

Speak



in

Verbal Apraxia

Verbal apraxia is a neurologically based motor planning speech disorder of unknown etiology that prevents normal speech development

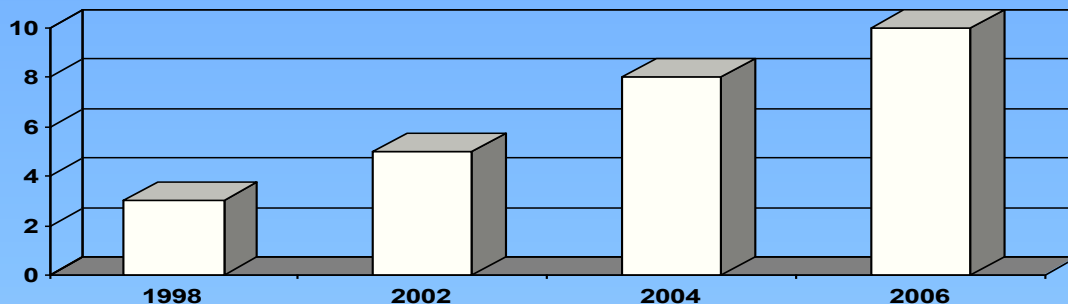
SpeechNutrients™
Pediatrician
formulated



Speak

Autism Spectrum Disorder is on the rise at an alarming rate

Cases per 1,000 children



	1998	2002	2006	2012(P)
Patient Numbers (under age 20)	400,000	530,000	640,000	830,000

An estimated 50% of children with autism have *apraxia*.
In addition, there are 20,000 to 50,000 children in the US who
have *apraxia*, but are not ASD.

References

- (1) Poster presented at American Speech Language Hearing Association Annual Convention: November 18, 2004:Pittsburg, PA.
- (2) Agin MC, Geng LF, Nicholl MJ, *The Late Talker; What to Do If Your Child Isn't Talking Yet*, New York, NY:St. Martin's Press; 2004.
- (3) Kent RD, Research on speech motor control and its disorders: a review and prospective. *J. Commun Disord*, 2000;33(5):391-427;quiz 428.4) Nijland L, Maassen B, van der Meulen S. Evidence of motor programming deficits in children diagnosed with ASD. *J Speech Lang Hear Res* . 2003; 46(2):437-450.(5) Sokol RJ, Vitamin E and neurologic deficits. *Adv Pediatr*. 1990;37;119-148.(6) Sokol RJ. Vitamin E and neurologic function in man, *Free Radic Biol Med* 1989; 6(2):189-207 (7) Traber MG, Packer L, Vitamin E: beyond antioxidant function. *Am J Clin Nutr*. 1995; 62(6 Suppl):1501S-1509S. (8) Traber MG. How much vitamin E? ...Just enough! *Am J Clin Nutr*. 2006;84(5):959-960.(9) Morris CR, Agin MC "Syndrome of Allergy, Apraxia and Malabsorption: Characterization of a Neurodevelopmental Phenotype that responds to Omega 3 and Vitamin E Supplementation" - *Alternative Therapies* July/Aug. 2009) Vol 15, No 4. (10) Agin M. Verbal apraxia and the role of essential fatty acids:the perspective of a developmental pediatrician. Paper presented at:Research Workshop on Fatty Acids in Neurodevelopmental Disorders (FAN 2001). September 20-22, 2001;Oxford UK.(11) Katz R, Agin M. Outcomes of essential fatty acid supplementation in verbal apraxia :an analysis of professional anecdotal reports. Paper presented at:Research Workshop on Fatty Acids in Neurodevelopmental Disorders (FAN 2001). September 20-22, 2001;Oxford UK. (12) Roth R, Agin M. Outcomes of essential fatty acid supplementation in verbal apraxia: Paper presented at:Research Workshop on Fatty Acids in Neurodevelopmental Disorders (FAN 2001). September 20-22, 2001;Oxford UK.(13) Bourre JM, Effects of nutrients (in food) on the structure and function on the nervous system: update on the requirements for brain. Part 1:micronutrients *J Nutr Health Aging* 2006;10(5):377-385.(14) Virmani A, Gaetani F, Binienda Z. Effects of metabolic modifiers such as carnitines, coenzyme Q10, and PUFAs against different forms of neurotoxic insults: metabolic inhibitors, MPTP, and methamphetamines. *Ann N Y Acad Sci* 2005 Aug;1053:183-191.(15) Nakamura MT, Cho HP, Xu J, Tang Z, Clarke SD. Metabolism and functions of highly unsaturated fatty acids: an update *Lipids*, 2001;38(9)961-954.(16) Volk EE, Hornstra G. Relationship between Vitamin E requirement and polyunsaturated fatty acid intake in man: a review *Int J Vitam Nutr Res*. 200;70(2):31-42.

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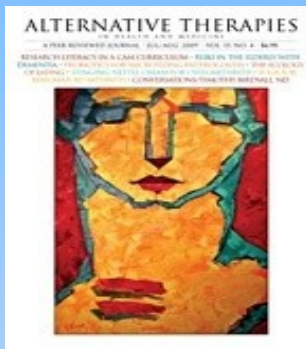
Solution

Various studies have suggested that PUFAs with eicosapentaenoic acid (EPA) and DHA provided improvements in speech production and coordination in children with verbal apraxia. (2,10,11,12).

In addition, PUFA supplementation increases utilization of vitamin E in the body (13-16). These two supplements may have a synergistic effect at higher doses.

Study: A total of 187 children with verbal apraxia received vitamin E+polyunsaturated fatty acid supplementation. Supplementation consisted of 280 mg DHA and 695 mg EPA per dose in liquid or capsule form, given with meal 1 to 3 times daily. A celiac panel, fat-soluble vitamin test and carnitine level were obtained in patients having blood analyzed (9).

The case series was published in the July/August 2009 edition of Alternative Therapies in Health and Medicine and represents the most comprehensive summary of children with apraxia to date.



According to the findings in the study,
*“Use of high-dose PUFA and vitamin E in children with a history of VA appeared to lead to rapid clinical improvement of many symptoms of this neurological condition in a large cohort.”**



Results: A common clinical phenotype of male predominance, autism, sensory issues, low muscle tone, coordination difficulties, food allergy, and GI symptoms emerged. In all 181 families (97%) reported (9):

- Improvements in number of areas including speech, imitation, coordination, eye contact, behaviour sensory issues, and development of pain sensation
- Comorbidity was 65% with ASD
- ASD symptoms are similar (hypertonia, poor imitation skill inability to integrate sensory perceptions).

Conclusion: “The authors have found a new syndrome of allergy, apraxia and malabsorption (SAAM), which is likely one class of a larger apraxia phenotype often coexists with ASD and vice versa, suggesting overlap in these conditions that requires further characterization. We also have identified a disease paradigm of neurological dysfunction emulating symptoms of low vitamin E bioavailability in VA independent of genotype that responds to a safe nutritional intervention”(9)*.

* Morris, Claudia R, and Ag Marilyn C. Syndrome of Allergy, Apraxia, and Malabsorption: Characterization of a Neurodevelopmental Phenotype that Responds to Omega 3 and Vitamin E Supplementation. *Alternative Therapies in Health and Medicine* 2009; Vol. 15, No. 4: 32-41.

Speak

Properties

Speak is a dietary supplement (1,200 mg capsule) containing Omega3 in combination with GLA and two specific types of Vitamin E e Vitamin K. Speak is a formulation from CHRCO (Children's Hospital and Research Center Oakland - USA).

Speak

Each 1200 mg capsule of Speak contains:

Nutrient	Specific Name	Per capsule
Omega-3	EPA-eicosapentaenoic acid	362,5 mg
Omega-3	DHA-docosahexaenoic acid	137,5 mg
Borage Oil	GLA-gammalinolenic acid	30 mg
Vitamin E	D-alpha tocopherol	250 IU
Vitamin E	Gamma tocopherol	100 mg
Vitamin K1	Phytonadione	1 mg
Vitamin K2	Menaquinone	150 mcg

Capsule contents: gelatine, purified water USP, glycerin USP

Dosage Recommendations

Suggested dosage plan for those not currently taking fish oil or vitamin E supplements:

SPEAK™	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number of SPEAK™ capsules	1	1	2	2	3	3	4	4	5*	5*	6*	6*

* Start with one capsule of SPEAK™ daily. After 2 weeks increase the dosage to 2 capsules daily until reaching a possible dosage of 6 capsules per day over 12 weeks

- ♦ Begin with one capsule daily (with meals)
- ♦ Children between 2 and 4 years may see benefit with 2 to 4 capsules per day
- ♦ Children at 5 years or older may see benefit with 4 to 6 capsules per day
- ♦ Consider increasing dosage until no additional benefits are noted, at that point revert back to the prior weeks dosage.
- ♦ Adult supplementation would be 2 capsules per day.
- ♦ If capsule is too large to swallow, recommended to leave capsule in glass with water for a few minutes until the capsule becomes softer and then swallow.

Possible Side Effects

Moodiness, irritability, and emotional outbursts are sometimes reported in children in the first few days / weeks of Omega 3 Supplementation. Some children may experience loose stools when they begin supplementation with oil-based capsules: this usually resolves quickly.

Presentation

Speak is presented in plastic bottles of 60 capsules x 1,200 mg

For more Information:

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