

We must think of autism, the developmental disability, as the tip of the iceberg and strive to find brain connections but also defects in other organ systems. I think of it like this: cell wall receptors may remain bound with hormone even after g-protein separates off (i.e. dead end—decreased hormone effect in cell) receptors may be replaced by only a fat oil form (called cis) of Vitamin A, found in liver, kidney, Milkfat and cod liver oil. (The cis form of Vitamin A is found in highest concentrations in cod liver oil. Don't feel overwhelmed! There really is good news for your loved one with an autistic spectrum disorder. I will explain how Vitamin A in the natural form, affects the following systems: immune, visual, gastrointestinal tract.

IMMUNE SYSTEM

Fish oil contains more than one form of Vitamin A. One form turns on T-cells which are important in immune system protection. T-cells remember exposures to foreign proteins, viruses and bacteria when the immune system is working correctly. Turned on immune cells often return to the point of initial exposure, often the gut wall, creating inflammation. Vitamin A is needed to heal mucous secreting glands that line the gastrointestinal tract and secrete IgA, the protein your body makes to fight ear, throat respiratory and gastrointestinal infections. It also helps the immune system to remember those infections so they don't keep happening.

VISUAL SYSTEM

Probably one of the most profound things I have discovered is how the children "see" their world. Once you understand it, then you begin to realize that the way the children look at you and the world around them makes perfect sense, given the way their eyes function. These children live in a "magic-eye puzzle:" you've probably seen these puzzles at the mall. You stare at a cluster of shapes and colors, and eventually an image will pop out. These children, because of the blocked pathway affecting their vision, can't see like most people do. The blocked pathway has caused the rods in their eyes to not function correctly. They must compensate for the rod dysfunction the best way they can. They "see" the world around them as though it's in a 3-D box. They have such a limited visual field that everything that doesn't fit in their box blurs and is perceived as color and shape alone. And, the most incredible thing is that they actually have to piece together each "box" that they see in order to see a complete shape. So, in order to live and perceive the world outside of their limited "box," they have to organize it according to color and shape. That's why the children "melt down" when objects are moved or when you clean up their lines or piles of toys sorted by color. They have to work so hard to perceive their world that it frightens and overwhelms them when the world as they are able to see it changes. It also explains why the children are known to organize things so carefully. It's the only way they can "see" their world. This is a visual perception problem! When you say, "look at me, look at me," they really are. But they have to look at you sideways. They are turning their eye so that the light reflected from your face lands on the edge of the fovea or the lateral retina where they have some rod function. The fovea is the area in the back of the eye where the cones are closest together. That's the only way they can "see" you. When you force their pupil to appear to focus on you, you are actually forcing them to look away from you because their "best vision" is off to one side. On the fish liver oil, their rod function improves. One of the first effects we see is the disappearance of the "sideways glance" that the children are known for. For too many years, parents have been told that there were psychological reasons for why their children wouldn't look at them. The old theory of a cold, unloving parent was probably developed due to this observation. But the truth is, the sideways glance is a biological adaptation, given how their vision pathway has been blocked. The body always tries to adapt the best way it can. So, this way of looking at things is "normal" for the child with autism. As rod function improves, they look right at you and can really see you! They move back from and become less interested in TV and videos. Until "the box" expands, the only place they always hear the right language for what they are looking at is to set "the box" (i.e. TV, video, computer, Lovas/ABA therapy program). As vision improves, their ability to see and hear the right language for what they are looking at improves. Donna Williams, an autistic adult,

describes this as “thinking in monochannel.” If what you are hearing is not related to what is clearly seen (i.e. in the box), only one input can be processed at a time. They can listen or they can look, but only one at a time. They can’t do both.

THE GASTROINTESTINAL TRACT

We have discovered that the measles virus, given at fifteen months of age, generates the body to produce proteins (antibodies) against the measles virus. The antibodies from the measles virus may be cross-reacting with the intermediate filaments. Intermediate filaments form cell connections, especially in epithelial cells. The intermediate filaments work like a “glue” to hold the epithelial cells together. The epithelial cells are found in the gut, the blood-brain barrier and in the liver surrounding the tubes (bile canniculi) that bile is secreted into and then the bile empties into the gall bladder. These intermediate filaments are important in pumping toxins out of the body. When the measles virus antibody recognizes intermediate filaments as foreign and attacks them, they are damaged or destroyed and cannot function to help the body excrete toxins. Basically, when the measles vaccine is given at 12-15 months of age, this may be creating an autoimmune disease; that is, the body is fighting itself. When these intermediate filaments are damaged or destroyed, the cells cannot hold together. This creates what is called a “leaky gut.” Leaky gut means that food is not broken down and digested properly. Large protein molecules actually leak through in their whole, unbroken-down form. Because so many children consume large amounts of wheat and dairy products, these whole proteins are often the first that the body recognizes as foreign invaders. As these large protein molecules leak into the body fluids, the body reacts by making antibodies against them. That’s why so many of the children have intolerances/allergies to wheat and dairy products, or are diagnosed with celiac disease. (The proteins in wheat and related grains such as barley or rye are called “gliadin” or “gluten;” the proteins in dairy products are called “casein.” Avoidance of these substances is important to speed up the healing process.) The Pertussis vaccine is grown on milk protein and treated with yeast. If any of these proteins are injected with Pertussis vaccine, the immune system already recognizes milk (casein) proteins as foreign and a massive autoimmune response may occur. It’s important to know that like any product, vaccines can vary from batch to batch (called lots). To sum it up, in order to heal the gut, most autistic children need to be off wheat (and related gluten containing products) and milk (and related casein containing products). If your child has used antibiotics, this may have led to problems with yeast (*Candida albicans*) overgrowth. You can help your child recolonize their gut with acidophilus or other good bacteria, such as probiotics, found at health food stores and private distributors. This will restore the gut flora, necessary for absorbing nutrients and healing the gut wall. It will also rebalance the yeast overgrowth. It’s important to avoid vitamin A found in low-fat milk products, cereals and other foods that children eat frequently (such as pop tarts), as well as many children’s vitamins. If A Palmitate leaks across the gut wall, palmitic acid could insert itself in the cell wall and hook up with the free g-protein (see Frequently Asked Questions for an explanation of this). This can block important metabolic pathways by as much as 90 percent, which means that your child cannot process vision or language. Other nutrients should be provided based on the DAN! Protocol. This protocol is an invaluable resource for both parents and professionals and I would strongly urge you to contact ARI and purchase a copy for yourself or your child’s physician. Many chemical pathways are turned on without the “off” switch in these children. This may account for hyperactive behavior and other related behavioral difficulties that the children experience. It is like an engine running in overdrive at all times, unable to shut off. These children may need high doses of specific nutrients, based on their individual biochemistry. Each person is a unique individual with varying needs for nutrients. The late Roger Williams, PhD, was among the first to outline the idea of individual biochemistry. His wonderful book is referenced below and will help you to understand this concept. There are sophisticated lab tests available that may help your doctor find the correct nutritional balance for your child. Many of these tests are outlined in the DAN! Protocol.

IMPORTANT POINTS

“First of all, do no harm.” – Hippocrates.

Please insist that your child’s physician check Vitamin A and D levels in your child before you begin using cod liver oil. Then, recheck the levels after two months. Do not exceed the normal recommended daily allowance of Vitamin A and D in cod liver oil. The US RDA is all that I am currently testing. Please note that at this time, I repeat, I do not recommend exceeding the US RDA. In some children, the vitamin A levels are very low while they are normal in others. These children need the right forms of the molecule. The molecule is shaped like the letter C and it is this shape that is needed to attach to the receptors in the brain controlling vision and language. Regardless of the child’s vitamin A level, the natural, cis form, is absolutely critical and the levels must be monitored closely. These are very complex biochemical pathways that must be explored. In addition to nutrition-based approaches, many children will need extra support from a competent speech and language pathologist. As the children begin to talk, they need to learn how to move their mouths and learn how much air to blow out as sounds are created. They really don’t know how to talk--it’s like seeing a baby learn to walk, no matter what the age. When the pathways have been shut down for any length of time, the rehabilitation involved in helping the children to learn or even relearn how to talk is critically important. One thing you can do to help your child relearn speech is something fun -- blow bubbles! The children love this (and so do most parents). This will help the children with breath control. You and your child can practice making sounds together in front of a mirror. The children need to see how to do this so that they can reconnect sound with the mouth. Think of Vitamin A in the cod liver oil, as slowly, steadily, improving the language and social disorder while simultaneously also healing the body. Omega 3 fatty acids may also be helping by increasing cell membrane fluidity.

ABOUT SECRETIN

Many parents have asked me about using Secretin. I have not chosen to use it. However, when parents came to me wanting it for their child, I began my investigation into how it worked in the body. That’s what prompted this discovery of the vitamin A and the understanding that this is a biological, perception-deficit problem. Victoria Beck’s courage and unselfishness in sharing her son’s story was the impetus for this pursuit of knowledge. I thank her for her strength and willingness to look for answers. In some children, cod liver oil alone is enough to reconnect those blocked pathways. Other children may need something more. In those cases, I have used a prescription medication that was approved for reflux in children in the 1970’s, called Bethanechol or Urecholine. This medication tends to mirror the effects of Secretin by addressing the problems in the gut. In some children, it seems to “jump start” the process, by stimulating the blocked pathway. When I do use Bethanechol, it is always after two months of cod liver oil. The receptors need the chance to heal and reconnect before we use something else. I use *very small doses*, given by mouth. Because these children have many sensitivities and allergies, I always bring them into the office and observe them for one hour after the first dose. Please note that Bethanechol does not cross the blood brain barrier. It stimulates the pathways that are blocked in the hippocampusthrough gut to brain connections. Children who are sick or have active asthma should not be treated as this medicine may increase mucous secretions in the airway. Atropine is a direct antidote to Urecholine/Bethanechol. These children are so ill we should strive to take them off as many medicines as possible, rather than adding more drugs to their systems, especially because they have such difficulty excreting toxins.

We hope this explanation has been helpful. Your patience is very much appreciated. We are learning more and more every day.

Sincerely, Mary N. Megson, M.D. FAAP