

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

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



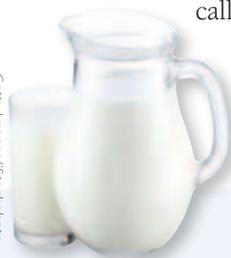
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It's hard to get camel milk from pasture to people—the obstacles include convincing nomads to comply with modern milking standards, before somehow transporting perishable milk through arid deserts and craggy mountains. International transportation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

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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.

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.



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

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 enough bottles for half a load, 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 load of bottles. 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

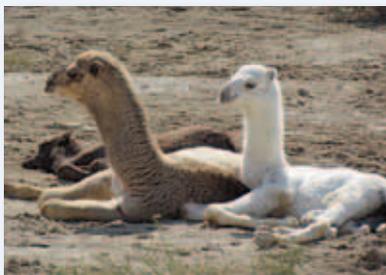
under his cheeks faded and disappeared. His ADHD-specialty school documented improvements in their daily data sheets, and Jonah was able to return to regular public school. He tested with a college-level vocabulary, and his pragmatics and range were even better.

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.

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



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 Riegler 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 Rieglers' 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@xiqllc.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