



The Benefits and Realities of Camel Milk Therapy for ASD

Christina Adams, MFA

Disclaimer

- I am a professional writer, parent and autism advocate
- I don't have all the answers (nor does anyone)
- I am presenting my opinions based on:
 - 7 years learning about camel milk
 - Multiple ongoing interviews with international camel and disease experts
 - Scientific literature and anecdotal reports
 - Interviews with federal and state regulators

My personal story

- Early 2005: Met Gil Riegler briefly and got a hunch: began research
- Early 2006: found R. Yagil's autism article
- Late 2006: imported Israeli milk (dumped at JFK); made connections with Israeli camel experts
- Early 2007: imported raw frozen Israeli milk with USDA LAX customs permission; reconnected with Gil Riegler (OASIS Camel Dairy)
- Mid-2007: tried half-cup on son and saw overnight improvements
- Late 2007-early 2008: imported two suitcases with USDA permission
- Continued camel milk use and research
- March 2012: Published "Got Camel Milk? In Autism File Magazine
- March 2012: asked to author medical journal article on camel milk
- May 2012: Presented on camel milk at OASIS Camel Clinic, Ramona, CA

Camels 101

- Diverged from ruminants 50 million years ago: special features, highly adaptable
- 14 million camels (Africa, ME, S. Asia, Aus.)
- Unique among mammals:
 - Only mammal with oval blood cells
 - Unique immune system (heavy chain antibodies)
- Camels are distinct from cows, goats and sheep
- Camel milk declared a UN "super food," but hard to transport from nomads

Camel milk: How might it work?

- Mechanism of action is not understood
- Heavy chain antibodies?
- Proteins?
- Enzymes?
- Insulin?
- Feed-"magic herbs?"
- Thought to be inflammation calmer

Camelid science

- Areas of scientific research
 - Blood, Antibodies, Proteins, Milk special factors
 - Autism
 - Diabetes
 - GI symptoms/lactose intolerance
- Anecdotal evidence/case reports increasing
- Consider Aspirin and Lithium...

Reports, Case studies and clinical Trials

- Difference between levels of evidence
- Autism
- Diabetes
- GI symptoms/lactose intolerance
- TB, hepatitis

Anecdotal results

- “Playing Chess with God:” what can camel milk do for sick people?
- Video
- Story of MJD families

The autism connection

- Active inflammatory component is associated with allergic symptoms
- Immune dysfunction-ASD connection being further established
- Interventions which improve immune system reported effective in autism (SBO? Anti-virals, diets, IVIG, Minocyclin, etc)
- Immune-related brain repair lessened symptoms of Rhett’s Syndrome in mice
- Camel milk seems to help symptoms in many inflammatory diseases
 - Motor skills improvement in Machado-Joseph
- Lactose/GI symptoms associated with bovine dairy but not camel milk

AnecDOTAL Reports: Positive

- Many areas of functioning improve
- List: To Come
- Are these permanent?

Anecdotal reports: negative

- Several areas affected negatively
- List: To come
- Are these reversible?

Other Diseases

- Machado-Joseph
- Diabetes
- Crohn’s
- Tuberculosis
- Lactose intolerance
- Food allergies
- Schizophrenia
- Chemotherapy support
- Male sexual function support

Personalized medicine

- Milk is a food not a medicine but...
 - Raw milk does have risks
- Careful trial and error
 - Autism is not well understood
 - Each person is different
 - Change one thing at a time and observe

Likely Responders/Non-Responders

- Likely Responders
- Likely Non-Responders

Practical Considerations

- Raw vs. pasteurized: change in milk composition and efficacy
- Fresh vs. frozen: is there a difference?
- Transition period from other milks to camel milk
- Addressing resistance to foods including camel milk

Serving information

- It's a food product
- There's no "dosing" data
- Minimal effective serving in adults and children
- Upper limit of consumption?
- ✖ Can be side effects of "overconsumption"
- ✖ Highly personalized---stability reachable?
- ✖ Amounts differ per disease area



FRA – Quadros' Study

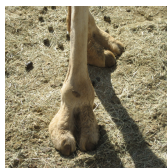
- Is Dr. Quadros' conclusion warranted or misinterpreted?
- I present a top scientist's "Summary Analysis" and response to Dr. Quadros' data

Other recent Developments

- Coming

Legal issues

- The law sees camels as “hooved mammals”
- Importation tricky and many barriers exist
- Are we criminals?
- ✕ FDA position on camel milk sale and transport
- ✕ California law outlined
- ✕ State laws vary on producing, transporting and selling raw milk (website available)



Where and how to get it

- Foreign Sources
 - Israel, UAE, Dubai, Mauritania, Kenya, Brazil, Somalia, Netherlands
 - Need doctor letter—what should it say, and why?
- Domestic Sources
 - Small herds scattered through US
 - Contact me: cadams@xiqlc.com
 - Get invitation to “Healing With Camel Milk” on Facebook
 - www.camelmilkassociation.org

Transporting the MILK

- Foreign Sources and tips
- Domestic Sources and tips



Using the Milk

- Freezing, thawing, using
- Fresh—how long?
- Odor—what does it mean?
- How long does it last in freezer?
- Texture and particles
- Milk taste and consistency differs from each producer
- Milk taste dependent on different feed

Using the milk

- Should you heat or re-freeze milk if you wish to preserve suspected highest efficacy?
- Can you make refrigerated products from it—pudding, smoothies, shakes? Can re-freezing (ice cream, popsicles) further damage properties?
- Can add flavored syrups to it
- Can eat with cereal, drink cold, pour over dairy-free ice cream, etc
- Can use syringe “shots” in small but continuous amounts, or hide in sippy cup, then use behavioral techniques for acceptance if it works

Milk Effects

- Milk—does it work even though from different herds?
- Is milk’s efficacy dependant on local feed—is there a camel-based factor, or “magic herbs” in feed?
- Milk has insulin and vitamins—is effect attributable only to increased nutrition?
- Milk therapy is highly individualized
- Varying amounts is how to determine what works or doesn’t – “transdermal machine?”

Knowledge Gaps

- Mechanism of action
- Identify potential disease areas
- Efficacy of milk state (raw, fresh, frozen, powdered, concentrated, pharmaceutical)
- Efficacy of each form in identified disease area
- Beneficial serving amounts (dose-response) per individual in each disease area
- Reaction and side effects in users/disease area
- Case studies and clinical trials needed
- Increased knowledge and verification of resistance to FMD in dromedaries (new strains included) to foster safe importation

KNOWLEDGE GAPS cont.

- Camel management: develop camel knowledge base in Western countries.
- Identify new or correct drugs for US and Western countries
- Milk production: examine importance of human bonding, routine and surroundings in milk production
- How to incorporate baby camel in feeding versus Oxytocin or other large-dairy techniques
- Techniques for milk capture: challenges include ninety-second pour, reabsorption into udders
- Proper feed and supplements for increased milk production
- Infertility in camels: develop US artificial insemination skills
- Mastitis: psychological or biological?

Goals

- Inform and educate govt regulators that *camels are not cows—camels are cleaner and safer to milk*
- Add to and replicate camel milk medical literature and investigations
- Ask USDA to allow “compassionate use” from approved dairies
- Set up breeding and camel/milk transport programs in all states/countries

Issues and CHALLENGES

- Triage coming?
- Market scarcity?
- Multiple milk problems which may arise: list
- Regulatory response risk



How to Help

- Write your experience down: inform your doctor(s)
- Send me your data: notes, records or reports for my **upcoming medical journal article** (anonymity can apply)
- Ask your doctor to submit your child's case report for my journal article—they get credit!
- Go to Autism 360 website: enter your child's data and camel milk use---and find treatments and outcomes in similar patients for all ASD symptoms!

Questions or suggestions?

- [Write me: cadams@xigllc.com](mailto:cadams@xigllc.com)
- Find me on Facebook: ChristinaAdamsAutism AuthorAdvocate or Christina Adams
- Follow me on Twitter @camelmilkinfo
- Website: www.christinaadamswriter.com
- Ask me all your camel milk questions, and I'll keep you updated on camel milk and the future of the industry

Special Thanks to:

- Dr. Amnon Gonenne
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- ✧ My own "Real Boy" and my supportive husband



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Deirdre Imus photo courtesy of FrankVeronsky.com

GOT [CAMEL] MILK?

Anecdotal evidence suggests it may improve autism symptoms, but getting it from the desert to your door isn't easy.

BY CHRISTINA ADAMS, MFA



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Nomads in Algeria have long said, “Water is the soul, milk is the life.” They may be proved right by emerging reports that camel milk, the drink of nomadic peoples from Mongolia to India, may have a healing effect on various diseases.

Now parents from around the world, as I did in 2007, are also reporting reduced autism symptoms and increased skills in their ASD children. Better sleep, increased motor planning abilities and spatial awareness, more eye contact, better language and lessened gastrointestinal problems are now celebrated in global internet posts.

Does the milk, lovingly called “absolutely exquisite... quite weird stuff” by longtime West African camel dairy owner Nancy Abeiderrahmane, deserve the praise bubbling from a global bucket of researchers and consumers? And is there an autism connection? I’ve researched the milk since summer 2005... here’s the story.



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INFLAMMATION CALMER

While autism is still defined as a developmental disorder in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), studies have shown that immune system responses may be present. Inflammation is one of those responses, and is common to many human diseases.

Dr. Reuven Yagil, a veteran Israeli camel expert who first described the use of camel milk to treat autism, says, “Autism is not a brain affliction but an autoimmune disease afflicting primarily the intestines.” American-Israeli scientist Dr. Amnon Gonenne agrees that while autism is not defined as an inflammatory disease, it appears that in some cases of autism that exhibit allergic symptoms, there is an active inflammatory component.

Dr. Gonenne believes that one of camel milk’s beneficial effects is the calming of inflammation, and this view is shared by Israeli Eyal Lifshitz, manager of a camel milk research center and owner of Milk From Eden camel farm. Lifshitz points to the small intestine, saying, “When you treat inflammation, you can see immediate progress.” He sees more marked results in children with milder diagnoses, such as ADHD and Asperger’s Syndrome, and less effect on severe autism because, he says, “the defect is more stable and takes more effort to change.” However, some parents report better overall habits even in more severely affected children.

So with such potentially extraordinary benefits, why can’t we just buy camel milk at the store? It’s a twisted

journey where one problem leads to another.

GETTING FROM A TO B

Practicalities are a big issue. Simply put, it's hard to get camel milk from pasture to people. Problems in camel-rich countries might range from scarce water, no electricity and convincing nomads to comply with modern milking standards, before somehow transporting perishable milk through arid deserts and craggy mountains.

Transporting milk internationally is equally difficult. Due to potential disease transmission, the U.S. won't allow importation of raw milk except for individuals bringing in limited quantities for a specific child (in these cases, get a doctor's letter to avoid destruction of the shipment by customs inspectors). But camels rarely get tuberculosis (TB) or E coli, according to Dr. Yagil, and pasteurization (see p50) of camel milk is uncommon and not always easy, states Dr. Gonenne. Both Yagil and Gonenne agree that raw camel milk, hygienically handled and tested, should be safe.

Nancy Abeiderrahmane, who uses pasteurization at her West African camel dairy, Tiviski, says camels are clean and seldom sick, but European



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CAMEL MILK CURE-ALL?

For centuries, raw camel milk has served as a traditional curative among nomads, including Bedouins, and even the United Nations recognizes its exceptional nutritional value and supports increased production.

The milk, sweet and light when drunk straight from the camel, but thicker with clinging particles like buttermilk when frozen and thawed, is said to be similar in composition to human breast milk. Not only laden with vitamin C, zinc and insulin, it is suspected to contain proteins or other substances that may help with various diseases.

Eyal Lifshitz, manager of a camel milk research center and owner of Milk From Eden camel farm, believes there are apparent positive responses in patients with inflammatory diseases such as arthritis, multiple sclerosis, Crohn's disease and colitis. Other research suggests that patients undergoing chemotherapy and those suffering from viral infections such as hepatitis may also benefit from camel milk. Even the rare and fatal familial genetic disorder Machado-Joseph is reportedly being treated with camel milk, getting patients "from wheelchair to stick to walking freely" in just months, Lifshitz states.



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It's hard to get camel milk from pasture to people—the obstacles include convincing nomads to comply with modern milking standards, before somehow transporting perishable milk through arid deserts and craggy mountains. International transportation also is difficult.

Union regulations still block her products. That contrasts with India, where Harshita Mahajan found a camel herder and is now organizing her own New Delhi-area dairy cooperative after her son with autism showed "amazing benefits" from drinking the milk. And though South Africa is now allowing the importation of Kenya's pasteurized Vital Camel Milk, the U.S. FDA declined to follow its lead. The company's CEO, Holger Marbach, states, "New regulations demand site visits by FDA inspectors paid by the applicant, and sophisticated equipment similar to U.S. standards. Both, we cannot afford. There is no electricity and no milking

machines in the 'bush'." Against this contentious backdrop, camel milk progress could be push and shove.

THE CAMEL QUANDARY

Camel importation could be one solution but it too is hampered by geographic realities. First, there's the unlikely but fear-invoking official barrier of foot and mouth disease (FMD). It's a herd-killing disease camels aren't typically known to have and may be resistant to developing—something Dubai camel scientists at the Central Veterinary Research Lab (CVRL) demonstrated by repeatedly injecting one-humped dromedary camels with FMD which then failed to develop the disease (although the two-humped Bactrian camels did, they are not the primary focus for dairy use).

The U.S. Department of Agriculture's Dr. James Simms says, "Although camels don't have the disease, U.S. scientists just assume a remote chance it could develop in them, so they have a zero-tolerance policy on letting it in." The World Organization for Animal Health recently removed camels from its list of animals that could develop FMD according to Dr. Yagil, a decision that may jostle the U.S. camel milk barrier.

FMD-free Australia is another good example of the camel

MY CAMEL MILK SUCCESS STORY

After an intensive four-year therapy program (the subject of my book *A Real Boy*), my son “Jonah” was doing exceptionally well, although he still had deficits. But when the book’s publication was followed by marital separation, things took a turn for the worse in our day-to-day lives and in the course of my son’s progress.

During this dark time, I met camel owner Gil Riegler at a children’s fair. When he said camel’s milk was non-allergenic and used for premature babies in Middle Eastern hospitals, my instinct told me it might be a great dairy product for kids with allergies or autism. When I researched its high vitamin, calcium and insulin content, I had a feeling it could help my son in a way I did not yet know. Later, I found Israeli veterinarian and camel expert Dr. Reuven Yagil’s fascinating journal article about camel milk helping a boy with autism improve. A Pakistani friend brought me some milk from Israel, but U.S. Customs dumped it on the JFK airport docks. I then contacted Dr. Yagil in Israel, by phone and too late at night, but he kindly led me to Dr. Amnon Gonenne, the CEO of MabCure Inc. (U.S.) who acts as consultant to his nephew, Eyal Lifshitz, a camel milk entrepreneur and owner of Milk of Eden. Eyal collects, tests, and sells camel milk from Bedouins in Israel.

Dr. Gonenne was a brilliant and gracious mentor. We spoke via Skype for months at early and late hours. He imparted his knowledge of camel milk, from the scientific to the political (it can be declared kosher by a rabbi if used for medicinal purposes, although it’s best if the patient does not enjoy the taste of the milk), while I shared my experiences with autism. His insights and background in clinical research reinforced my instinct that camel milk could help many people. So I wrote a camel milk business plan and lectured about it at a university. Eventually, I obtained a doctor’s letter authorizing the milk for my son. I finally received some raw frozen milk from Eyal via a passenger flight at LAX. It came in plastic liter milk bottles, just like those from a regular store but with a faint yellowish tinge. Holding the bottle in my hand was proof the risky journey from Bedouin herders to my boxy beige condo was really possible.

I then imported a large suitcase of milk, and stockpiled it in freezers at two locations, in case one freezer failed. The LAX airport doctor who’d granted me permission for entry suggested I get higher-up official permission, and put me in touch with the USDA in Washington. At first, they only authorized 12 bottles (half a suitcase) but as the airfare was \$1,400 dollars regardless of milk amounts, I asked them to reconsider. The serious but kind woman official authorized a full suitcase. That’s how I became, to my knowledge, the first U.S. person to gain official federal permission to import camel milk to help in treating the symptoms of autism.

There’s a virtually unreadable permit process for commercially importing milk, and I had no money to hire a professional importer, atop the \$400 for the doctor’s letter and \$700 for milk, plus airfare—so I’m glad customs workers always honored the doctor’s letter, many of them sending blessings for our family. The maneuvering to obtain the camel milk was topped off by the overwhelming legal wrangling from ending my marriage, which delayed me from actually trying the milk with Jonah, wanting to give the effort my full attention. Finally, we were ready, and at bedtime one night, I gave him a half-cup of milk with cereal. The next morning, his speech fluidity and eye contact was remarkably increased. He stunned me with a new and

mature flow of loving expressions, emotions, and complex conversations at the breakfast table. Within three days, he was able to cross the parking lot and street alone. The behavior breakdowns stopped and his eating needs lessened.

After upping the dose to a cup per day—the amount commonly used by adult camel milk users in Israel—he developed an odd jerking movement in his arm and some facial grimaces. I lowered the dosage, and the symptoms stopped. The constant white bumps

under his cheeks faded and disappeared. His ADHD-specialty school documented improvements in their daily data sheets, and Jonah was able to return to regular public school. He tested with a college-level vocabulary, and his pragmatics and range were even better.

Over time, we saw his functioning stabilize even if he had milk every third or fourth day, although he does best on a daily or every-other-day dose. Overall, the milk caused about a 30 percent improvement in his functioning—and for kids with ASD, that can make the difference between group home placement versus a general education classroom. He drinks it every week, and is now in middle school with the best performance of his life, both in school and out. He still needs various medications and a casein-free diet, but he has no more food-related breakdowns and can tolerate far more sugar and carbohydrates than before the milk, which makes eating with his friends easier.

After my first suitcase purchase, my cell phone rang with a call from Israel. It was Eyal. “Many people say they would go all over the world to help their child, but to see a mother who did it,” he said, his hesitant English stopping with emotion. “Nobody really does it but you did.” I was surprised and moved by his heartfelt words. My milk quest wasn’t driven by anything but instinct and the ever-present drive to help my son, but it kept my best self alive during fear and despair. I’ll work for the cause until camel milk sits in every grocery store milk case.



SAFE DELIVERY—Christina Adams receives frozen Israeli camel milk from Gil Riegler at San Diego airport.

THE PASTEURIZATION PROBLEM

Pasteurization, which reduces potential pathogenic bacteria in the milk, is performed mainly in countries and regions where there are budding commercial efforts to market camel milk or



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its products, such as African savannahs. Pasteurization uses heat, and observers differ in their views on how this may affect the milk's properties. Dr. Yagil and Dr. Gonenne believe the process may denature biological factors that play a significant role in the healing, anti-inflammatory action of the milk; conversely, Renate Wernery, of Dubai's Central Veterinary Research Lab (CVRL), whose research informs the emirate's Camelicious camel milk brand, advocates pasteurized milk for safety reasons and believes it does not affect quality. "Even the most heat-sensitive component in camel milk, undoubtedly vitamin C, does lose only 7 percent of its quantity by pasteurization," she states. "It's a myth that only raw camel milk releases 'good bacteria enzymes.'"

Kenyan dairy merchant Holger Marbach, of Vital Camel Milk, says he's seen positive effects from pasteurized milk—however, Dr. Gonenne says that, "The apparent anti-inflammatory effects of camel milk cannot be attributed to well-known ingredients in the milk, such as vitamin C or insulin. Until the biological factor or factors responsible for the observed therapeutic effects of camel milk are identified, one cannot rule out the possible harmful denaturing effect pasteurization might have on them."

The milk's potential fragility when consumed other than in a fresh or raw state is reportedly bolstered by patient reports. Dr. Gonenne says that those who drink camel milk regularly to control the symptoms of their inflammatory diseases consistently report that freshly harvested raw camel milk is more effective than non-fresh (long-term frozen) milk. His statements are based on the empirical observations of Lifshitz, and no formal clinical studies yet exist. For now, two conclusions seem clear: both raw and pasteurized milk offer positive nutritional benefits, and further study is needed to confirm anecdotal reports that raw milk produces more healing effects.

quandary. So camel-rich it is culling camels by the thousands, Australia's camel dairy industry is negligible. U.S. farmers, who seek Aussie camels due to their FMD-free status, can purchase a pregnant Aussie camel for \$10,000 but must still pay for six months of quarantine to ensure against other diseases appearing. It's a significant financial obstacle, especially given the risks. Gil Riegler said, "One man just bought a herd but, while in quarantine, one animal developed TB and he lost the whole herd."

RULES AND REGULATIONS

Another major issue is government regulation. In the U.S., administration is largely up to individual states. California Department of Food and Agriculture spokesperson Jay Van Rein says California's "regulations are blind," and apply equally to

all hooved animals, including camels, permitted for dairy use. The state allows the sale of raw milk, but all milk must meet the same safety tests, whether it's camel or cow, raw or heated. These tests involve measuring pathogens in the milk.

Raw milk supporter Gil Reigler says camels have dry feces, making them cleaner and safer to milk than cows—which have wet feces—but the state does not differentiate. Annual state testing fees start at around two to three thousand dollars per year, plus building requirements stemming from cow-oriented regulations are a potential barrier for small farmers. And production can be a nervous business, even though no one has died from raw milk in the U.S. in many years. A 2011 California E. coli illness, which prompted the state to temporarily suspend Organic Pastures' sales of raw cows' milk, seemed inexplicable to the dairy's owner, but such wariness stems from years of national raw milk regulatory conflict.

The Riegler's fear of legal action in California has led them to make the milk into lotions and soaps despite their desire to respond to the hundreds of phone calls from sick kids' parents, and the thousands of milk-loving Somalis in nearby San Diego. Even though dairies in Michigan, Missouri and other states, some run by Amish or religious community families, are selling raw camel milk to consumers, interstate sales of raw milk are not authorized by the FDA.

ELIXIR OF THE DESERT

Although the Pub Med database is home to an ever-increasing number of positive articles on camel milk and various diseases, the milk needs a hard push to prove its muscle. It's unlikely that sufficiently large containers of frozen milk will ship worldwide for some time, so until an effective pill or similar product is developed, consumer and industry access will require proximity to camels.

Despite the multiple hurdles, however, camel milk's power is just too great to resist. The camel milk cocktail I drank in Dubai's famous sail-shaped hotel, Burj Al Arab, may be a novelty, but local product Camelicious is aiming for distribution in Europe. Men in camel-friendly countries use the milk as a "male Viagra," which one man told me worked for him. I've personally experienced a weight-stabilizing effect, another rumored benefit. With the growing worldwide epidemics of diabetes and autism, it may become a moral and economic imperative to investigate and develop this intriguing elixir of the desert. ◀

FIND OUT MORE

- ▶ Author and journalist Christina Adams is the first U.S. woman to gain permission from the federal government to import camel milk to treat autism. She will speak on camel milk at the Autism One conference in Chicago in May 2012. Contact her at cadams@xiqlc.com, or via <http://www.facebook.com/christinaadamsauthorautismadvocate>.
- ▶ Parents and caregivers interested in trying camel milk need to ensure that sanitation protocols are in place at the camel dairy where they intend to purchase. For more information on camel milk, visit www.camelmilkmagic.com

GET MOTIVATED TO GET SERVICES

You must often lead the charge when fighting for the services your child needs...

Q The school district and our local government-funded developmental center say our four-year-old son's deficits aren't severe enough to qualify for autism services like behavioral therapy or speech. But he can't attend daycare, play correctly with other kids or talk like he should, and I can't get him to engage or sit still for long. Should I just be happy he doesn't qualify and see if he grows out of it? What happens if I wait? People tell me he might have autism, so why don't the officials agree he needs help?

A At one time, qualifying for quality services, while never easy, could be done with the right approach. With current funding cutbacks, official policies and paperwork are being revised to make it harder for kids to qualify, and for service providers to be paid.

CHRISTINA ADAMS...



...is the author of the popular memoir *A Real Boy: A True Story of Autism, Early Intervention and Recovery* (Berkley/Penguin). Her work has been on National Public Radio, and in *The Washington Post*, *The Los Angeles Times*, *LA Times Magazine*, *CHLD* magazine, and many others. She has been a featured and keynote speaker at conferences across the country, and has spoken at the Autism Society of America and Autism One. ◀

RITA SHREFFLER...



...is Executive Editor of *Autism File*, and a founding board member of the National Autism Association. She lives in Missouri with her husband and two children, Andrew, and Mary Kathryn, both of whom are affected by autism. ◀

LORI MCILWAIN...



...is the co-founder and Executive Director of the National Autism Association. She began her career in radio and television and has focused primarily on conceptual development, commercial copywriting, and media strategies on the agency side. Her fight for a cure began right after her only son, Connor, was diagnosed with autism. Her husband Christian is also very proactive in the autism fight and is committed to finding a cure. ◀

In one case I know of, the school said a child was only 29 percent delayed, while the threshold for funding was 30 percent. That's like saying, "well, you walk with a limp that will prevent you from standing straight, wearing normal shoes or running, but you can still walk, so no therapy."

These cases can usually be solved if a motivated parent gets an outside educational, speech and/or occupational therapy assessment, and presses to have it considered, or if a near-emergency situation happens and providers are pressed to respond. Legal guidance is needed (see *Find Out More* for helpful links), but some parents can consult an attorney, then do their own research and handle the process alone, or just hire one to write a letter. Alternately, a parent can seek out the few doctors who will be brave and caring enough to write letters on the child's behalf. This is not "diagnosis shopping." No one wants an autism label, but getting services can prevent autism from worsening if it's present. You can always remove the label officially later (the only drawback so far is potential disqualification for military service). And if it's not an ASD, services may provide another significant diagnosis, which is important because other treatable problems can also cause tremendous problems in class. That said, some new laws are making it easier to get autism services funded through health insurance, and some local autism service providers now help clients navigate that process.

When your son was denied services, I'm sure some relatives and friends pressured you to set aside your "A-word" worries, enjoy the feel-good moment, and move on. If you start at least speech and OT on your own while waiting for major interventions, you can track his progress and identify hidden strengths

or deficits. The younger the child when services are started, the sooner they end if all goes well. Developmental time is neurologically precious, and typical peers increase their rate of development at a speed that contrasts greatly with an ASD child as they age. It's amazingly rare that ASD kids just "grow out of it," although it can seem so at early ages. But if he's going to be one of them, you'll just be done sooner. And if you did wait and he didn't grow out of it, it's never too late for help.

—Christina Adams

Q A friend suggested that I look into hyperbaric oxygen therapy for my 10-year-old son with autism. What are the potential benefits and are there any contraindications for its use?

A The use of mild hyperbaric oxygen therapy (HBOT) has gained much attention over the last several years in the autism community, although it has not yet been given the seal of approval by mainstream medicine for treatment of autism. While there is some research to support HBOT as a viable treatment option for people diagnosed with autism, more study is needed to investigate the mechanisms by which it may be effective and how it can best be applied specifically to those diagnosed with the disorder.

HBOT is the use of inhaled air under pressure, with or without supplemental oxygen. One of the first medical uses of hyperbaric oxygen therapy was for deep-sea divers who experienced the "bends" (also known as decompression sickness). It now has a history of successful treatment for wounds associated with diabetes and burns to the skin, as it is known to speed the body's healing process.

Recent research indicates that HBOT may be beneficial for many symptoms frequently associated with autism. A study of 18 children (see *Find Out More*) conducted in 2007 by lead researcher Dan Rossignol, MD, found that HBOT was safe and well tolerated, and