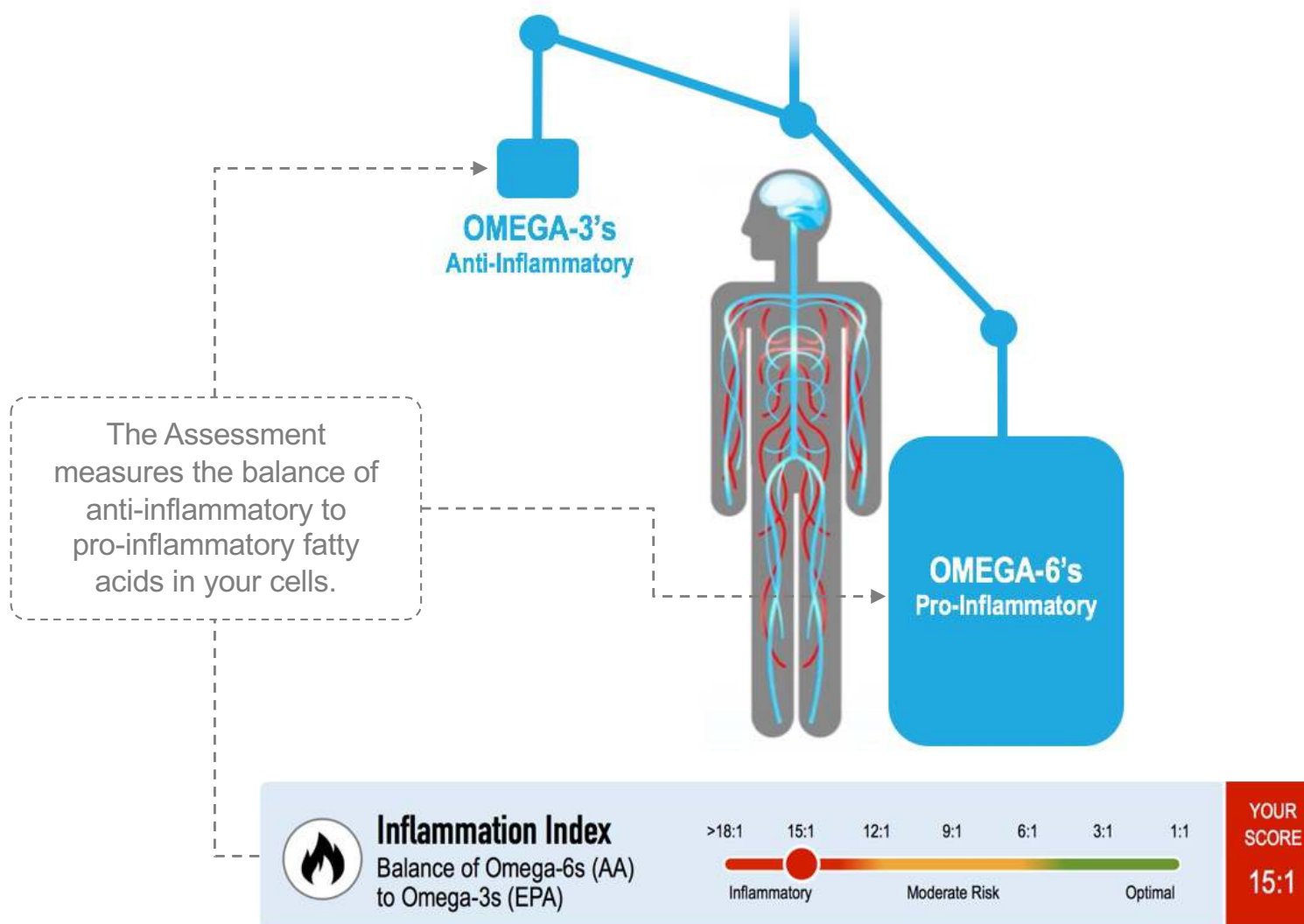
A cell's function is dependent on a balance of anti-inflammatory Omega-3s & pro-inflammatory Omega-6s



A deficiency of Omega-3s in our diet (fish) has caused a significant inflammatory imbalance in our cells

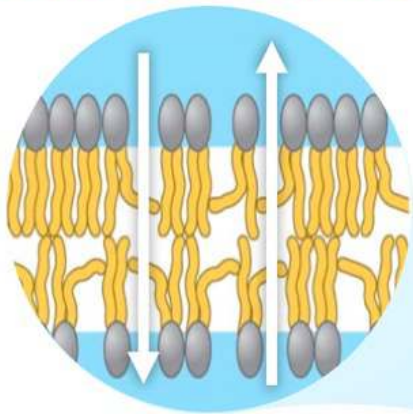


Excess Omega-6s in our western diet (corn, soy, vegetable oils) has increased our cell inflammatory response



The assessment measures your trans fat & palmitic acid levels. These toxins can displace Omega-3s in your cells and decrease cell membrane fluidity, which disrupts cell function.

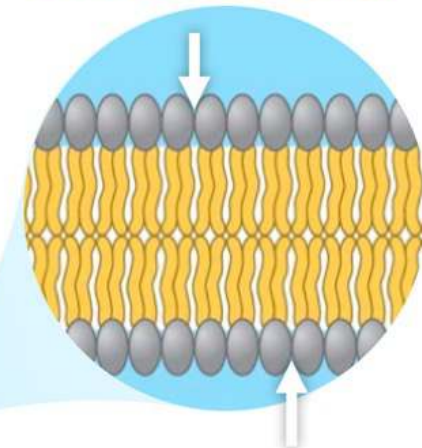
**OPTIMAL CELL MEMBRANE  
FLUIDITY DUE TO OMEGA-3s**



Neurotransmitters & hormones  
can pass efficiently through  
the cell membrane.

*Optimal Function  
Requires Cell  
Membrane Fluidity*

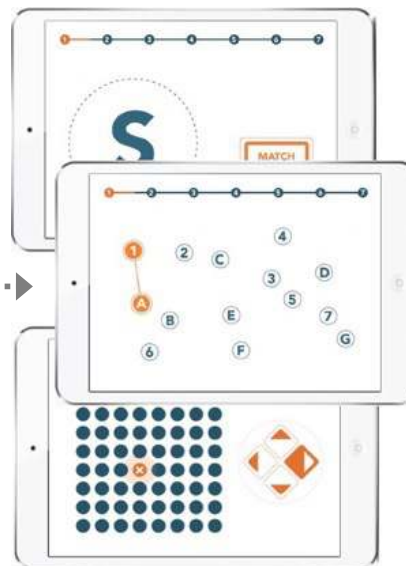
**RIGID CELL MEMBRANE  
DUE TO TRANS FAT**



Rigid cell membranes block  
the proper transmission of  
neurotransmitters & hormones.

The assessment also measures functional aspects of your central nervous system. It compares you to others your same age from the world's largest, standardized, international brain database

15-minute online cognitive assessment measures the functional performance of the central nervous system



- ✓ Processing Speed
- ✓ Sustained Attention
- ✓ Memory Recall
- ✓ Cognitive Switching



Below is a partial list of peer-reviewed journals and academic organizations that have published studies utilizing BrainSpan's blood cell methodology

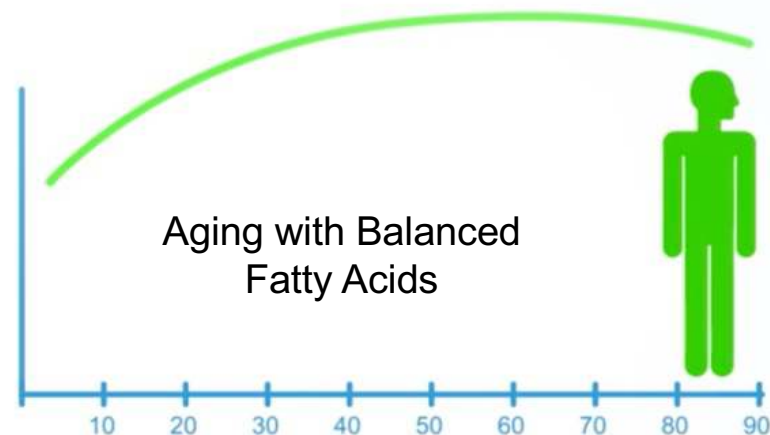
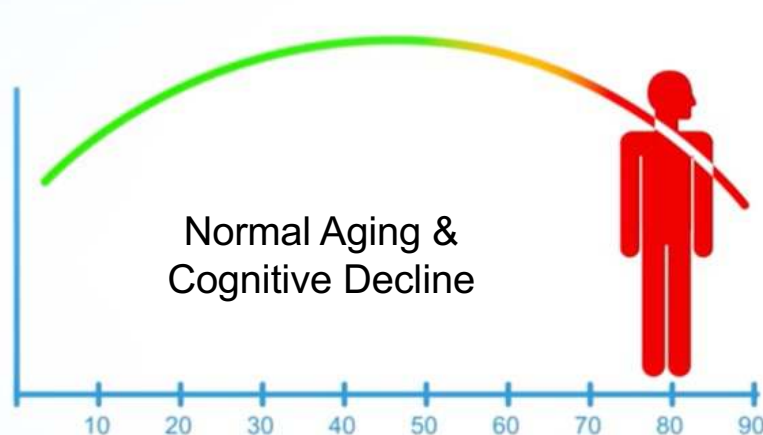


The NeuroHealth Assessment combined with chiropractic adjustments can improve brain function by addressing the structural and nutritional components of the nervous system.



A study conducted over a three year period with approximately 100 volunteers revealed improvement in all areas of brain function (using EEG imaging) after receiving adjustments.

Every person in every stage of life needs this assessment  
(and also their spouse, kids, and aging parents)





### **Individuals with high blood cell DHA had a 47% lower risk of developing dementia than those with low DHA**

Tufts University researchers studied the relationship between blood DHA levels and the development of dementia and/or Alzheimer's disease in about 900 healthy men and women from the Framingham Heart study. The group averaged 76 years of age at the beginning. Those people who had the highest DHA levels had a 47% lower risk of developing dementia than those with lower levels.

*Schaefer et al. JAMA Neurology, 2006;63:1527-1528*



### **Children's level of DHA in their blood cells significantly predicts their ability to concentrate & learn at school**

An Oxford University study involving nearly 500 school-children found that blood levels of Omega-3 fatty acids significantly predicted a child's behavior and ability to learn. Higher levels of Omega-3, DHA in particular, were associated with better reading and memory, as well as with fewer behavior problems as rated by parents and teachers.

*Montgomery et al. PLoS ONE, 2013; 8:e66697*



### **Increased DHA levels inhibit neuronal cell death and is an important neuro-protective agent**

DHA is incorporated into the phospholipids in neuronal membranes, which in turn can influence not only the membrane chemical and physical properties but also the cell signaling involved in neuronal survival. Our studies have indicated that DHA supplementation inhibits neuronal cell death under challenged conditions, supporting a notion that DHA is an important neuroprotective agent.

*Prostaglandins Leukot Ess FA. 2010 Apr-Jun; 82(4-6)*



### **Maternal dietary consumption of Omega-3 fatty acids during pregnancy improved children's IQ**

In a randomized and double-blinded study from the University of Oslo, children's mental processing scores at 4 years of age correlated significantly with maternal intake of Omega-3 EPA and DHA during pregnancy. In a multiple regression model, maternal intake of EPA/DHA during pregnancy was the only variable of statistical significance for the children's improved mental processing scores.

*Helland et al. Pediatrics, 2003; 111:e39-44*



### **Six weeks of increased EPA & DHA significantly improved lean mass & decreased fat mass in healthy adults**

A study published in the Journal of the International Society of Sports Medicine concluded that 6 weeks of supplemental fish oil significantly increased lean mass, and significantly reduced fat mass in healthy adults. Additionally, a reduction in salivary cortisol following fish oil treatment was significantly correlated. Since higher salivary cortisol levels are associated with higher mortality rates, Omega-3 supplementation likely has positive implications beyond improved body composition.

*Noreen et al. J. Int. Soc. of Sports Nutrition, 2010; 7:31*



### **JAMA study suggests individuals with a higher Omega-3 Index have a 65% slower cellular aging process**

The study compared the omega-3 Index scores of the participants with how fast their cells aged over five years as measured by telomere attrition. Researchers discovered that those individuals who had the lowest omega-3 index scores age 65% faster than those with the highest Omega-3 Index scores. Therefore, the omega-3 index score may be an effective marker of your rate of cellular aging.

*Farzaneh-Far et al. JAMA. 2010;303(3):250-257*

Omega-3 fatty acids are to brain health...  
what calcium is to bone health.

